Expanded Project Notification Form

The Winsor School Campus Projects

Boston, Massachusetts

SUBMITTED TO
Boston Redevelopment Authority

SUBMITTED BY
The Winsor School
Pilgrim Road
Boston, MA 02215

PREPARED BY
Vanasse Hangen Brustlin, Inc.

Colliers Meredith & Grew

In association with: William Rawn Associates, Architects, Inc.
Edwards Angell Palmer & Dodge LLP
Nitsch Engineering
RFS Engineering
Lee Kennedy Co Inc.

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Table of Contents

Figures

Tables

1

Project Description and Impact Summary

Project Overview

The Winsor School (herein referred to as the "Proponent" or "Winsor") is a Boston-based secondary school for girls (Grades 5 – 12) founded in 1886 and enrolling approximately 435 full-time day students from the City of Boston and the surrounding metropolitan area. Located at the crossroads of the Longwood Medical and Academic Area ("LMA"), Winsor is one of the largest and oldest continuous property owners in the LMA, having located its campus at the intersection of Brookline Avenue and Longwood Avenue in 1909. In order to further its educational mission and reinforce its long-range commitment to the City of Boston, Winsor is planning the largest investment in its history and the most significant major capital program on its campus since construction of the original school complex and an initial expansion in the early 20th century. In connection with this major capital program, Winsor proposes to construct new educational facilities initially focused on the performing arts and physical fitness, as well as create an opportunity for the redevelopment of a currently underutilized portion of its campus to foster the continued success of the school well into the 21st century. The development program detailed in this filing will accomplish several key objectives for Winsor as it looks forward to the next chapter in its 125-year history. These objectives include:

1. **Providing much-needed new academic, cultural, and athletic facilities for the Winsor community without materially growing enrollment**. In this regard, these new facilities represent a decompression more than an expansion and will help Winsor continue to provide an outstanding and well-rounded education within a premier campus setting at a central urban location;

2. **Preserving and protecting the current Winsor playing fields**, which are a unique amenity for the school given its dense mixed-use surroundings, and an essential aspect of Winsor's ongoing ability to compete with suburban schools for top students from Boston and the surrounding metropolitan area; and

3. **Dedicating an underutilized portion of Winsor's property** to uses that are consistent with Winsor's surrounding context to help defray the extraordinary

expense of continuing to provide outstanding educational opportunities for some of Boston's and the region's brightest students.

The proposed development program will take place in a phased manner on various locations within the Winsor Campus (collectively with the other areas of the Winsor Campus, the "Campus"), and includes the following components:

1. Pilgrim Road Project - an academic, cultural, and athletic building of approximately 110,000 square feet[1], to be located on the site of Winsor's existing surface parking lot and outdated gymnasium building, near the corner of Pilgrim Road and Short Street Extension, this building includes a 148+/- space below-grade parking facility constructed on a phased basis beneath the adjacent playing field. The playing field will be fully restored as part of the project;

2. Courtyard Addition Project - a new wing to be added to the existing Winsor academic complex, comprising approximately 30,000 square feet, located at the southwest corner of an existing grassy courtyard surrounded by academic buildings; and

3. Longwood Avenue Project - a new 10-story mixed-use building of approximately 300,000 square feet for uses consistent with Winsor's LMA context, to be located at the corner of Brookline and Longwood Avenues. The Longwood Avenue Project also includes a 346+/- space below-grade parking facility, which may be constructed on a phased basis.

These projects (collectively, the "Proposed Projects") follow on Winsor's recent rehabilitation of and upgrades to its two playing fields, which will be preserved as part of the Proposed Projects. No new development of any type is proposed to take place on Winsor's playing fields, which represent the largest contiguous tract of undeveloped private land in the LMA.

Selective restoration work and systems enhancements will also be made to Winsor's existing academic buildings, which comprise approximately 127,500 square feet of space. An approximately 3,000 square feet infill floor will be constructed within the school's undersized auditorium upon completion of the Pilgrim Road Project.

The construction cost of the Proposed Projects, which will be phased to reflect Winsor's available capital resources, market conditions, academic needs, and other factors, is anticipated to be approximately $310 million.

The Proposed Projects' location, existing campus plan and component parts are illustrated in **Figures 1-1 through 1-4**, respectively.

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[1] All proposed building square footage references are zoning gross square footage as defined in Article 2A of the Boston Zoning Code.

Figure 1-1

The Winsor School

Site Location Map

Vanasse Hangen Brustlin, Inc.

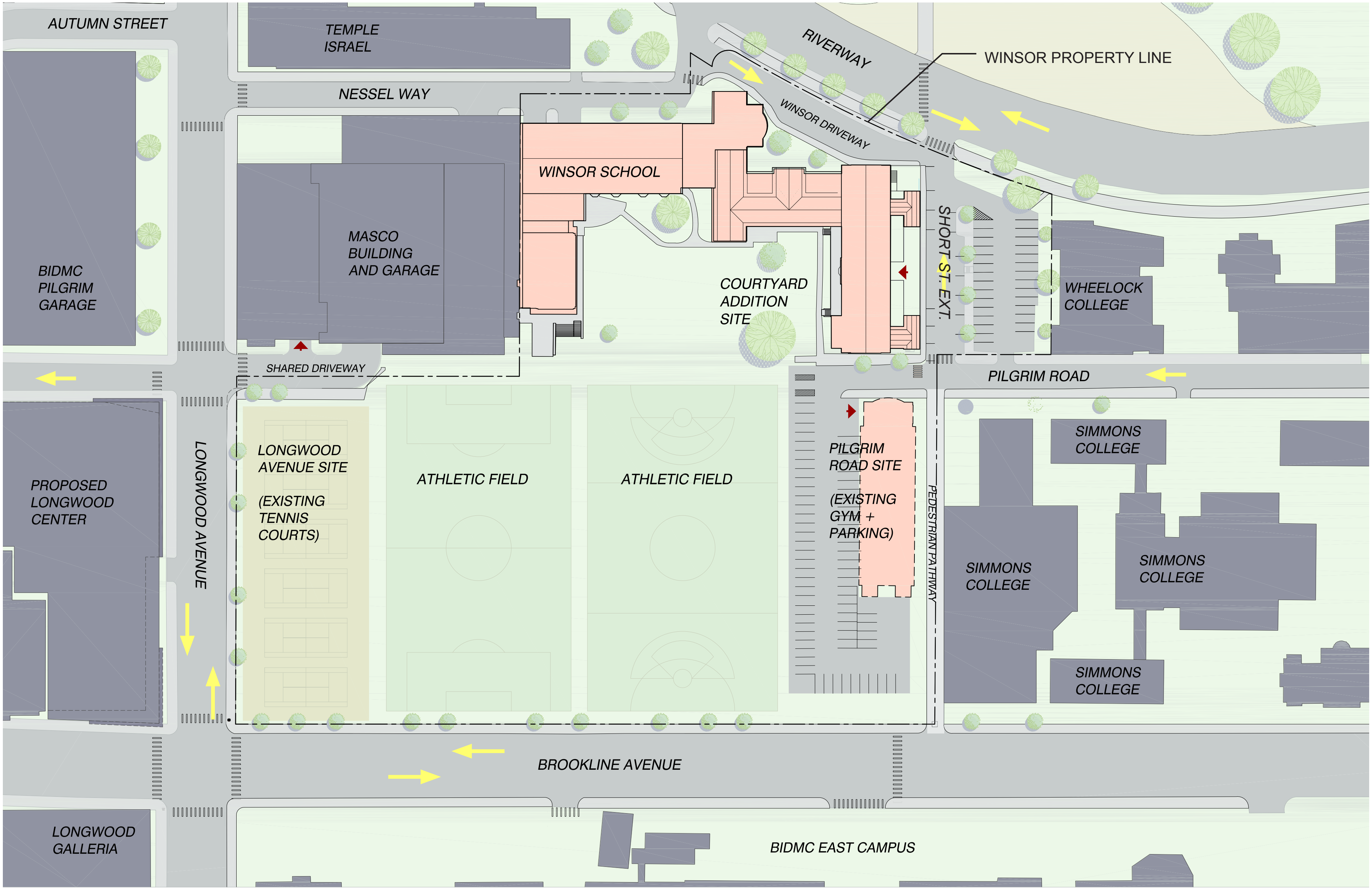

Figure 1-2

The Winsor School **Existing Campus Plan** William Rawn Associates, Architects, Inc.

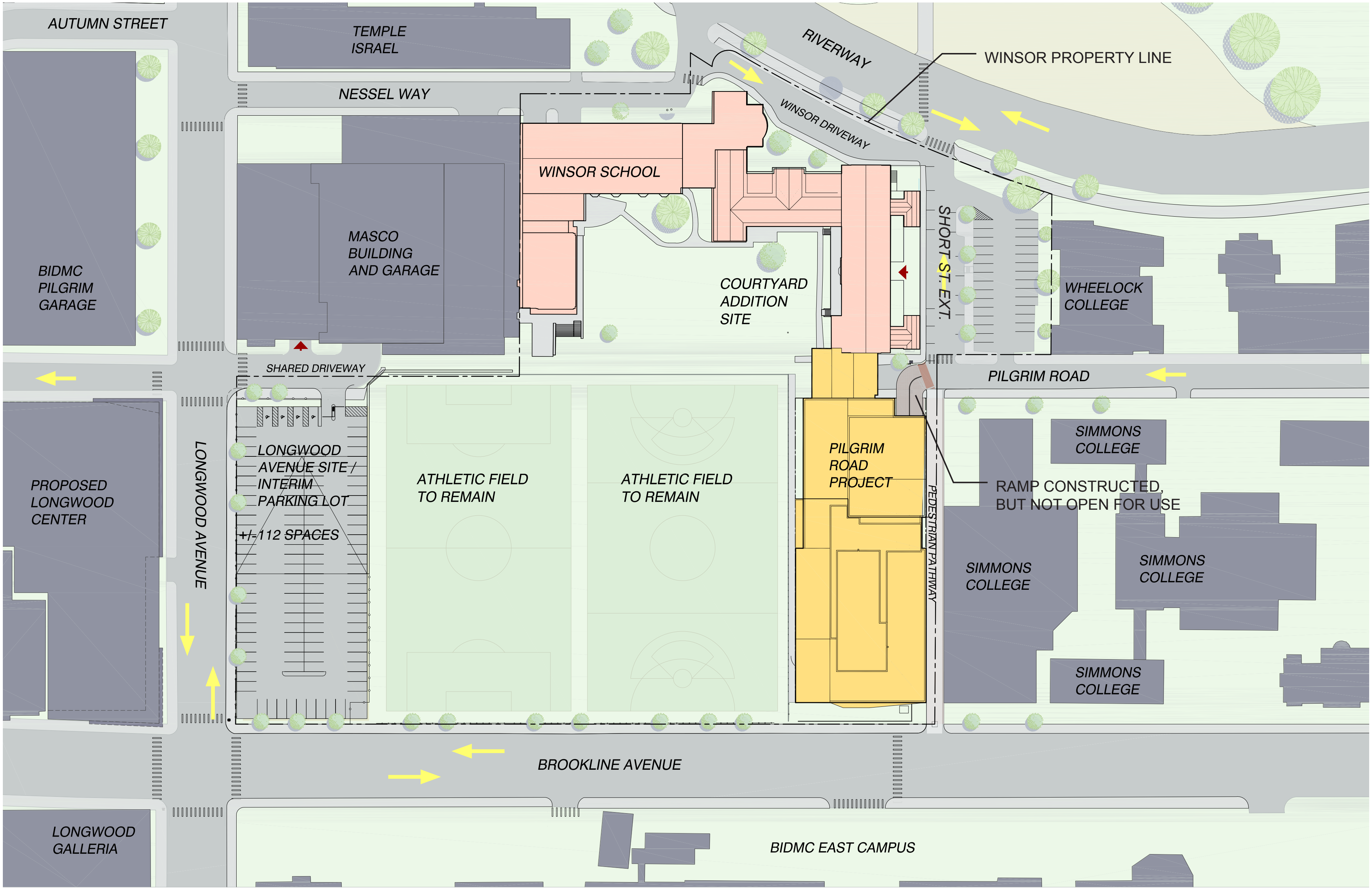
AUTUMN STREET
TEMPLE ISRAEL
NESSEL WAY
RIVERWAY
WINSOR PROPERTY LINE
WINSOR DRIVEWAY
WINSOR SCHOOL
MASCO BUILDING AND GARAGE
BIDMC PILGRIM GARAGE
COURTYARD ADDITION SITE
SHORT ST. EXT.
WHEELOCK COLLEGE
SHARED DRIVEWAY
PILGRIM ROAD
LONGWOOD AVENUE SITE / INTERIM PARKING LOT
+/-112 SPACES
ATHLETIC FIELD TO REMAIN
ATHLETIC FIELD TO REMAIN
PILGRIM ROAD PROJECT
SIMMONS COLLEGE
RAMP CONSTRUCTED, BUT NOT OPEN FOR USE
PEDESTRIAN PATHWAY
PROPOSED LONGWOOD CENTER
LONGWOOD AVENUE
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
BROOKLINE AVENUE
LONGWOOD GALLERIA
BIDMC EAST CAMPUS

Figure 1-3

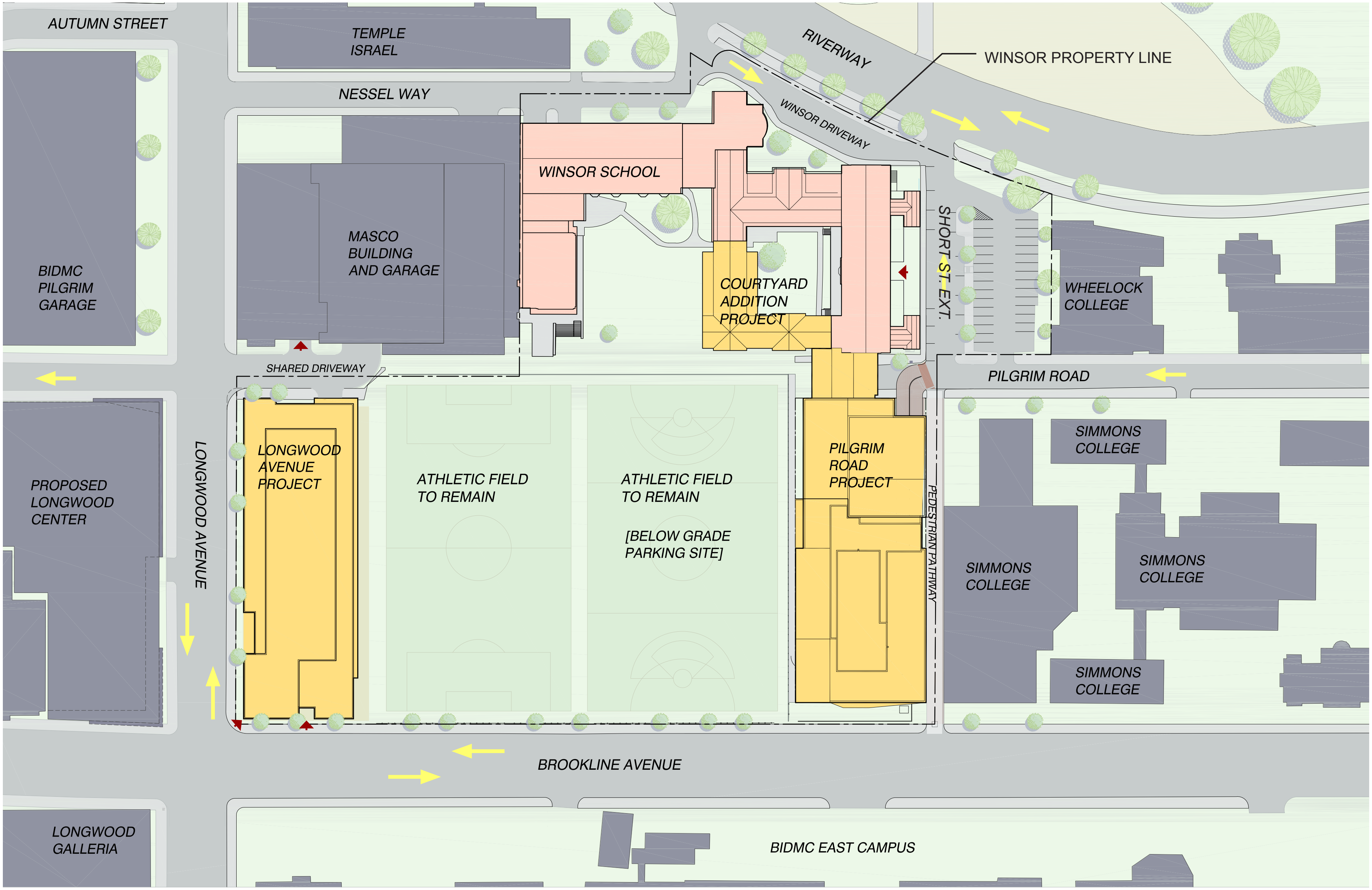
AUTUMN STREET
TEMPLE ISRAEL
NESSEL WAY
RIVERWAY
WINSOR PROPERTY LINE
WINSOR DRIVEWAY
WINSOR SCHOOL
MASCO BUILDING AND GARAGE
BIDMC PILGRIM GARAGE
COURTYARD ADDITION PROJECT
SHORT ST. EXT.
WHEELOCK COLLEGE
SHARED DRIVEWAY
PILGRIM ROAD
LONGWOOD AVENUE PROJECT
PROPOSED LONGWOOD CENTER
LONGWOOD AVENUE
ATHLETIC FIELD TO REMAIN
ATHLETIC FIELD TO REMAIN
[BELOW GRADE PARKING SITE]
PILGRIM ROAD PROJECT
PEDESTRIAN PATHWAY
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
BROOKLINE AVENUE
LONGWOOD GALLERIA
BIDMC EAST CAMPUS

Figure 1-4

Background on the Winsor School

The Winsor School is a Boston-based secondary school founded in 1886 and enrolling approximately 435 full-time female day students from the City of Boston and the surrounding region. The school describes itself as:

> *"…a diverse, vibrant community that values intellectual curiosity, authentic engagement and personal integrity. We challenge our students to lead lives of purpose as responsible, generous-minded women."*

The Winsor School offers a rich and challenging curriculum to academically motivated girls in grades 5-12. Winsor defines curriculum as the total classroom learning experience for all students that includes the development of the girls' characters and ability to think and learn independently. A graduation requirement at the school is the Independent Learning Experience, which encourages each senior to explore her passions by pursuing a project of her choosing. Many students participate in off-campus internships in the surrounding LMA medical institutions.

Located at the crossroads of the LMA, Winsor is one of the largest and oldest continuous property owners in the LMA, having established its campus there in 1909. Winsor has grown only modestly during its 102-year history in the LMA, having completed several small additions to its original century-old complex, including a 1920s-era gymnasium, a science wing in the 1980s, and a new dining facility in 2004, while also updating its original buildings. Uniquely in the LMA and unique among its peer secondary educational institutions, Winsor has never undertaken the kind of major generational expansion that its higher-education and healthcare neighbors and peers have undertaken in recent decades.

Approximately one-quarter (100 students) of the Winsor student body resides in the City of Boston proper, and approximately 40 of Winsor's 110 faculty and staff (36 percent) live in Boston as well.

Approximately two-thirds of Winsor's total annual financial aid budget is dedicated to students hailing from Boston's neighborhoods. This disproportionate allocation of Winsor's financial assistance resources to its Bostonian students is evidence of the School's commitment to creating outstanding educational opportunities for Boston's young women.

Winsor's students participate in a variety of community service activities that are an integral part of a Winsor education. A sampling of these activities includes:

- Monthly service Saturdays at the Greater Boston Food Bank;
- Weekly tutoring at the Mather Elementary School in Dorchester;

- Weekly visits to residents of the Mount Pleasant Home, Jamaica Pain;
- Monthly service Saturdays at Single Parent Family Outreach, Roxbury; and
- Other volunteer activities that vary from year-to-year.

Winsor's commitment to the City of Boston extends beyond its dedication to creating educational opportunities for the City's youth and serving those in need; the extended Winsor community of alumnae, parents, faculty, and staff play important roles in the civic life of the City of Boston through participation in government, non-profit organizations, corporate philanthropy, and other essential threads of the City's rich fabric.

Project Description

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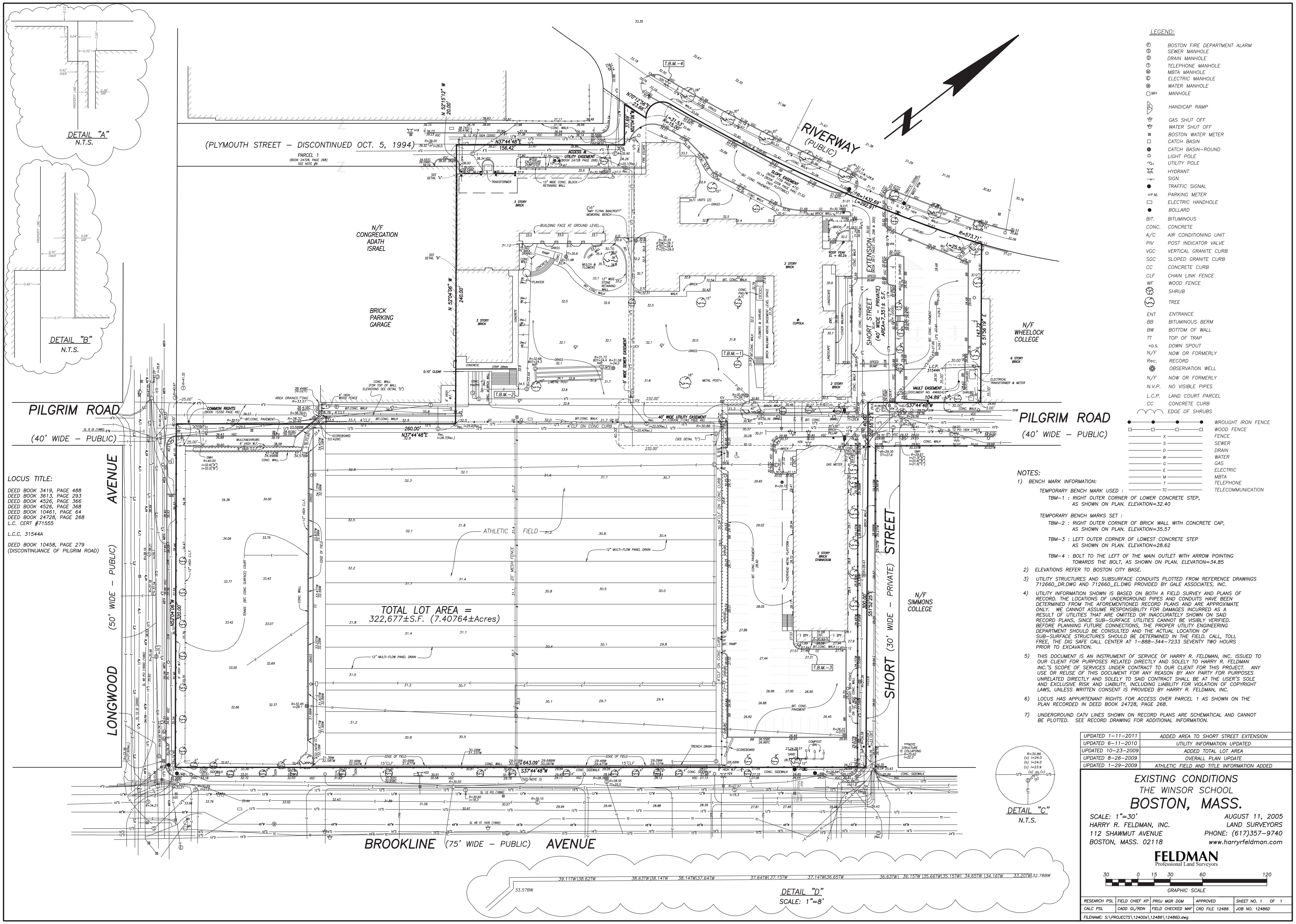
Project Site

The Campus is shown on the survey illustrated in **Figure 1-5**. The Campus is comprised of four (4) tax parcels (which, in turn, are comprised of eight (8) separate land parcels) all of which are owned in fee by Winsor, totaling approximately 7.41 acres, as summarized in **Table 1-1**.

Table 1-1
Winsor Campus Parcel Information

Parcel	Approximate Size (in SF)	Assessor Information
Parcel A – Brookline Avenue	193,079 SF	Assessor's PID# 0402011020
Parcel B – Pilgrim Road	104,974 SF	Assessor's PID# 0401997000
Parcel C – Pilgrim Rd Sliver	20,560 SF	Assessor's PID# 0402011010
Parcel D – Nessel Way Sliver	4,154 SF	Assessor's PID# 0401995020
Total Campus Area:	**322,767 +/- SF**	

It is anticipated that the above-referenced parcels will be consolidated at an appropriate future time into one or more reconfigured lots (still under common ownership by Winsor) to facilitate potential financing and/or other technical and/or legal measures that may be required for the Proposed Projects' development. The Pilgrim Road Project site, the Longwood Avenue Project site, and the Courtyard Addition Project site described previously are not dimensionally defined



PILGRIM ROAD
(40' WIDE – PUBLIC)
LONGWOOD AVENUE
(50' WIDE – PUBLIC)
BROOKLINE (75' WIDE – PUBLIC) AVENUE
SHORT STREET (30' WIDE – PRIVATE)
RIVERWAY (PUBLIC)
(PLYMOUTH STREET – DISCONTINUED OCT. 5, 1994)
TOTAL LOT AREA =
322,677±S.F. (7.40764±Acres)
ATHLETIC FIELD
N/F CONGREGATION ADATH ISRAEL
BRICK PARKING GARAGE
N/F WHEELOCK COLLEGE
N/F SIMMONS COLLEGE
DETAIL "A" N.T.S.
DETAIL "B" N.T.S.
DETAIL "C" N.T.S.
DETAIL "D" SCALE: 1"=8'
LOCUS TITLE:
DEED BOOK 3419, PAGE 488
DEED BOOK 3613, PAGE 293
DEED BOOK 4526, PAGE 366
DEED BOOK 4526, PAGE 368
DEED BOOK 10461, PAGE 64
DEED BOOK 24728, PAGE 268
L.C. CERT #71555
L.C.C. 31544A
DEED BOOK 10458, PAGE 279
(DISCONTINUANCE OF PILGRIM ROAD)
EXISTING CONDITIONS
THE WINSOR SCHOOL
BOSTON, MASS.
SCALE: 1"=30'
AUGUST 11, 2005
HARRY R. FELDMAN, INC.
LAND SURVEYORS
112 SHAWMUT AVENUE
PHONE: (617)357-9740
BOSTON, MASS. 02118
www.harryrfeldman.com
FELDMAN
Professional Land Surveyors
GRAPHIC SCALE

Figure 1-5

individually in this filing (except to clarify the extent of proposed development) but are currently and will remain under Winsor's common ownership, even if divided into separate lots in the future. Together, these sites will be referred to collectively as the "Proposed Project Sites," irrespective of the ultimate future lot configuration that may be created to facilitate the development of the Proposed Projects.

The Proponent owns the entire Campus in fee, with the following recorded easements on the property. There is a Boston Water and Sewer Commission sewer easement located in the discontinued portion of the former Pilgrim Road, which runs through the Campus. There is also certain rights of other utilities on portions of the Campus, including the City of Boston's rights in Short Street Extension, which is located between the Riverway and Pilgrim Road and is a private way open to public travel. None of these rights will be adversely affected by the development of the Proposed Projects.

Proposed Development

The Proposed Projects, as shown in **Figure 1-4**, include new educational facilities for the Winsor School and the opportunity for a new commercial building to be developed on an underutilized portion of the Campus. Together, these projects will help to anchor the school at its current location for generations to come.

Approximately 110,000 square feet of new arts instruction space, and athletic and personal wellness facilities, will occupy an elegant, contemporary, and contextually scaled facility designed by the world-renowned architectural firm of William Rawn Associates. The design of this new educational facility will complement the historical brick architecture of the Winsor School by creating a transparent and lightweight structure that makes maximum use of natural light and the site's outstanding southwestern exposure. This building will be the first of the Proposed Projects to be built.

The small Courtyard Addition to the existing Winsor academic complex will be of similar scale and massing as the existing buildings and will provide expanded classroom space, offices, and other academic facilities for the next century of Winsor's presence in the LMA.

The Longwood Avenue Project will encompass approximately 300,000 square feet of development, whose scale and uses will be entirely consistent with the site's healthcare, educational, and life sciences neighbors. This development is envisioned as a glass curtain-wall structure, designed to make maximum use of natural light and to provide an architectural beacon marking the crossroads of the LMA and complementing (at a lower scale) the tower at Longwood Galleria Apartments located on the opposite corner of the Brookline Avenue/Longwood Avenue intersection. In this regard, the Longwood Avenue Project represents the "stepping down" of the LMA's scale as the area transitions from the high-rise areas south of

Brookline Avenue and west of Longwood Avenue to the more moderately-scaled educational areas to the north of Brookline Avenue and east of Longwood Avenue.

The development of the Proposed Projects will also involve certain improvements to the existing Winsor School buildings, including the potential installation of a new total energy plant and other infrastructure upgrades designed to improve the overall energy efficiency of the entire Winsor Campus. It is also anticipated that an area of approximately 3,000 square feet will be infilled within the existing inadequate school assembly area located in Winsor's main building, in order to create additional classroom and student life spaces. This infill, which will likely occur as part of the Pilgrim Road Project, has been assumed in the overall Floor Area Ratio ("FAR") calculations included with this filing and the associated Planned Development Area ("PDA") Development Plan document.

A total of approximately 494 below-grade parking spaces (422 net new spaces) will serve the Proposed Projects and the Winsor School as a whole. These spaces will be located in two below-grade garages, to be constructed on a phased basis.

One of these below-grade structures, comprising a part of the Pilgrim Road Project, will include approximately 148 spaces on a single below-grade level, will be constructed beneath one of the existing Winsor playing fields (which will be fully reconstructed), and will be dedicated to Winsor-related uses, including faculty and staff, a limited number of students, and parents and other attendees at frequent Winsor sporting and arts events, parent-teacher conferences, commencement, and other special school functions, as well as parking for prospective students and their parents visiting the school for admissions events. This single-level facility will be physically connected to the Pilgrim Road Project and will include a single point of access near the intersection of Pilgrim Road and Short Street Extension. Once the Pilgrim Road Project is completed (including its below grade parking), Winsor students, faculty and staff will access the Campus by vehicle in a manner very similar to how it is currently accessed. It is envisioned that for an interim period of time, the Pilgrim Road Project could be built and operated without the benefit of the proposed attached below grade parking. Under this condition, Winsor would take its existing tennis courts out of operation and construct a temporary surface parking lot on that site – accommodating approximately 112 surface parking spaces on an interim basis as shown in **Figure 1-3** (to replace the spaces being removed for the construction of the Pilgrim Road Project), until the below-grade structure can be constructed.

The second of these below-grade structures will comprise the construction of approximately 346 parking spaces in a four and a half level garage beneath the Longwood Avenue Project site.

The Proposed Projects will involve the elimination of Winsor's existing main surface parking lot, which provides approximately 72 surface spaces - under existing conditions this supply is not adequate to handle current Winsor parking demands, forcing parents and visitors to circle the LMA to access alternate parking. As a result sufficient below-grade parking is proposed to meet Winsor's parking needs for the foreseeable future, as well as to provide a commercially reasonable parking ratio to support the development of the Longwood Avenue Project. The proposed overall campus-wide parking ratio is higher than the 2003 Interim Longwood Medical and Academic Area Guidelines' (the "LMA Interim Guidelines") ratio of 0.75 per 1,000 square feet of gross floor area, totaling 0.97 parking spaces per 1,000 of gross floor area. However, the proposed number of campus-wide parking spaces is far lower than the number of spaces that could be created pursuant to the LMA Interim Guidelines promulgated by the Boston Redevelopment Authority ("BRA") if the Winsor Campus were to be privately developed were Winsor to leave its LMA location or propose to develop its existing playing field area(s). In this regard, the preservation of the existing Winsor School use and its 4.3 acres of open space at this dense, urban location provides for a much lower number of new parking spaces than could otherwise be created in the LMA if the Campus were to be built out to its maximum potential in a manner consistent with the density and uses of the surrounding area and as contemplated in the LMA Interim Guidelines.

Public Benefits

The development of the Proposed Projects will generate myriad public benefits for the surrounding neighborhood and the City of Boston as a whole, both during construction and on an ongoing basis upon its completion. These public benefits fall into multiple categories, as outlined below.

Financial Benefits

Development of the Proposed Projects will result in significant financial benefits to the City of Boston and its residents, including:

- Approximately $2.4 million in housing linkage contributions;
- Approximately $486,700 in jobs linkage contributions;
- The creation of approximately 15 new full-time jobs at the Winsor School upon completion of the Pilgrim Road Project and approximately 950 new full-time jobs upon completion of the Longwood Avenue Project; and
- The creation of over 150 construction jobs in connection with the Pilgrim Road Project, 40 construction jobs in connection with the Courtyard Addition Project, and over 250 construction jobs in connection with the Longwood Avenue Project.
- Significant additional real estate tax revenues to the City upon stabilized occupancy of the Longwood Avenue Project, if developed by a for-profit entity.

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Urban Design Benefits

The development of the Proposed Projects will enhance and complete the urban design composition of the crossroads of the world's most prominent medical, educational, and research cluster, the Longwood Medical and Academic Area, and will enhance the overall urban design quality and public realm of the Brookline Avenue and Longwood Avenue corridors as a whole. The Proponent proposes to undertake, as part of the Proposed Projects, significant streetscape improvements to the pedestrian realm on the public sides of the Longwood Avenue Project site, the Pilgrim Road Project site, and along Brookline Avenue for the entirety of the Winsor Campus frontage along this major pedestrian thoroughfare. These improvements, which will be provided on a phased basis as each of the Proposed Projects is undertaken, will include the following (subject to applicable City of Boston approvals):

- New flush granite & concrete paving, resulting in ADA/AAB-compliant sidewalks surrounding the Longwood Avenue Project – per City of Boston standards;
- If feasible, new street trees on public streets adjacent to the Proposed Project Sites – Longwood and Brookline Avenues;
- New street furniture, lighting, and other amenities on public streets adjacent to the Proposed Project Sites;
- Installation of public bicycle storage racks in close proximity to the Longwood Avenue Project site in addition to on-site protected bicycle storage for building occupants, as outlined in Chapter 4 of this Expanded Project Notification Form ("PNF");
- Installation of BigBelly™ refuse receptacles on Brookline and Longwood Avenues adjacent to the Proposed Project Sites;
- Resurfacing and reconfiguration (radius widening) of the northeast corner of the Brookline Avenue/Longwood Avenue intersection to improve roadway quality, traffic flow, and pedestrian safety at this key intersection;
- Widening of the Longwood Avenue and Brookline Avenue sidewalks adjacent to the Longwood Avenue Project from approximately 8 feet to 15 wide upon project completion, including a covered area at the corner of Longwood Avenue and Brookline Avenue where pedestrians can queue comfortably under cover,; and,
- Creation of a high-quality and appealing retail edge to the pedestrian environment along the east side of Longwood Avenue between Brookline Avenue and the shared Winsor/MASCO driveway.

Smart Growth/Transit-Oriented Development Benefits

The Proposed Projects exemplify smart-growth and transit-oriented development by concentrating new educational and LMA-related uses in close proximity to major regional rapid transit, commuter rail, and bus lines that provide easy access to the Winsor Campus from all neighborhoods of the City of Boston and the City's suburbs. Furthermore, by accommodating the growth of the City's essential educational, medical, and life sciences community in the transit-rich urban core (where the proposed Longwood Avenue Project site is one of the few remaining development parcels) instead of at the City's periphery, the Proposed Projects will help to reduce the region's carbon footprint by relieving development pressures in outlying "greenfield" areas. In addition, by creating an opportunity for the continued strengthening of the LMA medical and life sciences cluster, the Proposed Longwood Avenue Project furthers the City's over-arching policy objective of promoting full-time employment and scientific innovation in the LMA, one of the most significant economic engines in the City of Boston.

Schedule

The Proposed Projects are envisioned to occur in phases. The Proponent estimates that construction of the new Winsor facility on the Pilgrim Road Project site will take approximately 20 months and will be the first phase of construction. Winsor parking displaced by the development of the Pilgrim Road Project uses may be temporarily located on the Longwood Avenue Project site (i.e., Winsor's tennis courts) prior to its development, or will be relocated directly into the new Winsor garage if capital resources are available for its construction concurrent with the first phase of the Pilgrim Road Project.

The Longwood Avenue Project is anticipated to be the second phase of development, and is anticipated to take approximately 28 months to complete. Development of the Longwood Avenue Project will require additional Boston Redevelopment Authority ("BRA") design review and would proceed after negotiation of a development agreement and ground lease for the Longwood Avenue Project site with a private developer or institutional user.

The Courtyard Addition Project is anticipated to be the third and final phase of Winsor's proposed development program, with an approximately 16 month construction duration. The phasing of each of the Proposed Projects and any component thereof, as well as their construction duration(s), may be adjusted by Winsor to respond to the availability of capital resources, market conditions, or other factors. Initial site preparation work for the Pilgrim Road Project could begin as early as the second half of 2012, and construction is expected to be completed in time for the start of the 2014 academic year.

Construction is generally expected to occur between the hours of 7:00 am to 6:00 pm weekdays. However, the Proposed Projects may have specific operations that will require special construction sequences / operations and, therefore, will require work to occur outside of the aforementioned work periods. These special operations will be managed on a case-by-case basis and will be coordinated with the Boston Transportation Department ("BTD") as may be required by law.

Community Outreach

The Proposed Projects are at the early stages of the public review process. A Letter of Intent to develop the Proposed Projects was submitted to the BRA on February 11, 2011. The Proponent has met periodically with BRA staff and the staff of other City Departments to review specific aspects of the proposed development program in advance of this filing, which begins the Proposed Projects' formal public review process.

The Proponent looks forward to working with its longtime neighbors, the formed Impact Advisory Group, and other stakeholders through the course of the Article 80 Development Review process for Winsor's most significant capital program in its 102-year LMA history.

The Proponent has held briefings for its neighboring property owners and other nearby stakeholders in advance of making this filing. A more comprehensive community outreach program will be implemented in connection with the start of the Proposed Projects' Article 80B review process. A preliminary list of briefings and outreach meetings already conducted is included in Chapter 7 of this Expanded PNF.

Project Impacts

This section summarizes the Proposed Projects' impacts, including transportation and environmental protection. Impacts to infrastructure and a discussion regarding consistency with the LMA Interim Guidelines are also presented.

Transportation

The evaluation of existing and future transportation infrastructure and operations of the Winsor School is presented in Chapter 4, *Transportation.* A summary of key findings of the transportation component for the Proposed Projects is as follows:

- With the completion of the Pilgrim Road Project, sidewalks will be reconstructed on Short Street Extension as well as adjacent to the Proposed Project. Today there is no accessible pedestrian connection between Brookline Avenue and the Riverway on the Winsor School side of Short Street Extension. Improvements will include new pedestrian sidewalks, accessible sidewalk ramps, and new pavement markings.

- During construction of the Pilgrim Road Project, the existing Pedestrian Pathway connecting Short Street Extension to Brookline Avenue will need to be temporarily taken out of service for limited periods of time. During these time periods, Winsor will work with the Medical Academic and Scientific Community Organization (“MASCO”) and other LMA institutions to develop appropriate wayfinding signage for those who make use of the Pedestrian Pathway.

- With the completion of the Pilgrim Road and Courtyard Addition Projects (the “Proposed Academic Projects”), the Winsor School campus will have access to 191 off-street parking spaces (including 76 net new parking spaces). The spaces will accommodate a modest potential increase in staff and student population (less than 10 percent) contemplated to result from the construction of the Proposed Academic Projects. These new spaces are also intended to support other important Winsor operational needs and functions, including safer and more convenient locations for parents to park during morning and afternoon student drop-off/pick-up times, parking for parents and visitors for performances, sporting events, and commencement, parking for prospective students and their parents visiting the school for admissions events, and other needs requiring on-site parking that are difficult to accommodate during weekdays. These spaces will help to reduce the amount of traffic circulation otherwise generated by vehicles arriving at the school and then departing to find on-street or garage parking elsewhere in the LMA.

- The Longwood Avenue Project will substantially improve pedestrian sidewalks adjacent to that project site. The building will be set back from the property line to allow the existing Longwood Avenue sidewalk to be widened from its existing width of 8 feet to approximately 15 feet. The sidewalk along Brookline Avenue will also be widened where it is adjacent to the Longwood Avenue Project site – to a minimum of 13 feet. Further, the pedestrian sidewalk at the corner of Longwood Avenue and Brookline Avenue will also be widened considerably, allowing for a substantially improved area where pedestrians can wait to cross the Longwood Avenue/Brookline Avenue intersection. This location will also be fitted with new ADA/AAB accessible ramps. If feasible, street trees will be provided along this newly widened sidewalk.

- The Longwood Avenue Project will allow for improved turning movements for traffic turning from Brookline Avenue onto Longwood Avenue by increasing the curb radius on the northeast corner of the intersection (adjacent to the project site). This improvement has been contemplated and studied as part of long-term area transportation planning led by MASCO and other nearby LMA institutions.

- The Longwood Avenue Project will be served by approximately 346 below-grade parking spaces. This supply will adequately meet the parking demand on-site. This amount of proposed parking is higher than the LMA Interim Guideline ratio of 0.75 per 1,000 square feet of gross floor area for non-residential space; however, this amount of parking is proposed to help ensure a commercially viable and successful project that can support the goals and mission of the Winsor School, and ensure that it can remain at its LMA location for years to come. The proposed number of total parking spaces is far lower than the number of spaces that could be created pursuant to the LMA Interim Guidelines were the Winsor Campus to be privately developed for LMA-type uses, to the scale contemplated by the LMA Interim Guidelines.

- There will be dedicated off-street loading bays at the Longwood Avenue Project to ensure that all loading and service operations are handled internally to the building and will not impact adjacent public streets. As currently planned, the building will be served by 3 dedicated loading/service bays plus an additional dedicated trash compactor bay.

- In connection with the proposed Longwood Avenue Project, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway requires the implementation of a traffic signal at this location. Winsor is committed to working with its neighbors to implement this improvement subject to further study and the direction of the BTD.

- Winsor School is also committed to continuing its Transportation Demand Management (TDM) program through MASCO's CommuteWorks Transportation Management Association (TMA); with benefits to faculty, staff and students as a means to encourage the use of alternative transportation modes.

Environmental Protection

Details of each of these environmental components described below are provided in Chapter 5, *Environmental Protection*.

Wind

Changes to the pedestrian level wind speeds and patterns were generally positive in the immediate vicinity of the Proposed Projects. Any negative effects of the proposed buildings diminished greatly within a half of a block of the Proposed Projects). The areas that experienced the most uniform increases in wind speed were within the Winsor School Campus. Areas outside the Campus are generally anticipated to experience a decrease in annual wind speed as a result of the Proposed

Projects (i.e., an improvement versus future no-build conditions). As anticipated, the buildings' effect on the winter winds from the northwest were most notable.

Shadow

Shadow study analysis performed for the Proposed Projects provides insight into potential effects on the streets, sidewalks, and open spaces in the Study Area. For a large part of the year, the Proposed Projects have a minimal shadow impact on the surrounding area. Impacts are primarily to the existing Winsor Campus with minimal or no effects to the Emerald Necklace. A detailed study of the effects on the Emerald Necklace was completed to confirm the Proposed Projects' consistentence with the LMA Interim Guidelines, which do not allow projects to cast more than one hour of new shadow on the Emerald Necklace on the spring equinox.

Daylight

Development of the Proposed Projects will result in a slightly above fifty percent obstruction of daylight on most adjacent streets. The largest obstruction will occur along Longwood Avenue due to the construction of the Longwood Avenue Project. As described in Chapter 3, *Urban Design*, the Longwood Avenue Project is proposed to be similar in scale to the BRA-approved Longwood Center project located on the northwest side of Longwood Avenue and have a similar daylight impact.

Solar Glare

Solar glare impacts on neighbors and adjacent roadways are not anticipated due to the proposed building designs, which do not include highly reflective glass or other reflective materials that would contribute to solar glare.

Air Quality

A microscale analysis was conducted for the Proposed Projects. The air quality evaluation demonstrates that the Proposed Projects will comply with City, State, and Federal air quality requirements. The microscale analysis evaluated impacts from project-generated motor vehicle traffic at the most congested intersections in the Study Area and the emissions associated with the proposed parking garages. State and federal modeling procedures were used to determine worst-case concentrations. The results demonstrate that all existing, no-build, and future build Carbon Monoxide and Particulate Matter concentrations will be below the National Ambient Air Quality Standards.

Solid and Hazardous Wastes

The Winsor School is sensitive to minimizing the level of solid waste it generates, both in the construction and operation of its buildings. The school's proactive recycling initiatives and trash removal procedures will be incorporated within the new Pilgrim Road Project and the Courtyard Addition Project once they are built and occupied by Winsor.

In addition, the Winsor School will encourage the developer of the Longwood Avenue Project to implement a comprehensive recycling program as part of the Project's operations. Extensive regulatory requirements, proactive ownership management strategies governing this type of development and generally accepted "best practices" will provide significant protection to the general public, the environment, and workers at this building.

Noise

Sound levels generated by mechanical equipment, motor vehicle traffic, building operations and emergency/back-up generators associated with the Proposed Projects were evaluated. The analysis determined that the maximum sound level that the Proposed Projects will generate will comply with the City of Boston's Noise Ordinance. The Proponent will specify equipment and mitigation measures that would result in sound levels that do not exceed the maximum thresholds set forth in the City of Boston's Noise Ordinance.

Stormwater Management/Water Quality

The Proposed Projects fall within the Overlay District and Article 32 requires that one inch of stormwater over the entire impervious area of the site be recharged into the ground. Therefore, in accordance with the performance standards of section 32-6 of the Zoning Code, an underground recharge system will be installed as part of each of the Proposed Projects to collect and recharge a portion of the stormwater runoff from the roof before connecting to the existing Boston Water and Sewer Commission ("BWSC") storm drain systems**.** Stormwater runoff collected from the roofs of the Courtyard Addition and the Pilgrim Road Projects will likely tie into the existing 10-inch storm drain in Brookline Avenue or 15-inch storm drain in Pilgrim Road. Stormwater runoff generated from landscaped and paved areas will be collected, treated, and conveyed to a stormwater retention structure within a proposed closed drainage system and overflow to the BWSC storm system.

Flood Hazard Zones/Wetlands

As seen in **Figure 5-31**, the Proposed Project Sites are located outside the 0.2 percent annual chance floodplain (commonly referred to as the 500 year flood limit), identifying them as areas of minimal flooding.

Geotechnical/Groundwater Conditions

No significant impact on adjacent buildings or utilities is anticipated due to foundation construction. Construction procedures for the Proposed Projects will be designed to limit potential adverse impacts to adjacent structures and utilities.

The Pilgrim Road Project's lowest level floor slabs and parking garage are anticipated to lie above the existing groundwater level, and therefore the underslab drainage system is not anticipated to have a negative impact on groundwater conditions surround the site. The excavation for the Longwood Avenue Project will be performed within a relatively stiff and watertight slurry wall system to provide excavation support, limit ground movement outside of the excavation by creating a groundwater "cut-off" between the excavation and surrounding area.

Construction Impact

The Proposed Projects are envisioned to occur in phases. The Proponent estimates that construction of the Pilgrim Road Project will take approximately 20 months and will be the first phase of construction. The Longwood Avenue Project is anticipated to take approximately 28 months to complete. The Courtyard Addition wing is anticipated to be the third and final phase of the Proposed Projects' construction, with an approximately 16 month construction duration. The Proponent will require its contractors to construct the Proposed Projects in compliance with all applicable City, State, and Federal regulations governing noise, dust, and traffic maintenance. In addition, a Construction Management Plan with the BTD for each of the Longwood Avenue and Pilgrim Road Projects.

Rodent Control

The City of Boston enforces the requirements established in the Massachusetts State Sanitary Code, Chapter 11, 105 CMR 410.550 and the State Building Code, Section 108.6 Policy Number 87-4 (City of Boston). These regulations specify that extermination of rodents is required for issuance of permits for demolition, excavation, foundation, and basement rehabilitation. A rodent control program will be developed prior to construction commencement of each Proposed Project.

Historic Resources

Research indicates that none of the buildings on the Winsor Campus are included in the *State Register of Historic Places*. The original Winsor School Main Building and several third party-owned properties nearby have been previously recorded on inventory forms and thus are included in the *Inventory of Historic and Archaeological Assets of the Commonwealth.* Only one building in the Study Area, the former Massachusetts College of Art building located at the corner of Longwood and Brookline Avenues and owned/rehabilitated by Beth Israel Deaconess Medical Center, is listed in the National Register of Historic Places. Portions of the nearby Emerald Necklace/Olmsted Park system, including the section adjacent to the Winsor Campus, are also listed in the National Register of Historic Places, and are also a locally-designated landmark. As noted above, none of the other nearby historically significant properties nearby are listed in the *State Register of Historic*

Places. The Proposed Projects will have no adverse effects on any of the historic resources in the vicinity of the Proposed Project sites.

Sustainability

The City of Boston requires that new development projects that are over 50,000 SF must comply with green building standards and sustainable design features as described in Article 37 of the Zoning Code. The Proponent is committed to incorporating numerous sustainable design elements into the Pilgrim Road Project to comply with these requirements. Although the Courtyard Addition Project is below 50,000 square feet, the Proposed Project will voluntarily comply with Article 37 for this project as a result of the Winsor School's commitment to environmental sustainability.

The Longwood Avenue Project is anticipated to utilize the LEED for Core and Shell development rating system as it is anticipated to be a development with tenant and interior fit-out details not known at this time. LEED checklists for the Proposed Projects are included in Chapter 5.

Infrastructure Systems

Utility connections supporting the Proposed Projects will be designed and constructed in accordance with the City, State, and Federal standards. The Proponent will coordinate with the following regulatory agencies throughout the design and construction process:

- The BWSC, which is responsible for review and approval of proposed changes to water, sewer, and stormwater systems supporting the Proposed Projects. BWSC reviews any modifications of on- and off-site water, sewer, and drainage systems through their site plan review and approval process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity and establishment or updating of service accounts.

- The Boston Fire Department ("BFD") will review the Proposed Projects with respect to fire protection measures such as siamese connections and standpipes.

- Design of the site access, hydrant locations, and energy systems will also be coordinated with the respective system owners.

- New utility connections will be authorized by the Boston Public Works Department through the street opening permit process, as required.

Consistency with LMA Interim Guidelines

The BRA and the Office of Jobs and Community Services ("OJCS"), in conjunction with the BTD, initiated a master planning process for the LMA in 2002 and the BRA adopted the LMA Interim Guidelines in February 2003 to inform the review of proposed projects and Institutional Master Plans in the LMA pursuant to Article 80 of the Boston Zoning Code. The Proposed Projects respond to these guidelines and are generally consistent with the applicable goals that they seek to implement. It is important to note that Winsor is not an Institution, as defined in the Boston Zoning Code, and is therefore not subject to many of the provisions outlined within the LMA Interim Guidelines that apply specifically to LMA Institutions.

The overall organizing features of the Proposed Projects and their planning and design reflect the purposes and concepts of the LMA Interim Guidelines. Chapter 8 *Consistency with LMA Interim Guidelines* describes how the different aspects of the Proposed Projects embody the principles of the LMA Interim Guidelines.

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General Information

Applicant Information

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Development Team

The Proponent has assembled a development team of experts familiar with the City's substantive requirements and approval processes.

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Lee Kennedy Jr.

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Legal Information

Legal Judgments or Actions Pending Concerning the Proposed Project

The Proponent is not aware of any legal judgments or pending legal actions relating to the Proposed Projects.

History of Tax Arrears on Property Owned in Boston by Development Entity

The Proponent owns no real estate in Boston for which real estate tax payments are in arrears.

Evidence of Site Control over Entire Project Area

The Proponent owns its Campus in fee and currently utilizes it for its academic purposes. The Campus is comprised of eight contiguous parcels of land to which the Proponent has obtained title beginning in 1909.

Based on a survey of the Campus completed by Harry R. Feldman, Inc. dated January 11, 2011 and presented previously in **Figure 1-5**, there is a BWSC sewer easement located in the discontinued portion of former Pilgrim Road, which is now owned in fee by Winsor, and certain residual rights of other utilities providers on portions of the Campus, and the City of Boston's rights in Short Street Extension, a private way open to public travel that is located between the Riverway and Pilgrim Road. None of the Proposed Projects will adversely affect the BWSC easement or other rights.

Regulatory Controls and Permits

Project Scope

As outlined in greater detail in *Chapter 1, Project Description and Impact Summary*, the Proposed Projects consist of three distinct components. These include the following:

1. Construction of a new 110,000+/- square foot academic building on the Pilgrim Road Project site for Winsor's use, and possible interim parking use of the School's tennis courts prior to the construction of a 148+/- space (76 net new spaces) below-grade parking facility to be constructed on a phased basis beneath the adjacent playing field, which will be fully restored;
2. Construction of a 30,000+/- square foot new academic addition to the existing Winsor academic complex; and
3. Construction of a new 300,000+/- square foot building on the Longwood Avenue Project site accommodating uses and at a scale consistent with the surrounding LMA. The Longwood Avenue Project also includes a 346+/- space four and one half level below-grade parking facility, which may be constructed on a phased basis.

For purposes of this filing and the Article 80B review process, the Zoning Gross Floor Area of each Proposed Project above is included in our analyses and calculations, as is the Zoning Gross Floor Area assumed to be added by creating an interstitial floor of approximately 3,000 square feet within the existing Winsor School assembly area upon completion of the Pilgrim Road Project. With the exception of the infill work described above, the Gross Floor Area of the existing Winsor Campus buildings will not be affected by the Proposed Projects, and the existing educational uses housed in these buildings will not change as a result of the Proposed Projects. The existing gymnasium building of approximately 16,900 square feet will be demolished to make way for the new Pilgrim Road Project.

Existing Zoning

The Campus is located within an H-1 District, which is a residential apartment district established by Section 3-1 of the Boston Zoning Code (the "Zoning Code"), as shown on Boston Zoning Map 1 titled "Boston Proper." The Campus is also located within the Groundwater Conservation Overlay District as established by Article 32 of the Zoning Code, as amended, and the Restricted Parking Overlay District, as established pursuant to Section 3-1A.c of the Zoning Code. Within the H-1 District, Winsor's existing elementary and secondary educational uses are permitted as-of-right (Use No. 16 in Table A to Article 8 of the Zoning Code).

The Proposed Project Sites are currently governed by the dimensional requirements set forth in Table B to Article 13 of the Zoning Code, which include a maximum floor area ratio ("FAR") of 1.0, a minimum lot size of 5,000 s.f., a minimum lot width of 50 feet, a minimum lot frontage of 25 feet, a minimum front yard of 25 feet, a minimum side yard varying between 12.5 feet and 20 feet, and a minimum parapet setback calculated in accordance with the formula set forth in said Table B. Building height is not limited within the H-1 District.

The existing parking and off-street loading requirements for the Proposed Project Sites are set forth in Article 23 of the Zoning Code.

Proposed Planned Development Area

The Proponent is proposing that the Campus be designated as a Planned Development Area ("PDA") pursuant to the provisions of Section 3-1A.a and Section 80C of the Zoning Code, in order to allow for a more flexible zoning approach that also recognizes that development on the Proposed Project Sites will occur over a period of years. The PDA mechanism also provides an appropriate degree of BRA oversight for the multiple phases of development planned for the Campus.

To effectuate creation of the PDA, the Proponent is concurrently initiating the Article 80C public review process for approval of the PDA designation and a Development Plan ("PDA Plan"). Upon approval, the PDA Plan will govern the development and use of the Winsor Campus. The PDA Plan and corresponding zoning map amendment designating the Campus as a Planned Development Area will require BRA and Boston Zoning Commission approval, in each case after a public hearing.

The PDA Plan addresses the proposed location, dimensions and appearance of the existing structures and the proposed new structures, open space and landscaping, the uses and density of each of the Proposed Projects, traffic circulation, parking and loading facilities, access to public transportation, and public benefits that will accrue from the development of the Proposed Projects. The PDA Plan also addresses the green buildings requirements set forth in Article 37 of the Zoning Code and groundwater recharge requirements set forth in Article 32 of the Zoning Code.

The proposed zoning parameters for the Winsor Campus (as set forth in the PDA Plan) are as follows[1]:

▼

[1] Defined Terms are as used in the Zoning Code.

Floor Area Ratio

The total development program discussed in this PNF, consisting of approximately 443,000 square feet of new Gross Floor Area (as defined in the Zoning Code), together with the existing academic facilities (less the gymnasium to be demolished), will create a floor area ratio (FAR) of approximately 1.76 on the Winsor Campus. However, the Proponent is requesting a maximum FAR of 1.85 for the Winsor Campus to allow for design variances expected to occur during the design review process for each of the Proposed Projects, as well as construction variances. The Longwood Avenue Project will be constructed on a subparcel of the Winsor Campus comprised of approximately 39,360 square feet. Construction of this approximately 300,000 s.f. project would result in an FAR of 7.62 at this subparcel; however, the Proponent is requesting a maximum FAR of 8.0 for this subparcel to allow for design changes expected to occur during the design review process as well as construction variances.

Maximum Height

A maximum Height (as defined in the Zoning Code) of 105 feet is proposed for the Campus, with the exception of the Longwood Avenue Project site, which is proposed to have a maximum Height of approximately 165 feet. These maximum Heights will provide for design changes expected to occur during the design review process as well as construction variances.

Parking

The Campus is proposed to contain a maximum of 537 parking spaces, consisting of up to 148 parking spaces located in a garage constructed beneath one of the existing playing fields as part of the Pilgrim Road Project; a maximum of 346 parking spaces located within a garage constructed underneath the Longwood Avenue Project; and approximately 43 parking spaces located within an existing surface parking lot and on other paved areas within the Campus. An interim parking lot may be created on the Longwood Avenue Project site to provide parking prior to the construction of the underground parking facility associated with the Pilgrim Road Project. This interim lot is anticipated to comprise approximately 112 surface parking spaces.

Proposed Uses

The permitted uses throughout the Campus are proposed to be educational uses and uses related thereto including parking. The Proponent proposes that the permitted uses on the Longwood Avenue Project site also include those non-residential uses characteristic of the Longwood Medical and Academic Area, including Offices, Hospital Uses, Community Uses, Research and Development Uses, Scientific Laboratories, Retail Uses, Restaurant Uses, and Service Uses (as each such use is defined in Article 2A of the Zoning Code), and uses related thereto, including Parking.

Article 80 – Large Project Review

The Proposed Projects will undergo Large Project Review by the Boston Redevelopment Authority (the "BRA") under Article 80B of the Zoning Code. The Proponent commenced Large Project Review under Article 80B of the Boston Zoning Code with the submission of a Letter of Intent to the BRA on February 11, 2011, which indicates the Proponent's intention to file this Expanded Project Notification Form for the Proposed Projects. The Proponent has met with City agencies, neighborhood representatives and groups, elected officials, and other interested parties, as discussed in Chapter 7, over the last several months to discuss plans for the Proposed Projects.

This Expanded Project Notification Form ("PNF") sets forth details about the Proposed Projects and provides various analyses of transportation, environmental protection, infrastructure, and other components of the Proposed Projects, in order to inform City agencies, neighborhood residents and organizations, and other stakeholders about the Proposed Projects, their potential impacts, and mitigation proposed to address those potential impacts.

Two of the three Proposed Projects – the Longwood Avenue Project and the Pilgrim Road Project, will constitute a Development Impact Project. Under Section 80B-7 of the Zoning Code, such a project is one that (i) requires zoning relief; (ii) will devote more than 100,000 sf to a Development Impact Use; and (iii) involves the creation or substantial rehabilitation of more than 100,000 sf of gross floor area. Since the Pilgrim Road and Longwood Avenue Projects meet all three criteria the Proponent will enter into a Development Impact Project Agreement with the BRA as part of the Article 80B Large Project Review process.

Massachusetts Environmental Policy Act

In addition to Article 80 review, the Proposed Projects will also undergo environmental review at the State level by the Executive Office of Energy and Environmental Affairs pursuant to the Massachusetts Environmental Policy Act (MEPA). The Proposed Projects are collectively subject to MEPA review because (a) the Proponent may seek bond financing through MassDevelopment or another public or quasi-public source, that constitutes state financial assistance establishing MEPA jurisdiction, and (b) the Proposed Projects will exceed the MEPA transportation review threshold for unadjusted trip generation (using the unadjusted trips calculated using the Institute of Transportation Engineer's trip generation rates). The Proponent will file an Environmental Notification Form (ENF) with the MEPA Office to initiate MEPA review with this filing, together with the request to waive the filing of a mandatory Environmental Impact Report for the Proposed Projects.

State and Local Permits & Other Approvals Anticipated

The Proponent anticipates seeking the following federal, state and/or local permits and taking the following actions in relation to the Proposed Projects' development (See **Table 2-1**).

Table 2-1
Anticipated Permits and Approvals

Agency Name	Permit or Action
Federal Government	
US Environmental Protection Agency	NPDES Notice of Intent
Federal Aviation Administration	Determination of No Hazard to Air Navigation
Commonwealth of Massachusetts	
Massachusetts Department of Environmental Protection	Sewer Connection Permit; Air Quality Plan approval; Construction Notice; Asbestos Removal Notice
Massachusetts Environmental Protection Act	MEPA Review; MEPA Certificate
Massachusetts Water Resources Authority	Temporary Construction Dewatering Permit; Sewer Use Discharge Permit
Massachusetts Historical Commission	Determination of "No Adverse Effect"
City of Boston	
Boston Redevelopment Authority	Article 80 Large Project Review; PDA Plan Review
Boston Civic Design Commission	Schematic Design Review
Boston Inspectional Service Department	Demolition Permit; Foundation and Building Permit; Certificate of Occupancy
Boston Landmarks Commission	Article 85 Demolition Delay
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Water and Sewer Commission	Site Plan Approval; Water and Sewer Connection Permits; Construction Dewatering Permit
Boston Fire Department	Site Access Plan; Flammable Materials License(s) and other permits
Boston Zoning Commission	PDA Plan Approval; PDA Area Designation
Boston Public Health Commission	Asbestos Removal Notice
Public Safety Commission, Committee on Licenses	Garage Permits
Public Improvement Commission	Specific Repair Plan Approval

The table above sets forth a preliminary list of permits and approvals from federal, state and local governmental agencies, which are presently expected to be required to construct the Proposed Projects, based on project information currently available. It is possible that not all of these permits or actions will be required, or that additional permits or actions may be needed as the design process continues.

3

Urban Design Component

This chapter describes the urban context, the proposed architectural design, the pedestrian amenities, and the landscape treatment for the Proposed Winsor Campus Projects as seen in **Figure 3-1**.

Relationship to Surrounding Context

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Long-standing Longwood Area Community Presence

The Winsor School's most defining urban characteristic results from its presence as a small, relatively self-enclosed campus in the heart of the dense fabric of its much larger institutional neighbors. The School's immediate context is characterized by open playing fields which provide an open buffer between the School's small academic buildings and the larger surrounding buildings of the Longwood Medical and Academic Area. The Winsor School is proud of its commitment to the area, having maintained a modest and physically stable neighborhood presence for over 100 years.

For over a century, Winsor has stood as a quiet neighbor among ever-expanding medical and academic institutions. The Winsor School is unique in the area. It has remained committed to its educational mission, yet has done so with very limited development on its campus over the last century. The Campus as it stands today has a 0.4 FAR with only 127,500 square feet of development. The Winsor School's location is somewhat buffered from the large city streets of Longwood and Brookline Avenues, allowing for an unobtrusive presence, almost unseen from beyond the Winsor Campus. Winsor is committed to preserving the expansive open playing fields (see **Figure 3-2** photographs) that define its existence in the City, provide important athletic facilities for its students, and provide much-needed visual openness in the densely developed LMA. Winsor seeks to preserve its open green space in the context of providing an appropriate complement of 21st century academic programs and facilities for its students.

A Self-sufficient Campus Under One Roof

The Winsor School's academic life is defined by the vitality created by having the lower and upper school communities connected under one roof with no discernable differentiation between them. The energy and sense of community on campus derived from this physical model is palpable.

Currently Winsor's only disconnected building, the small stand-alone gymnasium building, sits apart from the academic buildings surrounded on three sides by a 72 space surface parking lot. To a limited degree, this parking lot serves some of the Winsor Community's parking needs for faculty, staff, parents, and visitors.

This stand-alone building, which was constructed in 1924, does not meet the School's athletic and fitness program needs and Winsor girls are required to leave campus to use athletic facilities at other area institutions. For example, Winsor girls use the squash courts at MIT, and the pool, gym and dance studios at Simmons College's adjacent Athletic Center. Similarly inadequate performing arts facilities require Winsor students to travel to the Roxbury Latin and Belmont Hill Schools to practice for and perform in after school theatrical productions.

While Winsor needs to expand its own facilities to meet current academic and athletic standards, it wishes to do so while preserving the fundamental character of "a campus under one roof," whereby students can experience nearly all academic and related services within the Campus, in a set of interconnected buildings.

Cherished Academic Core within Larger Institutional Context

Winsor's existing campus is defined by a connected assembly of three-story buildings whose architecture is very much in keeping with the urban and architectural character of its brick, pitched roof Main Building, completed in 1910. Subsequent additions to the original Main Building structure have remained true to the intimacy of the first building, in scale, materials and style.

Bordered by larger LMA neighbors to the south, east, and west, the Winsor School has been keenly aware of, and has fostered building additions on its campus that are visually connected to, the increasing urban scale of its immediate surroundings. The recent dining hall addition, built in 2004, echoes the contemporary architectural language of nearby institutional buildings. The Proposed Projects will similarly continue this introduction of a contemporary architectural vocabulary on the Winsor Campus.

Winsor is comfortable in its institutional surroundings and cherishes its role as a smaller-scale non-institutional presence in this urban context. Both presently and in the future, Winsor wishes to preserve this model of a modestly scaled academic campus core, defined by its proximity to open space, with any larger buildings remaining buffered from the heart of the School's academic campus by the athletic fields.

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Commitment to Open Space

Nearly sixty percent of the Winsor Campus currently exists as open space. Winsor's two athletic fields and open green space are defining elements of the Campus and of the school as a whole. The fields provide much-needed space for the School's fall and spring athletic programs while also serving similar playing field needs before and after Winsor's academic day for neighboring higher education institutions such as Simmons College, Wheelock College, and Emmanuel College. The green open space behind the existing Main Building provides students with outside areas to congregate during the spring and fall months. Winsor is proud of the significant urban amenity that this large open space provides to its community and will preserve and enhance these fields as part of the Proposed Projects' development (See **Figure 3-1**). As shown in **Figure 3-5**, these fields were recently upgraded to include artificial turf, lighting, and bleacher seating.

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Pilgrim Road Front Door and Short Street Pedestrian Access

The front door to the Winsor Campus is both physically and symbolically defined by the one-story stone colonnade facing Short Street Extension north of Pilgrim Road. This main entrance is nestled between the Riverway and Pilgrim Road, which ends as a public way at the Winsor Campus.

The Winsor School together with its immediate neighbor, Simmons College, owns a discontinued portion of Short Street that connects the end of Pilgrim Road to Brookline Avenue. There is a privately-owned brick-paved pedestrian pathway that is used by pedestrians as a cut-through between the MBTA Green Line Longwood Station and the Riverway portion of the Emerald Necklace Park to Brookline Avenue, across from the entrance to the Beth Israel Deaconess East Campus (see **Figure 3-3 through 3-5** photographs). This Pedestrian Pathway will continue to exist after development of the Pilgrim Road Project.

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Internally Facing Campus

Limited Public Visibility Ensuring Student Safety

Winsor has worked diligently to provide a safe and internally-focused campus, slightly removed from its large-scale urban surroundings, and the busy traffic along Longwood Avenue, Brookline Avenue, and the Riverway. As an all-girls school located in the heart of a dense urban environment, the safety and security of the student population (5th through 12th grades girls) is of the utmost importance to school administrators. By maintaining an inwardly-facing campus around the playing fields and ensuring a secure perimeter through a combination of buildings and fences, Winsor has maintained a successful record in this regard.

Winsor's most public faces are defined primarily by its limited presence on the Riverway and secondarily by the Pedestrian Pathway that connects the Riverway to Brookline Avenue, passing by Winsor's front door on Short Street Extension.

From the Riverway, the Campus is briefly experienced from a narrow view corridor toward the Winsor Campus Main Building. Further exposure of the Campus to the Riverway is restricted, as the loading area and secondary facades of the Winsor Campus are located on Nessel Way (a private way open to public travel) that is sheltered from Riverway views by its institutional neighbor, Temple Israel.

To the west, the Winsor Campus buildings are situated away from Longwood Avenue behind the taller MASCO Building and Parking Garage. Along the length of Winsor's Campus adjacent to Longwood Avenue sit the school's six tennis courts, enclosed within a 10-foot privacy fence.

As shown previously, **Figure 1-2** depicts the existing site plan for the Winsor School Campus.

Urban Design: Overall Campus Goals

As Winsor seeks to incorporate new program spaces on its campus, it seeks to do so while maintaining the essential qualities that have served the campus so well for more than a century. Winsor's overall campus urban design goals include:

1. Maintain the existing character of the Winsor Campus, characterized by a small core of academic buildings, surrounded by taller neighboring buildings of varying uses.

2. Provide the students with the required program spaces to successfully meet the School's academic mission both in the near-term and for future generations.

3. Maintain the existing Campus front door and traffic flow of Pilgrim Road.

4. Maintain a unique amount of open space on campus for the use of its students and to provide much-needed visual openness to all institutions in the LMA.

5. Maintain strategies for ensuring campus safety and security by ensuring that a continuous perimeter is maintained on major public ways surrounding the Campus and that student circulation and campus life is inwardly focused.

Project Description

The Proposed Projects include new educational facilities for the Winsor School and the opportunity for a new commercial building to be developed on a portion of the Campus, set apart from existing academic structures. Together, these projects will help to anchor the school at its current location for generations to come**.** At the new Pilgrim Road Project, approximately 110,000 square feet of new performing arts instruction space and new athletic and personal wellness facilities, will occupy an elegant, contemporary, and contextually scaled facility designed by the world-renowned architectural firm of William Rawn Associates. The design of this new educational facility will complement the historical brick architecture of the Winsor School by creating a transparent and lightweight structure that makes maximum use of natural light and the site's outstanding southwestern exposure. The small (30,000+/- S.F.) Courtyard Addition to the existing Winsor academic complex will be of similar scale and massing as the existing buildings to which it will connect, and will provide expanded classroom space, offices, and other academic facilities. The Longwood Avenue Project will accommodate approximately 300,000 square feet of development, whose scale and uses will be entirely consistent with the nearby health care, educational, and life sciences use buildings. This development is envisioned as a glass curtain-wall structure, designed to make maximum use of natural light and to provide an architectural beacon marking the crossroads of the LMA and complementing (at lower scale) the tower at Longwood Galleria Apartments located on the opposite corner of the Brookline Avenue/Longwood Avenue intersection. In this regard, the scale of the Longwood Avenue Project represents the "stepping down" of the LMA's scale as the area transitions from the high-rise areas south of Brookline Avenue and west of Longwood Avenue to the more moderately-scaled educational areas to the north of Brookline Avenue and east of Longwood Avenue.

Figure 3-1 depicts the proposed site plan for the Campus – including the location of the Proposed Projects. The existing and proposed neighborhood contexts can be seen in **Figures 3-6** through **Figure 3-11**.

■

Pilgrim Road Project

Urban Design Goals

In support of the overall campus urban design goals outlined above, the urban design objectives for the Pilgrim Road Project reflect Winsor's desire that the project be designed to be both socially and environmentally sustainable, respond to the surrounding context of the Winsor Campus and the LMA, and address the School's present and future space needs within a highly space-constrained context.

Refer to **Figures 3-12 through 3-25** for schematic vignettes, massing and elevations for the Pilgrim Road Project. The Pilgrim Road Project will achieve these objectives in the following ways:

Respect Existing Conditions

1. Continue "Campus Under One Roof"
- ➢ Connect the proposed Pilgrim Road Project to the rest of the Winsor Campus buildings with a low and transparent two-story glass link.
- ➢ Maintain primacy of Winsor's existing front door, respecting existing character while not changing primary entrances or campus circulation patterns.

2. Ensure Similar Traffic Patterns
- ➢ Locate access ramp to underground parking at location of entry to current surface parking.
- ➢ Maintain similar long-term traffic and pedestrian flows to existing conditions.

Connect to Winsor Fields

1. Extend the Playing Fields' sense of openness
   - ➢ Visually extend fields into new building with a primary focus of visually connecting interior public spaces to the green open space through extensive sun protected glazing.

Subtly Engage Brookline Avenue

1. Extend Existing Street Frontage.
   - ➢ Continue street face of adjacent Simmons College buildings on Brookline Avenue by maintaining an 18-foot setback.

2. Face toward Brookline Avenue.
   - Provide a visually interesting elevation with fenestration and articulation facing Brookline Avenue (and not a solid rear elevation).

3. Maintain existing Pedestrian Pathway.
   - Important pedestrian link from Riverway to Brookline Avenue will be maintained adjacent to the proposed building edge.
   - Lighting on the exterior of the proposed building will enhance pedestrian comfort.
   - The Pedestrian Pathway will remain as wide as currently exists (i.e., 16 feet wide).

4. Address Campus Security Needs.
   - Maintain campus security by retaining campus "front door" at the Main Building as currently exists.
   - After-hours visitor access to the playing fields will be provided via a secured gate along the Brookline Avenue façade.

Height and Massing

The massing strategy for the Pilgrim Road Project has been studied extensively, with particular attention given to how the new large volume program spaces can be integrated into the internal campus and the external urban fabric. This integration is achieved primarily by reflecting the following objectives:

1. Respecting Existing Winsor Buildings
   - Locating larger volumes and taller mass away from small scale existing Winsor Campus fabric.
   - Ensuring that the transparent two-story link connecting to the Main Building is lower than existing and new buildings, allowing the existing buildings to remain visually independent, while providing a visible Winsor presence on the Pilgrim Road axis and maintaining the historic Pilgrim Road view corridor.

2. Providing Three Height Zones for the New Building.
   - Within 40 feet of the existing building, maintain roof heights similar to the existing structures.
   - Between 40 and 120 feet from the existing buildings, new roof heights climb higher (up to 70 feet); however, these are modulated by strong horizontal canopies near the ridge line of the existing buildings.
   - The building mass nearest Brookline Avenue is taller (up to 75 feet) and in keeping with surrounding context of taller buildings along Brookline Avenue.

3. Top Floor Set Back from Brookline Avenue.
   - The top floor of the Proposed Project has been set back from the Brookline Avenue façade, enhancing morning sun on the Brookline Avenue sidewalk.
   - The top floor of the Proposed Project is also set back from the Winsor Fields in order to minimize its visual impact on the athletic fields.

Character and Materials

The architecture of the Pilgrim Road Project celebrates the role of the new building as a landmark for the Winsor School, while still complementing the existing context of both the original campus buildings and the more general surrounding urban context. Balconies, overhangs, varied roof lines and transparent materials break down the scale of the building, thereby allowing the new structure to effectively and elegantly bridge the visual connection between Winsor's smaller buildings and Winsor's much larger institutional neighbors such as the Beth Israel Deaconess Medical Center.

Material Palette of Glass Facing Field

1. Extensive glazing on the Pilgrim Road Project's southwestern elevation provides strong visual connection between the building's interior and the adjacent athletic fields, while complementing the mostly solid existing buildings with a more transparent campus experience;

2. Extensive horizontal exterior shading and overhangs provide solar protection in warmer months while maximizing the influx of natural light in the winter months;

3. Outdoor balcony spaces overlooking the fields provide a unique perspective for observing the athletic field's activities.

Brookline Avenue and Short Street Path Façade Engage Pedestrian Zone

1. A warmly toned and textured masonry wall at the lower pedestrian-level zone along the existing Pedestrian Pathway provides an inviting public realm;

2. There are building windows along the pedestrian path, thereby enhancing the sense of pedestrian safety.

3. Recessed wall lighting on the exterior of the building will provide additional pedestrian comfort along the existing Pedestrian Pathway.

Metal Panel Façades at Higher Elevations

1. The lighter material of the taller building elements reflects ambient skylight.

Warm Glowing Theatre Beacon

1. The transparent glass volume of the theatre assembly space on the 2nd and 3rd floors provides a warm exterior glow toward Pilgrim Road adjacent to the Winsor Campus front door through a combination of exposure, lighting, transparency, and interior wood louvers (see **Figure 3-14**);

2. Located near the Campus front door, the theatre volume provides outward expression of the creativity and warmth of the Winsor community, as well as a visible community presence on the public street.

■

Courtyard Addition Project

The small Courtyard Addition Project will have almost no visibility from the surrounding public realm and correspondingly, will have minimal visual or urban impact outside of the Winsor Campus. A small L-shaped structure connecting to existing buildings, the Courtyard Addition will create an intimate internal campus courtyard and help connect the Lower School academic spaces with the Main Building front door, the current assembly space that will be converted into additional classrooms and other academic facilities, and the new Pilgrim Road Project.

Refer to **Figures 3-26** through **Figure 3-28** for floor plans and elevations for the Proposed Courtyard Addition Project.

Urban Design Goals

As a building removed from its urban context and entirely inwardly facing to the heart of the Winsor Campus core, the largest urban goal for this project will be ensuring it blends seamlessly with the character and scale of existing Campus buildings. The completion of an internal campus courtyard or quad will provide a new type and intimate scale of exterior space that currently does not exist on the campus. Additionally this addition will continue Winsor's defining characteristic of moderately scaled and highly integrated academic core all located under one roof.

Height and Massing

The height and massing of the Courtyard Addition Project will be consistent with the existing campus scale. The 3-4 story building, with ridge and eave lines extending from the existing buildings, will continue the campus characteristics and scale of the existing academic buildings. The addition will not significantly change primary entrances to the Winsor School or campus circulation patterns, as the new addition will be connected directly to existing campus buildings at both ends.

Character and Materials

Although the Courtyard Addition will be subject to future BRA design review when program details and specifics are better defined and its conceptual design has progressed to schematic design, this small future addition building will be designed with a sensitive material palette similar to that of other Winsor buildings – combining brick, stone, slate and glass. The architecture will seek to maintain views both to the exterior and Winsor athletic fields while also engaging a newly created intimate interior campus quad.

■

Longwood Avenue Project

The Longwood Avenue Project will play an important role in enhancing the urban context and development of the LMA. The building's visibility from Brookline Avenue and presence on Longwood Avenue from both approaches will help to further define and enhance this important crossroads of and gateway to the LMA. Coupled with the future Longwood Center (Joslin expansion) project approved through the Article 80B/Article 80C process in 2008, the existing tower at Longwood Galleria Apartments across Brookline Avenue, and future development by Beth Israel Deaconess Medical Center and Children's Hospital, this new development will play an important architectural role in the future of the LMA district.

Figure 3-29 shows the existing urban context and the massing of the proposed Longwood Avenue Project within this setting.

Urban Design Goals

The overall design strategy for the Longwood Avenue Project is to fully engage the urban scale of the Longwood Avenue/Brookline Avenue intersection and to reflect the scale and massing of the immediately adjacent BRA-approved Longwood Center project to create a true gateway to the heart of the LMA.

Complementing the BRA-Approved Longwood Center Project

1. The BRA-approved Longwood Center project will provide a northward extension of the Longwood Avenue pedestrian realm toward the Riverway on the west side of Longwood Avenue.

2. The Proposed Longwood Avenue Project provides an opportunity to ensure Longwood Avenue is an active two-sided street by adding street level retail activity and improving both pedestrian and vehicular flow by providing a building setback for improved pedestrian circulation and a revised Longwood Avenue curb line to facilitate right hand turning movements for Brookline Avenue traffic traveling north towards the Riverway.

Major Urban Gateway to the LMA

1. The Longwood Center project and existing tower at Longwood Galleria Apartments across Brookline Avenue create a strong vertical presence at the intersection of Longwood and Brookline Avenues that is consistent with this location's position at the heart of the LMA.

2. By emphasizing its complementing verticality while maintaining an appropriate overall height and massing, the Longwood Avenue Project can play a part in completing a signature gateway crossroads and entry to the LMA from all directions.

Street Level Improvements

1. To emphasize the urban scale of Longwood Avenue and provide much-needed improvements to the pedestrian realm on the Winsor side of Longwood Avenue, the proposed building will be set back approximately 7 feet from the property line to allow the existing sidewalk to be expanded from 8 feet wide to approximately 15 feet wide.   Street trees, lighting, and other street furniture will be provided along this newly widened sidewalk.

2. Wide sidewalks will significantly improve the pedestrian access from the Riverway to Brookline Avenue – one of the busiest pedestrian pathways in the LMA.

3. Approximately 6,500 square feet of active ground floor retail space will be created along Longwood Avenue, the major commuter thoroughfare of the LMA.

4. On Brookline Avenue, the Longwood Avenue Project will be set back approximately10 feet from the property line, allowing for a more commodious pedestrian experience and a wider vehicular turning radius at this critical location.

5. At the ground floor on Brookline Avenue, additional accessible sidewalk width will be provided by way of a setback under the building mass above. The shape of the setback would accentuate visibility for pedestrians, bicycles, and vehicles, provide a covered queuing area for pedestrians, and provide access to ground floor retail/commercial uses, thereby activating the street edge.

6. The building lobby will likely be located on the corner of the intersection, creating an active and transparent street frontage and a strong address and street presence for the building.

7. Because the Proponent is seeking only use, height, massing, and conceptual design approvals for the Longwood Avenue Project at this time and this building will be privately developed, the specific details of the Longwood Avenue

Project's design will be the subject of further design review by the BRA prior to the Longwood Avenue Project's development. In addition, the building's schematic design will be subject to design review by the Boston Civic Design Commission.

Improve Existing Intersection for Pedestrian and Vehicular Traffic

1. The existing intersection at Brookline and Longwood Avenues currently presents challenges for vehicular traffic due to a tight right-turn turning radius. The Proposed Longwood Avenue Project will provide an improved turning radius for the Brookline Avenue westbound to Longwood Avenue northbound traffic.

2. A ground floor building setback on both streets will provide for larger pedestrian gathering areas at the crosswalks crossing both Brookline and Longwood Avenues. As approved, the Longwood Center project will include similar provisions, and the Longwood Avenue Project is also proposed to have a ground floor building setback on the northern side of Brookline Avenue.

3. Traffic access to the underground garage and internal loading area at the Longwood Avenue Project will be provided via the shared MASCO/Winsor driveway accessed off Longwood Avenue.

Height and Massing

The Longwood Avenue Project has been designed conceptually, and its proposed height and massing is conceived to be compatible to the adjacent BRA-approved Longwood Center project. The Longwood Center project will create a new urban scale and experience at this LMA location and the Longwood Avenue Project will be designed to complement the Longwood Center project in this regard. Subject to future BRA design review (as well as design review by the Boston Civic Design Commission), the Longwood Avenue Project will:

1. Maintain height in keeping with the height of the Longwood Center.

2. Provide setbacks on all sides for the mechanical and rooftop mechanical screens.
   - Enclosed mechanical floors and rooftop screens will be set back facing the Riverway, the Winsor School fields and Longwood Avenue.
   - The location of the proposed setbacks will relate to (but will not mimic) the similar setback locations on the Longwood Center across the street.

3. The Brookline Avenue façade will be articulated with slender vertical elements.
   - A taller vertical element at the primary corner accentuates the LMA gateway;
   - There will be diminished height toward the Winsor fields in order to reduce visual impacts.
   - The narrow façade profiles will de-emphasize the building's width.

Character and Materials

Along with the overall project design concept, the building façade treatments and character of the Longwood Avenue Project will be subject to future BRA design review. Although the Longwood Avenue Project will be privately developed, the specifics of such development will be subject to Winsor's approval. Hence, Winsor envisions that the character of that project will be in keeping with the contemporary architectural vocabulary that has developed in the LMA. Key elements of the design are likely to include the following:

1. A predominance of low-E glass akin to similar institutional buildings nearby;

2. More opaque masonry walls at the lower floors facing the Winsor Campus athletic fields;

3. Metal panel enclosed mechanical floors and rooftop mechanical screens at the upper floors;

4. Transparent and accessible street frontage intended for commercial/retail (and otherwise pedestrian-active) uses, with overhead canopies providing wind and environmental protection along the Longwood Avenue and Brookline Avenue sidewalks;

5. Transparent retail storefronts along much of the Project's Longwood Avenue frontage; and

6. A building setback at the corner of Longwood and Brookline Avenues to allow for a more generous pedestrian realm at that busy LMA intersection.

Refer to **Figures 3-30** through **3-35** for architectural elevations and conceptual design vignettes for the Longwood Avenue Project.

Open Space, Pedestrian Ways, and Amenities

The Winsor School, together with its immediate neighbor Simmons College, owns a pedestrian pathway that connects the end of Pilgrim Road to Brookline Avenue as shown in **Figure 3-36.** This brick-paved path, while privately owned by Winsor and Simmons, is used by pedestrians as a cut-through that provides direct access from the MBTA Green Line Longwood Station and the Riverway portion of the Emerald Necklace Park to Brookline Avenue, across from the entrance to the Beth Israel Deaconess East Campus. This area will be maintained and improved as part of the Pilgrim Road Project's development, but it will remain in private ownership. It may be necessary to temporarily restrict access to this Pedestrian Pathway during construction of the Pilgrim Road Project. During these periods of time, an alternate route will be provided and Winsor will provide appropriate signage and lighting.

To emphasize the urban scale of Longwood Avenue and provide much-needed improvements to the pedestrian realm on the Winsor side of Longwood Avenue, the proposed building will be set back from the property line to allow the existing sidewalk to be expanded from 8 feet wide to approximately 15 feet wide as shown in **Figure 3-31.** Street trees will be provided along this newly widened sidewalk, if feasible. On Brookline Avenue, the building will be set back from the property line, allowing for a more commodious pedestrian experience, additional pedestrian queuing space and a wider turning radius at the Brookline Avenue/Longwood Avenue intersection.

Landscaping

The Proposed Projects' landscape is designed to support the overall urban design goals of the Campus. The landscape plans for the Proposed Projects are shown in **Figure 3-37 and 3-38**. In terms of their impact on the Campus and surrounding areas, the goals are:

1. Maintain the existing character of the Winsor Campus. The playing fields and the courtyard are the defining open spaces of the campus. Engaging these spaces is a primary architectural and landscape goal. The proposed design celebrates the open spaces at the heart of this inward-looking campus;

2. Maintain required program spaces for Winsor students. Given the required dimensions of the artificial turf fields, there is limited space for significant additional landscaping; and

3. Maintain strategies for ensuring campus safety and pedestrian access. A secure campus perimeter is very important for student safety, and landscaping will be employed as appropriate to soften the perimeter of campus.

Proposed Landscape Improvements

Within this design framework, the following sections describe the proposed landscape improvements in connection with each of the Proposed Projects.

Pilgrim Road Project

The landscape design of the Pilgrim Road Project complements the architectural and campus design objectives by providing secure pedestrian paths, protective fencing and site lighting where appropriate, and material articulation of important programmatic zones.

1. Safe pedestrian paths:
   - Simultaneously the Pilgrim Road Project defines a strong edge of the playing fields, while fostering visual connections between the fields and the building interior. A pedestrian path will run the length of the boundary between the building and the field, supporting physical education and athletic activity and providing a safe place for spectators;
   - The design of the Pedestrian Pathway between Winsor and Simmons will be focused on pedestrian comfort, with lighting embedded in the Pilgrim Road Project's façade and clear sightlines to Brookline Avenue and Pilgrim Road; and
   - Crosswalks at the terminus of Pilgrim Road and Short Street Extension will be reconfigured to encourage pedestrians to stay on the sidewalks and out of traffic.

2. Protective fencing:
   - A visually transparent fence will separate the playing fields from the pedestrian path along the building's edge, maximizing visual continuity of the fields and the building interior; and
   - Along Brookline Avenue, fencing shielded by plantings will keep the emergency and after hours exit secure while continuing the pattern of setbacks and street wall visual amenities established by the Simmons and Wheelock buildings along Brookline Avenue.

3. Material articulation:
   - Curbs, bollards, benches, and plantings at the end of Pilgrim Road will clearly define the pedestrian realm versus the parking ramp entrance;
   - A raised, brick-paved intersection at Pilgrim Road and Short Street Extension will alert drivers to the presence of pedestrian walkways;
   - Trees will be planted at both sides of the link between the new and existing buildings, emphasizing the link's transparency and providing a glimpse of the green open space of the interior campus from Pilgrim Road; and
   - Trees will buffer the site edge along Brookline Avenue, visually softening the campus boundary.

Courtyard Addition Project

The Courtyard Addition will nestle in the existing courtyard, dividing it into two separate spaces. The smaller courtyard enclosed by the new addition will be an intimate space primarily tied to the Lower School. The larger, open-ended courtyard will continue to be a sunny lawn opening onto the athletic fields.

Longwood Avenue Project

The Longwood Avenue Project bounds the Campus to the west and encloses its existing open spaces. The building itself will be oriented toward the public realm of the Brookline Avenue and Longwood Avenue streetscapes. The landscape design of the project therefore focuses on improving the public pedestrian experience along these two major streets in the following ways:

1. Improving existing intersections for pedestrian and vehicular traffic:
   - The proposed Longwood Avenue Project will create an increased turning radius at the intersection of Longwood Avenue with Brookline Avenue, easing turns for buses and emergency vehicles; and
   - Ground-floor setbacks facilitate pedestrian flow and provide queuing space for people waiting to cross Brookline Avenue.

2. Activating the streetscape along major thoroughfares:
   - Ground-floor setbacks will create wide, inviting sidewalks along Brookline and Longwood Avenues. Further sculpting at the building's corner will provide additional public space;
   - Retail spaces and the building lobby will bring life to the streetscape where an opaque fence now exists; and
   - A canopy will shelter pedestrians from wind and rain as they pass the building.

3. Keeping traffic off public ways:
   - Loading dock and parking garage entrance will be located off the shared Winsor/MASCO driveway beneath the building mass.

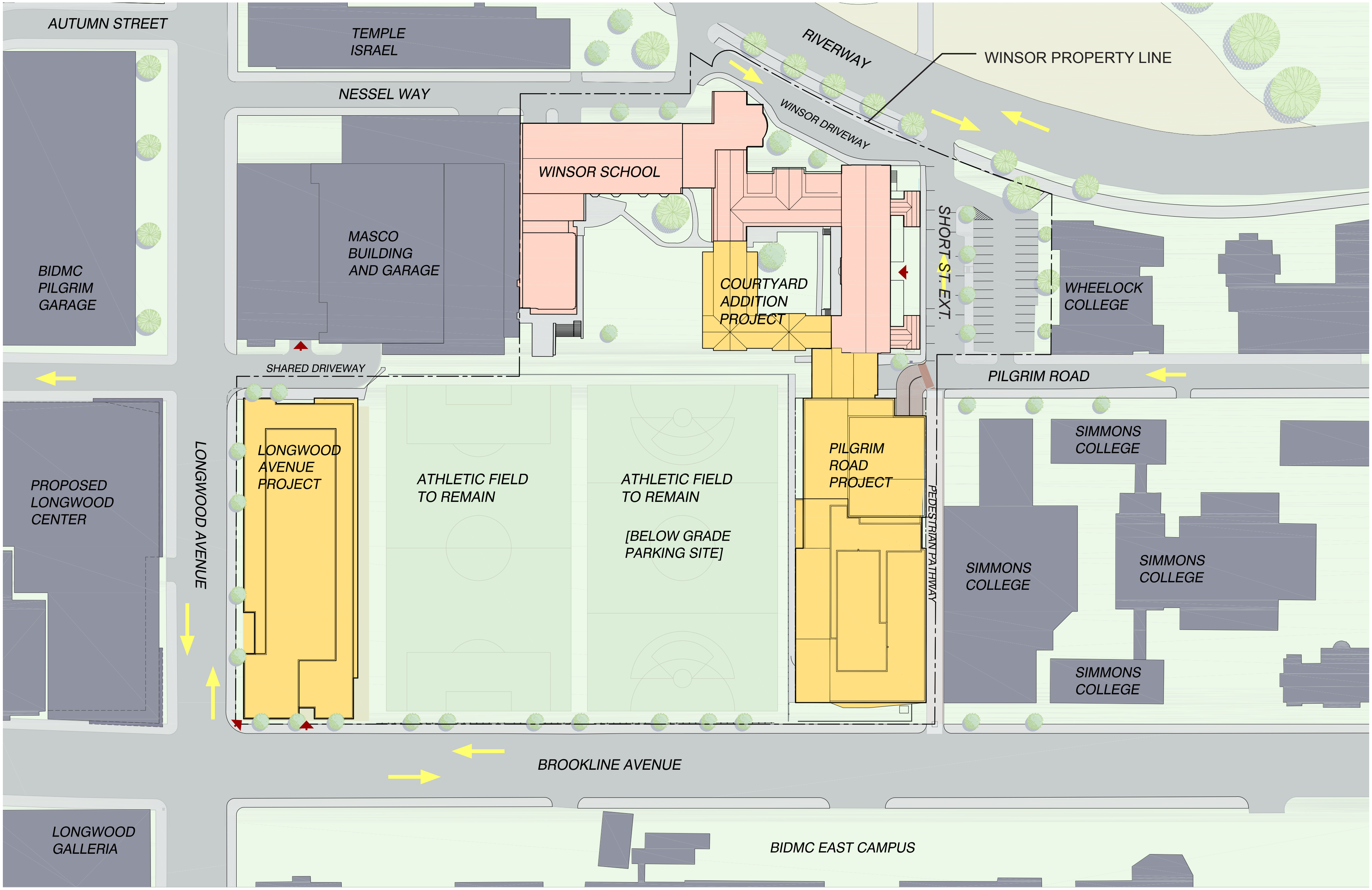
Vehicle Access, Circulation, and Parking

Parking associated with the Proposed Projects will be phased construction as part of the Proposed Project that it will serve (i.e., the Pilgrim Road Project and the Longwood Avenue Project). As currently planned, the Pilgrim Road Project may be initially constructed without the proposed below-grade parking deck underneath the adjacent athletic field. Under this condition, Winsor intends to take its existing tennis courts out of service and convert that area into an interim surface parking lot for faculty and staff. Prior to the construction of the Longwood Avenue Project, Winsor will have constructed a single-level, below-grade parking deck under the playing field adjacent to the Pilgrim Road Project building (148 spaces, of which 76 are net new spaces). A more detailed discussion of the Campus parking plan is provided in Chapter 4.

As currently proposed, the final condition of the Pilgrim Road Project will include a single level of underground parking. This parking will be constructed underneath the adjacent athletic field, and that field will be fully restored upon construction completion. The garage will be a single-level facility with 148 parking spaces and accessed via a ramp that connects the parking to the existing intersection of Pilgrim Road and Short Street Extension through the basement of the Pilgrim Road Project.

The Longwood Avenue Project will contain approximately 300,000 square feet of development comprised of uses consistent with those in the rest of the LMA (e.g., health care uses, educational uses, and life sciences uses). This facility will include construction of up to 346 below-grade parking spaces with access via the existing shared Winsor/MASCO driveway.

Emergency vehicle access will continue to be via Pilgrim Road and the Riverway for the Winsor School, including the Pilgrim Road and the Courtyard Addition Projects. The Longwood Avenue Project will have emergency vehicle access from Longwood Avenue to the shared Winsor/MASCO driveway. Winsor proposes to accommodate emergency vehicle access to its playing fields via a new emergency drive to be located at the end of the existing shared Winsor/MASCO driveway. Under current planning this new drive will be access controlled with a security/breakaway gate – and is subject to further review by the Boston Fire Department (BFD).



AUTUMN STREET
TEMPLE ISRAEL
NESSEL WAY
RIVERWAY
WINSOR PROPERTY LINE
WINSOR DRIVEWAY
WINSOR SCHOOL
MASCO BUILDING AND GARAGE
BIDMC PILGRIM GARAGE
COURTYARD ADDITION PROJECT
SHORT ST. EXT.
WHEELOCK COLLEGE
SHARED DRIVEWAY
PILGRIM ROAD
LONGWOOD AVENUE PROJECT
ATHLETIC FIELD TO REMAIN
ATHLETIC FIELD TO REMAIN
[BELOW GRADE PARKING SITE]
PILGRIM ROAD PROJECT
SIMMONS COLLEGE
PROPOSED LONGWOOD CENTER
LONGWOOD AVENUE
PEDESTRIAN PATHWAY
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
BROOKLINE AVENUE
LONGWOOD GALLERIA
BIDMC EAST CAMPUS

Figure 3-1

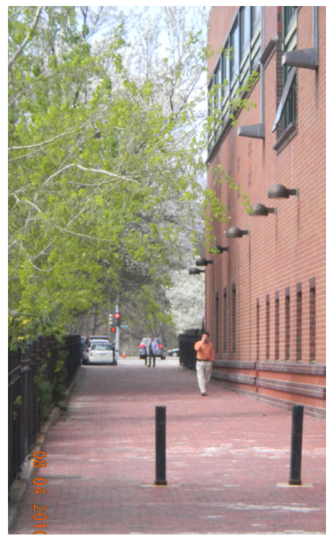
A: Winsor Fields Looking North (Larger LMA Neighbors Beyond)

B: Winsor Fields Looking East (Larger LMA Neighbors Beyond)

Figure 3-2

A: Winsor Approach: View From Pilgrim Road

B: Winsor 'Front Door'



C: Pedestrian Pathway: From Pilgrim Road

D: Pedestrian Pathway: From Brookline Avenue

E: Winsor Parking Lot

Figure 3-3

A: Brookline Avenue Sidewalk: Looking West

B: Pilgrim Road Site: Existing Parking Lot

C: Pilgrim Road Site: View From Brookline Avenue

Figure 3-4

A: Winsor Dining Hall Adjacent to MASCO Building Beyond

B: View Toward Longwood Avenue Site: From Brookline Avenue

C: Brookline Avenue Sidewalk: Looking East

D: Longwood Avenue Site: From Winsor Campus

Figure 3-5

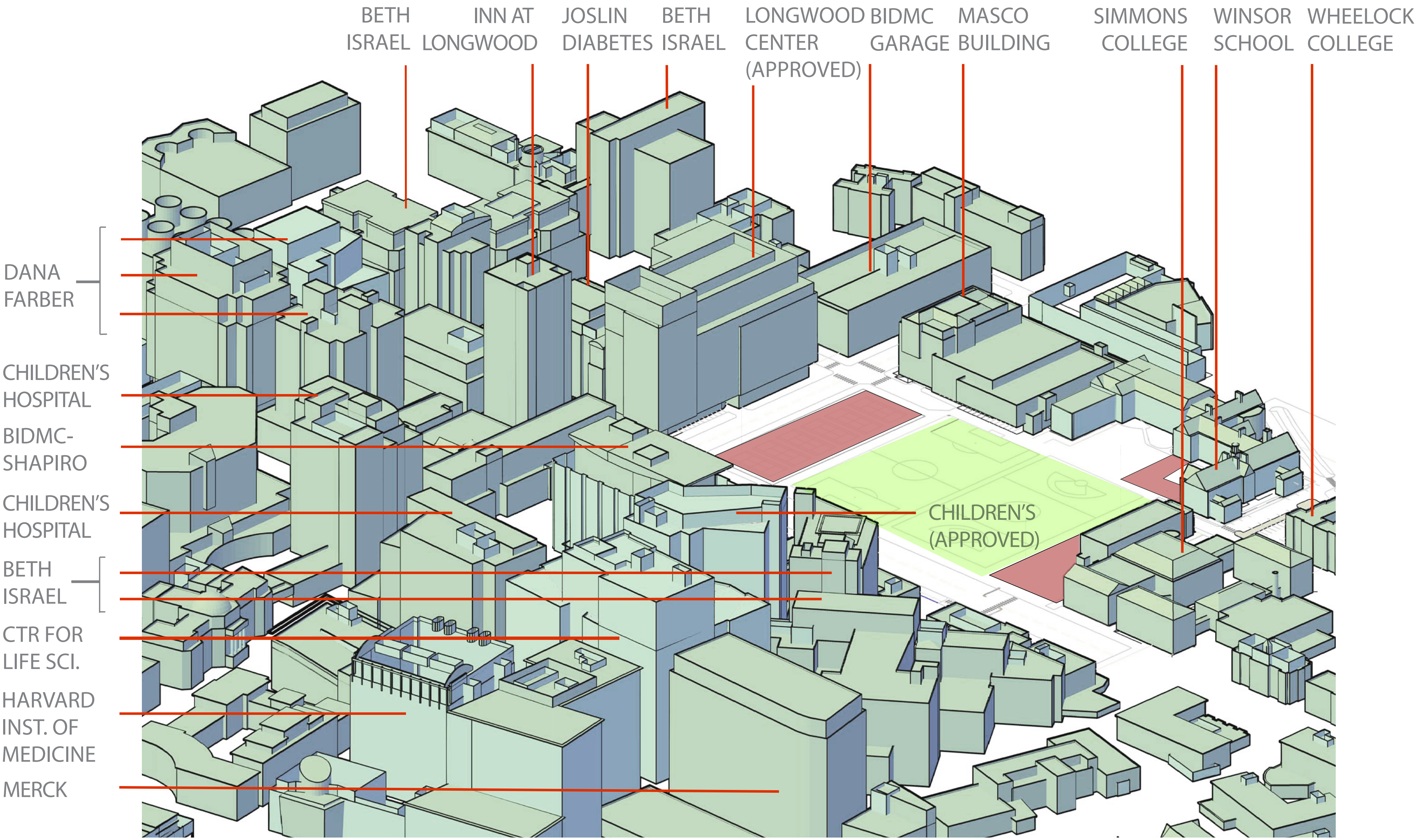

BETH ISRAEL
INN AT LONGWOOD
JOSLIN DIABETES
BETH ISRAEL
LONGWOOD CENTER (APPROVED)
BIDMC GARAGE
MASCO BUILDING
SIMMONS COLLEGE
WINSOR SCHOOL
WHEELOCK COLLEGE
DANA FARBER
CHILDREN'S HOSPITAL
BIDMC-SHAPIRO
CHILDREN'S HOSPITAL
BETH ISRAEL
CTR FOR LIFE SCI.
HARVARD INST. OF MEDICINE
MERCK
CHILDREN'S (APPROVED)

Figure 3-6

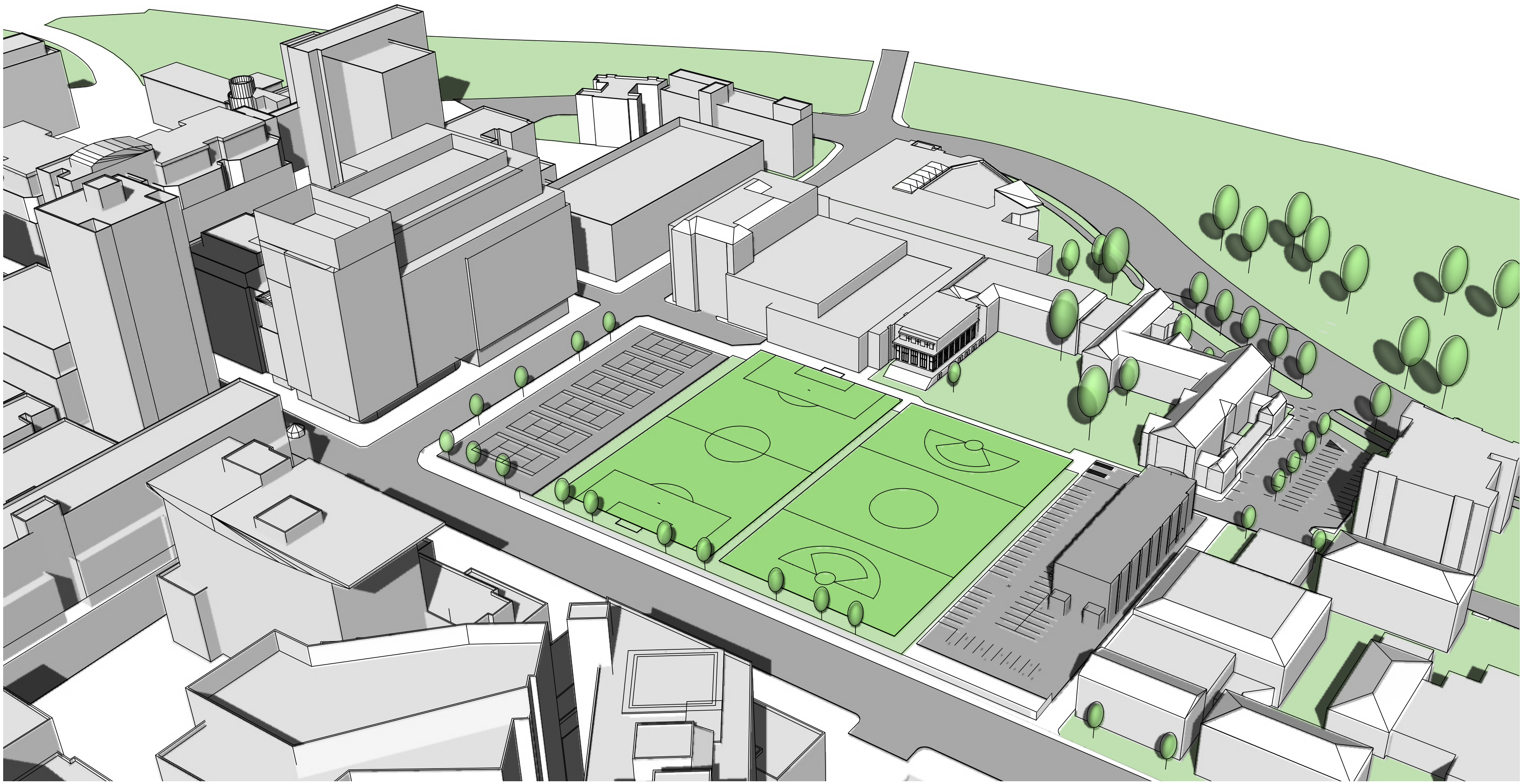


Figure 3-7

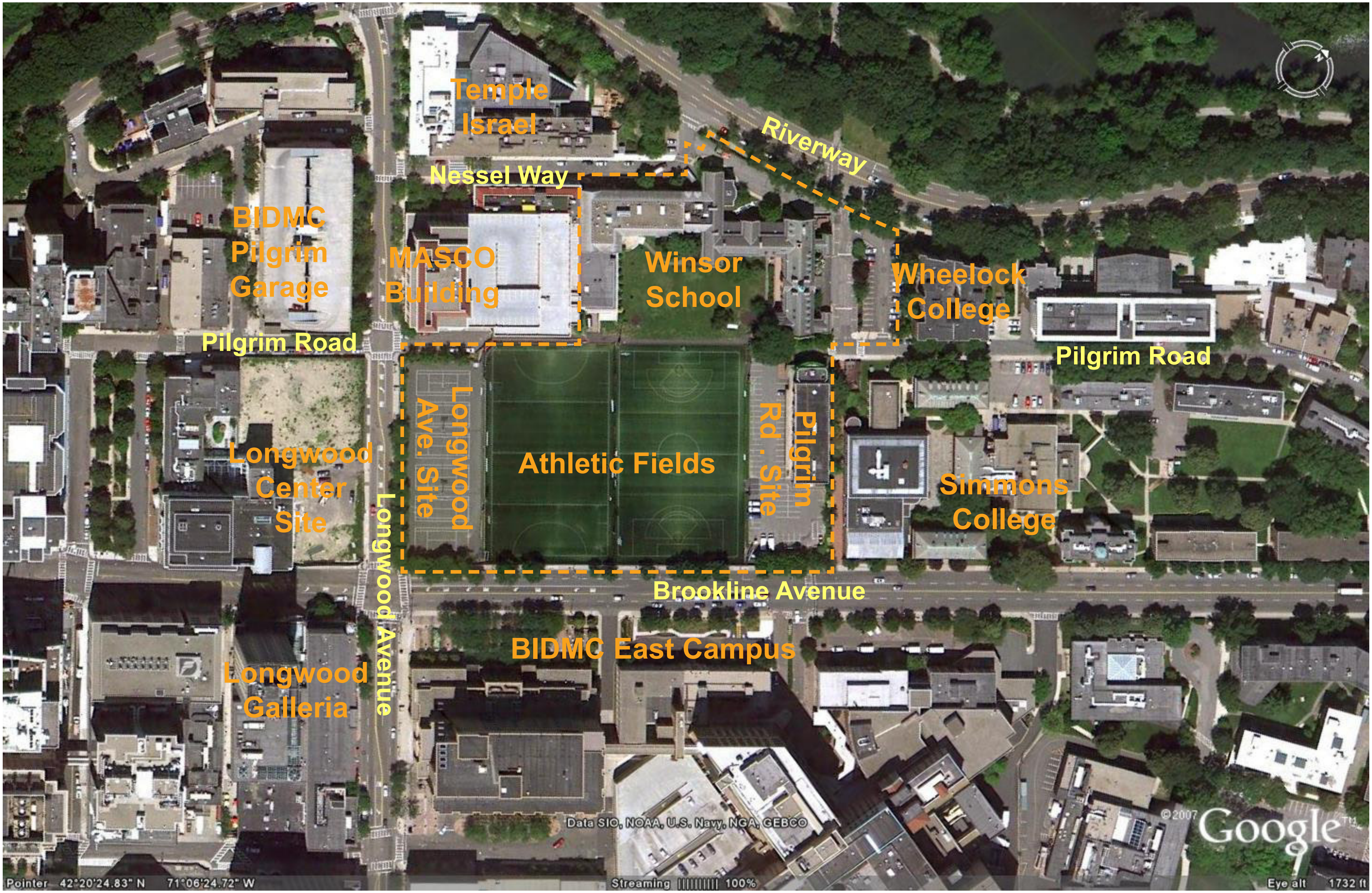
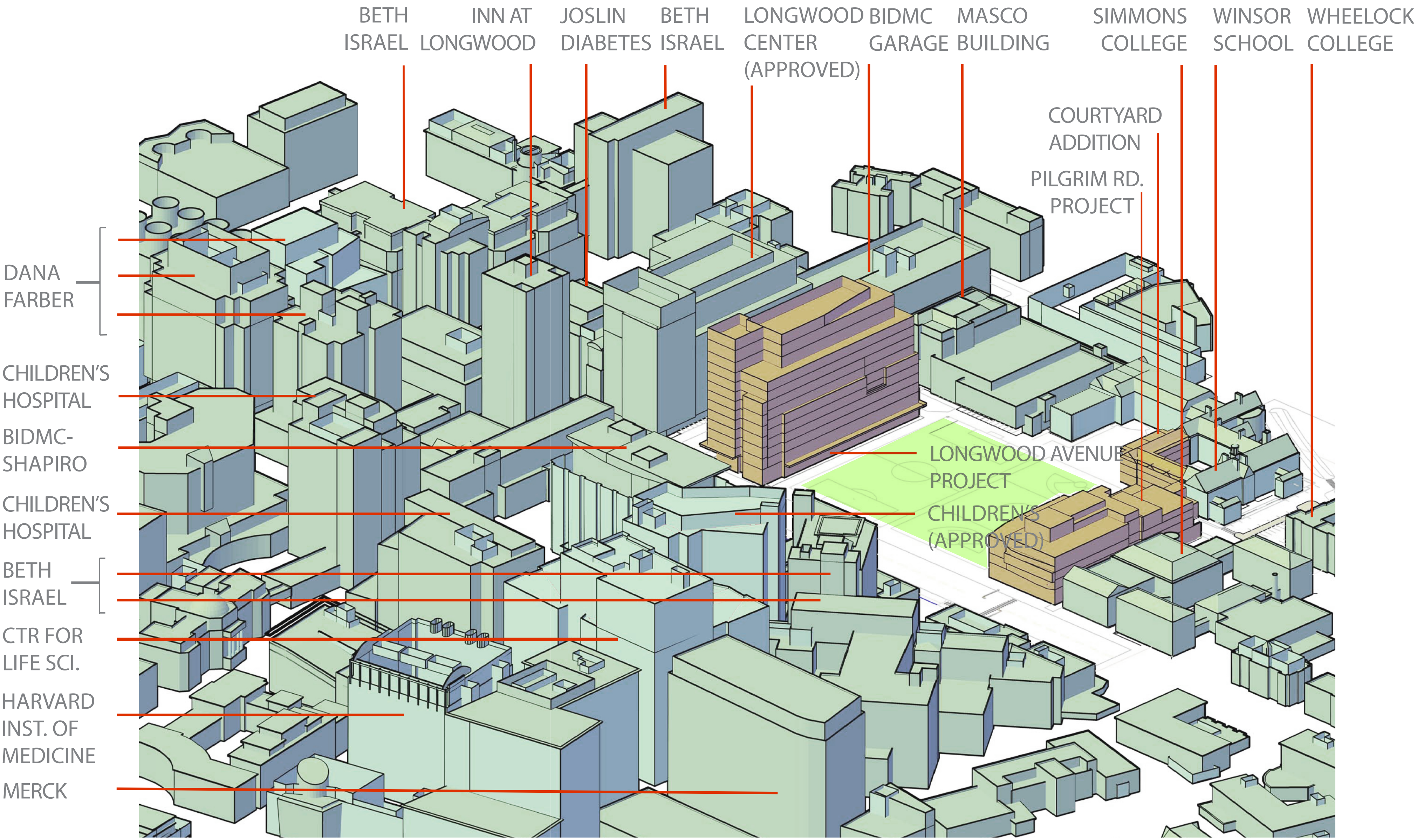

Temple
Israel
Riverway
Nessel Way
BIDMC
Pilgrim
Garage
MASCO
Building
Winsor
School
Wheelock
College
Pilgrim Road
Pilgrim Road
Longwood
Ave. Site
Athletic Fields
Pilgrim
Rd . Site
Longwood
Center
Site
Simmons
College
Longwood Avenue
Brookline Avenue
BIDMC East Campus
Longwood
Galleria
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
©2007 Google
Pointer 42°20'24.83" N 71°06'24.72" W
Streaming 100%
Eye alt 1732 ft

Figure 3-8



BETH ISRAEL
INN AT LONGWOOD
JOSLIN DIABETES
BETH ISRAEL
LONGWOOD CENTER (APPROVED)
BIDMC GARAGE
MASCO BUILDING
SIMMONS COLLEGE
WINSOR SCHOOL
WHEELOCK COLLEGE
COURTYARD ADDITION
PILGRIM RD. PROJECT
DANA FARBER
CHILDREN'S HOSPITAL
BIDMC-SHAPIRO
CHILDREN'S HOSPITAL
BETH ISRAEL
CTR FOR LIFE SCI.
HARVARD INST. OF MEDICINE
MERCK
LONGWOOD AVENUE PROJECT
CHILDREN'S (APPROVED)

Figure 3-9

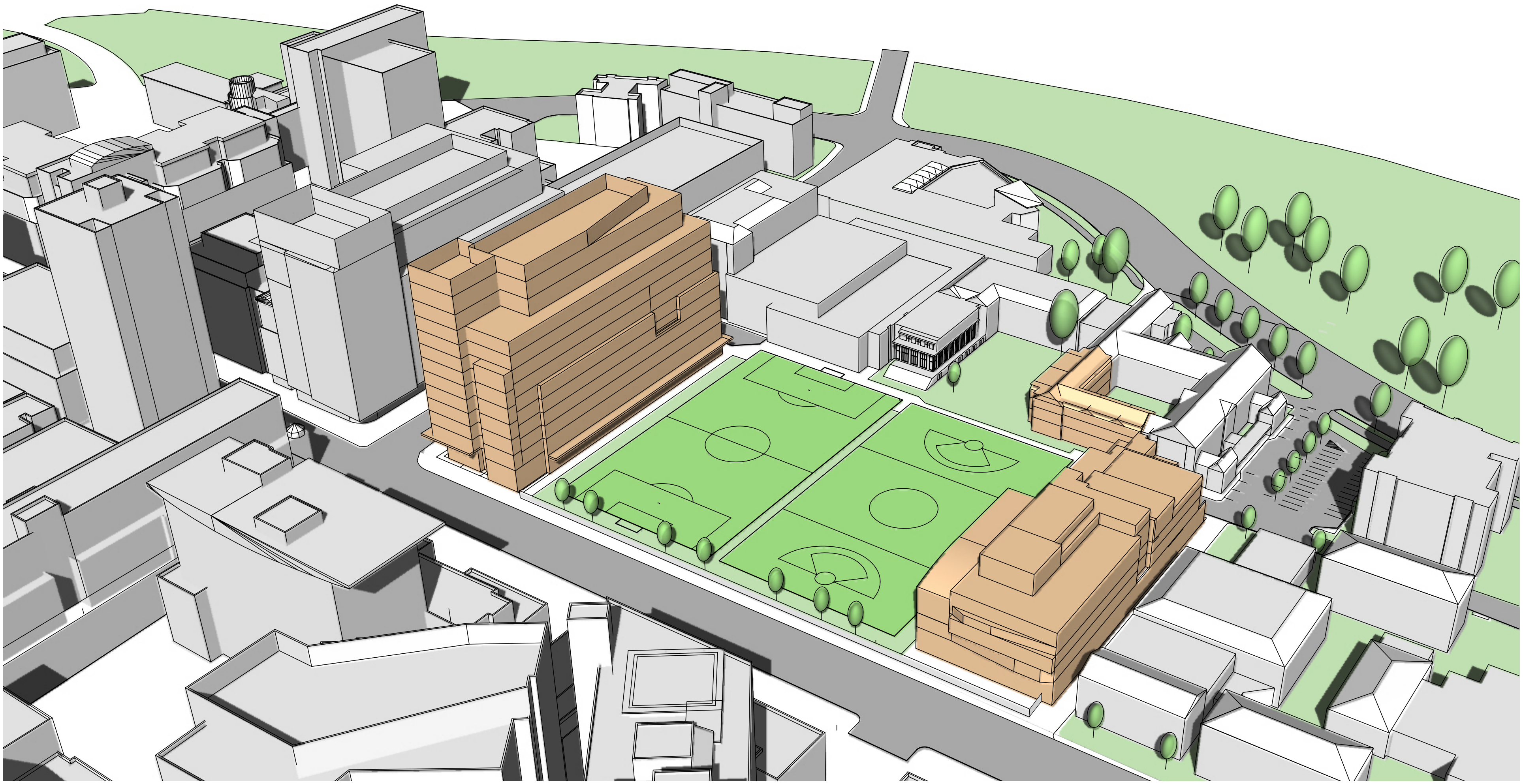


Figure 3-10

The Winsor School

Campus Birds-Eye View
Proposed Projects

William Rawn Associates, Architects, Inc.

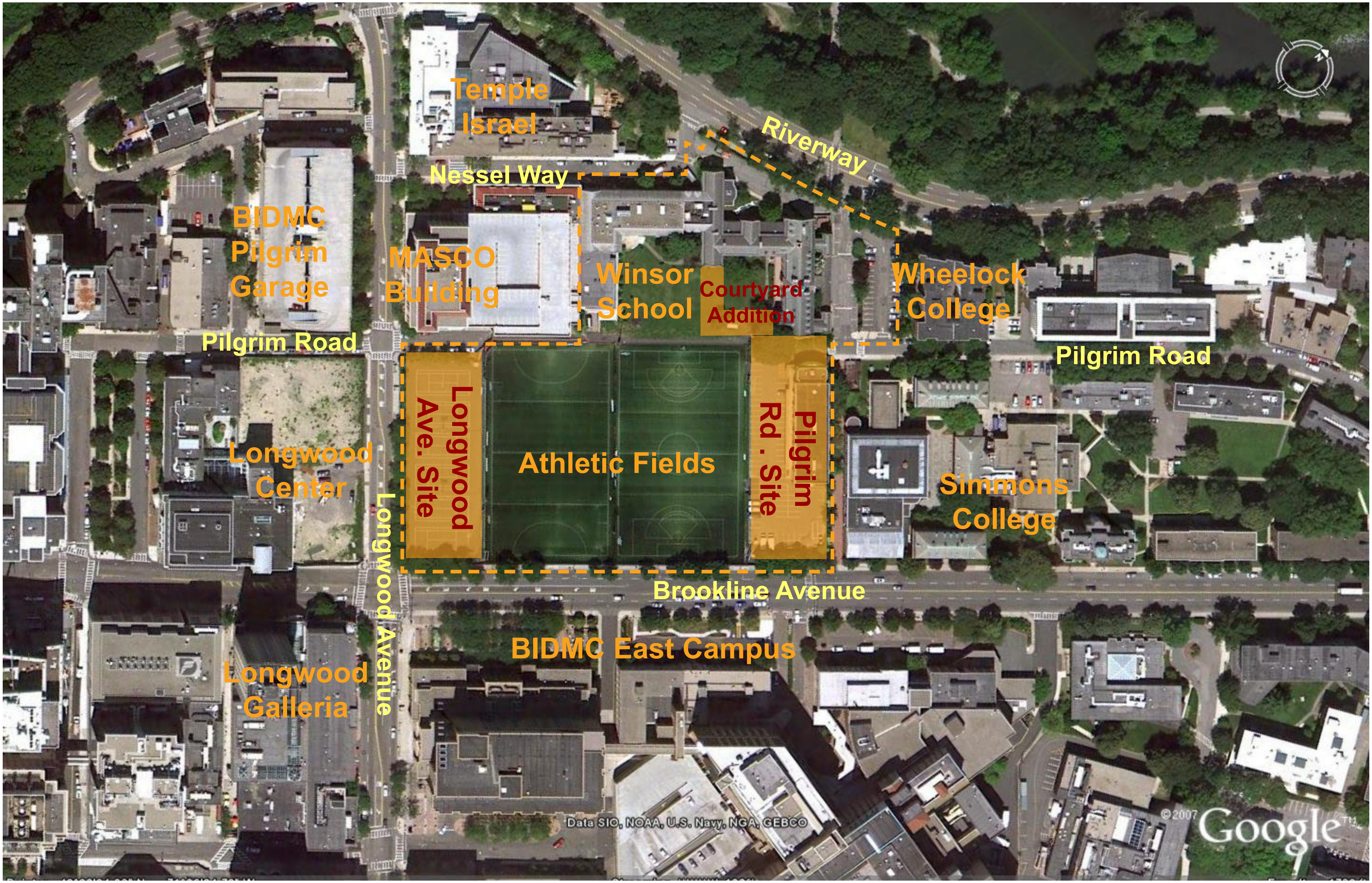
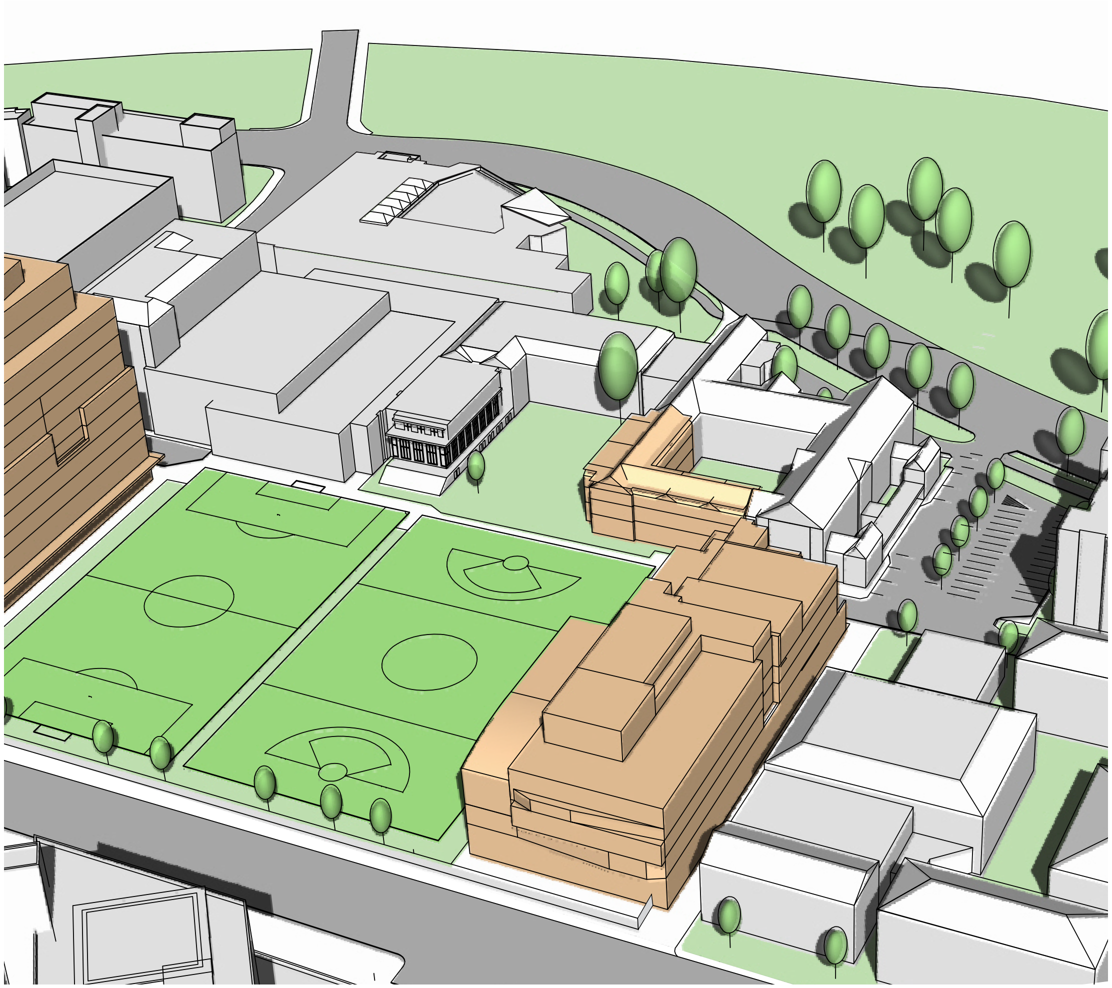


Figure 3-11

The Winsor School

Campus Aerial Photo Showing Proposed Projects

William Rawn Associates, Architects, Inc.



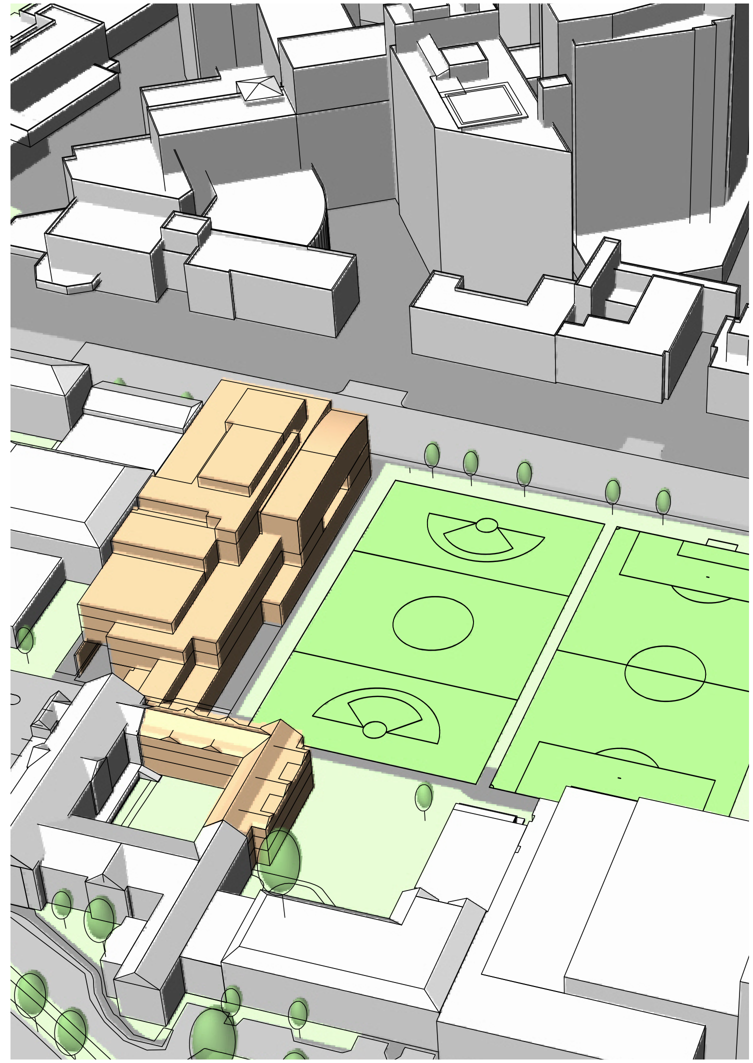


Figure 3-12

Figure 3-13

Figure 3-14

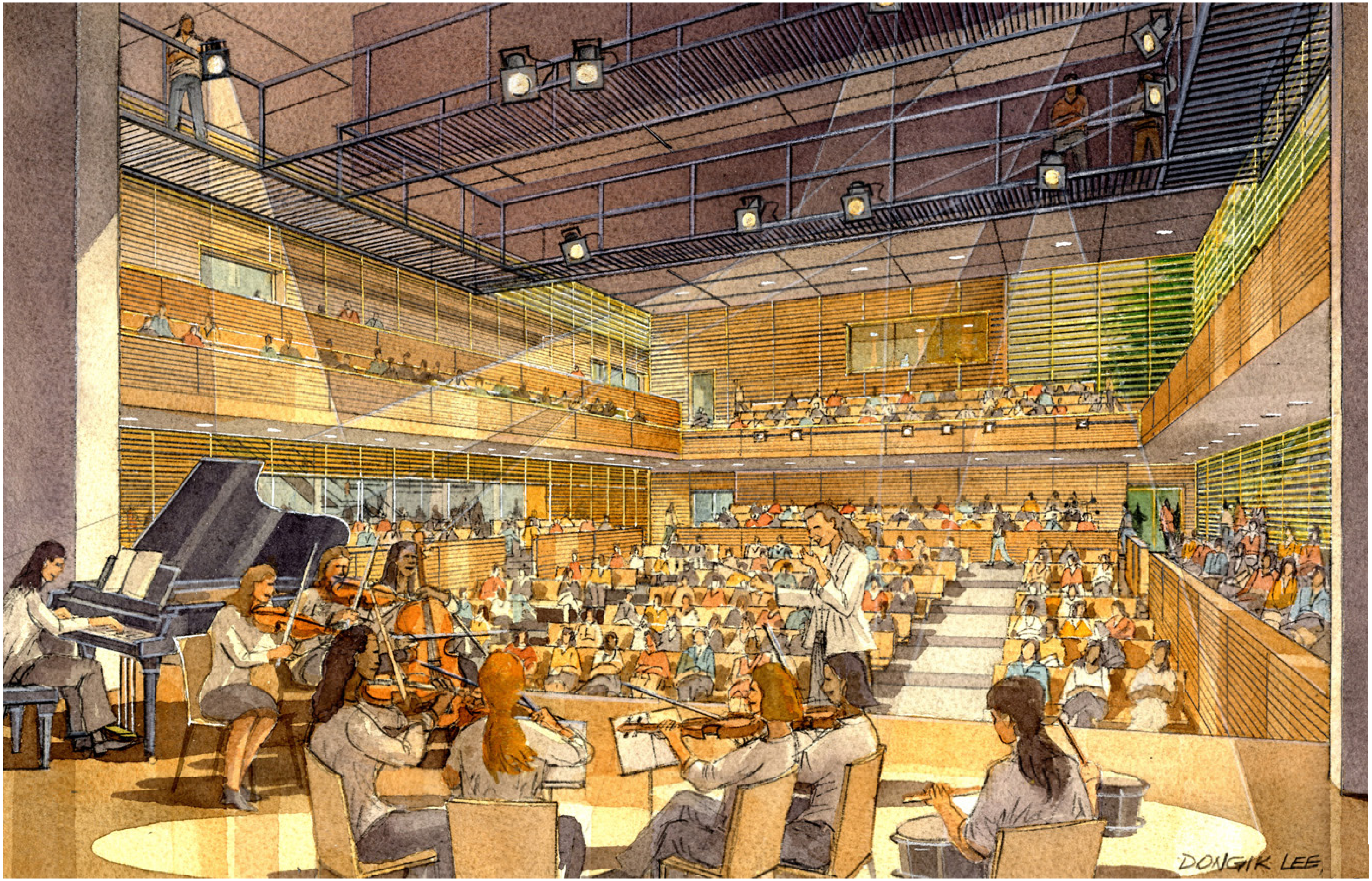


Figure 3-15

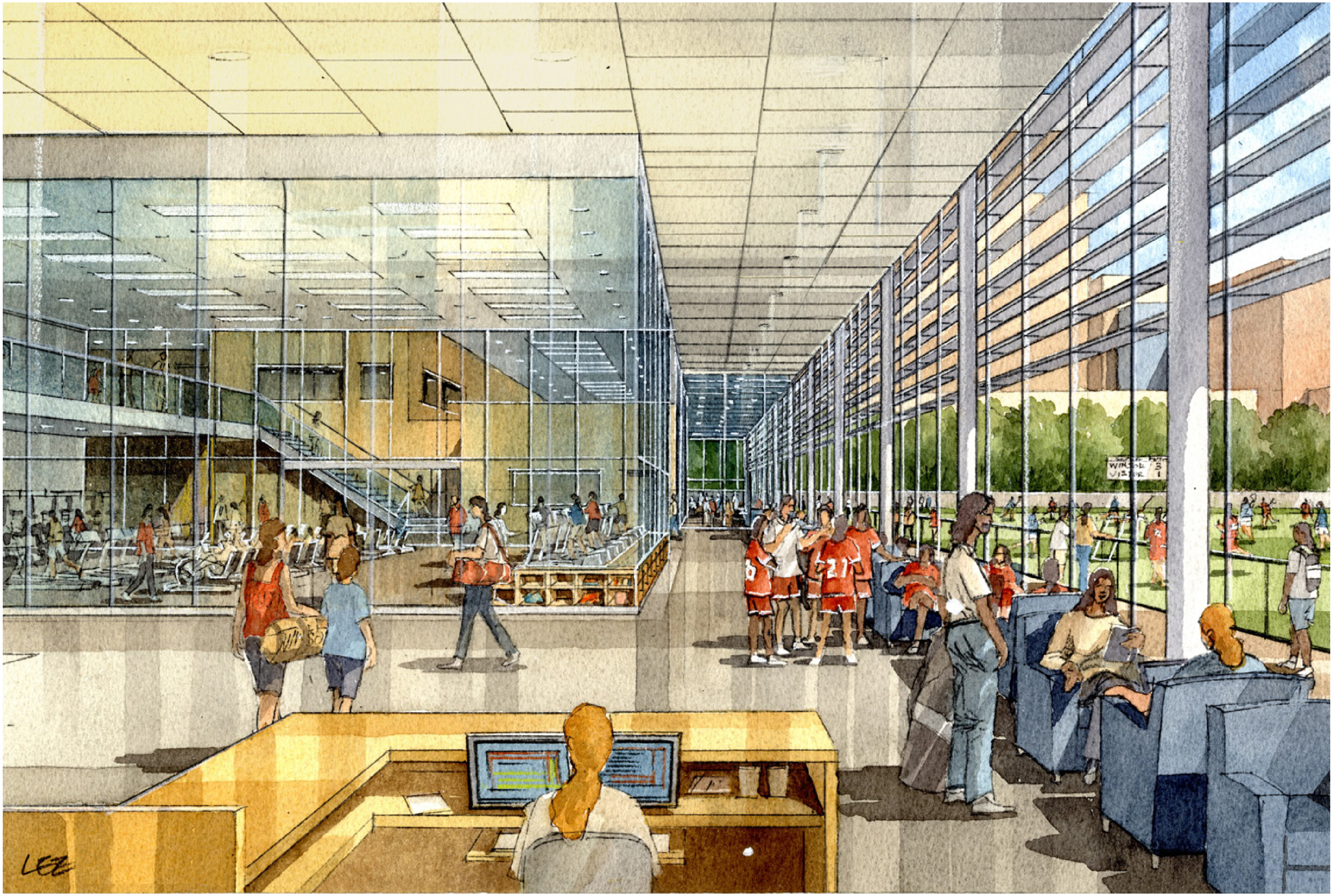


Figure 3-16

The Winsor School

Pilgrim Road Project
Interior View of Athletic & Wellness Center

William Rawn Associates, Architects, Inc.

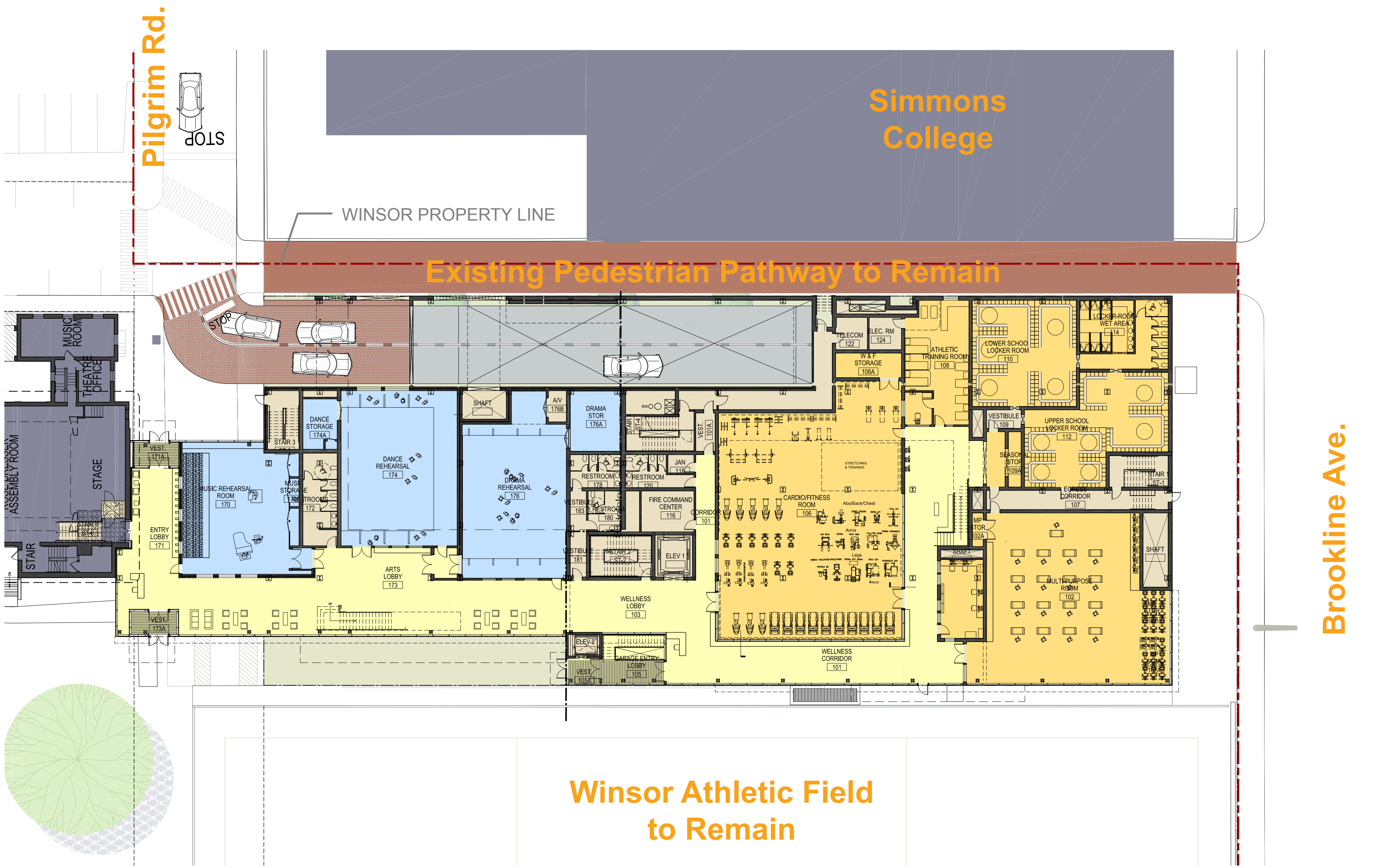


Figure 3-17

The Winsor School

Pilgrim Road Project
Ground Floor Plan

William Rawn Associates, Architects, Inc.

Brookline Ave.

Winsor Athletic Field
to Remain

Figure 3-18

The Winsor School

Pilgrim Road Project
Mezzanine Floor Plan

William Rawn Associates,
Architects, Inc.

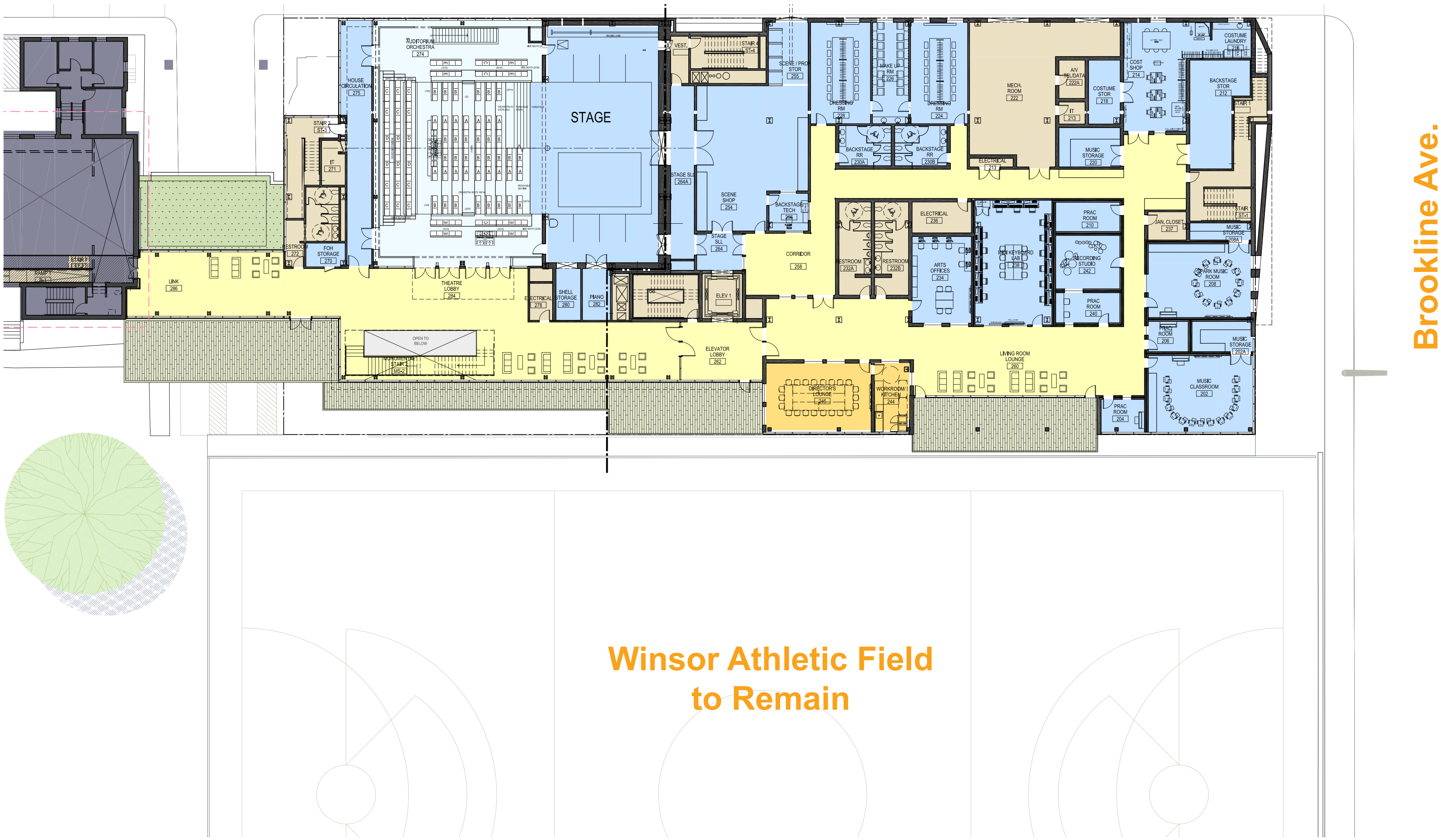


Figure 3-19

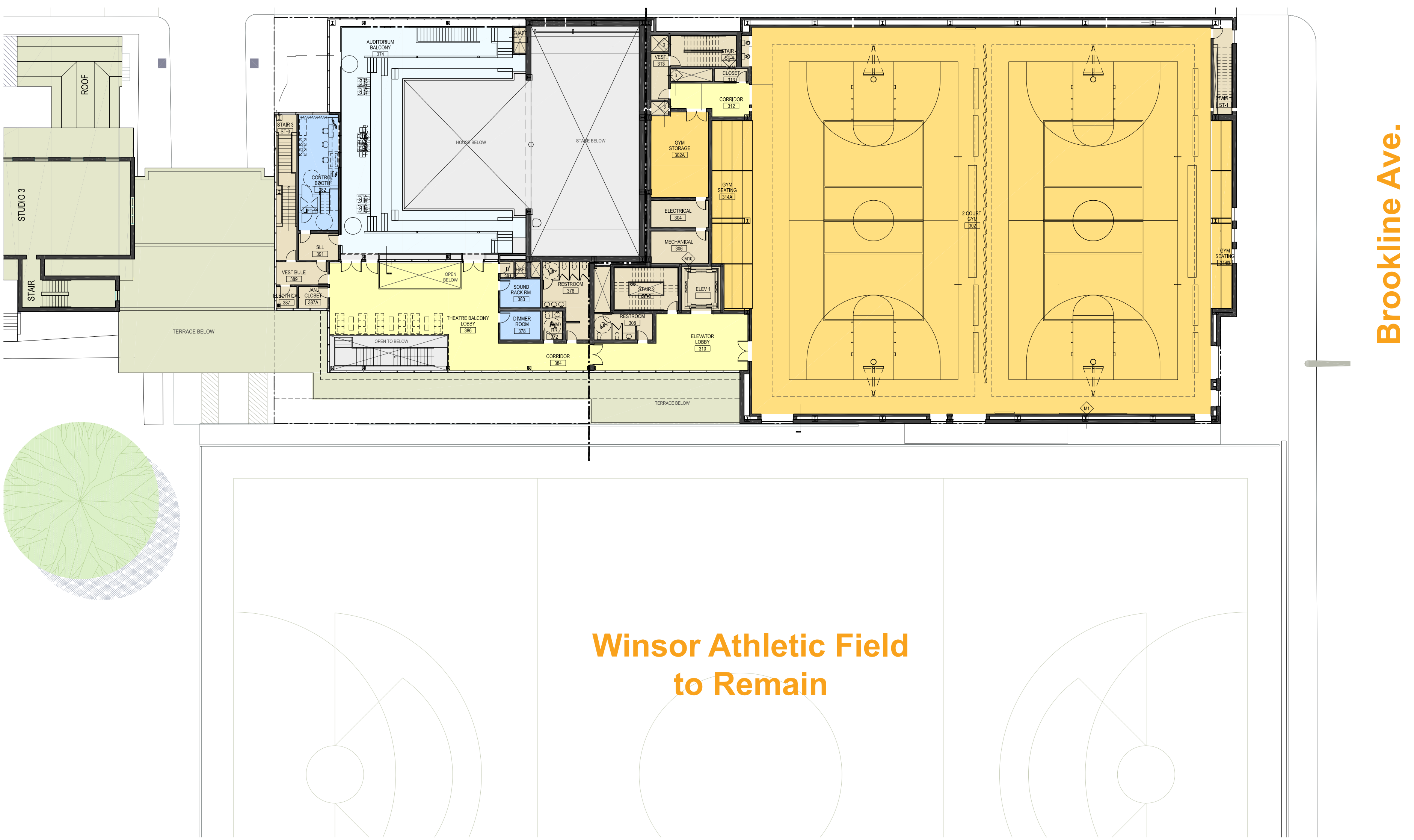

ROOF
STUDIO 3
STAIR
TERRACE BELOW
Brookline Ave.
Winsor Athletic Field
to Remain

Figure 3-20

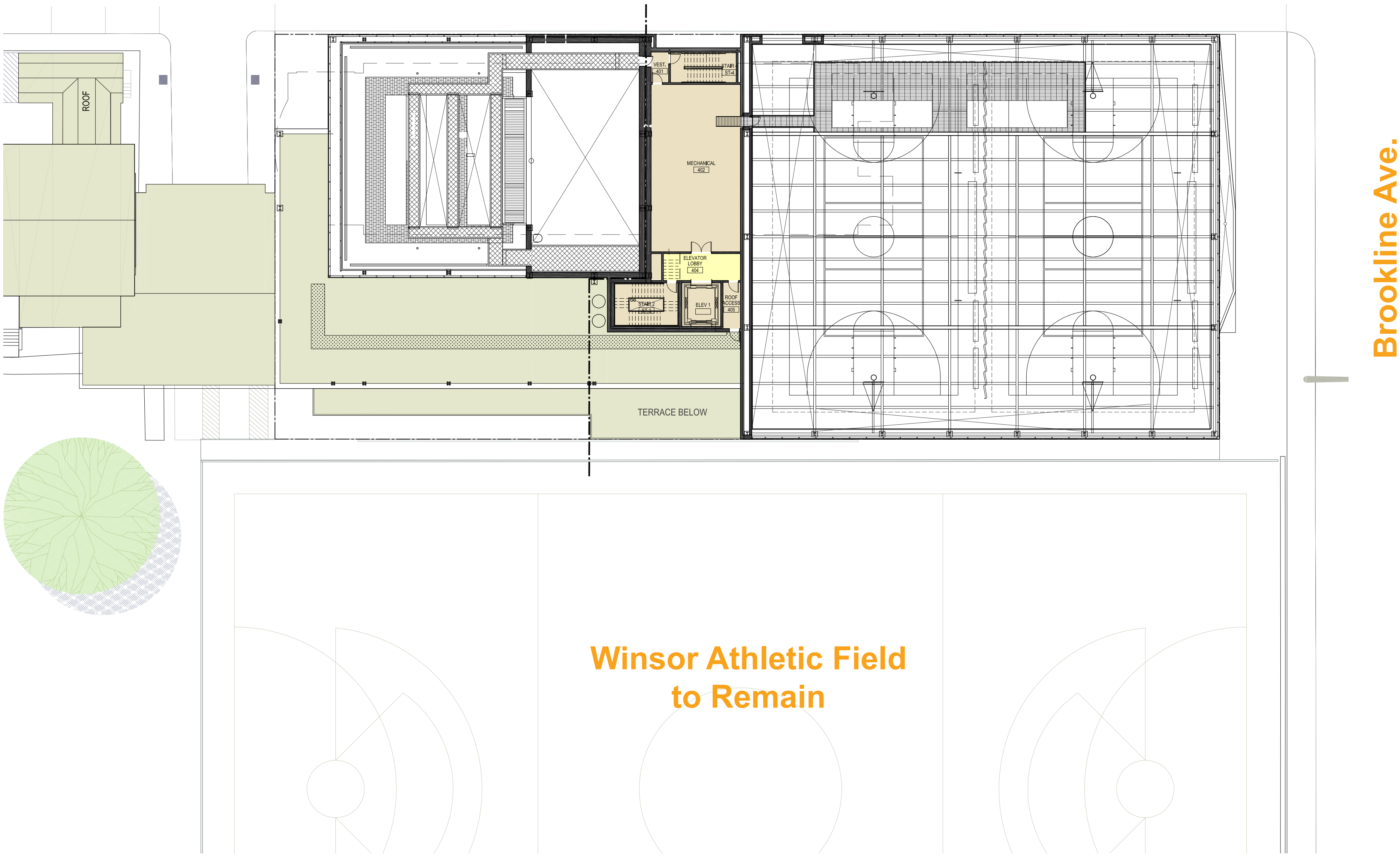

ROOF
VEST.
STAIR
MECHANICAL
402
ELEVATOR
LOBBY
404
STAIR 2
ELEV 1
ROOF
ACCESS
405
TERRACE BELOW
Brookline Ave.
Winsor Athletic Field
to Remain

Figure 3-21

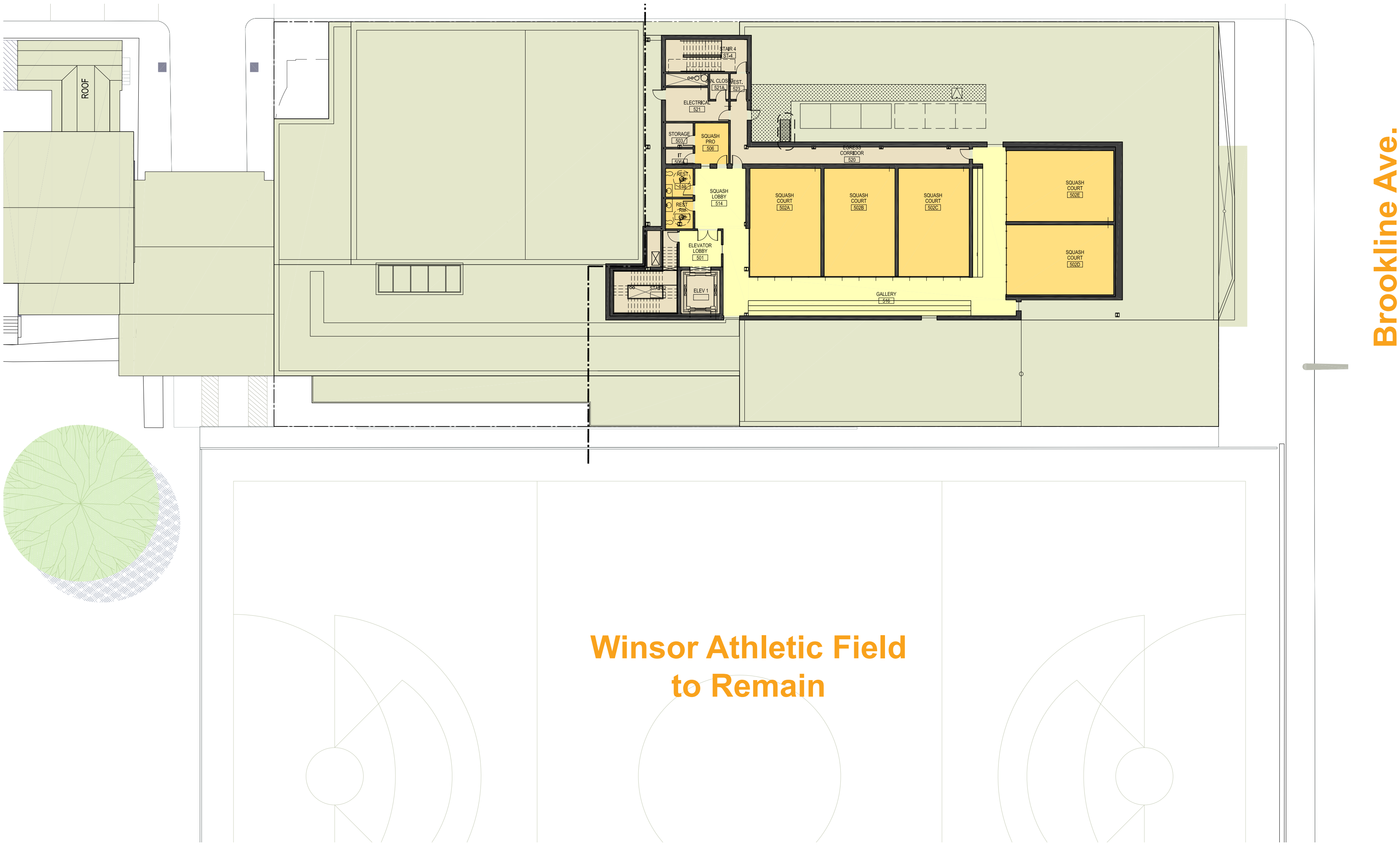


Figure 3-22

Below-Grade Parking
(See Next Page)

Figure 3-23

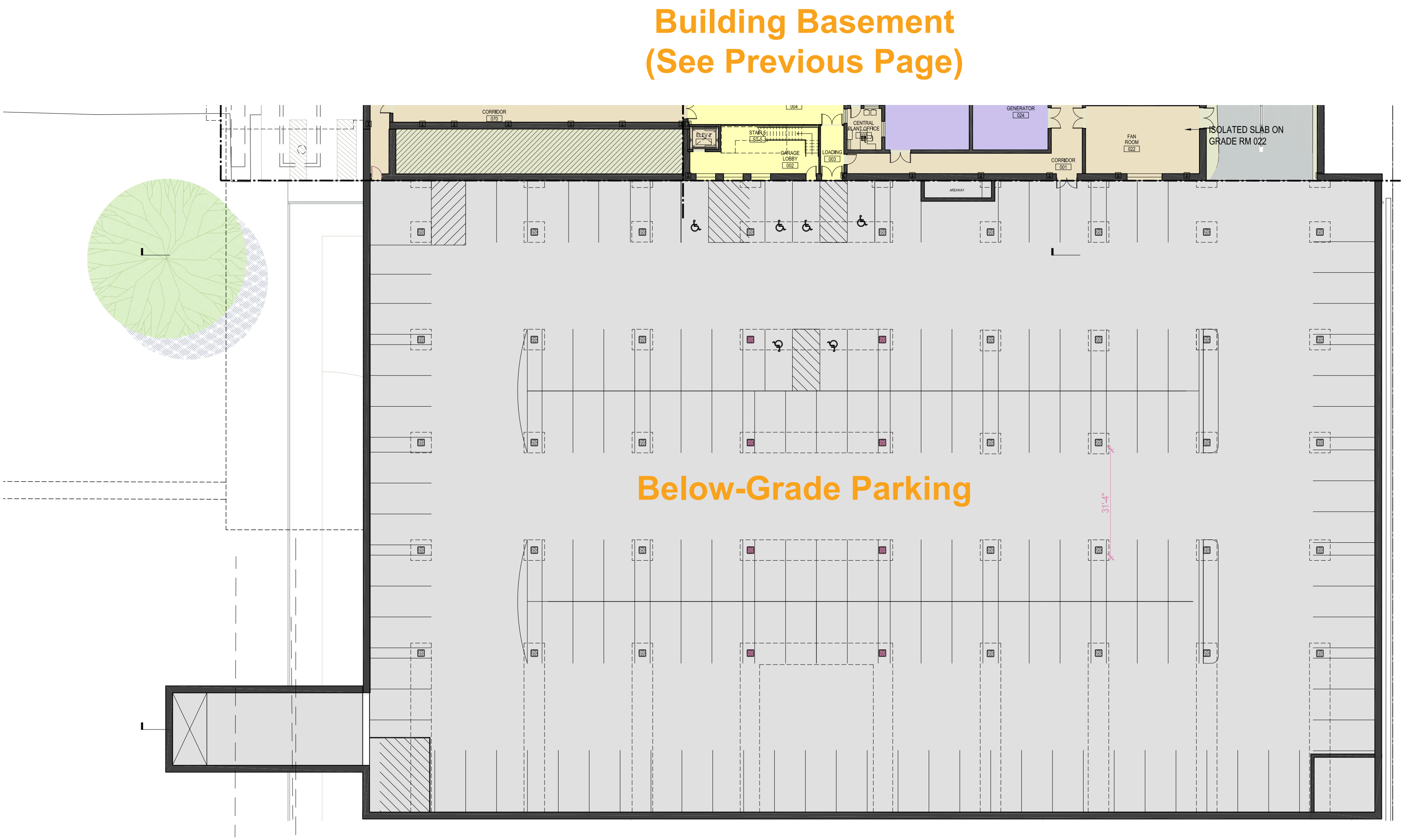
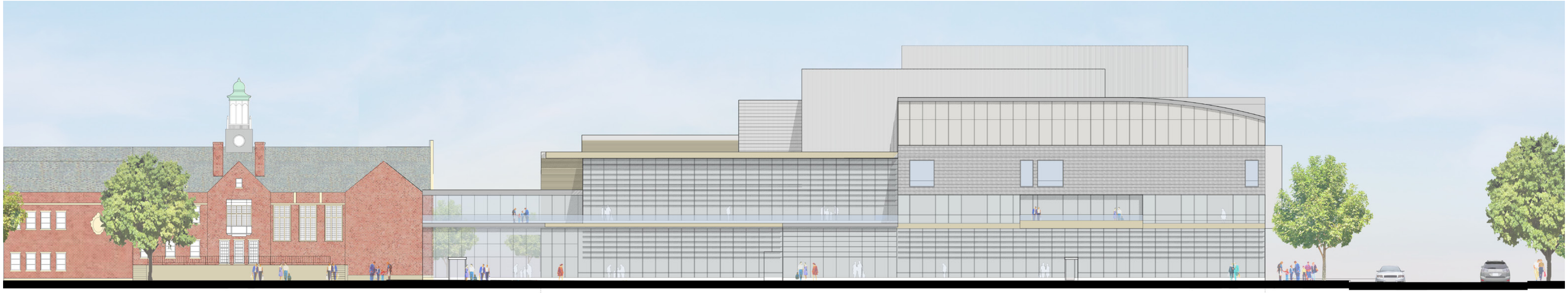

Building Basement
(See Previous Page)
ISOLATED SLAB ON GRADE RM 022
FAN ROOM
GENERATOR
CENTRAL PLANT OFFICE
GARAGE LOBBY
LOADING
CORRIDOR
Below-Grade Parking

Figure 3-24



Campus Elevation

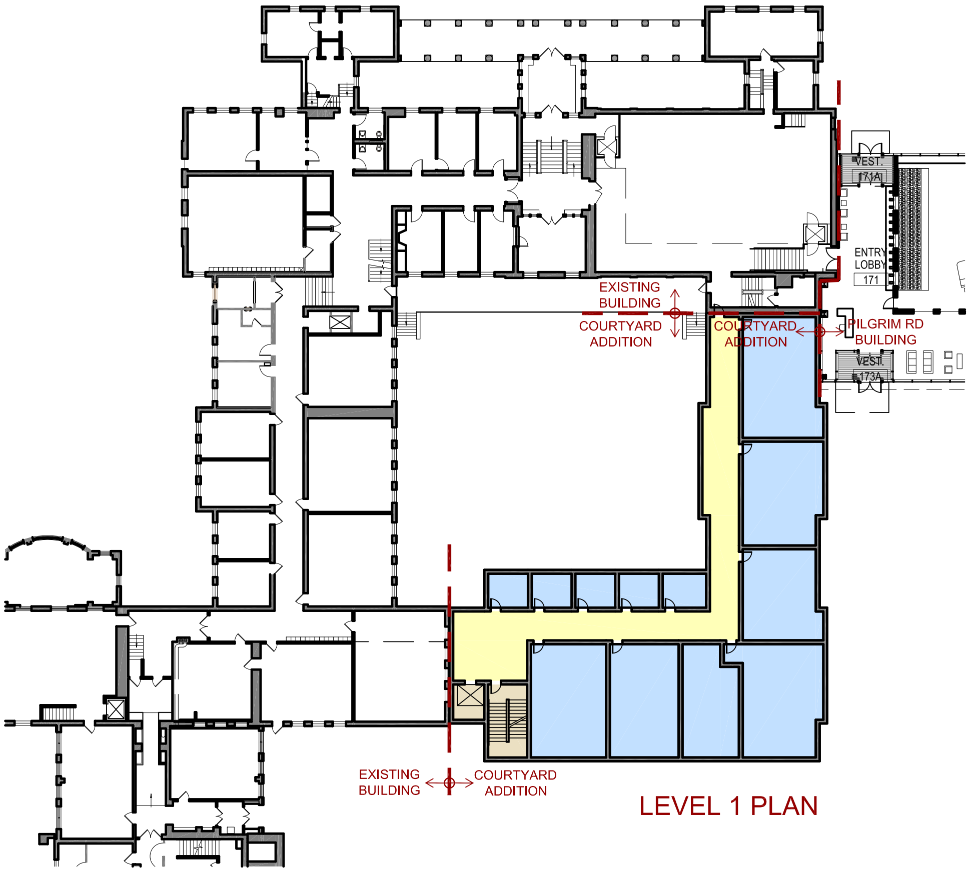
South Elevation

Elevation at Pedestrian Path

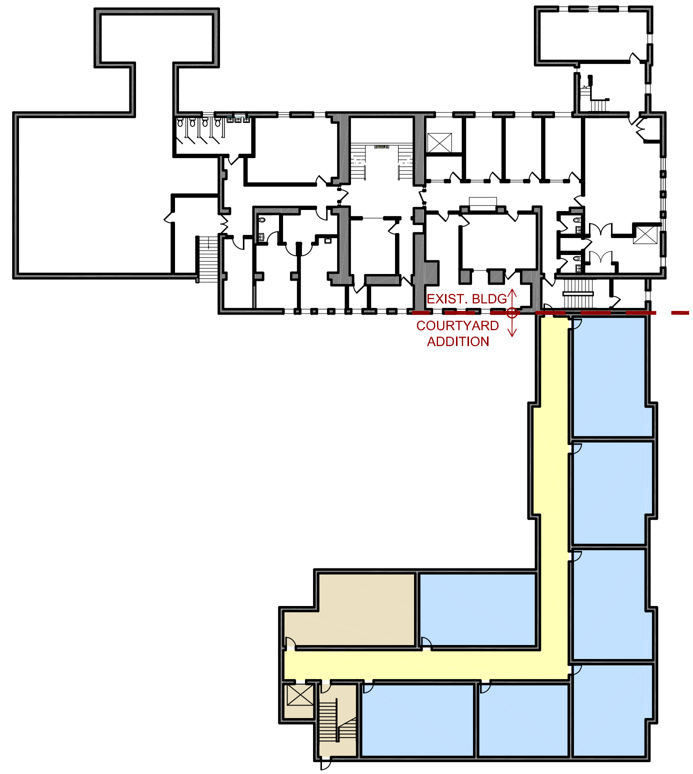
Figure 3-25

ACADEMIC SPACE

CIRCULATION



LEVEL 1 PLAN



LEVEL 0 PLAN

Figure 3-26

ACADEMIC SPACE

CIRCULATION

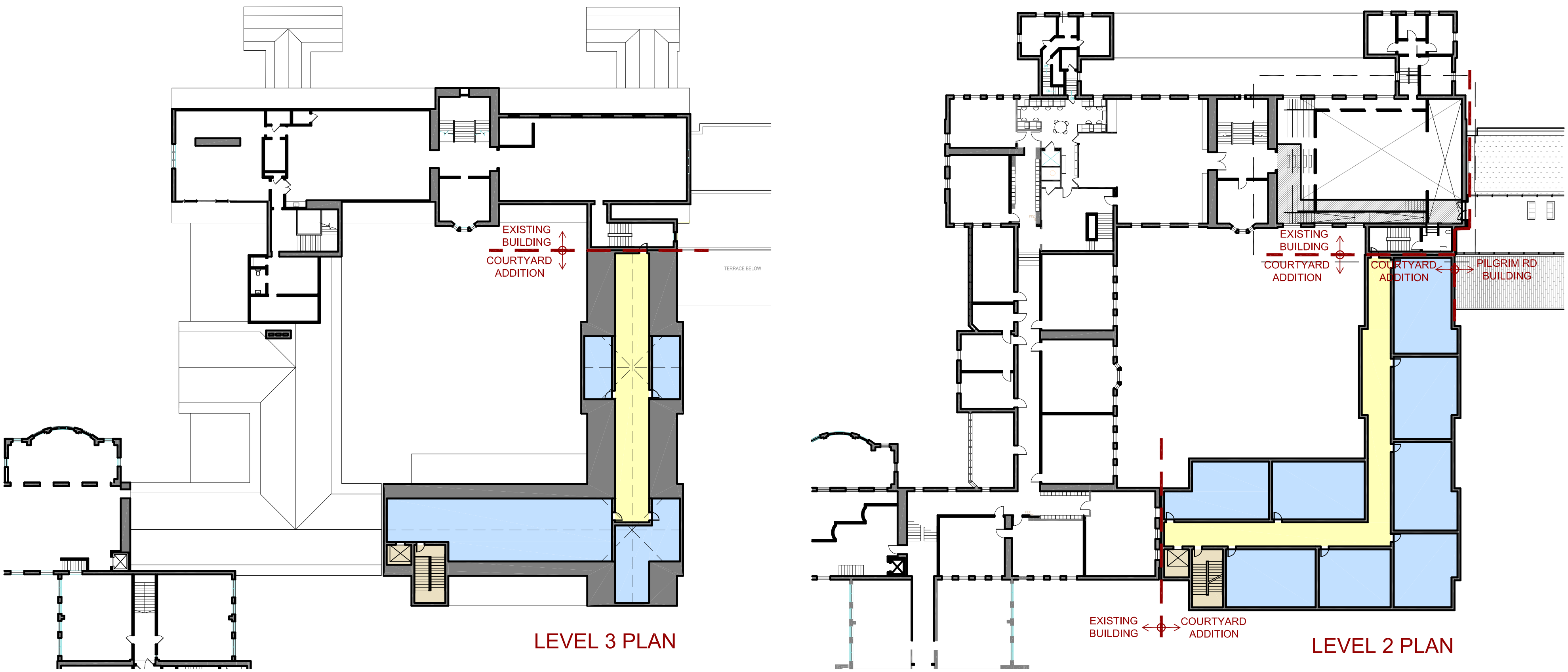


Figure 3-27

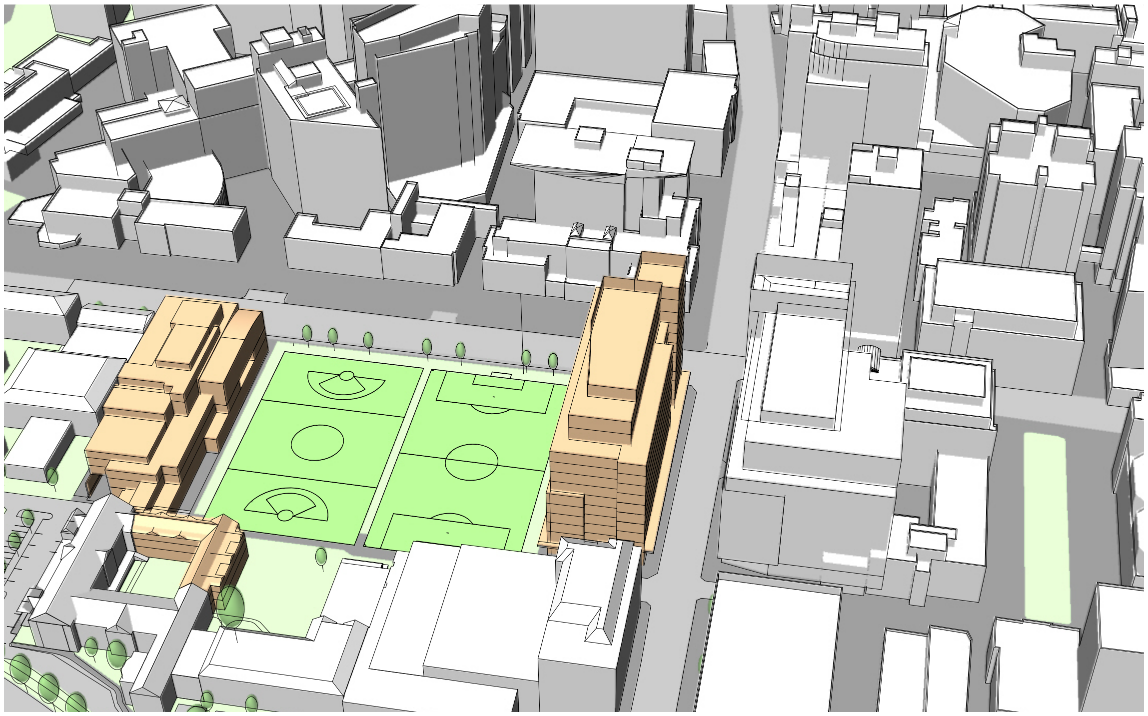
NW ELEVATION

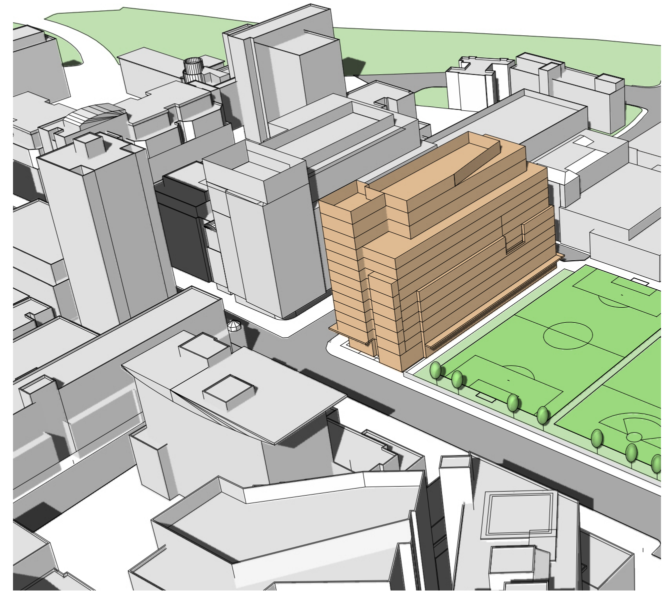
NE ELEVATION

SW ELEVATION

SE ELEVATION

Figure 3-28





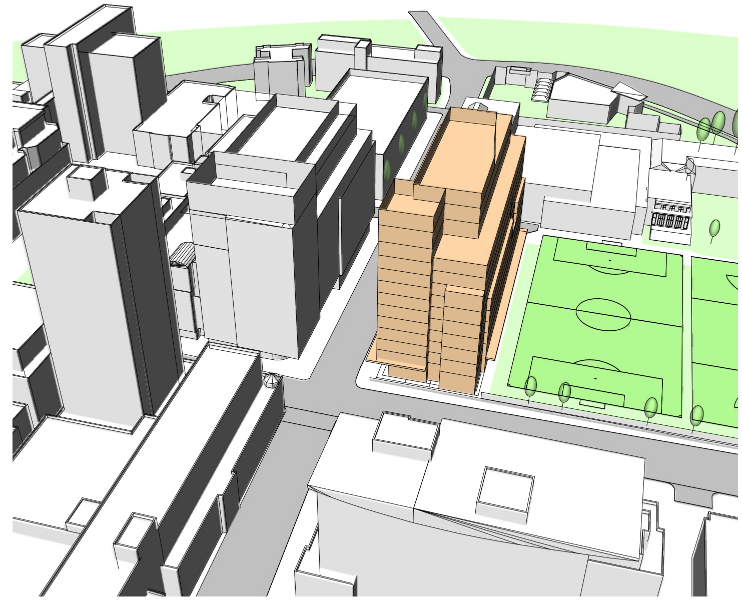


Figure 3-29

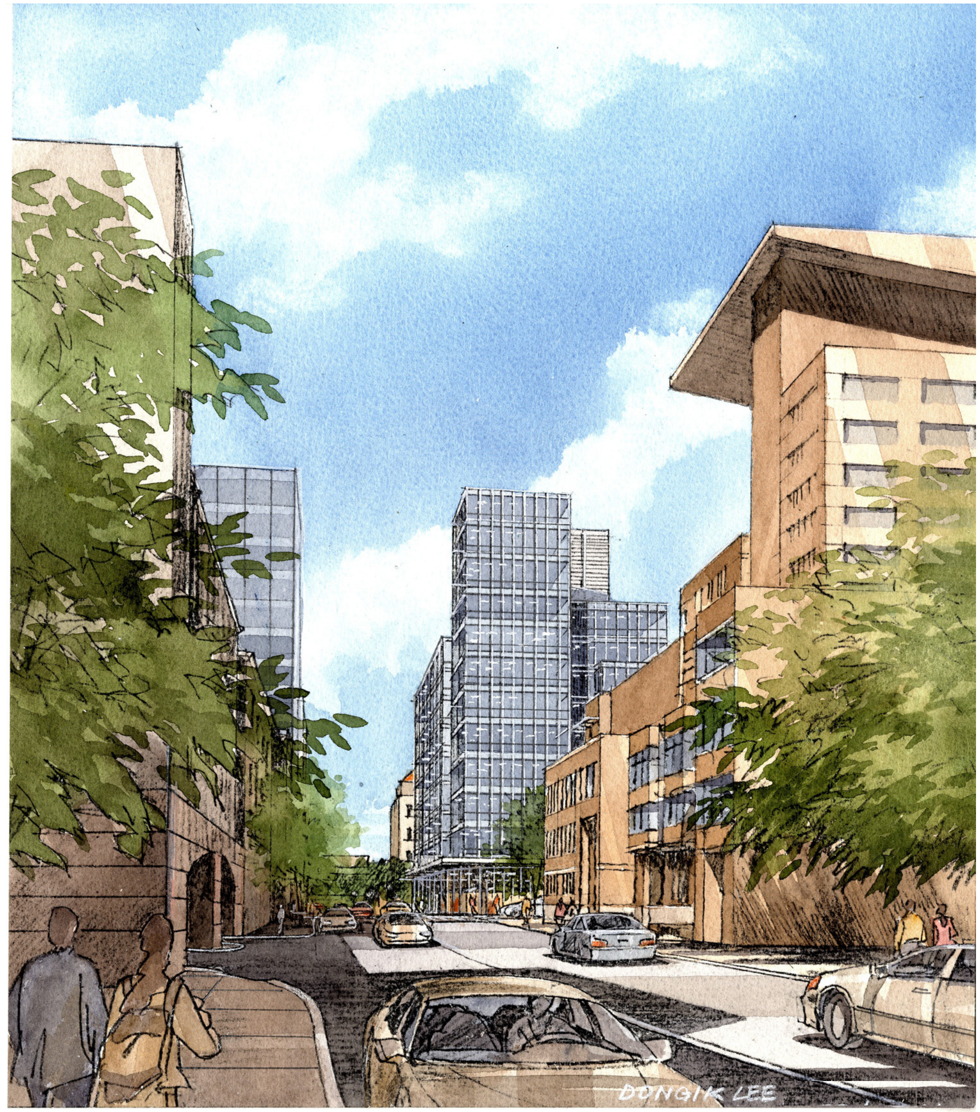
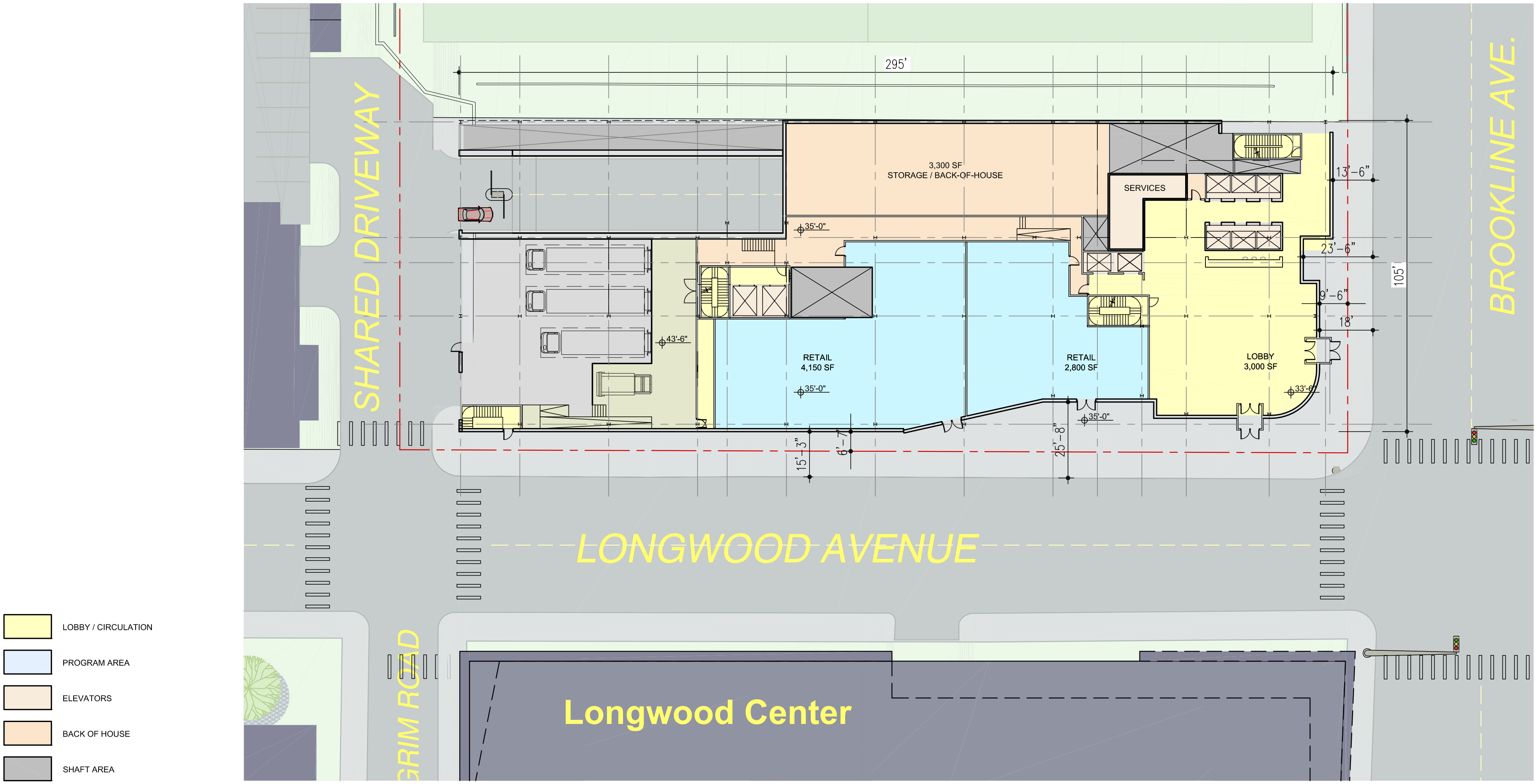


Figure 3-30



295'
3,300 SF
STORAGE / BACK-OF-HOUSE
SERVICES
RETAIL
4,150 SF
RETAIL
2,800 SF
LOBBY
3,000 SF
SHARED DRIVEWAY
BROOKLINE AVE.
LONGWOOD AVENUE
Longwood Center
105'
13'-6"
23'-6"
9'-6"
18'
LOBBY / CIRCULATION
PROGRAM AREA
ELEVATORS
BACK OF HOUSE
SHAFT AREA

Figure 3-31

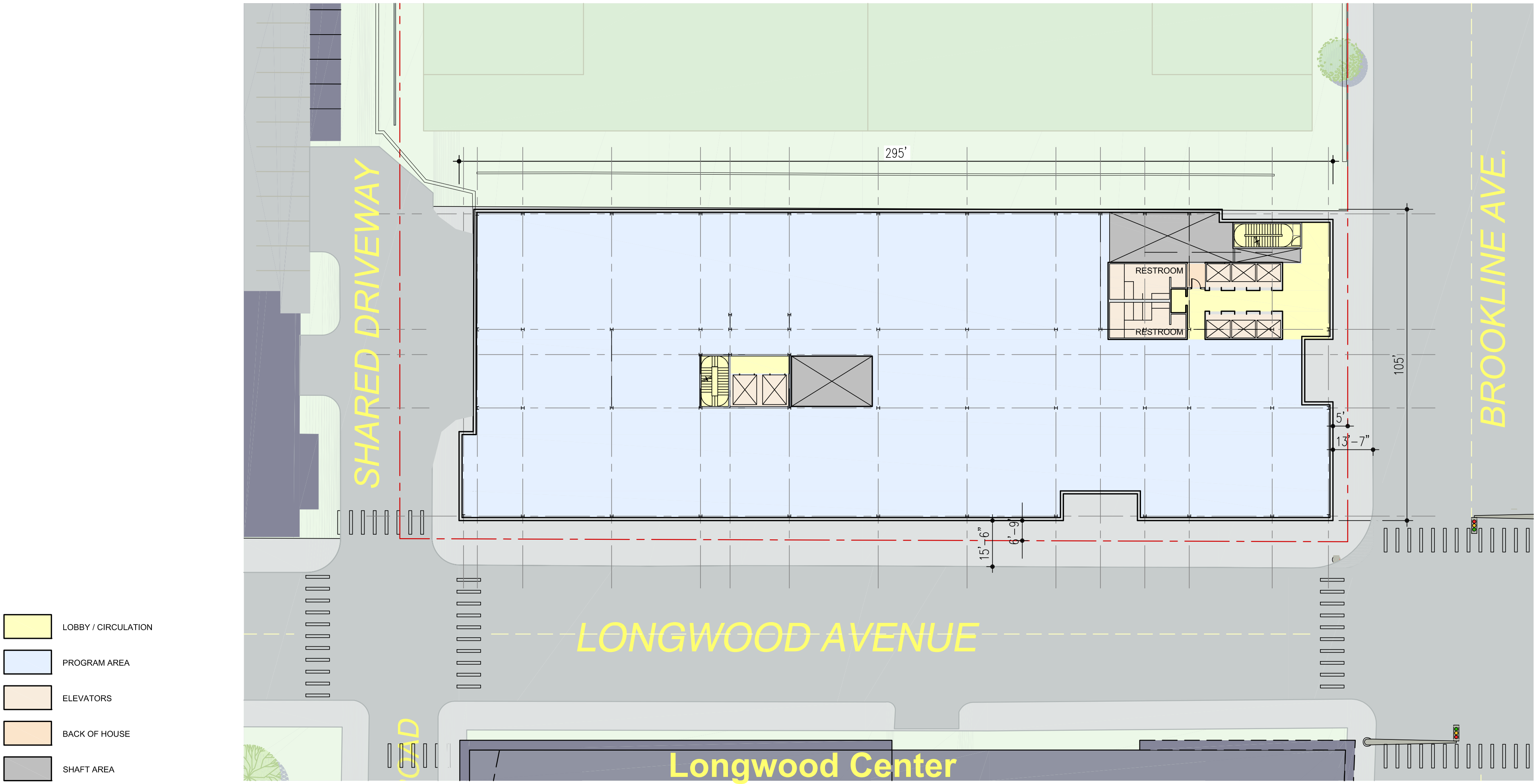

LOBBY / CIRCULATION
PROGRAM AREA
ELEVATORS
BACK OF HOUSE
SHAFT AREA
295'
105'
5'
13'-7"
15'-6"
6'-9"
RESTROOM
RESTROOM
SHARED DRIVEWAY
BROOKLINE AVE.
LONGWOOD AVENUE
Longwood Center

Figure 3-32

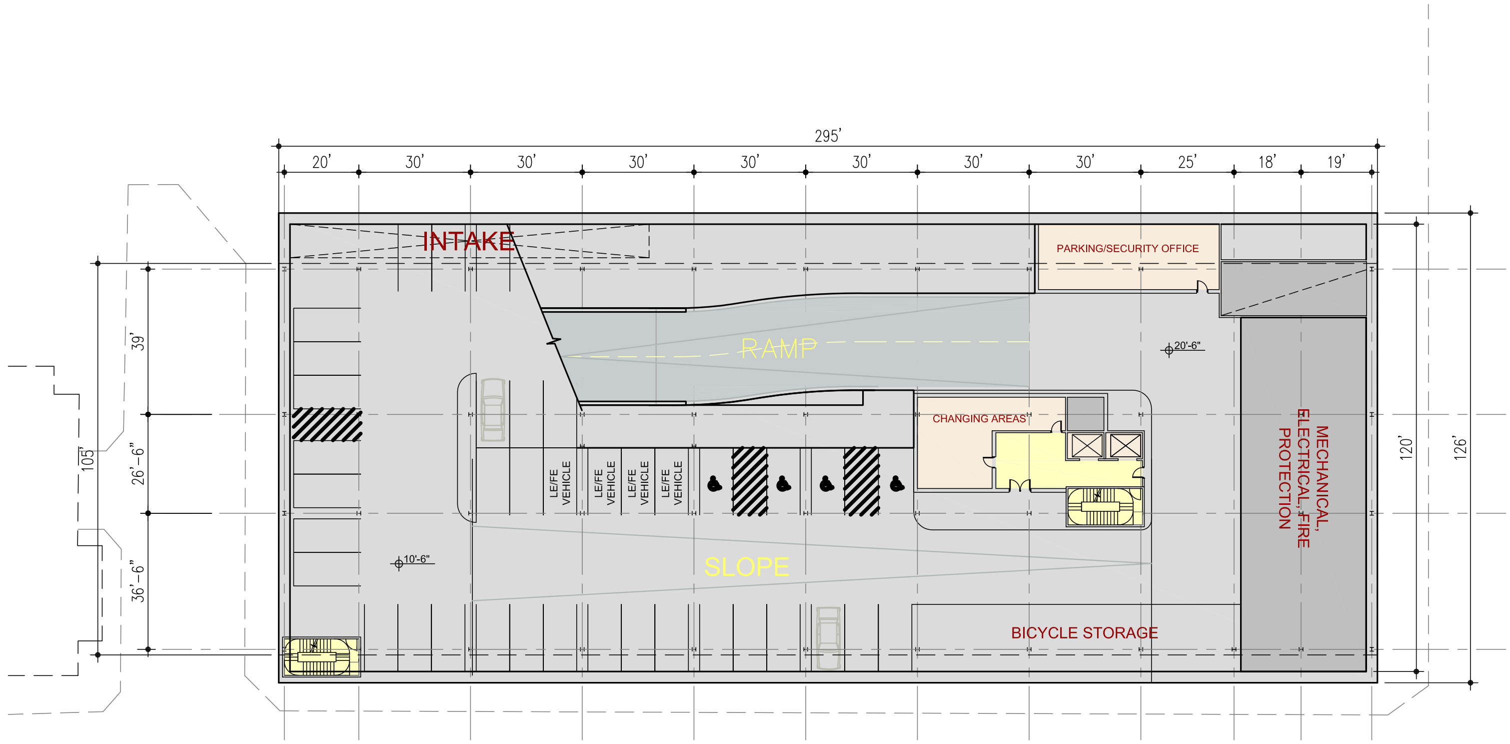

295'
20'
30'
30'
30'
30'
30'
30'
30'
25'
18'
19'
INTAKE
PARKING/SECURITY OFFICE
RAMP
20'-6"
CHANGING AREAS
LE/FE VEHICLE
LE/FE VEHICLE
LE/FE VEHICLE
LE/FE VEHICLE
MECHANICAL, ELECTRICAL, FIRE PROTECTION
10'-6"
SLOPE
BICYCLE STORAGE
39'
26'-6"
36'-6"
105'
120'
126'

Figure 3-33

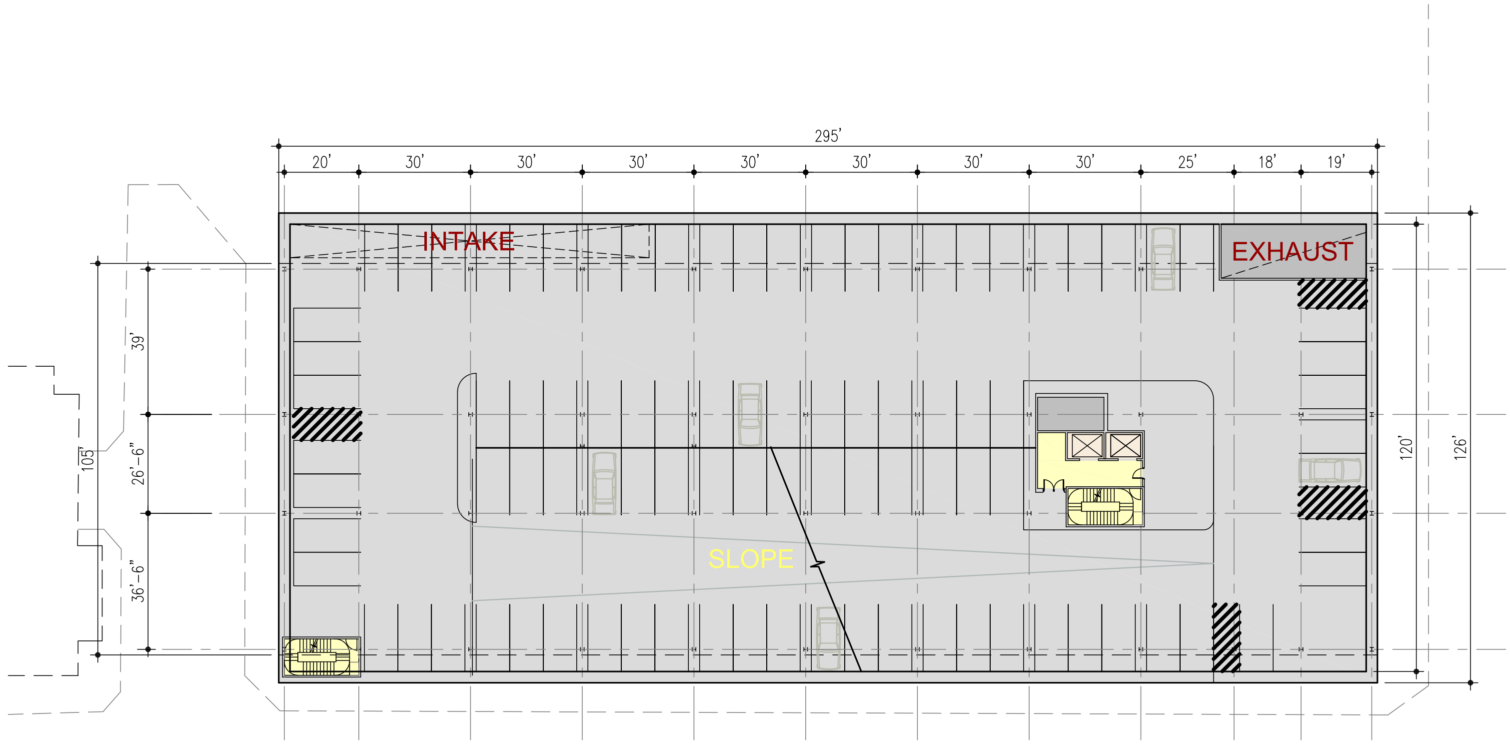
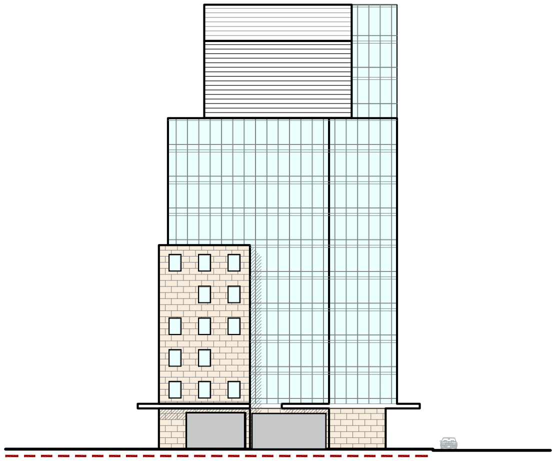
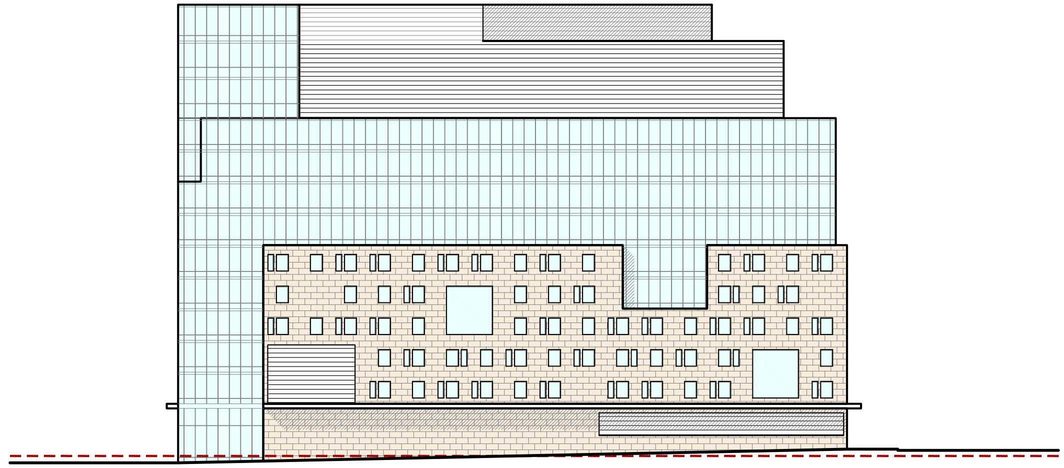

295'
20'
30'
30'
30'
30'
30'
30'
30'
25'
18'
19'
INTAKE
EXHAUST
SLOPE
39'
105'
26'-6"
36'-6"
120'
126'

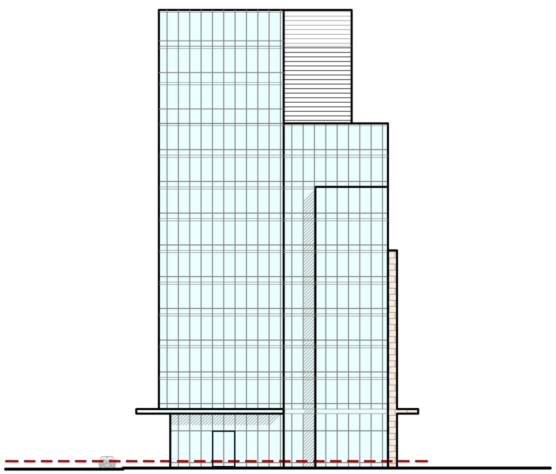
Figure 3-34



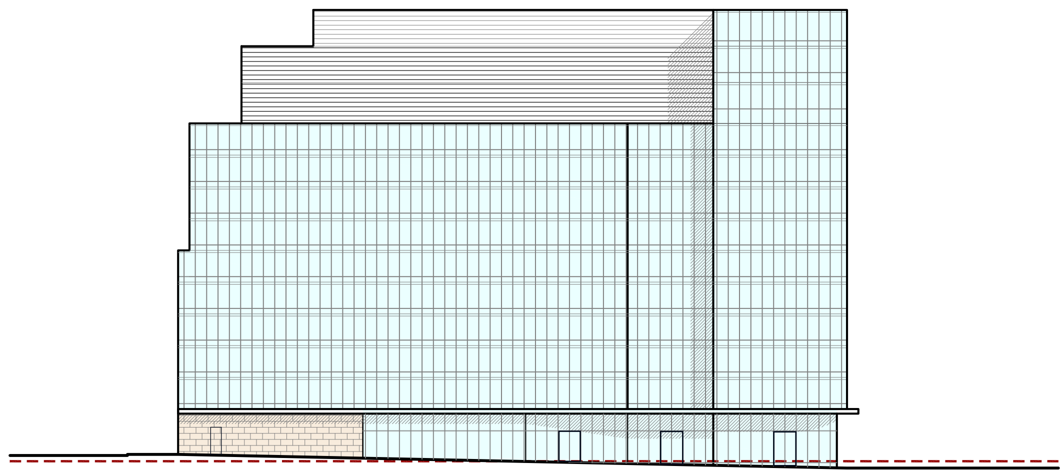
SHARED DRIVEWAY ELEVATION



FIELD ELEVATION

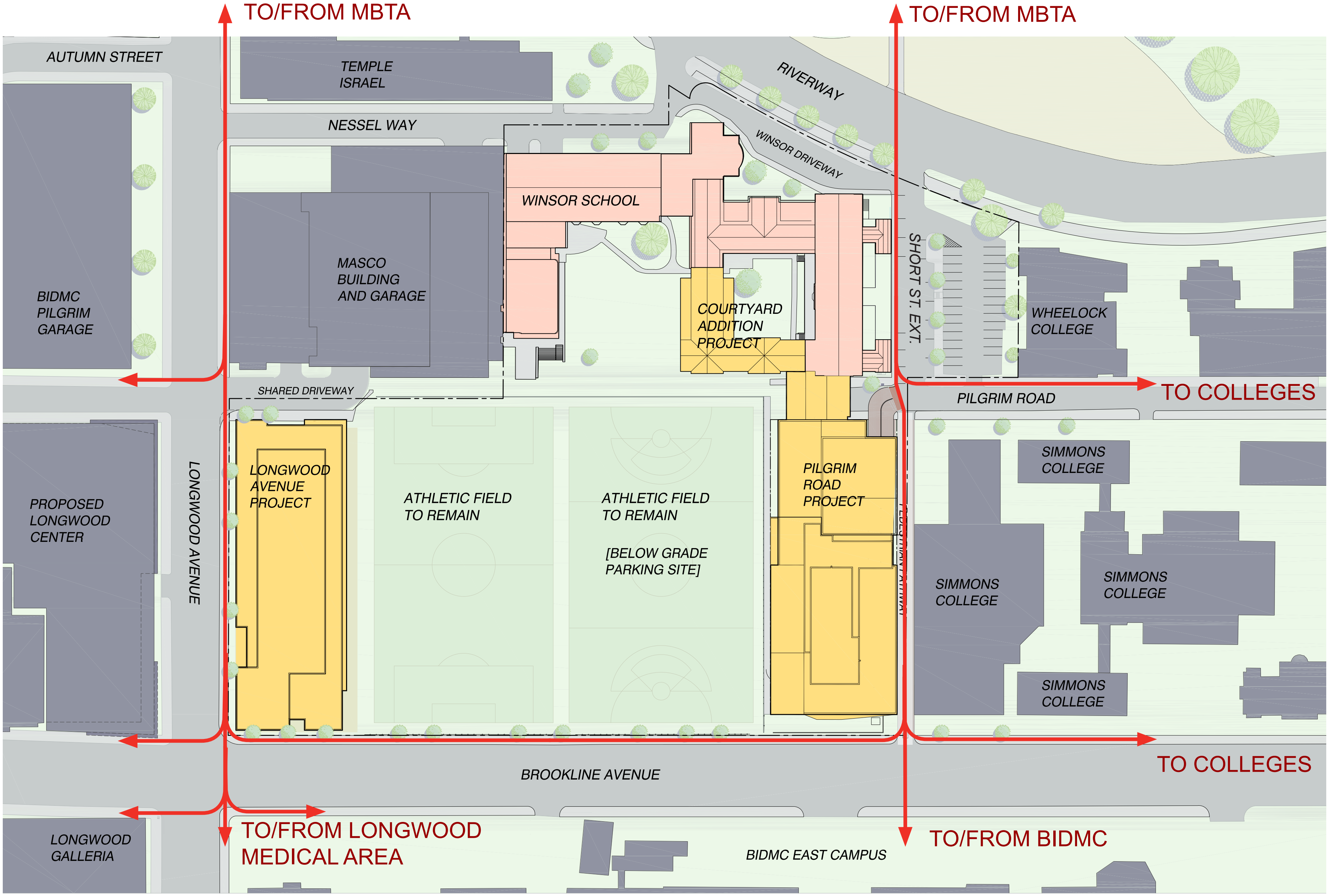


BROOKLINE AVE. ELEVATION



LONGWOOD AVE. ELEVATION

Figure 3-35



TO/FROM MBTA
TO/FROM MBTA
AUTUMN STREET
TEMPLE ISRAEL
NESSEL WAY
RIVERWAY
WINSOR DRIVEWAY
WINSOR SCHOOL
MASCO BUILDING AND GARAGE
BIDMC PILGRIM GARAGE
COURTYARD ADDITION PROJECT
SHORT ST. EXT.
WHEELOCK COLLEGE
SHARED DRIVEWAY
PILGRIM ROAD
TO COLLEGES
LONGWOOD AVENUE PROJECT
ATHLETIC FIELD TO REMAIN
ATHLETIC FIELD TO REMAIN
[BELOW GRADE PARKING SITE]
PILGRIM ROAD PROJECT
PEDESTRIAN PATHWAY
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
PROPOSED LONGWOOD CENTER
LONGWOOD AVENUE
BROOKLINE AVENUE
TO COLLEGES
LONGWOOD GALLERIA
TO/FROM LONGWOOD MEDICAL AREA
BIDMC EAST CAMPUS
TO/FROM BIDMC

Figure 3-36

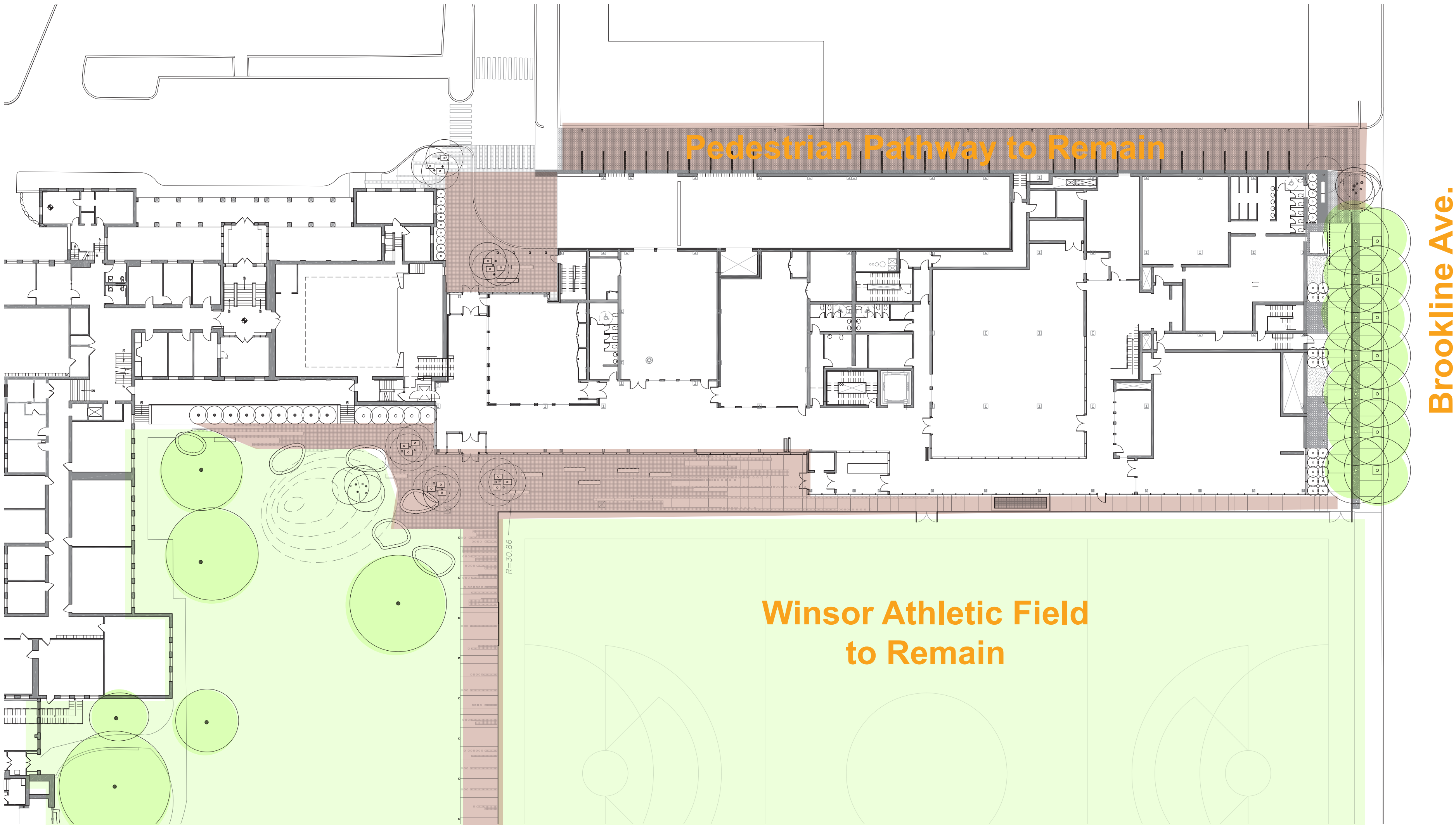

Pedestrian Pathway to Remain
Brookline Ave.
Winsor Athletic Field
to Remain

Figure 3-37

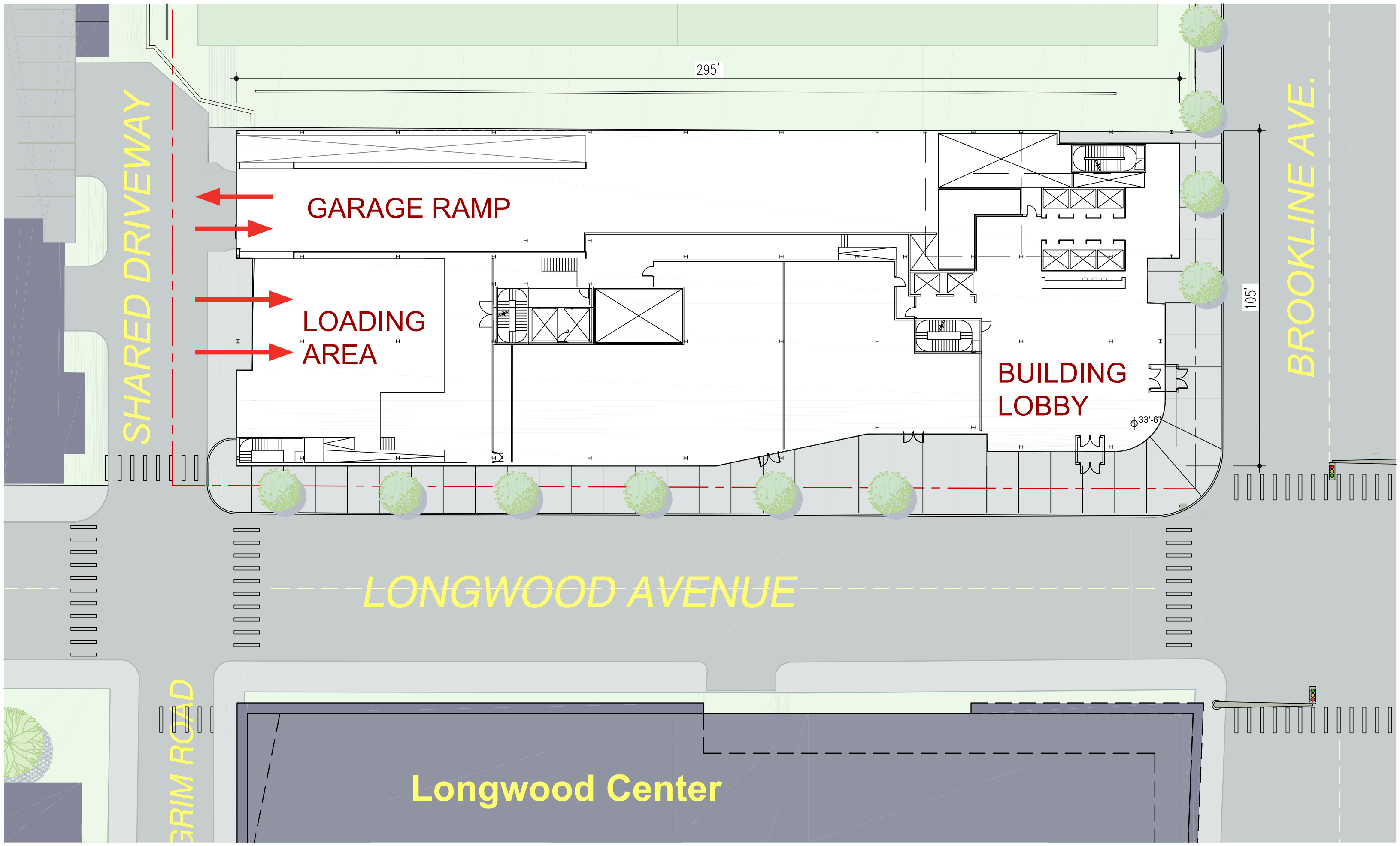

295'
GARAGE RAMP
LOADING
AREA
BUILDING
LOBBY
SHARED DRIVEWAY
BROOKLINE AVE.
105'
LONGWOOD AVENUE
GRIM ROAD
Longwood Center

Figure 3-38

4

Transportation

Introduction

This chapter presents an evaluation and summary of existing and future transportation infrastructure and operations of the Winsor School. This transportation study has been developed in order to understand and mitigate the transportation impacts of the Proposed Projects.

The transportation analysis presented in this chapter includes the following:

- Definition and quantification of existing transportation conditions in the Proposed Project Study Area (the "Study Area");
- Projection of future transportation conditions with and without the Proposed Projects;
- An assessment of parking conditions in the Study Area;
- A summary of proposed improvements, including travel demand management (TDM) strategies;
- An overview of construction-related activities as they pertain to transportation; and
- Vehicular level of service (LOS) analyses for Study Area intersections.

The transportation analysis considers three specific analysis scenarios as follows:

- 2010 Existing Condition based on traffic volume data collected in November 2010.
- 2015 Build Condition including the Pilgrim Road Project with supporting temporary interim parking on the Winsor tennis courts for a 5-year time horizon (2015).
- 2020 Full Build Condition for a 10-year time horizon (2020) assuming completion of the Pilgrim Road Project, plus the elimination of interim parking on the tennis court site and construction of permanent parking for the Pilgrim Road Project, and the construction of the proposed Longwood Avenue Project and Courtyard Addition Project.

The transportation analysis has been performed in accordance with standard Boston Transportation Department ("BTD") methodologies, including the projection of project trips and the application of local travel characteristics established through the

Access Boston 2000-2010 initiative. Synchro 6 software was used to facilitate the evaluation of traffic operations based on Highway Capacity Manual ("HCM") methodologies.

Proposed Projects

The Proposed Projects will take place in a phased manner on various sites on the Winsor School Campus (collectively with the other areas of the Winsor Campus, the "Campus"), and includes the following components:

1. **Pilgrim Road Project:** an academic building of approximately 110,000 square feet to be located on the site of Winsor's existing surface parking lot and outdated gymnasium building, near the corner of Pilgrim Road and Short Street Extension, including a 148+/- space below-grade parking facility constructed on a phased basis beneath the adjacent playing field. The playing field will be fully restored as part of the project. This project also includes some modest renovation of existing space within the Winsor Campus. It is expected that the proposed below-grade parking will not be built initially, but will be built at a later date subject to the availability of sufficient funding to support construction of that component of the project. In the interim, Winsor intends to take its existing tennis courts out of service and construct a temporary 112+/- space surface parking lot to support the project and existing school functions and operations.

2. **Longwood Avenue Project:** a new 10-story mixed-use building of approximately 300,000 square feet for uses consistent with Winsor's LMA context, to be located at the corner of Brookline Avenue and Longwood Avenue. The Longwood Avenue Project also includes a 346+/- space below-grade parking facility and a dedicated off-street loading and service area.

3. **Courtyard Addition Project**: a new wing to be added to the existing Winsor academic complex, comprising approximately 30,000 square feet, located at the southwest corner of an existing courtyard surrounded by academic buildings. This facility includes no new parking or other new or changed vehicle transportation infrastructure to the campus.

These projects (collectively, the "Proposed Projects") follow on Winsor's recent rehabilitation of and upgrades to its two playing fields, which will be preserved as part of the Proposed Projects. No new development of any type is proposed to take place on Winsor's playing fields, which represent the largest contiguous tract of undeveloped private land remaining in the LMA. The Winsor School Campus and related project sites are illustrated in **Figure 4-1.**

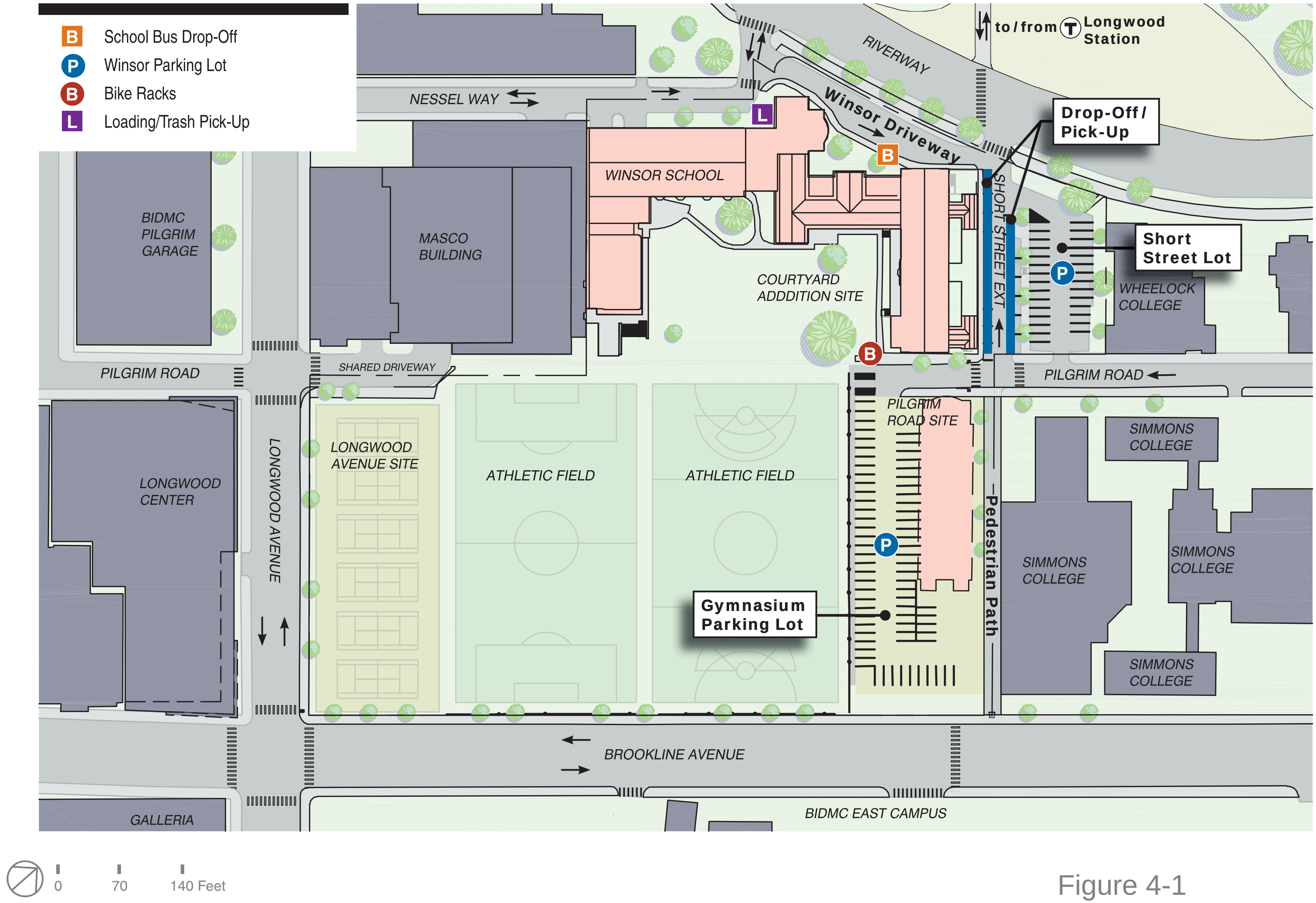


Figure 4-1

The Winsor School

Existing Transportation Infrastructure

Vanasse Hangen Brustlin, Inc.

■

Summary of Findings

A summary of key findings of the transportation component for the Proposed Projects are as follows:

- With the completion of the Pilgrim Road Project, sidewalks will be reconstructed on portions of Short Street Extension. Today there is no accessible pedestrian connection between Brookline Avenue and the Riverway on the Winsor School side of Short Street Extension. Improvements will include new pedestrian sidewalks, accessible ramps, and new pavement markings.

- During construction of the Pilgrim Road Project, the existing Pedestrian Pathway connecting Short Street Extension to Brookline Avenue will need to be taken out of service temporarily for defined periods of time. During these time periods, Winsor will work with the Medical Academic and Scientific Community Organization ("MASCO") and other LMA institutions to develop appropriate wayfinding signage for those who make use of the pathway.

- With the completion of the academic projects (the Pilgrim Road Project and Courtyard Addition Project), the Winsor School campus will have access to 191 off-street parking spaces (including 76 net new parking spaces). These spaces will accommodate a modest increase (less than ten percent) in staff and student population contemplated to result from the construction of the Proposed Projects. These new spaces are also intended to support other important Winsor operational needs and functions, including a safer and more convenient location for parents to park during morning and afternoon student drop-off/pick-up times, parent and visitor parking for performances, sporting events, and commencement, parking for prospective students and their parents visiting for admissions events, and other needs requiring on-site parking that are difficult to accommodate during weekdays. These spaces will help to reduce the amount of traffic circulation otherwise generated by vehicles arriving at the school and then departing to find on-street or garage parking elsewhere.

- The Longwood Avenue Project will substantially improve pedestrian sidewalks adjacent to that project site. The building will be set back from the property line to allow the existing sidewalk along Longwood Avenue to be widened from its existing width of 8 feet to approximately 15 feet. Further, the pedestrian sidewalk at the corner of Longwood Avenue and Brookline Avenue will also be widened considerably, allowing for a substantially improved area where pedestrians can wait to cross the Longwood Avenue/Brookline Avenue intersection. This location will also be fitted with new ADA/AAB accessible ramps. If feasible, street trees will be provided along this newly widened sidewalk.

- The Longwood Avenue Project will allow for improved vehicular turning movements for traffic at the Brookline Avenue/Longwood Avenue intersection by increasing the curb radius on the northeast corner of the intersection (adjacent to the project site). This improvement has been contemplated and studied as part of long-term area planning led by MASCO and other nearby LMA institutions.

- The Longwood Avenue Project will be served by approximately 346 below-grade parking spaces. This supply will adequately meet the parking demand on-site. This amount of proposed parking is somewhat higher than the LMA Interim Guideline ratio of 0.75 per 1,000 square feet of gross floor area for non-residential space; however, this amount of parking is proposed to help ensure a commercially viable and successful project that can support the goals and mission of the Winsor School, and ensure that it can remain at its LMA location for years to come. The proposed number of total parking spaces is far lower than the number of spaces that could be created pursuant to the 2003 LMA Interim Guidelines promulgated by the Boston Redevelopment Authority were the Winsor Campus to be privately developed for LMA-type uses to the scale contemplated by the LMA Interim Guidelines.

- There will be dedicated off-street loading docks at the Longwood Avenue Project to ensure that all loading and service operations are handled internal to the building and will not impact adjacent streets (Longwood Avenue and Brookline Avenue). As currently planned, the building will be served by 3 dedicated loading/service bays plus an additional dedicated trash compactor bay.

- In connection with the proposed Longwood Avenue Project, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway requires the implementation of a traffic signal at this location. Winsor is committed to working with its neighbors to implement this improvement subject to further study and the direction of the Boston Transportation Department (BTD).

The Winsor School is also committed to continuing its Transportation Demand Management ("TDM") program through MASCO's CommuteWorks Transportation Management Association ("TMA") with benefits to faculty, staff and students as a means to encourage the use of alternative transportation modes.

Existing Transportation Conditions

This section provides a summary of existing transportation conditions at the Winsor School Campus. Discussions include the following:

- A description of the existing roadways that provide access to the Campus;
- A discussion of nearby public transportation options;
- Summaries of parking for Winsor School staff, visitors and students;
- Existing loading activities and deliveries;
- Pedestrian and bicycle activity and amenities; and
- TDM measures.

Roadway Network

The Winsor School Campus is bounded by the Riverway to the north, Longwood Avenue, Nessel Way, and the MASCO Parking Garage to the west, Brookline Avenue to the south, and Simmons and Wheelock Colleges to the east. **Figure 4-1** provides an illustration of the Winsor School Campus and the surrounding roadway network. The Riverway is a highly-traveled segment of the Olmsted parkway system. Short Street Extension, privately owned by Winsor but open to public travel, provides one-way travel in the northbound direction from Pilgrim Road to the Riverway. Short Street Extension also provides the Winsor School with on-street parking and student pick-up/drop-off space. The Winsor Driveway that connects Nessel Way to Short Street Extension is primarily used for school bus pick-up and drop-off, but also loading and service functions supporting the School. The Winsor School is separated from Brookline Avenue and Longwood Avenue by a fence surrounding the school's tennis courts and athletic fields. Pedestrian access to Brookline Avenue from the Campus is via the Pedestrian Pathway that was put in place when that portion of Short Street was discontinued by Simmons College in 1987.

Study Intersections

Intersection geometry and physical characteristics are described below for the Study Area intersections illustrated in **Figure 4-2.** Traffic operations and level of service (LOS) analysis are presented later in this chapter.

Riverway/Short Street Extension is a signalized intersection with a push-button actuated, exclusive, pedestrian phase crossing the Riverway. This intersection serves as a crossing point between the Winsor School campus and other LMA institutions and the MBTA Green Line Longwood Station (on the D-Line). No turns are allowed from the Riverway to Short Street Extension due to one-way northbound operations on Short Street Extension. The Short Street Extension approach consists of two lanes which accommodate left-turns and right-turns. Striped crosswalks are provided on the Short Street Extension and the west leg of Riverway.

Riverway/Longwood Avenue is a four-legged intersection that operates under three-phase traffic signal control. In addition to phases for all Riverway traffic and for all Longwood Avenue traffic, a phase allows for protected left-turns from Riverway eastbound and right turns from Longwood Avenue southbound. Pedestrian movements across Longwood Avenue are concurrent with the Riverway left-turn phase. Pedestrian movements across the Riverway are concurrent with the eastbound Riverway protected left turn phase and are made via a diagonal crosswalk. The Longwood Avenue northbound approach provides an exclusive left-turn lane and a shared through/right-turn lane. The Longwood Avenue southbound approach provides a shared left-turn/through lane and an exclusive right-turn lane. The Riverway eastbound approach provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane. The Riverway westbound approach provides two through lanes (left-turns from this approach are prohibited) and an exclusive right-turn lane. There is no on-street parking permitted along any of the intersection approaches. Sidewalks are provided along all intersection approaches except along the north side of the Riverway (adjacent to the Emerald Necklace). Crosswalks run across the north, east, south legs of the intersection. A fourth crosswalk runs diagonally from the northeast corner to the southwest corner of the intersection.

Longwood Avenue/Nessel Way is a three leg unsignalized intersection located to the southwest of the Winsor Campus. Longwood Avenue provides free flow movement in the north-south directions while Nessel Way is stop controlled in the westbound direction onto Longwood Avenue. Accessible ramps and a crosswalk allow for pedestrians to cross Nessel Way. A crosswalk located on the south side of the intersection crossing Longwood Avenue does not have accessible ramps on both sides of the street. There is no parking permitted on either side of Longwood Avenue. Nessel Way primarily serves as egress from the MASCO Parking Garage and drop-off lane and Temple Israel, which are located on either side of the Nessel Way.

Longwood Avenue/Pilgrim Road/ Shared Winsor/MASCO Driveway is a four leg unsignalized intersection. The west leg, Pilgrim Road, is one-way westbound. Longwood Avenue is two lanes, through and left-turn lanes, in both the north and southbound directions. The shared Winsor/MASCO driveway has a single lane approach that is stop controlled in the westbound direction. Crosswalks are located at each leg of the intersection with wheelchair ramps.

Nessel Way/Riverway is a three leg unsignalized intersection with stop control on the Nessel Way approach. Nessel Way operates as an entrance to the Winsor School Main Building pick-up/drop-off Bus Lane slightly east of the intersection and allows for vehicles from Longwood Avenue and the MASCO Parking Garage to exit onto the Riverway. The Riverway is two lanes in the eastbound direction, one

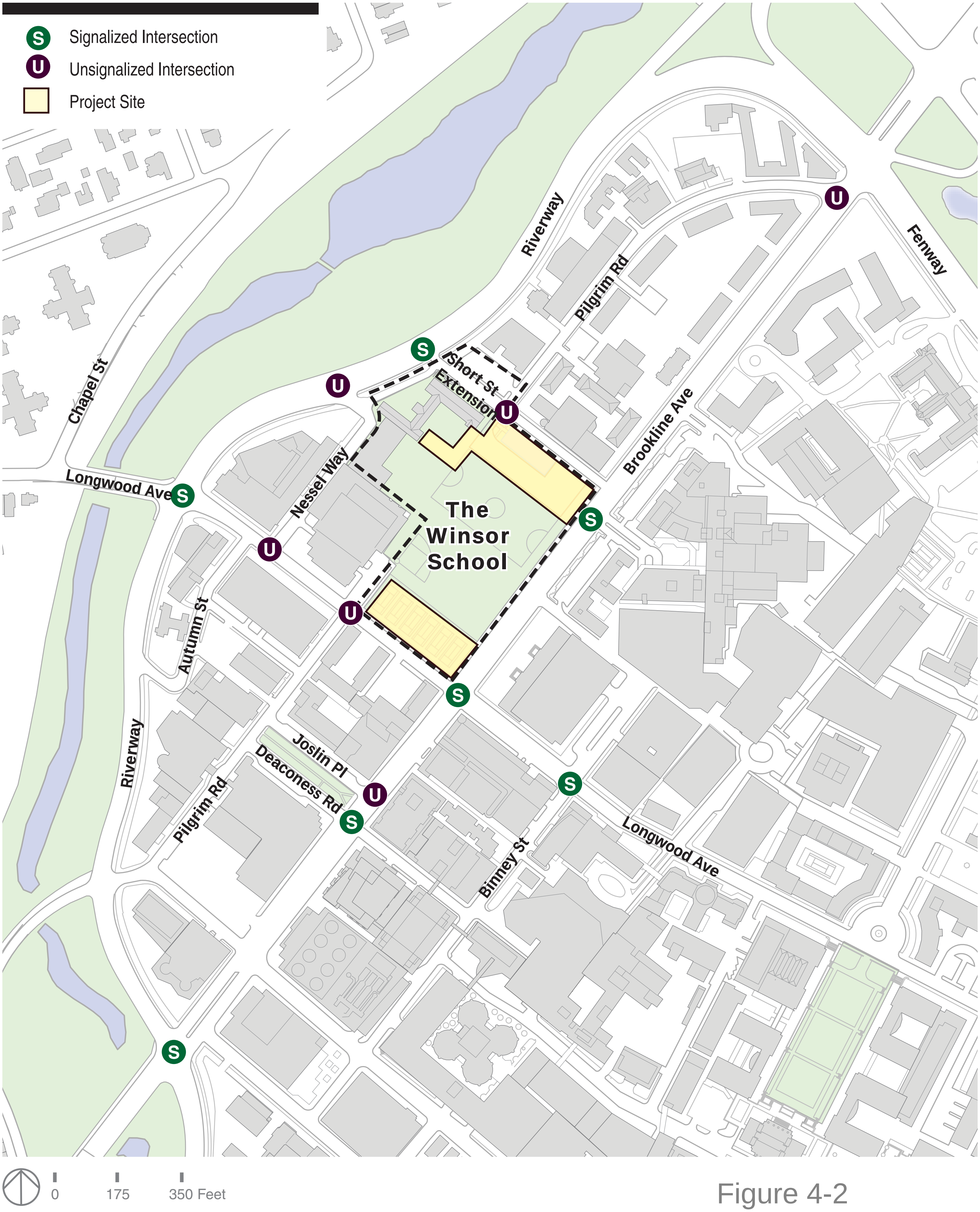

Signalized Intersection
Unsignalized Intersection
Project Site
S
U
The Winsor School
Short St Extension
Riverway
Pilgrim Rd
Fenway
Brookline Ave
Chapel St
Longwood Ave
Nessel Way
Autumn St
Joslin Pl
Deaconess Rd
Binney St
0
175
350 Feet

Figure 4-2

right/through lane and a through, with curb-side parking on the departure leg. It is three lanes in the westbound direction, one left/through and two through lanes. A crosswalk with wheelchair ramps is located on the Nessel Way leg.

Short Street Extension/Pilgrim Road is a three leg unsignalized intersection with no posted stop control. The Pilgrim Road westbound approach provides one general travel lane. The eastbound Pilgrim Road approach currently provides access and egress to/from the Winsor Gymnasium Parking Lot. The Short Street Extension leg is one-way northbound departing the intersection. Parking for the Winsor School is provided on both sides of the roadway. Crosswalks are provided on both Pilgrim Road approaches; however the west leg does not have wheelchair ramps.

Brookline Avenue/Pilgrim Road is an unsignalized intersection with no posted vehicle control, due to one-way northbound circulation on Pilgrim Road. At the intersection there are two eastbound and two westbound approach lanes provided on Brookline Avenue. A Massachusetts Bay Transportation Authority (MBTA) bus stop is located on both sides of Brookline Avenue just east of Pilgrim Road serving the Routes 8, 19, 47, 60 and 65. A crosswalk is provided across Pilgrim Road.

Brookline Avenue/Beth Israel Deaconess Medical Center (BIDMC) East Campus Entrance is a three leg signalized intersection. Brookline Avenue is two lanes in the westbound direction with a left/through and a through lane. The westbound approach has a lead phase to allow for vehicles to enter the BIDMC East Campus. The eastbound direction is two lanes, one through and one through/right lane. The signal operates with four phases including two actuated phases: BIDMC Driveway northbound approach and the exclusive pedestrian phase. The crosswalks are located on the BIDMC Entrance and east Brookline Avenue legs of the intersection. Just east of the intersection on both the south and north sides of the roadway is an MBTA bus stop for Routes 8, 9, 19, 47, 60, 65, CT2, and CT3. Parking is prohibited on both sides of Brookline Avenue or the BIDMC East Campus Entrance Driveway.

Brookline Avenue/Longwood Avenue is a four-legged signalized intersection with an exclusive pedestrian phase. The Longwood Avenue northbound approach accommodates an exclusive left-turn lane, a through lane, and an exclusive right-turn lane. The Longwood Avenue southbound approach provides an exclusive left-turn lane, and a shared through/right-turn lane. The Brookline Avenue eastbound and westbound approaches each provide an exclusive left-turn lane, a through lane and a shared through/right-turn lane. There is no on-street parking or loading permitted along any of the approaches, however, loading and delivery vehicles occasionally stop along both sides of Brookline Avenue south of Longwood Avenue. Sidewalks and crosswalks are provided at all four intersection approaches.

Brookline Avenue/Jimmy Fund Way/Deaconess Road is a four-legged intersection that operates under four-phase traffic signal control, including an exclusive pedestrian phase when the push-button is activated. The Brookline Avenue westbound approach is a two-lane approach, one through and one thru/left-turn lane onto Jimmy Fund Way. The Brookline Avenue eastbound approach provides two general purpose travel lanes. Deaconess Road is one-way in the southbound direction functioning with a left only lane and a through/right lane. Jimmy Fund Way is a two lane approach with a left and right only as Deaconess Road is one-way. An MBTA bus stop is located at the eastbound approach on Brookline Avenue serving Routes 60 and 65. An additional MBTA bus stop is located at the Brookline Avenue westbound approach which also serves bus routes 60 and 65, and various LMA shuttles. Metered parking is provided along the north side of Brookline Avenue west of Deaconess Road and on the east side of Deaconess Road. Crosswalks are provided along all intersection approaches.

Brookline Avenue/Joslin Place is approximately 50 feet away from the Brookline Avenue/Deaconess Road/Jimmy Fund Way intersection. The Brookline Avenue east and westbound approach provides two general purpose travel lanes. Joslin Place provides one-way northbound access and forms a pair with Deaconess Road. A left-turn lane to access Joslin Place is provided on Brookline Avenue in the eastbound direction between Deaconess Road and Joslin Place. No parking is provided on Brookline Avenue at the intersection. A crosswalk is provided across Joslin Place.

Longwood Avenue/Binney Street is a four-legged, signalized intersection that operates under four-phase traffic signal control, including a southbound lead phase and an exclusive pedestrian phase. The Longwood Avenue northbound and southbound approaches provide two general-purpose travel lanes. The Binney Street eastbound approach has a single general-purpose lane while the westbound approach provides a shared left-turn/through lane and exclusive right-turn lane. Sidewalks and crosswalks are provided at all four intersection approaches. On-street parking is not permitted at any of the approaches; however, there is an MBTA bus stop located at the northbound approach in front of 333 Longwood Avenue which services bus routes 8, 47, CT2, CT3, and 10.

Riverway/Brookline Avenue is a four-legged intersection that operates under four-phase traffic signal control, including a westbound lead phase and an exclusive pedestrian phase. The Riverway provides two lanes on each approach. In the southbound direction, there is a combined right/thru lane and a thru only lane with no left permitted. In the northbound direction, a left/thru and thru/right are provided. Brookline Avenue provides three lanes on each approach, one exclusive left-turn lane, one exclusive through lane, and one shared through/right-turn lane. There is no on-street parking permitted along any of the approaches. The traffic signal's pedestrian phase provides for exclusive pedestrian movement at the intersection. Sidewalks are provided along both sides of Brookline Avenue and along the north side of the Riverway. Unpaved paths follow the Riverway on its south side. Crosswalks are provided across all four intersection approaches.

■

Data Collection

An Automatic Traffic Recorder (ATR) was placed on the shared Winsor/MASCO driveway east of Longwood Avenue and on Longwood Avenue south of Pilgrim Road on November 16, 2010 for 48 hours. These counts indicated that average peak hour traffic volumes on Longwood Avenue occurred between 7:00-8:00 AM and 4:45-5:45 PM. The average morning peak hour volume on Longwood Avenue was 778 vehicles and 685 vehicles during the evening peak hour. The average peak hour traffic volumes on the shared Winsor/MASCO driveway occurred between 8:15-9:15AM and 5:15-6:15 PM. During the morning peak hour, an average of 348 vehicles was recorded on the shared Winsor/MASCO driveway and 200 vehicles in the evening peak hour.

Throughout the daytime hours traffic volumes vary between approximately 100 and 800 vehicles per hour on Longwood Avenue and approximately 60 to 350 vehicles on the shared Winsor/MASCO driveway. Longwood Avenue overnight traffic volumes drop to as low as 20 vehicles per hour. The shared Winsor/MASCO driveway is primarily used by the MASCO parking garage users and drops to less than 5 vehicles per hour during the overnight hours. A summary of hourly traffic activity that was collected is presented in **Table 4-1.** Detailed ATR data are provided in the *PNF Appendix*.

Table 4-1
Existing Hourly Traffic Volumes

Time	Shared Winsor/MASCO Driveway	Longwood Avenue
6:00 - 7:00 AM	159	406
7:00 – 8:00 AM	266	782
8:00 – 9:00 AM	333	683
9:00 – 10:00 AM	268	683
10:00 – 11:00 AM	92	557
11:00 – 12:00 PM	75	519
12:00 – 1: 00 PM	124	500
1:00 – 2:00 PM	98	533
2:00 – 3:00 PM	131	644
3:00 – 4:00 PM	166	720
4:00 – 5:00 PM	158	654
5:00 – 6:00 PM	216	611
6:00 – 7:00 PM	179	486
7:00 – 8:00 PM	133	304

Source: Accurate Counts

Manual turning movement counts (“TMCs”) were conducted during the commuter peak periods of 7:00 - 9:00 AM and 4:00 - 6:00 PM as required by the BTD. Pedestrian crossing movements and bicycle volumes were also counted during these periods. These raw count data are included in the *PNF Appendix*. TMCs were conducted at the Study Area intersections on November 16, 2010 and December 15, 2010. Historic counts from the past two years were used for the intersections of Longwood Avenue/Binney Street, Nessel Way/Longwood Avenue, and Riverway/Brookline Avenue. These counts were balanced with the recent traffic counts and to ensure consistency with other recently completed transportation studies in the area.

The intersection turning movement counts were used to establish traffic networks for the 2010 Existing Condition. From the turning movement counts, the Study Area's traffic peak hours were determined to be 7:30 to 8:30 AM and 5:00 to 6:00 PM for the morning and evening peaks. Existing peak hour traffic volumes are shown in **Figures 4-3** and **4-4** for the morning and evening commuter peaks, respectively.

■

Crash Analysis

Crash data was investigated for the Study Area. Data was obtained from the Massachusetts Department of Transportation (MassDOT) for the most recent three-year period available (2006 through 2008) for the intersections within the Study Area. Crash results are summarized in **Table 4-2.**

Of the reported accidents, 50 percent occurred during a weekday outside of the traditional peak travel periods of 7:00-9:00 AM and 4:00-6:00 PM. The majority of the reported incidents occurred during dry pavement conditions. The severity ranged from non-fatal injury to property damage. No fatalities were indicated by the data.

The City of Boston is located within MassDOT's District 4, which includes the northeast region of the state. The 2010 average intersection crash rate for District 4 signalized intersections is 0.78 crashes per million entering vehicles (MEV). The average for unsignalized intersection in District 4 is 0.59 crashes per MEV. District 4 has a slightly lower average than the Statewide Average of 0.82 crashes per MEV for signalized intersections and 0.62 crashes per MEV for unsignalized intersections.

Over the three year period, two intersections had on average a higher crash rate than the district average: Brookline Avenue at the Riverway with a crash rate of 1.08 and Brookline Avenue at Longwood Avenue with a crash rate of 0.79. All of the remaining Study Area intersections had average crash rates lower than the district average. The intersections of Nessel Way/Riverway, Short Street Extension/Pilgrim Road, and Brookline Avenue/Pilgrim Road had no reported crashes during the last three year period.

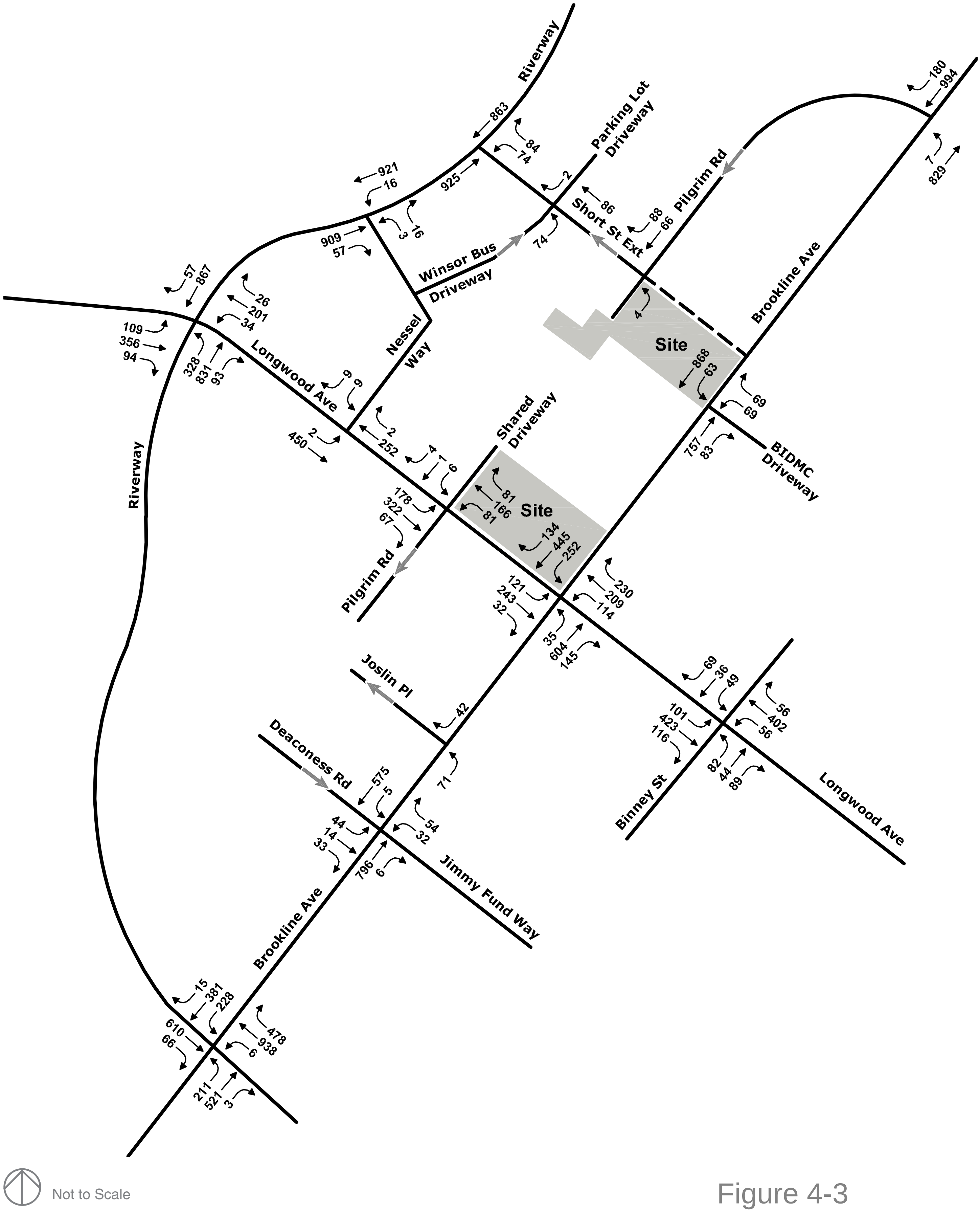
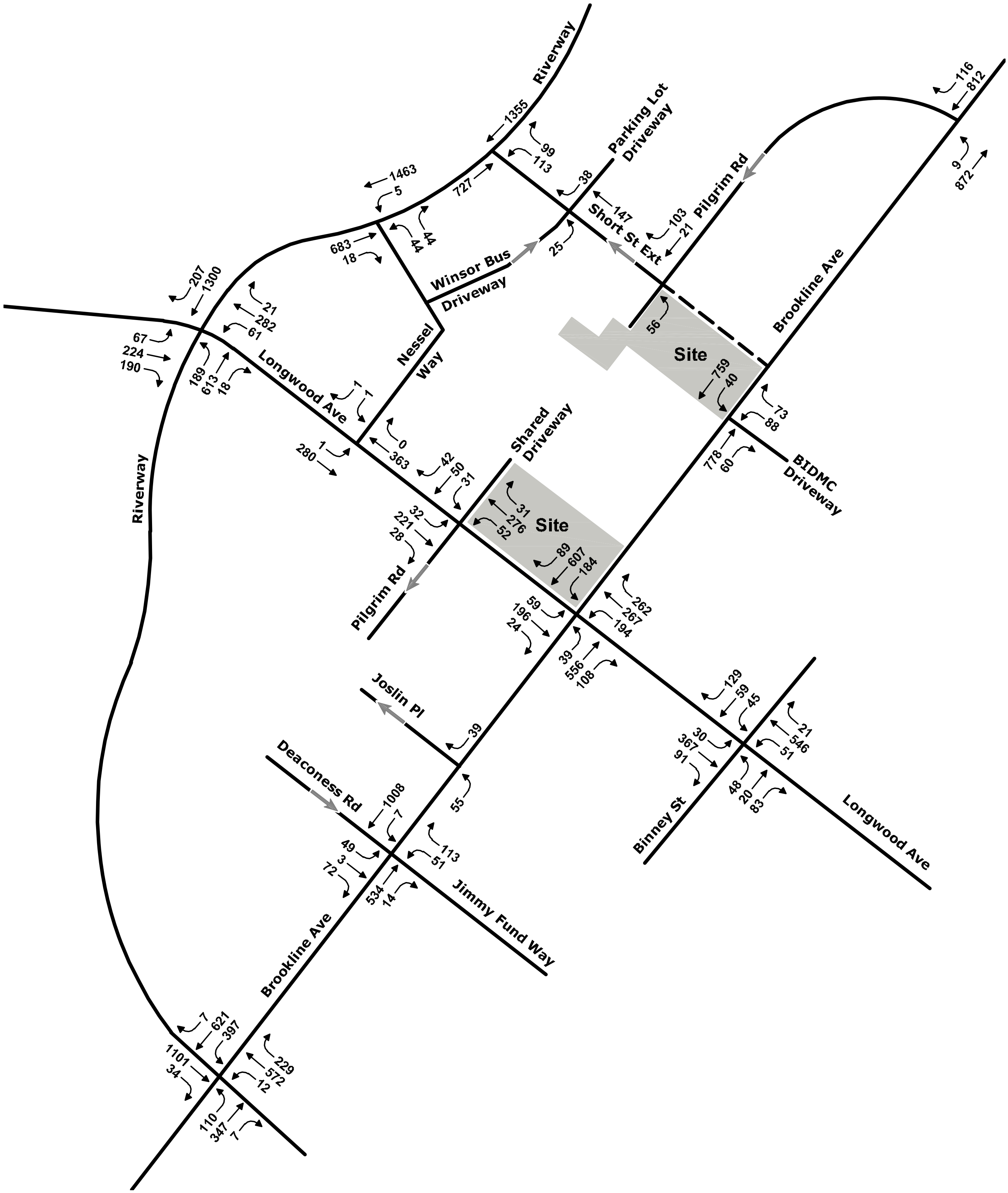


Figure 4-3

The Winsor School

2010 Existing Condition
AM Peak Hour Traffic Volumes
7:30 - 8:30 AM

VHB *Vanasse Hangen Brustlin, Inc.*



Not to Scale

Figure 4-4

The Winsor School

2010 Existing Condition
PM Peak Hour Traffic Volumes
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.

Table 4-2
Crash Summary

	Riverway/Short Street	Riverway/ Longwood Avenue	Longwood Avenue/Nessel Way	Longwood Avenue/Pilgrim Road/ Shared Driveway	Nessel Way/Riverway	Short Street/Pilgrim Road	Brookline Avenue/Pilg rim Road	Brookline Avenue/Beth Israel Deaconess Medical Center (BIDMC) East Campus Entrance	Brookline Avenue/Long wood Avenue	Brookline Avenue/Jimmy Fund Way/Deaconess Road	Brookline Avenue/Joslin Place	Longwood Avenue/Binney Street	Riverway/Brookline Avenue
Year													
2006	1	5	1	0	0	0	0	4	9	2	1	4	9
2007	1	3	0	2	0	0	0	2	9	1	1	2	15
2008	0	6	0	0	0	0	0	2	7	2		1	21
Total	2	14	1	2	0	0	0	8	25	5	2	7	45
Average	1	5	1	2	0	0	0	3	8	2	1	2	15
Crash Rate	0.07	0.36	0.13	0.22	0	0	0	0.37	0.79	0.22	0.09	0.39	1.08
Collision Type													
Angle	1	4	0	1	0	0	0	2	10	0	1	4	15
Head-on	0	1	0	0	0	0	0	0	1	0	0	0	3
Rear-end	1	4	1	0	0	0	0	2	9	2	0	2	12
Rear-to-Rear	0	0	0	0	0	0	0	0	0	0	0	0	0
Sideswipe, opposite direction	0	1	0	0	0	0	0	0	0	0	0	1	3
Sideswipe, same direction	0	2	0	1	0	0	0	1	3	1	0	0	5
Single vehicle crash	0	2	0	0	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	1	0	0	0	0	0
Not reported	0	0	0	0	0	0	0	2	2	2	1	0	5
Total	2	14	1	2	0	0	0	8	25	5	2	7	45
Crash Severity													
Fatal injury	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-fatal injury	1	4	0	0	0	0	0	3	9	2	0	3	16
Property damage only (none injured)	0	9	1	2	0	0	0	4	12	2	2	3	28
Not Reported	0	1	0	0	0	0	0	1	3	0	0	1	1
Unknown	1	0	0	0	0	0	0	0	1	1	0	0	0
Total	2	14	1	2	0	0	0	8	25	5	2	7	45
Time of Day													
Weekday, 7:00 AM - 9:00 AM	1	5	0	1	0	0	0	2	2	1	1	0	7
Weekday, 4:00 PM - 6:00 PM	0	1	1	0	0	0	0	2	6	2	0	2	5
Saturday, 11:00 AM - 2:00 PM	0	0	0	0	0	0	0	1	1	0	0	1	1
Weekday, other time	1	7	0	1	0	0	0	3	14	2	1	3	24
Weekend, other time	0	1	0	0	0	0	0	0	2	0	0	1	8
Total	2	14	1	2	0	0	0	8	25	5	2	7	45
Pavement Conditions													
Dry	1	9	1	1	0	0	0	6	22	4	1	5	35
Wet	0	4	0	1	0	0	0	2	2	0	1	2	9
Snow	0	0	0	0	0	0	0	0	0	0	0	0	0
Ice	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand, mud, dirt, oil, gravel	0	0	0	0	0	0	0	0	0	0	0	0	0
Water (standing, moving)	0	0	0	0	0	0	0	0	0	0	0	0	0
Slush	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Not reported	1	1	0	0	0	0	0	0	1	1	0	0	1
Total	2	14	1	2	0	0	0	8	25	5	2	7	45
Non Motorist (Bike, Pedestrian)													
Total	0	3	0	0	0	0	0	0	0	0	0	0	1

Back of Table 4-2

Pedestrians

An inventory of sidewalks and pedestrian crosswalks was taken on Short Street Extension adjacent to the Winsor School Campus. Sidewalks were found to be in good condition with varying widths of between approximately six and ten feet. Most crosswalks are accessible adjacent to the Winsor School with the exception of the crosswalk across the Gymnasium Parking Lot on Short Street Extension. Area crosswalks were shown previously in **Figure 4-1**.

Pedestrian crossing volumes taken simultaneously with traffic volume counts during the peak hours are presented in **Figures 4-5** and **4-6**. As shown, approximately 147 pedestrians cross the Riverway to Short Street Extension during the AM peak hour. During the PM peak, this volume is slightly lower with approximately 80 pedestrians crossing the Riverway to make connections with the MBTA's Longwood Station from Short Street Extension. It should also be noted that the existing Pedestrian Pathway between Winsor and Simmons College carries approximately 150 pedestrians during both the morning and evening peak hours. These volumes vary by time of year and the corresponding available daylight with the highest pedestrian volumes historically during the summer months.

Bicycles

The Winsor School provides two bicycle storage racks for its faculty, staff, and students behind the Main Building. These bicycle racks accommodate a total of 10 bicycles. Access to this storage area is provided via Pilgrim Road. According to the Winsor School, approximately five percent of Winsor employees commute regularly by bicycle to the Campus. There is an employee locker room with two showers available for those who chose to commute by alternative transportation to the school.

Bicycle counts are presented in **Figures 4-7** and **4-8.** The counts indicate that fewer than five cyclists travel along the Riverway adjacent to the Winsor School in either direction during both the morning and evening peak hours. Longwood Avenue is a primary cyclist route carrying approximately 80 bicyclists from the Town of Brookline into the LMA during the morning peak hour. During the evening peak hour, a similar volume of cyclists were observed traveling northbound from the LMA into the Town of Brookline. Approximately 20 cyclists were counted on Brookline Avenue during both the morning and evening peak hour periods.

Public Transportation

The Winsor School is situated near the MBTA Green Line ("D Line") at Longwood Avenue as shown in **Figure 4-9.** Student and employee MBTA passes are available for a monthly fee. Currently, approximately 84 students and 16 employees regularly purchase MBTA passes through the school.

The Riverside Branch (D-Line) runs from downtown Boston to Riverside Station in Newton and includes the Longwood Station stop on the opposite side of the Emerald Necklace from the Winsor School Campus. Peak hour headways are every five minutes on the D-Line. Also nearby is the MBTA Framingham-Worcester Commuter Rail Line that stops at Yawkey Station off of Brookline Avenue (about a ten minute walk from the Winsor School campus).

The MBTA also operates eight bus routes that provide service within one-quarter mile from the Winsor School Campus:

- **Crosstown 2 (CT2)** bus route operates on 20-minute headways during peak hours between Sullivan Square in East Cambridge and Ruggles Station both on the Orange Line. Passengers may connect to the Needham, Franklin, Attleboro/Providence and Stoughton Commuter Rail Lines, in addition to the Orange Line and other various MBTA bus routes at Ruggles Station. CT2 makes a stop on Brookline Avenue near the BIDMC East Campus where the campus can be accessed via the adjacent Pedestrian Pathway. This route operates between the hours of 5:55 AM and 7:38 PM on weekdays. This route does not operate on weekends or Holidays.
- **Crosstown 3 (CT3)** bus route provides weekday service with 15 to 25-minute peak hour headways between BIDMC and Andrew Square Station on the Red Line Station in Dorchester. The CT3 makes a stop on Brookline Avenue near the BIDMC East Campus where the Winsor School Campus can be accessed via the adjacent Pedestrian Pathway. This route operates from 6:15 AM until 8:39 PM on weekdays.
- **Route 8** operates between Kenmore Square and Harbor Point in Dorchester, with service to the Ruggles Street MBTA Orange Line/Commuter Rail Station. It operates on 13-minute headways during the morning peak and 25-minute headways during the evening peak. This route stops at the intersection of Brookline Avenue at Longwood Avenue. Service is provided between 5:15 AM to 12:52 AM on weekdays and from 6:30 AM to 12:52 AM on weekends.
- **Route 9** operates between City Point and Copley Square via Broadway Street. It only stops at the intersection of Longwood Avenue at Brookline Avenue on weekday mornings at 7:12 AM.
- **Route 19** operates on 12-minute headways during the morning peak and 25-minute headways during the evening peak between Fields Corner Station and Ruggles Station on the Orange Line or Kenmore Station. This route stops at

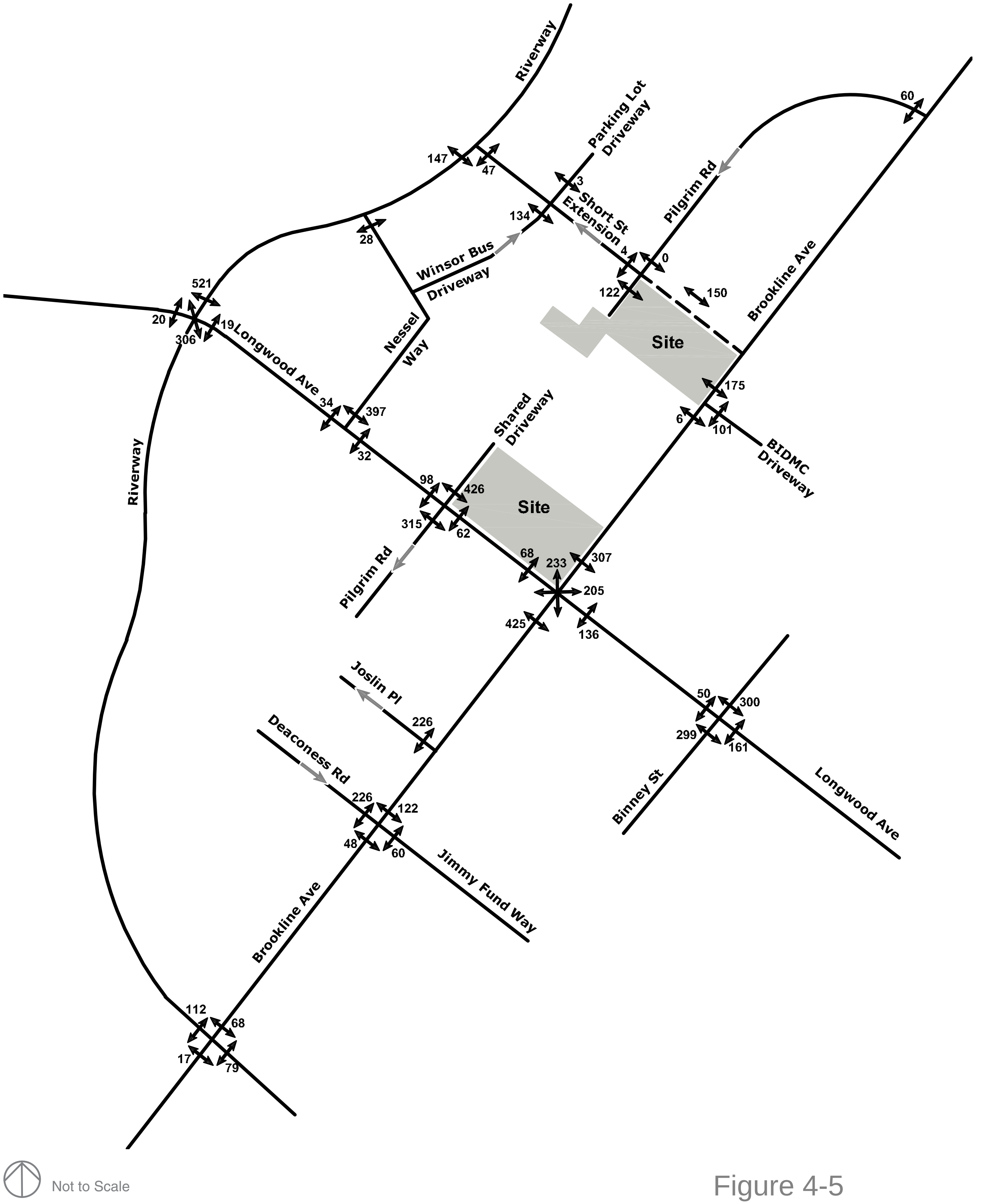


Figure 4-5

The Winsor School

2010 Existing Condition
AM Peak Hour Pedestrian Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

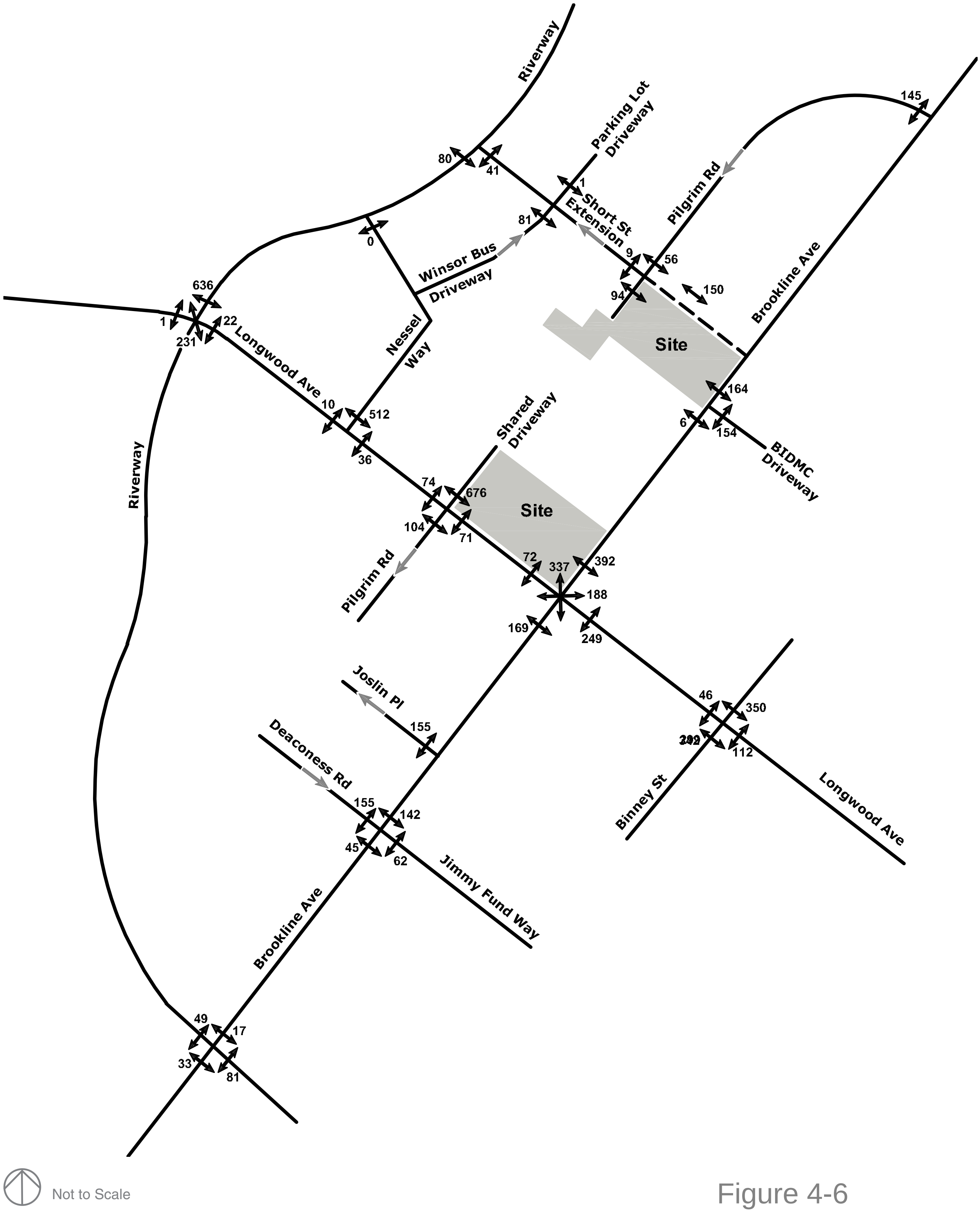

Riverway
Parking Lot Driveway
145
80
41
1
Short St Extension
Pilgrim Rd
81
0
Winsor Bus Driveway
9
56
94
150
Brookline Ave
636
1
22
231
Longwood Ave
Nessel Way
Site
164
10
512
6
154
BIDMC Driveway
36
Shared Driveway
Riverway
74
676
Site
104
71
Pilgrim Rd
72
337
392
188
169
249
Joslin Pl
46
350
155
112
Deaconess Rd
Binney St
Longwood Ave
155
142
45
62
Jimmy Fund Way
Brookline Ave
49
17
33
81
Not to Scale

Figure 4-6

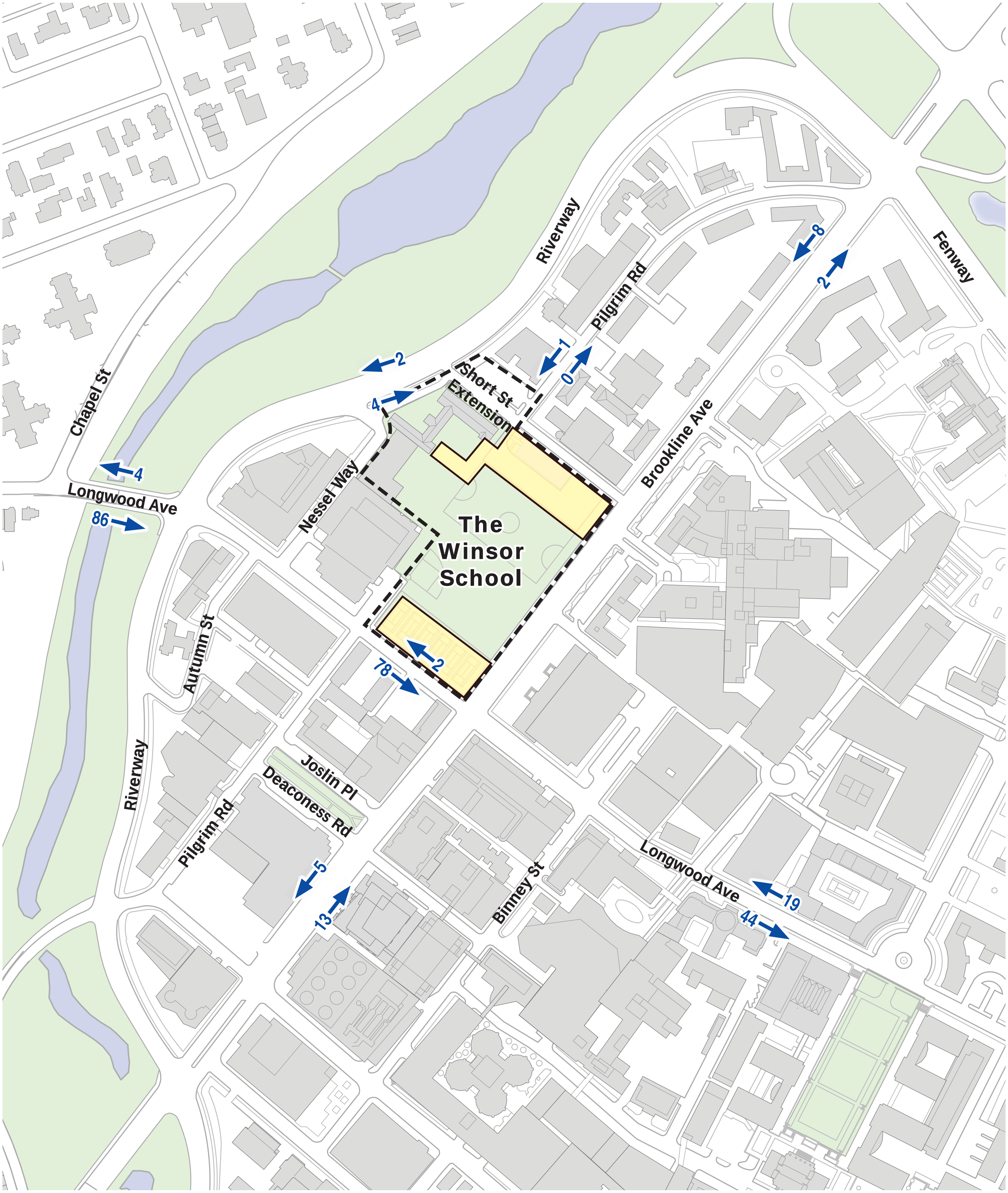


Figure 4-7

The Winsor School

2010 Existing Condition
AM Peak Hour Bicycle Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

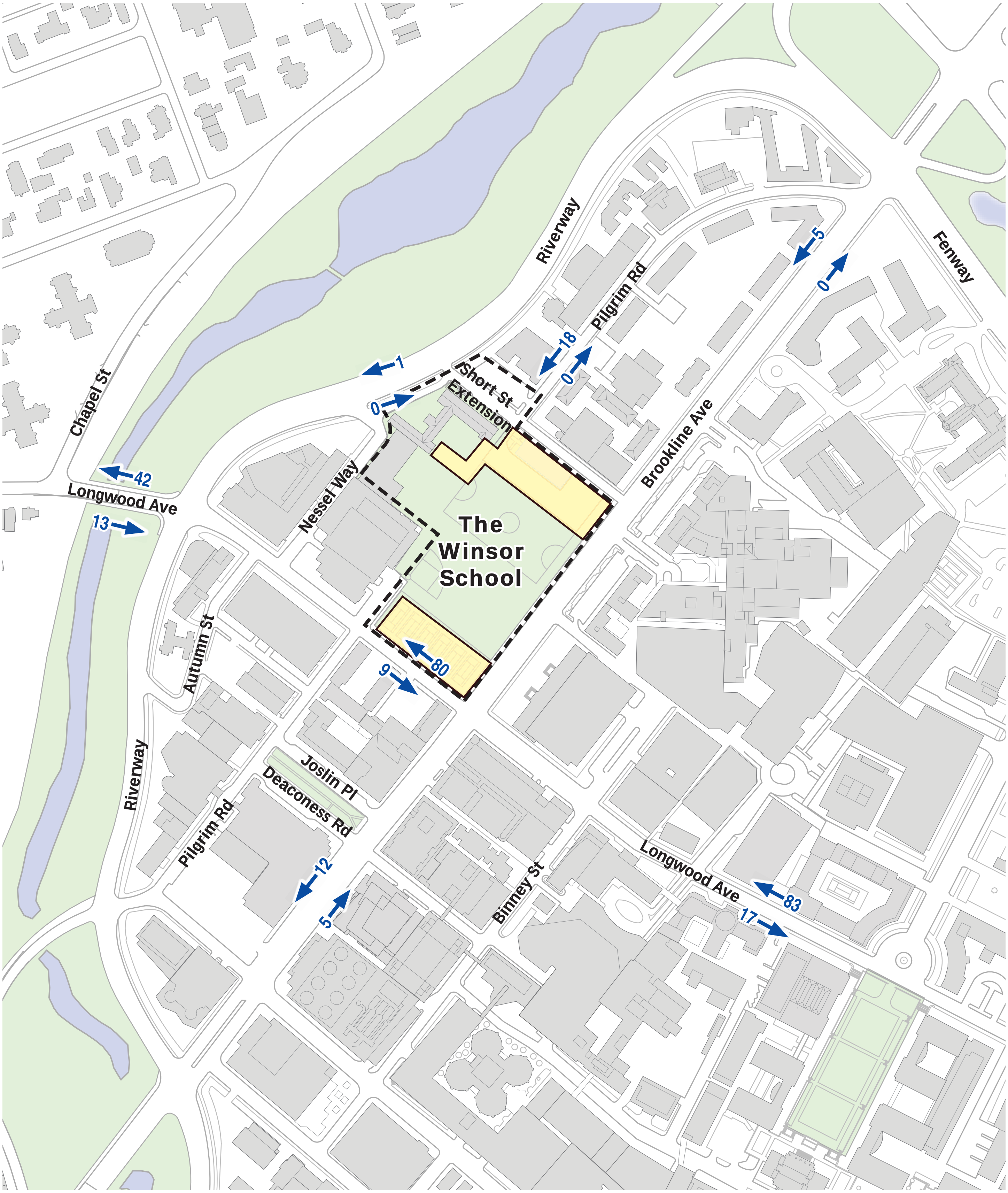
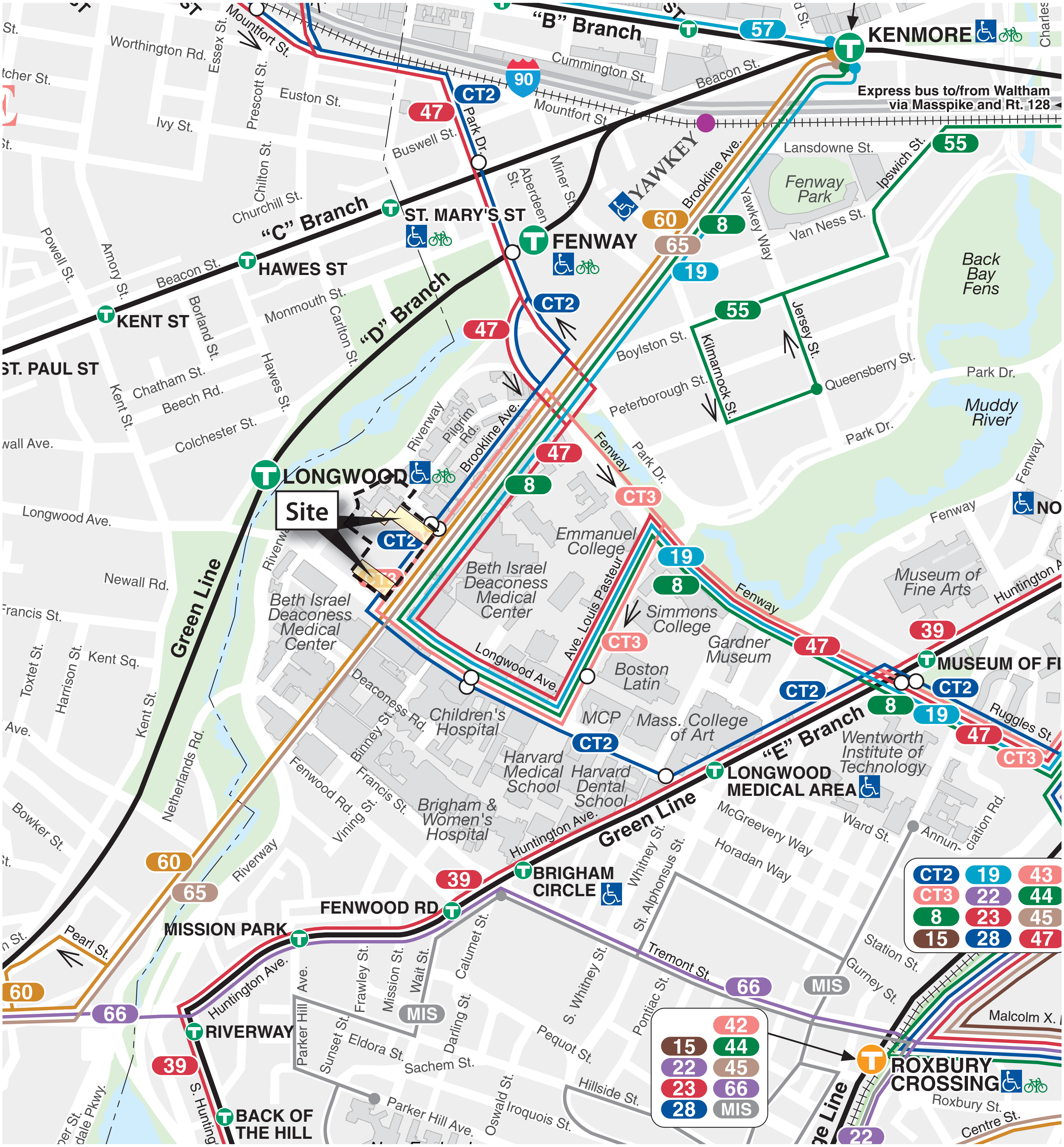


Figure 4-8

The Winsor School

2010 Existing Condition
PM Peak Hour Bicycle Volumes
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.



Source: MBTA.com (2009)

0 400 800 Feet

Figure 4-9

Brookline Avenue at Longwood Avenue. This route operates between the hours of 6:08 AM and 7:40 PM during the weekdays. The bus route does not provide service on weekends or Holidays.

- **Route 47** provides service between Central Square Station and Broadway Station both on the Red Line via Ruggles Street Station on the Orange Line. It runs on 8 to 23-minute headways during morning peak hours and 20-minute headways during evening peak hours. This route stops at the intersection of Brookline Avenue and Longwood Avenue. Service is provided between 5:15 am and 1:31 AM during weekdays, 5:00 AM to 1:42 AM on Saturdays and 7:30 AM to 1:11 AM on Sundays.
- **Route 60** provides service between Chestnut Hill in Newton and Kenmore Square via Brookline Village Station on the Green Line D Branch, and operates on approximately 25 minute headways during the morning peak, approximately 30 minute headways during the evening peak. This route stops at the intersection of Brookline Avenue and Longwood Avenue. Service is provided between the hours of 4:55 AM to 12:32 AM on weekdays, from 4:55 AM to 1:04 AM on Saturdays and from 6:00 AM to 9:53 PM on Sundays.
- **Route 65** provides service between Brighton Center and Kenmore Square via Washington Street Station on the Green Line B Branch, Washington Square Station on the Green Line C Branch, and Brookline Village Station on the Green Line D Branch. It operates on approximately 12-minute headways during the morning peak, 20-minute headways during the evening peak. This route makes stops at the intersection of Brookline Avenue at Longwood Avenue. This route operates between the hours of 6:20AM to 8:55 PM on weekdays and 6:45AM to 6:35PM on Saturdays. There is no Sunday or Holiday service.

■

School Bus Services

The Boston School Department provides free chartered bus service to students who live in Boston more than two miles from the Winsor School. In addition, the school also offers its own bus program for an additional fee. The routes are established each year depending upon sufficient interest and the geographic location of its students. Currently, a total of seven (7) buses service the school transporting 170 students on a daily basis.

School buses access the school from Winsor Driveway. All scheduled buses enter and exit via the Riverway. During the morning peak period, buses generally drop-off between the hours of 7:00 – 8:10 AM. Afternoon bus pick-up commences immediately after school dismissal, which occurs at 3:00 PM.

■

Winsor Parking and Drop-off/Pick-up

The Winsor School currently provides 115 parking spaces in two surface parking lots and reserved parking on Short Street Extension (a private way that is owned by Winsor) as shown in **Table 4-3.** Access and egress to both lots are accommodated via Pilgrim Road. Faculty/staff, visitors, and students (seniors only) are allowed to park in the on-campus lots. Currently 89 employee parking permits and 30 student permits are issued for parking. Students are charged $300 per semester to park at the School. Winsor faculty and staff do not pay for on-site parking – it is part of their defined compensation plan.

Table 4-3
Existing Winsor School Parking

Location	Spaces
Short Street Lot	31
Short Street Extension	12
Gymnasium Lot	72
Total	115

Source: The Winsor School

The following describes typical daily student drop-off and pick-up activities at the School:

Student Drop-off

- Students are dropped-off in the morning between 7:00 – 8:10 AM.
- Drop-off occurs in the Winsor Driveway adjacent to the Main Building and at the curb on Short Street Extension.
- A few students (fewer than ten) were observed being dropped off on the Riverway at the curb.
- Buses share the Winsor Driveway along the Riverway with students being dropped off.
- A total of seven buses were observed during the morning drop-off period.

Student Pick-up

- Student pick-up occurs around 3:00 PM, immediately after school dismissal.
- Three members of the Winsor staff are stationed outside the school to direct parents to stage along Short Street Extension or in the Short Street parking lot at pick-up time to ensure that pick-up is conducted in an orderly fashion.
- One travel lane on Short Street Extension is maintained for through traffic.
- Typically seven buses stage in the Winsor Driveway for the afternoon pick-up and depart at 3:15 PM.
- The afternoon pick-up does not coincide with the evening peak commuter period. Most traffic activity related to the school (both student pick-up and faculty departures) occurs prior to the evening commuter peak.

On-Street Parking

In addition to the parking on Short Street Extension controlled by the Winsor School, there is limited on-street parking available for visitors on Pilgrim Road and the Riverway. On-street parking surrounding the campus is illustrated in **Figure 4-10**.

Parking spaces on Pilgrim Road are primarily residential spaces with the exception of several 2-hour spaces that could be used by visitors to Winsor School or other adjacent institutions. In addition, there is some unrestricted parking along the Riverway adjacent to Winsor School. Observations suggest that on-street parking is typically fully utilized during the daytime.

Public Off-Street Parking

Figure 4-11 illustrates major public parking garages and/or surface lots in close proximity to the Winsor School. During peak times, Winsor School provides a sign for visitors instructing them to park at the MASCO Garage (375 Longwood Avenue). The MASCO Garage provides 750 parking spaces. Public parking rates at the MASCO garage are provided in **Table 4-4** below.

Table 4-4
MASCO Garage Pricing Structure

Duration	Price
½ hour or less	$4
1 hour or less	$6
2 hours or less	$8
3 hours or less	$9
4 hours or less	$11
5 hours or less	$17
6 hours or less	$23
Up to 24 hours	$29
Evening (after 3:30 PM)	$7
Weekend	$7

Source: masco.org

Loading and Service Activities

Loading and service operations for the Winsor School are handled at the loading docks on Nessel Way and at the Winsor Driveway adjacent to the Main Building. Typically the Winsor School receives four (4) to six (6) deliveries on a daily basis, including food service, trash pick-up, and delivery of other types of miscellaneous materials and supplies. Mail, UPS, and other daily parcel deliveries are handled along Short Street Extension adjacent to the Winsor Main Entrance.

Transportation Demand Management

The Winsor School has implemented a number of Transportation Demand Management (TDM) strategies to support the use of alternative forms of transportation. Winsor School actively supports efforts to reduce auto use for faculty, staff, and students. Actions to support this goal include the following:

- Locker Room. There is an employee locker room with two showers available for those who chose to commute by alternative transportation to the school.
- Employee Transportation Advisor. Winsor School has a dedicated commuter services advisor who provides employees with commuter service updates and works with MASCO's CommuteWorks program.
- On-Site transit pass sales are available for students and employees.
- Ridematching services to employees through MASCO's CommuteWorks Transportation Management Association.
- Bicycling incentives and amenities. Provision of centrally located bicycle racks on the Winsor Campus. Lockers and showers are also provided.
- Guaranteed Ride Home Program. Winsor School provides a guaranteed ride home program through CommuteWorks. Taxi service or car rental vouchers for emergency trips home may be obtained up to five times per year for employees commuting on public transit.
- Information dissemination. Dissemination of a regular Commuter Bulletin to faculty members through CommuteWorks.
- Active CommuteWorks member. Participation in and support of MASCO's extensive transportation mitigation efforts whose focus is to encourage commuting to work via transit and other ridesharing programs.

The Winsor School will continue to promote and improve its TDM program to benefit its faculty members and students and reduce traffic impacts to roadways and parking facilities within the nearby neighborhoods.

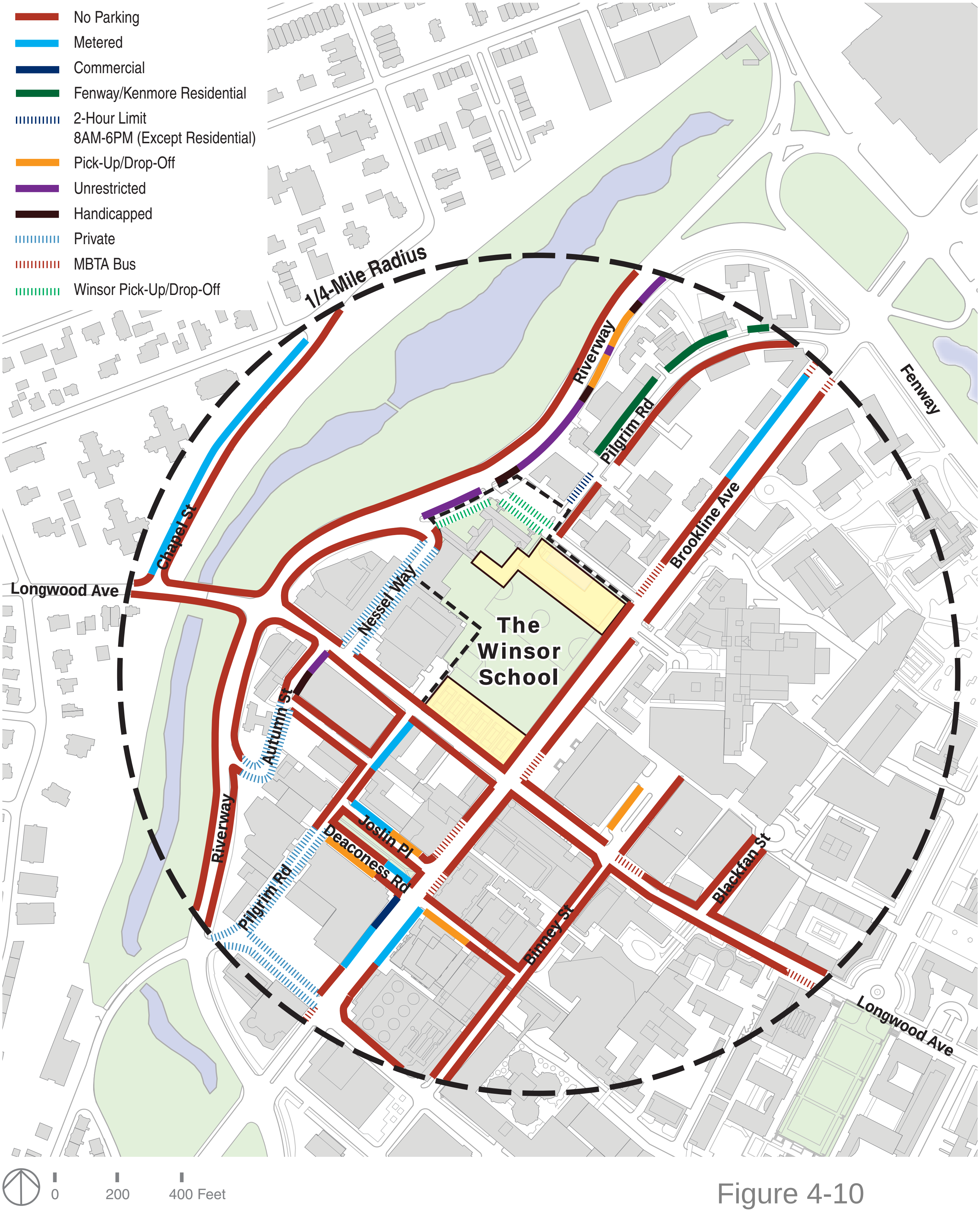


Figure 4-10

The Winsor School

Summary of Area On-Street Parking Regulations

Vanasse Hangen Brustlin, Inc.

	Facility	Total Spaces
1	Longwood Galleria Garage	103
2	BIDMC/Lowry Garage	294
3	BWH Servicenter Garage	643
4	MASCO/375 Longwood Avenue Garage	750
5	BIDMC/Carl J. Shapiro Clinical Center Garage	737
6	CHB 333 Longwood Avenue Garage	495
7	Children's Hospital Boston Patient & Family Garage	643
8	BIDMC/Pilgrim Garage	750
9	CHB/340 Brookline Avenue Garage	450
10	CLSB Garage	750
11	HMS/NRB Garage	561
12	Merck Garage	325
13	Emmanuel Deck	404
14	DFCI/YCCC-Smith Garage	715

Figure 4-11

Evaluation of Long-Term Transportation Impacts

Four scenarios are evaluated for the Proposed Projects including an interim and full build condition, as follows:

- 2015 No-Build Condition assuming no changes to the Proposed Projects, but with background growth associated with other planned projects and general background regional growth;
- 2015 Build Condition assuming the same 2015 No-Build Condition, plus the Pilgrim Road Project, and a temporary 112-space interim surface parking lot on the Longwood Avenue site.
- 2020 No-Build Condition assuming no changes to the Proposed Projects, but with background growth associated with other planned projects and general background regional growth; and
- 2020 Build Condition assuming all Proposed Projects are completed and fully occupied including the Pilgrim Road Project (with 148 below-grade parking spaces, the Longwood Avenue Project, including 346 below-grade parking spaces, and the Courtyard Addition Project).

■

No-Build Condition

The 2015 and 2020 No-Build Conditions were each developed and analyzed to evaluate future transportation conditions in the Study Area without consideration of Proposed Projects.

These future analysis years represents a five-year and 10-year horizon from the 2010 Existing Condition. Under the No-Build Conditions, anticipated increases in traffic activity on Study Area roadways due to continued general area-wide traffic growth and approved developments in the area are added to the defined morning and evening peak hour traffic networks.

Step 1 - Account for General Background Traffic Growth

The first step in projecting No-Build traffic volumes was to estimate general area-wide traffic growth and determine an annualized growth rate that could be applied to existing condition peak hour traffic volumes to reasonably account for future through traffic growth in the project Study Area.

Based on the share of through traffic and the historical rate of traffic growth on LMA roadways through traffic and background traffic growth has been accounted for within the 2015 and 2020 No-Build Conditions utilizing an annual growth rate of 0.5

percent per year from 2010. This rate has been used in support of several recently approved LMA development projects and is a conservative rate of growth given the historical trend of traffic growth in the area (which has been flat for approximately the past 10 years).

Step 2 – Development Projects

There are currently fourteen (14) approved or planned development projects that are expected to have an influence on future year peak hour traffic volumes on Study Area roadways and intersections. A description of each planned project and/or master plan is provided below.

- Children's Hospital Boston's Main Building Expansion includes an addition to the CHB Main Building along Binney Street. This building will include 112,000 square feet of hospital space (105,000 net new square feet) in a 10-story tower. The existing 7,000 sf temporary building on Binney Street will be demolished to accommodate construction logistics and lay-down space, allowing for the implementation of the expansion to the Main Building. No new parking will be provided in connection with this project. This project is expected to be completed in 2012.

- Dana-Farber Cancer Institute has constructed a 13-story, 275,000 SF clinical and research facility – the Yawkey Center for Cancer Care. This state-of-the-art facility includes much needed clinical programs and support space, a new main lobby, retail space, patient and family services, and a below grade 460 space parking garage (with 217 net new parking spaces). This project opened in February 2011.

- Wentworth Institute of Technology Institutional Master Plan. The Wentworth Institute of Technology plans four projects: 46,000 Student Center, new student residence, 40,000 square foot academic addition and a 400 space parking structure. It is anticipated that this project will not have a noticeable impact on future peak hour traffic activity within the LMA and is therefore not included in the No-Build peak hour traffic networks.

- Longwood Center, previously permitted as the Joslin Diabetes Center Expansion, includes a 350,000 square foot of life science building with ground floor retail space. Parking will be provided for approximately 290 vehicles. As part of the project, Pilgrim Road will be made two-way adjacent to the site. This project is currently on hold, but has been assumed to be complete and fully occupied by 2015.

- Longwood Research Institute, formerly Longwood North Research Center, is a 440,000 SF state-of-the-art research and laboratory facility that is planned to include 330 underground parking spaces. Construction of the LRI by

Children's Hospital Boston is expected to commence in the forthcoming few years – although a specific date of commencement is not known. For this study, we have assumed that this project will be open and fully occupied by 2015.

- Brigham Green Parking and Enhancement Project includes the construction of a 400-space underground garage (249 net new parking spaces) in front of the existing Peter Bent Building at 15 Francis Street. This parking garage will be connected internally to the BWH campus at the existing patient drop-off area located at 45 Francis Street to reduce traffic on Francis Street. This construction will allow for landscaped open space above the parking facility at grade.

- Massachusetts Mental Health Center Redevelopment includes four new buildings: The Residential Building will include up to 165 units; the Brigham and Women's Building will provide 358,670 sf for research and clinical uses and DMH outpatient clinical and office space; the Binney Street Building will provide 16,000 sf of outpatient clinic space and 40,540 sf of administrative space. Partial Hospital/Fenwood Inn will include a 42 bed transitional shelter program for homeless, mentally ill men and women, a 5 bed crisis stabilization unit and 8,260 sf of partial hospital and outpatient treatment space. The project also includes 406 below grade parking spaces.

- Fenway Triangle Mixed Use Project includes two new buildings: 1325 Boylston Street will include ground-floor retail and lobby space with anchor retail uses above on the second and third floors. Storage supporting the retail use will be located on the fourth level. Above the retail space will be approximately 225,000 square feet of office space and approximately 140 residential units. 132 Brookline Avenue includes approximately 150 residential units and up to 5,000 square feet of street level retail space. Parking will be provided below grade for up to 575 vehicles for both buildings.

- Landmark Center North is an addition project totaling 308,337 square feet at the Landmark Center. The project includes built-in flexibility for both office and laboratory use to be built over the existing garage of the existing Landmark Center.

The background development projects were all added to the 2015 No-Build Condition with the exception of the Brigham and Women's Building at the Massachusetts Mental Health Center Redevelopment. This building is not expected to be built by 2015, and as such, was included in the 2020 No Build Condition only.

Step 3 – Infrastructure Changes

Over the next several years, many important transportation improvement and mitigation actions are planned to be put in place to support transportation access to and from the LMA. This section lists those improvements that are expected to be constructed and fully operational in connection with other area development projects under the 2015 and 2020 No-Build and Build Conditions.

- **BIDMC East Campus Main Entrance/Brookline Avenue Intersection** will be improved in connection with Children's Hospital Boston's Longwood Research Institute (LRI) Project. This improvement includes the modification of Brookline Avenue to a 5-lane cross-section to allow for the creation implementation of an exclusive left-turn lane at the signalized entrance into the BIDMC East Campus for traffic travelling southbound on Brookline Avenue.

- **BIDMC Binney Connector** includes the creation implementation of a two-way access open to public travel between the BIDMC East Campus Main Entrance on Brookline Avenue and Binney Street. This improvement will also be put in place in connection with the BIDMC Institutional Master Plan and Children's Hospital Boston's LRI Project.

- **Pilgrim Road Corridor Improvements** include modification of Pilgrim Road into a two-way street between Longwood Avenue and Joslin Place in connection with the Longwood Center Project. This improvement will help to reduce traffic volumes at the Brookline Avenue/Deaconess Road on Longwood Avenue.

- **Longwood Avenue/Brookline Avenue Improvements** includes the modification of the existing corner radius at the northwest corner of this intersection to help provide for more efficient turning movements by trucks. A part of these improvements is planned as part of the Longwood Center project.

The 2015 and 2020 No-Build Condition weekday morning and evening peak hour traffic volumes were developed by increasing the 2010 Existing Condition volumes to include general background traffic growth as previously described, and adding traffic volumes associated with the site-specific projects and infrastructure changes discussed above. **Figures 4-12** thru **4-15** present the 2015 and 2020 No-Build Condition traffic volume networks for the morning and evening peak hours, respectively.

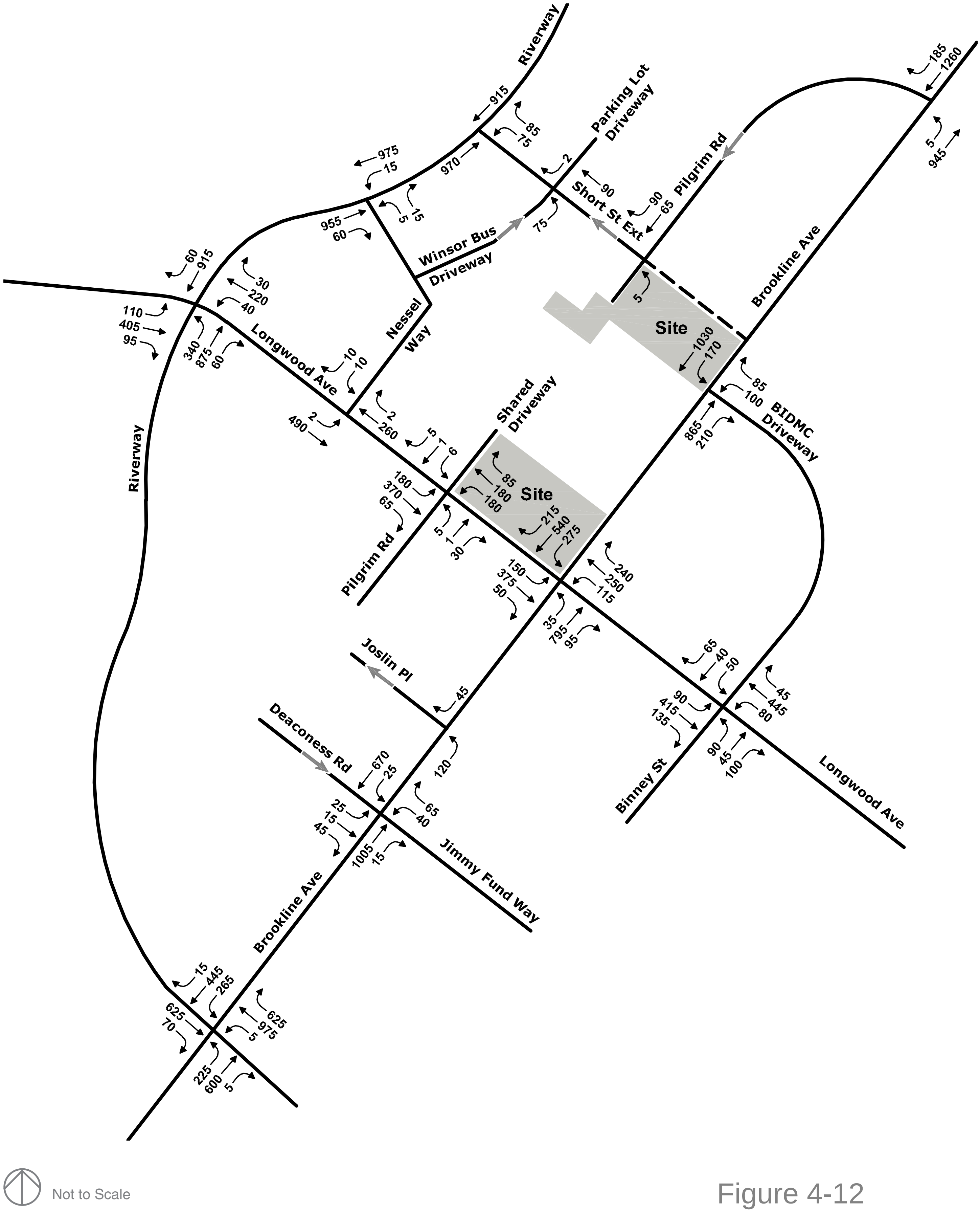


Figure 4-12

The Winsor School

2015 No-Build Condition
AM Peak Hour Traffic Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

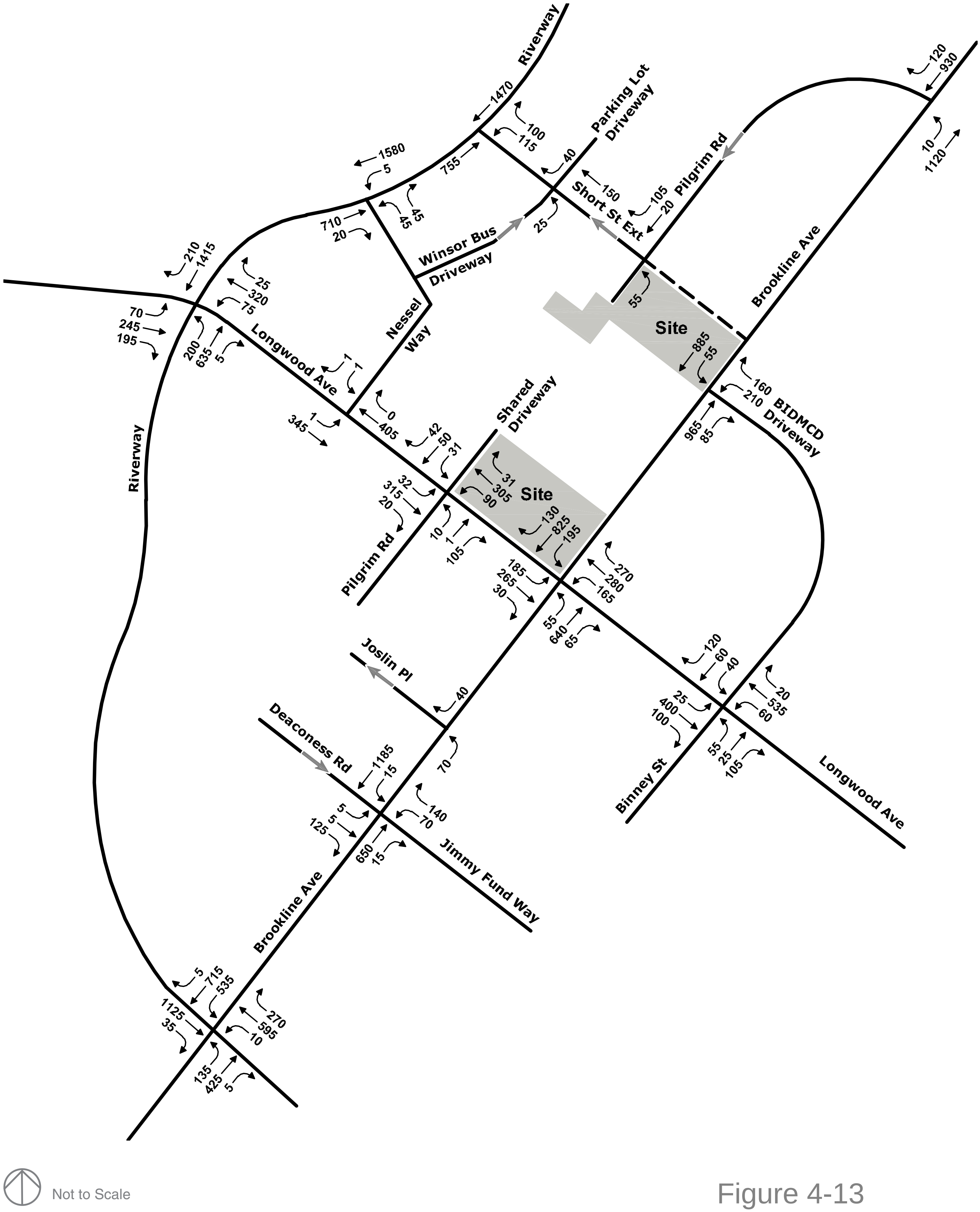
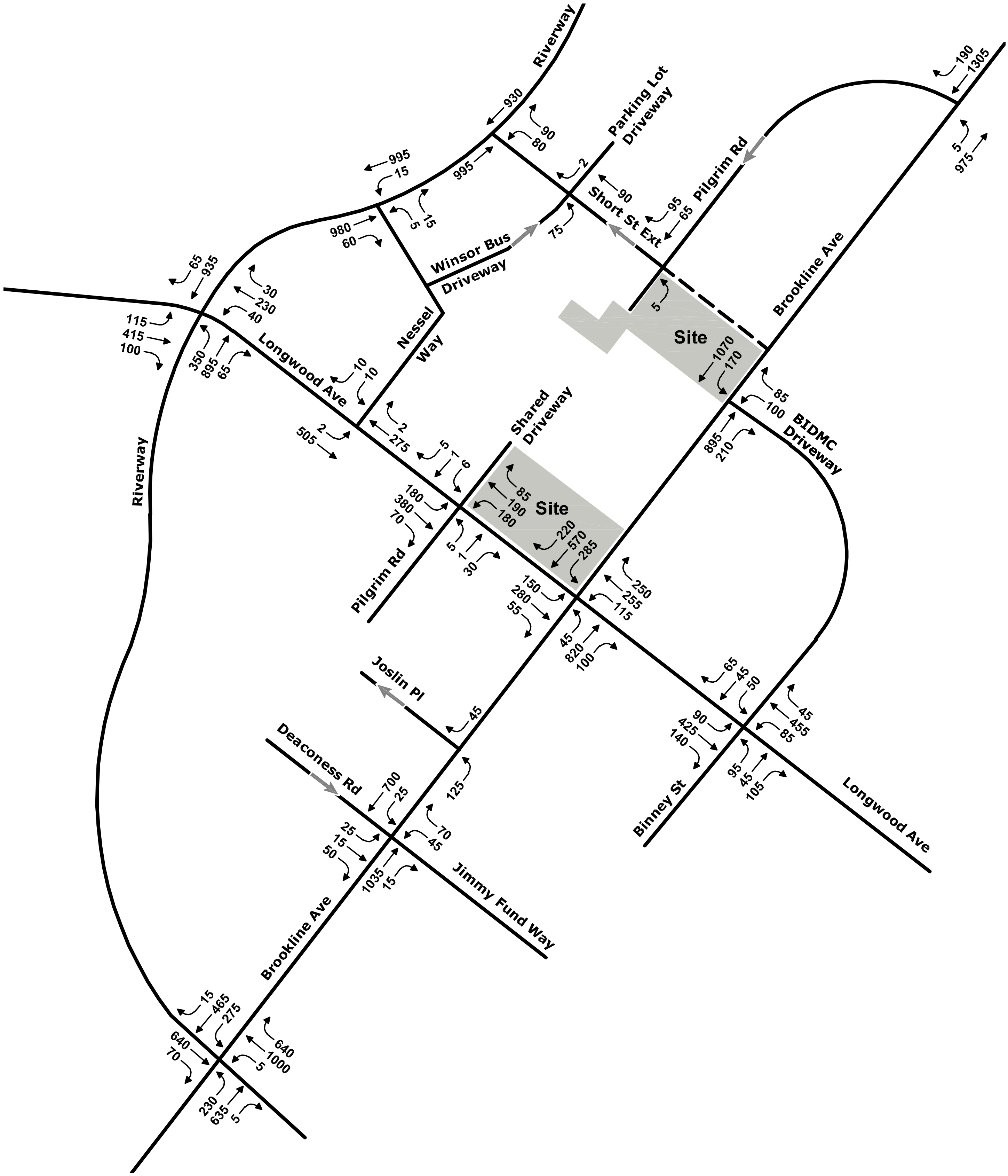


Figure 4-13

The Winsor School

2015 No-Build Condition
PM Peak Hour Traffic Volumes
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.



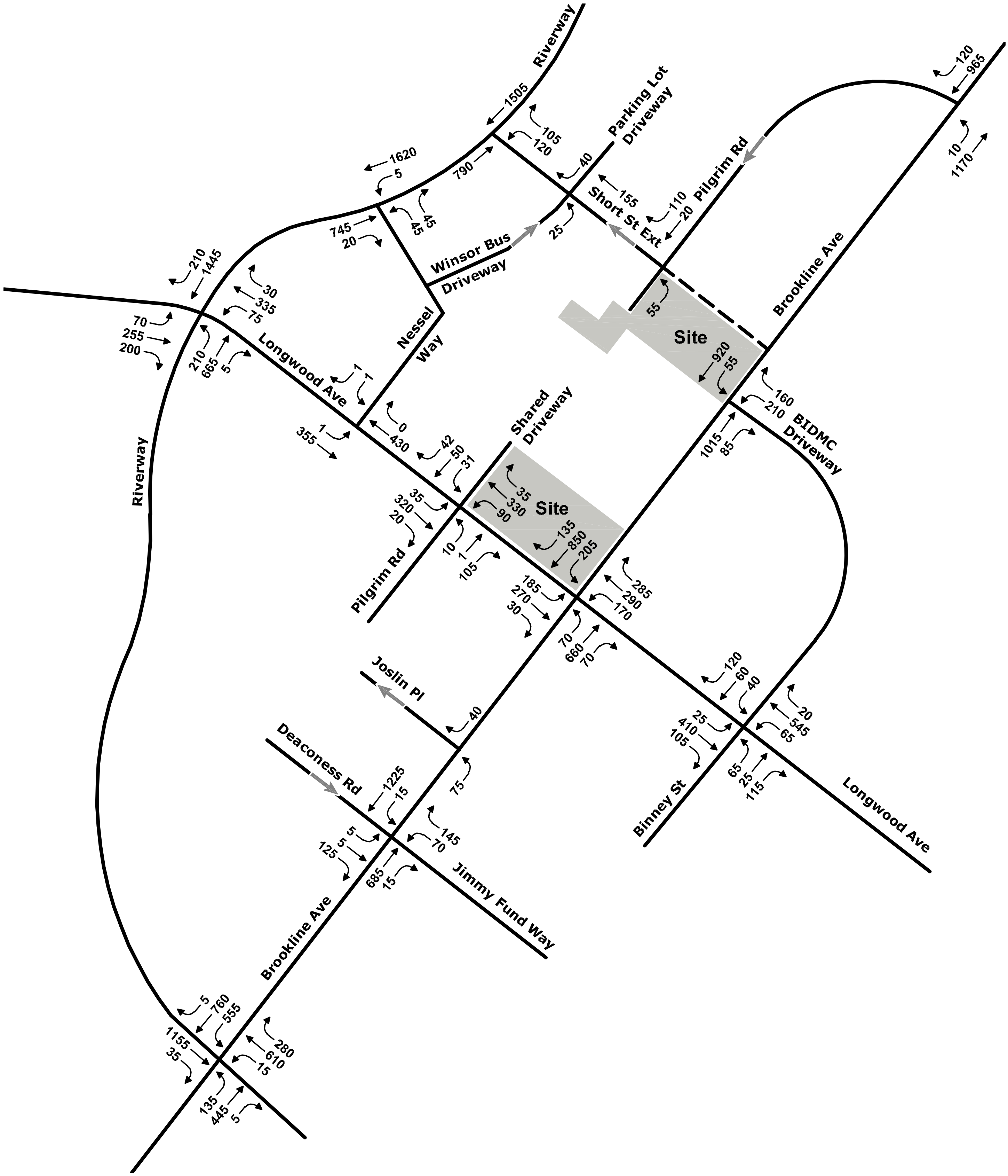
Not to Scale

Figure 4-14

The Winsor School

2020 No-Build Condition
AM Peak Hour Traffic Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.



Not to Scale

Figure 4-15

The Winsor School

2020 No-Build Condition
PM Peak Hour Traffic Volumes
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.

Urban Ring

Currently, the MBTA provides circumferential transit services in the area via its existing Crosstown bus routes (CT2 and CT3). These existing routes are characterized as elements of Urban Ring Phase 1. Over the past several years, MassDOT had been conducting long-term transit planning for improved circumferential transportation in the Urban Ring corridor in addition to the existing Crosstown routes. The Urban Ring project was planned to be implemented in three phases, described as follows:

Phase 1 of the Urban Ring project would expand current Crosstown bus routes by four routes and one Express Commuter route. The new CT routes will serve Franklin Park Zoo (CT7), Sullivan Square (CT8), JFK/UMass Station (CT10), and Fields Corner Station (CT11). Additionally, the existing CT2 will be extended to Sullivan Square. A new Express Commuter (EC) service was proposed in the Urban Ring Major Investment Study, however it has not been recommended for implementation due to low ridership projections.

Phase 2 of the Urban Ring project could include the replacement of existing Crosstown bus routes with Urban Ring Bus Rapid Transit (BRT) services. Within the LMA, the proposed BRT will operate with several routes between the Sears Rotary, Oscar Tugo Circle, and onward to Ruggles Station.

It was envisioned that over the long-term, the proposed BRT could operate in a tunnel through the LMA with the potential for light rail transit (LRT) or heavy-rail transit (HRT) under Phase 3 of the Urban Ring project. As contemplated, the tunnel could enter the LMA near Huntington Avenue and Ruggles Street (west of Ruggles Station), continue underneath Longwood Avenue and north, ultimately connecting to the new Yawkey Commuter Rail Station near Maitland Street and Beacon Street in the Kenmore/Fenway area. Near the Winsor School, MassDOT has identified multiple potential alignments for the future tunnel provision, including one possible alignment along Brookline Avenue, another along Longwood Avenue, and a third alternative through Winsor School property. In all cases, it is unclear as to the special needs of these tunnel alternatives or their intended depth. Continued planning for the Urban Ring has been suspended by MassDOT – with no defined restart to the project or future permitting activities and there was no preferred tunnel alignment selected. The Proposed Projects do not preclude future planning, permitting, or construction of an Urban Ring tunnel that could connect the LMA to Yawkey Station.

■

Build Condition

The 2015 and 2020 Build Condition were each developed in order to evaluate the future transportation conditions associated with the phased project build-out in the Study Area. The Build Condition takes into account the changes and growth established as part of the 2015 and 2020 No-Build Condition presented previously and also accounts for the changes that will occur with the proposed Winsor School Projects. Site plans for the 2015 Build and 2020 Build conditions are shown in **Figures 4-16 and 4-17.** A summary of the complete building program is shown in **Table 4-5.**

Table 4-5
Winsor School Campus Projects
Building Program

Winsor Campus Project	Program Use	Size (GSF)
Pilgrim Road Project	Academic	110,000
Courtyard Addition Project	Academic	30,000
Main Building Infill Project	Academic	3,000
Longwood Avenue Project	R&D/Life Sciences	233,000
	Medical Office	30,000
	General Office	30,000
	Retail	7,000
Subtotal Longwood Ave Project		300,000
Total Winsor Campus Projects		443,000

Proposed Development Projects

2015 Build Condition

The 2015 Build Condition includes the following Projects:

- **Pilgrim Road Project**: an academic building of approximately 110,000 square feet, to be located on the site of Winsor's existing surface parking lot and outdated gymnasium building, near the corner of Pilgrim Road and Short Street Extension.

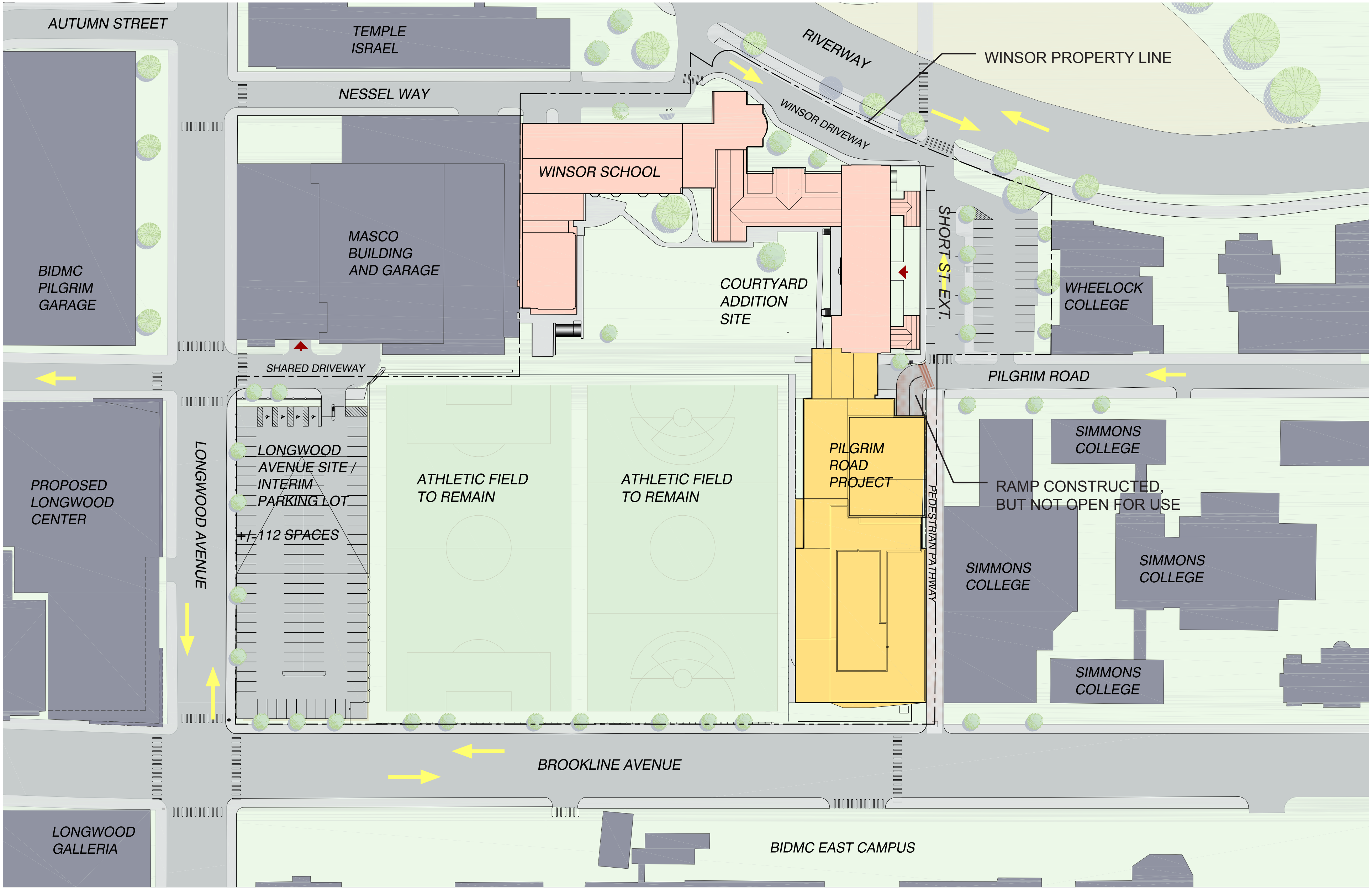


Figure 4-16

The Winsor School

Proposed Interim Condition

William Rawn Associates,
Architects, Inc.

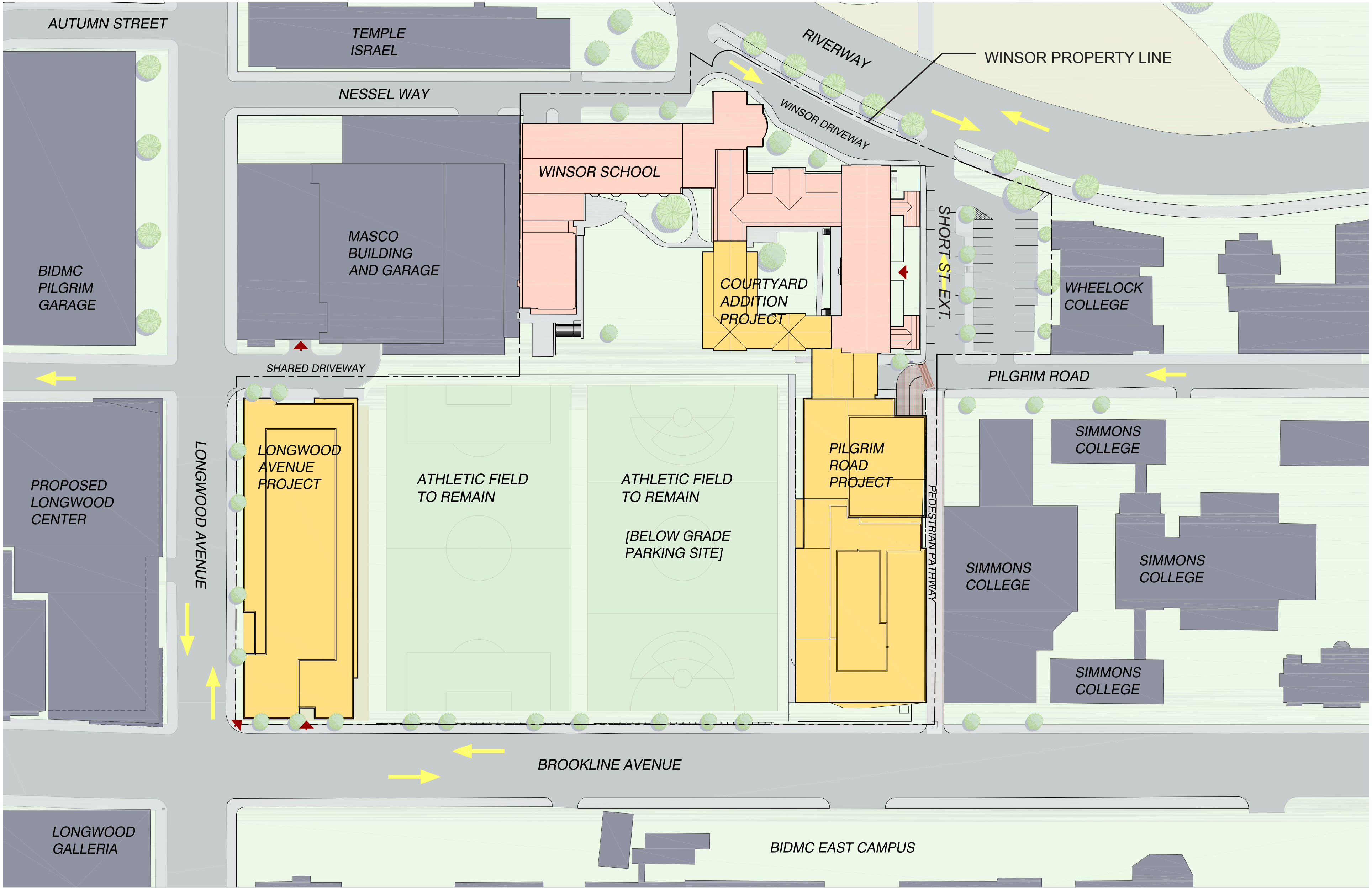

AUTUMN STREET
TEMPLE ISRAEL
NESSEL WAY
RIVERWAY
WINSOR PROPERTY LINE
WINSOR DRIVEWAY
WINSOR SCHOOL
MASCO BUILDING AND GARAGE
BIDMC PILGRIM GARAGE
COURTYARD ADDITION PROJECT
SHORT ST. EXT.
WHEELOCK COLLEGE
SHARED DRIVEWAY
PILGRIM ROAD
LONGWOOD AVENUE PROJECT
ATHLETIC FIELD TO REMAIN
ATHLETIC FIELD TO REMAIN
[BELOW GRADE PARKING SITE]
PILGRIM ROAD PROJECT
PEDESTRIAN PATHWAY
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
SIMMONS COLLEGE
PROPOSED LONGWOOD CENTER
LONGWOOD AVENUE
BROOKLINE AVENUE
LONGWOOD GALLERIA
BIDMC EAST CAMPUS

Figure 4-17

- Interim surface parking for 112 vehicles on the Longwood Avenue Project site relocated from the Gymnasium Lot to allow for the Pilgrim Road Project to be constructed (resulting in 40 net new parking spaces for the interim condition). Access and egress to this lot will be provided via the shared Winsor/MASCO driveway.

- **Figure 4-16** (previously presented) illustrates the access conditions that can be expected when this project and supporting interim parking are put in place.

2020 Build Condition

The 2020 Build Condition analysis incorporates the following Projects:

- Parking garage for approximately 148 spaces below-grade to support the 2015 Pilgrim Road Project and Courtyard Addition Project beneath the adjacent playing field in a single level with access via Pilgrim Road (resulting in 76 total net new parking spaces for the Winsor School). After construction of the single-level, below-grade parking is completed; the existing playing field will be restored.

- Longwood Avenue Project: a new 10-story mixed-use building of approximately 300,000 square feet to be dedicated to various uses consistent with Winsor's Longwood Medical and Academic Area (LMA) context, to be located at the corner of Brookline Avenue and Longwood Avenue. The Longwood Avenue Project also contemplates approximately 346 parking spaces below-grade with access via the shared Winsor/MASCO driveway. This project will also include a dedicated loading and service facility located along the shared Winsor/MASCO driveway.

- Courtyard Addition Project: a new wing to be added to the existing Winsor academic complex, comprising approximately 30,000 square feet, located at the southwest corner of the existing courtyard surrounded by academic buildings.

Figure 4-17 (also presented previously) illustrates the access conditions that can be expected when these projects are put in place. Once fully complete, access to the Winsor School will be as it exists today – via Pilgrim Road with egress via Short Street Extension. Access to the Longwood Avenue Project will be via the shared Winsor/MASCO driveway, and may be supported by the potential signalization of the intersection of this driveway with Longwood Avenue and Pilgrim Road if warranted, plus curb radius improvements at this intersection and the intersection of Longwood Avenue and Brookline Avenue.

Trip Generation

2015 Build Condition: Pilgrim Road Project

To determine future 2015 Build Condition Winsor School trip generation, existing vehicle trip generation was first quantified based on the existing travel characteristics of Winsor students, faculty, and staff. Existing trends characteristics were then applied to the projected staff and student populations with completion of the proposed Winsor academic projects (i.e., the Pilgrim Road Project and Courtyard Addition Project). It is assumed that all student and employee growth will occur by 2015 even though the Courtyard Addition Project will not be completed until sometime after 2015.

The use of Institute of Transportation Engineer's (ITE) trip generation rates was investigated for the Proposed Projects. However, the resulting trip estimates based on ITE rates were not consistent with existing trends at the school. The planned campus projects are not anticipated to support any major future growth in faculty/staff or student population size. As a result, use of ITE based methodology to support project growth in school-related trip making would result in a gross overestimation of expected traffic growth.

Detailed traffic counts, including bus activity and student drop-off and pick-up were conducted in December 2010 during the morning and evening peak hours. Based on a current student population of 436 and faculty/staff population of 110, the existing daily trip generation was calculated. As shown in **Table 4-6**, the daily trip generation is 954 daily vehicle trips based on existing commuter trends.

Future daily trip generation was then estimated based on anticipated increases in the respective student and faculty/staff populations. As currently planned, it is expected that the student population could increase by only about 25 total students (an approximate 6 percent increase). Similarly, the Winsor faculty/staff population is expected to increase by only 15 to 125 total employees (an approximately 14 percent increase). The future daily trip generation accounting for the estimated population growth is also shown in **Table 4-6.**

Table 4-6
Daily Vehicle Trip Generation
Courtyard Expansion & Pilgrim Road Project

Time Period	Existing Daily Trips	2015 Daily Trips	Net-New 2015 Daily Trips
Employees	178	214	36
Students	696	734	38
Deliveries & Visitors	80	80	0
Adjusted Total	954	1,028	74

Note: Assumes increase of 15 employees and 25 students. Student estimates include buses and parent drop-off/pick-up.

Results of the existing peak hour vehicle trips and estimated future vehicle trips are shown in **Table 4-7.** These peak hour estimates include drop-off and pick-up activity.

Table 4-7
Peak Hour Vehicle Trip Generation
Courtyard Expansion & Pilgrim Road Project

	Existing Trips			2015 Total Trips			Net-New Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hour									
Faculty/Staff	77	6	83	87	7	94	10	1	11
Students	161	147	308	169	155	324	9	8	17
Total AM Peak	238	153	391	256	162	418	19	9	28
PM Peak Hour									
Faculty/Staff	21	94	115	24	107	131	3	13	16
Students	23	26	49	24	27	51	1	1	2
PM Peak Hour	44	120	164	48	134	182	4	14	18

Note: Assumes increase of 15 employees and 24 students. Student estimates include buses and parent drop-off/pick-up.

The student and employee growth at the school will generate 28 new vehicle trips during the morning peak hour and 18 trips during the evening peak hour. Since not all students and employees drive to Winsor School, there will also be some additional transit, bicycle, and walk trips.

2020 Build Condition

Trip generation estimates for the Longwood Avenue Project were based on standard Institute of Transportation Engineers (ITE) rates from the following Land Use Codes (LUC):

- LUC 760 - Research & Development Center (rates per 1,000 gross square feet of area)
- LUC 720 – Medical-Dental Office Building (rates per 1,000 gross square feet of area)
- LUC 820 – Retail Shopping Center (rates per 1,000 square feet of leasable area)

ITE trip generation rates are generally typical of suburban locations and reflect little to no transit access. According to BTD Guidelines for the LMA which are based on 2000 Census data, only 47 percent of peak hour employee trips are vehicles trips as shown in **Table 4-8.**

Table 4-8
BTD Peak Hour Mode Share Guidelines

	Automobile	Transit	Walk/Bike/Other
R&D	47%	33%	20%
Office	47%	33%	20%
Medical	42%	32%	26%
Retail	42%	32%	26%

In addition to the traffic generated by the program space in the Longwood Avenue Building, some of the proposed parking supply was assumed to generate additional traffic beyond the traffic generated by the new building – taking into account the mode shares indicated in Table 4-8. Using data from nearby garages in the LMA, approximately 20 percent of the spaces fill during the morning peak hour and 22 percent empty during the evening peak hour. On a daily basis, the spaces turnover approximately two times. These trips generated by the surplus parking spaces were added to the project totals.

Table 4-9 presents the resulting projected trip generation for the Longwood Avenue Project after the BTD mode split guidelines were applied.

Table 4-9
Trip Generation Summary
Longwood Avenue Project

	Vehicle			Transit			Walk/Other		
Time	In	Out	Total	In	Out	Total	In	Out	Total
Daily	1,189	1,189	2,378	569	569	1,138	678	678	1,358
AM Peak Hour									
R&D	111	23	134	93	19	112	57	12	69
Office	19	3	22	16	2	18	10	1	11
Medical	23	6	29	31	8	39	26	7	33
Retail	2	1	3	2	2	4	2	1	3
Ancillary Parking	24	2	26	0	0	0	0	0	0
Total AM	179	35	214	142	31	173	95	21	116
PM Peak Hour									
R&D	18	100	118	13	71	84	11	64	75
Office	4	17	21	3	12	15	2	11	13
Medical	12	32	44	16	44	60	13	35	48
Retail	5	6	11	7	8	15	6	6	12
Ancillary Parking	7	25	32	0	0	0	0	0	0
Total PM	46	180	226	39	135	174	32	116	148

Trip Distribution

Project trips for the 2015 and 2020 Build Conditions were next distributed through the Study Area intersections. The 2015 Build Condition trips associated with the future Winsor School growth were assigned to the temporary surface parking lot. Trip assignment associated with the interim parking lot also included the redistribution of trips from the existing Gymnasium parking since these vehicles will be temporarily relocated to allow for construction activities connected with the construction of the Pilgrim Road Project.

The 2020 Build Condition trip distribution reassigns the trips previously assigned to the temporary parking lot in the 2015 Build Condition to the new Pilgrim Road Project parking garage via Pilgrim Road. In addition, trips generated by the Longwood Avenue Project were assigned to the new garage at the Longwood Avenue Project site via the shared Winsor/MASCO driveway using BTD distributions to/from Area 5 (LMA/Mission Hill).

Under both the 2015 and 2020 Build Conditions, the Winsor School will ensure that strict policies are put in place to prohibit motorists that exit the temporary surface parking lot (under defined Interim Conditions) as well as the future Longwood Avenue Garage (under Full Build Conditions) from exiting that site via the existing MASCO drop-off area (that connects the shared Winsor/MASCO driveway to Nessel Way). Additionally, Winsor will also ensure that motorists from the Longwood Avenue Project site do not make use of Nessel Way as a means of egress under both the Interim and Full Build Conditions.

Results of the corridor trip assignment for the Winsor School trips associated with the Pilgrim Road Project and the Courtyard Addition Project as well as the trip assignment for the Longwood Avenue Project are summarized in **Table 4-10** and **Figures 4-18 and 4-19.**

Table 4-10
Trip Distribution Assignment

Corridor	Courtyard Addition & Pilgrim Road Projects*	Longwood Avenue Project **
Brookline Ave to/from East	47%	35%
Brookline Ave to/from West	15%	30%
Longwood Ave from North	8%	3%
Longwood Ave from South	5%	20%
Riverway to/from West	25%	12%
Total	100%	100%

*Based on existing travel patterns in the Study Area.
** Based on BTD Guidelines

Resulting 2015 project generated trips and Build Conditions volumes are shown in **Figures 4-20 thru 4-23**. The 2020 project generated trips and 2020 Build Condition are shown in **Figures 4-24 thru 4-27.**

Parking

Parking facilities associated with each of the Proposed Projects will be constructed on a phased basis as the Proposed Projects are constructed. As currently planned, the Pilgrim Road Project will be initially constructed without the proposed below-grade parking deck underneath the adjacent athletic field. Under this condition, Winsor will create an interim surface parking lot for faculty, staff and visitors. Upon final completion of the Longwood Avenue Project and the Pilgrim Road Project, Winsor will have constructed a single-level, below-grade parking deck as part of its Pilgrim Road Project (148 spaces, including 76 net new spaces) as well as 346 below-grade parking spaces at the Longwood Avenue Project. A more detailed discussion of the proposed phased parking plan is provided below.

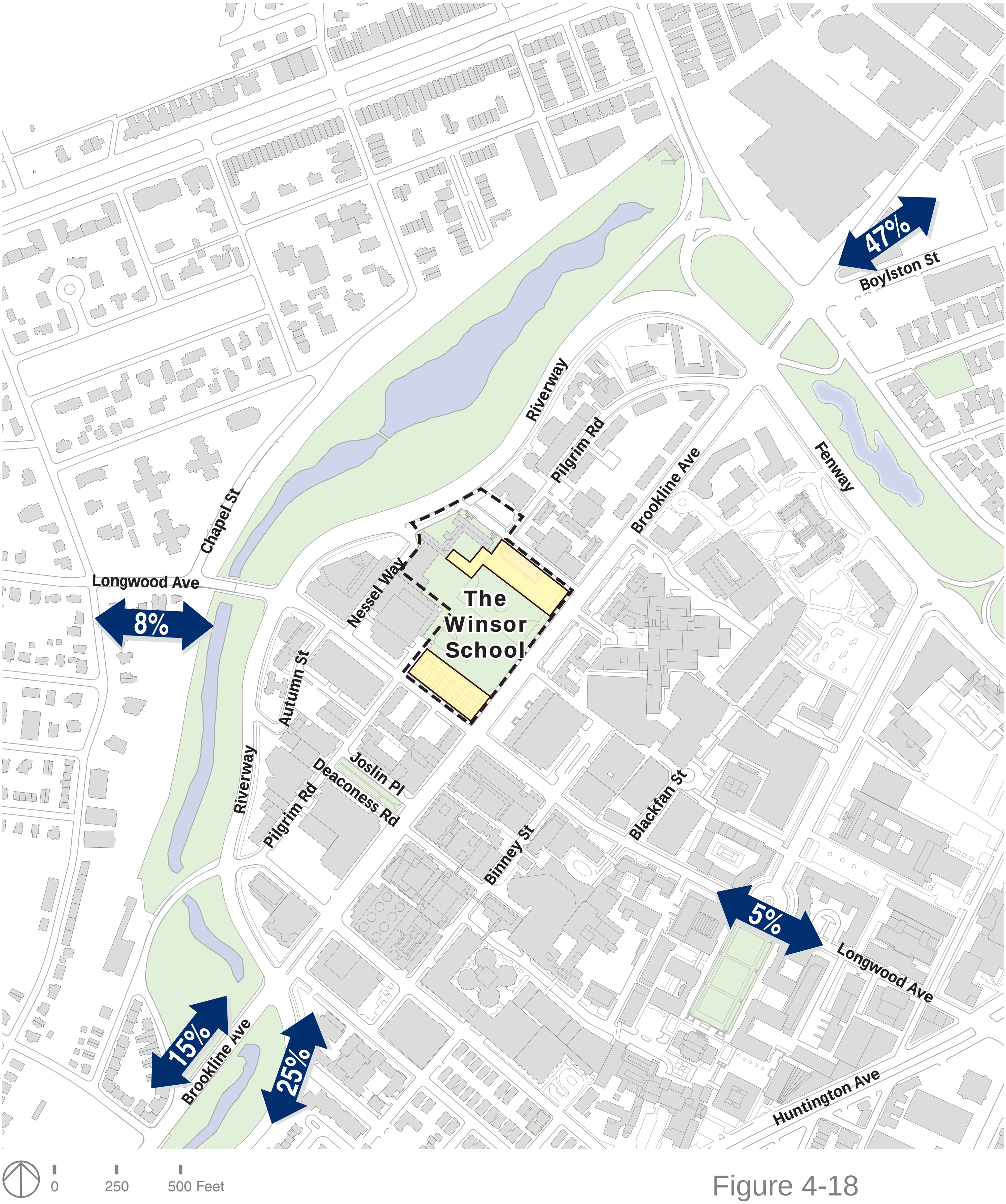


Figure 4-18

The Winsor School

Pilgrim Road and Courtyard Addition Projects
Trip Distribution

Vanasse Hangen Brustlin, Inc.

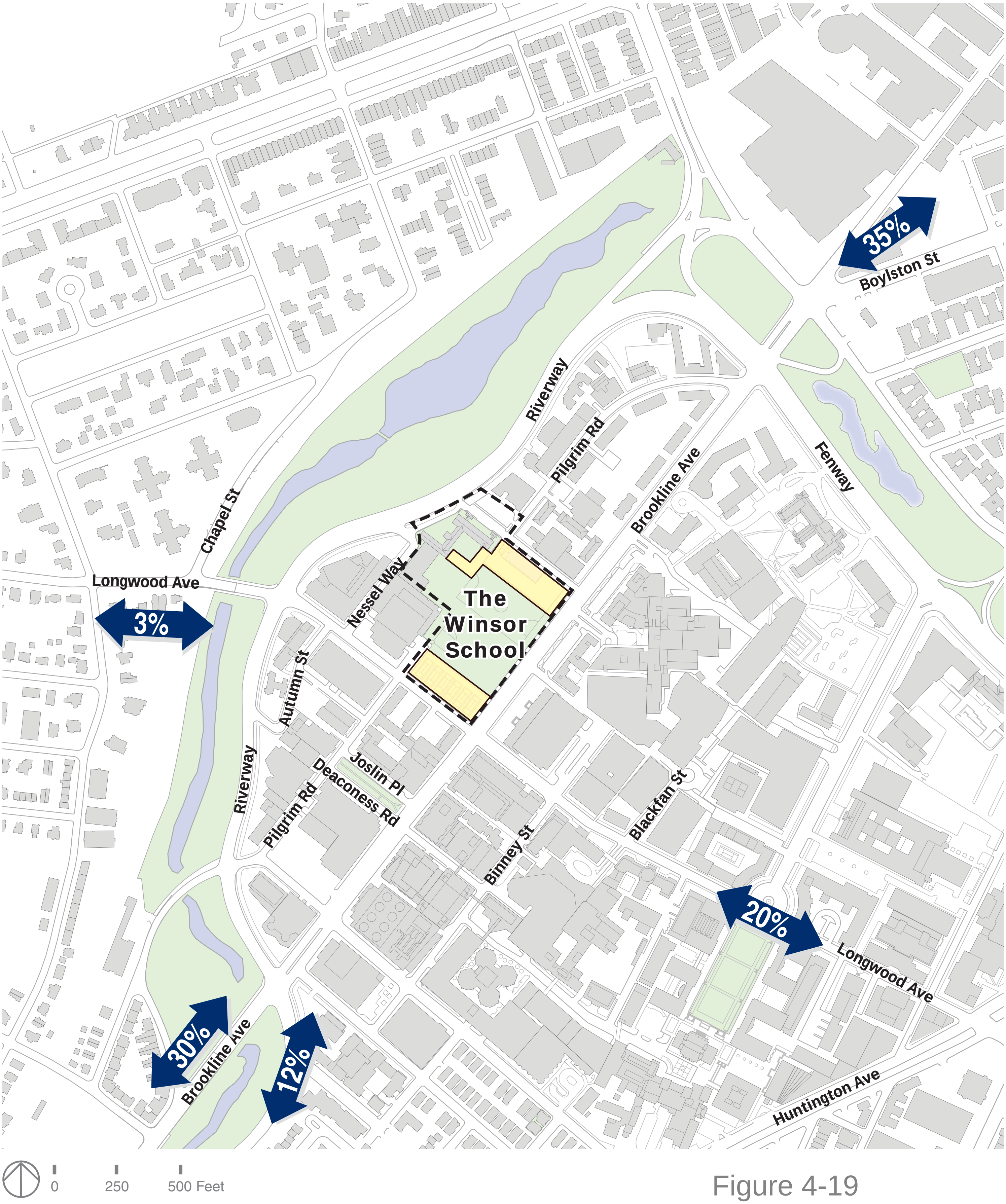
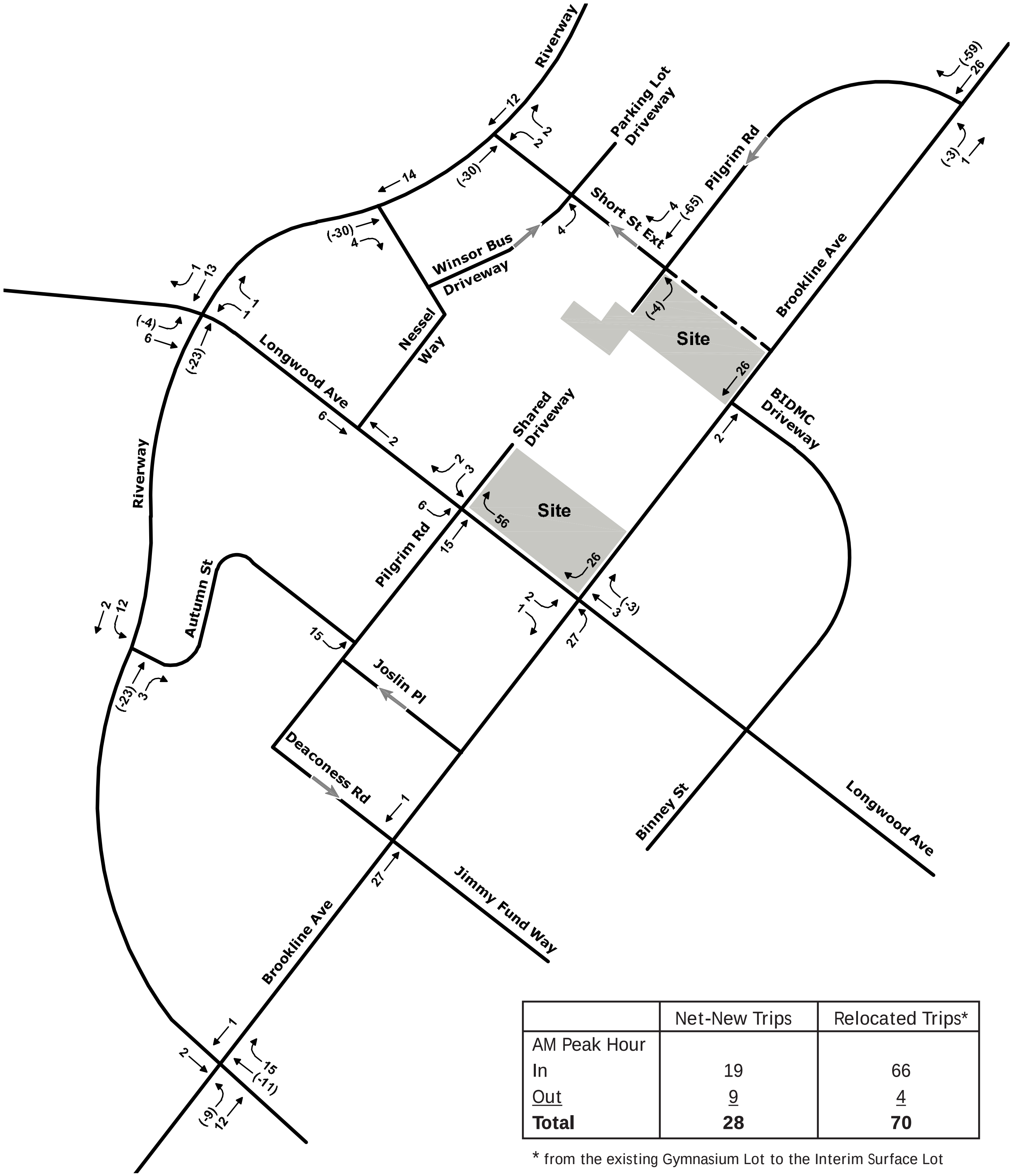


Figure 4-19

The Winsor School

Longwood Avenue Project
Trip Distribution

Vanasse Hangen Brustlin, Inc.



	Net-New Trips	Relocated Trips*
AM Peak Hour		
In	19	66
Out	9	4
Total	**28**	**70**

* from the existing Gymnasium Lot to the Interim Surface Lot

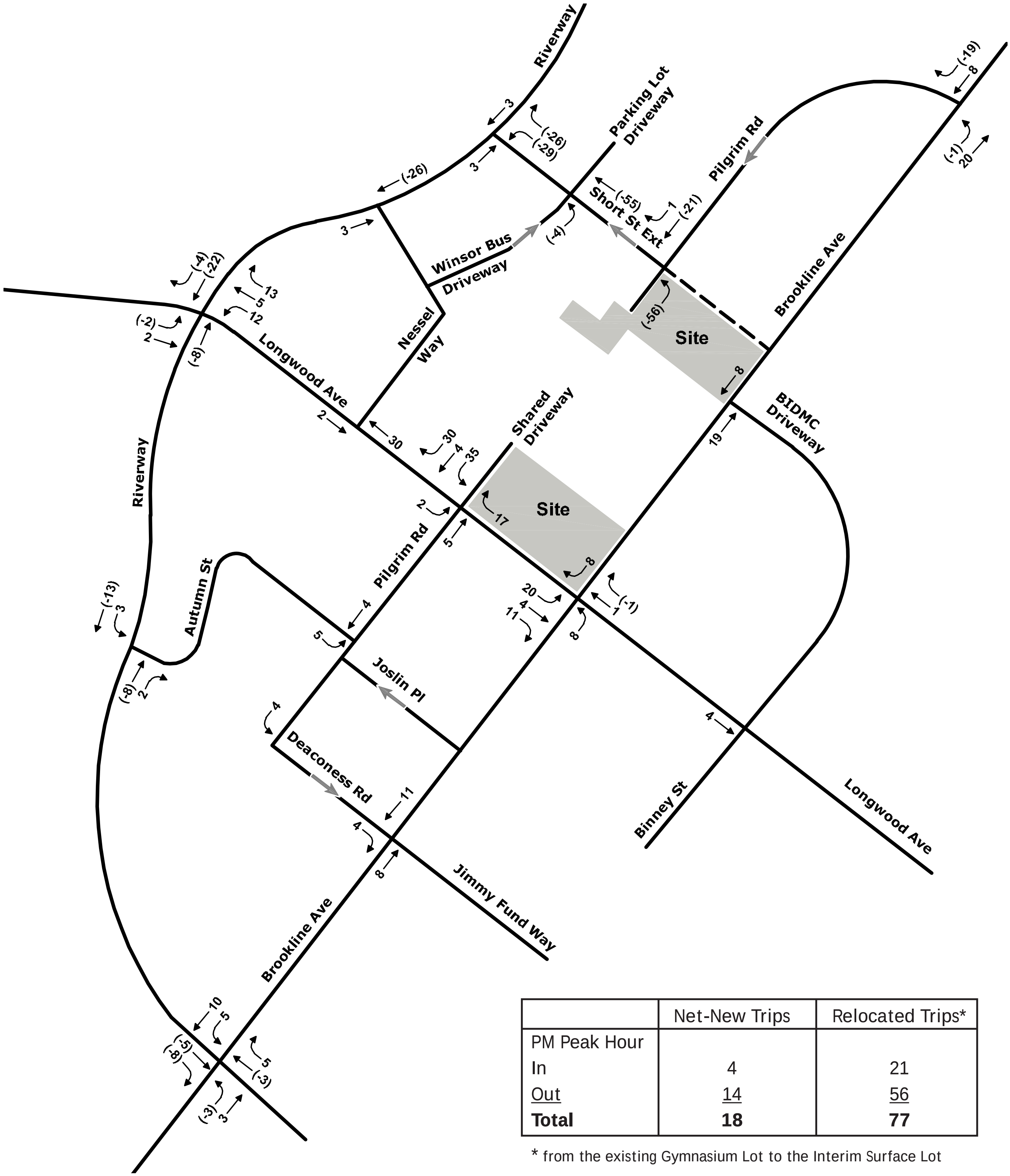
Not to Scale

Figure 4-20

The Winsor School

2015 Build Condition
Project Generated Trips
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

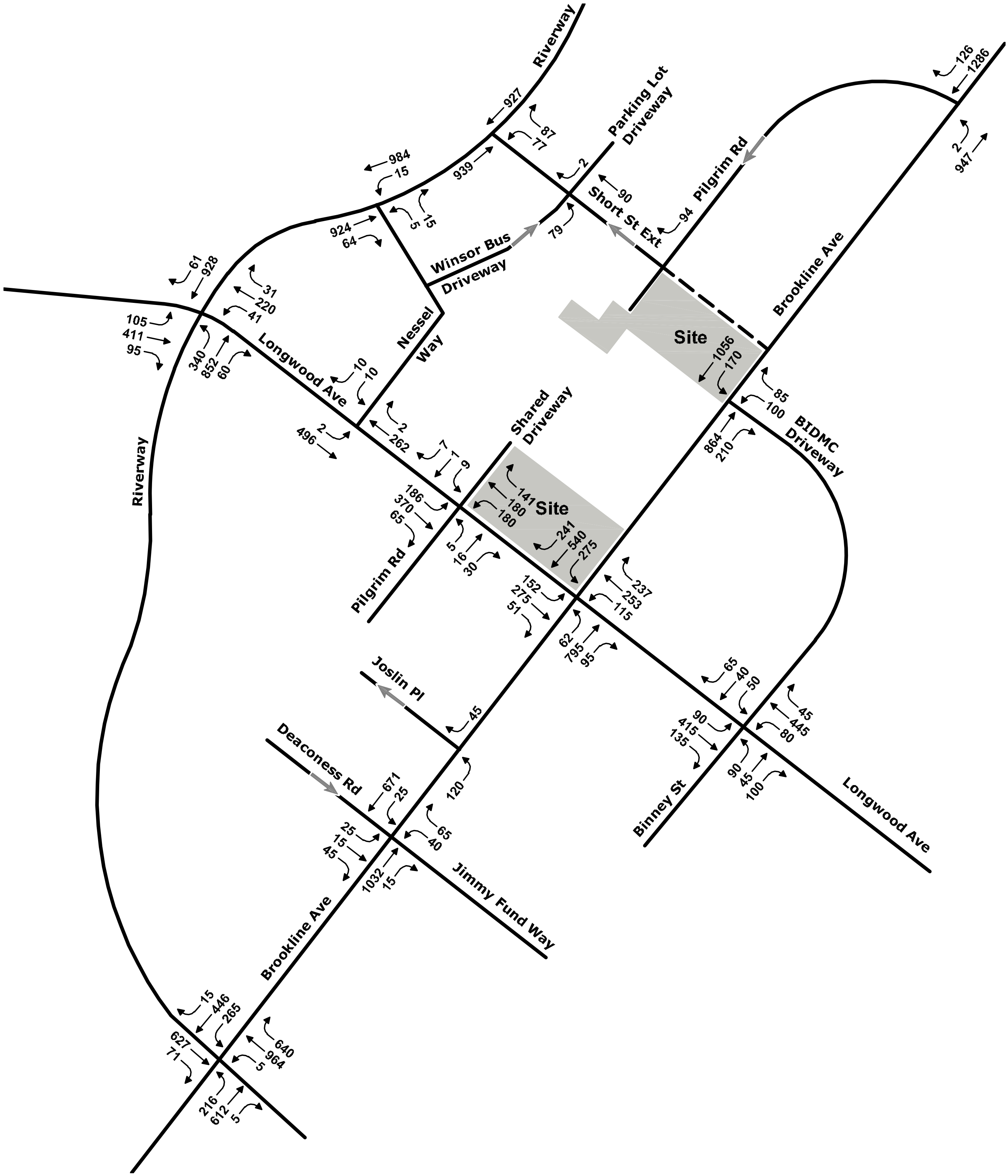


	Net-New Trips	Relocated Trips*
PM Peak Hour		
In	4	21
Out	14	56
Total	**18**	**77**

* from the existing Gymnasium Lot to the Interim Surface Lot

Not to Scale

Figure 4-21



Not to Scale

Figure 4-22

The Winsor School

2015 Build Condition
AM Peak Hour Traffic Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

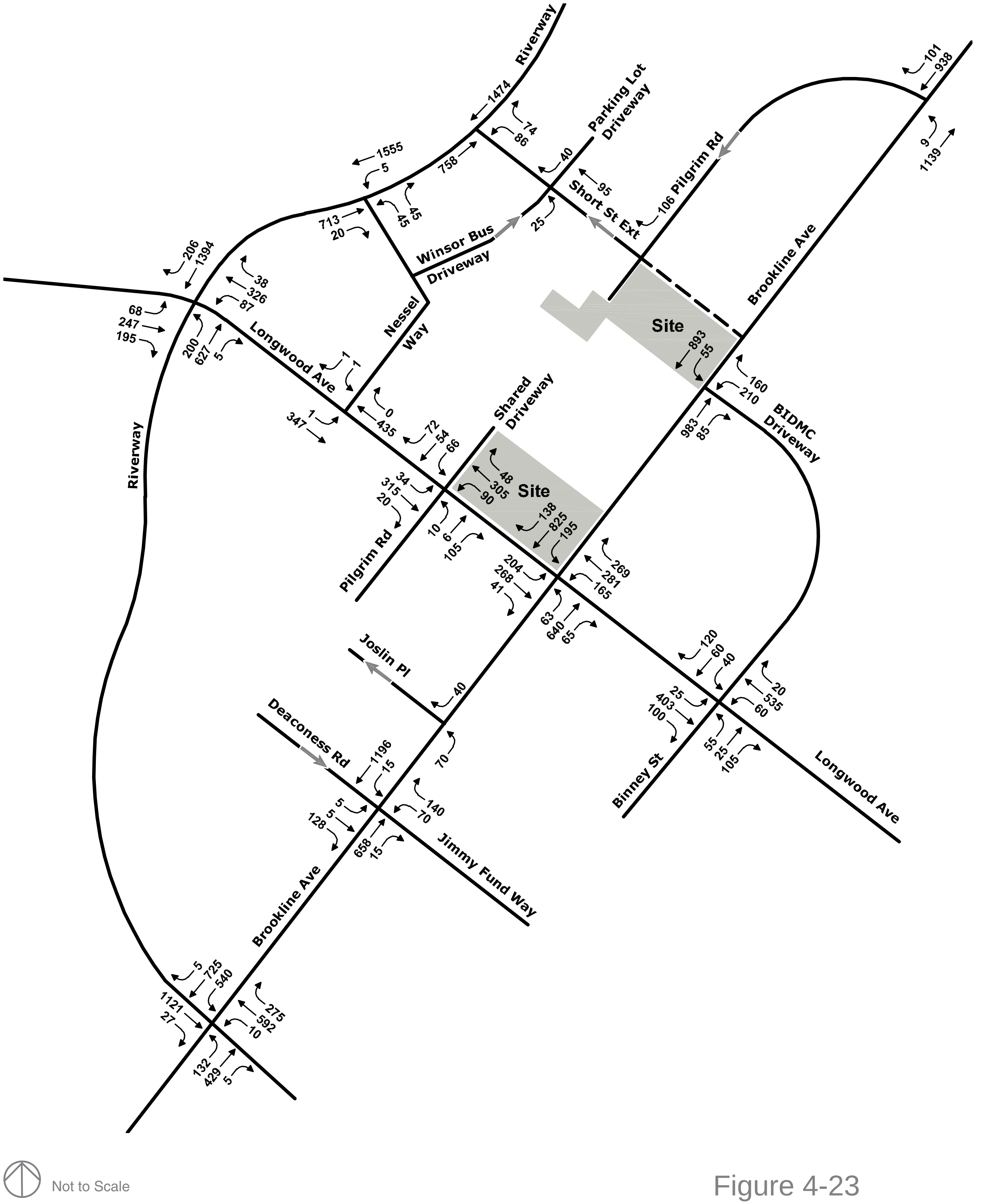


Figure 4-23

The Winsor School

2015 Build Condition
PM Peak Hour Traffic Volumes
5:00 - 6:00 PM

VHB Vanasse Hangen Brustlin, Inc.

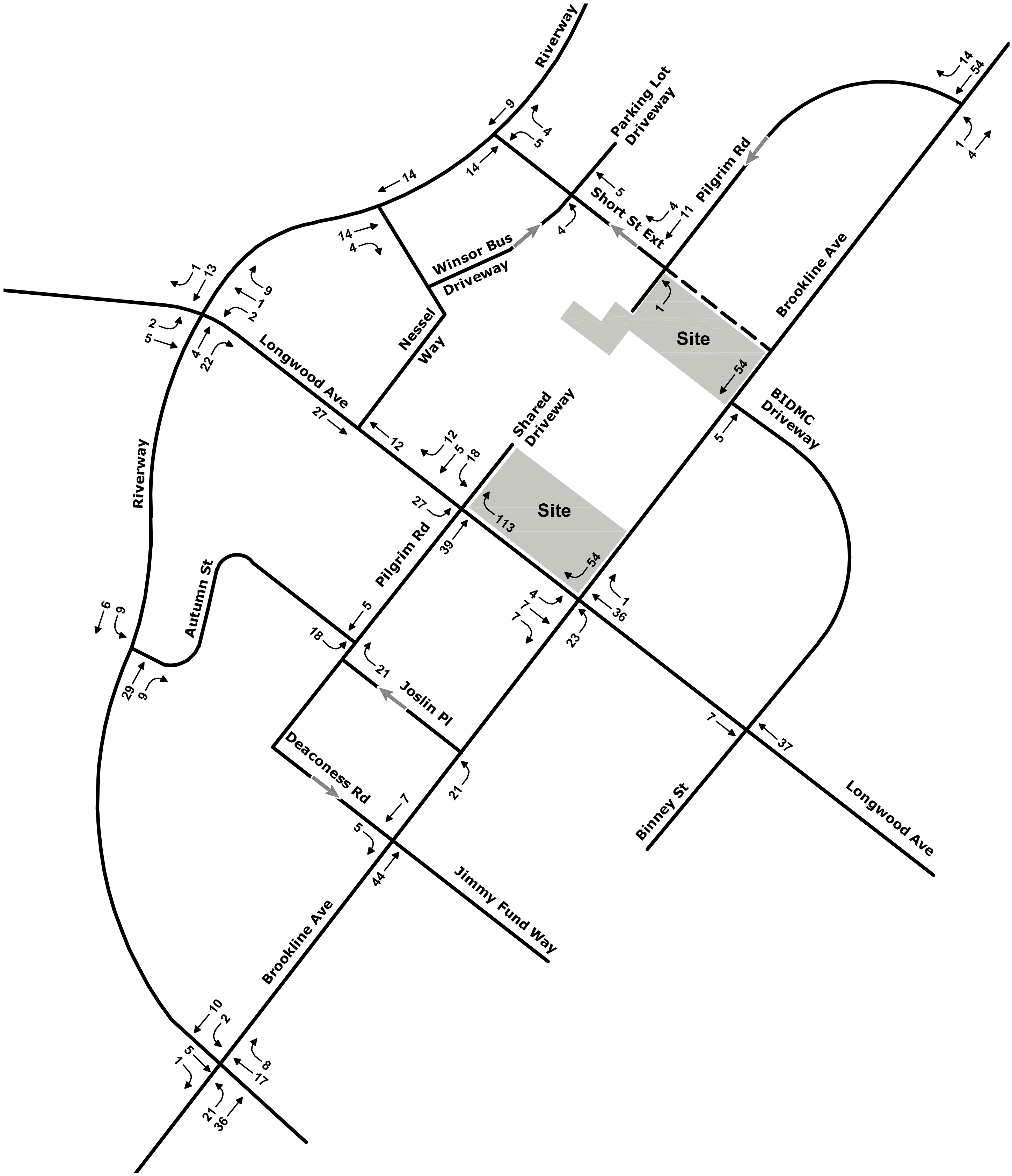


Figure 4-24

The Winsor School

2020 Full Build Condition
Project Generated Trips
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.

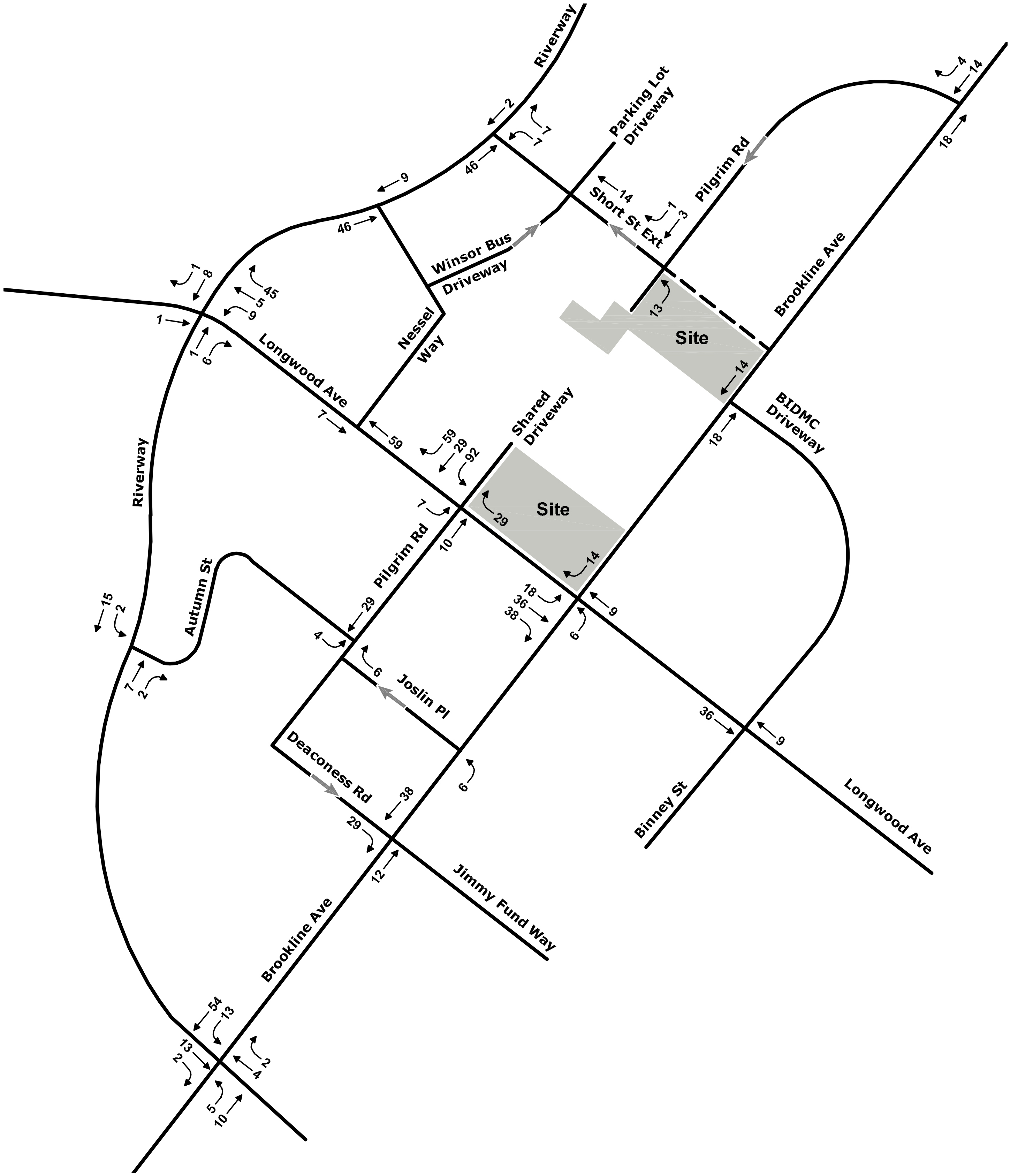


Figure 4-25

The Winsor School

2020 Full Build Condition
Project Generated Trips
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.

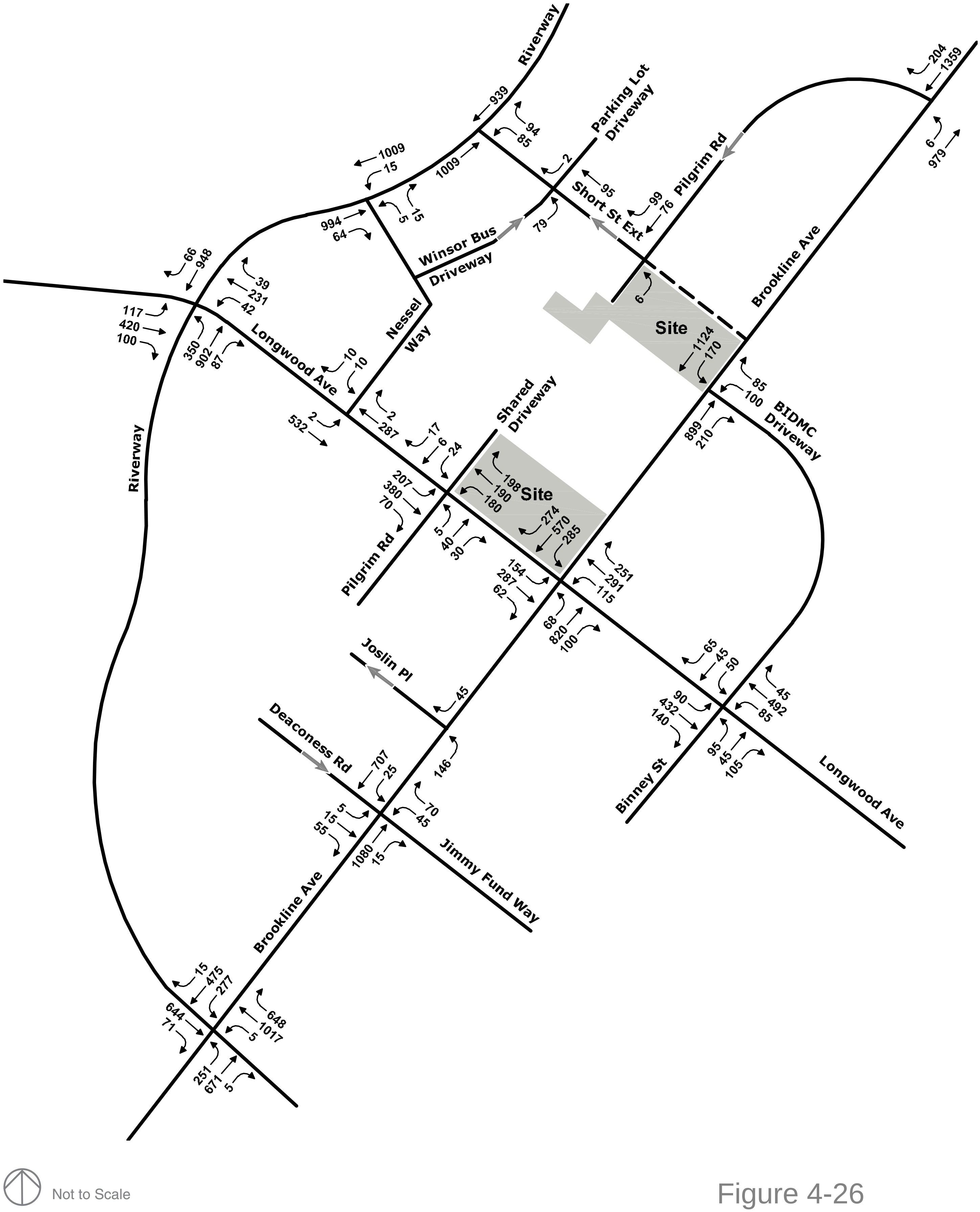
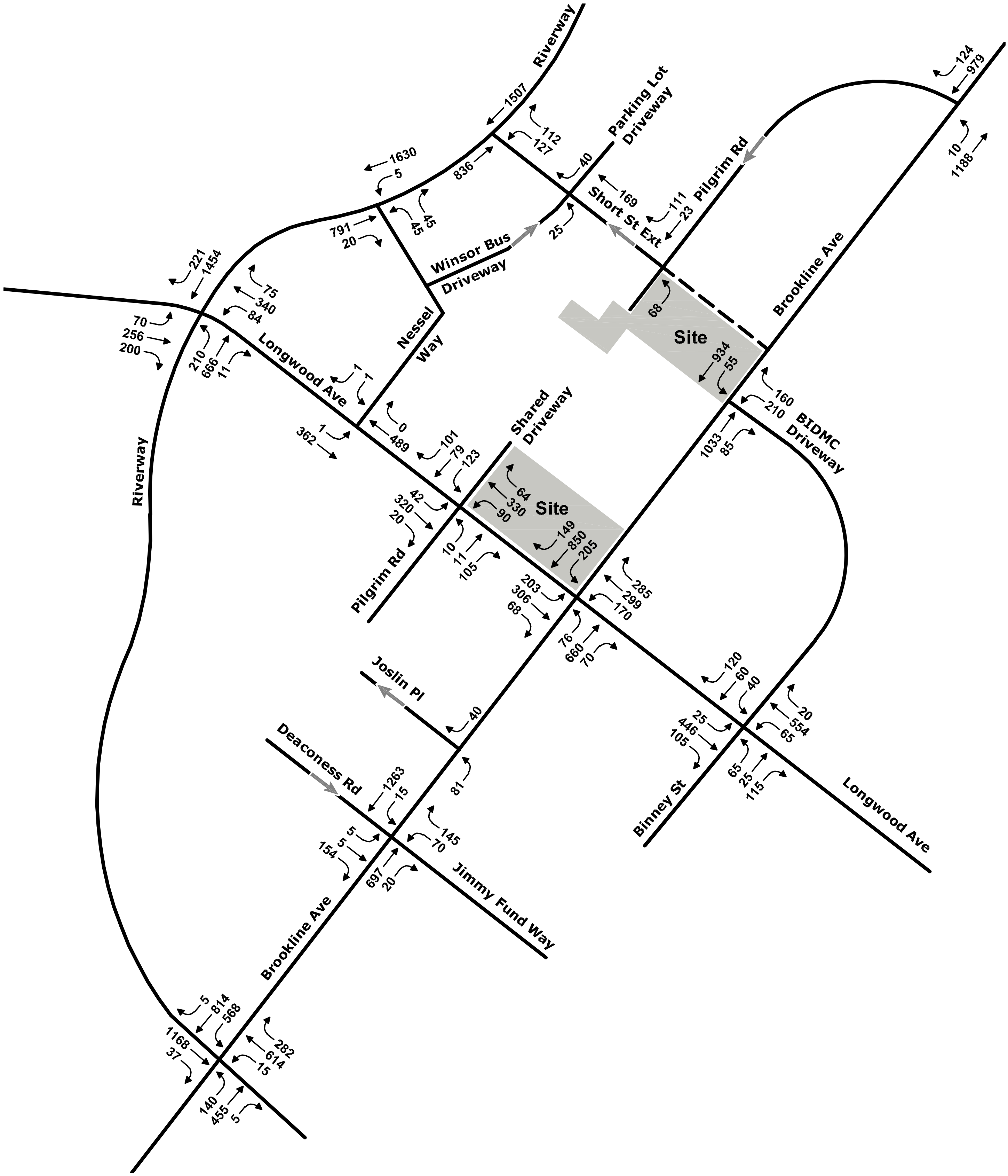


Figure 4-26

The Winsor School

2020 Full Build Condition
AM Peak Hour Traffic Volumes
7:30 - 8:30 AM

Vanasse Hangen Brustlin, Inc.



Not to Scale

Figure 4-27

The Winsor School

2020 Full Build Condition
PM Peak Hour Traffic Volumes
5:00 - 6:00 PM

Vanasse Hangen Brustlin, Inc.

Interim Condition Parking Supply

As currently planned, Winsor will initially construct the proposed Pilgrim Road Project, a 110,000 square foot building that will accommodate two new, regulation sized gymnasiums, 500-seat performing arts center, and other student life spaces and amenities. To construct this project, Winsor will have to first demolish its existing gymnasium building and take the adjacent 72-space surface parking lot out of service. The Pilgrim Road Project will then be constructed on that site, including a vehicle ramp underneath the building that will connect a future below-grade level of parking (which may not be undertaken as part of the initial building construction). Under this interim condition, Winsor plans to construct an interim 112 +/- space surface parking lot on the site of the school's existing tennis courts, accessed via the existing shared Winsor/MASCO driveway (a private drive that is jointly owned by Winsor and Temple Israel, MASCO's lessor). **Table 4-11** summarizes future parking under this interim condition.

Table 4-11
Interim Condition Parking Supply

	Spaces Removed	Spaces Constructed	Net New Spaces
Existing Gymnasium Surface Parking Lot	(-72)	0	(0)
Interim Surface Parking Lot (Tennis Court site)	0	112	40
Total	(-72)	112	40

After initial completion of the Pilgrim Road Project, Winsor will have developed 110,000 GSF of space and only 40 net new parking spaces – or 0.36 new parking spaces per 1,000 square feet of new development. The new spaces will accommodate a modest increase in staff and student population that may result from the construction of the Proposed Projects. These new spaces are also intended to support other important Winsor operational needs and functions, including a safer and more proximate location for parents to park during morning and afternoon student drop-off/pick-up times, parking for parents and visitors for performances, sporting events, and commencement, parking for prospective students and their parents visiting for admissions events, and other needs requiring on-site parking that are difficult to accommodate during weekdays.

Full Build Condition Parking Supply (Academic Projects Only)

As currently proposed, the fully-completed Pilgrim Road Project will also include construction of a single level of underground parking. This parking will be constructed underneath the adjacent athletic field, and that field will be fully restored upon completion of its construction. The garage will be a single-level facility with 148 parking spaces and accessed via a ramp that connects the parking to the existing intersection of Pilgrim Road and Short Street Extension – through the Pilgrim Road Project. Once fully complete, access to the Winsor School will be as it exists today –

via Pilgrim Road with egress via Short Street Extension. It is also assumed that the Courtyard Addition will be supported by the below-grade parking created as part of the Pilgrim Road Project. The below-grade parking associated with these two academic projects will provide 148 permanent parking spaces for Winsor use (or 76 net new parking spaces). **Table 4-12** depicts the net new parking spaces that will be created for use by the Winsor School in connection with their two proposed academic projects.

Table 4-12
Winsor Academic Projects Parking Summary

	Spaces Removed	Spaces Constructed	Net New Spaces
Existing Surface Parking Lot	(-72)	0	(-72)
Below-Grade Pilgrim Road Project Parking	0	148	148
Total	(-72)	148	76

After completion of the Winsor School academic projects (i.e., the Pilgrim Road Project (including below grade parking) and the Courtyard Addition Project), Winsor will have developed 140,000 GSF of space and only 76 net new parking spaces – or at a rate of 0.62 parking spaces per 1,000 square feet of development (including taking into account demolition of the 16,900 SF Gymnasium). Similar to the Interim Parking Condition, these spaces will accommodate a modest increase in staff and student population and support important ongoing Winsor operational needs and functions.

Longwood Avenue Project Parking Supply

The Longwood Avenue Project will contain approximately 300,000 square feet of development comprised of uses consistent with those in the rest of the LMA (e.g., health care uses, educational uses, and life sciences uses). As currently planned, this facility will include construction of up to 346 below-grade parking spaces with access via the existing shared Winsor/MASCO driveway. This amount of proposed parking is somewhat higher than the LMA Interim Guideline's ratio of 0.75 per 1,000 square feet of gross floor area for non-residential space; however, this amount of parking is proposed to help ensure a commercially viable and successful project that can support the goals and mission of the Winsor School, and ensure that it can remain at its LMA location for years to come. The proposed number of total parking spaces is far lower than the number of spaces that could be created pursuant to the 2003 Interim Longwood Medical and Academic Area Guidelines promulgated by the Boston Redevelopment Authority (LMA Interim Guidelines) if the Winsor Campus were to be privately developed for LMA-type uses, to the scale contemplated by the LMA Interim Guidelines.

The preservation of the existing Winsor School Campus including its 4+ acres of open space at this dense, urban location, provides for a much lower number of new parking spaces than could otherwise be created if the Winsor Campus were to be built out to its maximum potential in a manner consistent with the density and uses of the surrounding area and with a density and parking ratio as contemplated in the LMA Interim Guidelines.

Parking Ratio Summary

Table 4-13 summarizes the net-new parking changes related to the Proposed Projects and the existing campus facilities.

Table 4-13
Winsor Campus Projects Parking Supply and Ratios

	Program Size	Net New Parking Supply
Winsor Academic Projects		
(Pilgrim Rd and Courtyard Addition)	126,100 GSF*	76
Longwood Ave Project	300,000 GSF	346
Total	426,100 GSF	422

*Includes demolition of the existing 16,900 SF Gymnasium Building

On a square footage basis, the Proposed Projects as a whole have a resulting parking ratio of 0.99 new parking spaces per 1,000 sf.

As currently contemplated within this PNF, Winsor proposes the development of approximately 443,000 GSF of net new development that will provide 422 net-new parking spaces to its campus. Existing and proposed future parking ratios are shown in **Table 4-14.**

Table 4-14
The Winsor School – Campus Parking Ratios

Winsor School Campus*	Floor Area (sf)	Parking Spaces**	Parking Ratio (spaces/1,000 sf)
Existing Condition	127,500	115	0.90
Proposed Future Condition *	553,600	537	0.97

* Includes construction of the Pilgrim Road, Longwood Avenue, and Courtyard Addition Projects.

As shown, after completion of the Proposed Projects, the parking ratio at Winsor will increase from 0.90 to 0.97 spaces per thousand square feet.

Loading & Emergency Vehicle Access

Loading and service functions for the Pilgrim Road Project and the Courtyard Addition Project will be accommodated via Winsor's existing centralized loading area at the Winsor Driveway. It is anticipated that the school will have a negligible amount of new deliveries with these expansion projects. In addition, the proposed parking facility to be built adjacent to the Pilgrim Road Project will be fitted with an access/egress ramp with 10-foot clearance. This will provide the opportunity to accommodate some service functions associated with occasional theatrical events and other planned functions in the new performance center.

The Longwood Avenue Project will have a dedicated off-street loading area with three loading docks and a dedicated bay for a trash compactor. Access and egress to the docks will be provided off of the shared Winsor/MASCO driveway. The docks will be designed to accommodate large trucks. It is expected that most deliveries to the Longwood Avenue Project will be accommodated via smaller sized box trucks up to 35 feet. Building management will be required to coordinate with vendors to minimize peak hour deliveries in order to reduce impacts to the surrounding traffic network and in particular the operation of the shared Winsor/MASCO driveway.

Emergency vehicle access will continue to be via Pilgrim Road and the Riverway for the Winsor School, including the Pilgrim Road Project. The Longwood Avenue Project will have emergency vehicle access from Brookline Avenue and Longwood Avenue to the Pilgrim Road. In addition, Winsor proposes to accommodate emergency vehicle access to its playing fields and the Campus interior via a new emergency drive to be located at the end of the existing shared Winsor/MASCO driveway. Under current planning, this new drive will be access controlled with a security/breakaway gate – and is subject to further review by the Boston Fire Department (BFD).

Pedestrians

The Winsor School, together with its immediate neighbor Simmons College, owns a brick-paved Pedestrian Pathway that connects the end of Pilgrim Road to Brookline Avenue. This pedestrian way, while privately-owned by Winsor and Simmons, is used by pedestrians as a cut-through that provides direct access from the MBTA Green Line Longwood Station and the Riverway portion of the Emerald Necklace Park to Brookline Avenue, across from the entrance to the Beth Israel Deaconess East Campus. This area will be maintained and improved as part of the Pilgrim Road Project's development, but it will remain in private ownership. It may be necessary to temporarily restrict access to this Pedestrian Pathway during construction of the Pilgrim Road Project. During these periods of time, an alternate route will be provided. During these defined periods of time, Winsor will provide appropriate signage, and lighting to assist pedestrians in finding the alternate location.

To emphasize the urban scale of Longwood Avenue and provide much-needed improvements to the pedestrian realm on the Winsor side of Longwood Avenue, the proposed Longwood Avenue Project will be set back approximately seven feet from the property line to allow the existing sidewalk to be expanded from 8 feet wide to approximately 15 feet wide. Street trees will be provided along this newly widened sidewalk, if feasible. On Brookline Avenue, the Longwood Avenue Project will be set back from the property line allowing for a more commodious pedestrian experience, including a sidewalk with a minimum width of about 13 feet that widens to over 18 feet near the intersection of Brookline Avenue/Longwood Avenue. This will allow for ample pedestrian queuing space and a wider turning radius at the Brookline Avenue/Longwood Avenue intersection.

Construction Management

Following the Article 80 review process, detailed Construction Management Plans (CMPs) will be developed and submitted to the BTD for its approval in connection with the Pilgrim Road Project and Longwood Avenue Project. The CMP will provide a detailed evaluation of potential short-term construction-related transportation impacts during the course of the Proposed Projects' construction. These CMPs will include truck routing, construction staging on-Campus, and pedestrian circulation on-Campus and around the Campus. Permits will be obtained for any use of the Riverway during construction.

Construction vehicles will be necessary to move construction materials to and from the Proposed Project sites. The Winsor School recognizes that construction traffic is a concern to area residents and adjacent institutions. No roadway closures are anticipated with the construction projects. The need for street occupancy (i.e., temporary removal of parking or single lane closures) along roadways adjacent to the Proposed Project sites is possible during certain periods of construction.

Contractors will be required to devise access plans for their personnel that de-emphasize auto use (such as seeking off-site parking, provide transit subsidies, etc.). No parking will be provided on-campus for construction workers. The Winsor School will provide secure tool storage areas so that construction personnel will be more able to use public transportation.

During the construction period, pedestrian access to the Winsor School may need to be re-routed around the construction sites to ensure pedestrian safety. A variety of measures will be considered and implemented to protect the safety of pedestrians traversing those portions of the Campus affected by construction. When necessary, protective barriers around the construction sites, replacement of walkways, appropriate lighting, and new directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished and improved pedestrian sidewalks will be permanently reconfigured around the new buildings.

Mitigation

This section delineates the transportation improvements and mitigation plan developed by the Winsor School in connection with the Proposed Projects. The purpose of this transportation mitigation plan is to:

- Help alleviate transportation impacts generated by the Proposed Projects;
- Provide transportation infrastructure enhancements to the LMA, including improved pedestrian corridors, and vehicular access conditions; and
- Reflect the requirements of the BRA's LMA Interim Guidelines relative to transportation improvements and mitigation.

Mitigation improvements are summarized in **Figure 4-28.**

Pilgrim Road Project & Courtyard Addition

With the completion of the Pilgrim Road Project and the Courtyard Addition Project, sidewalks will be reconstructed on Short Street Extension. Today there is no accessible pedestrian connection between Brookline Avenue and the Riverway on the Winsor School side of Short Street Extension. Improvements will include pedestrian ramps and new pavement markings.

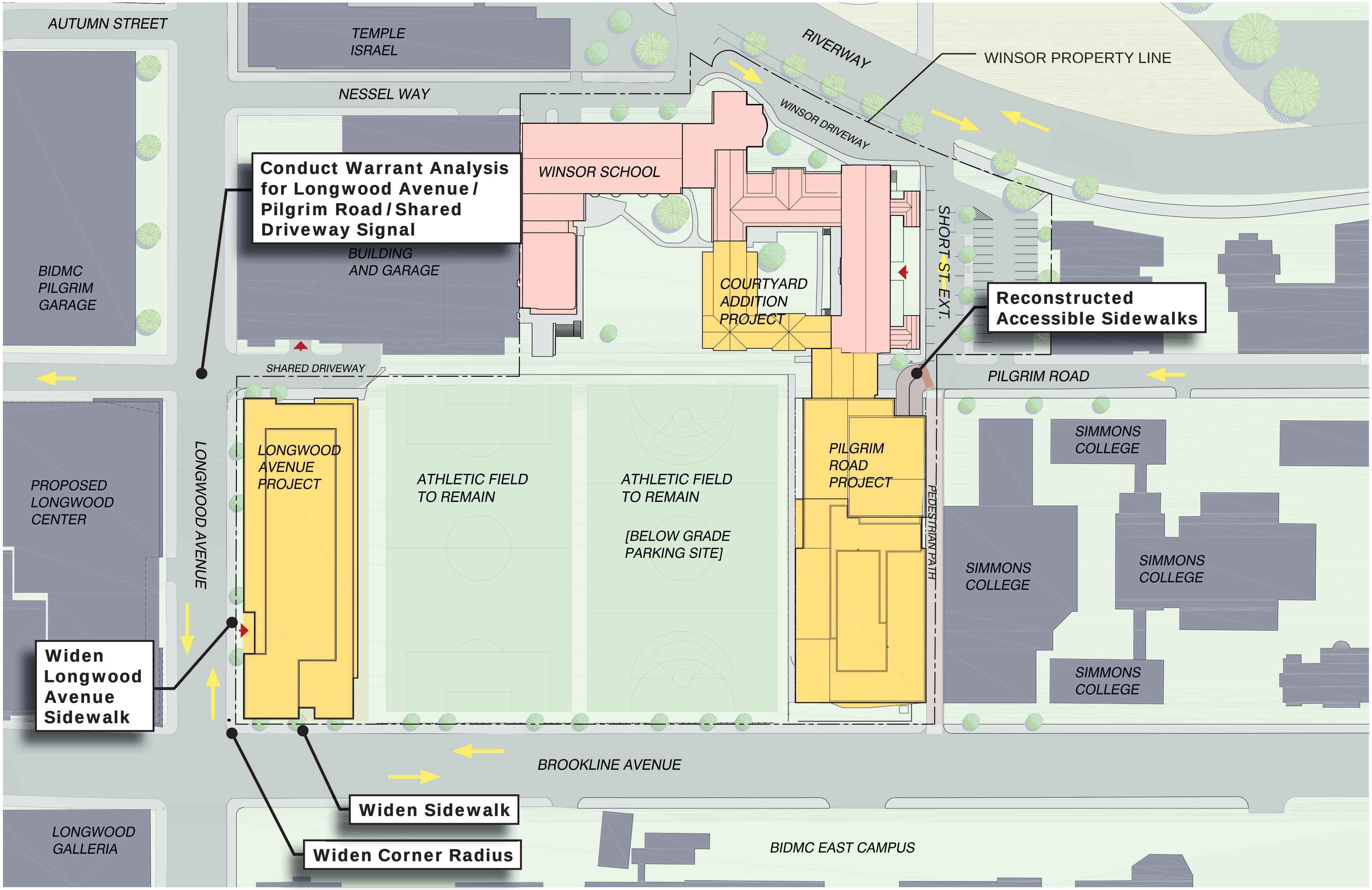
With the completion of the academic projects, the Campus will be served by an additional 76 parking spaces. These spaces will accommodate a modest increase in staff and student population and support important Winsor operational needs and functions. More importantly, these spaces will allow for on-campus parking during school related events, which will reduce the amount of traffic circulation otherwise generated by vehicles arriving at the school and then departing to find on-street or garage parking elsewhere in the LMA.

Longwood Avenue Project

The Longwood Avenue Project will be set back approximately seven feet from the property line to allow the existing sidewalk to be expanded to approximately 15 feet wide as shown in **Figure 4-29.** Street trees will be provided along this newly widened sidewalk, if feasible. On Brookline Avenue, the Longwood Avenue Project will be set back from the property line allowing for a more commodious pedestrian experience and additional pedestrian queuing space.

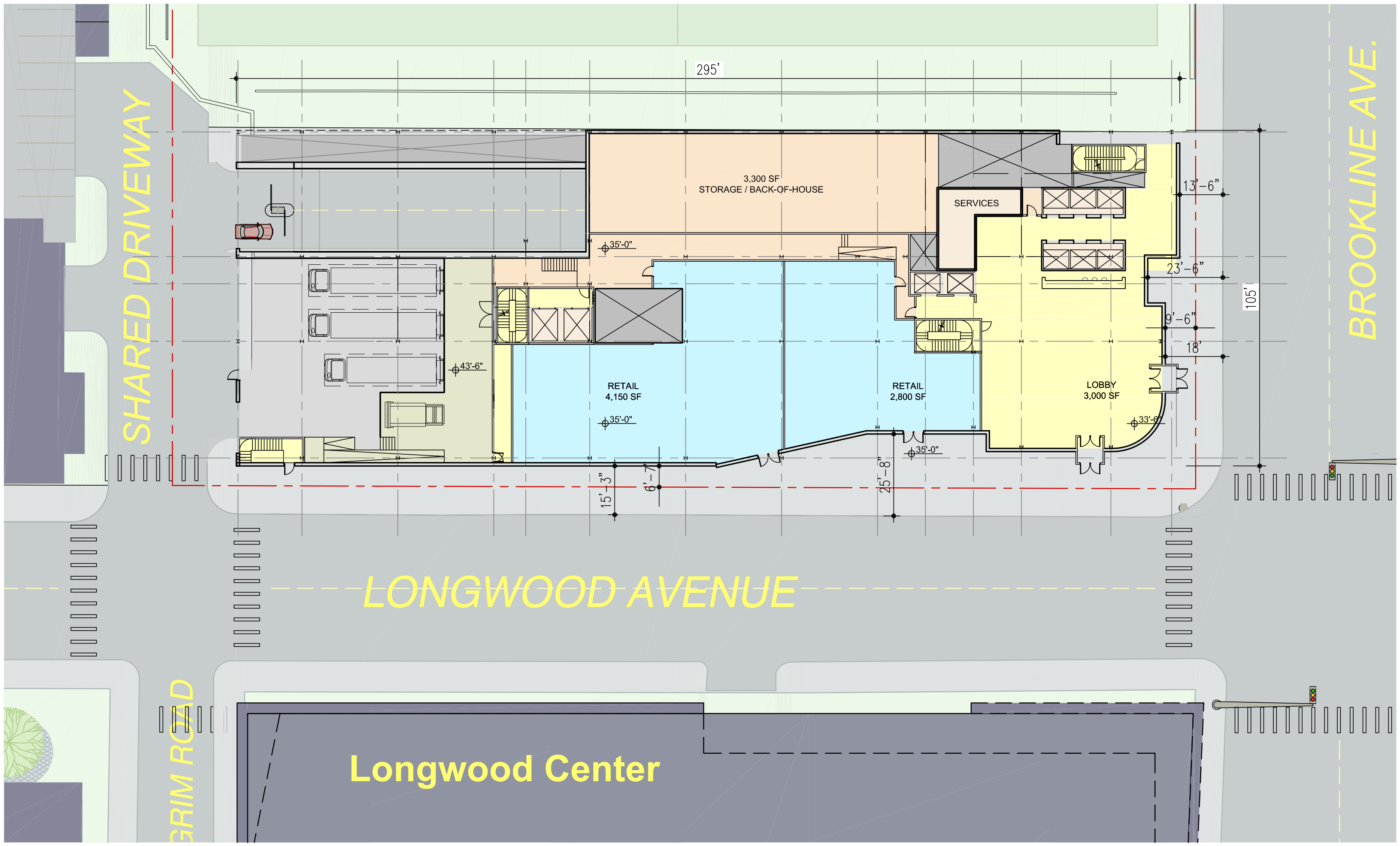
The existing intersection at Brookline Avenue/Longwood Avenue intersection currently presents challenges for vehicular traffic due to a tight right-turn turning radius towards onto northbound Longwood Avenue. The new Longwood Avenue Project will allow for improved turning radius for Brookline Avenue to Longwood Avenue traffic.

In connection with the proposed Longwood Avenue Project, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway requires the implementation of a traffic signal at this location. Winsor is committed to working with its neighbors to implement this improvement subject to further study and the direction of the Boston Transportation Department (BTD).



S Traffic Signal

Figure 4-28



LOBBY / CIRCULATION
PROGRAM AREA
ELEVATORS
BACK OF HOUSE
SHAFT AREA

Figure 4-29

Winsor School is also committed to continuing its Transportation Demand Management (TDM) program through MASCO's CommuteWorks Transportation Management Association (TMA) with benefits to faculty, staff and students as a means to encourage the use of alternative transportation modes.

Level of Service Operations

Consistent with BTD's guidelines, Synchro 6 software was used to model level of service (LOS) operations at the Study Area intersections. LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection.

LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS D is considered acceptable. LOS E indicates vehicles endure significant delay while LOS F suggests unacceptable delay for the average vehicle. LOS thresholds differ for signalized and un-signalized intersections. Longer delays at signalized intersections than at un-signalized intersections are perceived as acceptable.

Table 4-15 below presents the level of service delay threshold criteria as defined in the 2000 Highway Capacity Manual (HCM).

Table 4-15
Level of Service Criteria

Level of Service	Un-signalized Intersection Control Delay (sec/veh)	Signalized Intersection Control Delay (sec/veh)
LOS A	0-10	≤ 10
LOS B	> 10-15	> 10-20
LOS C	> 15-25	> 20-35
LOS D	> 25-35	> 35-55
LOS E	> 35-50	> 55-80
LOS F	> 50	> 80

Source: 2000 HCM

Adjustments were made to the Synchro model to include characteristics of the Study Area such as heavy vehicles, bus operations, parking activity, and pedestrian crossings. The LOS results of the analyses are summarized in **Tables 4-16 thru 4-25** for the 2010 Existing, 2015 and 2020 No-Build and 2015 and 2020 Build conditions.

Detailed Synchro results are provided in the *PNF Appendix*.

Table 4-16
2010 Existing Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Riverway Eastbound Left	D	44.2	0.89	#296	C	33.9	0.53	116
Riverway Eastbound Thru/Right	D	54.9	0.99	#446	C	22.1	0.53	225
Riverway Westbound Thru	E	62.6	>1.00	#417	F	>80.0	>1.00	#705
Riverway Westbound Right	C	20.1	0.05	24	B	18.2	0.17	58
Longwood Northbound Left	E	58.3	0.61	#58	D	35.8	0.44	74
Longwood Northbound Thru/Right	C	30.6	0.58	176	D	43.6	0.78	#293
Longwood Southbound Left/Thru	F	>80.0	>1.00	m#448	F	>80.0	>1.00	m127
Longwood Southbound Right	A	2.8	0.12	m9	A	6.0	0.24	m20
Riverway/Short Street Extension	**B**	**14.8**	**0.55**		**B**	**16.8**	**0.60**	
Riverway Eastbound Thru/Right	B	12.5	0.53	280	B	12.9	0.45	204
Riverway Westbound Left/Thru	B	10.7	0.39	156	B	14.3	0.58	269
Short Northbound Left	D	45.3	0.66	78	D	43.3	0.70	116
Short Northbound Right	C	34.8	0.10	10	C	31.6	0.11	19
Brookline Avenue/Deaconess Road/Jimmy Fund Way	**C**	**31.1**	**0.68**		**C**	**20.3**	**0.73**	
Brookline Eastbound Thru/Right	D	44.6	0.89	m311	B	17.4	0.46	m110
Brookline Westbound Left/Thru	A	6.0	0.39	m67	B	10.7	0.74	189
Jimmy Fund Northbound Left	D	47.5	0.48	50	E	69.0	0.71	73
Jimmy Fund Northbound Right	D	42.0	0.06	30	D	47.5	0.14	8
Deaconess Southbound Left	D	49.0	0.56	55	D	49.4	0.34	73
Deaconess Southbound Thru/Right	D	43.4	0.23	24	D	47.1	0.09	39
Brookline Avenue/Longwood Avenue	**E**	**63.7**	**>1.00**		**C**	**26.5**	**0.88**	
Brookline Eastbound Left	E	57.7	0.72	m18	F	>80.0	0.80	m#68
Brookline Eastbound Thru/Right	D	43.8	1.00	#360	C	25.9	0.78	356
Brookline Westbound Left	F	>80.0	>1.00	m#340	D	45.0	0.89	m#237
Brookline Westbound Thru/Right	B	17.5	0.48	m144	B	16.8	0.63	295
Longwood Northbound Left	F	>80.0	>1.00	m#205	D	53.2	0.87	m#284
Longwood Northbound Thru	D	40.9	0.74	m179	C	24.7	0.56	m208
Longwood Northbound Right	A	3.3	0.24	m0	A	7.2	0.21	m3
Longwood Southbound Left	F	>80.0	0.99	#217	C	30.8	0.30	76
Longwood Southbound Thru/Right	D	52.7	0.85	#320	C	32.9	0.48	223
Brookline Avenue/BIDMC Driveway	**C**	**20.1**	**0.74**		**C**	**23.6**	**0.65**	
Brookline Eastbound Thru/Right	A	8.8	0.70	m103	C	20.9	0.63	262
Brookline Westbound Left/Thru	B	17.3	0.69	253	B	16.5	0.54	244
BIDMC Northbound Left/Right	F	>80.0	0.91	#135	E	65.2	0.79	178

Table 4-16 Continued
2010 Existing Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Binney Street	**C**	**27.7**	**0.73**		**C**	**27.5**	**0.51**	
Binney Eastbound Left/Thru/Right	F	>80.0	1.02	#311	F	>80.0	0.86	156
Binney Westbound Left/Thru	D	37.7	0.50	#133	D	54.1	0.64	136
Binney Westbound Right	C	32.6	0.06	38	D	42.8	0.11	48
Longwood Northbound Left/Thru/Right	B	13.6	0.42	134	B	12.9	0.41	197
Longwood Southbound Left/Thru/Right	A	9.3	0.63	m56	B	16.9	0.38	m147
Brookline Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	#371	F	>80.0	>1.00	#260
Brookline Eastbound Thru/Right	E	63.3	0.94	#272	D	46.0	0.59	184
Brookline Westbound Left	F	>80.0	>1.00	#398	F	>80.0	>1.00	#483
Brookline Westbound Thru/Right	C	20.9	0.52	121	D	39.2	0.57	278
Riverway Northbound Left/Thru/Right	D	51.1	>1.00	#723	D	42.4	0.86	#508
Riverway Southbound Left/Thru/Right	B	18.4	0.53	247	F	>80.0	>1.00	#730

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 4-17
2010 Existing Unsignalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Riverway/Nessel Way								
Riverway Eastbound Thru/Right	A	Neg	0.38	Neg	A	Neg	0.30	Neg
Riverway Westbound Left/Thru	A	1.2	0.26	2	A	0.2	0.37	Neg
Nessel Northbound Left/Right	B	11.2	0.05	4	B	12.7	0.19	18
Longwood Avenue/Nessel Way								
Nessel Westbound Left/Right	E	40.8	0.16	14	C	21.7	0.01	1
Longwood Northbound Thru/Right	A	Neg	0.20	Neg	A	Neg	0.25	Neg
Longwood Southbound Left/Thru	A	0.1	Neg	Neg	A	0.1	Neg	Neg
Pilgrim Road/ Shared Driveway/ Longwood Avenue								
Shared Driveway Westbound Left/Thru/Right	F	>80.0	0.47	36	F	>80.0	>1.00	184
Longwood Northbound Left	A	9.7	0.12	10	A	8.4	0.05	4
Longwood Northbound Thru/Right	A	Neg	0.19	Neg	A	Neg	0.21	Neg
Longwood Southbound Left	C	16.4	0.38	45	B	11.1	0.06	5
Longwood Southbound Thru/Right	A	0	0.25	Neg	A	Neg	0.18	Neg
Short Street Extension/Pilgrim Road								
Pilgrim Eastbound Left/Thru	A	7.4	-	-	A	7.7	-	-
Pilgrim Westbound Thru/Right	A	7.0	-	-	A	7.0	-	-
Brookline Avenue/Joslin Place								
Brookline Eastbound Left	B	10.6	0.11	9	B	14.2	0.13	11
Brookline Eastbound Thru	A	Neg	0.26	Neg	A	Neg	0.19	Neg
Brookline Westbound Thru/Right	A	Neg	0.24	Neg	A	Neg	0.26	Neg
Brookline Avenue/Pilgrim Road								
Brookline Eastbound Left/Thru	A	0.6	0.35	1	A	0.6	0.37	1
Brookline Westbound Thru/Right	A	Neg	0.44	Neg	A	Neg	0.36	Neg

Table 4-18
2015 No-Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Riverway Eastbound Left	D	49.2	0.92	#316	C	34.7	0.56	126
Riverway Eastbound Thru/Right	E	59.6	1.00	#455	C	22.2	0.58	230
Riverway Westbound Thru	F	>80.0	>1.00	#452	F	>80.0	>1.00	#787
Riverway Westbound Right	C	20.3	0.05	25	B	18.4	0.22	68
Longwood Northbound Left	E	74.8	0.73	#72	D	45.8	0.60	#102
Longwood Northbound Thru/Right	C	32.5	0.63	195	D	54.9	0.89	#359
Longwood Southbound Left/Thru	F	>80.0	>1.00	m#435	F	>80.0	>1.00	m#172
Longwood Southbound Right	A	3.1	0.12	m7	A	6.0	0.24	m18
Riverway/Short Street Extension	**B**	**14.9**	**0.58**		**B**	**17.2**	**0.65**	
Riverway Eastbound Thru/Right	B	12.9	0.56	299	B	13.2	0.46	214
Riverway Westbound Left/Thru	B	10.9	0.42	168	B	15.1	0.63	302
Short Northbound Left	D	45.9	0.67	79	D	43.9	0.71	117
Short Northbound Right	C	34.7	0.11	10	C	31.6	0.11	19
Brookline Avenue/Deaconess Road/Jimmy Fund Way	**E**	**55.2**	**0.84**		**C**	**29.0**	**0.95**	
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#351	B	17.8	0.56	m127
Brookline Westbound Left/Thru	A	7.0	0.51	m95	C	24.9	0.96	m#693
Jimmy Fund Northbound Left	D	50.2	0.56	58	F	>80.0	0.90	95
Jimmy Fund Northbound Right	D	40.3	0.07	31	D	43.1	0.17	4
Deaconess Southbound Left	D	41.8	0.26	35	D	41.6	0.02	14
Deaconess Southbound Thru/Right	D	41.6	0.23	23	D	42.7	0.14	45
Brookline Avenue/Longwood Avenue	**F**	**>80.0**	**>1.00**		**D**	**38.2**	**>1.00**	
Brookline Eastbound Left	D	43.9	0.72	m14	F	>80.0	>1.00	m#96
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#376	C	23.5	0.82	291
Brookline Westbound Left	F	>80.0	>1.00	m#377	F	>80.0	>1.00	m#247
Brookline Westbound Thru/Right	B	14.3	0.64	m151	C	27.0	0.90	m299
Longwood Northbound Left	F	>80.0	>1.00	m#212	D	53.3	0.87	m#271
Longwood Northbound Thru	E	57.8	0.89	m#221	C	22.0	0.55	m220
Longwood Northbound Right	A	6.2	0.25	m0	A	4.3	0.22	m3
Longwood Southbound Left	F	>80.0	>1.00	#296	E	66.9	0.89	#309
Longwood Southbound Thru/Right	F	>80.0	>1.00	#406	C	34.3	0.61	308
Brookline Avenue/BIDMC Driveway	**C**	**23.7**	**0.93**		**D**	**49.2**	**0.98**	
Brookline Eastbound Thru/Right	B	13.9	0.99	m98	D	47.5	>1.00	m#587
Brookline Westbound Left	D	36.9	0.71	#196	D	49.3	0.30	35
Brookline Westbound Thru	C	18.5	0.64	327	C	29.2	0.69	260
BIDMC Northbound Left/Right	E	77.8	0.94	#185	F	>80.0	>1.00	#449

Table 4-18 Continued
2015 No-Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Binney Street	**C**	**33.4**	**0.75**		**C**	**28.1**	**0.56**	
Binney Eastbound Left/Thru/Right	F	>80.0	>1.00	#345	F	>80.0	0.90	#213
Binney Westbound Left/Thru	D	38.8	0.53	#144	D	45.8	0.52	132
Binney Westbound Right	C	32.6	0.06	38	D	40.1	0.10	46
Longwood Northbound Left/Thru/Right	B	14.9	0.51	161	B	15.0	0.44	200
Longwood Southbound Left/Thru/Right	A	7.0	0.62	m34	B	15.4	0.42	m115
Brookline Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	#395	F	>80.0	>1.00	#314
Brookline Eastbound Thru/Right	F	>80.0	>1.00	#336	D	50.1	0.71	226
Brookline Westbound Left	F	>80.0	>1.00	#465	F	>80.0	>1.00	m#625
Brookline Westbound Thru/Right	C	25.3	0.61	135	D	44.3	0.65	m290
Riverway Northbound Left/Thru/Right	F	>80.0	>1.00	#840	D	48.6	0.92	#553
Riverway Southbound Left/Thru/Right	B	18.7	0.55	255	F	>80.0	>1.00	#754

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 4-19
2015 No-Build Unsignalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Riverway/Nessel Way								
Riverway Eastbound Thru/Right	A	Neg	0.39	Neg	A	Neg	0.31	Neg
Riverway Westbound Left/Thru	A	1.1	0.28	2	A	0.2	0.40	Neg
Nessel Northbound Left/Right	B	12.2	0.06	5	B	12.8	0.20	18
Longwood Avenue/Nessel Way								
Nessel Westbound Left/Right	E	46.9	0.20	18	D	25.7	0.01	1
Longwood Northbound Thru/Right	A	Neg	0.20	Neg	A	Neg	0.28	Neg
Longwood Southbound Left/Thru	A	0.1	Neg	Neg	A	0.1	Neg	Neg
Pilgrim Road/ Shared Driveway/ Longwood Avenue								
Pilgrim Eastbound Left/Thru/Right	F	>80.0	0.93	92	E	45.6	0.60	86
Shared Driveway Westbound Left/Thru/Right	F	>80.0	>1.00	61	F	>80.0	>1.00	295
Longwood Northbound Left	B	14.6	0.39	46	A	9.4	0.11	10
Longwood Northbound Thru/Right	A	Neg	0.21	Neg	A	Neg	0.23	Neg
Longwood Southbound Left	C	16.0	0.38	44	B	11.3	0.06	5
Longwood Southbound Thru/Right	A	Neg	0.28	Neg	A	Neg	0.24	Neg
Short Street Extension/Pilgrim Road								
Pilgrim Eastbound Left/Thru	A	7.4	-	-	A	7.7	-	-
Pilgrim Westbound Thru/Right	A	7.7	-	-	A	7.0	-	-
Brookline Avenue/Joslin Place								
Brookline Eastbound Left	B	12.0	0.20	19	C	19.5	0.22	21
Brookline Eastbound Thru	A	Neg	0.31	Neg	A	Neg	0.55	Neg
Brookline Westbound Thru/Right	A	Neg	0.29	Neg	A	Neg	0.30	Neg
Brookline Avenue/Pilgrim Road								
Brookline Eastbound Left/Thru	A	0.5	0.39	1	A	0.7	0.47	2
Brookline Westbound Thru/Right	A	Neg	0.56	Neg	A	Neg	0.41	Neg

Table 4-20
2015 Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Riverway Eastbound Left	D	49.2	0.92	#316	C	34.7	0.56	126
Riverway Eastbound Thru/Right	D	52.8	0.98	#437	C	22.1	0.57	226
Riverway Westbound Thru	F	>80.0	>1.00	#462	F	>80.0	>1.00	#772
Riverway Westbound Right	C	20.3	0.06	25	B	18.3	0.21	65
Longwood Northbound Left	E	79.4	0.75	#75	D	53.9	0.70	#125
Longwood Northbound Thru/Right	C	32.5	0.64	196	E	63.8	0.95	#388
Longwood Southbound Left/Thru	F	>80.0	>1.00	m#433	F	>80.0	>1.00	m#183
Longwood Southbound Right	A	3.1	0.12	m7	A	6.0	0.24	m18
Riverway/Short Street Extension	**B**	**15.0**	**0.57**		**B**	**15.5**	**0.60**	
Riverway Eastbound Thru/Right	B	12.7	0.54	285	B	11.7	0.43	215
Riverway Westbound Left/Thru	B	11.0	0.42	170	B	13.3	0.58	304
Short Northbound Left	D	46.9	0.68	81	D	49.1	0.67	91
Short Northbound Right	C	34.6	0.11	10	D	37.3	0.08	19
Brookline Avenue/Deaconess Road/Jimmy Fund Way	**E**	**62.6**	**0.86**		**C**	**30.2**	**0.96**	
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#363	B	18.0	0.56	m129
Brookline Westbound Left/Thru	A	7.1	0.52	m95	C	27.1	0.97	m#694
Jimmy Fund Northbound Left	D	50.2	0.56	58	F	>80.0	0.91	95
Jimmy Fund Northbound Right	D	40.3	0.07	31	D	42.9	0.17	4
Deaconess Southbound Left	D	41.8	0.26	35	D	41.5	0.02	14
Deaconess Southbound Thru/Right	D	41.6	0.23	23	D	42.6	0.15	46
Brookline Avenue/Longwood Avenue	**F**	**>80.0**	**>1.00**		**D**	**42.1**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	m#62	F	>80.0	>1.00	m#117
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#360	C	23.3	0.82	283
Brookline Westbound Left	F	>80.0	>1.00	m#377	F	>80.0	>1.00	m#248
Brookline Westbound Thru/Right	B	15.0	0.66	m163	C	27.8	0.91	m#304
Longwood Northbound Left	F	>80.0	>1.00	m#212	E	63.0	0.91	m#279
Longwood Northbound Thru	E	59.5	0.90	m#228	C	22.0	0.56	m223
Longwood Northbound Right	A	6.2	0.25	m0	A	4.2	0.22	m3
Longwood Southbound Left	F	>80.0	>1.00	#303	F	>80.0	0.98	#348
Longwood Southbound Thru/Right	F	>80.0	>1.00	#407	D	35.3	0.64	326
Brookline Avenue/BIDMC Driveway	**C**	**23.8**	**0.93**		**D**	**50.8**	**0.99**	
Brookline Eastbound Thru/Right	B	13.7	0.99	m98	D	51.2	>1.00	m#583
Brookline Westbound Left	D	36.9	0.71	#196	D	49.8	0.30	35
Brookline Westbound Thru	B	18.8	0.66	339	C	29.4	0.70	264
BIDMC Northbound Left/Right	E	77.8	0.94	#185	F	>80.0	>1.00	#449

Table 4-20 Continued
2015 Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Binney Street	**C**	**33.4**	**0.75**		**C**	**28.0**	**0.56**	
Binney Eastbound Left/Thru/Right	F	>80.0	>1.00	#345	F	>80.0	0.90	#213
Binney Westbound Left/Thru	D	38.8	0.53	#144	D	45.8	0.52	132
Binney Westbound Right	C	32.6	0.06	38	D	40.1	0.10	46
Longwood Northbound Left/Thru/Right	B	14.9	0.51	161	B	15.0	0.44	200
Longwood Southbound Left/Thru/Right	A	7.0	0.62	m33	B	15.3	0.42	m116
Brookline Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	#379	F	>80.0	>1.00	#307
Brookline Eastbound Thru/Right	F	>80.0	>1.00	#345	D	50.4	0.72	227
Brookline Westbound Left	F	>80.0	>1.00	#465	F	>80.0	>1.00	m#624
Brookline Westbound Thru/Right	C	25.2	0.61	136	D	44.5	0.66	m291
Riverway Northbound Left/Thru/Right	F	>80.0	>1.00	#838	D	47.8	0.91	#554
Riverway Southbound Left/Thru/Right	B	18.8	0.55	257	F	>80.0	>1.00	#743

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 4-21
2015 Build Unsignalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Riverway/Nessel Way								
Riverway Eastbound Thru/Right	A	Neg	0.38	Neg	A	Neg	0.31	Neg
Riverway Westbound Left/Thru	A	1.1	0.28	2	A	0.2	0.39	Neg
Nessel Northbound Left/Right	B	12.0	0.06	5	B	13.3	0.21	20
Longwood Avenue/Nessel Way								
Nessel Westbound Left/Right	E	47.8	0.21	18	D	28.1	0.01	1
Longwood Northbound Thru/Right	A	Neg	0.20	Neg	A	Neg	0.30	Neg
Longwood Southbound Left/Thru	A	0.1	Neg	Neg	A	0.1	Neg	Neg
Pilgrim Road/ Shared Driveway/ Longwood Avenue								
Pilgrim Eastbound Left/Thru/Right	F	>80.0	>1.00	n/a	F	>80.0	0.86	145
Shared Driveway Westbound Left/Thru/Right	F	>80.0	>1.00	n/a	F	>80.0	>1.00	n/a
Longwood Northbound Left	B	14.6	0.39	46	A	9.4	0.11	10
Longwood Northbound Thru/Right	A	Neg	0.25	Neg	A	Neg	0.24	Neg
Longwood Southbound Left	C	17.5	0.42	51	B	11.5	0.07	6
Longwood Southbound Thru/Right	A	Neg	0.28	Neg	A	Neg	0.24	Neg
Short Street Extension/Pilgrim Road								
Pilgrim Eastbound Left/Thru	A	7.0	-	-	A	7.0	-	-
Pilgrim Westbound Thru/Right	A	6.8	-	-	A	6.7	-	-
Brookline Avenue/Joslin Place								
Brookline Eastbound Left	B	12.0	0.20	19	C	19.8	0.23	22
Brookline Eastbound Thru	A	Neg	0.32	Neg	A	Neg	0.55	Neg
Brookline Westbound Thru/Right	A	Neg	0.29	Neg	A	Neg	0.30	Neg
Brookline Avenue/Pilgrim Road								
Brookline Eastbound Left/Thru	A	0.2	0.40	1	A	0.6	0.48	1
Brookline Westbound Thru/Right	A	Neg	0.57	Neg	A	Neg	0.42	Neg

Table 4-22
2020 No-Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Riverway Eastbound Left	D	51.7	0.93	#329	D	35.3	0.58	135
Riverway Eastbound Thru/Right	E	69.8	>1.00	#472	C	22.8	0.61	242
Riverway Westbound Thru	F	>80.0	>1.00	#466	F	>80.0	>1.00	#810
Riverway Westbound Right	C	20.5	0.06	26	B	18.6	0.24	73
Longwood Northbound Left	E	74.8	0.73	#72	D	49.0	0.63	#106
Longwood Northbound Thru/Right	C	33.4	0.66	205	E	64.1	0.95	#391
Longwood Southbound Left/Thru	F	>80.0	>1.00	m#411	F	>80.0	>1.00	m#190
Longwood Southbound Right	A	3.0	0.12	m7	A	6.0	0.25	m19
Riverway/Short Street Extension	**B**	**15.9**	**0.60**		**B**	**17.7**	**0.66**	
Riverway Eastbound Thru/Right	B	14.6	0.60	310	B	13.5	0.48	226
Riverway Westbound Left/Thru	B	12.2	0.45	171	B	15.5	0.64	313
Short Northbound Left	D	39.3	0.60	83	D	45.2	0.73	122
Short Northbound Right	C	32.3	0.11	10	C	31.6	0.11	19
Brookline Avenue/Deaconess Road/Jimmy Fund Way	**E**	**63.1**	**0.88**		**C**	**32.5**	**0.97**	
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#347	B	18.5	0.59	m129
Brookline Westbound Left/Thru	A	7.7	0.55	m104	C	31.4	0.99	m#724
Jimmy Fund Northbound Left	D	53.9	0.62	63	F	>80.0	0.90	95
Jimmy Fund Northbound Right	D	39.8	0.08	32	D	43.1	0.18	3
Deaconess Southbound Left	D	41.1	0.25	35	D	41.6	0.02	14
Deaconess Southbound Thru/Right	D	40.9	0.23	21	D	42.7	0.14	45
Brookline Avenue/Longwood Avenue	**F**	**>80.0**	**>1.00**		**D**	**45.9**	**>1.00**	
Brookline Eastbound Left	E	68.2	0.92	m17	F	>80.0	>1.00	m#129
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#383	C	24.4	0.85	#308
Brookline Westbound Left	F	>80.0	>1.00	m#396	F	>80.0	>1.00	m#278
Brookline Westbound Thru/Right	B	15.2	0.66	m167	C	30.4	0.93	m#332
Longwood Northbound Left	F	>80.0	>1.00	m#208	E	60.6	0.90	m#282
Longwood Northbound Thru	E	60.9	0.90	m#229	C	21.7	0.57	m225
Longwood Northbound Right	A	8.0	0.26	m0	A	2.9	0.23	m2
Longwood Southbound Left	F	>80.0	>1.00	#299	E	73.8	0.91	#315
Longwood Southbound Thru/Right	F	>80.0	>1.00	#424	C	34.5	0.62	314
Brookline Avenue/BIDMC Driveway	**C**	**27.1**	**0.95**		**D**	**52.4**	**1.00**	
Brookline Eastbound Thru/Right	C	21.5	>1.00	m98	D	51.7	>1.00	m#616
Brookline Westbound Left	D	37.2	0.71	#196	D	49.9	0.30	35
Brookline Westbound Thru	B	19.0	0.67	347	C	29.0	0.71	273
BIDMC Northbound Left/Right	E	77.8	0.94	#185	F	>80.0	>1.00	#460

Table 4-22 Continued
2020 No-Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Binney Street	**D**	**38.6**	**0.79**		**C**	**30.4**	**0.60**	
Binney Eastbound Left/Thru/Right	F	>80.0	>1.00	#368	F	90.7	0.94	#265
Binney Westbound Left/Thru	D	39.6	0.56	#153	D	42.9	0.47	133
Binney Westbound Right	C	32.6	0.06	38	D	38.4	0.10	46
Longwood Northbound Left/Thru/Right	B	15.4	0.53	169	B	16.7	0.48	208
Longwood Southbound Left/Thru/Right	A	7.3	0.64	m34	B	17.0	0.44	m116
Brookline Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	#403	F	>80.0	>1.00	#314
Brookline Eastbound Thru/Right	F	>80.0	>1.00	#364	D	51.6	0.74	237
Brookline Westbound Left	F	>80.0	>1.00	#483	F	>80.0	>1.00	m#645
Brookline Westbound Thru/Right	C	26.6	0.64	147	D	44.9	0.69	m298
Riverway Northbound Left/Thru/Right	F	>80.0	>1.00	#871	E	73.6	>1.00	#601
Riverway Southbound Left/Thru/Right	B	18.9	0.56	263	F	>80.0	>1.00	#783

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 4-23
2020 No-Build Unsignalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	LOS	Delay (sec)	V/C	95th % Queue (ft)	LOS	Delay (sec)	V/C	95th % Queue (ft)
Riverway/Nessel Way								
Riverway Eastbound Thru/Right	A	Neg	0.40	Neg	A	Neg	0.32	Neg
Riverway Westbound Left/Thru	A	1.1	0.28	2	A	0.2	0.41	Neg
Nessel Northbound Left/Right	B	12.2	0.06	5	B	12.9	0.20	19
Longwood Avenue/Nessel Way								
Nessel Westbound Left/Right	F	50.5	0.22	19	D	26.4	0.01	1
Longwood Northbound Thru/Right	A	Neg	0.21	Neg	A	Neg	0.29	Neg
Longwood Southbound Left/Thru	A	0.1	Neg	Neg	A	0.1	Neg	Neg
Pilgrim Road/ Shared Driveway/ Longwood Avenue								
Pilgrim Eastbound Left/Thru/Right	F	>80.0	>1.00	111	F	58.2	0.68	103
Shared Driveway Westbound Left/Thru/Right	F	>80.0	>1.00	67	F	>80.0	>1.00	307
Longwood Northbound Left	C	16.0	0.42	52	A	9.5	0.11	10
Longwood Northbound Thru/Right	A	Neg	0.21	Neg	A	Neg	0.25	Neg
Longwood Southbound Left	C	16.2	0.38	44	B	11.7	0.07	6
Longwood Southbound Thru/Right	A	Neg	0.29	Neg	A	Neg	0.24	Neg
Short Street Extension/Pilgrim Road								
Pilgrim Eastbound Left/Thru	A	7.4	-	-	A	7.7	-	-
Pilgrim Westbound Thru/Right	A	7.8	-	-	A	7.0	-	-
Brookline Avenue/Joslin Place								
Brookline Eastbound Left	B	12.4	0.22	21	C	21.3	0.26	25
Brookline Eastbound Thru	A	Neg	0.32	Neg	A	Neg	0.22	Neg
Brookline Westbound Thru/Right	A	Neg	0.31	Neg	A	Neg	0.57	Neg
Brookline Avenue/Pilgrim Road								
Brookline Eastbound Left/Thru	A	0.6	0.41	1	A	0.7	0.49	2
Brookline Westbound Thru/Right	A	Neg	0.58	Neg	A	Neg	0.43	Neg

Table 4-24
2020 Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Riverway Eastbound Left	D	51.7	0.93	#329	D	35.3	0.58	135
Riverway Eastbound Thru/Right	F	>80.0	>1.00	#493	C	22.9	0.61	246
Riverway Westbound Thru	F	>80.0	>1.00	#476	F	>80.0	>1.00	#816
Riverway Westbound Right	C	20.5	0.06	26	B	18.7	0.24	74
Longwood Northbound Left	F	>80.0	0.77	#77	E	57.1	0.72	#125
Longwood Northbound Thru/Right	C	34.5	0.68	212	F	>80.0	>1.00	#465
Longwood Southbound Left/Thru	F	>80.0	>1.00	m#429	F	>80.0	>1.00	m#226
Longwood Southbound Right	A	3.1	0.12	m7	A	6.0	0.25	m19
Riverway/Short Street Extension	**B**	**16.2**	**0.61**		**B**	**18.2**	**0.67**	
Riverway Eastbound Thru/Right	B	15.0	0.61	316	B	14.1	0.52	244
Riverway Westbound Left/Thru	B	12.5	0.45	173	B	15.7	0.65	313
Short Northbound Left	D	39.7	0.62	88	D	47.9	0.76	129
Short Northbound Right	C	32.0	0.12	9	C	31.5	0.12	18
Brookline Avenue/Deaconess Road/Jimmy Fund Way	**E**	**76.2**	**0.92**		**D**	**43.3**	**>1.00**	
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#352	B	18.4	0.60	m130
Brookline Westbound Left/Thru	A	7.7	0.57	m106	D	50.2	>1.00	m#711
Jimmy Fund Northbound Left	E	56.2	0.64	63	F	>80.0	0.96	98
Jimmy Fund Northbound Right	D	39.6	0.08	32	D	41.7	0.18	3
Deaconess Southbound Left	D	39.3	0.05	12	D	40.1	0.02	14
Deaconess Southbound Thru/Right	D	40.8	0.23	21	D	41.5	0.17	48
Brookline Avenue/Longwood Avenue	**F**	**>80.0**	**>1.00**		**E**	**56.1**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	m#65	F	>80.0	>1.00	m#142
Brookline Eastbound Thru/Right	F	>80.0	>1.00	m#353	C	24.0	0.85	#292
Brookline Westbound Left	F	>80.0	>1.00	m#398	F	>80.0	>1.00	m#273
Brookline Westbound Thru/Right	B	16.9	0.72	m193	C	32.4	0.95	m#520
Longwood Northbound Left	F	>80.0	>1.00	m#213	F	>80.0	>1.00	m#328
Longwood Northbound Thru	F	>80.0	>1.00	m#310	C	22.1	0.59	m236
Longwood Northbound Right	B	10.9	0.26	m3	A	2.8	0.23	m2
Longwood Southbound Left	F	>80.0	>1.00	#308	F	>80.0	>1.00	#358
Longwood Southbound Thru/Right	F	>80.0	>1.00	#447	D	42.2	0.78	#416
Brookline Avenue/BIDMC Driveway	**C**	**27.8**	**0.96**		**D**	**54.6**	**>1.00**	
Brookline Eastbound Thru/Right	C	22.7	>1.00	m100	E	56.7	>1.00	m#607
Brookline Westbound Left	D	37.2	0.71	#196	D	50.3	0.30	35
Brookline Westbound Thru	B	19.8	0.70	376	C	29.3	0.72	282
BIDMC Northbound Left/Right	E	77.8	0.94	#185	F	>80.0	>1.00	#460

Table 4-24 Continued
2020 Build Signalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Longwood Avenue/Binney Street	**D**	**38.3**	**0.80**		**C**	**29.7**	**0.61**	
Binney Eastbound Left/Thru/Right	F	>80.0	>1.00	#368	F	90.7	0.94	#265
Binney Westbound Left/Thru	D	39.6	0.56	#153	D	42.9	0.47	133
Binney Westbound Right	C	32.6	0.06	38	D	38.4	0.10	46
Longwood Northbound Left/Thru/Right	B	15.9	0.56	184	B	16.8	0.49	213
Longwood Southbound Left/Thru/Right	A	7.3	0.66	m33	B	15.8	0.47	m118
Brookline Avenue/Riverway	**F**	**>80.0**	**>1.00**		**F**	**>80.0**	**>1.00**	
Brookline Eastbound Left	F	>80.0	>1.00	#439	F	>80.0	>1.00	#323
Brookline Eastbound Thru/Right	F	>80.0	>1.00	#392	D	52.4	0.76	243
Brookline Westbound Left	F	>80.0	>1.00	#488	F	>80.0	>1.00	m#624
Brookline Westbound Thru/Right	C	26.8	0.65	154	D	46.8	0.74	m304
Riverway Northbound Left/Thru/Right	F	>80.0	>1.00	#890	E	79.6	>1.00	#605
Riverway Southbound Left/Thru/Right	B	19.0	0.56	265	F	>80.0	>1.00	#798

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 4-25
2020 Build Unsignalized Intersection Level of Service (LOS) Summary

	AM Peak Hour Operations				PM Peak Hour Operations			
Intersection	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**	**LOS**	**Delay (sec)**	**V/C**	**95th % Queue (ft)**
Riverway/Nessel Way								
Riverway Eastbound Thru/Right	A	Neg	0.41	Neg	A	Neg	0.34	Neg
Riverway Westbound Left/Thru	A	1.2	0.29	2	A	0.2	0.41	1
Nessel Northbound Left/Right	B	12.3	0.06	5	B	13.6	0.21	20
Longwood Avenue/Nessel Way								
Nessel Westbound Left/Right	F	55.3	0.23	21	D	30.9	0.02	1
Longwood Northbound Thru/Right	A	Neg	0.22	Neg	A	Neg	0.33	Neg
Longwood Southbound Left/Thru	A	0.1	Neg	Neg	A	0.1	Neg	Neg
Pilgrim Road/ Shared Driveway/ Longwood Avenue								
Pilgrim Eastbound Left/Thru/Right	F	>80.0	>1.00	n/a	F	>80.0	>1.00	n/a
Shared Driveway Westbound Left/Thru/Right	F	>80.0	>1.00	n/a	F	>80.0	>1.00	n/a
Longwood Northbound Left	B	14.8	0.39	47	A	9.5	0.11	10
Longwood Northbound Thru/Right	A	Neg	0.30	Neg	A	Neg	0.27	Neg
Longwood Southbound Left	C	24.8	0.56	84	B	12.1	0.09	8
Longwood Southbound Thru/Right	A	Neg	0.29	Neg	A	Neg	0.24	Neg
Short Street Extension/Pilgrim Road								
Pilgrim Eastbound Left/Thru	A	7.4	-	-	A	7.9	-	-
Pilgrim Westbound Thru/Right	A	8.0	-	-	A	7.1	-	-
Brookline Avenue/Joslin Place								
Brookline Eastbound Left	B	12.8	0.26	26	C	23.4	0.30	30
Brookline Eastbound Thru	A	Neg	0.33	Neg	A	Neg	0.22	Neg
Brookline Westbound Thru/Right	A	Neg	0.31	Neg	A	Neg	0.58	Neg
Brookline Avenue/Pilgrim Road								
Brookline Eastbound Left/Thru	A	0.7	0.41	2	A	0.7	0.50	2
Brookline Westbound Thru/Right	A	Neg	0.61	Neg	A	Neg	0.44	Neg

Operations Summary

LOS operations for the signalized intersection are summarized in **Table 4-26.** Unsignalized intersections are illustrated in **Table 4-27.**

Table 4-26
Signalized Intersection Overall Level of Service (LOS) Summary

	AM Peak Hour Operations					PM Peak Hour Operations				
	Existing	2015 No Build	2015 Build	2020 No Build	2020 Build	Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Longwood Avenue/Riverway	F	F	F	F	F	F	F	F	F	F
Riverway/Short Street Ext	B	B	B	B	B	B	B	B	B	B
Brookline Ave/Deaconess Rd/Jimmy Fund Way	C	E	E	E	E	C	C	C	C	D
Brookline Ave/Longwood Ave	E	F	F	F	F	C	D	D	D	E
Brookline Ave/BIDMC Driveway	C	C	C	C	C	C	D	D	D	D
Longwood Ave/Binney St	C	C	C	D	D	C	C	C	C	C
Brookline Ave/Riverway	F	F	F	F	F	F	F	F	F	F

Table 4-27
Unsignalized Intersection Level of Service (LOS) Summary – Critical Approach*

	AM Peak Hour Operations					PM Peak Hour Operations				
	Existing	2015 No Build	2015 Build	2020 No Build	2020 Build	Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Riverway/Nessel Way	B	B	B	B	B	B	B	B	B	B
Longwood Ave/Nessel Way	E	E	E	F	F	C	D	D	D	D
Pilgrim Road/Longwood Ave	F	F	F	F	F	F	F	F	F	F
Short St Ext/Pilgrim Road	A	A	A	A	A	A	A	A	A	A
Brookline Ave/Joslin Place	B	B	B	B	B	B	C	C	C	C
Brookline Ave/Pilgrim Road	A	A	A	A	A	A	A	A	A	A

*Overall LOS is not provided for unsignalized locations. Critical stop-controlled approach is shown only.

LOS operations for the 2015 Build Condition indicate that the increase in students and staff associated with the Pilgrim Road Project and the Courtyard Addition Project and the interim parking condition do not cause any signalized intersection to decrease in overall LOS.

The critical stop-controlled approaches to the unsignalized intersections of Pilgrim Road/Longwood Avenue and Longwood Avenue/Pilgrim Road operate with significant delay during the peak hours today. These long delays are the result of heavy pedestrian crossing demands along the Longwood Avenue corridor, which traffic must yield to. The 2015 Build Condition does not significantly contribute to the delays at these unsignalized locations.

The 2020 Build Condition analysis, which includes the Longwood Avenue Project and the below-grade parking structure at the Winsor Campus, experiences a decrease in LOS at the Brookline Avenue/Longwood Avenue intersection during the evening peak hour. It is expected that the Brookline Avenue/Longwood Avenue intersection will change from a LOS D to a LOS E during the evening due to a 10 second increase in overall vehicle delay. With completion of the Longwood Avenue Project, the curb radius at this intersection will be modified to increase the vehicle turning radius, which will contribute to an improved driving experience when making a right turn onto Longwood Avenue northbound.

The intersection of Brookline Avenue/Deaconess Road/Jimmy Fund Way also experiences a decline in LOS during the evening peak hour due to project generated traffic. This location will change from a LOS C to a LOS D. Overall a LOS D is typically considered acceptable in an urban environment.

The intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway is expected to continue to operate at a LOS F upon the completion of the Longwood Avenue Project.

In connection with the proposed Longwood Avenue Project, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway warrants the implementation of a traffic signal at this location. Winsor is committed to working with its neighbors to implement this improvement subject to further study and the direction of the BTD.

5

Environmental Protection Component

This chapter presents the results of technical studies that were conducted to determine the direct or indirect impact to the environment reasonably attributable to the Proposed Projects as described in Chapter 1 *Project Description and Impact Summary.* The Proposed Projects include the Pilgrim Road Project, the Longwood Avenue Project, and the Courtyard Addition Project as described previously in this filing. Existing conditions and proposed conditions are shown in **Figures 5-1 and 5-2**, respectively. The categories of environmental impacts for which studies and mitigation are addressed herein include wind, shadow, daylight, solar glare, air quality, solid and hazardous waste, noise, stormwater management, flood hazards/wetlands, geotechnical and groundwater analysis, construction impacts, rodent control, historical resources, and sustainable design.

Pedestrian Wind Conditions

■

Introduction

Pedestrian level winds conditions were evaluated as a part of this Expanded PNF in anticipation of the BRA requiring a quantitative study as required by Section 80-B3 of the Boston Zoning Code. The objective of the wind study was to assess the potential effect of the proposed Longwood Avenue Project, the Pilgrim Road Project, and the Courtyard Addition Project on local wind conditions in pedestrian areas in the vicinity of the Proposed Projects, with a particular focus on pedestrian wind conditions on the public ways, and other pedestrian amenities around the Winsor Campus. These results will guide the Proponent and its design team, in consultation with BRA design staff, in devising strategies for minimizing unacceptable effects generated by the Proposed Projects, if any.

The study involved wind simulation on a 1:400 scale model of the Proposed Project area, and the study identifies specific changes in wind patterns and velocities. The simulations were conducted by Rowan, Williams Davies and Irwin (RWDI) in a boundary-layer wind tunnel for the purpose of estimating local wind speed conditions under future No-Build Conditions (without the Proposed Projects completed) and future Build Conditions (with the Proposed Projects). Both the No-Build and Build Conditions include the approved Longwood Center project at the Brookline Avenue/Longwood Avenue intersection.

The RWDI study modeled the pedestrian ground level wind conditions at one hundred and one (101) locations, including key pedestrian routes and public streets surrounding the Winsor School Campus. Public vehicular and pedestrian routes including Brookline Avenue, Longwood Avenue, Pilgrim Road, Nessel Way (a private way) and Binney Street were each evaluated. Evaluation points were also located on Short Street Extension, a private way open to public travel that runs from Pilgrim Road to the Riverway and along the Pedestrian Pathway that connects Short Street Extension to Brookline Avenue. Areas within the Winsor Campus, including locations on the existing athletic fields, were included as part of the study evaluation area.

The results of the wind tunnel study were compared to the BRA-recommended criteria for evaluating pedestrian level winds. As discussed below, overall, the Proposed Projects will have no significant negative effect on the pedestrian wind environment and will generally result in an improvement over the studied No-Build Conditions in the public spaces surrounding the Winsor Campus.

Overview

Major buildings, particularly those that extend above their surroundings, may cause increased local wind speeds at the pedestrian level. Typically, wind speed increases with elevation above the ground surface, and taller buildings intercept these faster winds and have the potential to deflect them down toward the pedestrian environment. The funneling of wind through gaps between buildings and the acceleration of wind around corners of buildings may also contribute to increases in wind speed. Conversely, if a building is surrounded by other buildings of equivalent height, it may be protected from prevailing upper-level winds, resulting in no significant changes to the local pedestrian-level wind environment.

The design of a building is an important factor in limiting potential wind impacts. The configuration of a building can limit wind impacts through orientation of building massing, the provision of articulation that breaks up massing, ground level appurtenances such as canopies and landscaping, and even elements of the building face such as windows and doorways.

The most effective way to assess potential pedestrian-level wind impacts around a proposed new building is to conduct scale model tests in a wind tunnel. For that reason, RWDI has conducted the tests which are reported herein.

The consideration of wind in planning outdoor activity areas is important since high winds in an area can deter pedestrian use. For example, winds should be light or

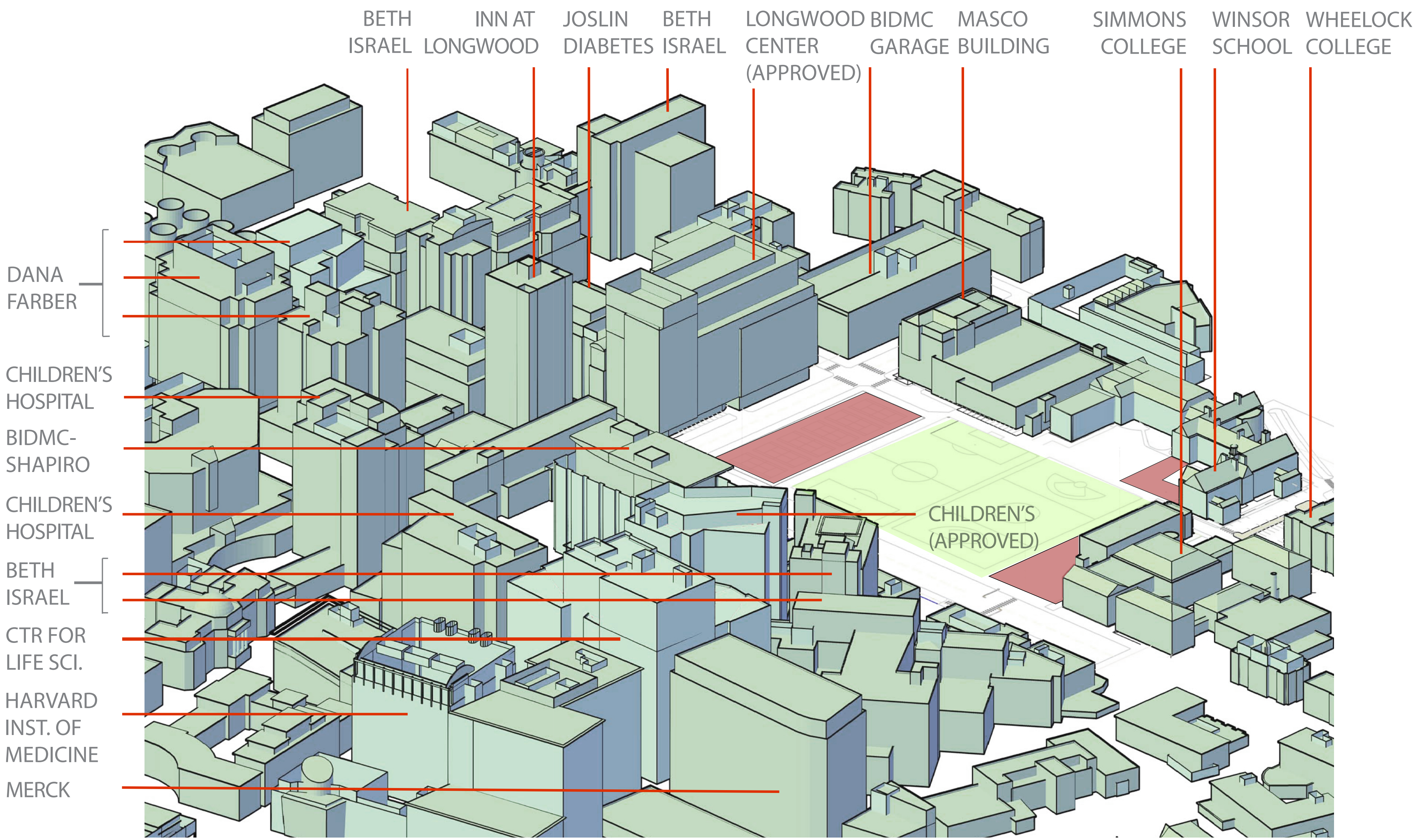

BETH ISRAEL
INN AT LONGWOOD
JOSLIN DIABETES
BETH ISRAEL
LONGWOOD CENTER (APPROVED)
BIDMC GARAGE
MASCO BUILDING
SIMMONS COLLEGE
WINSOR SCHOOL
WHEELOCK COLLEGE
DANA FARBER
CHILDREN'S HOSPITAL
BIDMC-SHAPIRO
CHILDREN'S HOSPITAL
BETH ISRAEL
CTR FOR LIFE SCI.
HARVARD INST. OF MEDICINE
MERCK
CHILDREN'S (APPROVED)

Figure 5-1

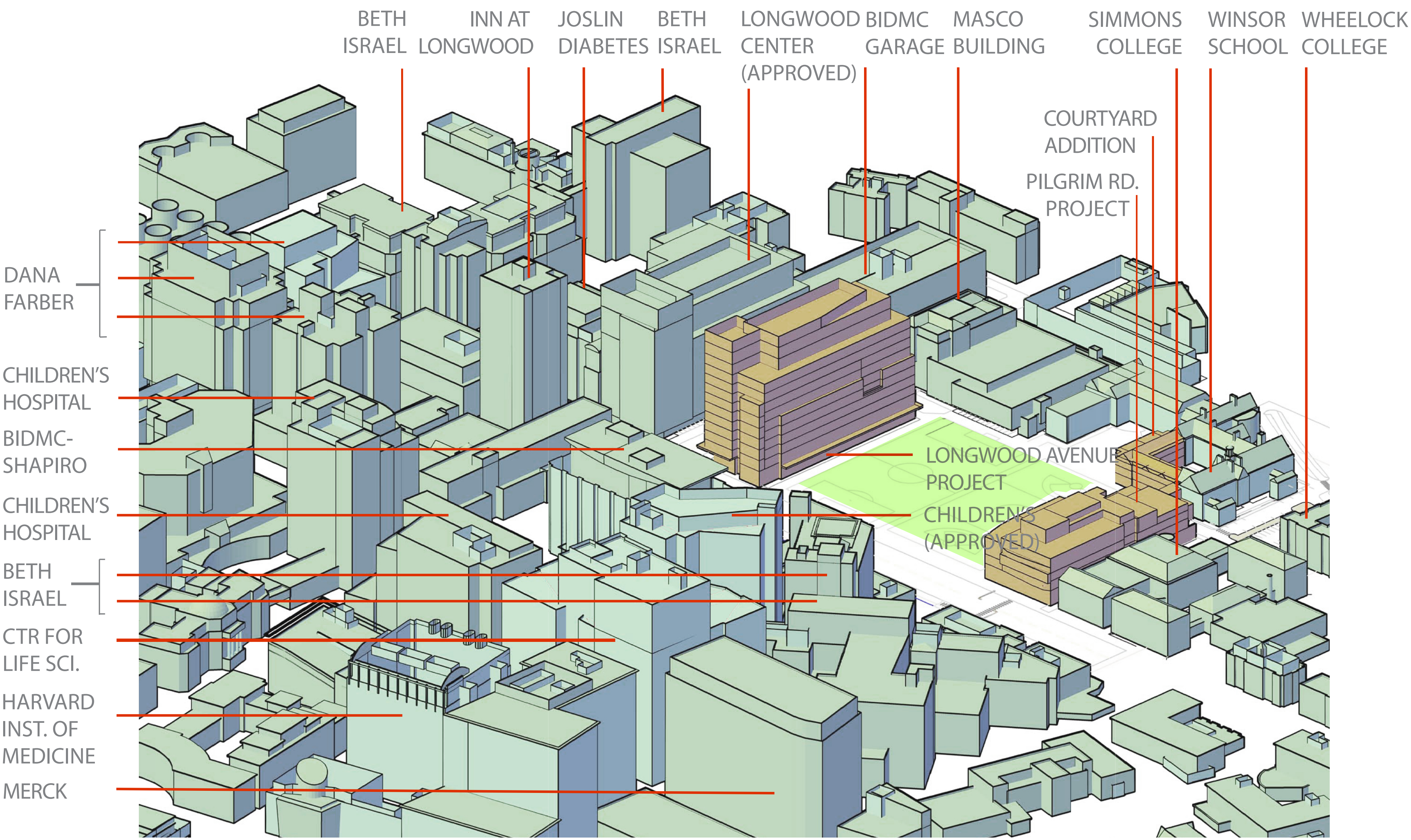

BETH ISRAEL
INN AT LONGWOOD
JOSLIN DIABETES
BETH ISRAEL
LONGWOOD CENTER (APPROVED)
BIDMC GARAGE
MASCO BUILDING
SIMMONS COLLEGE
WINSOR SCHOOL
WHEELOCK COLLEGE
COURTYARD ADDITION
PILGRIM RD. PROJECT
DANA FARBER
CHILDREN'S HOSPITAL
BIDMC-SHAPIRO
CHILDREN'S HOSPITAL
BETH ISRAEL
CTR FOR LIFE SCI.
HARVARD INST. OF MEDICINE
MERCK
LONGWOOD AVENUE PROJECT
CHILDREN'S (APPROVED)

Figure 5-2

relatively light in areas where people would be sitting, such as outdoor cafés or playgrounds. For bus stops and other locations where people would be standing, somewhat higher winds can be tolerated. For frequently used sidewalks, where people are primarily walking, stronger winds are acceptable. For infrequently used areas, the wind comfort criteria can be relaxed even further. The actual effects of wind can range from pedestrian inconvenience, due to the blowing of dust or other loose materials in a moderate breeze, to severe difficulty with walking due to the wind forces on the pedestrian.

Methodology

Information concerning the Proposed Projects and surroundings was derived primarily from the BRA's three-dimensional CAD-based model for the Longwood Medical and Academic Area (LMA), which includes the approved Longwood Center project massing. This model was visually checked against site photographs, information on surrounding buildings supplied by the Proponent's design team, and site plans and elevations of the Proposed Projects provided by the design team.

The following configurations were simulated:

- **No-Build Conditions** – includes existing buildings on and around the site as well as planned buildings within the Study Area that have been approved through the City of Boston Article 80 process; and;
- **Build Conditions** – includes the Proposed Projects in addition to the structures included in the future No-Build Condition.

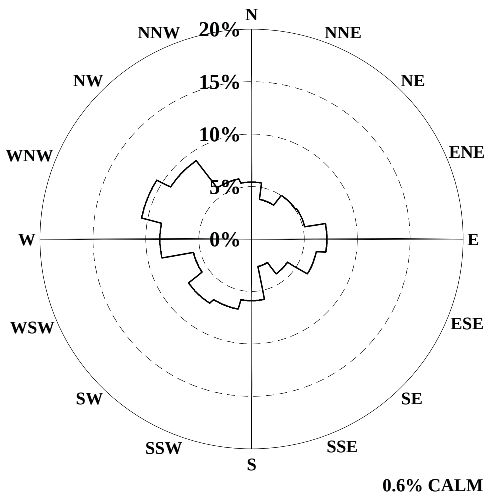
The scale model was equipped with wind speed sensors that were connected to the wind tunnel's data acquisition system to record the mean and fluctuating components of wind speeds at a full-scale height of about five feet above grade in pedestrian areas throughout the Study Area. Study locations were selected by RWDI based on their extensive experience in modeling pedestrian level wind conditions in Boston. Sensor locations were selected to adequately model conditions along the public pedestrian ways around the Winsor Campus and adjacent abutting properties. The horizontal extent of the Study Area was selected to capture any locations likely to be affected by the Proposed Projects. This methodology was confirmed by comparing the modeled conditions at the perimeter of the Study Area under the existing and proposed conditions. As shown on **Figures 5-4 and 5-5**, none of the study locations at the edge of the Study Area showed a material change between these two study conditions. See the *PNF Appendix* for further information.

Wind speeds were measured for 36 wind directions, in 10 degree increments, starting from true north (see **Figure 5-3**). The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the reference wind speed in the free stream above the model. The results were then combined with long-term meteorological data, recorded during the years 1945 to 1998 at Boston's Logan International Airport, in order to predict full scale wind conditions. The analysis was performed separately for each of the four seasons and for the entire year.

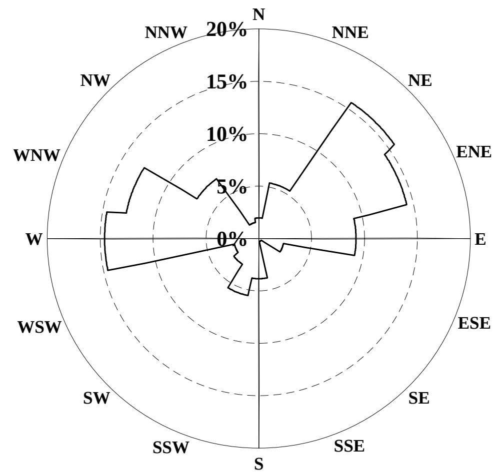
This study involved state-of-the-art measurements and analysis techniques to predict wind conditions at the Study Area. Some uncertainty remains in predicting individual wind comfort, because the sensation of comfort among individuals can be quite variable. The comfort limits used in this report represent an average for the total population. Also, unforeseen changes in the Study Area, such as the construction or removal of buildings, can affect the conditions experienced at or near the Proposed Projects. Finally, the predictions of wind speeds are necessarily a statistical procedure. The wind speeds reported are for the frequency or occurrence stated (on percent of the time).

Pedestrian Wind Comfort Criteria

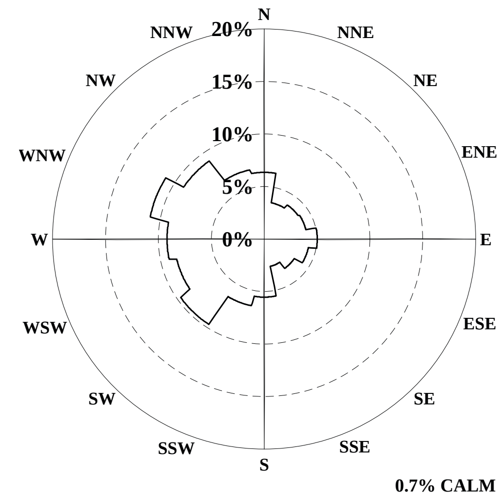
The BRA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BRA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed + 1.5 times the root-mean-square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BRA to determine the acceptability of specific location is based on the work of Melbourne. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing or walking. The criteria are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). These are as follows in **Table 5-1**.



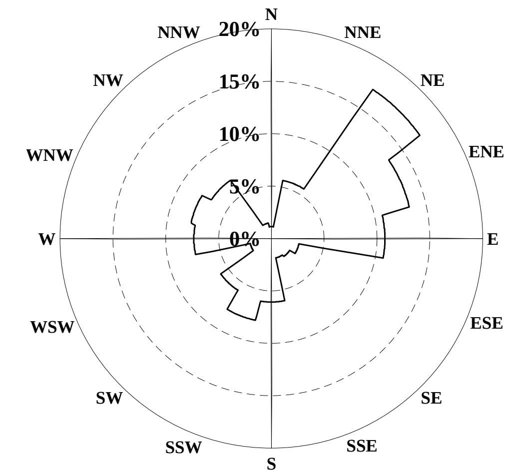
ALL SPRING WINDS



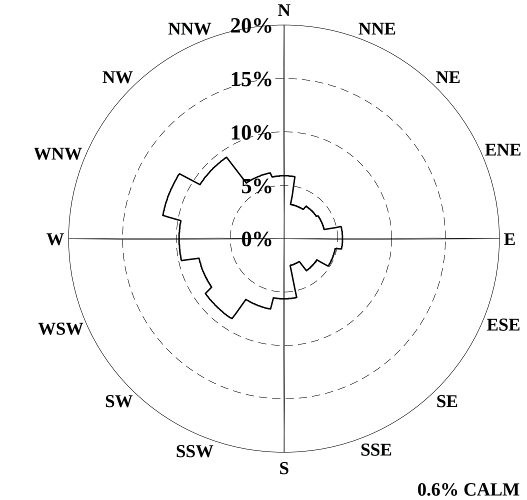
STRONG SPRING WINDS



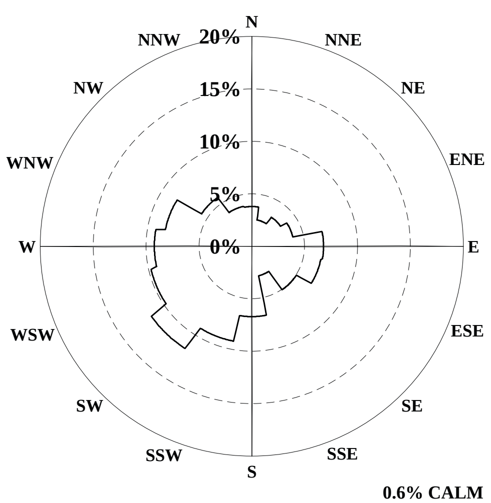
ALL FALL WINDS



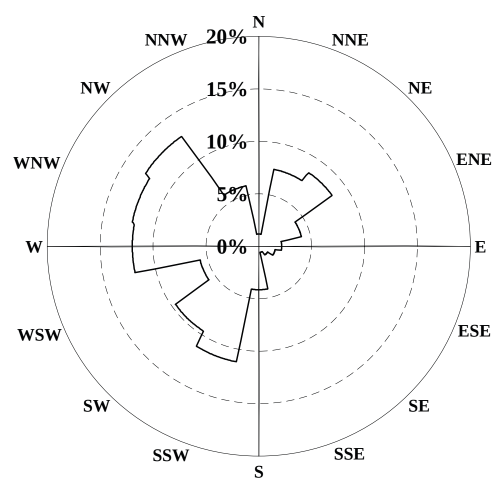
STRONG FALL WINDS



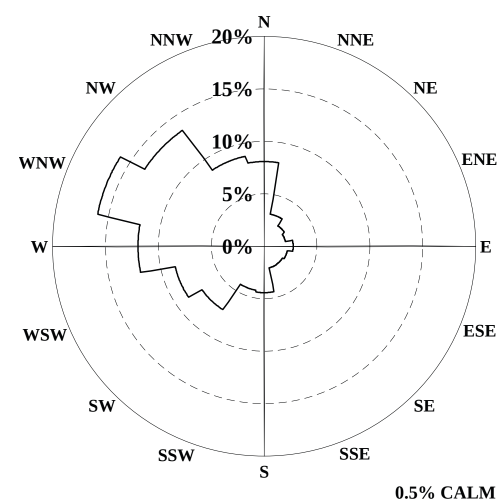
ALL ANNUAL WINDS



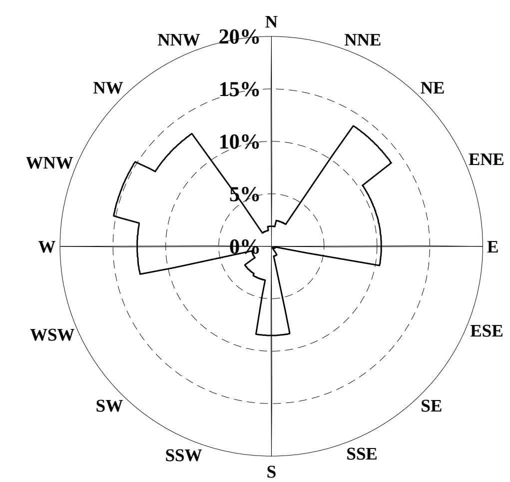
ALL SUMMER WINDS



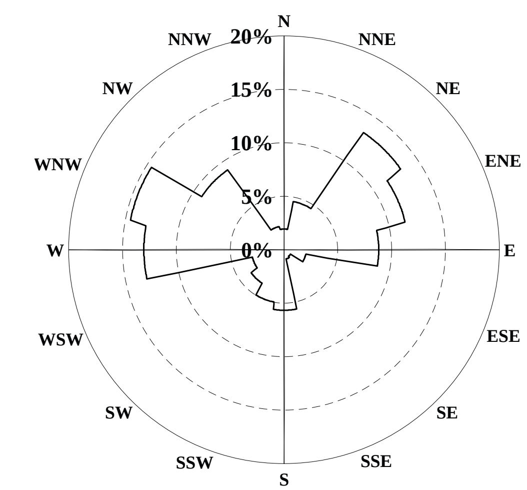
STRONG SUMMER WINDS



ALL WINTER WINDS



STRONG WINTER WINDS



STRONG ANNUAL WINDS

Figure 5-3

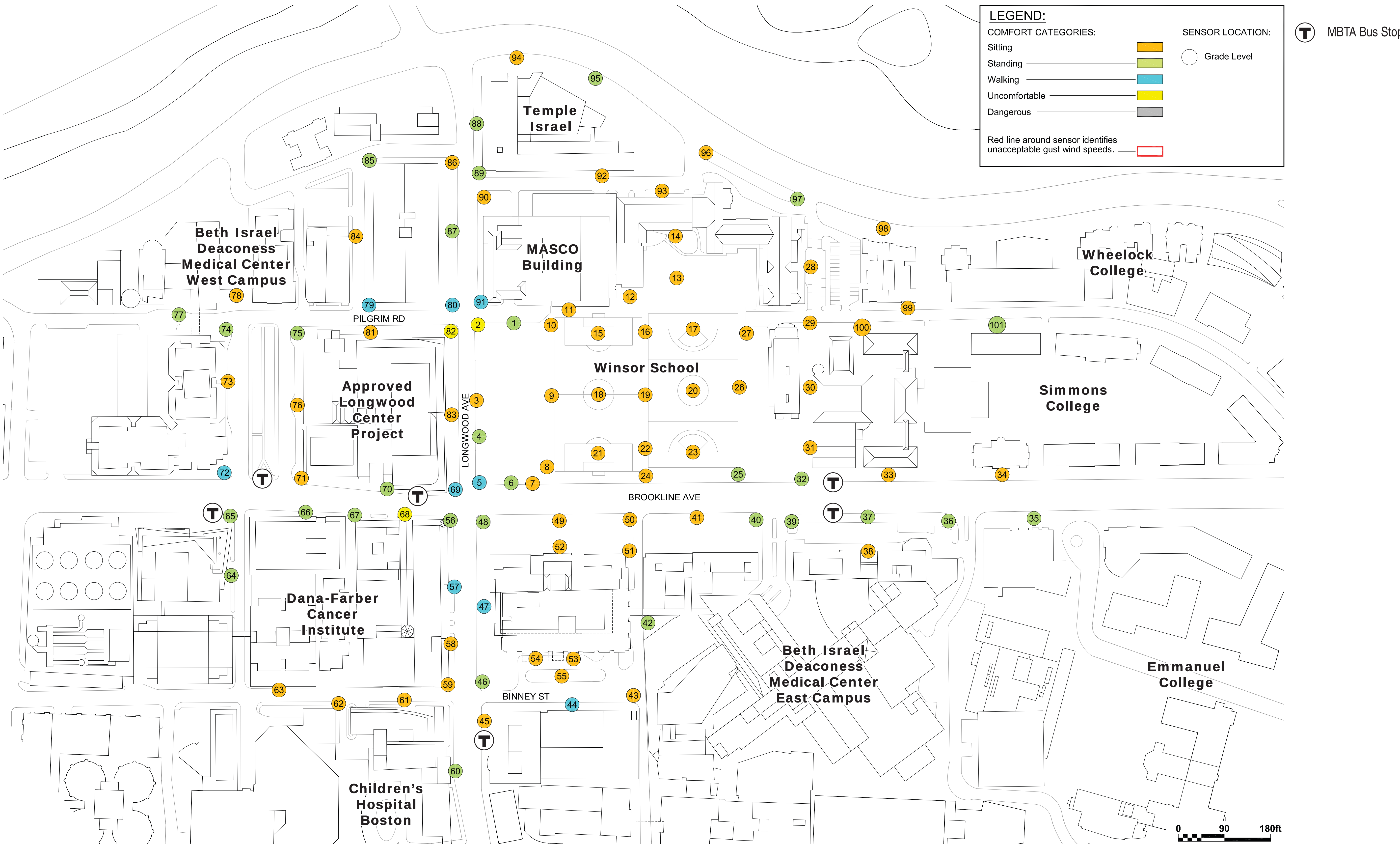

LEGEND:
COMFORT CATEGORIES:
Sitting
Standing
Walking
Uncomfortable
Dangerous
Red line around sensor identifies unacceptable gust wind speeds.
SENSOR LOCATION:
Grade Level
MBTA Bus Stop
Temple Israel
Beth Israel Deaconess Medical Center West Campus
MASCO Building
Wheelock College
PILGRIM RD
Approved Longwood Center Project
LONGWOOD AVE
Winsor School
Simmons College
BROOKLINE AVE
Dana-Farber Cancer Institute
Beth Israel Deaconess Medical Center East Campus
Emmanuel College
BINNEY ST
Children's Hospital Boston
0
90
180ft

Figure 5-4

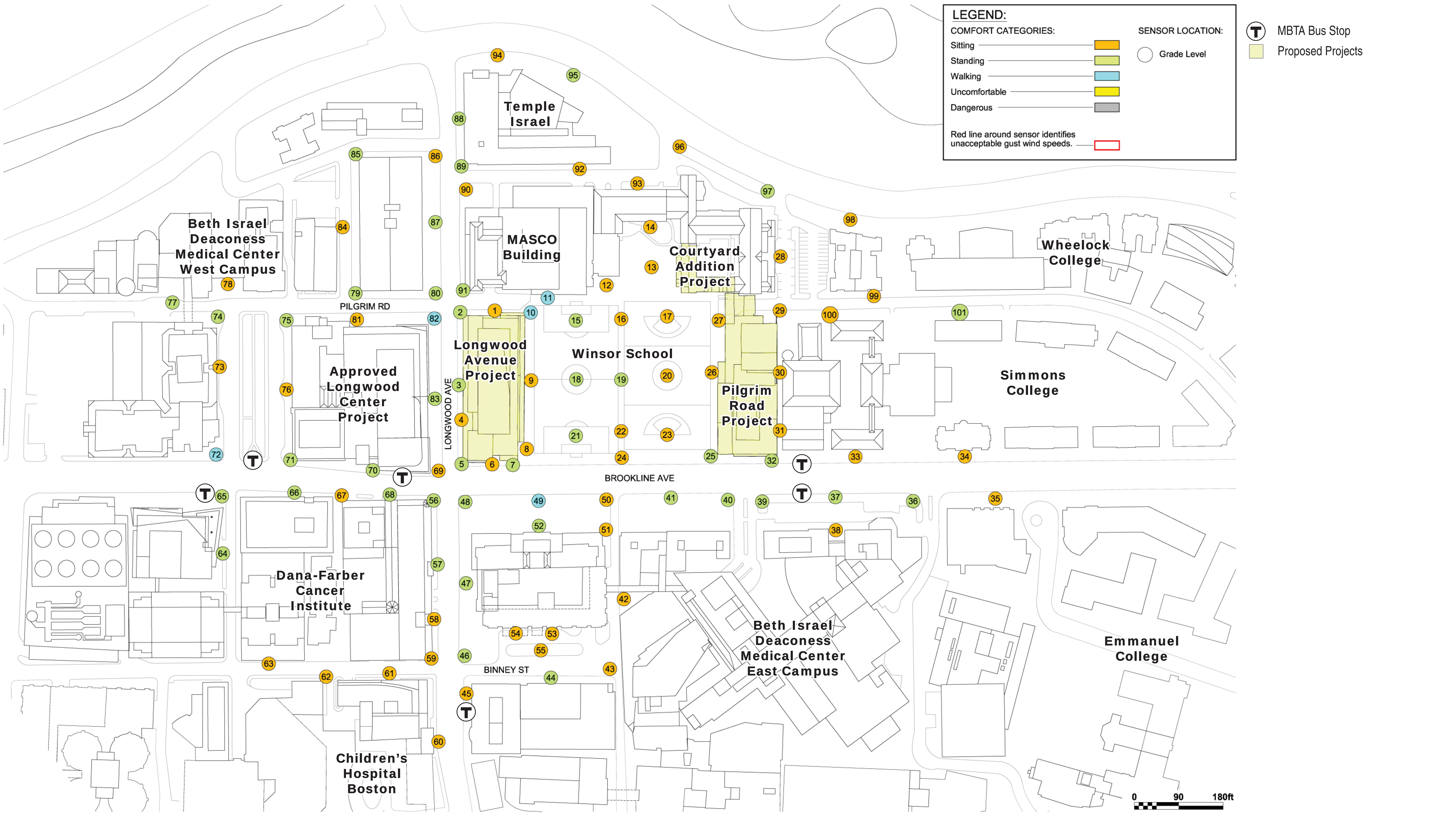

LEGEND:
COMFORT CATEGORIES:
Sitting
Standing
Walking
Uncomfortable
Dangerous
SENSOR LOCATION:
Grade Level
Red line around sensor identifies unacceptable gust wind speeds.
MBTA Bus Stop
Proposed Projects
Temple Israel
Beth Israel Deaconess Medical Center West Campus
MASCO Building
Courtyard Addition Project
Wheelock College
PILGRIM RD
Longwood Avenue Project
Winsor School
Approved Longwood Center Project
Pilgrim Road Project
Simmons College
LONGWOOD AVE
BROOKLINE AVE
Dana-Farber Cancer Institute
Beth Israel Deaconess Medical Center East Campus
Emmanuel College
BINNEY ST
Children's Hospital Boston
0
90
180ft

Figure 5-5

Table 5-1
BRA Mean Wind Criteria*

Melbourne Category	Description	Criteria*
1. Comfortable for Sitting	Recommended for outdoor cafes and amenities that promote sitting.	≤12 miles per hour
2. Comfortable for Standing	Appropriate at major building entrances, bus stops or other areas where people may want to linger but not necessarily sit for extended periods of time.	>12 and ≤15 miles per hour
3. Comfortable for Walking	Appropriate from sidewalks, plazas, parks where people are more likely to be active and receptive to some wind activity.	>15 and ≤19 miles per hour
4. Uncomfortable for Walking	Considered a nuisance for some activities, but can be acceptable, depending upon the season and use of an area.	>19 and ≤27 miles per hour
5. Dangerous	Wind speeds can adversely affect a pedestrian's balance and footing.	> 27 miles per hour

Source: Boston Redevelopment Authority
* Applicable to the hourly mean wind speed exceeded 1 percent of the time.

The wind climate found in a typical urbanized area in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BRA effective gust velocity criterion of 31 mph. However, without any mitigation measures; the general wind climate in Boston can be uncomfortable for more passive activities such as sitting.

■

Test Results

The following sections describe the expected pedestrian level wind conditions in the existing, and proposed conditions. Related figures can be found in the *PNF Appendix* under Pedestrian Level Wind Analysis. **Table 5-2** gives a brief overview of the no-build and build condition pedestrian level wind results.

Table 5-2
Pedestrian Wind Level Results

Comfort Category	No-Build Condition	Build Condition	Change in Level
Sitting	59	54	(-5)
Standing	30	42	12
Walking	9	5	(-4)
Uncomfortable	3	0	(-3)
Dangerous	0	0	0

As seen in **Table 5-2**, pedestrian wind levels generally improve throughout the project Study Area as a result of the Proposed Projects' construction. In the build condition, the three uncomfortable points are eliminated. The standing level points increase from 30 to 42 in the build condition. A more detailed summary of the results can be found below.

No-Build Condition

No-Build Condition was examined to provide a baseline for the pedestrian wind environment. The same ground level points were used to assess both no-build and proposed (build) conditions. No-Build wind conditions are shown on **Figure 5-4**.

In the no-build condition, the area around the Winsor Campus shows some variability in wind conditions resulting from the existing building massing and street configurations. Most areas meet the criteria of being comfortable for Sitting, Standing or Walking as noted in **Table 5-1**. Three locations (2, 68 and 82) indicate average annual wind speeds characterized as Uncomfortable. Two of these locations are at the Longwood Avenue/Pilgrim Road/shared Winsor-MASCO driveway intersection and one is on Brookline Avenue at the entrance to the Longwood Galleria.

Build Condition

In reviewing the no build conditions (**Figure 5-4**) and the proposed conditions (**Figure 5-5**), changes to the wind speeds and patterns were generally in the immediate vicinity of the Proposed Projects. Effects of the proposed buildings diminished generally within a half of a block of the Proposed Projects. The areas that experienced the most uniform increases in wind speed were within the Winsor School's campus. Areas outside the Campus are generally anticipated to experience decreases in annual wind speed as a result of the Proposed Projects. As anticipated, the buildings' effect on the winter winds from the northwest were most notable.

Along Longwood Avenue, wind conditions at key intersections improved as a result of the location of the Longwood Avenue Project. At Locations 2 and 82, which are at the corner of Pilgrim Road and Longwood Avenue, annual wind speeds decreased between 3 and 5 miles per hour resulting in a change in classification from Uncomfortable to Standing (Location 2) and Walking (Location 82). Locations 69 and 5 at the Longwood Avenue and Brookline Avenue intersection showed reduced wind velocities between 1 and 4 miles per hour annually and the comfort classifications for each improved commensurately. These intersections are part of a very active pedestrian corridor and the change in wind conditions is expected to have a positive impact on the use of this public sidewalk area.

Location 68, which was established to coincide with the entrance to the Longwood Galleria Food Court, saw a drop in annual wind speed of 8 miles per hour changing the rating at this location two categories from Uncomfortable to Standing.

All three of the locations categorized as Uncomfortable in the no-build condition, were improved as a result of the Proposed Projects. Under the proposed build condition, no locations exhibit an Uncomfortable annual mean wind speed, and all locations are categorized as Walking or better.

As anticipated, areas within the existing Winsor athletic fields will experience an increase in annual wind speed as a result of the Proposed Projects. In the westerly field, Locations 15, 18 and 21 along the north-south axis of the field, see an annual increase of between 4 and 6 miles per hour. This changes the rating for these locations from Sitting to Standing, which is still well within the acceptable range for the proposed recreational use of the field. The easterly field sees a 1 mile per hour change along its axis and no difference in the comfort category.

Along the Pedestrian Pathway abutting the proposed Pilgrim Road Project, annual wind velocities only vary between 1 and 2 miles per hour between the no build and proposed build condition. Comfort ratings along this corridor remain unchanged.

Location 49 on Brookline Avenue is projected to experience a 6 miles per hour increase in annual wind speed while sensor locations to the east and west are nearly unchanged. This is presumably a result of the alignment of this sensor location with the east face of the Longwood Avenue Project. Despite the change, under proposed conditions, location 49 is rated as Walking, which is within the allowable comfort criteria and appropriate for a pedestrian corridor. In addition, the RWDI study did not take into account the mitigation effect provided by the numerous trees located around that area along Brookline Avenue.

In sum, the Proposed Projects do not have an adverse impact on the wind conditions for public pedestrian areas in the Study Area. Therefore, the Longwood Avenue Project, the Pilgrim Road Project and the Courtyard Addition Project meet the BRA's criteria for wind impacts related to a Proposed Project.

Shadow Analysis

A shadow comprehensive impact study was performed to illustrate and evaluate the shadows that would be cast by the Proposed Projects. (The shadow studies for the Courtyard Addition Project and the Longwood Avenue Project are based upon conceptual height and massing designs only). The study depicts the existing shadow conditions in addition to the Proposed Projects' net new shadows for each of the four seasons (Spring, Summer, Fall and Winter) at 9:00 AM, 12:00 Noon and 3:00 PM, as well as 6:00 PM for March, June, and September (see **Figure 5-6** through **5-20**).

Each study demonstrates net new shadow impacts by overlaying the shadows cast by the Proposed Projects over shadows cast by existing buildings and BRA-approved projects that are not yet built such as Longwood Center. The shadow impact study that has been conducted by the Proponent utilizes the applicable sun altitude/azimuth data for Boston, as described by the BRA.

As shown in the studies, the overall impact of shadows resulting from the Proposed Projects is relatively minor in relation to public pedestrian paths; the net new shadows primarily affect the Winsor Campus athletic fields and existing streets.

The March 21st shadow study illustrates shadows on Longwood Avenue during the morning, and over the Winsor campus during the afternoon and evening hours. The analysis indicates that the shadow impacts on March 21 meet the standard for shadows on the Emerald Necklace established in the LMA Interim Guidelines.

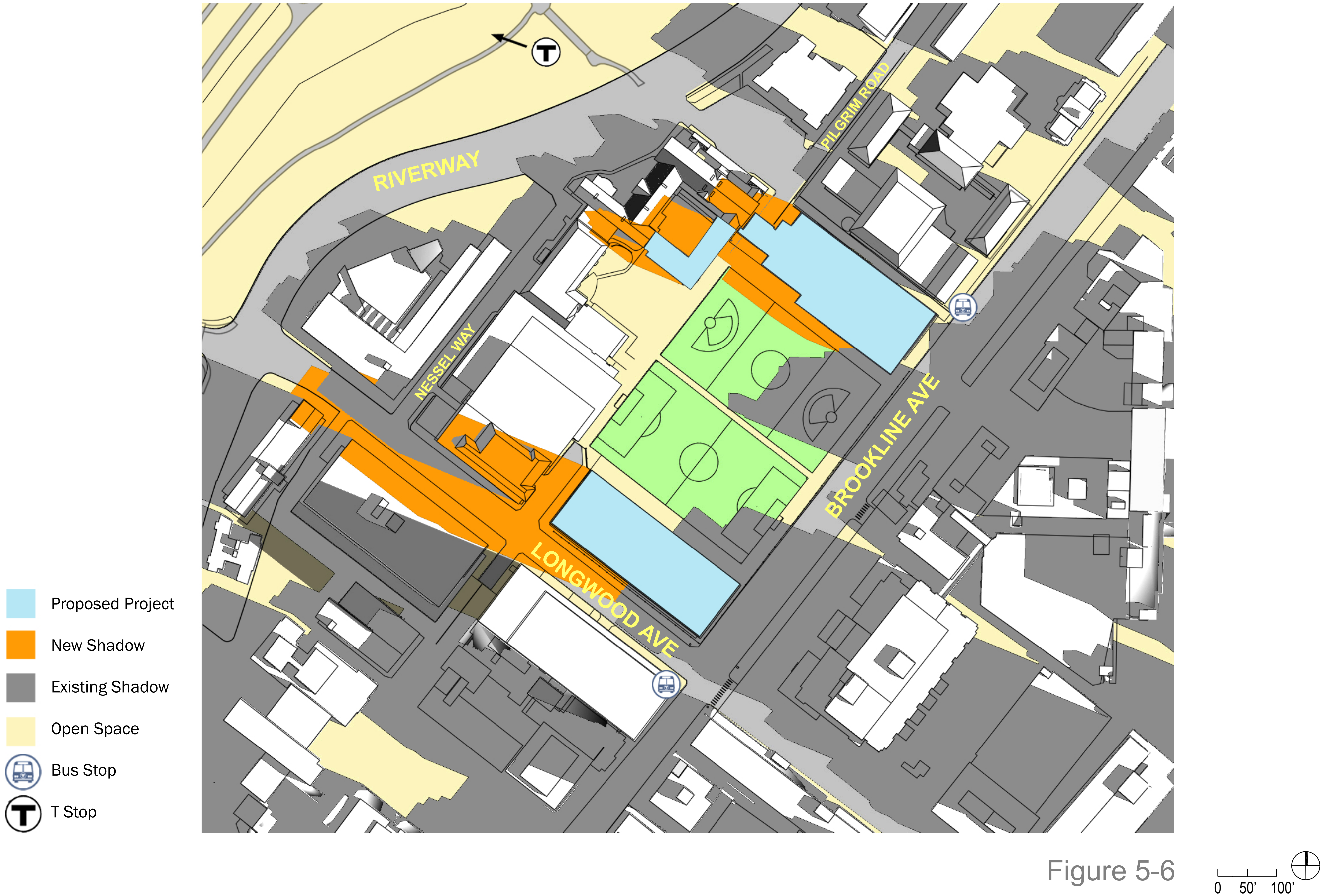
The June 21st shadow study of the Proposed Projects shows net new shadow on Longwood Avenue during the morning hours and small portions of Brookline Avenue during the afternoon and evening hours. The September shadows are similar to those produced on March 21st; these include minimal or no net-new shadow impact beyond those cast on adjacent streets and driveways.

The shadows cast by the Proposed Projects in December will, as expected, cover the furthest distance. As with other days of the year, the December shadows would be cast primarily over the existing Winsor campus with only small amounts of net-new shadow reaching the Riverway during specific periods of the day.

■

Emerald Necklace Shadow Study

A further study of the Proposed Projects' shadows effects on the Emerald Necklace is shown in **Figures 5-21** through **5-24**. The analysis was performed for the months of March, October, November and December in order to fully evaluate the range of potential impacts on the Emerald Necklace. It should be noted that large portions of the Emerald Necklace are already cast in shadow by existing buildings such as the MASCO Building and Garage.



RIVERWAY
PILGRIM ROAD
NESSEL WAY
BROOKLINE AVE
LONGWOOD AVE
Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop
0 50' 100'

Figure 5-6

Proposed Project

New Shadow

Existing Shadow

Open Space

Bus Stop

T Stop

Figure 5-7

0 50' 100'

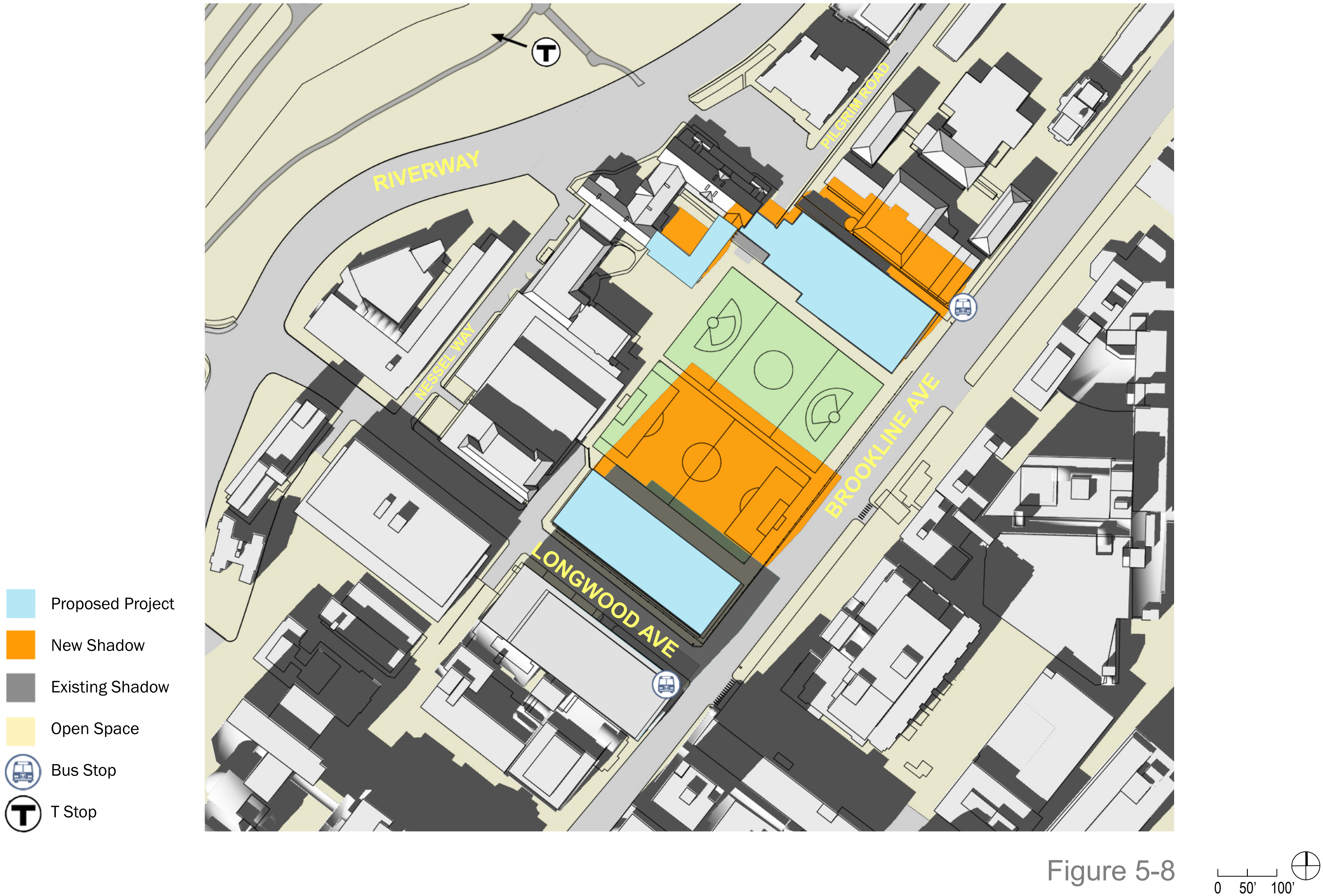

RIVERWAY
PILGRIM ROAD
NESSEL WAY
BROOKLINE AVE
LONGWOOD AVE
Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop
0
50'
100'

Figure 5-8

Proposed Project

New Shadow

Existing Shadow

Open Space

Bus Stop

T Stop

Figure 5-9

0 50' 100'

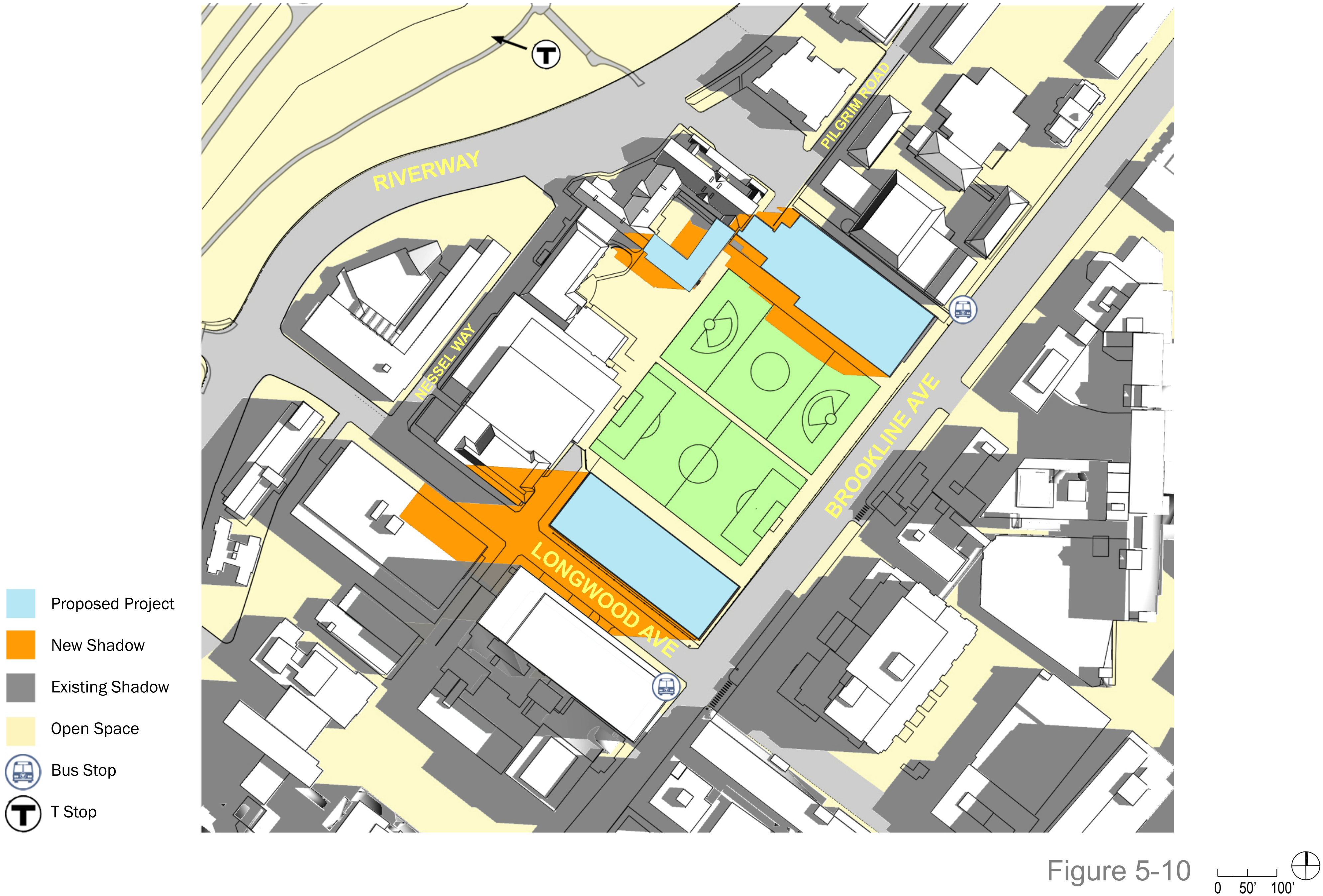


Figure 5-10

The Winsor School

Shadow Study
June 21, 9:00 AM

William Rawn Associates, Architects, Inc.

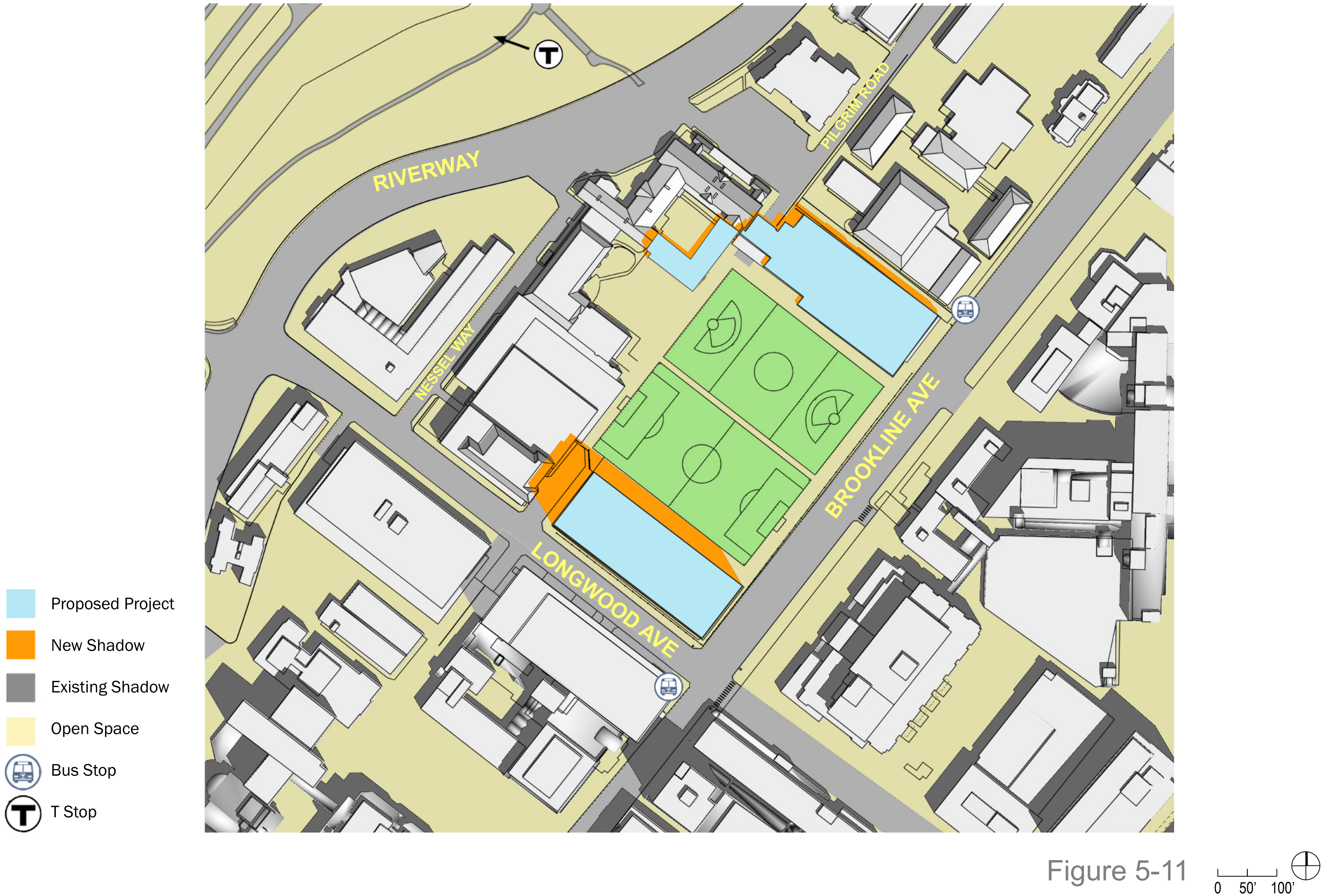

RIVERWAY
PILGRIM ROAD
NESSEL WAY
BROOKLINE AVE
LONGWOOD AVE
Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop
0 50' 100'

Figure 5-11

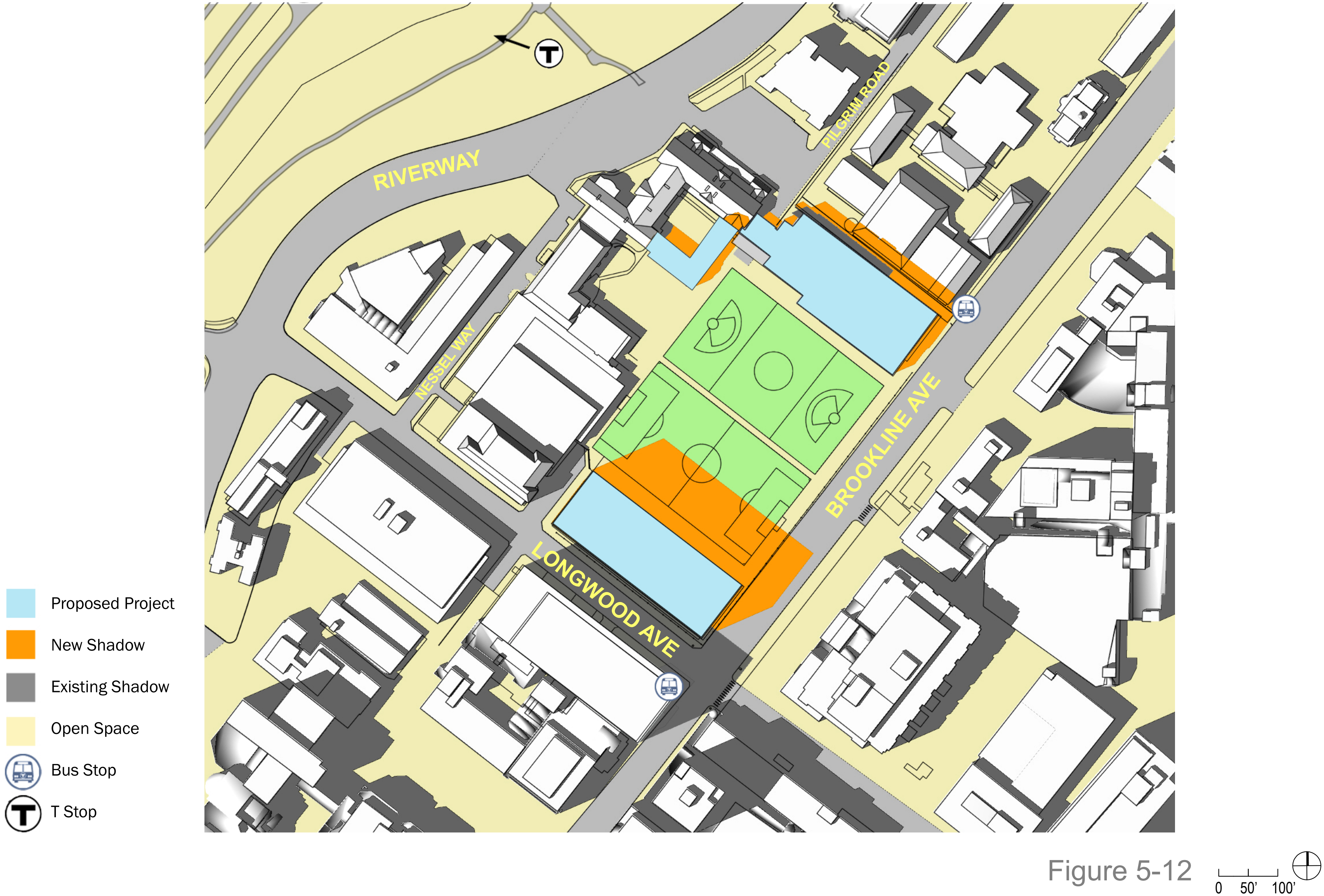


Figure 5-12

The Winsor School

Shadow Study
June 21, 3:00 PM

William Rawn Associates,
Architects, Inc.

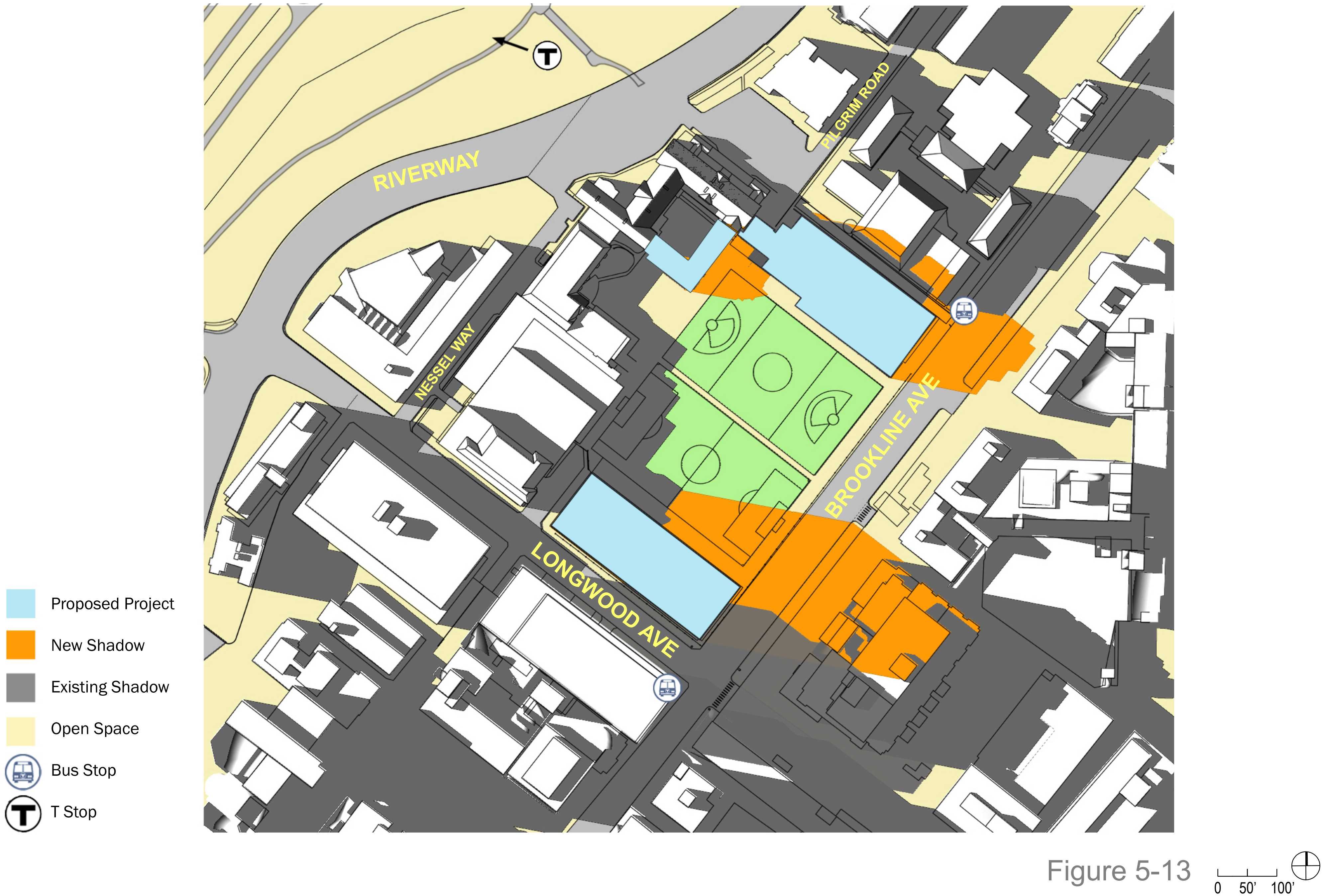
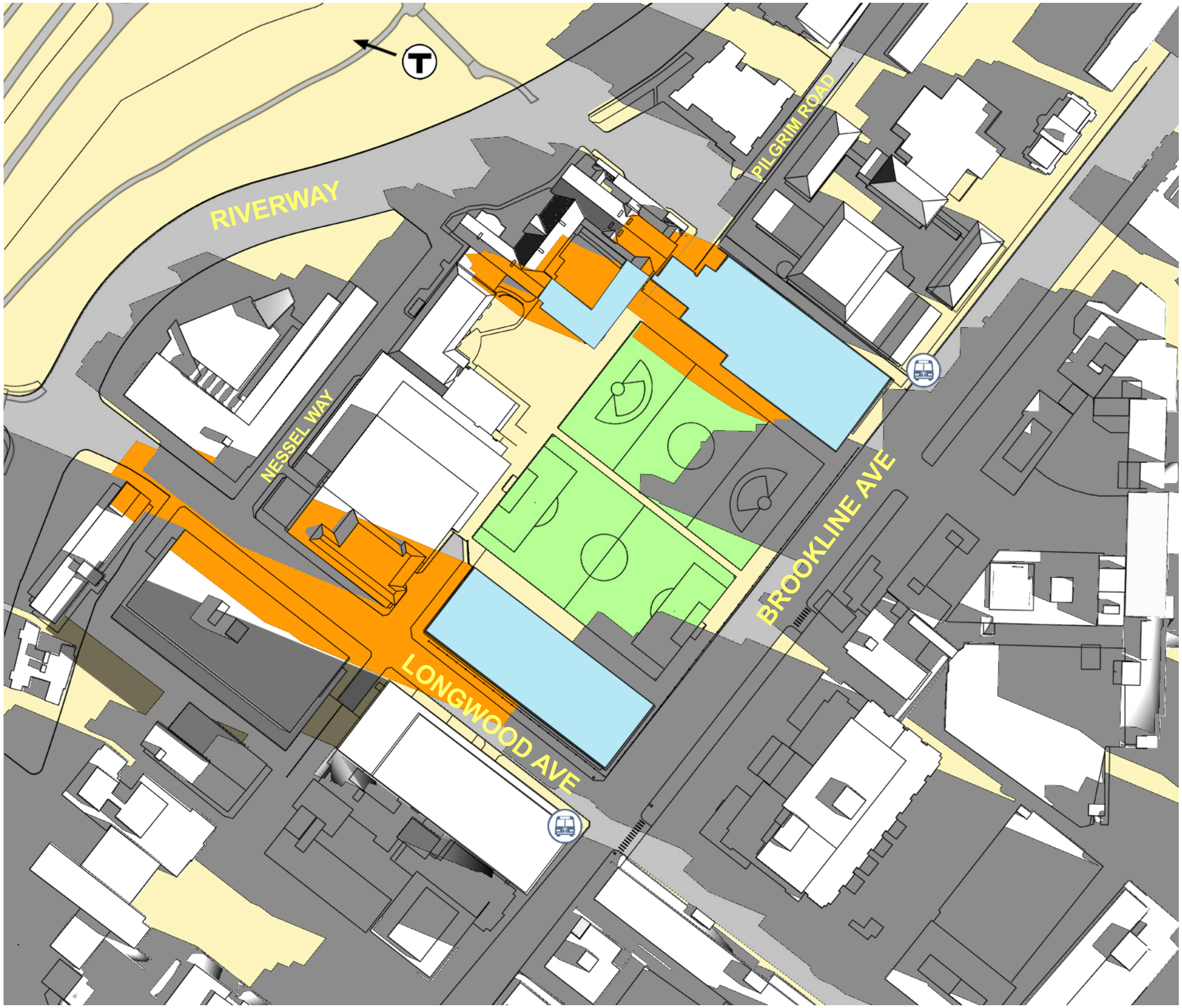


Figure 5-13

The Winsor School

Shadow Study
June 21, 6:00 PM

William Rawn Associates,
Architects, Inc.



Proposed Project

New Shadow

Existing Shadow

Open Space

Bus Stop

T Stop

Figure 5-14

0 50' 100'

Proposed Project

New Shadow

Existing Shadow

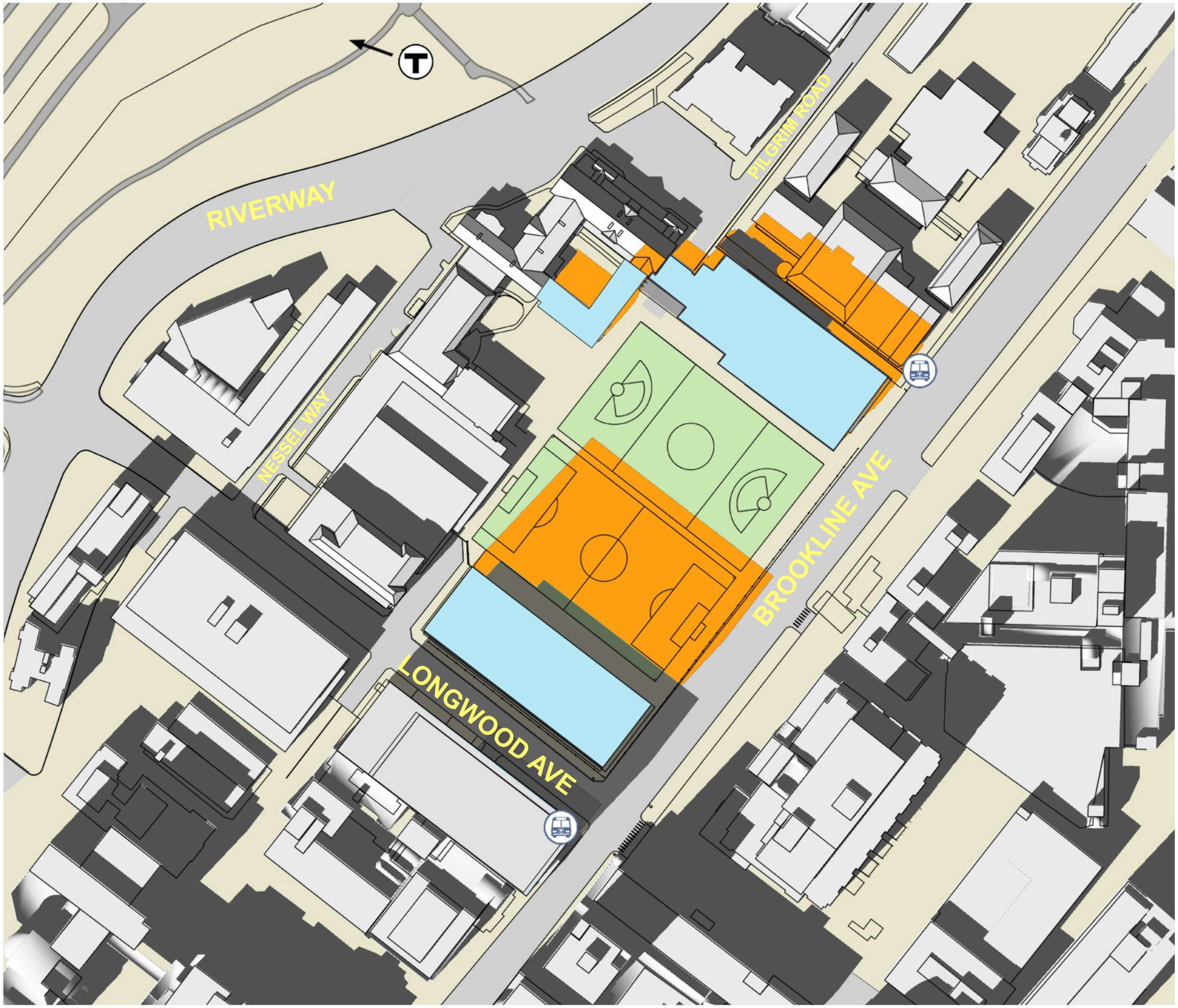
Open Space

Bus Stop

T Stop

Figure 5-15

0 50' 100'



Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop

Figure 5-16

0 50' 100'

The Winsor School

Shadow Study
September 21, 3:00 PM

William Rawn Associates, Architects, Inc.


RIVERWAY
PILGRIM ROAD
NESSEL WAY
BROOKLINE AVE
LONGWOOD AVE
Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop
0 50' 100'

Figure 5-17

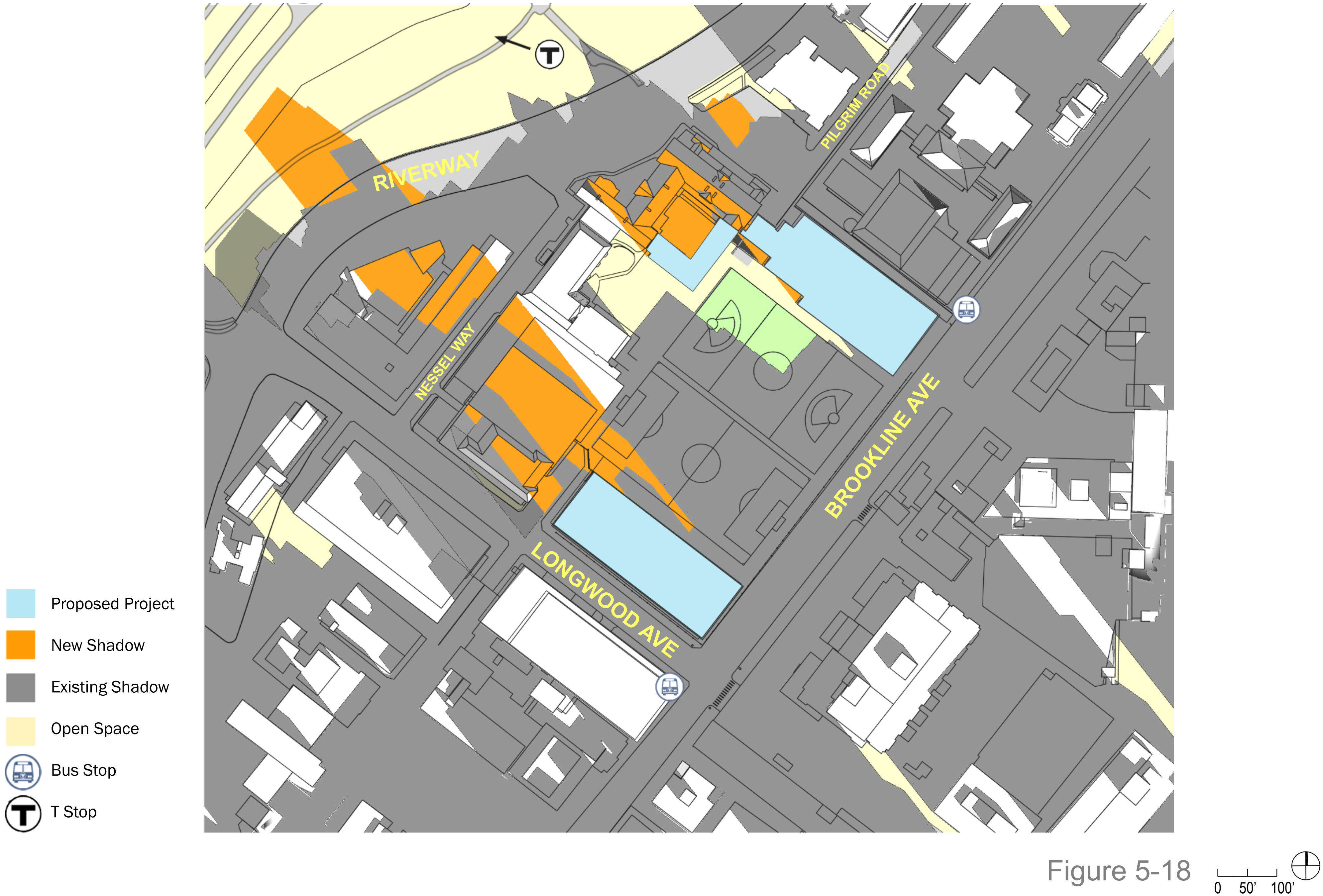


Figure 5-18

The Winsor School

Shadow Study
December 21, 9:00 AM

William Rawn Associates, Architects, Inc.

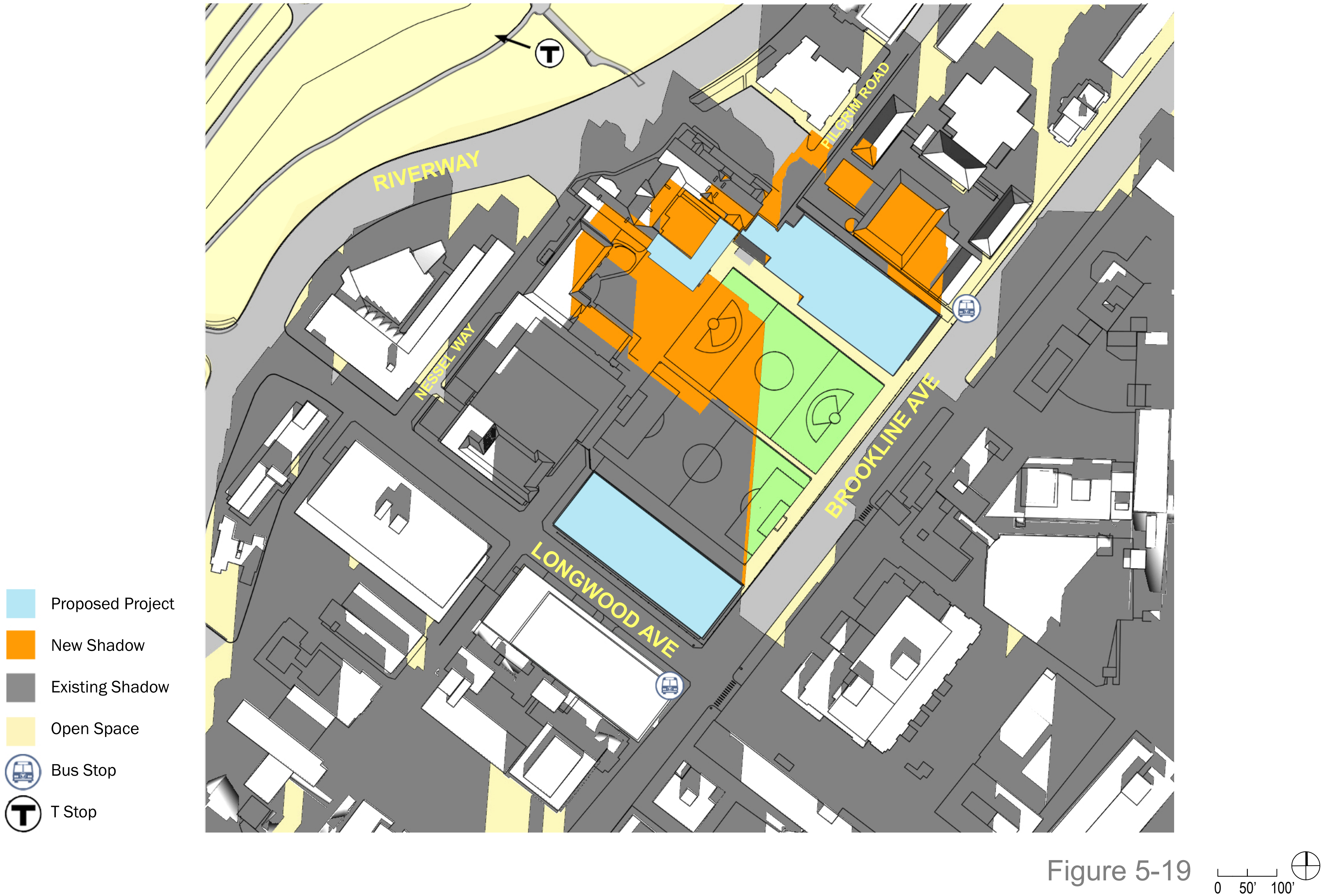
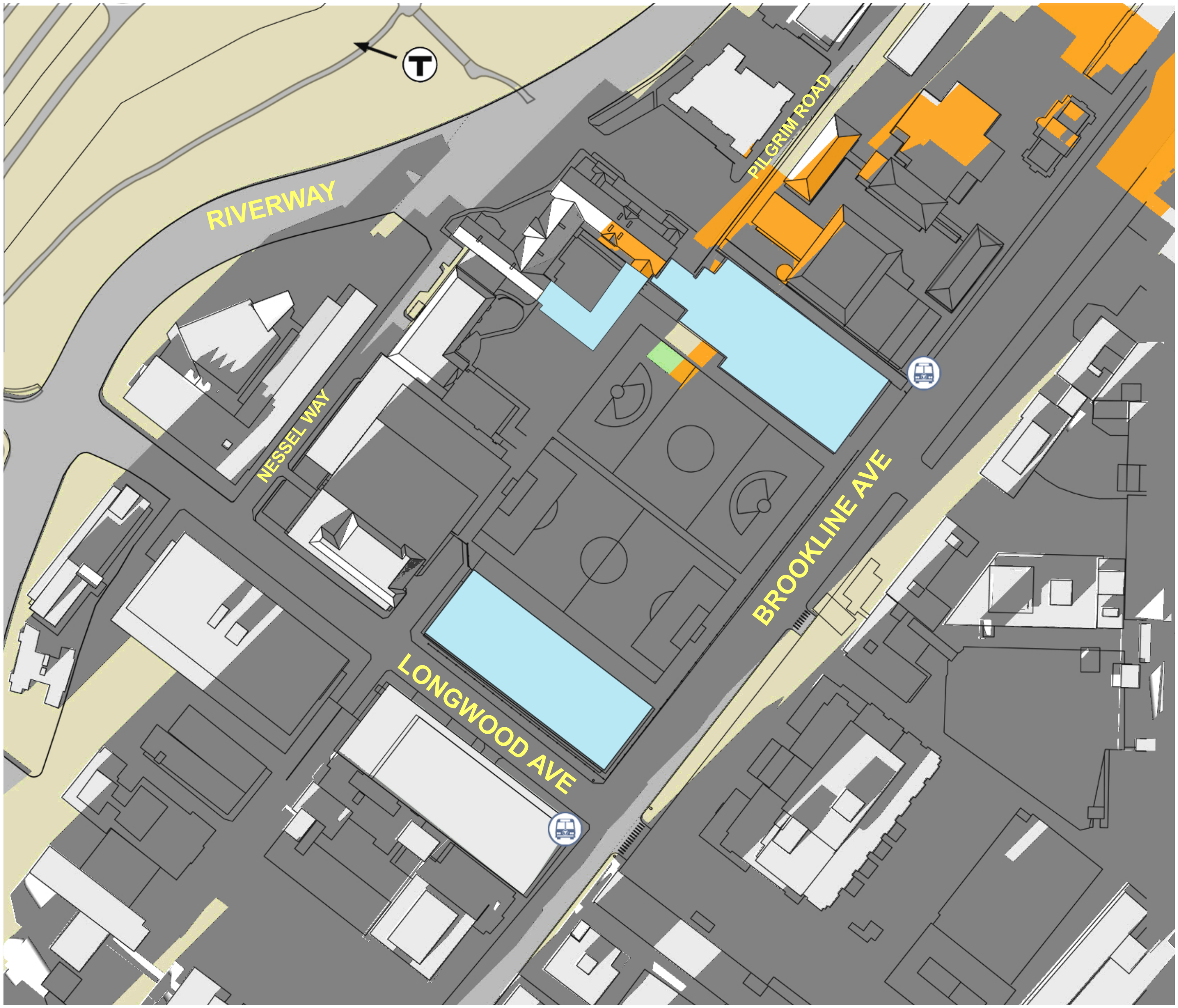


Figure 5-19

The Winsor School

Shadow Study
December 21, 12:00 PM

William Rawn Associates, Architects, Inc.



Proposed Project

New Shadow

Existing Shadow

Open Space

Bus Stop

T Stop

Figure 5-20

0 50' 100'

The Winsor School

Shadow Study
December 21, 3:00 PM

William Rawn Associates,
Architects, Inc.

Proposed Project

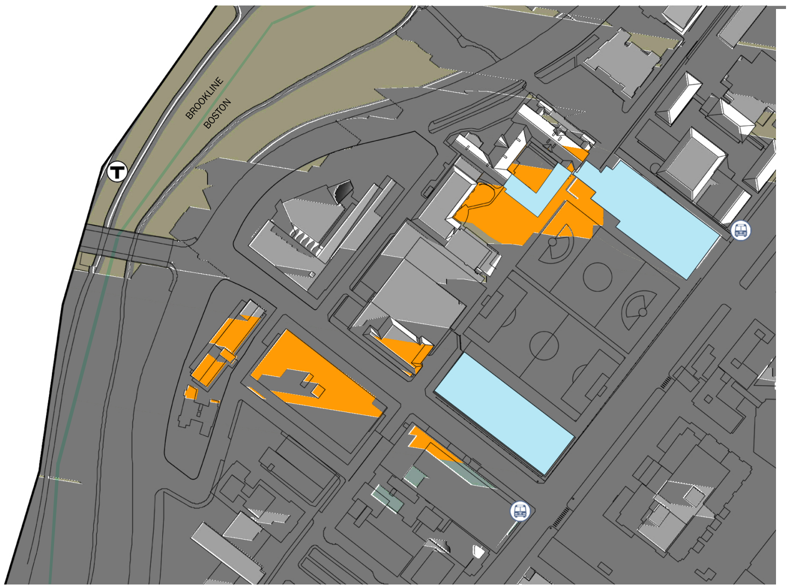
New Shadow

Existing Shadow

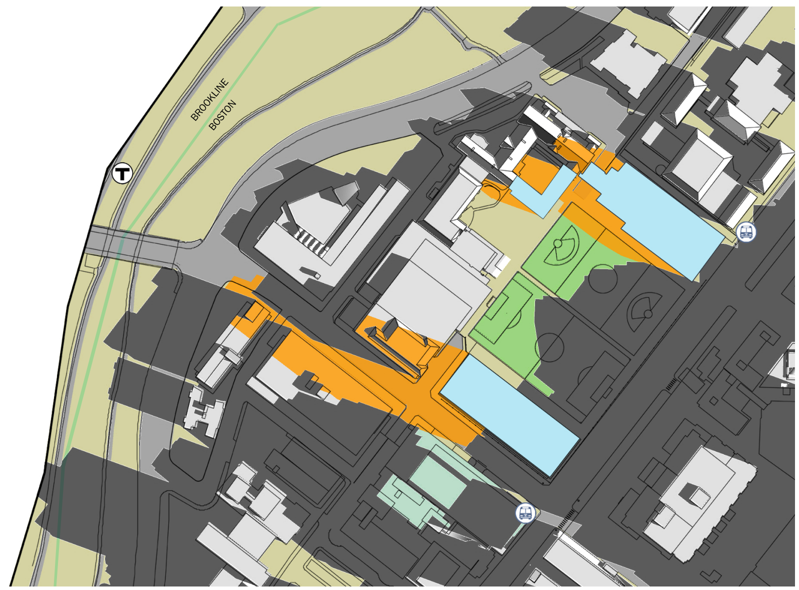
Open Space

Bus Stop

T Stop



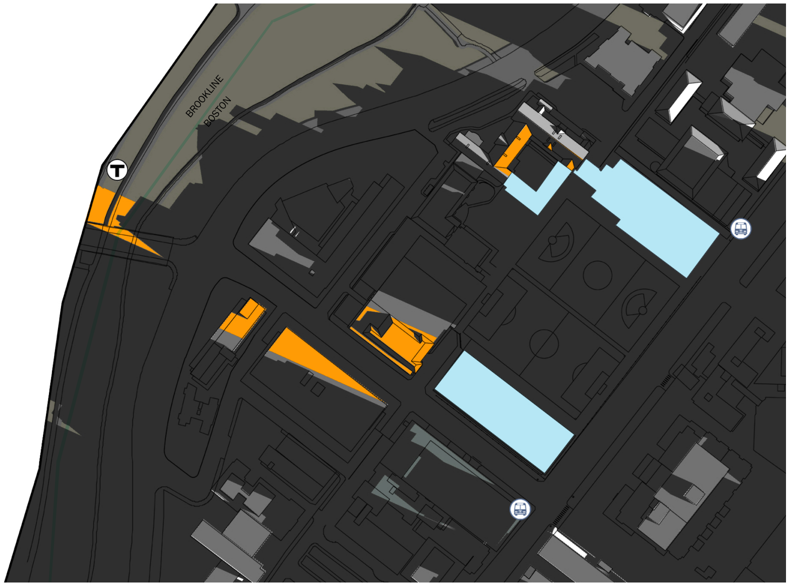
3/21, 7:47 AM (DST)
1 hour after sunrise



3/21, 8:47 AM (DST)
2 hours after sunrise

Figure 5-21

Proposed Project
New Shadow
Existing Shadow
Open Space
Bus Stop
T Stop

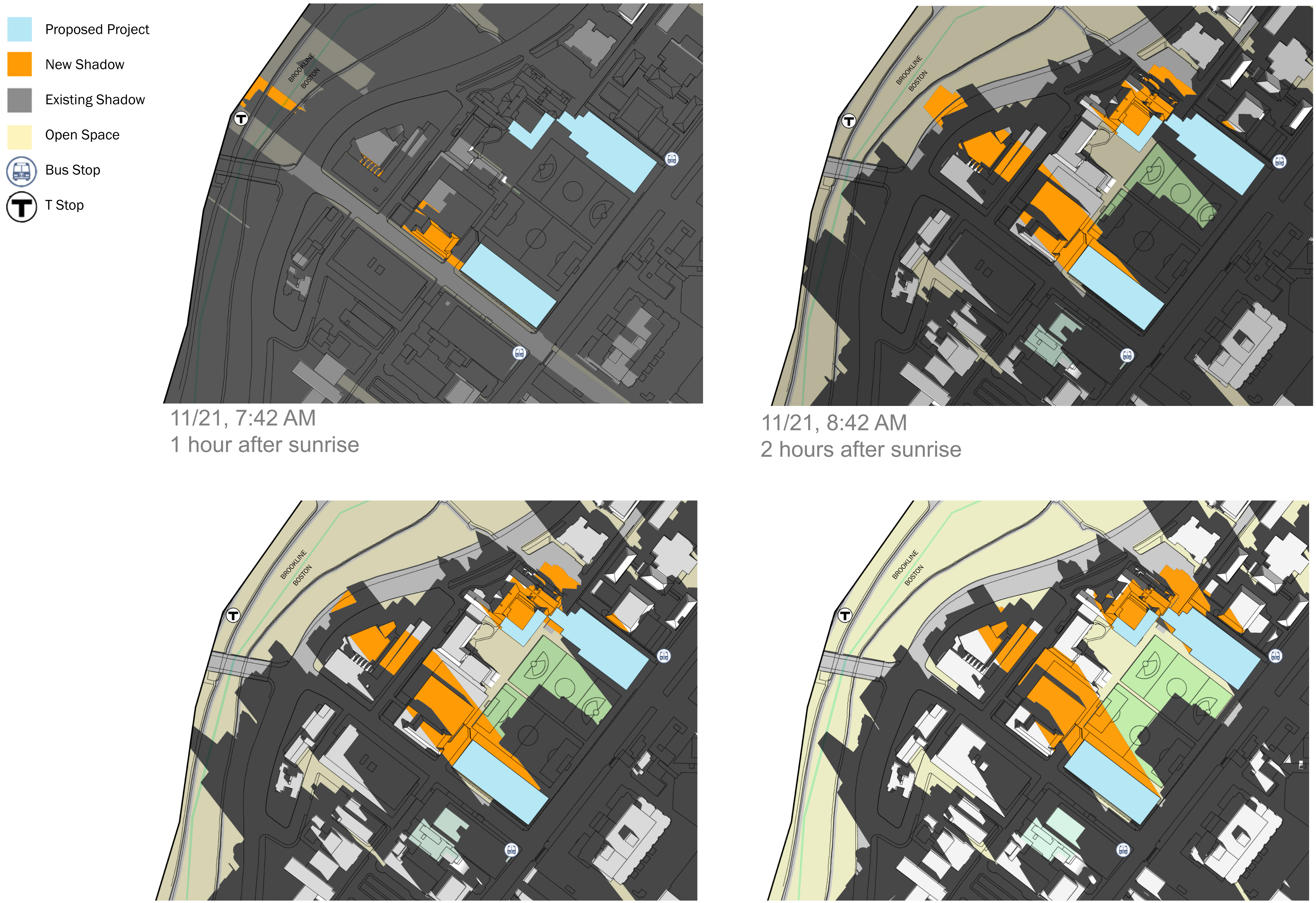


10/21, 8:04 AM (DST)
1 hour after sunrise

10/21, 9:04 AM (DST)
2 hours after sunrise

10/21, 9:14 AM (DST)
2:10 hours after sunrise

Figure 5-22



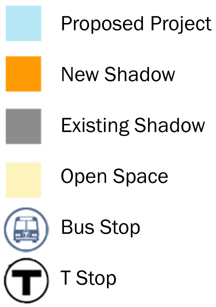
11/21, 7:42 AM
1 hour after sunrise

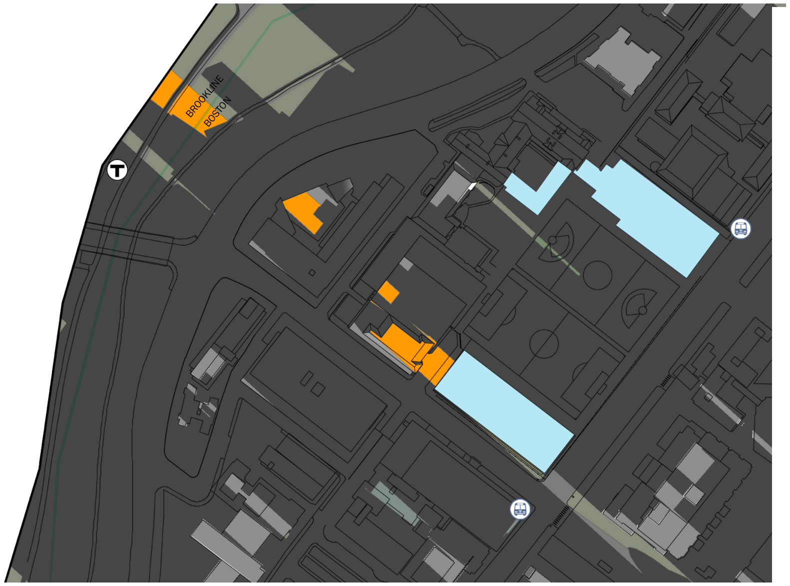
11/21, 8:42 AM
2 hours after sunrise

11/21, 8:57 AM
2:15 hours after sunrise

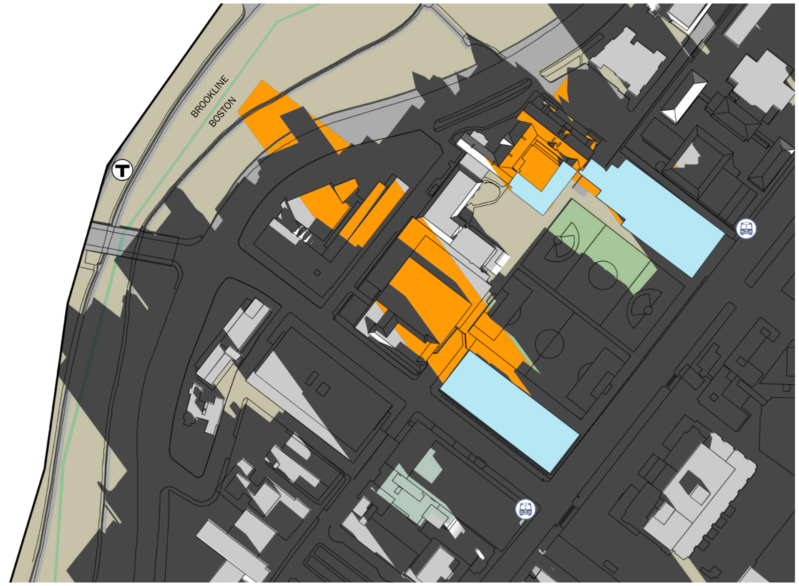
11/21, 9:22 AM
2:40 hours after sunrise

Figure 5-23





12/21, 8:10 AM
1 hour after sunrise



12/21, 9:10 AM
2 hours after sunrise

12/21, 9:45 AM
2:35 hours after sunrise

12/21, 10:25 AM
3:15 hours after sunrise

Figure 5-24

The Proposed Projects' net new shadows, as shown in **Figure 5-21,** do not reach the Emerald Necklace at any point during the day on March 21st. The Proposed Longwood Avenue Project's shadow reaches the Emerald Necklace at 8:04 AM (DST) on October 21st. The sliver of shadow moves off of the northwest side of the Riverway by 9:04 AM. On November 21st, the sliver of shadow from the Proposed Longwood Avenue Project reaches the Emerald Necklace at 7:42 AM, and moves off the northwest side of the Riverway by 8:57 AM. Similarly, on December 21st, the sliver of shadow reaches the northwest side of the Riverway at 8:10 AM and is off it by 9:45 AM. In all cases, the net new shadow is de minimis and will have no impacts on the park's horticultural assets or environmental quality.

Daylight Analysis

■

Methodology

A daylight analysis for the Proposed Projects was performed utilizing the Boston Redevelopment Authority Daylighting Analysis (BRADA) computer program.[1] Using BRADA, a silhouette view of the building is taken at ground level from the middle of the adjacent city streets or pedestrian ways centered on each of the proposed buildings that abut a public way. The façade of the building facing the viewpoint, including heights, setbacks, corners and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the building in the "sky dome" from each respective viewpoint that is studied.

The BRADA program calculates the percentage of daylight that will be obstructed on a scale of 0 percent to 100 percent. BRADA calculates this obstruction value based on the width of view, the distance between the viewpoint and the building and the massing and setbacks incorporated into the design of the building. The lower the number, the lower the percentage of obstruction of daylight from any given viewpoint.

The BRA requires that the daylight analysis study the existing and build conditions. Potential daylight impacts were analyzed from three viewpoints around the Longwood Avenue Project: Brookline Avenue, Longwood Avenue, and the shared Winsor/MASCO driveway. The Pilgrim Road Project impacts were analyzed only from Brookline Avenue, which is the only public way abutting the Pilgrim Road Project site. Daylight analyses were not undertaken for the proposed Courtyard Addition Project as this low-scale addition would be internal to the Winsor School Campus and have no impact on any adjacent public street or pedestrian ways.

▼

1 Method developed by Harvey Bryan and Susan Stuebing, computer program developed by Ronald Fergle, Massachusetts Institute of Technology, Cambridge, MA, September 1985.

Analysis Summary

The results of the daylight analysis are presented in **Figures 5-25** through **5-28** and **Table 5-3** below.

Table 5-3
Daylight Analysis Results

Viewpoint	Existing	Proposed Project
Longwood Avenue Project		
Brookline Avenue	N/A	59.1%
Longwood Avenue	N/A	81.5%
Pilgrim Road	N/A	58.7%
Pilgrim Road Project		
Brookline Avenue	N/A	50.8%

Source: Vanasse Hangen Brustlin, Inc.

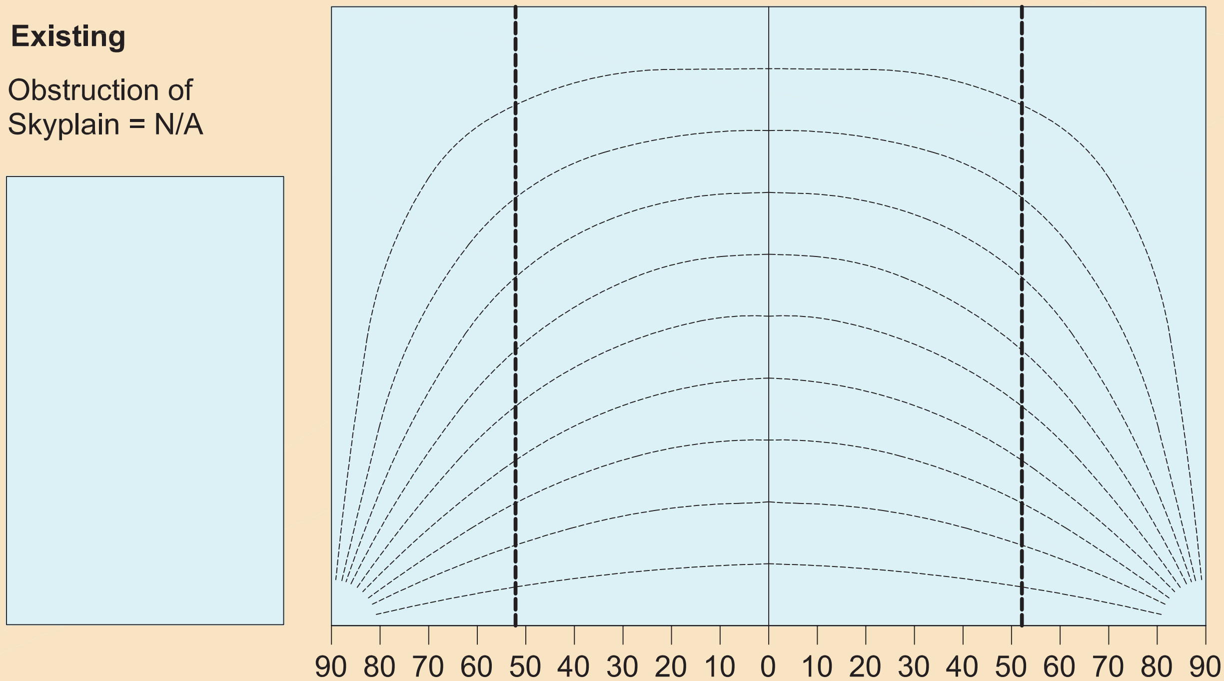
Existing daylight obstructions do not exist at each of the two sites as the tennis courts are ground level and the existing gymnasium is set-back too far from the street to cause any impact on Brookline Avenue. Development of the Proposed Projects will result in just above fifty percent obstruction of daylight on most adjacent streets. The largest obstruction will occur along Longwood Avenue due to the construction of the Longwood Avenue Project. As described in Chapter 3, *Urban Design*, the Longwood Avenue Project is proposed to be similar in scale to the BRA-approved Longwood Center project located on the southwest side of Longwood Avenue. The daylight obstruction of the Longwood Avenue Project is very similar to that anticipated from the adjacent approved Longwood Center project.

Solar Glare

The primary exterior building materials for the Pilgrim Road Project are anticipated to include a masonry wall at the lower street zone while the higher elevations will likely be constructed with a lighter material to reflect the ambient sky. Additionally, extensive horizontal exterior shading and overhangs will provide solar protection for the southwestern façade during the warmer month. Within the context of the site landscaping, adjacent building frontages and the buildings orientation, the Proponent does not expect the glazing or material of this modestly scaled building to have a significant solar glare impact on pedestrians, automobiles, or neighboring buildings.

Existing

Obstruction of
Skyplain = N/A



Proposed

Obstruction of
Skyplain = 50.8%

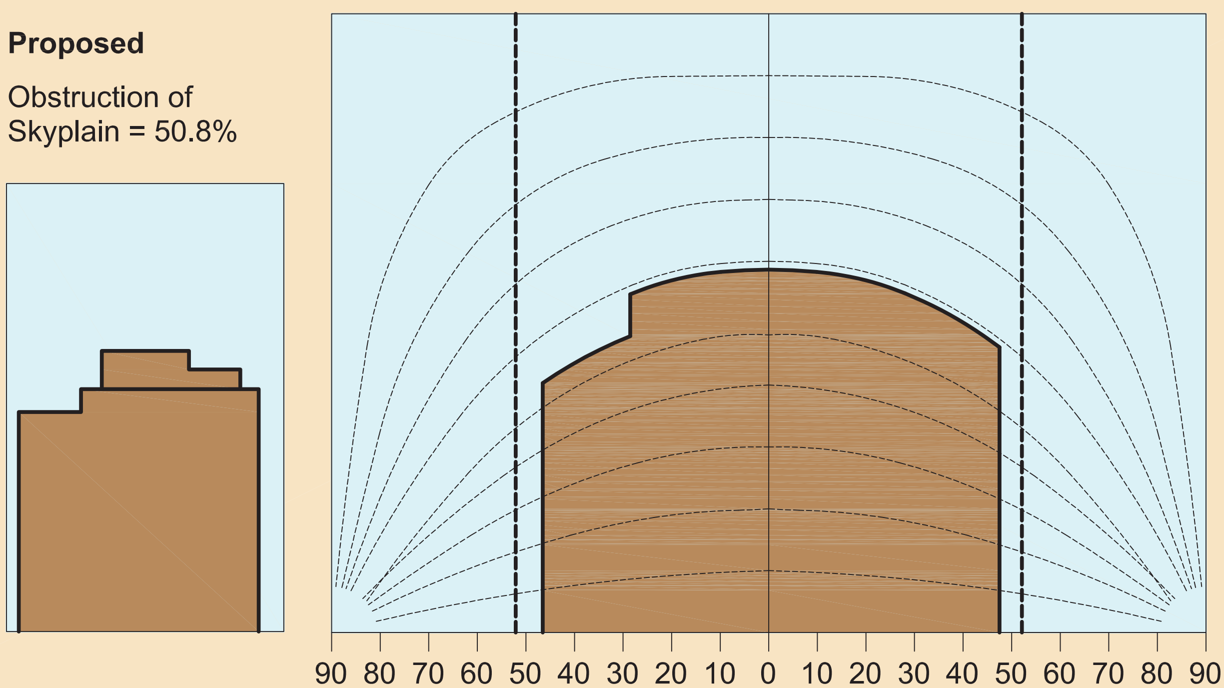
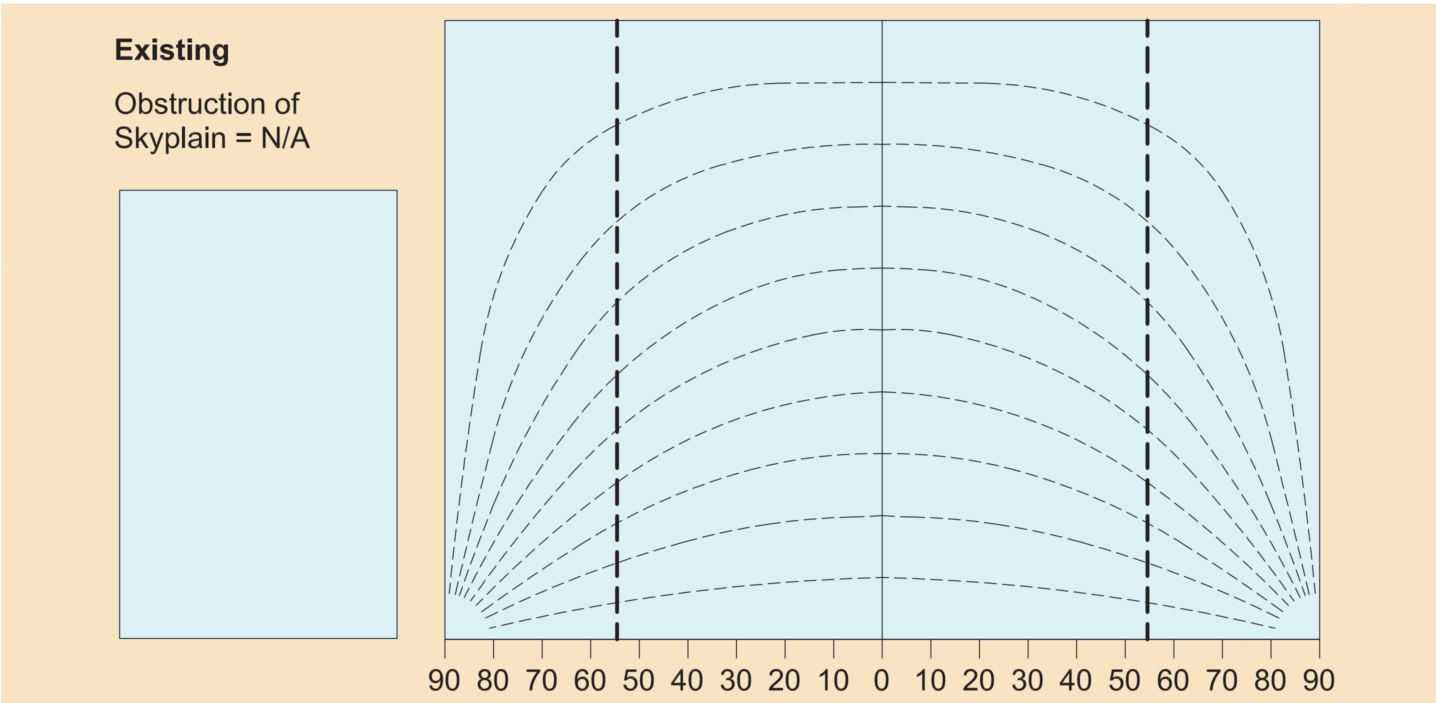


Figure 5-25


Existing
Obstruction of
Skyplain = N/A
90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90

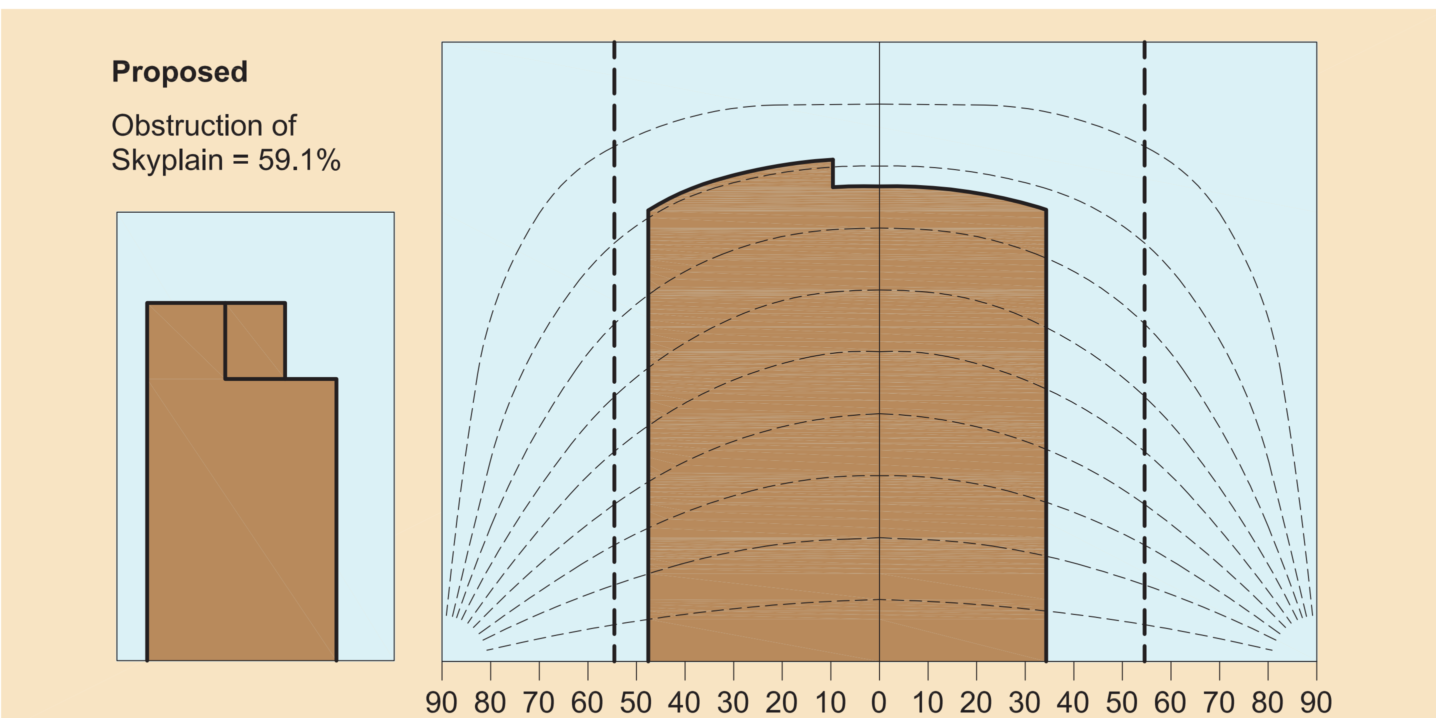
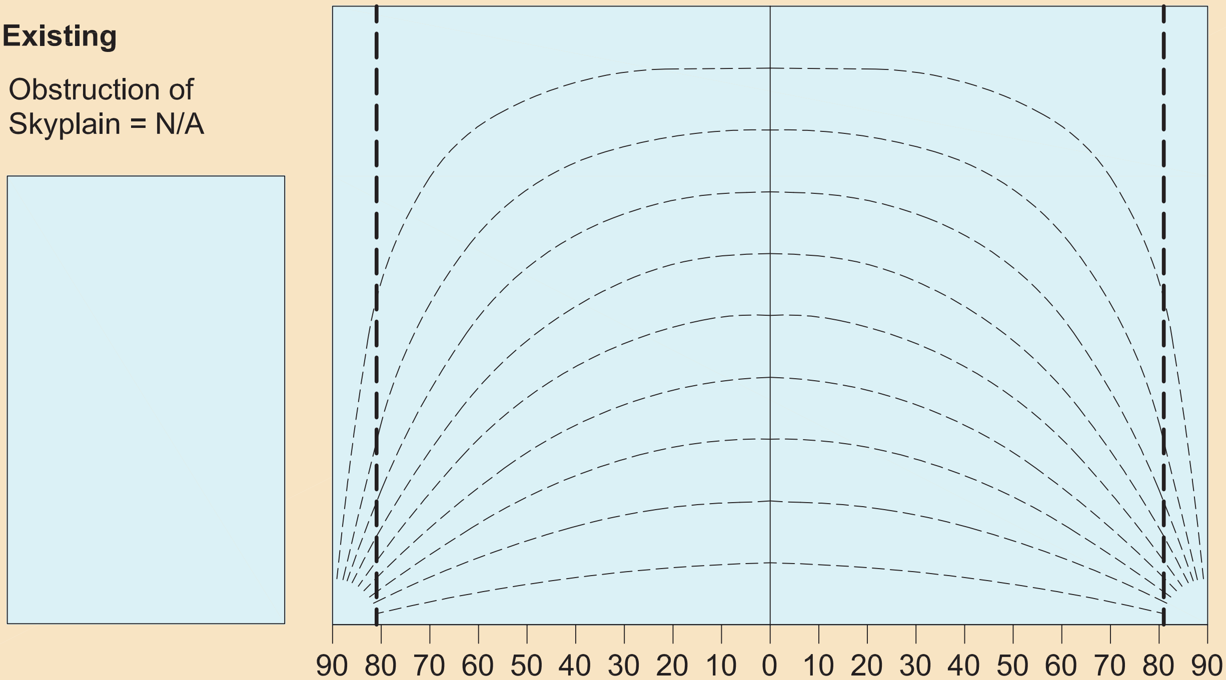

Proposed
Obstruction of
Skyplain = 59.1%
90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90

Figure 5-26

Existing

Obstruction of
Skyplain = N/A



Proposed

Obstruction of
Skyplain = 81.5%

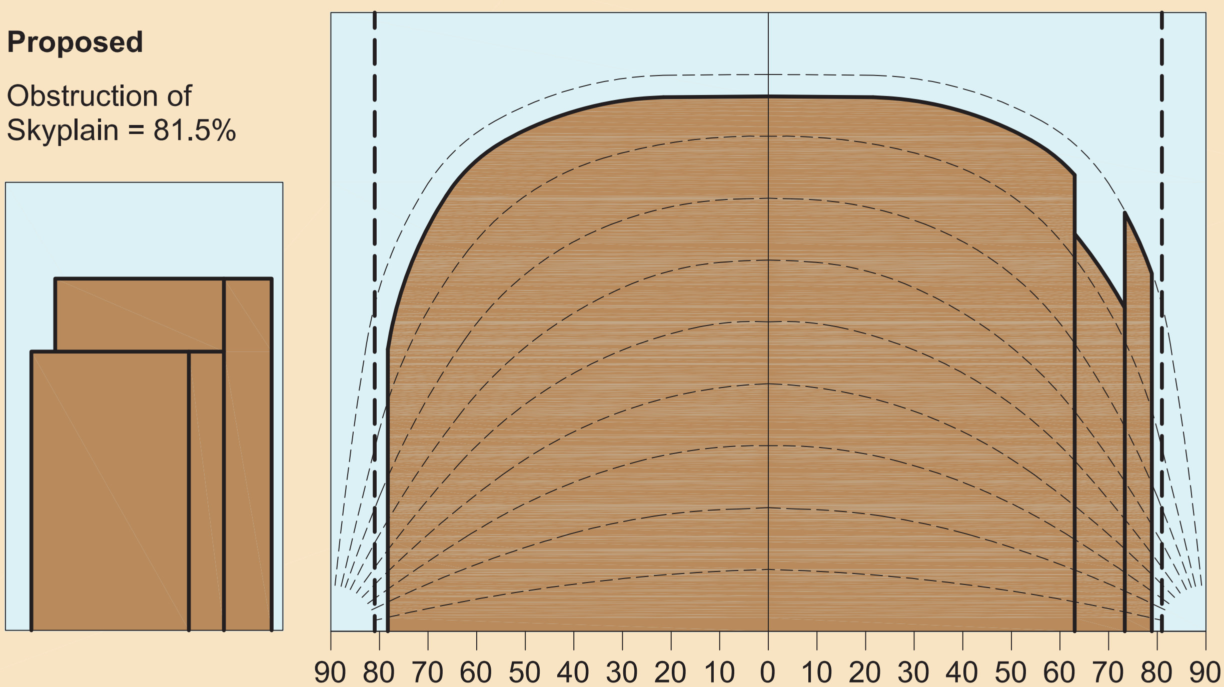
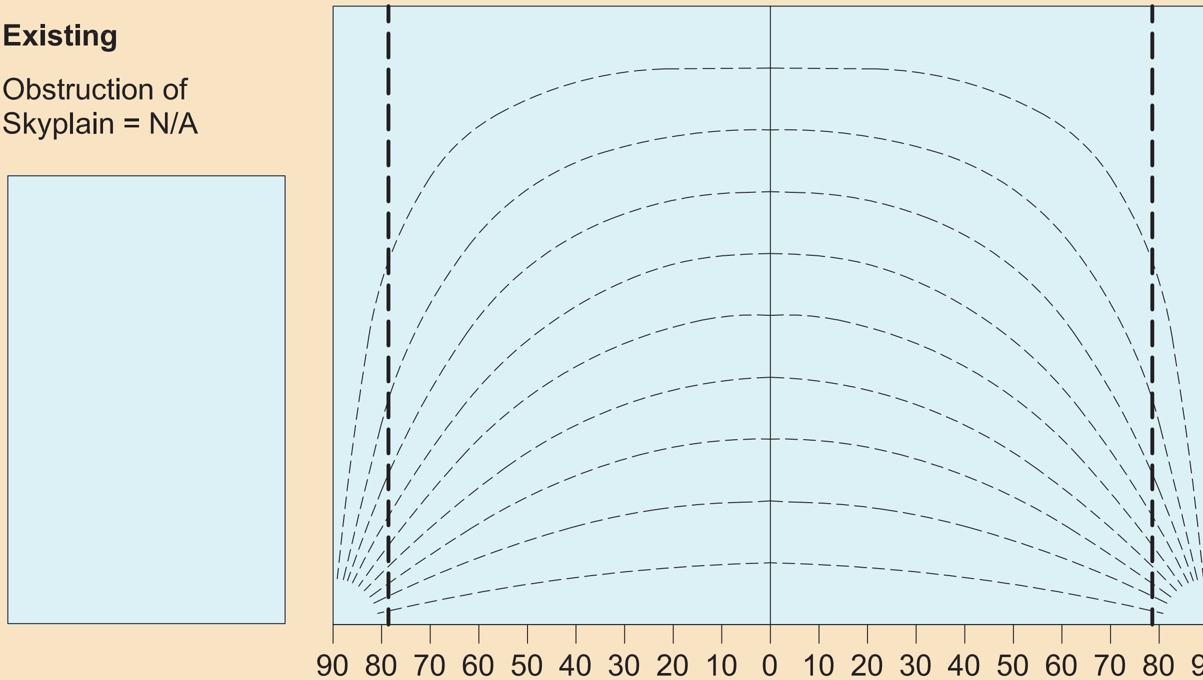


Figure 5-27

Existing

Obstruction of Skyplain = N/A



Proposed

Obstruction of Skyplain = 58.7%

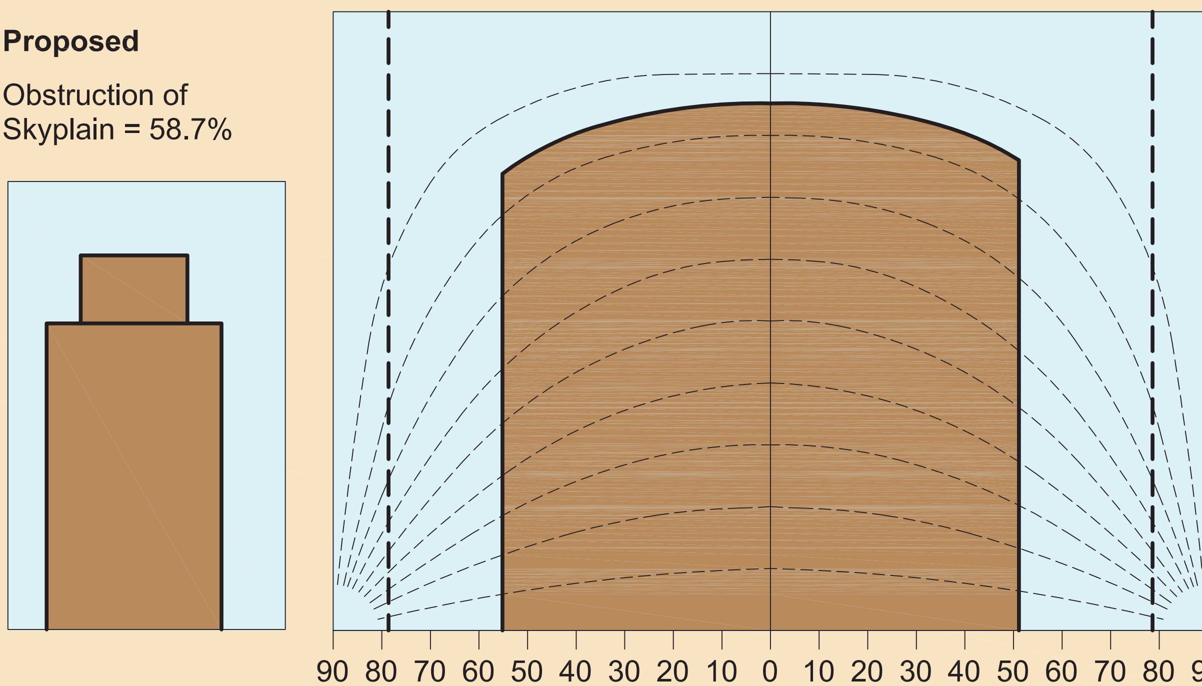


Figure 5-28

As the design progresses for the Longwood Avenue Project, exterior cladding materials (metal, glass, etc.) used in the building envelope will be evaluated for their reflectivity characteristics. The Longwood Avenue Project is not expected to have significant solar glare impacts on surrounding buildings, pedestrian areas, or roadways as it is not anticipated that the proposed building will be constructed using mirrored finishes, glazes, or reflective glass. Building details and design elements will be presented to the BRA during the course of ongoing design review. This building will also be subject to Boston Civic Design Commission schematic design review.

Air Quality

The purpose of this section is to present the air quality analysis conducted to evaluate any air quality impacts caused by the Proposed Projects. The purpose of the air quality study is to demonstrate that the Proposed Projects satisfy applicable city, state, and federal air quality requirements.

The air quality analysis conducted includes a microscale analysis to evaluate the carbon monoxide (CO) and particulate matter ($PM_{2.5}$ and PM_{10}) impacts from the Proposed Project's-related traffic. The microscale analysis evaluates CO, PM_{10}, and $PM_{2.5}$ concentrations at sensitive receptor locations surrounding the Proposed Projects. The analysis demonstrates that the Proposed Projects will meet the applicable Massachusetts and National Ambient Air Quality Standards (NAAQS) for CO, PM_{10}, and $PM_{2.5}$.

■

Background

The 1990 Clean Air Act Amendments (CAAA) and the Massachusetts State Implementation Plan (SIP) require that proposed projects not cause any new violation of the NAAQS for pollutants of concern, or increase the frequency or severity of any existing violations, or delay attainment of any NAAQS. The air quality study includes a hotspot (microscale) evaluation of mobile source pollutants. The microscale analysis evaluated CO, PM_{10}, and $PM_{2.5}$ concentrations from roadways and intersections surrounding the Projects.

The Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP) have established guidance for modeling and review for air quality analysis prepared pursuant to the Massachusetts Environmental Policy Act (MEPA) process. The City of Boston requires that air quality analyses prepared for Project Notification Forms (PNFs) meet EPA, and DEP guidelines.

Pollutants of Concern and Attainment Status

Air pollution is of concern because of its demonstrated effects on human health, in particular, the respiratory effects of the pollutants and their potential toxic effects, as described below.

Carbon Monoxide

Carbon monoxide is a colorless and odorless gas that is a product of incomplete combustion. Carbon monoxide is absorbed by the lungs and reacts with hemoglobin to reduce the oxygen carrying capacity of the blood. At low concentrations, CO has been shown to aggravate the symptoms of cardiovascular disease. It can cause headaches and nausea and, at sustained high concentration levels, can lead more serious health risks.

CO Attainment Status. Boston is a CO Maintenance area. A Maintenance area is an area that used to be non-attainment, but, has demonstrated that the air quality has improved to attainment. After 20 years of clean air quality, Maintenance areas can be re-designated to attainment. Projects located in Maintenance areas are required to evaluate their CO concentrations on the NAAQS.

Particulate Matter

Particulate matter is made up of small solid particles. PM_{10} refers to particulate matter with a nominal aerodynamic diameter of 10 micrometers or less, and $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter of 2.5 micrometers or less. Particulates can enter the body through the respiratory system. Particulates over 10 micrometers in size are generally captured in the nose and throat and are readily expelled from the body. Particles smaller than 10 micrometers, and especially particles smaller than 2.5 micrometers, can reach the air ducts (bronchi) and the air sacs (alveoli) in the lungs. Particulates are associated with cancer variety of health risks.

PM Attainment Status. Boston is currently attainment/unclassifiable for PM_{10} and $PM_{2.5}$. An attainment/unclassifiable area is an area that does not yet have sufficient data to determine its attainment status. The EPA and Federal Highway Administration (FHWA) are in the process of developing updated modeling guidance for attainment/unclassifiable areas. This air quality evaluation included a microscale analysis using EPA's CAL3QHC, which the model that can best demonstrate compliance with the NAAQS at this time.

Air Quality Standards

The EPA has established the NAAQS to protect the public health. The NAAQS for CO, PM_{10}, and $PM_{2.5}$ are presented in **Table 5-4**. The predominant source of air pollution anticipated from typical project developments is emissions from project-related motor vehicle traffic. Carbon monoxide, PM_{10}, and $PM_{2.5}$ are directly emitted by motor vehicles. Their concentrations can be calculated and compared to the NAAQS.

Table 5-4
National Ambient Air Quality Standards

	Primary Standards		Secondary Standards	
Pollutant	Level	Averaging Time	Level	Averaging
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour[1]	None	
	35 ppm (40 mg/m^3)	1-hour[1]	None	
Particulate Matter (PM_{10})	150 ug/m^3	24-hour[2]	Same as Primary	
Particulate Matter ($PM_{2.5}$)	15 ug/m^3	Annual (Arithmetic Mean)[3]	Same as Primary	
	35 ug/m^3	24-hour[4]	Same as Primary	

1 Not to be exceeded more than once per year.
2 Not to be exceeded more than once per year on average over 3 years.
3 To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m3.
4 To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).

Modeling Methodology

The microscale analysis conducted for the Proposed Projects evaluated the emissions of mobile sources at nearby intersections. The mobile source modeling followed the EPA's modeling guidelines.[2] The air quality analysis evaluated the traffic data and determined the intersections that were the most congested and expected to experience an increase in project generated traffic. EPA's mobile source models (MOBILE and CAL3QHC) were used to calculate the worst-case concentrations of CO, PM_{10}, and $PM_{2.5}$. EPA's stationary source model (SCREEN3) was used to calculate worst-case concentrations from the proposed parking garages using the traffic and mobile source emission factor data. The microscale analysis added the highest concentrations from the mobile source modeling to the highest concentrations from the stationary source

[2] *Guideline for Modeling Carbon Monoxide From Roadway Intersections*, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-006 (Revised); September 1995

modeling (parking garages) to determined the maximum project's CO, PM_{10}, and $PM_{2.5}$ concentrations. The maximum concentrations were then compared to the NAAQS.

The microscale analysis conducted for the Proposed Projects utilized traffic and emissions data for the following existing and future No-Build and Build conditions:

- 2010 Existing Condition: reflects existing traffic volumes in the Proposed Projects study's area.
- 2015 No-Build Condition: assuming no changes to the Proposed Projects' sites, but with background growth associated with other planned projects and general background regional growth;
- 2015 Build Condition: assuming the same 2015 background growth, but including the Pilgrim Road Project;
- 2020 No-Build Condition: assuming no changes to the Proposed Projects' sites, but with background growth associated with other planned projects and general background regional growth; and
- 2020 Build Condition: assuming the same 2020 background growth, but including the Pilgrim Road, the Courtyard Addition, and Longwood Avenue Projects.

The microscale analysis utilized the traffic (volumes and speeds) and emission factor data for the 2010 Existing, 2015 and 2020 No-Build, and 2015 and 2020 Build Conditions. These data were incorporated into air quality models to demonstrate that the Proposed Projects will meet the CAAA criteria. The microscale analysis calculated CO, PM_{10}, and $PM_{2.5}$ concentrations at congested intersections near the Study Area under Existing, No-Build, and Build conditions.

Microscale Analysis

The objective of the microscale analysis was to evaluate the CO, PM_{10}, and $PM_{2.5}$ concentrations caused by the Proposed Projects-related traffic at congested intersections in the Study Area. The intersections in the Study Area were ranked based on traffic volumes and level of service. In addition, the City of Boston recommended additional intersections be included in the microscale analysis. The following intersections, which are presented in **Figure 5-29**, were selected for analysis:

- Deaconess Road at Brookline Avenue
- Joslin Place at Brookline Avenue
- Longwood Avenue at Riverway
- Longwood Avenue at Brookline Avenue
- Binney Street at Longwood Avenue
- Beth Israel Deaconess Medical Center Driveway at Brookline Avenue
- Short Street Extension at Riverway

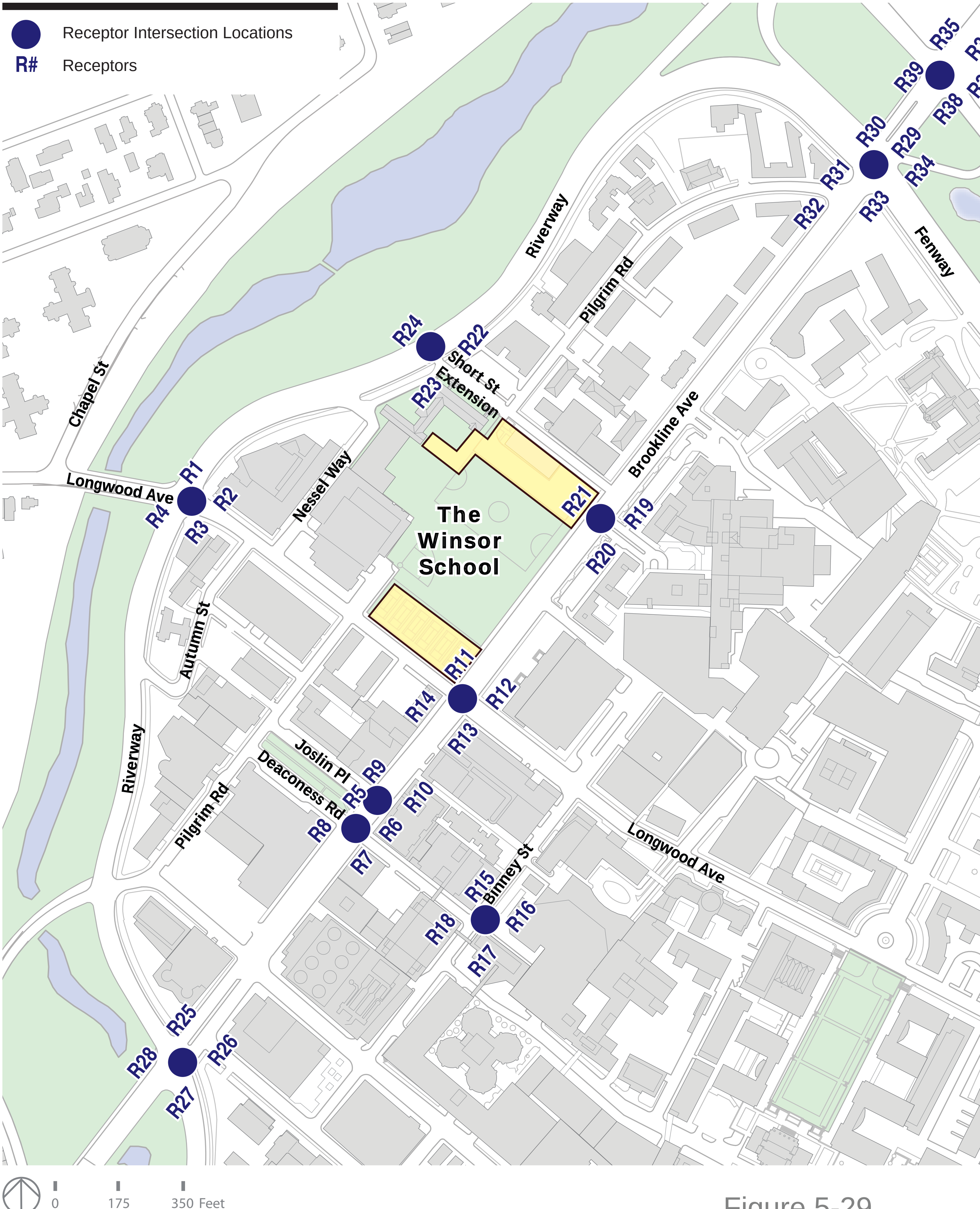


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Figure 5-29

The Winsor School

Microscale Study Area and Receptor Locations

Vanasse Hangen Brustlin, Inc.

- Riverway at Brookline Avenue
- Fenway at Brookline Avenue
- Brookline Avenue at Park Drive

The microscale analysis calculated maximum 1-hour and 8-hour CO concentrations in the Proposed Projects' Study Area intersections studied during the peak CO season (winter), maximum 24-hour PM_{10} concentrations, and maximum 24-hour and annual PM2.5 concentrations for PM summer season. The EPA's computer model CAL3QHC Version 2[3] was used to predict CO, PM_{10}, and $PM_{2.5}$ concentrations for each intersection studied. Receptor locations were selected near the congested intersections based upon areas where the public has access. The intersection receptors were placed at the edge of the roadway, but not closer than 10 feet (3 meters) from the nearest travel lane, as required by EPA. The results calculated at these receptor locations represent the highest concentrations at each intersection studied. Receptor locations farther away from the intersections will have lower concentrations because of the CO dispersion characteristics. The receptor locations that are along other roadways in the Study Area are also expected to have lower CO concentrations than the receptor locations at the intersection. The emission rates for vehicles traveling along these roadways are much lower than the emission rates for vehicles queuing at intersections.

The CO, PM_{10}, and $PM_{2.5}$ concentrations were calculated directly using the EPA computer model. The 1-hour CO concentrations include a 1-hour background concentration of 3.0 ppm. The 8-hour CO concentrations were derived by applying a persistence factor of 0.70 to the 1-hour CO concentrations. Similar to the 1-hour CO emissions, the concentrations are expressed in parts per million (ppm) and include an 8-hour background concentration of 2.1 ppm.

The 24-hour PM_{10} concentrations were derived by applying a persistence factor of 0.40 to the 1-hour PM_{10} concentrations. The persistence factor for PM was obtained from the DEP's modeling guidelines.[4] The background concentrations[5] assumed for the 24-hour PM_{10} was 40.0 ug/m^3.

The 24-hour $PM_{2.5}$ concentrations were derived by applying a persistence factor of 0.40 to the 1-hour $PM_{2.5}$ concentrations. The background concentrations assumed for the 24-hour $PM_{2.5}$ was 25.6 ug/m^3. The annual $PM_{2.5}$ concentrations were derived by applying a persistence factor of 0.08 to the 1-hour $PM_{2.5}$ concentrations. The background concentrations assumed for the annual $PM_{2.5}$ was 10.6 ug/m^3.

3 *User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections*, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-005; November 1992

4 *First Level Screening Guideline for Determining the Air Quality Impact of Stationary Source Air Pollution*, January 1996.

5 *2006-2008 New England Annual Report on Air Quality*, United States Environmental Protection Agency, Region 1, Office of Environmental Measurement and Evaluation North Chelmsford, MA 01863, Ecosystems Assessment Unit, 2007-2009.

Parking Garage Emissions

The air quality evaluation included an analysis of parking garage emissions. The EPA's air quality model (SCREEN3) was used to calculate parking garage emissions at the receptor locations surrounding the Study Area. These results were added to the microscale analysis to calculated worst-case total concentrations of CO, PM_{10}, and $PM_{2.5}$. The total concentrations were used to demonstrate that the Proposed Projects will comply with the NAAQS.

The SCREEN3 model conservatively calculates concentrations from stationary emissions sources. The use of this model is appropriate for chemically stable, gaseous or fine particulate pollutants, such as CO, PM_{10}, and $PM_{2.5}$. The inputs to the SCREEN3 model included emission rates, exhaust locations and elevations, exhaust flow rates, building dimensions, surrounding terrain, and adjacent land uses. The SCREEN3 model follows the EPA guidance for evaluating stationary source emissions. The results from SCREEN3 are maximum 1- hour concentrations, which were adjusted for the PM 24 hour and annual time frames.

Emission Rates

All the vehicle emission factors used in the microscale analysis were obtained using the EPA's MOBILE 6.2[6] emissions model. MOBILE 6.2 calculates CO, PM_{10}, and $PM_{2.5}$ emission factors from motor vehicles in grams per vehicle-mile. The emission rates calculated in this study were adjusted to reflect Massachusetts-specific conditions, such as the state vehicle registration age distribution, the statewide Inspection and Maintenance (I/M) Program, and the Stage II Vapor Recovery System.[7] Emission factors for the mobile sources were determined using the DEP-recommended temperatures for the winter (CO) season and summer (PM) season.

Traffic Data

The air quality study utilized motor vehicle traffic data specifically developed for each analysis condition. The Build Conditions used for the microscale analysis include the physical and operational mitigation proposed to improve traffic operations. The microscale analysis used the evening peak hour traffic conditions during the CO season (winter). Vehicle speeds were developed based upon traffic volumes, observed traffic flow characteristics, and roadway capacity. The traffic data were developed based on the traffic data analyzed in this expanded PNF.

5 MOBILE 6.2 (Mobile Source Emission Factor Model), The May 19, 2004 official release from US EPA, Office of Mobile Sources, Ann Arbor, MI.

6 *The Stage II Vapor Recovery System* is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

Existing Conditions

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. The Proposed Projects are located in the Boston Metropolitan area, which has been classified as a "Maintenance" area for CO and an attainment area for PM_{10} and $PM_{2.5}$.

Microscale Concentration Predictions

The microscale analysis determined that the 1-hour CO concentrations for the 2010 Existing Condition ranged from a minimum of 3.5 parts per million (ppm) at the intersection of Binney Street at Longwood Avenue and Short Street Extension at Riverway to a maximum of 6.2 ppm at the intersection of Brookline Avenue at Longwood Avenue. The corresponding maximum 8-hour CO concentrations ranged from a minimum of 2.5 ppm to a maximum of 4.3 ppm. The microscale CO results are presented in **Table 5-5** and Table **5-6**. All the 1-hour and 8-hour concentrations are below the CO NAAQS of 35 and 9 ppm, respectively. These values are consistent with the area's designation as a CO Maintenance area.

The microscale analysis determined that the 24-hour PM_{10} concentrations for the 2010 Existing Condition ranged from a minimum of 41.2 micrograms per cubic meter (ug/m^3) at the intersection of Binney Street at Longwood Avenue to a maximum of 43.2 ug/m^3 at the intersection of Brookline Avenue at Park Drive. The microscale PM_{10} results are presented in **Table 5-7**. All concentrations are below the PM_{10} NAAQS of 150 ug/m^3.

The microscale analysis determined that the 24-hour $PM_{2.5}$ concentrations for the 2010 Existing Condition ranged from a minimum of 26.4 ug/m^3 at the intersection of Binney Street at Longwood Avenue and Short Street Extension at Riverway to a maximum of 27.6 ug/m^3 at the intersection of Brookline Avenue at Park Drive. The maximum annual $PM_{2.5}$ concentrations ranged from a minimum of 10.8 ug/m^3 to a maximum of 11.0 ug/m^3. The microscale $PM_{2.5}$ results are presented in **Table 5-8** and **Table 5-9**. All the 24-hour and annual concentrations are below the $PM_{2.5}$ NAAQS of 35 and 15 ug/m^3, respectively.

Project Impacts

Future estimates of the Proposed Project-related emissions are based upon changes in traffic and emission factor data. The traffic data include motor vehicle traffic volumes and signal cycle timing. The emission factor data include the years of analysis and roadway speeds. The following section reports on the findings of the microscale analysis for the Proposed Projects based upon changes in these data.

Microscale : Carbon Monoxide (CO)

The highest CO concentrations for each intersection are presented in **Table 5-5** and **Table 5-6**. The results show that the maximum increase for 1-hour and 8-hour CO concentrations between the 2015 No-Build and Build conditions are 0.2 ppm and 0.1 ppm respectively. The maximum increase for 1-hour and 8-hour CO concentrations between the 2020 No-Build and Build conditions are 0.8 ppm and 0.6 ppm respectively.

The 1-hour CO concentrations for 2015 and 2020 No-Build Conditions ranged between 3.4 to 6.2 ppm and 3.4 to 6.1 ppm respectively. The 8-hour CO concentrations for 2015 and 2020 No-Build Conditions ranged between 2.4 to 4.3 ppm for both years.

The 1-hour CO concentrations for 2015 and 2020 Build Conditions ranged between 3.4 to 6.2 ppm and 3.5 to 6.3 ppm respectively. The 8-hour CO concentrations for 2015 and 2020 Build Conditions ranged between 2.4 to 4.3 ppm and 2.5 to 4.4 ppm respectively.

The results of the microscale analysis demonstrate that the 2015 and 2020 No-Build and Build CO concentrations (both 1- and 8-hour values) for the Proposed Projects are below the NAAQS.

The 2020 Build CO concentrations include parking garage emissions. To be conservative, the highest modeled value from the SCREEN3 results was added to the CAL3QHC results to obtain the 2020 Build concentrations. A value of 0.015 ppm was used to represent the garage emissions for both 1-hour and 8-hour concentrations.

Table 5-5
Predicted Maximum 1-Hour CO Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Riverway at Longwood Avenue	R1 – Open Space	5.2	4.8	4.7	4.7	4.7
	R2 – Temple Israel	4.4	4.3	4.3	4.3	4.3
	R3 – Children's Hospital Boston	4.6	4.3	4.4	4.2	4.3
	R4 – Open Space	4.7	4.7	4.7	4.5	4.6
Brookline Avenue at Deaconess Road	R5 – Open Space	6.1	5.9	6.0	5.7	5.7
	R6 – Abraham Grosman Clinic	4.8	4.8	4.9	4.7	4.8
	R7 – Yawkey Center for Cancer Care	5.2	5.0	5.0	4.9	5.1
	R8 – Beth Israel Deaconess Medical Center (West)	5.1	4.8	4.8	4.8	4.9
Brookline Avenue at Joslin Place	R9 – Joslin Diabetes Center	6.1	6.0	6.0	5.8	5.9
	R10 – Abraham Grosman Clinic	5.3	5.2	5.2	5.1	5.2
Brookline Avenue at Longwood Avenue	R11 – The Windsor School Athletic Field	5.9	6.2	6.2	6.0	6.1
	R12 – Beth Israel Deaconess Medical Center	5.0	4.9	4.9	4.7	4.9
	R13 – Longwood Galleria	5.2	5.2	5.2	5.1	5.2
	R14 – Longwood Center (Under Construction)	6.2	6.1	6.1	6.1	6.3
Binney Street at Longwood Avenue	R15 – Beth Israel Deaconess Medical Center (East)	4.3	4.3	4.3	4.2	4.2
	R16 – Harvard Cooperative Society	4.2	4.1	4.1	4.1	4.1
	R17 – John F. Enders Pediatric Research Laboratories	4.0	3.9	3.9	3.9	4.0
	R18 – Best Western The Inn at Longwood Medical	4.2	4.0	4.0	3.9	4.1
Beth Israel Driveway at Brookline Avenue	R19 – Beth Israel Deaconess Medical Center (East)	4.8	4.8	4.8	4.8	5.4
	R20 - Beth Israel Deaconess Medical Center (East)	5.1	5.0	5.0	5.0	5.5
	R21 – The Winsor School Athletic Field	6.0	5.5	5.5	5.4	5.9
Short Street Extension at Riverway	R22 – Wheeler College Peabody Hall	4.3	4.1	4.0	4.1	4.1
	R23 – Winsor School	4.2	4.1	4.1	4.1	4.1
	R24 – Open Space	4.6	4.4	4.4	4.3	4.3
Riverway at Brookline Avenue	R25 – Beth Israel Deaconess Medical Center (Gerontology)	4.8	4.8	4.8	4.7	4.8
	R26 – Mass Mental Health Center	5.0	4.8	4.8	4.7	4.7
	R27 – Open Space	4.8	4.5	4.5	4.4	4.4
	R28 – Open Space	4.6	4.4	4.4	4.2	4.3
Fenway at Brookline Avenue	R29 – Open Space	5.2	5.3	5.3	5.1	5.2
	R30 – Open Space	5.6	5.2	5.2	5.1	5.2
	R31 – 110 Riverway Residences	5.5	5.1	5.1	4.9	5.0
	R32 – Simmons College	5.0	5.1	5.3	5.0	5.0
	R33 – Emmanuel College	4.9	5.5	5.5	5.4	5.4
	R34 – Open Space	4.5	4.7	4.7	4.5	4.5

Table 5-5 (continued)
Predicted Maximum 1-Hour CO Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Brookline Avenue at	R35 – Landmark Center	5.4	5.1	5.2	5.0	5.1
Park Drive	R36 – D'Angelo Sandwich Shop	5.4	5.2	5.1	5.0	5.1
	R37 – Gulf Gas Station	5.7	5.5	5.5	5.3	5.3
	R38 – Open Space	5.3	5.4	5.4	5.3	5.3
	R39 – Open Space	5.5	5.2	5.2	5.1	5.1

Source: Vanasse Hangen Brustlin, Inc.
1 The concentrations are expressed in parts per million (ppm) and include a 1-hour background concentration of 3.0ppm. The 1-hour NAAQS for CO is 35 ppm. The emissions presented represent the highest emissions experienced at each intersection.

Table 5-6
Predicted Maximum 8-Hour CO Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Riverway at Longwood Avenue	R1 – Open Space	3.6	3.4	3.3	3.3	3.3
	R2 – Temple Israel	3.1	3.0	3.0	3.0	3.0
	R3 – Children's Hospital Boston	3.2	3.0	3.1	2.9	3.0
	R4 – Open Space	3.3	3.3	3.3	3.2	3.1
Brookline Avenue at Deaconess Road	R5 – Open Space	4.3	4.1	4.2	4.0	4.0
	R6 – Abraham Grosman Clinic	3.4	3.4	3.4	3.3	3.4
	R7 – Yawkey Center for Cancer Care	3.6	3.5	3.5	3.4	3.6
	R8 – Beth Israel Deaconess Medical Center (West)	3.6	3.4	3.4	3.4	3.4
Brookline Avenue at Joslin Place	R9 – Joslin Diabetes Center	4.3	4.2	4.2	4.1	4.1
	R10 – Abraham Grosman Clinic	3.7	3.6	3.6	3.6	3.7
Brookline Avenue at Longwood Avenue	R11 – The Windsor School Athletic Field	4.1	4.3	4.3	4.2	4.3
	R12 – Beth Israel Deaconess Medical Center	3.5	3.4	3.4	3.3	3.4
	R13 – Longwood Galleria	3.6	3.6	3.6	3.6	3.7
	R14 – Longwood Center (Under Construction)	4.3	4.3	4.3	4.3	4.4
Binney Street at Longwood Avenue	R15 – Beth Israel Deaconess Medical Center (East)	3.0	3.0	3.0	2.9	3.0
	R16 – Harvard Cooperative Society	2.9	2.9	2.9	2.9	2.9
	R17 – John F. Enders Pediatric Research Laboratories	2.8	2.7	2.7	2.7	2.8
	R18 – Best Western The Inn at Longwood Medical	2.9	2.8	2.8	2.7	2.9
Beth Israel Driveway at Brookline Avenue	R19 – Beth Israel Deaconess Medical Center (East)	3.4	3.4	3.4	3.4	3.8
	R20 - Beth Israel Deaconess Medical Center (East)	3.6	3.5	3.5	3.5	3.9
	R21 – The Winsor School Athletic Field	4.2	3.9	3.9	3.8	4.1
Short Street Extension at Riverway	R22 – Wheeler College Peabody Hall	3.0	2.9	2.8	2.9	2.9
	R23 – Winsor School	2.9	2.9	2.9	2.9	2.9
	R24 – Open Space	3.2	3.1	3.1	3.0	3.0
Riverway at Brookline Avenue	R25 – Beth Israel Deaconess Medical Center (Gerontology)	3.4	3.4	3.4	3.3	3.4
	R26 – Mass Mental Health Center	3.5	3.4	3.4	3.3	3.3
	R27 – Open Space	3.4	3.2	3.2	3.1	3.1
	R28 – Open Space	3.2	3.1	3.1	2.9	3.0
Fenway at Brookline Avenue	R29 – Open Space	3.6	3.7	3.7	3.6	3.7
	R30 – Open Space	3.9	3.6	3.6	3.6	3.7
	R31 – 110 Riverway Residences	3.9	3.6	3.6	3.4	3.5
	R32 – Simmons College	3.5	3.6	3.7	3.5	3.5
	R33 – Emmanuel College	3.4	3.9	3.9	3.8	3.8
	R34 – Open Space	3.2	3.3	3.3	3.2	3.2

Table 5-6 (continued)
Predicted Maximum 8-Hour CO Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Brookline Avenue at	R35 – Landmark Center	3.8	3.6	3.6	3.5	3.6
Park Drive	R36 – D'Angelo Sandwich Shop	3.8	3.6	3.6	3.5	3.6
	R37 – Gulf Gas Station	4.0	3.9	3.9	3.7	3.7
	R38 – Open Space	3.7	3.8	3.8	3.7	3.7
	R39 – Open Space	3.9	3.6	3.6	3.6	3.6

Source: Vanasse Hangen Brustlin, Inc.

1 The concentrations are expressed in parts per million (ppm). 8-Hour CO background of 2.1 ppm and a persistence factor of 0.70 were used. The 8-hour NAAQS for CO is 9 ppm. The emissions presented represent the highest emissions experienced at each intersection.

Microscale: Particulate Matter (PM_{10})

The results show that the maximum increase for 24-hour PM10 concentrations between the 2015 and 2020 No-Build and Build conditions is 0.4 and 0.8 ug/m3. The 24-hour PM10 for 2015 and 2020 No-Build Conditions ranged between 40.4 to 42.8 ug/m3 for both years. The 24-hour PM10 for 2015 and 2020 Build Conditions also ranged between 40.4 to 42.8 ug/m3 for both years. The results of the microscale analysis demonstrate that the 2015 and 2020 No-Build and Build PM10 concentrations for the Proposed Projects are below the NAAQS.

The 2020 Build PM10 concentrations include parking garage emissions. To be conservative, the highest modeled value from the SCREEN3 results was added to the CAL3QHC results to obtain the 2020 Build concentrations. A value of 0.042 ug/m3 was used to represent the garage emissions for the 24-hour PM10 concentrations. The highest PM10 concentrations for each intersection are presented in **Table 5-7**.

Table 5-7
Predicted Maximum 24-Hour PM_{10} Concentrations (ug/m3)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Riverway at Longwood Avenue	R1 – Open Space	42.4	42.0	42.0	42.0	42.0
	R2 – Temple Israel	42.0	41.6	41.6	41.6	41.6
	R3 – Children's Hospital Boston	42.0	41.6	41.6	41.6	41.6
	R4 – Open Space	42.4	42.4	42.0	42.0	42.0
Brookline Avenue at Deaconess Road	R5 – Open Space	42.8	42.4	42.4	42.4	42.4
	R6 – Abraham Grosman Clinic	42.0	41.6	42.0	41.6	42.0
	R7 – Yawkey Center for Cancer Care	42.4	42.0	42.0	42.0	42.0
	R8 – Beth Israel Deaconess Medical Center (West)	42.4	42.0	42.0	42.0	42.0
Brookline Avenue at Joslin Place	R9 – Joslin Diabetes Center	43.2	42.8	42.8	42.8	42.8
	R10 – Abraham Grosman Clinic	42.4	42.0	42.4	42.0	42.4
Brookline Avenue at Longwood Avenue	R11 – The Windsor School Athletic Field	42.8	42.8	42.8	42.8	42.8
	R12 – Beth Israel Deaconess Medical Center	42.4	42.0	42.0	42.0	42.0
	R13 – Longwood Galleria	42.4	42.0	42.4	42.0	42.4
	R14 – Longwood Center (Under Construction)	42.8	42.8	42.8	42.8	42.8
Binney Street at Longwood Avenue	R15 – Beth Israel Deaconess Medical Center (East)	41.6	41.6	41.6	41.2	41.6
	R16 – Harvard Cooperative Society	41.6	41.2	41.2	41.2	41.2
	R17 – John F. Enders Pediatric Research Laboratories	41.6	41.2	41.2	41.2	41.2
	R18 – Best Western The Inn at Longwood Medical	41.2	41.2	41.2	41.2	41.2
Beth Israel Driveway at Brookline Avenue	R19 – Beth Israel Deaconess Medical Center (East)	42.0	42.0	42.0	42.0	42.4
	R20 - Beth Israel Deaconess Medical Center (East)	42.0	42.0	42.0	42.0	42.4
	R21 – The Winsor School Athletic Field	42.8	42.4	42.4	42.4	42.8
Short Street Extension at Riverway	R22 – Wheeler College Peabody Hall	41.6	41.2	41.2	41.2	41.2
	R23 – Winsor School	41.6	41.2	41.2	41.2	41.2
	R24 – Open Space	42.0	41.6	41.6	41.6	41.6
Riverway at Brookline Avenue	R25 – Beth Israel Deaconess Medical Center (Gerontology)	42.4	42.0	42.0	42.0	42.0
	R26 – Mass Mental Health Center	42.4	42.0	42.0	42.0	42.0
	R27 – Open Space	42.4	42.0	42.0	42.0	42.0
	R28 – Open Space	42.0	41.6	41.6	41.6	41.6
Fenway at Brookline Avenue	R29 – Open Space	42.4	42.4	42.4	42.4	42.4
	R30 – Open Space	42.8	42.4	42.4	42.4	42.4
	R31 – 110 Riverway Residences	42.8	42.4	42.4	42.4	42.4
	R32 – Simmons College	42.8	42.8	42.8	42.4	42.4
	R33 – Emmanuel College	42.8	42.8	42.8	42.4	42.8
	R34 – Open Space	41.6	41.6	42.0	41.6	41.6

Table 5-7
Predicted Maximum 24-Hour PM_{10} Concentrations (ug/m3)[1,2]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Brookline Avenue at Park Drive	R35 – Landmark Center	42.8	42.4	42.4	42.4	42.4
	R36 – D'Angelo Sandwich Shop	43.2	42.8	42.8	42.4	42.4
	R37 – Gulf Gas Station	42.8	42.4	42.4	42.4	42.4
	R38 – Open Space	42.4	42.4	42.4	42.4	42.4
	R39 – Open Space	43.2	42.4	42.8	42.4	42.4

Source: Vanasse Hangen Brustlin, Inc.

1 The concentrations are expressed in micrograms per cubic meter (ug/m^3). The background concentrations assumed for the 24-Hour PM_{10} was 40.0 ug/m^3 . The NAAQS for PM_{10} is 150 ug/m3. The emissions presented represent the highest emissions experienced at each intersection.

Microscale: Particulate Matter 2.5 ($PM_{2.5}$)

The results show that the maximum increase for 24-hour PM2.5 concentrations between the 2015 and 2020 No-Build and Build conditions is 0.4 ug/m3 for both years. The maximum increase for annual PM2.5 concentrations between the 2015 and 2020 No-Build and Build conditions is 0.1 ug/m3 for both years.

The 24-hour PM2.5 for 2015 and 2020 No-Build Conditions ranged between 26.0 to 27.2 ug/m3 and 26.0 to 26.8 ug/m3 respectively. The 24-hour PM2.5 for 2015 and 2020 Build Conditions ranged between 26.0 to 27.2 ug/m3 for both years.

The annual PM2.5 for 2015 and 2020 No-Build Conditions ranged between 10.7 to 10.9 ug/m3 and 10.7 to 10.8 ug/m3 respectively. The annual PM2.5 for 2015 and 2020 Build Conditions ranged between 10.7 to 10.9 ug/m3 for both years.

The results of the microscale analysis demonstrate that the 2015 and 2020 No-Build and Build PM2.5 concentrations for the Proposed Projects are below the NAAQS.

The 2020 Build PM2.5 concentrations include parking garage emissions. To be conservative, the highest modeled value from the SCREEN3 results was added to the CAL3QHC results to obtain the 2020 Build concentrations. A value of 0.022 ug/m3 was used to represent garage emissions for the 24-hour PM2.5 concentrations, and a value of 0.004 ug/m3 was used to represent garage emissions for the annual PM2.5 concentrations. The highest PM2.5 concentrations for each intersection are presented in **Table 5-8** and **Table 5-9**.

Table 5-8
Predicted Maximum 24-Hour $PM_{2.5}$ Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Riverway at Longwood Avenue	R1 – Open Space	27.2	26.8	26.8	26.4	26.4
	R2 – Temple Israel	26.8	26.4	26.4	26.4	26.4
	R3 – Children's Hospital Boston	26.8	26.4	26.4	26.4	26.4
	R4 – Open Space	27.2	26.8	26.8	26.4	26.4
Brookline Avenue at Deaconess Road	R5 – Open Space	27.2	26.8	26.8	26.8	26.8
	R6 – Abraham Grosman Clinic	26.8	26.4	26.4	26.4	26.4
	R7 – Yawkey Center for Cancer Care	27.2	26.4	26.8	26.4	26.4
	R8 – Beth Israel Deaconess Medical Center (West)	26.8	26.4	26.8	26.4	26.4
Brookline Avenue at Joslin Place	R9 – Joslin Diabetes Center	27.2	26.8	26.8	26.8	26.8
	R10 – Abraham Grosman Clinic	27.2	26.8	26.8	26.4	26.8
Brookline Avenue at Longwood Avenue	R11 – The Windsor School Athletic Field	27.2	27.2	27.2	26.8	26.8
	R12 – Beth Israel Deaconess Medical Center	26.8	26.4	26.4	26.4	26.4
	R13 – Longwood Galleria	27.2	26.8	26.8	26.4	26.8
	R14 – Longwood Center (Under Construction)	27.2	27.2	27.2	26.8	27.2
Binney Street at Longwood Avenue	R15 – Beth Israel Deaconess Medical Center (East)	26.4	26.4	26.4	26.4	26.4
	R16 – Harvard Cooperative Society	26.4	26	26.4	26.0	26.0
	R17 – John F. Enders Pediatric Research Laboratories	26.4	26.4	26.4	26.0	26.0
	R18 – Best Western The Inn at Longwood Medical	26.4	26.4	26.4	26	26.4
Beth Israel Driveway at Brookline Avenue	R19 – Beth Israel Deaconess Medical Center (East)	26.8	26.4	26.4	26.4	26.8
	R20 - Beth Israel Deaconess Medical Center (East)	26.8	26.4	26.4	26.4	26.8
	R21 – The Winsor School Athletic Field	27.2	26.8	26.8	26.8	26.8
Short Street Extension at Riverway	R22 – Wheeler College Peabody Hall	26.8	26.4	26.4	26.4	26.4
	R23 – Winsor School	26.4	26.4	26.4	26.4	26.4
	R24 – Open Space	26.8	26.4	26.4	26.4	26.4
Riverway at Brookline Avenue	R25 – Beth Israel Deaconess Medical Center (Gerontology)	27.2	26.8	26.8	26.4	26.4
	R26 – Mass Mental Health Center	27.2	26.8	26.8	26.4	26.4
	R27 – Open Space	27.2	26.8	26.8	26.4	26.4
	R28 – Open Space	26.8	26.4	26.4	26.4	26.4
Fenway at Brookline Avenue	R29 – Open Space	27.2	26.8	26.8	26.8	26.8
	R30 – Open Space	27.2	26.8	26.8	26.8	26.8
	R31 – 110 Riverway Residences	27.2	26.8	26.8	26.8	26.8
	R32 – Simmons College	27.2	26.8	26.8	26.8	26.8
	R33 – Emmanuel College	27.2	27.2	27.2	26.8	26.8
	R34 – Open Space	26.8	26.4	26.4	26.4	26.4

Table 5-8 (continued)
Predicted Maximum 24-Hour $PM_{2.5}$ Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Brookline Avenue at	R35 – Landmark Center	27.2	26.8	26.8	26.8	26.8
Park Drive	R36 – D'Angelo Sandwich Shop	27.2	26.8	26.8	26.8	26.8
	R37 – Gulf Gas Station	27.2	26.8	26.8	26.8	26.8
	R38 – Open Space	27.2	26.8	26.8	26.8	26.8
	R39 – Open Space	27.6	26.8	26.8	26.8	26.8

Source: Vanasse Hangen Brustlin, Inc.

1 The concentrations are expressed in micrograms per cubic meter (ug/m3). The background concentrations assumed for the 24-Hour $PM_{2.5}$ was 25.6 ug/m[3.] The NAAQS for $PM_{2.5}$ is 35 ug/m3. The emissions presented represent the highest emissions experienced at each intersection.

Table 5-9
Predicted Maximum Annual $PM_{2.5}$ Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Riverway at Longwood Avenue	R1 – Open Space	10.9	10.9	10.8	10.8	10.8
	R2 – Temple Israel	10.8	10.8	10.8	10.8	10.8
	R3 – Children's Hospital Boston	10.8	10.8	10.8	10.8	10.8
	R4 – Open Space	10.9	10.8	10.8	10.8	10.8
Brookline Avenue at Deaconess Road	R5 – Open Space	10.9	10.8	10.8	10.8	10.8
	R6 – Abraham Grosman Clinic	10.8	10.8	10.8	10.8	10.8
	R7 – Yawkey Center for Cancer Care	10.9	10.8	10.8	10.8	10.8
	R8 – Beth Israel Deaconess Medical Center (West)	10.8	10.8	10.8	10.8	10.8
Brookline Avenue at Joslin Place	R9 – Joslin Diabetes Center	10.9	10.8	10.8	10.8	10.8
	R10 – Abraham Grosman Clinic	10.9	10.8	10.8	10.8	10.8
Brookline Avenue at Longwood Avenue	R11 – The Windsor School Athletic Field	10.9	10.9	10.9	10.8	10.8
	R12 – Beth Israel Deaconess Medical Center	10.8	10.8	10.8	10.8	10.8
	R13 – Longwood Galleria	10.9	10.8	10.8	10.8	10.8
	R14 – Longwood Center (Under Construction)	10.9	10.9	10.9	10.8	10.9
Binney Street at Longwood Avenue	R15 – Beth Israel Deaconess Medical Center (East)	10.8	10.8	10.8	10.8	10.8
	R16 – Harvard Cooperative Society	10.8	10.7	10.8	10.7	10.7
	R17 – John F. Enders Pediatric Research Laboratories	10.8	10.8	10.8	10.7	10.7
	R18 – Best Western The Inn at Longwood Medical	10.8	10.8	10.8	10.7	10.8
Beth Israel Driveway at Brookline Avenue	R19 – Beth Israel Deaconess Medical Center (East)	10.8	10.8	10.8	10.8	10.8
	R20 - Beth Israel Deaconess Medical Center (East)	10.8	10.8	10.8	10.8	10.8
	R21 – The Winsor School Athletic Field	10.9	10.8	10.8	10.8	10.8
Short Street Extension at Riverway	R22 – Wheeler College Peabody Hall	10.8	10.8	10.8	10.8	10.8
	R23 – Winsor School	10.8	10.8	10.8	10.8	10.8
	R24 – Open Space	10.8	10.8	10.8	10.8	10.8
Riverway at Brookline Avenue	R25 – Beth Israel Deaconess Medical Center (Gerontology)	10.9	10.8	10.8	10.8	10.8
	R26 – Mass Mental Health Center	10.9	10.8	10.8	10.8	10.8
	R27 – Open Space	10.9	10.8	10.8	10.8	10.8
	R28 – Open Space	10.8	10.8	10.8	10.8	10.8
Fenway at Brookline Avenue	R29 – Open Space	10.9	10.8	10.8	10.8	10.8
	R30 – Open Space	10.9	10.8	10.8	10.8	10.8
	R31 – 110 Riverway Residences	10.9	10.8	10.8	10.8	10.8
	R32 – Simmons College	10.9	10.8	10.8	10.8	10.8
	R33 – Emmanuel College	10.9	10.9	10.9	10.8	10.8
	R34 – Open Space	10.8	10.8	10.8	10.8	10.8

Table 5-9 (continued)
Predicted Maximum Annual $PM_{2.5}$ Concentrations (Parts Per Million)[1]

Intersection	Receptor	2010 Existing	2015 No-Build	2015 Build	2020 No-Build	2020 Build
Brookline Avenue at	R35 – Landmark Center	10.9	10.8	10.8	10.8	10.8
Park Drive	R36 – D'Angelo Sandwich Shop	10.9	10.8	10.8	10.8	10.8
	R37 – Gulf Gas Station	10.9	10.8	10.8	10.8	10.8
	R38 – Open Space	10.9	10.8	10.8	10.8	10.8
	R39 – Open Space	11.0	10.8	10.8	10.8	10.8

Source: Vanasse Hangen Brustlin, Inc.
1 The concentrations are expressed in micrograms per cubic meter (ug/m3). The background concentrations assumed for the annual $PM_{2.5}$ was 10.6 ug/m^3. The NAAQS for $PM_{2.5}$ is 15 ug/m^3. The emissions presented represent the highest emissions experienced at each intersection.

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Stationary Source Emissions

The Proposed Projects will include heating boilers and emergency generators. The Proponent will apply for any DEP air permits, as required by DEP regulations under 310 CMR 7.00.

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Summary of Findings

The air quality evaluation demonstrates that the Proposed Projects comply with city, state, and federal air quality requirements. The microscale analysis evaluated impacts from the Proposed Projects-generated motor vehicle traffic at the most congested intersections in the Study Area and the emissions associated with the proposed parking garages. State and federal modeling procedures were used to determine worst-case concentrations. The results demonstrate that all existing and future build and no-build CO, PM_{10}, and $PM_{2.5}$ concentrations will be below the NAAQS.

The air quality study demonstrates that the Proposed Projects conform to the Clean Air Act Amendments because:

- No new violation of the NAAQS will be created,
- No increase in the frequency or severity of any existing violations will occur, and
- No delay in attainment of any NAAQS will result.

Solid and Hazardous Wastes

This section provides a summary of how solid and hazardous waste will be handled and collected at each of the Proposed Projects.

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Pilgrim Road and Courtyard Addition Projects

The Winsor School is sensitive to minimizing the amount of solid waste it generates, both during the construction and in connection with the operation of its buildings. Below are highlights of the programs adopted by Winsor that aim to accomplish this goal.

The School currently maintains a comprehensive recycling program, which provides space and containers campus-wide for the recycling of glass, paper and plastic for all academic and administrative facilities, including the dining hall operations. The School proactively educates its students, faculty and staff about the importance of a strong recycling program. Winsor's current proactive recycling initiative and trash removal procedures will be incorporated within the new Pilgrim Road Project and the Courtyard Addition Project once they are built and occupied by Winsor. Activities at these new facilities will generate solid waste typical of an academic setting - including waste paper, cardboard, glass and plastic bottles, and other similar materials. Most of these waste materials will be recycled and the remainder will be compacted in accordance with all applicable laws and regulations.

Management of hazardous waste is highly regulated for the safety of the public, the environment and the community. The Winsor School has an existing hazardous waste collection program (e.g., for collection of materials generated through school science laboratory or janitorial uses) that will be utilized to handle and dispose of all such wastes in accordance with applicable laws and regulations. Currently, it is not expected that hazardous waste of any kind would be generated by these new academic facilities.

With regard to construction, the school is considering the use of building materials and purchase of supplies that are nontoxic, made from recycled materials, and made with low embodied energy for all new projects. Recyclable and recycled materials may be incorporated into the design and construction of the Proposed Projects as much as is reasonably feasible. It will be necessary to verify that recycled materials will be technically acceptable and comparable in quality and cost to the non-recyclable equivalents.

Although the use program for the Longwood Avenue Project has not been finally established, the permitted uses of the project will include life sciences/laboratory, general office space, medical office, ground floor retail space, and other related uses, including parking. As proposed, the mixed-use development is consistent with other developments in the area and is expected to generate a solid waste stream consistent with these types of uses. Labeled site collection containers for solid waste will be located at designated collection points throughout the building, and waste will be collected regularly and transported by a licensed contractor to an off-site location for disposal or recycling.

The Winsor School is committed to recycling on its Campus and will require the developer of this building to implement a comprehensive recycling program as part of the Longwood Avenue Project's operations.

Operational Hazardous Waste

As proposed, the Longwood Avenue Project's uses are consistent with other developments in the area and are not expected to presents any special health or safety concerns for the general public.

As the Longwood Avenue Project's future ground lessor and closest neighbor, Winsor will be especially committed to the safe and effective handing of all waste streams generated by the Longwood Avenue Project. Therefore, Winsor will require the developer of this building to formulate, implement, and manage a program to ensure the proper handling, transport and disposition of any hazardous materials at and from the building, all in accordance with all applicable local, state, and federal regulations.

It is anticipated that the Longwood Avenue Project would contain uses and activities that are entirely consistent with the types of uses and activities that currently occupy many of the large-scale institutional buildings that surround the Winsor campus.

Medical and Biomedical Waste

The specific processes and tenant activities that may take place in the proposed Longwood Avenue Project cannot be fully defined due to the nature of the approvals being sought (i.e. use, height, and massing); however, it is possible that some building tenants may generate medical and biomedical waste, similar to the types of waste generated at surrounding LMA institutions.

Waste materials generated from a laboratory will be based on the type of lab activity. All waste materials are regulated by federal and/or state agencies, and all such materials shall be required to be handled, transported, and disposed of in accordance with all applicable laws and regulations.

Spill Control Measures

The Proponent will require that the building developer train all applicable tenant staff members in emergency response procedures for the safe handling of hazardous materials and waste chemical spills. Each laboratory at the building will be required to have its own spill kits and all accumulation areas in the laboratories will be required to have secondary containment measures in the event of a spill. The developer will be responsible for ensuring that each tenant files a Hazardous Materials contingency plan with the Boston Fire Department, Boston Police Department, and other public emergency response agencies, in a manner similar to surrounding LMA institutions.

Noise

The purpose of this section is to present the noise evaluation analysis conducted for the Proposed Projects. This section discusses noise background, the City of Boston's Noise Ordinance, noise analysis methodology, and summary of noise evaluation. The noise analysis included noise monitoring to determine existing sound levels, evaluation of future sound levels associated with the Proposed Projects' mechanical equipment, and a comparison to the City of Boston's Noise Ordinance criteria.

Noise Analysis Background

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, or recreation. How people perceive sound depends on several measurable physical characteristics. These factors include:

- Intensity - Sound intensity is often equated to loudness.
- Frequency - Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz. Pure tones have all their energy concentrated in a narrow frequency range.

Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (0 dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels creates a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:

- A 3 dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
- A 10 dB increase is a tenfold increase in acoustic energy but is perceived as a doubling in loudness to the average person.

The human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighted [dB(A)] is used to evaluate environmental noise levels. **Table 5-10** presents a list of common outdoor and indoor sound levels

A variety of sound level indicators can be used for environmental noise analysis. These indicators describe the variations in intensity and temporal pattern of the sound levels. The following is a list of other sound level descriptors:

- L_{10} is the sound level which is exceeded for 10 percent of the time during the time period. During a 100 minute period, the L_{10} would be the sound level which was exceeded by other sound levels for 10 minutes.
- L_{90} is the sound level which is exceeded for 90 percent of the time during the time period. The L_{90} is generally considered to be the ambient or background sound level.
- Leq is the A-weighted sound level, which averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time.
- Lmax is the maximum sound level measured during the time period.

Table 5-10
Common Outdoor and Indoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa)*		Sound Level dB(A)**	Indoor Sound Levels
	6,324,555	-	110	Rock Band at 5 m
Jet Over Flight at 300 m		-	105	
	2,000,000	-	100	Inside New York Subway Train
Gas Lawn Mower at 1 m		-	95	
	632,456	-	90	Food Blender at 1 m
Diesel Truck at 15 m		-	85	
Noisy Urban Area—Daytime	200,000	-	80	Garbage Disposal at 1 m
		-	75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	-	70	Vacuum Cleaner at 3 m
Suburban Commercial Area		-	65	Normal Speech at 1 m
	20,000	-	60	
Quiet Urban Area—Daytime		-	55	Quiet Conversation at 1 m
	6,325	-	50	Dishwasher Next Room
Quiet Urban Area—Nighttime		-	45	
	2,000	-	40	Empty Theater or Library
Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	
		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

Source: *Highway Noise Fundamentals*. Federal Highway Administration, September 1980.
*μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.
**dB(A) – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

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City of Boston Noise Ordinance

The City of Boston has developed a Noise Ordinance that establishes noise thresholds deemed to result in adverse impacts. The noise analysis for the Proposed Projects used these standards to evaluate whether the Proposed Projects will generate sound levels that result in adverse impacts.

Under Chapter 40, Section 21 of the General Laws of the Commonwealth of Massachusetts and the City of Boston Code, Ordinances, Title 7, Section 50, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the

Control of Noise in the City of Boston[8]. These regulations establish maximum allowable sound levels based upon the land use affected by the proposed development. **Table 5-11** summarizes the Noise Ordinance standards for the various land uses. These maximum allowable sound levels should not be exceeded.

Table 5-11
City of Boston Zoning District Noise Standards, dB(A)

Land Use Zone District	Daytime (7:00 AM – 6:00 PM)	All Other Times (6:00 PM – 7:00 AM)
Residential	60	50
Residential/Industrial	65	55
Business	65	65
Industrial	70	70

Source: Regulations for the Control of Noise in the *City of Boston, Air Pollution Control Commission*.

For a residential zoning district, the maximum noise level affecting residential uses shall not exceed the Residential Noise Standard. The residential land use noise standard is 60 dB(A) for daytime periods (7:00 AM to 6:00 PM) and 50 dB(A) for nighttime conditions (6:00 PM to 7:00 AM).

The City of Boston's regulations on construction sound levels state that operation of any construction devices, excluding impact devices, may not exceed 86 dB(A) during any time period.

Noise Analysis Methodology

The noise analysis conducted for the Proposed Projects evaluated the sound level impacts associated with the Proposed Projects' operations, such as rooftop mechanical equipments and loading activities. The noise analysis included measurements of existing ambient background sound levels and a quantitative evaluation of potential project generated sound levels. The Proposed Projects Study Area was evaluated and sensitive receptor locations were identified. The noise analysis then determined the overall potential sound levels that the Proposed Projects would need to be at or below to meet the City of Boston's Noise Ordinance requirements.

For each of the Proposed Projects, the noise analysis evaluated sound levels associated with potential mechanical equipment, such as HVAC units, cooling towers, and emergency generators. Since the Proposed Projects are in the early stages of the design process, technical specifications of the mechanical equipments were not available at this time of this evaluation to determine their impacts. The noise analysis

[8] Regulations for the Control of Noise in the City of Boston, *City of Boston Air Pollution Control Commission.*

determined the maximum potential sound levels from the mechanical equipment that will result in sensitive receptor locations meeting City of Boston's Noise Ordinance requirements.

The City of Boston's Noise Ordinance requirements were used as the basis for determining the maximum sound levels allowed from each set of equipment on the building rooftops. Applying the properties of sound propagation over hard ground, the noise analysis projected sound levels to sensitive receptor locations from each of the Proposed Projects to determine the overall maximum sound level that would be allowed from the combined group of mechanical equipment. The analysis assumed sound level reductions due to distance and building blockages from the surrounding buildings. The sensitive receptor locations included nearby residential buildings. The calculated maximum sound level from each rooftop will serve as a "not-to-exceed" criterion during the selection of the specific rooftop mechanical equipment. The specifications for the specific rooftop mechanical equipment, with any appropriate mitigation measures (such as acoustical noise walls, equipment locations, and enclosures), will be designed to meet or fall below these calculated overall maximum sound levels.

The noise analysis also evaluated noise associated with loading activities from the Proposed Projects. The noise analysis examined the building design, such as location of the loading area, and management of deliveries at the Proposed Projects' sites.

Receptor Locations

The noise analysis included evaluation of the Study Area to identify sensitive receptor locations that have outdoor activities and that might be sensitive to noise associated with the Proposed Projects. The noise analysis identified five such receptor locations in the vicinity of the Proposed Projects. The receptor locations include the nearest residential building at the Longwood Galleria, Wheelock College, and Simmons College. Additionally, noise sensitive receptor locations such as Beth Israel Deaconess Medical Center East Campus to the south and the Longwood Center to the west were also evaluated. The analysis evaluated the following receptor locations:

R1 – Longwood Galleria Apartments,
R2 – Wheelock College Residence Hall,
R3 – Simmons College Residence Campus,
R4 – Beth Israel Deaconess Medical Center East Campus, and
R5 – Longwood Center.

These receptor locations, selected based on land use considerations, represent the most sensitive locations in the vicinity of the Proposed Projects' sites. **Figure 5-30** depicts the receptor locations used in the noise analysis.

Existing Conditions

A noise monitoring program was conducted to establish existing sound levels. The existing sound levels were measured using a Type 1 sound analyzer (Larson Davis 824). Measurements were conducted during the weekday late night period (12:00 AM to 1:00 AM) at sensitive residential areas on January 18, 2011. The measured sound level data under existing conditions was dominated by noise from local roadways (such as Brookline Avenue) and mechanical equipments from nearby buildings.

The existing measured sound level data are presented in **Table 5-12**. The L_{90} sound levels range from 44 dB(A) to 60 dB(A) during the nighttime period. These sound levels are typical of an urban area. The result of the noise monitoring program indicates that the sound levels within some of the Study Area locations exceed the City of Boston's nighttime standard of 50 dB(A) for Residential Districts.

Table 5-12
Measured Existing Nighttime Sound Levels, dB(A)

Monitoring Location*	L_{90} Sound Levels
M1 – Riverway	44
M2 – Longwood Avenue at Brookline Avenue	60
M3 – Brookline Avenue	59

Source: Vanasse Hangen Brustlin, Inc.
* See Figure 30 for monitoring locations.

Project Impacts

The noise analysis evaluated the potential noise impacts from rooftop mechanical equipment and loading activities related to the Proposed Projects. The analysis determined the potential overall maximum sound levels at the rooftops of the Pilgrim Road and Longwood Avenue Projects.

Rooftop Mechanical Equipment

Because the Proposed Projects are in the early stages of the design process, specific pieces of mechanical equipment have not yet been selected. The noise analysis assumed that the Proposed Projects would have some combination of HVAC units, air handling units, and water cooling condenser units/cooling towers. The overall maximum sound levels that each Proposed Project may generate without violating the City of Boston's Noise Ordinance at any of the sensitive receptor locations were calculated. The overall maximum mechanical equipment sound levels ranged from 66 dB(A) at the Pilgrim Road Project to 73 dB(A) at the Longwood Avenue Project. To achieve these sound levels, state of the art equipment will be selected, the rooftop

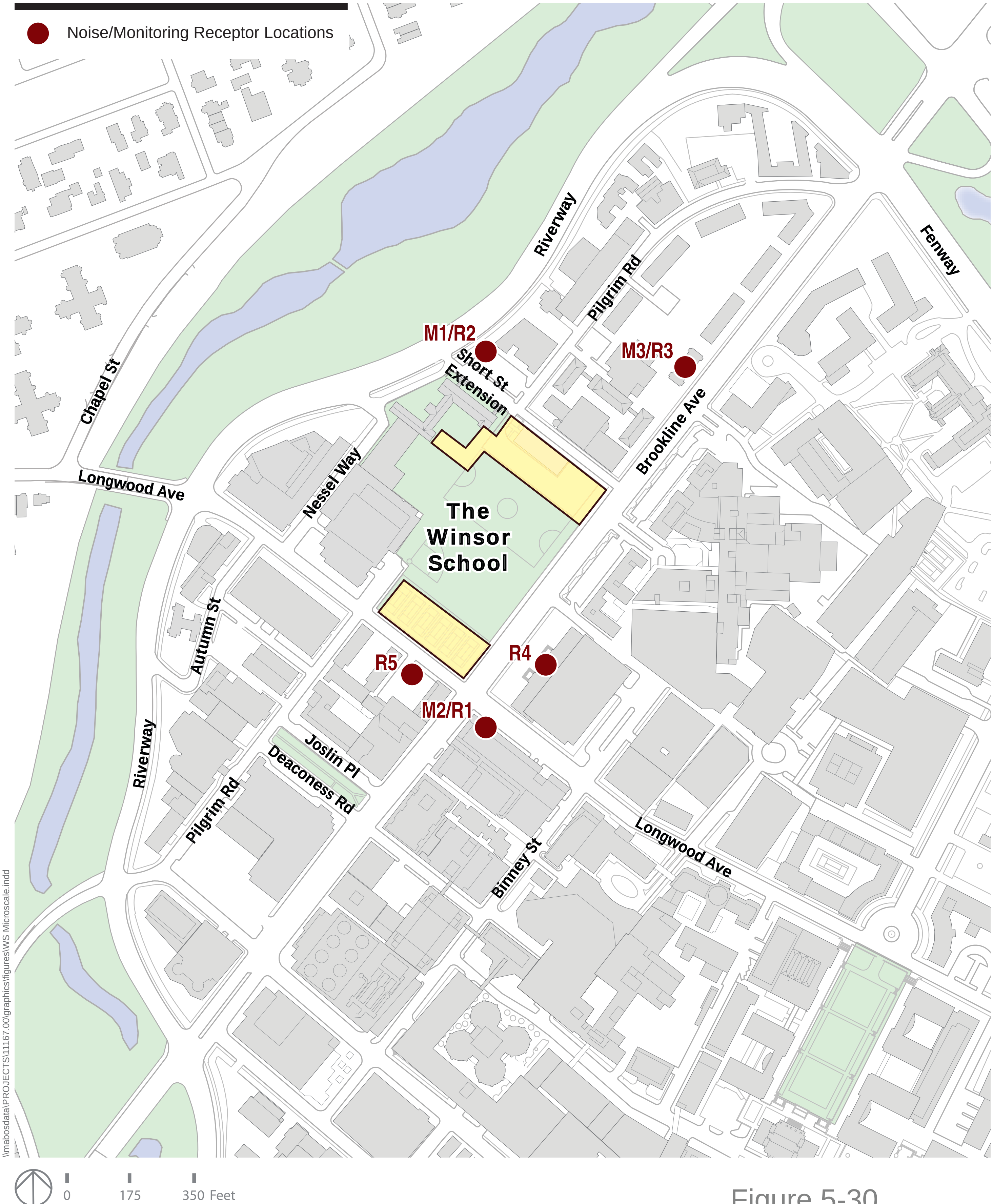

Figure 5-30

The Winsor School

Noise Receptor Locations

Vanasse Hangen Brustlin, Inc.

mechanical equipments will be located in penthouse enclosures, and/or noise (screen) walls will be designed to mitigate the noise impacts. These overall maximum sound levels from the mechanical equipment were then projected to the sensitive receptor locations. The noise analysis included blockage from surrounding buildings in the calculation of the sound levels at the sensitive receptor locations.

The Proposed Projects will have emergency generators that have been included in the noise analysis determination of the overall maximum sound levels. During the design process, the Proposed Projects will apply for the appropriate DEP air permits, which also include specific noise requirements described in DEP regulations under 310 CMR 7.00.

Loading Activities

Deliveries for the Pilgrim Road Project will utilize the existing on-street loading area along Nessel Way. The Longwood Avenue Project will be designed to accommodate service and loading operations to occur off-street in an enclosed loading dock area. All delivery vehicles will access the loading docks via the shared Winsor/MASCO driveway. The loading dock area will be managed so that service and loading operations do not materially impact the abutting streets. Since loading activities will be serviced within the proposed Longwood Avenue Project, noise impacts to the sensitive receptor locations will be negligible at all times.

Noise Analysis Results

The noise analysis calculated the overall maximum sound levels that the Proposed Projects could generate and still result in the sound levels at the sensitive receptor locations complying with the City of Boston's Noise Ordinance requirements. **Table 5-13** presents the results of sound levels projected at the sensitive receptor locations when the overall maximum sound levels generated by the Proposed Projects are 66 dBA at the Pilgrim Road Project and 73 dBA at the Longwood Avenue Project. The sound levels for the sensitive receptor locations will range from 26 dB(A) to 48 dB(A). These sound levels all meet the City of Boston's Noise Ordinance requirements for residential areas of 60 dB(A) and 50 dB(A) during the daytime and nighttime period, respectively. Note that sound levels for R4 and R5 represent the interior sound levels for these receptor locations.

Table 5-13
Proposed Projects Sound Levels, dB(A)

Receptor Location*	Proposed Projects Sound Levels	City of Boston Noise Criteria (Daytime)	City of Boston Noise Criteria (Nighttime)
R1 – Longwood Galleria Apartments	48	60	50
R2 – Wheelock College Residence Hall	44	60	50
R3 – Simmons College Residence Campus	39	60	50
R4 – Beth Israel Deaconess Medical Center – East Campus	26	60	50
R5– Longwood Center	35	60	50

Source: Vanasse Hangen Brustlin, Inc.
* See Figure 30 for receptor locations.

Construction Activity

The construction activity associated with the Proposed Projects may temporarily increase nearby sound levels due to the use of heavy machinery. Heavy machinery is expected to be used intermittently throughout the construction phases, typically during daytime periods. The construction phases that will generate the highest sound levels include the demolition of existing buildings, site excavation and grading, and construction of the foundations for the proposed buildings. The City of Boston Noise Ordinance considers construction sound levels to be an impact to residential land uses if the L_{10} is in excess of 75 dB(A) or the Lmax is in excess of 86 dB(A). A construction management program will be developed with the City of Boston to ensure that the Noise Ordinance is met.

Conclusion

The noise analysis evaluated the sound levels associated with the Proposed Projects. This analysis determined the maximum sound level that the Proposed Projects may generate and still comply with the City of Boston's Noise Ordinance requirements. During the selection process for the mechanical equipment, the Proponent will need to select equipment, including any associated screening or other mitigation measures, that would result in sound levels that do not exceed the maximum sound levels determined in this evaluation. In addition, the sound levels of loading dock operations will be negligible for the receptor locations due to design and management of the loading area and operations.

Stormwater Management/Water Quality

Please see Chapter 6, *Infrastructure Systems* for a detailed description of potential water quality and stormwater impacts.

Flood Hazards/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) indicates the FEMA Flood Zone Designations for the Campus (City of Boston, Community-Panel Number 25025C0078G). This designation is illustrated in **Figure 5-31**. The map shows that the Proposed Project Sites are located outside the 0.2 percent annual chance floodplain (commonly referred to as the 500 year flood limit), identifying them as areas of minimal flooding.

Geotechnical Impact/Groundwater

This section addresses the below-grade construction activities anticipated for the Proposed Projects. It discusses existing soil and groundwater conditions, anticipated foundation construction methods and excavation work for the Proposed Projects based on available subsurface information, and a preliminary foundation design study. This section also addresses potential impacts and proposed mitigation measures.

Project Site and Subsurface Conditions

Situated in the LMA, the Winsor School campus is bounded by the Riverway, Nessel Way, and the MASCO building to the northwest, the Wheelock and Simmons College campuses to the northeast, Brookline Avenue to the southeast, and Longwood Avenue to the southwest. The Winsor School's Main Building is an irregularly-shaped structure fronting onto Short Street Extension which leads to the Riverway; the Main Building houses classrooms, and administrative offices, and is connected to an addition containing a dining hall. A second campus building is located near the Simmons College property line and consists of a 2-story gymnasium, which will be demolished in connection with the development of the Pilgrim Road Project. Finally, the remaining portions of the Campus located along Brookline and Longwood Avenues are improved with two playing fields and six (6) contiguous tennis courts, the tennis courts occupying the Longwood Avenue Project site. Approximately sixty percent of the existing Winsor Campus is currently open space not counting the existing tennis courts. Existing ground surface across the Campus rises gradually from the Simmons and Wheelock College campuses to Longwood

Avenue, from approximately Elevation +29 to Elevation +35. Elevations as discussed herein are referenced to Boston City Base (BCB) datum.

The Winsor School campus buildings, including the Main Building and the gymnasium building, are supported by spread footing foundation systems. Abutting the Winsor Campus to the northeast is the Simmons College Holmes Sports Center, which is also supported on a combination of spread footing and structural mat foundation systems. The MASCO Garage, which abuts the Campus to the west, and the BRA approved Longwood Center Project located across Longwood Avenue to the southwest, are understood to be supported on either spread footing or mat foundations and include below-grade levels. Across Brookline Avenue to the southeast is Beth Israel Deaconess Medical Center. These modern hospital buildings located along Brookline Avenue include below-grade levels and are likely supported on spread footing, mat, or concrete caisson foundations. The proposed Longwood Center is anticipated to be constructed making use of a reinforced concrete diaphragm wall (slurry wall) foundation.

Based upon historical information for the area consisting of the Massachusetts DEP/CAM Historic Shoreline Mapping Project, the Winsor Campus is located inside of the colonial shoreline in an upland area. As such, the Winsor Campus is not subject to Chapter 91, the Commonwealth of Massachusetts' Waterways regulations.

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Subsurface Conditions

Based upon soil borings commissioned by the Proponent, the ground surface of the Winsor Campus is underlain by a 3- to 10-foot thickness of loose to compact granular fill associated with the original grading and leveling of the property. Directly underlying the surficial fill deposit are naturally deposited soils consisting of compact to dense glacial outwash sand and gravel overlying marine sands and clays extending to depths on the order of 120 feet below existing ground surface. Successive deposits of glacial till and argillite bedrock were encountered beneath the marine deposit. This part of Boston is not filled land, and consists of original *terra firma*.

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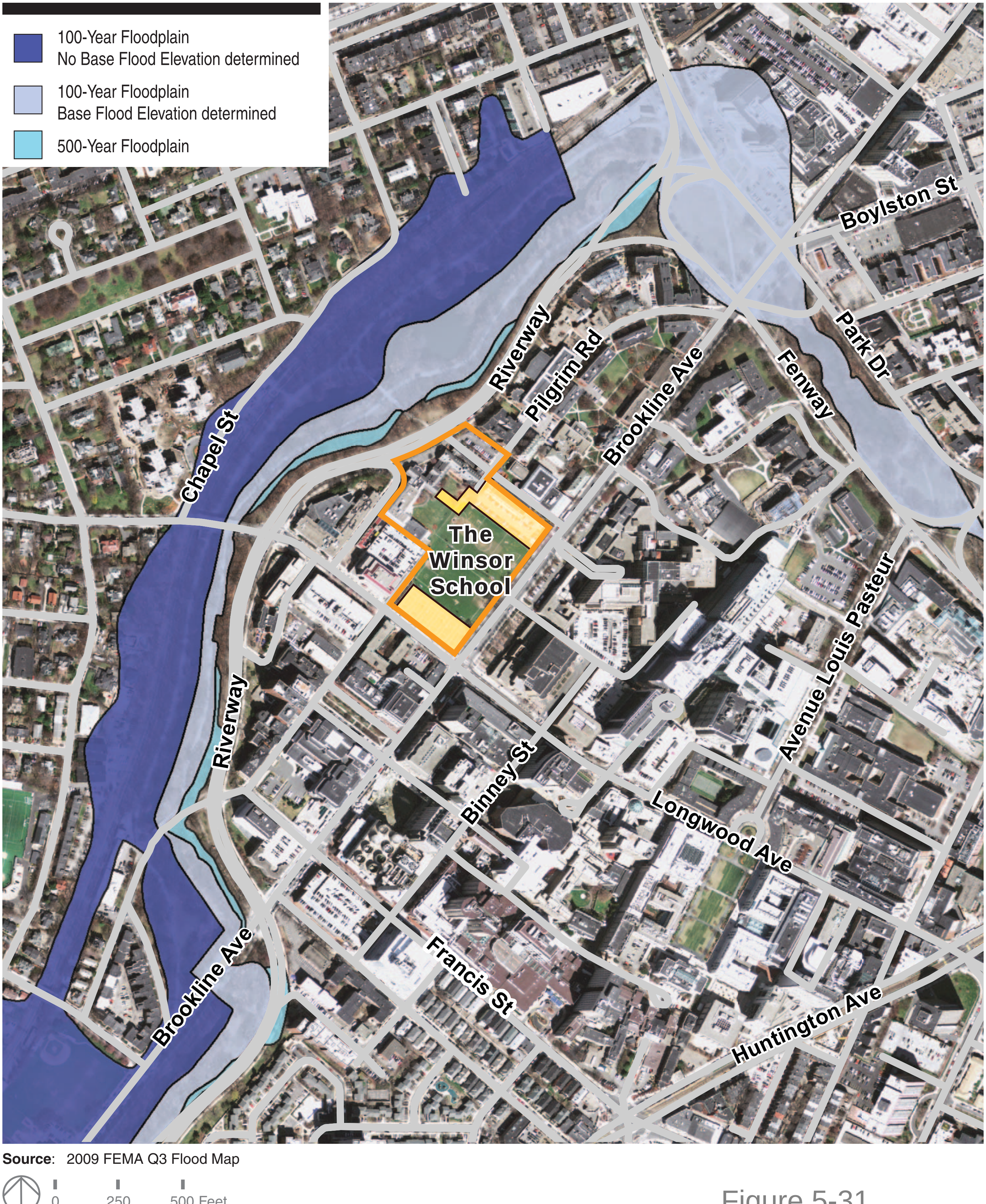
Groundwater Conditions

Groundwater levels within the observation wells located at the site were observed at a depth of about 18 to 20 feet below existing ground surface corresponding to approximately Elevation +10, on the Boston City Base (BCB) at the time of a January 2010 subsurface investigation.



Source: 2009 FEMA Q3 Flood Map

Figure 5-31

Proposed Construction

The three Proposed Projects comprise the following:

1. The Pilgrim Road Project: an academic building containing approximately 110,000 square feet of gross floor area, to be located on the site of Winsor's existing surface parking lot and outdated gymnasium building, near the corner of Pilgrim Road and Short Street Extension. In its second phase, this project will include the construction of an approximately 148 space, single level parking garage located beneath the athletic field that is immediately adjacent to the new building, and a ramp to this parking garage will be installed as part of this building's construction;

2. The Courtyard Addition Project: a new wing to be added to the existing Winsor academic complex, comprising approximately 30,000 square feet of gross floor area, to be located at the southwest corner of the existing courtyard surrounded by academic buildings; and

3. The Longwood Avenue Project: a new, up to 10-story building containing approximately 300,000 square feet of gross floor area that will contain a mix of non-residential uses typical of those found in the LMA (including ground floor retail/commercial uses), to be located at the corner of Brookline and Longwood Avenues. This project will include an approximately 346 space below-grade parking garage in 4.5 levels.

The two new below-grade parking facilities will contain a total of approximately 494 parking spaces comprising 422 net new spaces (i.e., partially replacing existing surface parking spaces at the Pilgrim Road Site that will be removed).

Excavation and Foundation Construction

Excavation

Construction of the foundation and lowest level basement slab on the Pilgrim Road Project site, and underground parking garage beneath the easternmost playing field, all have a common slab level of approximately Elevation +14 and will require an excavation approximately 18 feet deep below ground surface throughout the entire building footprint. Thus, a temporary excavation support system on the Winsor Campus will be required to conduct the below-grade construction. It is anticipated the lateral earth support system will consist of steel soldier piles driven into the glacial outwash deposit around the perimeter of the excavation with wood lagging boards to provide horizontal support. It is anticipated that excavation for the lowest level slab will be completed above the identified groundwater level at the site, and thus, construction of a groundwater cut-off during the construction phase of the project is not warranted.

For the proposed Courtyard Addition Project, the excavation depth is anticipated to extend to roughly 10 feet below the existing ground surface and be performed within an open cut. Similar to the Pilgrim Road Project and associated parking garage structure, the excavation will be performed above the anticipated groundwater level at the site, and thus, construction of a groundwater cut off during the construction phase of the project is not warranted.

The proposed Longwood Avenue Project site is expected to have an excavation of approximately 55 to 60 feet below existing ground level to accommodate the proposed parking structure. The excavation would likely be performed within a reinforced concrete diaphragm wall (slurry wall) or similar system. Slurry walls will be keyed into an impervious soil deposit such as glacial till. The purpose of the slurry wall will be to transfer perimeter building loads to suitable bearing soils in the glacial deposits and to substantially cutoff groundwater beneath the walls and entering the building footprint.

The soldier pile and lagging, and the slurry wall earth retention systems, will require bracing. Bracing for the Pilgrim Road Project excavation and its associated parking garage will consist of either internal cross-lot bracing or rakers braced to concrete kicker blocks, or external bracing consisting of tiebacks, or possibly a combination thereof. Bracing for the Longwood Avenue Project excavation will likely be internal utilizing cross-lot bracing or the building slabs in a “top-down” construction approach, or external bracing consisting of tiebacks. In the event that tiebacks are used that extend beneath Brookline and/or Longwood Avenues, approval would be sought from the City of Boston and an earth retention plan will be submitted to the City of Boston Public Improvement Commission (PIC) for its review and approval.

Foundation Support/Groundwater Control During Construction

It is anticipated that the proposed structures will be supported by a spread footing foundation system in conjunction with slab-on-grade construction. The slab for the Pilgrim Road Project, including its associated underground parking garage structures, will be located approximately 4 feet above the groundwater level. An underslab drainage system may be provided as a precaution to guard against an extreme rise in the groundwater levels. The underslab drains would be gravity drained to a sump pit equipped with duplex pumps and which discharges into the groundwater recharge system that will be installed as part of each of the Proposed Projects.

Since the lowest level floor slabs for the Pilgrim Road Project and its parking garage are anticipated to lie above the existing groundwater level, the underslab drainage system is not anticipated to have a negative impact on groundwater conditions surrounding these sites. The underslab drainage system will be utilized to mitigate groundwater intrusion into the below-grade space during periods when the site groundwater is temporarily elevated due to storm conditions. Further, buildings in the immediate vicinity of the Winsor Campus are not indicated to be timber pile supported. The proposed underdrain system will not represent a detriment to any existing wood pile foundations which may possibly be present further away from the Winsor Campus.

The excavation for the Longwood Avenue Project will be performed within a relatively stiff and watertight slurry wall system to provide excavation support, limit ground movements outside of the excavation to protect adjacent facilities, and maintain groundwater levels outside of the excavation by creating a groundwater "cut-off" between the excavation and surrounding area. The bottom of the slurry wall will be sealed into an impervious soil stratum such as dense glacial till. The slurry wall will also serve as the permanent basement walls.

A pressure-relieved slab-on-grade will likely be utilized for the lowest level slab of the Longwood Avenue Project. Any groundwater discharge from the pressure-relief system is anticipated to be limited, due to the slurry wall cut-off that will be sealed into the glacial till. Any such discharge will be recharged into the surrounding groundwater table.

Intermittent temporary construction dewatering is anticipated to be required during construction of the Pilgrim Road Project and its associated parking garage for the installation of elevator foundations, and possibly following a heavy rain event. Construction dewatering for the excavation of the Longwood Avenue Project site will be performed within the slurry wall and is not anticipated to adversely impact groundwater levels outside of the building area. Pre-trenching for the slurry wall is anticipated to be performed in the fill soils located well above the indicated groundwater level. Construction dewatering effluent will be either recharged back to the ground on site, or off-site under a temporary construction dewatering permit.

The Proposed Projects will include coordination with the Boston Groundwater Trust to protect groundwater levels in the area, and it will include the installation of groundwater observation wells in the vicinity of each of the Proposed Projects before site excavation to facilitate monitoring of the groundwater levels before, during, and following construction. Any required groundwater monitoring wells located within a public way will be turned over to the Boston Groundwater Trust (subject to applicable City approvals) following completion of the applicable Proposed Project.

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Probable Project Impacts and Mitigation Measures

No significant impact on adjacent buildings or utilities is anticipated due to foundation construction. Measures will be incorporated into the design and construction procedures to limit potential adverse impacts to adjacent structures and utilities. The Proposed Projects will include coordination with the Boston Groundwater Trust to protect groundwater levels in the area, and will also include the installation of groundwater observation wells in the vicinity of each of the Proposed Project Sites before site excavation; as well as monitoring of groundwater levels before and during construction.

In addition, the Winsor School and its selected contractor will coordinate with the nearby abutters prior to construction, regarding potential impacts and mitigation. A list of potential mitigation measures is as follows:

- Pre-construction surveys will be conducted of certain abutting and adjacent structures as permitted by the owners to document existing conditions;
- The design team will conduct studies and review the contractor's submittals for conformance to the Proposed Projects' contract documents with specific attention to the protection of nearby structures and facilities;
- Performance criteria will be included in the Proposed Projects' technical specifications relative to lateral excavation support systems with respect to movement, and maintaining groundwater levels during construction. The contractor will be required to conform to the performance criteria outlined in the technical specifications, and to take necessary steps during the work to protect nearby buildings and other facilities. The contractor will be required to submit contingency plans for remedial measures in the event that unacceptable performance occurs, which contingency plans will be reviewed by the design team prior to construction;
- The contractor's designs and procedures will be reviewed by the design team prior to implementation;
- A program of geotechnical instrumentation will be implemented at the project site and will include deformation monitoring points, inclinometers, and groundwater observation wells; and
- The design will comply with the performance standards of Article 32 of the Boston Zoning Code and will recharge the required volume of water into the ground in the vicinity of each of the applicable Proposed Project sites.

Groundwater Conservation Overlay District

The Campus is located within the Groundwater Conservation Overlay District (GCOD) as established by Article 32 of the City of Boston Zoning Code, as amended. However, subsurface conditions at the Proposed Project Sites are not indicative of typical soil geology associated with filled areas of Boston where organic soils are present, groundwater levels are relatively shallow, and buildings are supported by timber piles. Rather, the soil geology on the Winsor Campus is more typical of an upland area having a limited thickness of granular fill overlying dense glacially deposited soils. Buildings on the Winsor Campus are footing supported, and buildings in the immediate vicinity of the Winsor Campus are not timber pile supported. The depth to groundwater is relatively deep, on the order of 20 feet below the existing ground surface in the glacial outwash deposit.

Notwithstanding the above, the Proposed Projects' designs will incorporate appropriately engineered groundwater recharge systems as required under Article 32 to store and recharge storm water collected from roof drains and surface areas, including the playing fields. The Proposed Projects are expected to provide increased groundwater recharge and reduced quantity stormwater outflow by diverting storm water flow from the BWSC sewer/drainage system and re-directing it to the groundwater table.

Construction Impacts

This section describes the anticipated methods and impacts of construction related to the Proposed Projects. A Construction Management Plan (CMP) will be submitted to the Boston Transportation Department with respect to each of the Longwood Avenue and Pilgrim Road Projects. These plans will comply with the City of Boston's Construction Management Program. These CMPs will include detailed information regarding construction activities, materials management, staging areas, parking, truck routes, air quality and noise impacts and mitigation measures, and other subject matter as it relates to construction. In particular, these CMPs will demonstrate the intent to maintain public safety throughout the construction periods. Techniques such as barricades, defined temporary walkways, signage, and other protective measures will be put in place. The CMP will also highlight truck routes and staging, protection of utilities, and the control of noise and dust.

Construction Schedules

Pilgrim Road Project

The following is the preliminary construction schedule for the Pilgrim Road Project:

- Demolition and Remediation — Q3 – Q4 2012
- Site Excavation and Construction — Q1 2013 – Summer 2014
- Project Occupancy — Summer 2014

Longwood Avenue Project

The development of the Longwood Avenue Project does not have a defined start date (the earliest possible start – 2015), as the Longwood Avenue Project's development is dependent on market conditions and a variety of other factors, but is expected to take approximately 28 months to complete once commenced.

Courtyard Addition Project

The development of the Courtyard Addition Project does not have a defined start date, but is expected to take approximately 16 months to complete once commenced.

Construction Noise Impacts and Mitigation

The construction activities related to the Proposed Projects will generate noise related to demolition activities, excavation, earth movement, and construction vehicles. Although construction sound levels will be temporarily higher than the existing sound levels, no violations of the City of Boston's Noise Ordinance are expected and the Proponent is committed to mitigating construction-related noise impacts. The Proponent is further committed to minimizing and mitigating construction-related noise impacts because of the proximity of the planned construction to existing Winsor academic buildings as well as neighboring buildings.

Noise Impacts

Moderate increases in noise levels associated with the construction of the Proposed Projects may occur during construction since heavy machinery is expected to be used intermittently throughout each of the Proposed Projects' construction phases. Some equipment may be heard from off-site locations; however, construction work will comply with the requirements of the City of Boston Noise Ordinance and every commercially reasonable effort will be made to minimize the noise impact of construction activities.

The construction phase that will generate the highest sound levels will be the demolition of the existing ca. 1924 gymnasium building, site excavation, and grading. Construction sound levels, based upon construction equipment noise studies prepared by the Environmental Protection Agency, are expected to range from an L_{10} of 65 to 75 dBA with an Lmax of 85 dBA. The City of Boston Noise Ordinance considers construction sound levels to be an impact to residential land uses if the L_{10} is in excess of 75 dBA or the Lmax is in excess of 86 dBA. The predicted construction sound levels are below the City of Boston Noise Ordinance requirements for residential areas. A construction management program will be developed with the City of Boston to ensure that the applicable Noise Ordinance requirements are met during the demolition of this building.

City of Boston Requirements

Construction noise associated with the construction of the Proposed Projects is not expected to exceed the limits described in **Table 5-14** below. Regulation 3 of the Regulations for the Control of Noise in the City of Boston, "Restrictions of Noise Emitted from Construction Sites," establishes limits for construction noise. The limits are applied at the lot line of the receiving property. In the case where equipment is operated at closer than 50 feet to the applicable lot line, the limits are applied at 50 feet from the equipment. The City of Boston regulations are not applicable to impact devices such as jackhammers, pile drivers, riveters, pavement breakers, etc. In addition, the L_{10} must exceed the ambient L_{10} by at least 5 dBA to be considered a violation of the limits. It is the goal of the Proposed Projects to operate within the criteria set by the City of Boston's Noise Ordinance.

Table 5-14
Summary of Construction Site Noise Limits for Boston

	Noise Level Limit*	Noise Level Limit*
Land Use of Affected Property	dBA L_{10} Level	dBA Maximum Level***
Residential or Institutional	75	86
Business or Recreational	80	--
Industrial**	85	--

Source: Regulation 3, City of Boston Air Pollution Control Commission, Regulation for the Control of Noise in the City of Boston, adopted December 17, 1976.

* Measured at the lot line of the affected property.

** The industrial noise limit shall apply to public ways.

*** Maximum noise level shall be measured with the sound level meter on "SLOW" response.

Construction Noise Mitigation

Construction period activities may temporarily increase nearby sound levels due to the intermittent use of heavy machinery during construction. These activities include demolition, foundation construction, truck movements, heavy equipment operations, and general construction activities. Regulation 3 of the City of Boston Code, Ordinances, Title 7, Section 50, includes specific construction noise limits by land use. The relevant criterion for the Proposed Projects is based on residential or institutional land use. The construction noise at the property line for residential or institutional land use is limited to a maximum level of 86 dBA, with a limit of 75 dBA for the construction noise level exceeded 10 percent of the time (L10). In addition, the City of Boston Code, Ordinances, Title 15, Chapter 11, Section 355 (titled "Unreasonable Noise") also applies to construction activities. This ordinance establishes a noise limit of 50 dBA for construction noise measured at residential lot lines between 6:00 PM and 7:00 AM. This ordinance effectively prohibits nighttime construction near residential areas.

The Proponent will require the following construction noise mitigation measures to assist in ensuring the Proposed Projects comply with the criteria set by the City of Boston's Noise Ordinance:

- Scheduling of work during daytime hours. Proposed Project construction hours will generally be restricted to be 7:00 AM to 6:00 PM. Contractors will not be allowed to operate diesel equipment or prepare and move materials before 7:00 AM.
- Selecting the quietest practical items of equipment, e.g. whenever possible, electric instead of diesel powered equipment.
- Scheduling equipment operations to keep average levels low, to synchronize noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels.
- Turning off idle equipment – and limiting idling to 5 minutes, per Commonwealth of Massachusetts regulations.
  - Protecting sensitive locations by shielding or distancing noisy equipment.
  - Maintaining muffler enclosure on continuously operating equipment, such as air compressors and welding generators.

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Construction Air Quality

Areas of exposed soils will be vegetated or paved as soon as practicable to minimize the length of exposure time. Exposed areas susceptible to wind will be mulched or seeded as early as feasible in the construction process to further reduce dust emissions. Runoff will be controlled to prevent sediments from entering the storm drain system.

Construction activities may generate dust, which could result in localized increase in airborne particle levels. Fugitive dust emissions from construction activities will depend on such factors as the properties of the emitting surfaces (e.g., moisture content and volume of spills), metrological variables, and construction practices employed. To limit the creation of airborne dust and minimize impacts on the local environment, the contractor for each of the Proposed Projects will be required to employ dust control measures in accordance with applicable local, state, and federal requirements. Dust control measures which may be implemented by these contractors include:

- Use of standard dust control measures such as watering-down any exposed ground surfaces or spreading hygroscopic salts to control and suppress dust that originates from construction related activities.
- Covering of soil subgrades with crushed stone where heavy equipment will be traveling.
- All trucks leaving the site shall be securely covered.
- The contractor shall clean debris from the construction area and surrounding streets on a routine basis.
- Mechanical sweeping of key access routes by pelican or other similar method will occur as needed.
- Wheel wash locations will be provided as necessary.
- Contaminated soils that are stockpiled onsite (if any) will be securely covered with polyethylene sheeting.
- Areas of exposed soils will be vegetated or paved as soon as practicable to minimize the length of exposure time.
- Actual construction practices will be monitored to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized and to ensure that emissions of dust are limited.
- In addition, all motor vehicles and construction equipment shall comply with all pertinent City, State, and Federal regulations covering exhaust emission control and safety.
- The reduction of emissions of volatile organic compounds (VOCs), carbon monoxide (CO), and particulate matter (PM) from diesel-powered equipment shall be accomplished by installing Retrofit Emission Control Devices.
- The use of low-sulfur diesel fuel.

The acceptable Retrofit Emission Control Devices for the Proposed Projects shall consist of oxidation catalysts that (1) are included on the Environmental Protection Agency (EPA) Verified Retrofit Technology List; and (2) are verified by EPA or certified by the manufacturer to provide a minimum emissions reduction of 52 percent for VOCs, 31 percent for CO and 20 percent for PM. Attainment of the required reduction in PM emissions can also be accomplished by using less polluting Clean Fuels (e.g. PuriNOx).

In addition to installing the required emission control devices, each contractor will also be required to use methods to control nuisance odors associated with diesel emissions from construction equipment including, without limitation, the following:

- Turning off diesel combustion engines on construction equipment not in active use, and on trucks that are idling while waiting to load or unload material for five minutes or more.
- Locating diesel equipment away from the general public and sensitive receptors (e. g., fresh air intakes, air conditioners, and windows).

The Proponent will provide contractors with information promoting the Clean Air Construction Initiative (CACI). This initiative encourages the use of available, state-of-the-art diesel exhaust control technology on diesel-powered construction and industrial vehicles and equipment in an effort to substantially reduce harmful diesel particulate emissions, oxides of nitrogen (NOx), toxic hydrocarbons, odor, and smoke.

Construction Water Quality

Local dewatering may be required to construct utilities and facilitate other deeper excavations (particularly for the Longwood Avenue Project). On-site recharge in accordance with the Massachusetts Contingency Plan at 310 CMR 50.0055 is planned as the primary approach for construction dewatering discharge. If required, discharge to municipal storm drains under a NPDES Remediation General Permit (RGP) will be implemented in the event that subsurface geology cannot accept dewatering flows. Effluent from dewatering efforts may include groundwater, precipitation, and surface water runoff. If needed, a dewatering effluent treatment system will be designed and operated by the contractor. Discharge water quality sampling and analyses will be conducted to monitor compliance with the NPDES RGP.

Disposal and Recycling of Construction Debris

As stated above, asphalt pavement, brick, and concrete (ABC) rubble generated from demolition of site roadways, and buildings will be handled in accordance with applicable DEP solid waste policies. The Proponent is planning to obtain a Beneficial Use Determination (BUD) permit in order to re-use processed ABC rubble that is void of rebar (metal reinforcing) for reuse as compacted aggregate in site filling activities. Each of the Proposed Projects' disposal contracts will include specific provisions for the segregation, reprocessing, reuse, and/or recycling of building materials and demolition debris. Those materials that cannot be reused on-site will be transported in covered trucks to an approved solid waste facility per applicable DEP solid waste policies.

Construction Traffic

As with every construction project, some level of traffic impact can be anticipated as a result of the Proposed Projects' construction. The construction trip generation due to workers and trucks is described in more detail below.

Construction Trip Generation and Worker Parking

Personnel will arrive at each respective Proposed Project job site either by public transportation or by personal vehicles. The Proposed Projects' contractors will be required to encourage public transportation to the site. Because the workforce will arrive and depart prior to peak commuter traffic periods, these trips are not expected to have a large impact on the area's transportation system.

Truck Routes and Volumes

Truck traffic will vary throughout the construction period, depending on the activity, with the majority of personnel arrivals and material deliveries expected during the morning construction period. It is expected that truck traffic will range on average between 10-15 trucks daily for the Pilgrim Road Project and possibly 30-40 trips/day for the Longwood Avenue Project, spread evenly throughout the day. During discrete phases of the Longwood Avenue Project the total number of daily truck trips could be higher – in particular when excavation activities and concrete pours are being conducted on-site. Large truck trips could range between 35 and 50 trips per day when these activities are occurring on-site.

Truck access for the Proposed Projects will be fully coordinated with BTD and other construction projects in the vicinity of the Campus and memorialized in the related CMP.

Police details will be stationed at active site gates to coordinate traffic flow and assist in supporting safe and efficient pedestrian. Mechanical street sweeping will be performed as required, full time during all heavy trucking periods. In addition, gravel wash off areas will be maintained at all exits to limit mud tracking from the site.

Rodent Control

The Massachusetts State Sanitary Code, Chapter 11, 105 CMR 510.550 and the State Building Code, Section 108.6, Policy Number 87-5 (City of Boston) states that extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation and basement rehabilitation. In compliance with the City's requirements, a rodent extermination certificate will be filed with the Proponent's building permit application to the City of Boston and a rodent control program for each of the Proposed Projects will be developed prior to construction.

The rodent control program for each of the Proposed Projects will include inspection and extermination in all areas of the site under development, including the interior of the existing buildings, prior to commencement of work. During construction, regular inspections will be made in order to maintain effective rodent control levels. The Proponent will establish a post-construction pest management program for the Campus buildings and require the developer of the Longwood Avenue Project to develop and maintain an effective rodent control program at that location.

Historic Resources

This section notes any properties that are either within the Inventory of Historic and Archaeological Assets of the Commonwealth or listed in the State Register of Historic Places that are within the Proposed Project Sites or located in close proximity thereto. The conclusions and recommendations section describes any effects to these properties and proposed mitigation.

Site File Review

A site file search at the Massachusetts Historical Commission (MHC) helped to identify historic resources in the vicinity of the Winsor Campus area and in close proximity to each of the Proposed Projects.

Results of Research

Research indicates that none of the buildings on the Winsor Campus are included in the *State Register of Historic Places*. The original Winsor School Main Building and several properties nearby have been previously recorded on inventory forms and thus are included in the *Inventory of Historic and Archaeological Assets of the Commonwealth across the street from the Winsor Campus.*   Only one nearby building, the former Massachusetts College of Art building located at the corner of Longwood and Brookline Avenues and owned/rehabilitated by Beth Israel Hospital is listed in the National Register of Historic Places. Sections of the nearby Emerald

Necklace/Olmsted Park system, including the section adjacent to the Winsor Campus, are also listed in the National Register of Historic Places, as well as being a locally-designated landmark. As noted above, none of the other nearby historically significant properties are listed in the *State Register of Historic Places.*

Above-Ground Properties

Within the Winsor Campus is a two-story, 1924 Classical Revival brick gymnasium building that was designed by architect J. Lovell Little. A substantial renovation was completed for the building in 1994, which added a new front section and included an interior renovation. The building is not included in the *Inventory of Historic and Archaeological Assets of the Commonwealth* or the *State Register of Historic Places*, nor has it been designated a City of Boston Landmark by the Boston Landmark Commission.

The properties on or near the Winsor Campus as seen in **Figure 5-32**, that are listed in the *Inventory of Historic and Archaeological Assets of the Commonwealth* are:

1. *Winsor School, 103 Pilgrim Road (BOS.7582)* – c. 1909 Collegiate Gothic Revival multi-story brick school building with a central copper clock tower/cupola that is directly adjacent to the Pilgrim Road Project site and the Courtyard Addition site.
2. *Emerald Necklace Parks Local Designation (BOS – JE)* – The landmark-designated Emerald Necklace Park follows a curvilinear path approximately one block west and north of the Winsor Campus.
3. *Simmons College, 300 Fenway (BOS.7409)* – c. 1901 brick Classic Revival style institutional building northeast of the Winsor Campus, on Simmons College's Main Campus.
4. *Simmons College South Hall, 321 Brookline Avenue (BOS.7358)* – c. 1905 Georgian Revival style brick building used as a college dormitory as part of the Simmons College Residential Campus. It is about a half block northeast of the Winsor Campus.
5. *Simmons College North Hall, 86 Pilgrim Road (BOS.7580)* – c. 1906 Georgian Revival style brick dormitory is one half block northeast of the Winsor Campus.
6. *Simmons College Refectory, 86 Pilgrim Road (BOS.7581)* – c. 1905 Rectangular Plan brick building constructed as a dining hall approximately one half block northeast of the Winsor Campus.
7. *Former Massachusetts School of Art, 364 Brookline Avenue (BOS.7357)* – c. 1929 Modern Gothic/Art Deco four-story school building approximately a half block southeast of the Winsor Campus. It is an individually listed National Register property.

8. *Former New England Deaconess Hospital, 175 Pilgrim Road (BOS.7583)* – c. 1903 Georgian Revival style institutional building located approximately one block southeast of the Winsor Campus.
9. *Former New England Deaconess Hospital, 195 Pilgrim Road (BOS.7584)* – c. 1927 multi-story Georgian Revival style building located about one block southeast of the Winsor Campus.
10. *Emmanuel College Campus – (BOS TC)* A 16-acre academic campus bounded by Brookline Avenue on the northwest and Avenue Louis Pasteur on the southeast approximately one block northeast of the Winsor Campus. It includes the centerpiece of the campus, the Neo-Gothic Revival Administration Building, (c. 1914). It also includes the later Neo-Gothic Revival Alumnae Hall (c. 1947); minimalist contemporary Marian Hall (c. 1954; BOS.13250); and three brick multi-story minimalist contemporary buildings built in the early to mid 1960s, St. Ann Dormitory (BOS.13247), Loretto Hall (BOS.13249), and St. Joseph Hall (BOS.13251), and the Campus Shop (BOS.13248).

The only other older property in the vicinity of the Winsor Campus is Temple Israel, 477 Longwood Avenue at Riverway (labeled "11" on **Figure 5-32**), which is a c. 1928 Neo-Classical building that is approximately one half block northwest of the Winsor Campus. The building is not listed in the Inventory of Historic and Archaeological Assets of the Commonwealth or the State Register of Historic Places.

Archaeological Resources

There are no previously documented archaeological resources in or adjacent to the Winsor Campus.

Conclusions and Recommendations

The Proponent proposes to demolish the 1924/1994 gymnasium building for the construction of a new five-level building located on a site comprised of the existing building's footprint and the surrounding parking area.

The nearby inventoried properties described above will not be adversely affected by the Proposed Projects due to their distance from the Winsor Campus, the lack of visual effects due to the physical intervention of other multi-story buildings between them and the Winsor Campus, and the lack of shadow and wind impacts due to the relatively low scale design of the Proposed Projects within the dense high-rise context of the existing LMA.

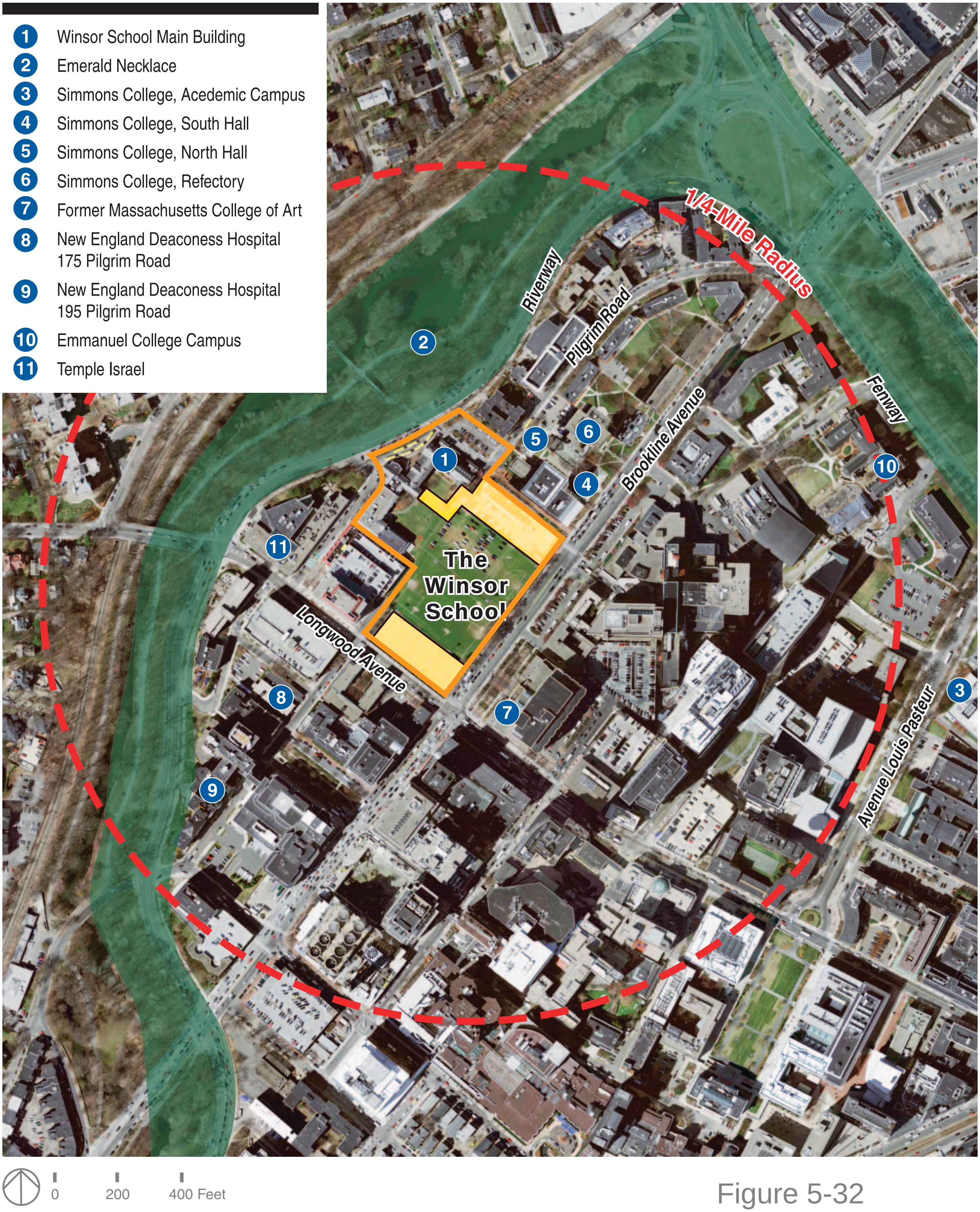
1 Winsor School Main Building
2 Emerald Necklace
3 Simmons College, Acedemic Campus
4 Simmons College, South Hall
5 Simmons College, North Hall
6 Simmons College, Refectory
7 Former Massachusetts College of Art
8 New England Deaconess Hospital 175 Pilgrim Road
9 New England Deaconess Hospital 195 Pilgrim Road
10 Emmanuel College Campus
11 Temple Israel
1/4-Mile Radius
Riverway
Pilgrim Road
Brookline Avenue
Fenway
Longwood Avenue
Avenue Louis Pasteur
The Winsor School
0
200
400 Feet

Figure 5-32

Sustainable Practices

■

City of Boston Green Building Requirements

Proposed Projects subject to Large Project Review under Article 80 of the City's Zoning Code (i.e., the Pilgrim Avenue Project and the Longwood Avenue Project) must comply with Article 37 of the Zoning Code, which establishes certain standards related to sustainable development. The Winsor School is committed to incorporating numerous sustainable design elements into the Proposed Projects. The Proposed Projects will respond to environmental concerns, reduce energy consumption, reduce water use, and increase recycling, along with incorporating other environmentally sustainable features and practices described below and in the Proposed Projects' Article 37 filing, submitted under separate cover.

A LEED 2009 for New Construction Scorecard has been included in this Expanded PNF as **Figure 5-33** for the Pilgrim Road Project.

A LEED 2009 for Core and Shell Development Scorecard has been included in this Expanded PNF as **Figure 5-34** for the Longwood Avenue Project which will be privately designed and for which only uses, height and massing approvals are sought from the BRA at this time.

The Courtyard Addition Project falls below the threshold for individual compliance with the requirements of Article 37, however in fulfillment of Winsor's commitment to environmental sustainability, it is anticipated that the Courtyard Addition Project will achieve a LEED rating of Certified or greater, thus fulfilling the requirements of Article 37 on a voluntary basis.

The LEED scorecards above have computed the green building points defined by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) building rating system.

The Proposed Projects will receive building permits after July 2011, and therefore will be subject to the City's new "Stretch Code." Therefore, the energy and atmosphere performance analysis and criteria have integrated the Stretch Code's requirements (i.e., to achieve 20 percent greater energy efficiency than baselines described in national standard ASHRAE 90.1 – 2007).

The Winsor school has engaged Mark Oldham, AIA, LEED AP of William Rawn Associates to optimize the sustainable design strategies for each of the Proposed Projects.

■

Pilgrim Road Project

Description of LEED Checklist

The Pilgrim Road Project will utilize the LEED 2009 for New Construction development. The following section is a synopsis of LEED prerequisites and potential credits under review for the Pilgrim Road Project.

Sustainable Sites

Construction Activity Pollution Prevention
The Pilgrim Road Project will implement an erosion and sedimentation control plan for all construction activities. The plan will conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit and as outlined by the National Pollutant Discharge Elimination System (NPDES) program.

Site Selection
The Pilgrim Road Project will result in the redevelopment of a previously developed site in a dense urban neighborhood, outside of wetlands and will meet the community connectivity points for this credit.

Development Density & Community Connectivity
The Pilgrim Road Project will result in the redevelopment of a previously developed site in a dense urban area near two Green Line MBTA stations and multiple MBTA bus lines; this project will meet the community connectivity points for proximity and pedestrian access to the required basic services.

Alternative Transportation: Public Transportation Access
The Pilgrim Road Project site is located within a half mile of two MBTA Green Line Stations on the D and E lines. In addition, there are public bus lines on both Longwood and Brookline Avenues.

Alternative Transportation: Bicycle Use
The Pilgrim Road Project will include secure bicycle storage for at least 3 percent of all building occupants and shower and changing facilities for 0.5 percent of full time equivalent (FTE) occupants.

LEED 2009 for New Construction and Major Renovations

Project Checklist

Pilgrim Road Project

December 7th, 2010

Y	?	N	Sustainable Sites		Possible Points: 26
Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
	1		Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
21	2	3			

Y	?	N	Water Efficiency		Possible Points: 10
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
2	1	1	Credit 3	Water Use Reduction	2 to 4
4	3	3			

Y	?	N	Energy and Atmosphere		Possible Points: 35
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	2		Credit 1	Optimize Energy Performance	1 to 19
		7	Credit 2	On-Site Renewable Energy	1 to 7
	2		Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
		3	Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2
7	6	10			

Y	?	N	Materials and Resources		Possible Points: 14
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
	1	1	Credit 3	Materials Reuse	1 to 2
4	5	5			

Y	?	N	Materials and Resources, Continued		
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
	1		Credit 6	Rapidly Renewable Materials	1
	1		Credit 7	Certified Wood	1

Y	?	N	Indoor Environmental Quality		Possible Points: 15
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
	1		Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
	1		Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
	1		Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1
7	8				

Y	?	N	Innovation and Design Process		Possible Points: 6
1			Credit 1.1	Innovation in Design: Green Building Education	1
1			Credit 1.2	Innovation in Design: Green Cleaning	1
1			Credit 1.3	Innovation in Design: Exemplary Performance	1
	1		Credit 1.4	Innovation in Design: TBD	1
	1		Credit 1.5	Innovation in Design: TBD	1
1			Credit 2	LEED Accredited Professional	1
4	2				

Y	?	N	Regional Priority Credits		Possible Points: 4
1			Credit 1.1	Regional Priority: SSc6.1	1
1			Credit 1.2	Regional Priority: SSc7.2	1
	1		Credit 1.3	Regional Priority: Specific Credit	1
	1		Credit 1.4	Regional Priority: Specific Credit	1
2	2				

Y	?	N	Total		Possible Points: 110
49	28	21			

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Figure 5-32

LEED 2009 for Core and Shell Development

Project Checklist

Longwood Avenue Project

December 7th, 2010

Y	?	N		Sustainable Sites	Possible Points: 28
22	2	4			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
2			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	2
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
	1		Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
		1	Credit 8	Light Pollution Reduction	1
1			Credit 9	Tenant Design and Construction Guidelines	1

Y	?	N		Water Efficiency	Possible Points: 10
4	4				
Y			Prereq 1	Water Use Reduction—20% Reduction	
2			Credit 1	Water Efficient Landscaping	2 to 4
	2		Credit 2	Innovative Wastewater Technologies	2
2	2		Credit 3	Water Use Reduction	2 to 4

Y	?	N		Energy and Atmosphere	Possible Points: 37
7	11	2			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
7			Credit 1	Optimize Energy Performance	3 to 21
		2	Credit 2	On-Site Renewable Energy	4
	1		Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
	3		Credit 5.1	Measurement and Verification—Base Building	3
	3		Credit 5.2	Measurement and Verification—Tenant Submetering	3
	2		Credit 6	Green Power	2

Y	?	N		Materials and Resources	Possible Points: 13
2	2	9			
Y			Prereq 1	Storage and Collection of Recyclables	
		5	Credit 1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 5
2			Credit 2	Construction Waste Management	1 to 2
		1	Credit 3	Materials Reuse	1
	1	1	Credit 4	Recycled Content	1 to 2
	1	1	Credit 5	Regional Materials	1 to 2
		1	Credit 6	Certified Wood	1

Y	?	N		Indoor Environmental Quality	Possible Points: 12
7	2	3			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3	Construction IAQ Management Plan—During Construction	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
	1		Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6	Controllability of Systems—Thermal Comfort	1
1			Credit 7	Thermal Comfort—Design	1
		1	Credit 8.1	Daylight and Views—Daylight	1
		1	Credit 8.2	Daylight and Views—Views	1

Y	?	N		Innovation and Design Process	Possible Points: 6
1					
			Credit 1.1	Innovation in Design: Educational Dsiplay	1
			Credit 1.2	Innovation in Design: Specific Title	1
			Credit 1.3	Innovation in Design: Specific Title	1
			Credit 1.4	Innovation in Design: Specific Title	1
			Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Y	?	N		Regional Priority Credits	Possible Points: 4
	3				
	1		Credit 1.1	Regional Priority Credit: SSc6.1	1
			Credit 1.2	Regional Priority Credit: SSc7.2	1
	1		Credit 1.3	Regional Priority Credit: EAc2	1
	1		Credit 1.4	Regional Priority Credit: SSc7.1	1

Y	?	N		Total	Possible Points: 110
43	24	18			

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Figure 5-33

Alternative Transportation: Low-Emitting & Fuel-Efficient Vehicles
At least five percent of the parking spaces in the single level underground parking lot beneath the adjacent athletic field will be preferred parking for Low-Emitting & Fuel-Efficient Vehicles.

Stormwater Design: Quantity Control
As the existing site condition is more than 50 percent impervious, the Pilgrim Road Project will implement a stormwater management plan resulting in a 25 percent decrease in the volume of stormwater runoff from the 2-year 24-hour design storm.

Stormwater Design: Quality Control
To limit disruption and pollution of natural water flows by managing stormwater runoff the Pilgrim Road Project will implement a stormwater management plan that reduces impervious cover, promotes infiltration and captures and treats the stormwater runoff from 90 percent of the average annual rainfall1 using acceptable best management practices (BMPs). These strategies will be capable of removing 80% of the average annual post development total suspended solids (TSS) load based on existing monitoring reports.

Heat Island Effect: Roof
The Pilgrim Road Project will feature highly reflective roofs with an SR index of 78 or greater for 75 percent or more of the roof surface to reduce the absorption of solar radiation.

Water Efficiency

Water Efficient Landscaping
Landscape plant materials will be native and drought resistant to achieve the 50 percent reduction in irrigation water use.

Water Use Reduction; 30 Percent
Dual flush, low flow toilet, and low flow faucets and shower heads will be employed to reduce water usage. Infrared sensors for faucet operations improve hygiene while reducing water consumption.

Energy & Atmosphere

Fundamental Commissioning of Building Energy Systems
A commissioning agent will be hired as part of the design team to achieve this prerequisite as well as the additional commissioning credit.

Fundamental Refrigerant Management
New HVAC systems will not utilize CFC refrigerants and will use HFC only; no ozone depleting refrigerants are used in the new cooling systems.

Optimized Energy Performance
The Pilgrim Road Project is expect to achieve 20 percent exceedance of the ASHRAE 90.1-2007 standard (see EA Credit 1), meeting the minimum energy performance criterion. Energy efficiency will be achieved by improved building envelope, increased insulation and solar shading at walls and roof, improved windows at all locations, high efficiency lighting for all spaces, and a high efficiency HVAC system including condensing boilers and heat. The Pilgrim Road Project is expected to achieve at least 20% greater overall energy efficiency than the baseline ASHRAE 90.1-2007 standard to comply with the City of Boston's adoption of the Stretch Code. This will achieve 5 LEED points.

Enhanced Refrigerant Management
All HVAC equipment will meet the requirement of EA Credit 4 by not using refrigerants or by selecting refrigerants and heating, ventilation, air conditioning and refrigeration (HVAC&R) equipment that minimizes the emission of compounds that contribute to ozone depletion and climate change

Materials & Resources

Storage and Collection of Recyclables
Recycling bins will be provided as required and a recycling collection/storage area will be located appropriately to facilitate the Pilgrim Road Project's recycling program.

Construction Waste Management
The construction contractor will be required to implement a waste management plan to divert at least 75 percent of construction and demolition material to recycling and salvage facilities. It is expected that as much as 95% of the construction waste could be diverted, as is common practice.

Recycled Content: 10 Percent
The Pilgrim Road Project team will endeavor to use material with as much recycled content as possible for the project. Some of the materials include fly ash in concrete, recycled gypsum boards, structural steel, ceiling tiles, and flooring.

Regional Materials: 10 Percent
The Pilgrim Road Project team will endeavor to use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% of the value of the total materials value.
Some key elements to contribute to this point include steel, drywall, concrete, glass, windows and curtain walls, acoustic paneling and flooring.

Indoor Environmental Quality

Prerequisites

The Pilgrim Road Project will meet the minimum requirements of the Massachusetts Building Code and ASHRAE 62.1-2004 for ventilation and indoor air quality. Smoking will be prohibited per Massachusetts General Law. The HVAC system will be designed to meet the ASHRAE Handbook, Chapter 47, requirement under Option 2.

Outdoor Air Delivery monitoring

A carbon dioxide monitoring system will be employed in high occupancy rooms to detect levels of carbon dioxide and ensure that minimum levels are being delivered.

Construction IAQ Management Plan

Construction specifications will require the contractor to submit an IAQ plan for the construction period to protect the HVAC system and prevent moisture and contaminants from contact with carpeting, ceiling tiles, and other absorptive surfaces.

Low-Emitting Materials

Adhesives, sealants, paints, coatings, and carpet systems with low VOC content limits will be specified for use in the Pilgrim Road Project.

Indoor Chemical & Pollutant Source Control

Entry mat systems will be installed in all entries. Direct ventilation to outside will be provided in all chemical storage areas, including housekeeping spaces. A MERV 13 filter will be specified to meet the standard for this credit.

Thermal Comfort Controllability

A combination of operable windows and HVAC controls will be provided to meet this requirement.

Thermal Comfort Design

The HVAC system will be designed to meet the ASHRAE Standard 55-2004 as required by this credit.

Daylight & Views

The Pilgrim Road Project has been designed to be filled with natural light using new high efficiency windows, which will achieve the daylight factor. The southwest facing elevation, which faces the existing playing fields, will provide natural light deep into the building foorplates, with external sun shades helping to mitigate glare and summer heat gain.

Innovation & Design Process

Innovation in Design: Green Building Education
The school will develop a green education program for all students including signage displaying the Pilgrim Road Project's individual green elements. Brochures will be available to visitors and a building dashboard will centrally explain the Pilgrim Road Project's green strategies.

Innovation in Design: Green Cleaning
For the Pilgrim Road Project, the School with develop and employ a Green O&M Plan with Integrated Pest Management (IPM) Plan for the building using environmentally-considered, healthier cleaning techniques. Examples include, utilize first milder methods of pest control such as boric acid, de-emphasize chlorine agents for cleaning, etc.

Innovation in Design: Exemplary Performance
The project design will achieve exemplary performance in at least one of the credits.

LEED Accredited Professional
The project design team will have at least one LEED AP in each of the major disciplines.

Regional Priority Credits

Regional Priority Credit: Stormwater Design: Quality Control
Due to project-specific locational factors, the Stormwater Design: Quality Control standards and strategies outlined above will enable an additional regional priority point.

Regional Priority Credit: Heat Island Effect - Roof
Due to project-specific locational factors, the Heat Island Effect- Roof standards and strategies outlined above will enable an additional regional priority point.

■

Longwood Avenue Project

Description of LEED Checklist

The Longwood Avenue Project is anticipated to utilize the LEED for Core and Shell development rating system as it is anticipated to be a development with tenant and interior fit-out details not known at this time. The following section provides an overview of the potential approach to achieving LEED certifiability for the

Longwood Avenue Project, which will not be developed by the Winsor School but rather by a third-party developer or other project sponsor.

Sustainable Sites

Construction Activity Pollution Prevention
The Longwood Avenue Project will implement an erosion and sedimentation control plan for all construction activities. The plan will conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit and as outlined by the National Pollutant Discharge Elimination System (NPDES) program.

Site Selection
The Longwood Avenue Project will result in the redevelopment of a previously developed site in a dense urban neighborhood, outside of wetlands and will meet the community connectivity points for this credit.

Development Density & Community Connectivity
The Longwood Avenue Project will result in the redevelopment of a previously developed site in a dense urban area near Green Line MBTA stations and multiple MBTA bus lines and will meet the community connectivity points for proximity and pedestrian access to the required basic services.

Alternative Transportation: Public Transportation Access
The Longwood Avenue Project site is located within a half mile of the MBTA Green Line Stations on the E and D Lines. In addition, there are nearby public bus lines on both Longwood and Brookline Avenues.

Alternative Transportation: Bicycle Use
The Longwood Avenue Project will be required to provide secure bicycle storage for 3 percent of all building occupants and shower and changing facilities for 0.5 percent of full time equivalent (FTE) occupants.

Alternative Transportation: Low-Emitting & Fuel-Efficient Vehicles
Five percent of the Longwood Avenue Project's parking spaces will be required to be designated as preferred parking for Low-Emitting & Fuel-Efficient Vehicles.

Heat Island Effect: Non- Roof
The Longwood Avenue Project will be designed to provide shade from architectural devices or structures that have a solar reflectance index2 (SRI) of at least 29and use materials with an SRI of at least 29 for 50% of the site hardscape.

Heat Island Effect: Roof
The Longwood Avenue Project will feature highly reflective roofs with SR index of 78 or greater for 75 percent or more of the roof surface to reduce heat gain through solar radiation absorption.

Tenant Design and Construction Guidelines

The Longwood Avenue Project will encourage tenants to design and build sustainable interiors and adopt green building practices by providing tenants with a description of the sustainable design and construction features incorporated in the core & shell project and the project's sustainability goals and objectives, including those for tenant spaces. Additionally information enabling tenants to coordinate space design and construction with the core and shell's building systems will be provided.

Water Efficiency

Water Efficient Landscaping

Landscape plant materials will be native and drought resistant to achieve the 50% reduction in irrigation water use.

Water Use Reduction; 30%

Dual flush, low flow toilet, and low flow faucets and shower heads will be employed to reduce water usage. Infrared sensors for faucet operations will improve hygiene while reducing water consumption.

Energy & Atmosphere

Fundamental Commissioning of Building Energy Systems

A commissioning agent will be hired as part of the design team to achieve this prerequisite as well as the additional commissioning credit.

Fundamental Refrigerant Management

New HVAC systems will not utilize CFC refrigerants and will use HFC only; no ozone depleting refrigerants will be used in the new cooling systems.

Optimized Energy Performance

The Longwood Avenue Project is expected to achieve an energy efficiency that is at least 20 percent greater than the standards set forth in ASHRAE 90.1-2007 (see EA Credit 1), meeting the minimum energy performance required for the Massachusetts Stretch Code. Energy efficiency will be achieved by improved building envelope, increased insulation and solar shading at walls and roof, improved windows at all locations, high efficiency lighting for all spaces, and a high efficiency HVAC system including condensing boilers and heat. The Longwood Avenue Project is expected to achieve an overall energy efficiency of at least 20 percent greater than the applicable ASHRAE 90.1-2007 standard to comply with the City of Boston's adoption of the Stretch Code. This will achieve 5 LEED points.

Enhanced Refrigerant Management

All HVAC equipment will meet the requirement of EA Credit 4 by not using refrigerants or by selecting refrigerants and heating, ventilation, air conditioning and refrigeration (HVAC&R) equipment that minimizes the emission of compounds that contribute to ozone depletion and climate change.

Materials & Resources

Storage and Collection of Recyclables

Recycling bins will be provided as required and a recycling collection/storage area will be located appropriately to facilitate the Longwood Avenue Project's recycling program.

Construction Waste Management

The construction contractor will be required to implement a waste management plan to divert at least 75% of construction and demolition material to recycling and salvage facilities. It is expected that as much as 95%of the construction waste could be diverted, as is common practice.

Indoor Environmental Quality

Prerequisites

The Longwood Avenue Project will meet the minimum requirements of the Massachusetts Building Code and ASHRAE 62.1-2004 for ventilation and indoor air quality. Smoking will be prohibited per Massachusetts General Law. The HVAC system will be designed to meet the ASHRAE Handbook, Chapter 47, requirement under Option 2.

Construction IAQ Management Plan

Construction specifications will require the contractor to submit an IAQ plan for the construction period to protect the HVAC system and prevent moisture and contaminants from contact with carpeting, ceiling tiles, and other absorptive surfaces.

Low-Emitting Materials

Adhesives, sealants, paints, coatings, and carpet systems with low VOC content limits will be specified for use in the Longwood Avenue Project.

Indoor Chemical & Pollutant Source Control

Entry mat systems will be installed in all entries. Direct ventilation to outside will be provided in all chemical storage areas, including housekeeping spaces. A MERV 13 filter will be specified to meet the standard for this credit.

Thermal Comfort Design

The HVAC system will be designed to meet the ASHRAE Standard 55-2004 as required by this credit.

Innovation & Design Process

LEED Accredited Professional

The project design team will have at least one LEED AP in each of the major disciplines.

6

Infrastructure Systems Component

Introduction

This chapter of the Expanded PNF outlines the existing utilities surrounding the Proposed Project Sites, the proposed connections required to provide service to the new structures, and any impacts on the existing utility systems that may result from the construction of the Proposed Projects. The following utility systems are discussed herein:

- Sewer
- Domestic water
- Fire protection
- Drainage
- Natural gas
- Electricity
- Telecommunications

As previously discussed, the Proposed Projects include the Pilgrim Road Project, a new athletic/performing arts facility; the Courtyard Addition, a modest addition to the existing campus buildings that will contain classroom, offices and other academic space; and the Longwood Avenue Project, which will be privately developed and is expected to contain life sciences, medical, and/or other commercial uses.

In all cases, specific improvements, systems, connections, mitigation measures, and other attributes described in this chapter will be implemented on a phased basis in association with each of the Proposed Projects' construction.

Sewer Infrastructure

There are Boston Water and Sewer Commission (BWSC) sanitary sewer systems in the public streets surrounding the Winsor Campus. There is a 15-inch BWSC sewer main in Pilgrim Road outside of the Winsor Campus, a 12-inch sewer main in Brookline Avenue that increases to a 15-inch sewer main as it flows northerly, and a 12-inch sewer main in Longwood Avenue that increases to a 15-inch sewer main as it flows easterly. The BWSC sewer system in Pilgrim Road connects to the BWSC sewer system in Brookline Avenue, which in turn, connects to the Charles River Valley Sewers which is ultimately conveyed to the Massachusetts Water Resources Authority (MWRA) Deer Island Waste Water Treatment Plant for treatment and disposal. The BWSC sewer system in Longwood Avenue connects to Brookline Sewer and is ultimately conveyed to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal.

There are also existing BWSC sewer mains that run through the Winsor property, including one that runs beneath the discontinued portion of Pilgrim Road lying within the Winsor Campus. There is a 12-inch BWSC main running easterly under the existing Main School Building within a 5-foot wide BWSC easement and a 12-inch BWSC main running northerly through the site without an easement. Both connect to the 15-inch main within a 40-foot wide BWSC easement in the active portions of Pilgrim Road.

Sanitary sewage from Winsor's existing central complex of academic buildings is currently discharged into the 12-inch BWSC sewer main that runs easterly through the Campus and connects to the 15-inch sewer main in Pilgrim Road. The existing gymnasium building's sanitary sewer connects to the 15-inch sewer main in Pilgrim Road. The proposed Pilgrim Road Project site currently houses the existing gymnasium building with a sanitary sewer connection and also contains parking and landscaping improvements. The proposed Courtyard Addition Project site is currently a landscaped area, while the site of the proposed Longwood Avenue Project is currently used as Winsor tennis courts; neither site has existing sewer connections. The existing sewer system is illustrated in **Figure 6-1**.

■

Wastewater Generation

Sewage generated by the Courtyard Addition Project will be connected to the existing 15-inch sewer main in Pilgrim Road. The Pilgrim Road Project is proposed to connect to the 15-inch BWSC main in Brookline Avenue (the northern portion shown on **Figure 6-1**). The Longwood Avenue Project could connect to either the 15-inch sewer main in Longwood Avenue or to the 12-inch BWSC sewer main in Brookline Avenue (the southern portion shown on **Figure 6-1**). These connections will be discussed with BWSC engineering staff as part of the design process and BWSC site plan approval process for each of the Proposed Projects.

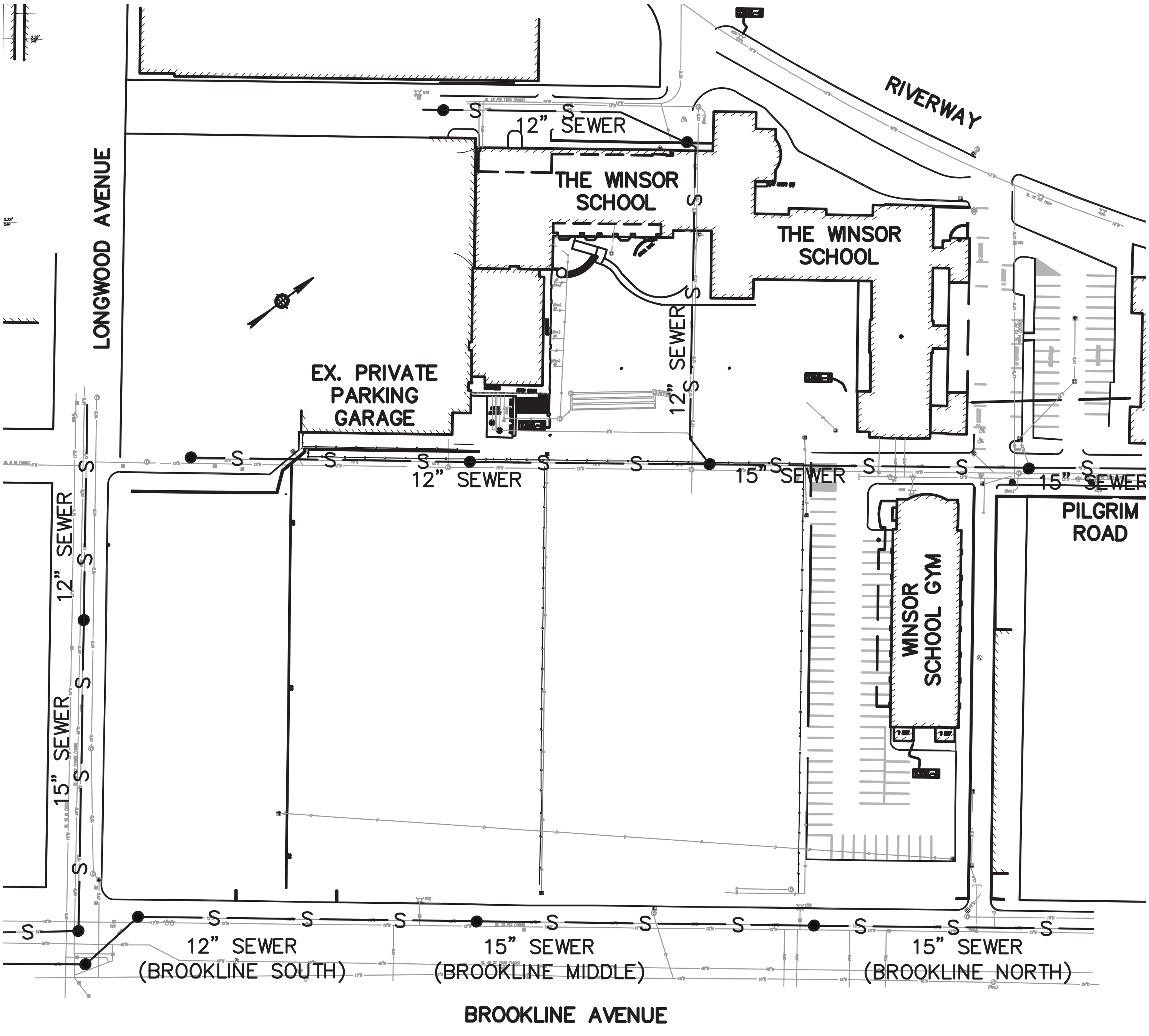

Figure 6-1

The Winsor School | **Existing Sewer System** | Nitsch Engineering

The Proposed Projects' sewage generation rates were estimated using the Massachusetts State Environmental Code (Title V) at 310 CMR 15.203. Title V lists typical generation values for the sources listed in **Table 6-1** for both the Winsor School academic projects (Pilgrim Road Project and Courtyard Addition Project) and the Longwood Avenue Project. Title V typical generation values are generally conservative values for estimating the sewage flows from new construction, without having any baseline knowledge of the sites' sewage generation. In order to compare the Title V values to the existing Winsor School sewage flows, actual BWSC water billing data for the Winsor School was used and extrapolated to determine the estimated actual increase in sewage flows from the Proposed Projects. Using the BWSC water billing data, it was assumed that the sewage generation from the School is equal to the water consumption, which is a conservative measure, as it does not account for water losses due to consumption, evaporation, landscape watering, etc. Based upon the sewage generation rates for the existing Winsor School facilities (as determined by Title V, or more conservative generation values) the Proposed Courtyard Addition and Pilgrim Road Projects will generate an average daily sewerage flow of approximately 10,500 gallons per day (gpd), or an increase of 580 gpd. Based upon the sewage generation rates determined by Title V, the proposed Longwood Avenue Project will generate an average daily sewerage flow of approximately 45,048 gpd. **Table 6-1** shows the sewage generation flows for the academic projects using both Title V suggested flow rates and flows based upon actual historical building usage at the Winsor Campus; and the Longwood Avenue Project using Title V suggested flows only (i.e., conservative flow generation values).

Table 6-1
Winsor School Projects Wastewater Generation

Use	Size	Rate	Total
Winsor School Academic Projects (per Title V values)			
Sewage Flow for existing building plus new Courtyard Addition & Pilgrim Road Project (increased Winsor School Program): School with Cafeteria & Gym/Showers	525 students or faculty	20 gallons per day (gpd) per student or faculty	10,500 gpd
Existing Winsor School Sewage Flow Due to Existing Building	496 students or faculty	20 gpd per student or faculty	9,920 gpd
Net new sewage flows due to existing building, Courtyard Addition, and Pilgrim Road Project	29 students or faculty	20 gpd per student or faculty	580 gpd
Total sewage flows due to Winsor School Expansion Project (per Title V)			10,500 gpd
Winsor School Expansion Projects (per actual water usage from BWSC records)			
Sewage Flow for existing building plus new Courtyard Addition & Pilgrim Road Project (increased Winsor School Program) using average generation per student calculated from actual billing)	525 students or faculty	5.4 gpd per student/faculty	2,835 gpd
Actual Existing Winsor School Sewage Flow (per BWSC records)	496 students or faculty	Per BWSC records (= 5.4 gpd per student/faculty)	2,672 gpd
Net new sewage flows due to existing building, Courtyard Addition, and Pilgrim Road Project	29 students or faculty		163 gpd
Total sewage flows due to Winsor School Expansion Project (per BWSC Record)			2,835 gpd
Longwood Avenue Project (per Title V values)			
Medical Office Space (30,000 sf total space, assumed 1,000 sf / doctor or 30 doctors)	30 doctors	250 gpd / doctor	7,500 gpd
General Office Space	30,000 sf	75 gpd / 1,000 sf	2,250 gpd
Retail	6,950 sf	50 gpd / 1,000 sf	348 gpd
Life Sciences/Research & Development	233,000 sf	150 gpd / 1,000 sf	34,950 gpd
Total sewage flows due to Longwood Avenue Project (per Title V)			45,048 gpd

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Sewage Capacity & Impacts

The Winsor School academic projects and the Longwood Avenue Project's impacts to the existing BWSC systems in Pilgrim Road, Longwood Avenue and Brookline Avenue were analyzed. There were three lengths of sewer line in Brookline Avenue that were analyzed: Brookline south (the length of pipe adjacent to the Longwood Avenue site), Brookline middle (the length of pipe adjacent to the future Pilgrim

Road Project parking garage) and Brookline north (the length of pipe adjacent to the Pilgrim Road Project). The existing sewer system capacity calculations are presented in **Table 6-2**.

Table 6-2
Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Distance (feet)	Invert Elevation (up)	Invert Elevation (down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
46 to 45 (Pilgrim)	382	29.29	21.85	1.9	12	0.013	4.91	3.17
30 to 31 (Longwood)	223	29.20	27.90	0.6	15	0.013	5.00	3.23
37 to 38 (Brookline south)	248	21.45	18.31	1.3	12	0.013	4.06	2.63
38 to 39 (Brookline middle)	247	18.31	15.19	1.3	15	0.013	7.37	4.76
39 to 54 (Brookline north)	268	15.19	12.06	1.2	15	0.013	7.08	4.57

Note: 1. Information taken from BWSC Sewer System Map nos. 20G, 21G and 21H
2. Flow Calculations based on Manning Equation
3. All pipes assumed to be vitrified clay, to be conservative

Proposed Conditions

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. In addition, the Proponent will submit a General Service Application and site plan for review as each of the Proposed Projects progresses. (This PNF contemplates that the Pilgrim Road Project will progress first, with the Longwood Avenue Project and Courtyard Addition Project progressing separately thereafter.) The Longwood Avenue Project is expected to generate new wastewater flows of approximately 45,000 gallons per day which will only require future BWSC approval. Similarly the Pilgrim Road Project and the Courtyard Addition Project will exceed only 15,000 gpd in wastewater flows and therefore, these projects will also only require BWSC approval when those projects move forward.

The sewer services for the Pilgrim Road Project are proposed to tie into the 15-inch sewer main located in Brookline Avenue, while the sewer service for the Longwood Avenue Project has the possibility of connecting to either the 15-inch sewer main in Longwood Avenue or the 12-inch BWSC sewer main in Brookline Avenue (the southern portion shown on **Figure 6-1**).

As previously described, there is a 12-inch BWSC sewer main running northerly through the Winsor Campus which connects to the 15-inch main in the active portion off Pilgrim Road. A portion of the proposed Pilgrim Road Project (i.e., the two-story "link" structure) will be located on top of this existing line. As part of the Pilgrim Road Project improvements, the Proponent will install additional manhole structures, new piping, and a tunnel system within the proposed building to allow for access to the 12-inch sewer main.

All improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's site plan review process for each Proposed Project. This process includes a comprehensive design review of the proposed service connections, an assessment of project demands and system capacity, and the establishment of service accounts.

Proposed Impacts

Each adjacent roadway sewer system and each potential building service connection to the sewer system was analyzed.

Results shown in **Table 6-2** indicate the hydraulic capacity of the 12-inch sanitary sewer system within Pilgrim Road is 3.17 million gallons per day (MGD) or 4.9 cfs. Based on an average daily flow estimate for the Winsor Projects of 10,500 GPD or 0.011 MGD; and with a factor of safety of 10 (total Winsor estimate = 0.011 MGD x 10 = 0.11 MGD), no capacity problems are expected within the Pilgrim Road system.

Results shown in **Table 6-2** indicate the hydraulic capacity of the 15-inch sanitary sewer system within Brookline Avenue (northern section) is 4.57 MGD or 7.1 cfs. Based on an average daily flow estimate for the Winsor Projects of 10,500 GPD or 0.011 MGD; and with a factor of safety of 10 (total Winsor estimate = 0.011 MGD x 10 = 0.11 MGD), no capacity problems are expected within the Brookline Avenue (northern section) system.

Results shown in **Table 6-2** indicate the hydraulic capacity for portion of the 12-inch sanitary sewer system within Brookline Avenue (southern section) is 2.63 MGD or 4.1 cfs. Based on an average daily flow estimate for the Longwood Avenue Project of 45,048 GPD or 0.045 MGD; and with a factor of safety of 10 (total Winsor estimate = 0.045 MGD x 10 = 0. 45 MGD), no capacity problems are expected within the Brookline Avenue (southern section) system.

Results shown in **Table 6-2** indicate the hydraulic capacity for portion of the 15-inch sanitary sewer system within Longwood Avenue is 3.23 MGD or 5.0 cfs. Based on an average daily flow estimate for the Longwood Avenue Project of 45,048 GPD or 0.045 MGD; and with a factor of safety of 10 (total Winsor estimate = 0.045 MGD x 10 = 0.45 MGD), no capacity problems are expected within the Longwood Avenue system.

Water Infrastructure

Water for the Proposed Project Sites is provided by the BWSC. There are five different water systems within the city, and these provide service to portions of the city based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high.

Water Consumption

The Proposed Projects' water demand estimate for domestic services is based on the Proposed Projects' estimated sewage generation, described above. A conservative factor of 1.1 is applied to the estimated average daily wastewater flows calculated with Title V values to account for consumption, system losses and other usages to estimate an average daily water demand. The Proposed Projects, which includes the demolition of the existing gymnasium building and construction of a new building on the Pilgrim Road Project site, as well as the Courtyard Addition Project, will require approximately 11,550 gpd of water, or the increase in water consumption due to the Courtyard Addition and the Pilgrim Road Projects is estimated to total 638 gpd. The proposed Longwood Avenue Project will require approximately 49,552 gpd of water. The water for the Proposed Projects will be supplied by BWSC.

All efforts to reduce water consumption will be made. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed.

All new water services will be installed in accordance with the latest Local, State, and Federal codes and standards. Backflow preventors will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units (MTU's) as part of the Boston Water and Sewer Commission's Automatic Meter Reading (AMR) system.

Existing Water Capacity & Impacts

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Campus was available. Additional testing will be required once the design progresses, as hydrant flow data should be less than a year old to be used as a design tool. The results of the BWSC testing near the Campus are indicated in **Table 6-3**.

Table 6-3
Existing Hydrant Flow Data

Flow Hydrant Number	Date of Test	Static Pressure (psi)	Residual Pressure (psi)	Total Flow (gpm)	Flow (gpm) at 20 psi	Flow (gpm) at 10 psi
H26 Pilgrim Road	03/14/2008	72	66	2,054	6592	7,249
H8 380 Longwood Ave.	11/04/2006	66	58	4,008	10307	11,463
H18 Brookline Ave.	11/20/2010	68	65	1,186	5300	5,871

Note: 1. Data provided by BWSC, November 8, 2010

Proposed Projects

Domestic water service connections required by the Proposed Projects will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connections will be reviewed as part of BWSC's Site Plan Review Process. This review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

The streets adjacent to the Proposed Project Sites contain water mains that are owned and maintained by the BWSC. Pilgrim Road contains a 12-inch southern low service water main. Longwood Avenue contains a 48-inch southern low main and a 12″ southern low main, and Brookline Avenue also contains a 48-inch southern low main and a 12″ southern low main. The existing water system is illustrated in **Figure 6-2**.

Proposed Impacts

No water capacity problems are anticipated within this system as a result of the Proposed Projects' construction.

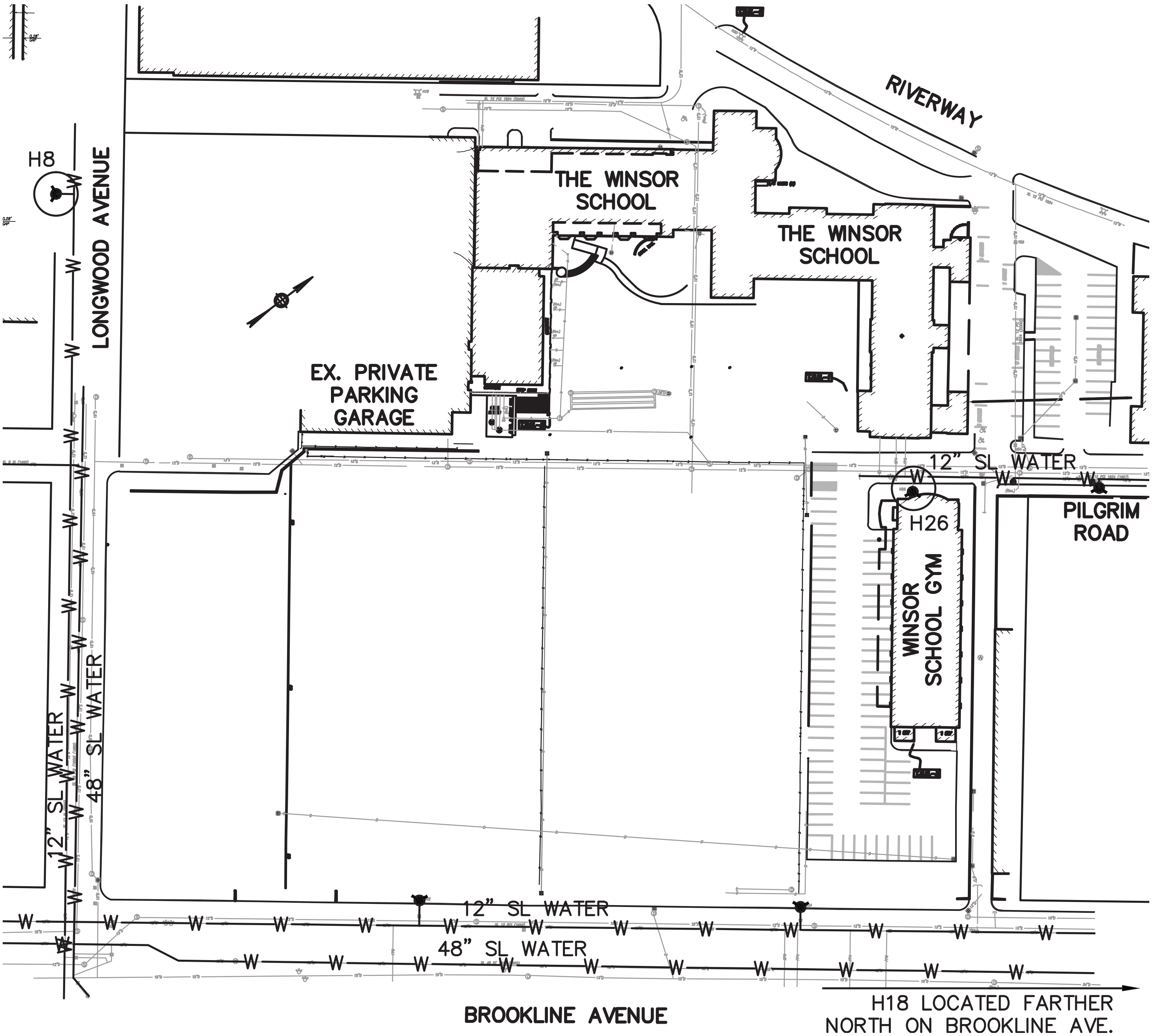
RIVERWAY
THE WINSOR SCHOOL
THE WINSOR SCHOOL
H8
LONGWOOD AVENUE
EX. PRIVATE PARKING GARAGE
12" SL WATER
PILGRIM ROAD
H26
WINSOR SCHOOL GYM
12" SL WATER
48" SL WATER
12" SL WATER
48" SL WATER
BROOKLINE AVENUE
H18 LOCATED FARTHER NORTH ON BROOKLINE AVE.

Figure 6-2

Stormwater

There are BWSC storm drain systems in the roads surrounding the Campus. There is a 12-inch BWSC storm drain main in Pilgrim Road that increases to a 15-inch drain as it flows northerly. There is a 10-inch storm drain main adjacent to the Campus in the western portion of Brookline Avenue that begins at a manhole located at the northern portion of the Campus, and in the eastern portion of Brookline Avenue there is a 15-inch storm drain main. There is a 15-inch storm drain main in Longwood Avenue. The BWSC storm drain system in Pilgrim Road connects to the BWSC storm drain system in Brookline Avenue which ultimately discharges into the Charles River. The BWSC storm drain system in Longwood Avenue ultimately discharges into the Charles River.

There are also existing BWSC storm drain mains that run through the Winsor property. There is a 12-inch BWSC storm drain main running easterly within a 5-foot wide BWSC easement under the existing main school building and a 12-inch BWSC storm drain main running northerly through the site, without an easement. Both connect to the 15-inch storm drain main within a 40-foot wide BWSC easement in the active portions of Pilgrim Road.

Proposed Projects

The Proposed Projects fall within the Overlay District and Article 32 requires that one inch of stormwater over the entire impervious area of the site be recharged into the ground. Therefore, in accordance with the performance standards of section 32-6 of the Zoning Code, an underground recharge system will be installed as part of each of the Proposed Projects to collect and recharge a portion of the stormwater runoff from the roof before connecting to the existing BWSC storm drain systems. Stormwater runoff collected from the roofs of the Courtyard Addition and the Pilgrim Road Projects will likely tie into the existing 10-inch storm drain in Brookline Avenue or 15-inch storm drain in Pilgrim Road. Stormwater runoff generated from landscaped and paved areas will be collected, treated, and conveyed to a stormwater retention structure within a proposed closed drainage system and overflow to the BWSC storm system. The existing BWSC storm drain system is illustrated in **Figure 6-3**.

In aggregate, the Proposed Projects are expected to modestly increase the amount of impervious area at the Winsor Campus compared to the existing condition. Therefore, the stormwater design for each Proposed Project will include a stormwater infiltration and detention structure to mitigate the peak rate of runoff. The underground recharge system, stormwater detention structure and the closed drainage systems will have outlet control structures installed so there will be no increase in the peak rate of stormwater discharge from the property in the developed condition compared to the existing condition.

As previously described, there is a 12-inch BWSC storm drain main running northerly through the site which connects to the 15-inch main in Pilgrim Road. A portion of the proposed Pilgrim Road Project will be located on top of this existing line. As part of the Proposed Projects' development, the Proponent will install additional manhole structures, and new piping within the Pilgrim Road Project to allow for access to the 12-inch drain main improvement.

All improvements and connections to BWSC infrastructure will be reviewed as part of the Commission's site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of project demands and system capacity, and establishment of service accounts.

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Water Quality Impact

The Proposed Projects will not affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, hay bales and/or crushed stone, to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

All necessary dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Proposed Projects will each be in compliance with all local and state stormwater management policies. See below for additional information.

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Groundwater Recharge - Article 32

The Proponent will implement groundwater recharge systems to comply with the City of Boston Groundwater Conservation Overlay District (Article 32 of the Boston Zoning Code) regulations. The Proposed Projects fall within the Overlay District and Article 32 requires that one inch of stormwater over the entire impervious area of the site be recharged into the ground. Each of the Proposed Projects will provide a recharge system as required by Article 32.

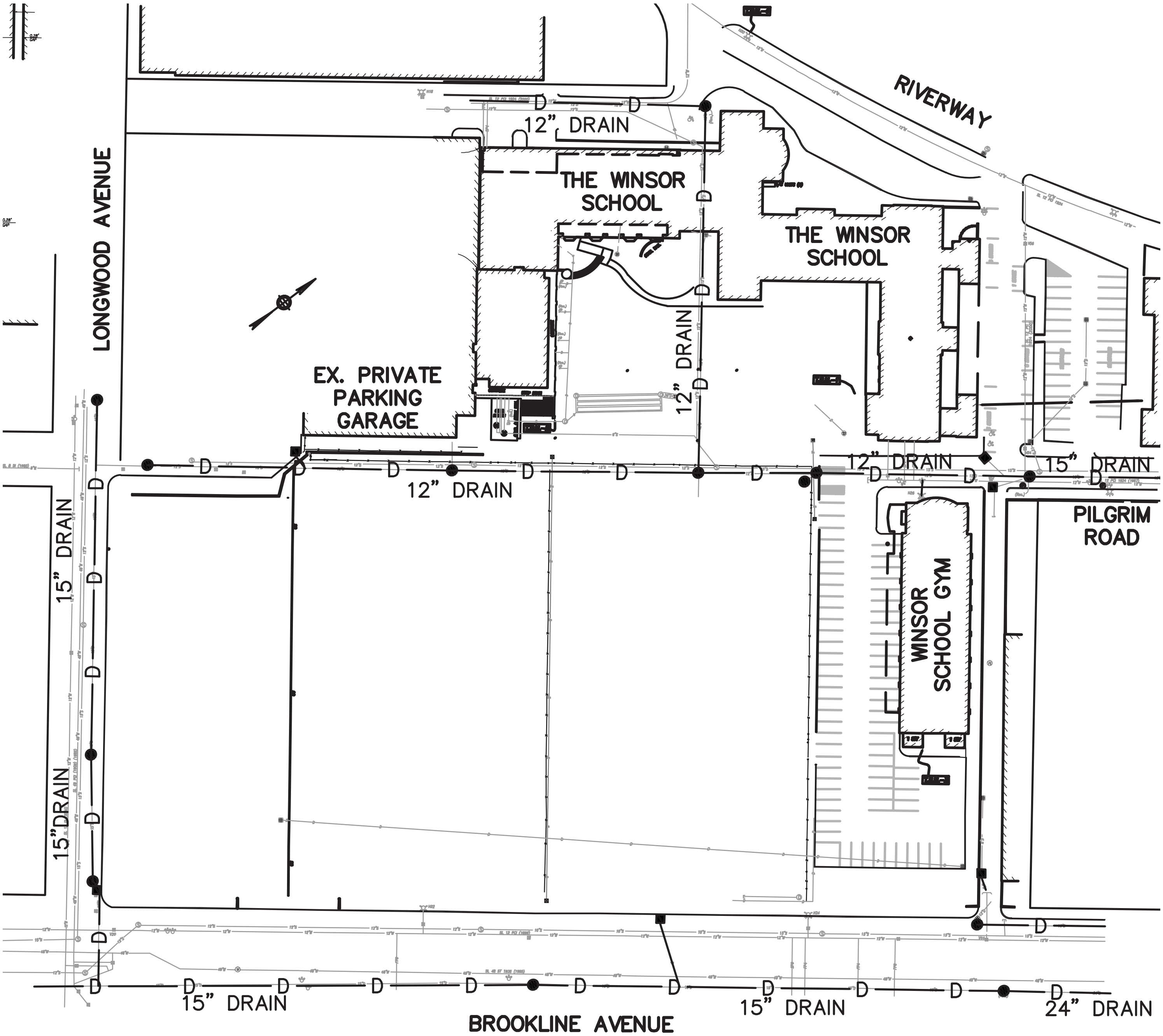

Figure 6-3

The Winsor School

Existing Storm Drain System

Nitsch Engineering

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DEP Stormwater Management Policy Standards

In March 1997, the Department of Environmental Protection DEP adopted a new Stormwater Management Policy to address non-point source pollution. In 1997, the Massachusetts DEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the system compliance is provided below:

Standard #1: *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

Compliance: The proposed designs will comply with this Standard. No new untreated stormwater will be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the Proposed Projects.

Standard #2: *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

Compliance: The proposed designs will comply with this Standard. The existing discharge rate will be met or decreased as a result of the improvements associated with the Proposed Projects.

Standard #3: *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post development site should approximate the annual recharge from the pre-development or existing site conditions, based on soil types.*

Compliance: The Proposed Projects will meet and exceed this standard by complying with the Zoning Code's Groundwater Overlay Compliance District requirement to recharge one-inch of stormwater over the entire new impervious area.

Standard #4: *For new development, stormwater management systems must be designed to remove 80% of the average annual load (post-development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when: Suitable nonstructural practices for source control and pollution prevention are implemented; Stormwater management best* *management practices (BMPs) are sized to capture the prescribed runoff volume; and Stormwater management BMPs are maintained as designed.*

Compliance: The proposed designs will comply with this standard. Within the Proposed Projects' limit of work, there will be mostly roof, landscaping, and pedestrian areas. Any paved areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected by deep sump, hooded catch basins and conveyed through water quality units before discharging into the BWSC system.

Standard #5: *For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If, through source control and/or pollution prevention, all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L.c. 21, §§ 26-53 and the regulations promulgated there under at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.*

Compliance: The proposed designs will comply with this standard. The Proposed Projects are not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-6). The projects comply with this standard.

Standard #6: *Stormwater discharge to critical areas must utilize certain stormwater management BMPs approved for critical areas. Critical areas are Outstanding Resource Waters (ORWs), shellfish beds, swimming beaches, cold-water fisheries and recharge areas for public water supplies.*

Compliance: The proposed designs will comply with this Standard. The Proposed Projects will not discharge untreated stormwater to a sensitive area or any other area.

Standard #7: *A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

Compliance: The proposed designs will comply with this Standard. The Proposed Projects comply with the Stormwater Management Standards as applicable to the development.

<u>Standard #8:</u> Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.

Compliance: The Proposed Projects will comply with this standard. Sedimentation and erosion controls will be incorporated as part of the design of these projects and employed during construction.

<u>Standard 9:</u> A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

Compliance: The Proposed Projects will comply with this standard. An O&M Plan including long-term BMP operation requirements has been prepared for the Pilgrim Road Project and will assure proper maintenance and functioning of the stormwater management system. Similar O&M Plans will be developed for the Longwood Avenue Project and Courtyard Addition as the design of those projects progresses.

<u>Standard 10:</u> All illicit discharges to the stormwater management system are prohibited.

Compliance: The Proposed Projects will comply with this standard. There will be no illicit connections associated with the Proposed Projects.

Protection Proposed during Construction

Existing public and private infrastructure located within nearby public rights-of-way will be protected during construction of each component of the Proposed Projects. The installation of proposed utilities within public ways, if any, will be undertaken in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and applicable utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by the BWSC as part of its Site Plan Review process.

The Proponent will continue to work and coordinate with BWSC and the utility companies to ensure safe and coordinated utility operations in connection with the Proposed Projects.

Conservation of Resources

The State Building Code requires the use of water-conserving fixtures. Water conservation measures such as low-flow toilets and restricted flow faucets will help reduce the domestic water demand on the existing distribution system. The installation of sensor-operated sinks with water conserving aerators and sensor-operated toilets in all restrooms will be incorporated into the design plans for the Proposed Projects.

Proposed Energy Usage & Impacts

Pilgrim Road Project

The following types of energy resources will likely be required in connection with the Pilgrim Road Project, which will include a gymnasium, associated athletic facilities, as well as visual and performing arts facilities:

- Natural Gas
- Heating Hot Water
- Domestic Hot Water
- Chilled Water
- Electricity

Natural gas is expected to provide the energy to meet the new project's heating, hot water and domestic hot water demands. The building's heating energy will be generated on-site by high efficiency gas-fired boilers and domestic water heaters. Natural gas demands and availability will be coordinated with National Grid. Currently, chilled water is expected to be generated on-site.

Natural Gas

Three (3) 4,000 MBH high efficiency gas-fired condensing hot water boilers will be used to provide heat to the Pilgrim Road Project (one boiler is provided for redundancy). The heating and hot water system will be closed-loop, with no anticipated make-up water requirements. The boilers will be located in a below grade mechanical room, with venting combustion exhaust to the atmosphere at roof level, clear of any fresh air intakes.

Two (2) 1,000 MBH high efficiency gas-fired water heaters will be used to provide domestic hot water for the Pilgrim Road Project.

Natural gas will be required for the boilers and domestic water heaters. Gas service will be extended from the available capacity from the utility in the street (Brookline Avenue). The condensate from the condensing boilers will be neutralized prior to being sent to drains which feed to Brookline Avenue's sewer system.

Cooling

The chilled water plant will have a peak capacity in the range of 200 tons. The system will be based on three (3) air-cooled modular chillers. Heat rejection will be provided by three (3) roof-mounted condensers. Space for three (3) additional air-cooled modular chillers and three (3) additional roof-mounted condensers will be provided for future expansion of the cooling plant capacity (approx. 400 tons) to provide cooling energy for the existing Main Building.

Electrical Service

The electrical power for the Pilgrim Road Project will be supplied by NStar, which owns an electric system in Pilgrim Road. One (1) 2,000 kVA transformer will be pad-mounted on grade to serve the Pilgrim Road Project, and screened appropriately. The anticipated energy consumption for the Pilgrim Road Project is approximately 1.5 million KWH/year.

The screened transformer will be located on the Winsor Campus near the corner of former Short Street and Brookline Avenue. The switchgear will be located in a basement electrical room.

Longwood Avenue Project

The following types of energy resources will likely be required in connection with the Longwood Avenue Project:

- Steam
- Heating Hot Water
- Domestic and Non-Domestic Hot Water
- Natural Gas
- Chilled Water
- Electricity

Natural gas and utility steam, either singly or jointly, is expected to provide the energy to meet the Longwood Avenue Project's heating, hot water and process demands. While the potential exists for steam demands to be supplied by the co-generation plant owned by the Medical Area Total Energy Plant (MATEP), it is currently assumed for purposes of this filing that the Longwood Avenue Project's heating energy will be generated by on-site high efficiency gas-fired boilers and water heaters, with MATEP steam considered a redundant source. Natural gas demands and availability will be coordinated with National Grid. If utility steam is brought to the building, steam demands and availability will be coordinated with MATEP. Electric demands will be reviewed and coordinated with MATEP and NSTAR. Currently, chilled water is expected to be made on-site independent of MATEP sources. However, for the purposes of providing a redundant source, MATEP chilled water may also be utilized. If utility chilled water is brought to the building, demands and availability will be coordinated with MATEP.

Natural Gas

It is anticipated that four (4) 3,000 MBH high efficiency gas-fired condensing hot water boilers will be used to provide heat to the building (one boiler is provided for redundancy). It is anticipated that two (2) 2,000 MBH high efficiency gas-fired steam boilers will be used to provide steam for process loads in the building (one boiler is provided for redundancy). The heating hot water system will be closed-loop, with no anticipated make-up water requirements. The steam boilers will likely require make-up water in a flow rate range of 5 g.p.m. or less; make-up water is required to compensate for that lost to process loads and water treatment. It is assumed that the boilers will be located in a rooftop mechanical room, venting combustion exhaust to the atmosphere at roof level, clear of any fresh air intakes.

Natural gas will be required for the boilers, and a service will be extended from the available capacity in existing below-street utilities (shared Winsor/MASCO driveway or other). The condensate from the condensing boilers will be neutralized prior to being sent to drains that connect to Brookline Avenue's sewer system.

Electrical Service

The electrical power for the Longwood Avenue Project will be supplied by Nstar. Electrical power will be extended from either Longwood Avenue or Brookline Avenue. It is anticipated that two (2) 2,000 kVA transformers will be installed in interior vaults confirming to NStar clearance and design standards within the building envelope. The anticipated energy consumption for the Longwood Avenue Project is approximately 3.5 million KWH/year.

It is anticipated that the precise location of the Longwood Avenue Project's transformers and switchgear will be finalized during design development.

Cooling

The chilled water plant for the Longwood Avenue Project will have a peak capacity in the range of 1,000 tons. The system will be based on multiple high-efficiency water-cooled centrifugal chillers, with condenser water for heat rejection provided by a roof-mounted cooling tower installation. The cooling tower system will likely require make-up water in a flow rate range of 60 g.p.m. or less; make-up water is required to compensate for that lost to evaporation and water treatment. The cooling tower installation will include variable speed fans, sound attenuation and mist/drift elimination.

Steam

As previously described, it is anticipated that steam will be used by occupants of the Longwood Avenue Project to address process loads such as glass washing and sterilization. While the analyses contained in this filing assume that such steam will be generated on-site, utility steam generated by MATEP could be provided as a redundant source of heat energy.

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Energy Conservation

Winsor's commitment to sustainable energy use and energy conservation on the entire Campus is discussed in *Chapter 5 Environmental Protection Component*. Winsor has completed a comprehensive mechanical, electrical, and plumbing master plan to assess and quantify its long term use and needs, in anticipation of the construction of a campus-wide energy plant as detailed herein. This new high-efficiency campus-wide energy plant will significantly improve the overall energy efficiency of the entire Winsor Campus, which today is heated by multiple aged and inefficient heating boilers.

7

Public Review Process

The Proponent has been meeting regularly with neighborhood organizations, community leaders, and key regulatory agencies in advance of this filing to discuss the Proposed Projects and to address any potential issues and concerns in a pro-active manner. Contacts with specific individuals and entities are summarized below.

Community Groups and Organizations

The Winsor School has met with various community groups and organizations in advance of filing this Expanded PNF. Neighboring institutions and groups that have been contacted include the following:

- Medical, Academic, and Scientific Community Organization (MASCO)
- Temple Israel
- Beth Israel Deaconess Medical Center
- Wheelock College
- Simmons College
- Emmanuel College
- Children's Hospital Boston
- National Development
- Longwood Galleria

City Representatives and Agencies

Consultation with Boston Redevelopment Authority

The Winsor School has engaged in preliminary consultation with the Boston Redevelopment Authority (BRA) with respect to the Proposed Projects' development. The Winsor School expects to continue the dialogue with BRA staff as the Proposed Projects proceed through the public process.

Consultation with Local Elected Officials

The Proponent has consulted with local and state elected officials representing the Proposed Projects Sites' district, as well as several neighborhood associations coordinated by the Mayor's Office of Neighborhood Services. Winsor has had preliminary conversations with Councilor Michael Ross, and State Representative Gloria Fox.

The Proponent will continue to keep the elected officials and others informed about the Proposed Projects as they proceed through the public review process.

Consultation with Boston Transportation Department

The Proponent has conducted preliminary discussions with the Boston Transportation Department (BTD) regarding the Proposed Projects. The Proponent and the project team will continue to work closely with the BTD to coordinate access, impacts, and mitigation.

State Agencies

Executive Office of Energy and Environmental Affairs (EEA)

The Proponent has conducted preliminary discussions with the EEA in regards to the Massachusetts Environmental Policy Act (MEPA). The Proponent will continue to coordinate with EEA during the MEPA review process concurrently with the filing of the Proposed Projects' Expanded Environmental Notification Form.

Massachusetts Department of Transportation (MassDOT)

The Proponent has conducted preliminary outreach with MassDOT with respect to the proposed Urban Ring Project planning.

Department of Conservation and Recreation (DCR)

The Proponent has engaged in outreach with the Department of Conservation and Recreation as several of the intersections in the Study Area fall on a DCR roadway.

Conclusion

This filing represents the start of the formal public review process for the Proposed Projects. During this public process, there will be significant opportunity for public review and comment. The Proponent looks forward to engaging actively with the elected officials in whose district the Proposed Projects are located and other nearby stakeholders. The Proposed Projects will also be subject to multiple public hearings as part of the Article 80 review process.

8

Consistency with LMA Interim Guidelines

This chapter discusses the Proposed Projects in terms of their relationship to and consistency with the LMA Interim Guidelines, as adopted by the BRA in 2003.

Overall Relationship to LMA Interim Guidelines

The BRA and the Office of Jobs and Community Services (OJCS), in conjunction with the Boston Transportation Department (BTD), initiated a master planning process for the LMA in 2002 and the Boston Redevelopment Authority (BRA) adopted the LMA Interim Guidelines in February 2003 to inform the review of proposed projects and Institutional Master Plans in the LMA pursuant to Article 80 of the Boston Zoning Code. The Proposed Projects respond to these Guidelines and conform generally to the applicable goals that they seek to implement. It is important to note that Winsor is not an Institution, as defined in the Boston Zoning Code, and is therefore not subject to many of the provisions outlined within the LMA Interim Guidelines that apply specifically to the LMA Institutions.

The overall organizing features of the Proposed Projects and their planning and design reflect the purposes and concepts of the LMA Interim Guidelines.

Urban Design

The Urban Design section of the LMA Interim Guidelines establishes a set of principles and criteria for the planning and design of projects in the LMA. The LMA Interim Guidelines identify the physical assets of the LMA, outline dimensional objectives for designated zones, including height and setbacks, and describe public benefits that may be provided by project proponents and institutions in order to achieve building heights greater than the specified base criteria.

Protection of Assets / Shadow Criteria

The guidelines establish a principle of protecting the physical assets of the LMA, and include restrictions on new shadow impacts on City of Boston parks in the LMA. The LMA Interim Guidelines state that:

> *"…no project will be approved if it casts any new shadow for more than one hour on March 21st on the Emerald Necklace, Joslin Park or Evans Way Park."*

Shadow studies for build and no-build conditions have been conducted for the spring and fall equinoxes and the summer and winter solstices. Shadows were estimated for each study date at 9:00 AM, 12:00 noon, 3:00 PM, and 6:00 PM, except for the winter solstice, which does not include studies after 3:00 PM because the sun sets before 6:00 PM.

None of the Proposed Projects casts new shadow on any of the above-referenced park spaces for more than one hour on March 21st. In fact, none of the Proposed Projects casts any net new shadow on any of the above-referenced resources at all on March 21st.

Height Zones

The LMA Interim Guidelines specify building height limits in the LMA for three separate zones. The Winsor Campus is subject to all three of the height zones, which do not correspond to any specific physical feature on the Campus or to the Campus' current and future organization and functions. Overall, the spirit of the height zones concept will be maintained by the Proposed Projects, which will focus height at the edges of the Campus.

The Courtyard Addition Project, whose proposed maximum height will be similar to other existing Winsor Campus buildings (approximately 3 stories), is entirely consistent with the LMA Interim Guidelines in all respects, and will not be readily visible from any public way.

The Pilgrim Road Project is entirely consistent with the concept of maintaining one prevailing character of existing street walls and presents a predominant building height of approximately 75 feet (with a portion rising to approximately 90 feet) that is highly contextual and consistent with the LMA Interim Guidelines.

The Longwood Avenue Project has a predominant building height of approximately 150 feet, a height level that is consistent with the LMA Interim Guidelines and similar to the neighboring BRA-approved Longwood Center project.

It is important to note that the development of the Longwood Avenue Project will occur within the context of the overall development plan for the Winsor Campus, which does not propose any development on portions of the existing playing fields, despite the LMA Interim Guidelines' contemplation of building heights of up to 205 feet and beyond on the existing playing fields. Rather than propose to build out the existing playing fields to their maximum heights as contemplated in the LMA Interim Guidelines, Winsor is proposing only to establish additional height and massing on a small portion of its total developable land area and retain these important open spaces.

In light of the LMA Interim Guidelines' over-arching Urban Design objective of "aim[ing] to build on and protect the physical assets of the area," the proposed re-distribution of massing while maintaining the existing playing fields, a critical open space source for Winsor and several other LMA institutions, onto an underutilized and compact development site at the corner of two major urban streets addresses the LMA Interim Guidelines objective of having "the least visual and environmental impact on the area's physical assets." Were the Longwood Avenue Project's massing to be redistributed and/or increased on the Winsor Campus in a manner entirely reflective of the LMA Interim Guidelines, the LMA and Winsor would lose one of the area's most important open spaces and much greater visual and environmental impacts would result.

The retention of the Winsor playing fields as open space is an exceptional public benefit that will directly result from the development of the Longwood Avenue Project as proposed, rather than in a manner fully consistent with the LMA Interim Guidelines' height zones, which do not relate to any of the physical features inherent to the Winsor Campus, nor to the actual functioning of the Winsor School.

In addition, a series of other public benefits will result from the development of the Longwood Avenue Project:

- Public Realm Improvements. In connection with the Longwood Avenue Project, the Proponent will approximately double the width of the pedestrian realm along Longwood Avenue, the LMA's major transit commuter route, and will create the kind of attractive, vibrant, and commodious pedestrian realm that is so severely lacking on Longwood Avenue between the former Pilgrim Road and Brookline Avenue today. The Longwood Avenue Project will also include the creation of approximately 7,000 square feet of convenience retail space along this major pedestrian axis and will, for the first time, create a proper urban street edge on this critical length of Longwood Avenue. The Proponent will also significantly widen the pedestrian realm at the corner of Longwood and Brookline Avenues and create a covered pedestrian queuing area, similar to the urban design approach to be taken by the Longwood Center project across Longwood Avenue.

- Roadway and Public Transportation Improvements. The Longwood Avenue Project will not only result in a dramatically enhanced pedestrian realm along both Longwood and Brookline Avenues adjacent to the project site, it will also involve the widening of the Brookline/Longwood Avenue intersection with a more generous turning radius to facilitate a smoother flow of traffic making the right-hand turn from Brookline Avenue onto Longwood Avenue, reducing queuing on Brookline Avenue and enhancing traffic flow at this critical intersection. Additionally, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway requires the implementation of a traffic signal at this location. Winsor is committed to working with neighboring institutes to implement this improvement subject to further study and the direction of the Boston Transportation Department (BTD).

- Linkage Payments. The Longwood Avenue Project will result in the payment of approximately $2.4 million in linkage funds for the creation of affordable housing in the city and approximately $486,700 for jobs training and creation programs.

- New Jobs. The creation of approximately 15 new full-time jobs by Winsor upon completion of the Pilgrim Road Project and approximately 950 new full-time jobs upon completion of the Longwood Avenue Project.

Setbacks and Step backs

The LMA Interim Guidelines specify criteria for setbacks and step backs of new buildings in the LMA, stating that: "Setbacks from curb shall match the most appropriate prevailing setbacks; and Building mass above the prevailing street wall (potential maximum of 75') must be either 75' from the setback line, or, not be visible at street level from the back of the opposite sidewalk."

The proposed Pilgrim Road Project design is generally consistent with these setback and step back provisions. The Proposed Project mirrors the adjacent setback of the Simmons College Holmes Sports Center. The Longwood Avenue Project conceptually re-distributes setbacks by concentrating development density on this central location within the LMA while avoiding any development whatsoever on the existing Winsor playing fields. In this regard, the visual openness of the pedestrian realm along Brookline Avenue is maintained to a far greater degree than would be the case if the Longwood Avenue Project's density were spread over the Winsor Playing Fields in a manner consistent with the LMA Interim Guidelines.

Mix of Uses

The LMA Interim Guidelines require that new developments "improve the character, security, and vitality of the LMA by increasing the mix of housing, supporting retail, recreation, and community facilities in the institutional projects. The ground floors of buildings shall include retail use or other uses that engage the public."

The Proposed Projects are not institutional projects as proposed, but the Longwood Avenue Project will add approximately 7,000 square feet of street-level convenience retail and a spacious and inviting corner lobby that will include a generous canopy to provide a protected queuing area for pedestrians waiting to cross Longwood Avenue or Brookline Avenue.

Character

The LMA Interim Guidelines state that: "New projects should build on and reinforce the distinctive physical, historic, and architectural characteristics of each of the Institutions within the LMA" through measures concerning way-finding, access and circulation, preservation of significant buildings, and appropriate width and spacing of tall elements. Although Winsor is not an "Institution" as defined in Section 2A of the Zoning Code, the Proposed Projects described in this document nonetheless achieve this goal by:

- Preserving, protecting, and enhancing the existing historic Winsor campus complex by adding architecturally complementary new facilities that will enable Winsor to continue to thrive in the LMA for generations to come.

- Maintaining existing access and circulation routes for each of the Proposed Projects, avoiding any new curb cuts off public ways and moving existing surface parking below-grade to remove the negative visual, environmental and operational impacts of existing on-grade parking, and create the opportunity to reuse the existing at-grade parking lot to facilitate construction of the Pilgrim Road Project.

- Design of the proposed Longwood Avenue Project as a signature architectural project marking the crossroads of the LMA. The conceptual design breaks the massing of the proposed structure into a slender "tower" element at the corner, celebrating this critical location and establishing an opportunity to create a major wayfinding or "beacon" element to mark the heart of the LMA.

Transportation

The LMA Interim Guidelines specify five transportation-related subjects that must be addressed by every project in the LMA:

- Parking ratios
- Transportation Demand Management
- Traffic Management
- Local Street Network
- System-Wide Transportation Projects

Parking Ratios

Winsor currently owns approximately 115 total off-street surface parking spaces, all located at-grade on its existing Campus. Unlike most LMA Institutions, Winsor does not control, operate, or use any off-campus or remote parking spaces, and owns less than 0.9 percent of the total parking spaces located within the LMA proper, despite owning almost 4 percent of the 210-acre total land area in the LMA.

As detailed in *Chapter 4, Transportation*, the Proposed Projects contemplate the construction of approximately 494 parking spaces (approximately 422 of which will be net new spaces), all in below-grade facilities. In the final-build condition, the Campus will have an overall parking ratio of approximately 0.97 spaces per 1,000 gross square feet of floor area on the Campus.

Although this ratio is higher than the LMA Interim Guidelines' target ratio of 0.75 spaces per 1,000 gross square feet of non-residential space, it is critical to note that even upon completion of the Proposed Projects, only about 4 percent of the total parking spaces within the LMA proper will be located on the Winsor campus, consistent with the Campus' ratio of land area to the total LMA land area. If the Campus were to be built out to its full potential as contemplated in the LMA Interim Guidelines, however, hundreds – if not thousands – of new parking spaces could be created on the Campus' 7.4-acre expanse if it were developed to the heights and densities embodied in the LMA Interim Guidelines.

In this regard, the Proposed Projects represent a very modest addition to the LMA's overall parking supply and will create far fewer parking spaces on the Campus than could be created under the LMA Interim Guidelines.

Transportation Demand Management

Winsor is committed to continuing to offer a wide array of Transportation Demand Management (TDM) incentives as a means to reduce single occupant driving and increase use of alternative forms of transportation to access the Campus. Winsor actively supports efforts to reduce auto use for students and employees traveling to the School and is a proactive participant in MASCO's CommuteWorks – the Transportation Management Association (TMA) for the LMA.

The School's current activities with respect to TDM are described in greater detail in *Chapter 4, Transportation*.

As a practical matter, the number of daily trips of all types generated by the Winsor School is *de minimis* when compared to its much larger institutional neighbors. With only 110 employees and only 430 students, the traffic generated by Winsor is an immaterial fraction of the traffic generated by the LMA's over 30,000 employees and tens of thousands of patient visits each day. While Winsor represents approximately 4 percent of the LMA's total land area, it currently represents less than 0.3 percent of the total employees in the LMA.

In this regard, the Proposed Projects, which will anchor the School in the LMA for generations to come, will actually have a beneficial impact on long-term traffic patterns in the LMA when compared with the potential build-out contemplated in the LMA Interim Guidelines by preserving approximately sixty percent of the Winsor campus as undeveloped open space.

■

Transportation Mitigation and Improvement Actions

<u>Pilgrim Road & Courtyard Addition Projects</u>

With the completion of the Pilgrim Road Project and the Courtyard Addition, sidewalks will be reconstructed on Short Street Extension. Today there is no accessible pedestrian connection between Brookline Avenue and the Riverway on the Winsor School side of Short Street Extension. Improvements will include ADA compliant pedestrian ramps and new pavement markings.

With the completion of the academic projects, the campus will be served by an additional 76 parking spaces. These spaces will accommodate a modest increase in staff and student population and support important Winsor operational needs and functions, including a safer and more proximate location for parents to park during morning and afternoon student drop-off/pick-up times, performances, sporting events, commencement, and other needs requiring on-site parking that are difficult to accommodate during weekdays. Additionally, these spaces will allow for on-campus parking during events which will reduce the amount of traffic circulation otherwise generated by vehicles arriving at the school and then departing to find on-street or garage parking elsewhere.

<u>Longwood Avenue Project</u>

The Longwood Avenue Project will be set back approximately seven feet from the property line to allow the existing sidewalk to be expanded to approximately 15 feet wide as shown in **Figure 4-29.** Street trees will be provided along this newly widened sidewalk, if feasible. On Brookline Avenue, the Longwood Avenue Project will be set back from the property line allowing for a more commodious pedestrian experience and additional pedestrian queuing space.

The existing intersection at Brookline Avenue/Longwood Avenue intersection currently presents challenges for vehicular traffic due to a tight right-turn turning radius towards onto northbound Longwood Avenue. The new Longwood Avenue Project will be designed to allow for an improved turning radius for Brookline Avenue to Longwood Avenue traffic.

In connection with the proposed Longwood Avenue Project, the Winsor School is committed to conducting a full Signalized Intersection Warrant Analysis to understand if the intersection of Longwood Avenue/Pilgrim Road/shared Winsor/MASCO driveway requires the implementation of a traffic signal at this location. Winsor is committed to working with its neighbors to implement this improvement subject to further study and the direction of the Boston Transportation Department (BTD).

Winsor School is also committed to continuing its Transportation Demand Management (TDM) program through MASCO's CommuteWorks Transportation Management Association (TMA) with benefits to faculty, staff and students as a means to encourage the use of alternative transportation modes.

Workforce Development

The LMA Interim Guidelines require Institutions or developers contemplating development to present to BRA and the Office of Jobs and Community Services (OJCS) workforce development staff, as part of the development review process, an assessment of current and projected workforce needs, and to work with BRA/OJCS staff to formulate a workforce development plan to address those needs.

Winsor will prepare a workforce development plan in consultation with the BRA and OJCS that outlines existing and proposed future workforce development initiatives.

Winsor currently employs approximately 110 full-time employees, approximately 40 of which (36%) are Boston residents. Because the Proposed Projects are not anticipated to result in a material increase in enrollment (less than 10%), their development is likely to result in a relatively modest number (15) of new full-time employees of Winsor.

The development of the Longwood Avenue Project is anticipated to result in the creation of over 950 full-time jobs, and the workforce development program associated with this development will be the responsibility of the ground lessee and/or individual occupants of the Longwood Avenue Project.

Conclusion

The above discussion of consistency with the LMA Interim Guidelines shows that the Proposed Projects are generally consistent with the LMA Interim Guidelines and/or further the LMA Interim Guidelines' over-arching policy goals in ways that more closely reflect the physical conditions inherent on the Winsor campus and the highly unusual amount of undeveloped and underdeveloped land that will remain in its current condition through the preservation of the existing playing fields and historic academic complex.

9

Project Certification

This Expanded PNF has been submitted to the BRA, as required by Article 80 of the Zoning Code, on the 11th day of March, 2011.

Proponent
The Winsor School
103 Pilgrim Road
Boston, MA 02215

Richard S. Bernasco
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Vanasse Hangen Brustlin, Inc.

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Senior Project Manager

Vanasse Hangen Brustlin, Inc.




Appendix

Expanded Project Notification Form

The Winsor School Campus Projects

Boston, Massachusetts

SUBMITTED TO
Boston Redevelopment Authority

SUBMITTED BY
The Winsor School
Pilgrim Road
Boston, MA 02215

PREPARED BY
Vanasse Hangen Brustlin, Inc.

Colliers Meredith & Grew

In association with:
William Rawn Associates, Architects, Inc.
Edwards Angell Palmer & Dodge LLP
Nitsch Engineering
RFS Engineering
Lee Kennedy Co Inc.


Transportation

- **Observed Traffic Volume Data**
- **MassDOT Crash Rate Worksheets**
- **Trip Generation Calculations**
- **BTD Mode Share Guidelines – Area 5**
- **Capacity Analyses**
  - 2010 Existing Conditions
  - 2015 No-Build Conditions
  - 2015 Build Conditions – Phase 1
  - 2020 No-Build Conditions
  - 2020 Build Conditions – Full Build
  - 2020 Build Conditions – Proposed Signal at Longwood/Pilgrim

Observed Traffic Volume Data

Accurate Counts
978-664-2565

Location : Longwood Avenue
Location : East of Pilgrim Road
City/State: Boston, MA
Counter : 13866

11167001
Site Code: 11167001

Start	16-Nov-10	WB		Hour Totals		EB		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		11	73			8	39				
12:15		19	78			7	55				
12:30		7	79			4	44				
12:45		7	80	44	310	2	52	21	190	65	500
01:00		6	61			4	48				
01:15		7	92			0	61				
01:30		4	74			3	53				
01:45		1	98	18	325	1	46	8	208	26	533
02:00		6	76			1	56				
02:15		3	102			2	63				
02:30		5	122			2	60				
02:45		3	99	17	399	0	66	5	245	22	644
03:00		6	107			1	63				
03:15		3	139			3	49				
03:30		3	121			0	51				
03:45		7	122	19	489	1	68	5	231	24	720
04:00		4	125			2	51				
04:15		5	91			0	72				
04:30		8	102			0	45				
04:45		10	123	27	441	4	45	6	213	33	654
05:00		17	114			2	42				
05:15		18	104			11	75				
05:30		29	126			6	58				
05:45		39	90	103	434	16	59	35	234	138	668
06:00		41	105			13	48				
06:15		69	88			31	49				
06:30		74	127			41	47				
06:45		78	84	262	404	59	63	144	207	406	611
07:00		89	76			76	48				
07:15		115	80			78	32				
07:30		136	70			90	49				
07:45		120	89	460	315	78	42	322	171	782	486
08:00		78	45			80	30				
08:15		65	37			92	33				
08:30		108	50			84	31				
08:45		99	48	350	180	77	30	333	124	683	304
09:00		87	45			91	26				
09:15		91	35			79	18				
09:30		104	46			79	19				
09:45		80	26	362	152	72	29	321	92	683	244
10:00		104	40			58	8				
10:15		104	34			49	21				
10:30		77	41			32	22				
10:45		79	41	364	156	54	13	193	64	557	220
11:00		113	27			51	18				
11:15		79	30			39	13				
11:30		68	29			40	11				
11:45		76	10	336	96	53	4	183	46	519	142
Total		2362	3701			1576	2025			3938	5726
Percent		39.0%	61.0%			43.8%	56.2%			40.7%	59.3%

Accurate Counts
978-664-2565

Location : Pilgrim Road
Location : North of Longwood Avenue
City/State: Boston, MA
Counter : 16430

11167002
Site Code: 11167002

Start	16-Nov-10	NB		Hour Totals		SB		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	9			2	7				
12:15		1	14			4	9				
12:30		0	25			1	11				
12:45		0	24	1	72	3	25	10	52	11	124
01:00		0	20			1	14				
01:15		0	12			0	7				
01:30		0	12			1	11				
01:45		0	10	0	54	0	12	2	44	2	98
02:00		0	10			0	12				
02:15		0	6			0	10				
02:30		0	15			0	11				
02:45		0	39	0	70	0	28	0	61	0	131
03:00		0	15			0	13				
03:15		0	14			0	15				
03:30		0	20			0	26				
03:45		0	47	0	96	1	16	1	70	1	166
04:00		0	22			0	32				
04:15		2	21			0	25				
04:30		0	7			0	13				
04:45		1	14	3	64	0	24	0	94	3	158
05:00		3	27			0	24				
05:15		3	15			1	18				
05:30		4	34			3	24				
05:45		5	41	15	117	14	33	18	99	33	216
06:00		9	26			11	36				
06:15		24	30			10	11				
06:30		42	20			5	29				
06:45		24	10	99	86	34	17	60	93	159	179
07:00		50	7			8	30				
07:15		36	21			22	14				
07:30		77	9			4	23				
07:45		28	20	191	57	41	9	75	76	266	133
08:00		24	5			52	6				
08:15		51	2			22	9				
08:30		64	16			7	1				
08:45		98	5	237	28	15	3	96	19	333	47
09:00		45	2			49	22				
09:15		39	1			33	8				
09:30		51	5			13	7				
09:45		33	1	168	9	5	2	100	39	268	48
10:00		26	7			9	5				
10:15		20	1			4	4				
10:30		8	0			7	4				
10:45		6	0	60	8	12	0	32	13	92	21
11:00		8	0			9	1				
11:15		8	0			8	2				
11:30		9	0			7	8				
11:45		15	0	40	0	11	2	35	13	75	13
Total		814	661			429	673			1243	1334
Percent		55.2%	44.8%			38.9%	61.1%			48.2%	51.8%

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	132	0	1	2	4	187	1	0	4	323	327
07:15	1	180	0	2	3	5	187	6	0	5	379	384
07:30	2	220	0	0	3	2	234	10	0	2	469	471
07:45	2	250	0	2	4	12	208	30	0	12	496	508
Total	5	782	0	5	12	23	816	47	0	23	1667	1690
08:00	10	206	0	0	5	7	203	16	0	7	440	447
08:15	2	174	0	1	4	7	226	1	0	7	408	415
08:30	5	189	0	0	2	9	250	1	0	9	447	456
08:45	1	151	0	4	0	4	223	1	0	4	380	384
Total	18	720	0	5	11	27	902	19	0	27	1675	1702
Grand Total	23	1502	0	10	23	50	1718	66	0	50	3342	3392
Apprch %	1.5	98.5		30.3	69.7		96.3	3.7				
Total %	0.7	44.9		0.3	0.7		51.4	2		1.5	98.5	
Cars	21	1484		10	23		1714	64		0	0	3366
% Cars	91.3	98.8	0	100	100	100	99.8	97	0	0	0	99.2
Trucks	2	18		0	0		4	2		0	0	26
% Trucks	8.7	1.2	0	0	0	0	0.2	3	0	0	0	0.8

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30										
07:30	2	220	222	0	3	3	**234**	10	**244**	469
07:45	2	**250**	**252**	**2**	4	**6**	208	**30**	238	**496**
08:00	**10**	206	216	0	**5**	5	203	16	219	440
08:15	2	174	176	1	4	5	226	1	227	408
Total Volume	16	850	866	3	16	19	871	57	928	1813
% App. Total	1.8	98.2		15.8	84.2		93.9	6.1		
PHF	.400	.850	.859	.375	.800	.792	.931	.475	.951	.914

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	1	0	0	0	0	0	0	0	0	1	1
07:45	0	3	0	0	0	0	0	2	0	0	5	5
Total	0	4	0	0	0	0	0	2	0	0	6	6
08:00	2	4	0	0	0	0	0	0	0	0	6	6
08:15	0	2	0	0	0	0	1	0	0	0	3	3
08:30	0	5	0	0	0	0	3	0	0	0	8	8
08:45	0	3	0	0	0	0	0	0	0	0	3	3
Total	2	14	0	0	0	0	4	0	0	0	20	20
Grand Total	2	18	0	0	0	0	4	2	0	0	26	26
Apprch %	10	90		0	0		66.7	33.3				
Total %	7.7	69.2		0	0		15.4	7.7		0	100	

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45										
07:45	0	3	3	0	0	0	0	**2**	2	5
08:00	**2**	4	**6**	0	0	0	0	0	0	6
08:15	0	2	2	0	0	0	1	0	1	3
08:30	0	**5**	5	0	0	0	**3**	0	**3**	**8**
Total Volume	2	14	16	0	0	0	4	2	6	22
% App. Total	12.5	87.5		0	0		66.7	33.3		
PHF	.250	.700	.667	.000	.000	.000	.333	.250	.500	.688

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	0	0	1	1
07:15	0	1	0	0	0	0	1	0	0	0	2	2
07:30	0	1	0	0	0	0	2	0	0	0	3	3
07:45	0	1	0	0	0	0	1	0	0	0	2	2
Total	0	3	0	0	0	0	5	0	0	0	8	8
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	1	0	0	0	1	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	2	0	0	0	2	2
Grand Total	0	3	0	0	0	0	7	0	0	0	10	10
Apprch %	0	100		0	0		100	0				
Total %	0	30		0	0		70	0		0	100	

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00										
07:00	0	0	0	0	0	0	1	0	1	1
07:15	0	**1**	**1**	0	0	0	1	0	1	2
07:30	0	1	1	0	0	0	**2**	0	**2**	**3**
07:45	0	1	1	0	0	0	1	0	1	2
Total Volume	0	3	3	0	0	0	5	0	5	8
% App. Total	0	100		0	0		100	0		
PHF	.000	.750	.750	.000	.000	.000	.625	.000	.625	.667

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	1	328	1	7	7	9	194	4	0	10	541	551
16:15	0	315	0	17	17	3	161	1	0	3	511	514
16:30	2	334	0	16	16	3	154	0	0	3	522	525
16:45	1	341	0	9	9	1	163	2	0	1	525	526
Total	4	1318	1	49	49	16	672	7	0	17	2099	2116
17:00	1	351	0	7	7	0	144	5	0	0	515	515
17:15	0	351	0	11	11	0	184	10	0	0	567	567
17:30	4	325	0	14	14	0	174	3	0	0	534	534
17:45	0	322	0	12	12	0	181	0	0	0	527	527
Total	5	1349	0	44	44	0	683	18	0	0	2143	2143
Grand Total	9	2667	1	93	93	16	1355	25	0	17	4242	4259
Apprch %	0.3	99.7		50	50		98.2	1.8				
Total %	0.2	62.9		2.2	2.2		31.9	0.6		0.4	99.6	
Cars	7	2663		93	93		1352	25		0	0	4250
% Cars	77.8	99.9	100	100	100	100	99.8	100	0	0	0	99.8
Trucks	2	4		0	0		3	0		0	0	9
% Trucks	22.2	0.1	0	0	0	0	0.2	0	0	0	0	0.2

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 17:00										
17:00	1	**351**	**352**	7	7	14	144	5	149	515
17:15	0	351	351	11	11	22	**184**	**10**	**194**	**567**
17:30	**4**	325	329	**14**	**14**	**28**	174	3	177	534
17:45	0	322	322	12	12	24	181	0	181	527
Total Volume	5	1349	1354	44	44	88	683	18	701	2143
% App. Total	0.4	99.6		50	50		97.4	2.6		
PHF	.313	.961	.962	.786	.786	.786	.928	.450	.903	.945

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	1	0	0	0	1	1
16:15	0	1	0	0	0	0	1	0	0	0	2	2
16:30	0	1	0	0	0	0	0	0	0	0	1	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	2	0	0	0	4	4
17:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0
17:30	2	1	0	0	0	0	1	0	0	0	4	4
17:45	0	1	0	0	0	0	0	0	0	0	1	1
Total	2	2	0	0	0	0	1	0	0	0	5	5
Grand Total	2	4	0	0	0	0	3	0	0	0	9	9
Apprch %	33.3	66.7		0	0		100	0				
Total %	22.2	44.4		0	0		33.3	0		0	100	

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 17:00										
17:00	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0
17:30	**2**	**1**	**3**	0	0	0	**1**	0	**1**	**4**
17:45	0	1	1	0	0	0	0	0	0	1
Total Volume	2	2	4	0	0	0	1	0	1	5
% App. Total	50	50		0	0		100	0		
PHF	.250	.500	.333	.000	.000	.000	.250	.000	.250	.313

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Plymouth Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167002
Site Code : 11167002
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Riverway From North			Plymouth St From East			Riverway From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	1	0	0	0	1	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	1	0	0	1	0	0	0	2	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	2	0	0	0	3	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	0	0	0	0	0	0	0	0	1	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	0	1	1
Grand Total	0	1	0	1	0	0	2	0	0	0	4	4
Apprch %	0	100		100	0		100	0				
Total %	0	25		25	0		50	0		0	100	

	Riverway From North			Plymouth St From East			Riverway From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	0	0	0	0	0	0	**1**	0	**1**	1
16:15	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	**1**	0	**1**	1	0	1	**2**
16:45	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	2	0	2	3
% App. Total	0	0		100	0		100	0		
PHF	.000	.000	.000	.250	.000	.250	.500	.000	.500	.375

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	130	0	0	6	0	2	0	0	187	0	10	0	0	0	0	10	325	335
07:15	0	183	0	0	5	0	11	0	0	192	0	10	0	0	0	0	10	391	401
07:30	0	220	0	0	20	0	16	0	0	237	0	21	0	0	0	0	21	493	514
07:45	0	252	0	0	28	0	37	0	0	210	0	47	0	0	0	0	47	527	574
Total	0	785	0	0	59	0	66	0	0	826	0	88	0	0	0	0	88	1736	1824
08:00	0	217	0	0	22	0	23	0	0	206	0	51	0	0	0	0	51	468	519
08:15	0	174	0	0	4	0	8	0	0	231	0	28	0	0	0	0	28	417	445
08:30	0	195	0	0	5	0	3	0	0	154	0	40	0	0	0	0	40	357	397
08:45	0	154	0	0	4	0	6	0	0	219	0	34	0	0	0	0	34	383	417
Total	0	740	0	0	35	0	40	0	0	810	0	153	0	0	0	0	153	1625	1778
Grand Total	0	1525	0	0	94	0	106	0	0	1636	0	241	0	0	0	0	241	3361	3602
Apprch %	0	100	0		47	0	53		0	100	0		0	0	0				
Total %	0	45.4	0		2.8	0	3.2		0	48.7	0		0	0	0		6.7	93.3	
Cars	0	1505	0		89	0	105		0	1632	0		0	0	0		0	0	3572
% Cars	0	98.7	0	0	94.7	0	99.1	0	0	99.8	0	100	0	0	0	0	0	0	99.2
Trucks	0	20	0		5	0	1		0	4	0		0	0	0		0	0	30
% Trucks	0	1.3	0	0	5.3	0	0.9	0	0	0.2	0	0	0	0	0	0	0	0	0.8

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	220	0	220	20	0	16	36	0	**237**	0	**237**	0	0	0	0	493
07:45	0	**252**	0	**252**	**28**	0	**37**	**65**	0	210	0	210	0	0	0	0	**527**
08:00	0	217	0	217	22	0	23	45	0	206	0	206	0	0	0	0	468
08:15	0	174	0	174	4	0	8	12	0	231	0	231	0	0	0	0	417
Total Volume	0	863	0	863	74	0	84	158	0	884	0	884	0	0	0	0	1905
% App. Total	0	100	0		46.8	0	53.2		0	100	0		0	0	0		
PHF	.000	.856	.000	.856	.661	.000	.568	.608	.000	.932	.000	.932	.000	.000	.000	.000	.904

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010
Page No : 1

Groups Printed- Trucks

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	6	6
08:00	0	6	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	9	9
08:15	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	3
08:30	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	8	8
08:45	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	4
Total	0	16	0	0	3	0	1	0	0	4	0	0	0	0	0	0	0	24	24
Grand Total	0	20	0	0	5	0	1	0	0	4	0	0	0	0	0	0	0	30	30
Apprch %	0	100	0		83.3	0	16.7		0	100	0		0	0	0				
Total %	0	66.7	0		16.7	0	3.3		0	13.3	0		0	0	0		0	100	

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	3	0	3	1	0	0	1	0	0	0	0	0	0	0	0	4
08:00	0	**6**	0	**6**	**3**	0	0	**3**	0	0	0	0	0	0	0	0	**9**
08:15	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:30	0	5	0	5	0	0	0	0	0	**3**	0	**3**	0	0	0	0	8
Total Volume	0	16	0	16	4	0	0	4	0	4	0	4	0	0	0	0	24
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.667	.000	.667	.333	.000	.000	.333	.000	.333	.000	.333	.000	.000	.000	.000	.667

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010
Page No : 1

Groups Printed- Bikes

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
07:15	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
07:30	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	3
07:45	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
Total	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	8	8
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
08:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
08:45	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4	4
Grand Total	0	3	0	0	0	0	0	0	0	7	0	0	0	2	0	0	0	12	12
Apprch %	0	100	0		0	0	0		0	100	0		0	100	0				
Total %	0	25	0		0	0	0		0	58.3	0		0	16.7	0		0	100	

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0	2
07:30	0	1	0	1	0	0	0	0	0	**2**	0	**2**	0	0	0	0	**3**
07:45	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.667

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	324	0	0	16	0	19	0	0	198	0	60	0	0	0	0	60	557	617
16:15	0	318	0	0	14	0	9	0	0	179	0	32	0	0	0	0	32	520	552
16:30	0	332	0	0	8	0	14	0	0	170	0	17	0	0	0	0	17	524	541
16:45	0	340	0	0	8	0	12	0	0	172	0	22	0	0	0	0	22	532	554
Total	0	1314	0	0	46	0	54	0	0	719	0	131	0	0	0	0	131	2133	2264
17:00	0	355	0	0	17	0	13	0	0	149	0	30	0	0	0	0	30	534	564
17:15	0	351	0	0	35	0	24	0	0	194	0	18	0	0	0	0	18	604	622
17:30	0	330	0	0	39	0	37	0	0	189	0	9	0	0	0	0	9	595	604
17:45	0	319	0	0	22	0	25	0	0	190	0	23	0	0	0	0	23	556	579
Total	0	1355	0	0	113	0	99	0	0	722	0	80	0	0	0	0	80	2289	2369
Grand Total	0	2669	0	0	159	0	153	0	0	1441	0	211	0	0	0	0	211	4422	4633
Apprch %	0	100	0		51	0	49		0	100	0		0	0	0				
Total %	0	60.4	0		3.6	0	3.5		0	32.6	0		0	0	0		4.6	95.4	
Cars	0	2663	0		157	0	151		0	1438	0		0	0	0		0	0	4620
% Cars	0	99.8	0	0	98.7	0	98.7	0	0	99.8	0	100	0	0	0	0	0	0	99.7
Trucks	0	6	0		2	0	2		0	3	0		0	0	0		0	0	13
% Trucks	0	0.2	0	0	1.3	0	1.3	0	0	0.2	0	0	0	0	0	0	0	0	0.3

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	**355**	0	**355**	17	0	13	30	0	149	0	149	0	0	0	0	534
17:15	0	351	0	351	35	0	24	59	0	**194**	0	**194**	0	0	0	0	**604**
17:30	0	330	0	330	**39**	0	**37**	**76**	0	189	0	189	0	0	0	0	595
17:45	0	319	0	319	22	0	25	47	0	190	0	190	0	0	0	0	556
Total Volume	0	1355	0	1355	113	0	99	212	0	722	0	722	0	0	0	0	2289
% App. Total	0	100	0		53.3	0	46.7		0	100	0		0	0	0		
PHF	.000	.954	.000	.954	.724	.000	.669	.697	.000	.930	.000	.930	.000	.000	.000	.000	.947

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010
Page No : 1

Groups Printed- Trucks

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3	3
16:15	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
16:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	6	6
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	4
17:45	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	0	4	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	7	7
Grand Total	0	6	0	0	2	0	2	0	0	3	0	0	0	0	0	0	0	13	13
Apprch %	0	100	0		50	0	50		0	100	0		0	0	0				
Total %	0	46.2	0		15.4	0	15.4		0	23.1	0		0	0	0		0	100	

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	**3**	0	**3**	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**4**
17:45	0	1	0	1	**2**	0	0	**2**	0	0	0	0	0	0	0	0	3
Total Volume	0	4	0	4	2	0	0	2	0	1	0	1	0	0	0	0	7
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.333	.000	.333	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.438

N/S Street : Riverway
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167003
Site Code : 11167003
Start Date : 10/28/2010

Groups Printed- Bikes

	Riverway From North				Short St From East				Riverway From South				Pathway From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
16:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
16:30	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	3	3
16:45	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	0	0	0	1	4	0	0	0	2	0	0	0	0	0	0	0	7	7
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Grand Total	0	1	0	0	4	4	0	0	0	2	0	0	0	0	0	0	0	11	11
Apprch %	0	100	0		50	50	0		0	100	0		0	0	0				
Total %	0	9.1	0		36.4	36.4	0		0	18.2	0		0	0	0		0	100	

	Riverway From North				Short St From East				Riverway From South				Pathway From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
16:15	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	**1**	1	0	**2**	0	1	0	1	0	0	0	0	**3**
16:45	0	0	0	0	0	**2**	0	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	1	4	0	5	0	2	0	2	0	0	0	0	7
% App. Total	0	0	0		20	80	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.000	.500	.000	.500	.000	.000	.000	.000	.583

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	237	11	8	1	164	0	0	0	0	8	413	421
07:15	243	39	15	0	186	1	0	0	3	19	468	487
07:30	224	55	40	1	221	0	0	0	10	50	501	551
07:45	265	67	41	1	204	0	0	0	17	58	537	595
Total	969	172	104	3	775	1	0	0	30	135	1919	2054
08:00	263	32	38	0	203	3	0	0	15	56	498	554
08:15	242	26	46	5	201	1	0	0	18	65	474	539
08:30	267	16	37	0	183	0	0	0	27	64	466	530
08:45	238	8	52	0	201	1	0	0	32	85	447	532
Total	1010	82	173	5	788	5	0	0	92	270	1885	2155
Grand Total	1979	254	277	8	1563	6	0	0	122	405	3804	4209
Apprch %	88.6	11.4		0.5	99.5		0	0				
Total %	52	6.7		0.2	41.1		0	0		9.6	90.4	
Cars	1878	253		7	1460		0	0		0	0	4003
% Cars	94.9	99.6	100	87.5	93.4	100	0	0	100	0	0	95.1
Trucks	101	1		1	103		0	0		0	0	206
% Trucks	5.1	0.4	0	12.5	6.6	0	0	0	0	0	0	4.9

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30										
07:30	224	55	279	1	**221**	**222**	0	0	0	501
07:45	**265**	**67**	**332**	1	204	205	0	0	0	**537**
08:00	263	32	295	0	203	203	0	0	0	498
08:15	242	26	268	**5**	201	206	0	0	0	474
Total Volume	994	180	1174	7	829	836	0	0	0	2010
% App. Total	84.7	15.3		0.8	99.2		0	0		
PHF	.938	.672	.884	.350	.938	.941	.000	.000	.000	.936

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010

Groups Printed- Trucks

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	14	0	0	0	17	0	0	0	0	0	31	31
07:15	12	0	0	0	11	0	0	0	0	0	23	23
07:30	12	0	0	0	9	0	0	0	0	0	21	21
07:45	7	0	0	1	13	0	0	0	0	0	21	21
Total	45	0	0	1	50	0	0	0	0	0	96	96
08:00	12	0	0	0	16	0	0	0	0	0	28	28
08:15	12	0	0	0	12	0	0	0	0	0	24	24
08:30	13	1	0	0	12	0	0	0	0	0	26	26
08:45	19	0	0	0	13	0	0	0	0	0	32	32
Total	56	1	0	0	53	0	0	0	0	0	110	110
Grand Total	101	1	0	1	103	0	0	0	0	0	206	206
Apprch %	99	1		1	99		0	0				
Total %	49	0.5		0.5	50		0	0		0	100	

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00										
08:00	12	0	12	0	**16**	**16**	0	0	0	28
08:15	12	0	12	0	12	12	0	0	0	24
08:30	13	**1**	14	0	12	12	0	0	0	26
08:45	**19**	0	**19**	0	13	13	0	0	0	**32**
Total Volume	56	1	57	0	53	53	0	0	0	110
% App. Total	98.2	1.8		0	100		0	0		
PHF	.737	.250	.750	.000	.828	.828	.000	.000	.000	.859

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	1	0	0	0	0	0	1	1
07:15	1	0	0	0	0	0	0	0	0	0	1	1
07:30	1	0	0	0	1	0	0	0	0	0	2	2
07:45	4	0	0	0	1	0	0	0	0	0	5	5
Total	6	0	0	0	3	0	0	0	0	0	9	9
08:00	3	0	0	0	0	0	0	0	0	0	3	3
08:15	0	0	0	0	0	0	0	0	0	0	0	0
08:30	5	0	0	0	1	0	0	0	0	0	6	6
08:45	2	0	0	0	0	0	2	0	0	0	4	4
Total	10	0	0	0	1	0	2	0	0	0	13	13
Grand Total	16	0	0	0	4	0	2	0	0	0	22	22
Apprch %	100	0		0	100		100	0				
Total %	72.7	0		0	18.2		9.1	0		0	100	

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45										
07:45	4	0	4	0	**1**	**1**	0	0	0	5
08:00	3	0	3	0	0	0	0	0	0	3
08:15	0	0	0	0	0	0	0	0	0	0
08:30	**5**	0	**5**	0	1	1	0	0	0	**6**
Total Volume	12	0	12	0	2	2	0	0	0	14
% App. Total	100	0		0	100		0	0		
PHF	.600	.000	.600	.000	.500	.500	.000	.000	.000	.583

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	199	20	62	0	220	0	0	0	45	107	439	546
16:15	199	10	57	2	214	0	0	0	42	99	425	524
16:30	178	15	62	1	194	3	0	0	43	108	388	496
16:45	202	17	64	2	207	0	0	0	53	117	428	545
Total	778	62	245	5	835	3	0	0	183	431	1680	2111
17:00	196	25	54	3	234	3	0	0	48	105	458	563
17:15	182	36	57	2	192	0	0	0	40	97	412	509
17:30	200	26	46	1	217	2	0	0	34	82	444	526
17:45	234	29	33	3	229	5	0	0	23	61	495	556
Total	812	116	190	9	872	10	0	0	145	345	1809	2154
Grand Total	1590	178	435	14	1707	13	0	0	328	776	3489	4265
Apprch %	89.9	10.1		0.8	99.2		0	0				
Total %	45.6	5.1		0.4	48.9		0	0		18.2	81.8	
Cars	1528	177		14	1643		0	0		0	0	4138
% Cars	96.1	99.4	100	100	96.3	100	0	0	100	0	0	97
Trucks	62	1		0	64		0	0		0	0	127
% Trucks	3.9	0.6	0	0	3.7	0	0	0	0	0	0	3

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 17:00										
17:00	196	25	221	**3**	**234**	**237**	0	0	0	458
17:15	182	**36**	218	2	192	194	0	0	0	412
17:30	200	26	226	1	217	218	0	0	0	444
17:45	**234**	29	**263**	3	229	232	0	0	0	**495**
Total Volume	812	116	928	9	872	881	0	0	0	1809
% App. Total	87.5	12.5		1	99		0	0		
PHF	.868	.806	.882	.750	.932	.929	.000	.000	.000	.914

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	9	1	0	0	6	0	0	0	0	0	16	16
16:15	11	0	0	0	10	0	0	0	0	0	21	21
16:30	8	0	0	0	10	0	0	0	0	0	18	18
16:45	9	0	0	0	9	0	0	0	0	0	18	18
Total	37	1	0	0	35	0	0	0	0	0	73	73
17:00	6	0	0	0	8	0	0	0	0	0	14	14
17:15	5	0	0	0	7	0	0	0	0	0	12	12
17:30	7	0	0	0	8	0	0	0	0	0	15	15
17:45	7	0	0	0	6	0	0	0	0	0	13	13
Total	25	0	0	0	29	0	0	0	0	0	54	54
Grand Total	62	1	0	0	64	0	0	0	0	0	127	127
Apprch %	98.4	1.6		0	100		0	0				
Total %	48.8	0.8		0	50.4		0	0		0	100	

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	9	**1**	10	0	6	6	0	0	0	16
16:15	**11**	0	**11**	0	**10**	**10**	0	0	0	**21**
16:30	8	0	8	0	10	10	0	0	0	18
16:45	9	0	9	0	9	9	0	0	0	18
Total Volume	37	1	38	0	35	35	0	0	0	73
% App. Total	97.4	2.6		0	100		0	0		
PHF	.841	.250	.864	.000	.875	.875	.000	.000	.000	.869

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Pilgrim Road
City/State : Boston, MA
Weather : Cloudy

File Name : 11167004
Site Code : 11167004
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West					
Start Time	Thru	Rght	Peds	Left	Thru	Peds	Left	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	2	0	0	0	0	0	0	0	0	0	2	2
16:15	2	1	0	0	2	0	0	0	0	0	5	5
16:30	4	0	0	0	0	0	0	0	0	0	4	4
16:45	4	1	0	0	0	0	0	0	0	0	5	5
Total	12	2	0	0	2	0	0	0	0	0	16	16
17:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15	1	0	0	0	0	0	0	0	0	0	1	1
17:30	3	1	0	0	0	0	0	0	0	0	4	4
17:45	1	0	0	0	0	0	0	0	0	0	1	1
Total	5	1	0	0	0	0	0	0	0	0	6	6
Grand Total	17	3	0	0	2	0	0	0	0	0	22	22
Apprch %	85	15		0	100		0	0				
Total %	77.3	13.6		0	9.1		0	0		0	100	

	Brookline Ave From North			Brookline Ave From South			Pilgrim Rd From West			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	2	0	2	0	0	0	0	0	0	2
16:15	2	**1**	3	0	**2**	**2**	0	0	0	**5**
16:30	**4**	0	4	0	0	0	0	0	0	4
16:45	4	1	**5**	0	0	0	0	0	0	5
Total Volume	12	2	14	0	2	2	0	0	0	16
% App. Total	85.7	14.3		0	100		0	0		
PHF	.750	.500	.700	.000	.250	.250	.000	.000	.000	.800

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	5	9	0	0	0	0	0	0	0	0	9	0	0	0	0	9	14	23
07:15	0	13	13	0	0	0	0	0	1	0	0	6	0	0	0	1	7	27	34
07:30	0	14	28	0	0	0	0	0	0	0	0	20	0	0	0	0	20	42	62
07:45	0	30	31	0	0	0	0	0	3	0	0	39	0	0	0	1	40	64	104
Total	0	62	81	0	0	0	0	0	4	0	0	74	0	0	0	2	76	147	223
08:00	0	11	22	0	0	0	0	0	0	0	0	40	0	0	0	0	40	33	73
08:15	0	11	7	0	0	0	0	0	1	0	0	23	0	0	0	3	26	19	45
08:30	0	0	12	0	0	0	0	0	0	0	0	28	0	0	0	1	29	12	41
08:45	0	0	12	0	0	0	0	0	0	0	0	37	0	0	0	2	39	12	51
Total	0	22	53	0	0	0	0	0	1	0	0	128	0	0	0	6	134	76	210
Grand Total	0	84	134	0	0	0	0	0	5	0	0	202	0	0	0	8	210	223	433
Apprch %	0	38.5	61.5		0	0	0		100	0	0		0	0	0				
Total %	0	37.7	60.1		0	0	0		2.2	0	0		0	0	0		48.5	51.5	
Cars	0	84	132		0	0	0		5	0	0		0	0	0		0	0	431
% Cars	0	100	98.5	0	0	0	0	0	100	0	0	100	0	0	0	100	0	0	99.5
Trucks	0	0	2		0	0	0		0	0	0		0	0	0		0	0	2
% Trucks	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	13	13	26	0	0	0	0	1	0	0	1	0	0	0	0	27
07:30	0	14	28	42	0	0	0	0	0	0	0	0	0	0	0	0	42
07:45	0	**30**	**31**	**61**	0	0	0	0	**3**	0	0	**3**	0	0	0	0	**64**
08:00	0	11	22	33	0	0	0	0	0	0	0	0	0	0	0	0	33
Total Volume	0	68	94	162	0	0	0	0	4	0	0	4	0	0	0	0	166
% App. Total	0	42	58		0	0	0		100	0	0		0	0	0		
PHF	.000	.567	.758	.664	.000	.000	.000	.000	.333	.000	.000	.333	.000	.000	.000	.000	.648

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Grand Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Apprch %	0	0	100		0	0	0		0	0	0		0	0	0				
Total %	0	0	100		0	0	0		0	0	0		0	0	0		0	100	

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2
Grand Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2
Apprch %	0	100	0		0	0	0		0	0	0		0	0	100				
Total %	0	50	0		0	0	0		0	0	0		0	0	50		0	100	

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	22	7	0	0	0	0	4	0	0	14	0	0	0	1	22	26	48
16:15	0	2	15	9	0	0	0	0	4	0	0	16	0	0	0	3	28	21	49
16:30	0	1	14	19	0	0	0	0	2	0	0	21	0	0	0	0	40	17	57
16:45	0	3	13	15	0	0	0	0	5	0	0	18	0	0	0	2	35	21	56
Total	0	6	64	50	0	0	0	0	15	0	0	69	0	0	0	6	125	85	210
17:00	0	10	24	17	0	0	0	0	10	0	0	22	0	0	0	1	40	44	84
17:15	0	3	28	12	0	0	0	0	23	0	0	19	0	0	0	4	35	54	89
17:30	0	1	29	18	0	0	0	0	14	0	0	29	0	0	0	4	51	44	95
17:45	0	7	22	9	0	0	0	0	9	0	0	24	0	0	0	0	33	38	71
Total	0	21	103	56	0	0	0	0	56	0	0	94	0	0	0	9	159	180	339
Grand Total	0	27	167	106	0	0	0	0	71	0	0	163	0	0	0	15	284	265	549
Apprch %	0	13.9	86.1		0	0	0		100	0	0		0	0	0				
Total %	0	10.2	63		0	0	0		26.8	0	0		0	0	0		51.7	48.3	
Cars	0	27	165		0	0	0		71	0	0		0	0	0		0	0	547
% Cars	0	100	98.8	100	0	0	0	0	100	0	0	100	0	0	0	100	0	0	99.6
Trucks	0	0	2		0	0	0		0	0	0		0	0	0		0	0	2
% Trucks	0	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	**10**	24	**34**	0	0	0	0	10	0	0	10	0	0	0	0	44
17:15	0	3	28	31	0	0	0	0	**23**	0	0	**23**	0	0	0	0	**54**
17:30	0	1	**29**	30	0	0	0	0	14	0	0	14	0	0	0	0	44
17:45	0	7	22	29	0	0	0	0	9	0	0	9	0	0	0	0	38
Total Volume	0	21	103	124	0	0	0	0	56	0	0	56	0	0	0	0	180
% App. Total	0	16.9	83.1		0	0	0		100	0	0		0	0	0		
PHF	.000	.525	.888	.912	.000	.000	.000	.000	.609	.000	.000	.609	.000	.000	.000	.000	.833

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Apprch %	0	0	100		0	0	0		0	0	0		0	0	0				
Total %	0	0	100		0	0	0		0	0	0		0	0	0		0	100	

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167005
Site Code : 11167005
Start Date : 11/16/2010

Groups Printed- Bikes

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	3	2	5
16:15	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
16:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
16:45	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	5
Total	0	0	9	0	0	0	0	0	1	0	0	0	0	0	1	3	3	11	14
17:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17:15	0	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	9	9
17:30	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	7
17:45	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	0	0	18	0	0	1	0	0	0	0	0	0	0	0	2	0	0	21	21
Grand Total	0	0	27	0	0	1	0	0	1	0	0	0	0	0	3	3	3	32	35
Apprch %	0	0	100		0	100	0		100	0	0		0	0	100				
Total %	0	0	84.4		0	3.1	0		3.1	0	0		0	0	9.4		8.6	91.4	

	Pilgrim Rd From North				Short St From East				Pilgrim Rd From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	4	4	0	0	0	0	**1**	0	0	**1**	0	0	0	0	5
17:00	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
17:15	0	0	**8**	**8**	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**9**
17:30	0	0	6	6	0	0	0	0	0	0	0	0	0	0	1	1	7
Total Volume	0	0	20	20	0	0	0	0	1	0	0	1	0	0	2	2	23
% App. Total	0	0	100		0	0	0		100	0	0		0	0	100		
PHF	.000	.000	.625	.625	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.500	.500	.639

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	13	206	24	11	19	13	164	19	0	37	432	469
07:15	18	211	22	22	18	14	177	22	0	36	468	504
07:30	14	190	43	25	28	19	188	20	2	64	465	529
07:45	11	243	63	20	17	29	194	20	3	95	505	600
Total	56	850	152	78	82	75	723	81	5	232	1870	2102
08:00	19	238	39	15	8	29	195	20	1	69	495	564
08:15	19	197	30	9	16	24	180	23	0	54	444	498
08:30	17	236	66	12	4	21	162	25	1	88	456	544
08:45	21	209	58	15	14	20	196	22	0	78	477	555
Total	76	880	193	51	42	94	733	90	2	289	1872	2161
Grand Total	132	1730	345	129	124	169	1456	171	7	521	3742	4263
Apprch %	7.1	92.9		51	49		89.5	10.5				
Total %	3.5	46.2		3.4	3.3		38.9	4.6		12.2	87.8	
Cars	132	1624		129	124		1357	171		0	0	4058
% Cars	100	93.9	100	100	100	100	93.2	100	100	0	0	95.2
Trucks	0	106		0	0		99	0		0	0	205
% Trucks	0	6.1	0	0	0	0	6.8	0	0	0	0	4.8

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15										
07:15	18	211	229	22	18	40	177	**22**	199	468
07:30	14	190	204	**25**	**28**	**53**	188	20	208	465
07:45	11	**243**	254	20	17	37	194	20	214	**505**
08:00	**19**	238	**257**	15	8	23	**195**	20	**215**	495
Total Volume	62	882	944	82	71	153	754	82	836	1933
% App. Total	6.6	93.4		53.6	46.4		90.2	9.8		
PHF	.816	.907	.918	.820	.634	.722	.967	.932	.972	.957

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	13	0	0	0	0	16	0	0	0	29	29
07:15	0	13	0	0	0	0	12	0	0	0	25	25
07:30	0	9	0	0	0	0	7	0	0	0	16	16
07:45	0	12	0	0	0	0	18	0	0	0	30	30
Total	0	47	0	0	0	0	53	0	0	0	100	100
08:00	0	15	0	0	0	0	9	0	0	0	24	24
08:15	0	10	0	0	0	0	12	0	0	0	22	22
08:30	0	15	0	0	0	0	12	0	0	0	27	27
08:45	0	19	0	0	0	0	13	0	0	0	32	32
Total	0	59	0	0	0	0	46	0	0	0	105	105
Grand Total	0	106	0	0	0	0	99	0	0	0	205	205
Apprch %	0	100		0	0		100	0				
Total %	0	51.7		0	0		48.3	0		0	100	

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00										
08:00	0	15	15	0	0	0	9	0	9	24
08:15	0	10	10	0	0	0	12	0	12	22
08:30	0	15	15	0	0	0	12	0	12	27
08:45	0	**19**	**19**	0	0	0	**13**	0	**13**	**32**
Total Volume	0	59	59	0	0	0	46	0	46	105
% App. Total	0	100		0	0		100	0		
PHF	.000	.776	.776	.000	.000	.000	.885	.000	.885	.820

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	0	0	1	1
07:15	0	1	0	0	0	0	2	0	0	0	3	3
07:30	0	1	0	1	0	0	2	0	0	0	4	4
07:45	0	2	0	0	0	0	2	0	0	0	4	4
Total	0	4	0	1	0	0	7	0	0	0	12	12
08:00	2	1	0	0	0	0	0	0	0	0	3	3
08:15	0	0	0	0	0	0	1	0	0	0	1	1
08:30	1	0	0	0	0	0	1	1	0	0	3	3
08:45	0	2	0	0	0	0	3	0	0	0	5	5
Total	3	3	0	0	0	0	5	1	0	0	12	12
Grand Total	3	7	0	1	0	0	12	1	0	0	24	24
Apprch %	30	70		100	0		92.3	7.7				
Total %	12.5	29.2		4.2	0		50	4.2		0	100	

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15										
07:15	0	1	1	0	0	0	**2**	0	**2**	3
07:30	0	1	1	**1**	0	**1**	2	0	2	**4**
07:45	0	**2**	2	0	0	0	2	0	2	4
08:00	**2**	1	**3**	0	0	0	0	0	0	3
Total Volume	2	5	7	1	0	1	6	0	6	14
% App. Total	28.6	71.4		100	0		100	0		
PHF	.250	.625	.583	.250	.000	.250	.750	.000	.750	.875

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	16	171	27	30	24	23	220	18	4	54	479	533
16:15	12	176	37	16	22	51	219	15	7	95	460	555
16:30	9	177	38	31	26	26	212	21	6	70	476	546
16:45	6	163	29	27	20	36	208	14	1	66	438	504
Total	43	687	131	104	92	136	859	68	18	285	1853	2138
17:00	10	178	47	18	16	39	176	15	2	88	413	501
17:15	15	184	44	33	19	43	190	20	2	89	461	550
17:30	6	184	36	17	21	42	214	13	2	80	455	535
17:45	9	213	37	20	17	30	198	12	0	67	469	536
Total	40	759	164	88	73	154	778	60	6	324	1798	2122
Grand Total	83	1446	295	192	165	290	1637	128	24	609	3651	4260
Apprch %	5.4	94.6		53.8	46.2		92.7	7.3				
Total %	2.3	39.6		5.3	4.5		44.8	3.5		14.3	85.7	
Cars	83	1385		191	165		1574	128		0	0	4135
% Cars	100	95.8	100	99.5	100	100	96.2	100	100	0	0	97.1
Trucks	0	61		1	0		63	0		0	0	125
% Trucks	0	4.2	0	0.5	0	0	3.8	0	0	0	0	2.9

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	**16**	171	187	30	24	54	**220**	18	**238**	**479**
16:15	12	176	**188**	16	22	38	219	15	234	460
16:30	9	**177**	186	**31**	**26**	**57**	212	**21**	233	476
16:45	6	163	169	27	20	47	208	14	222	438
Total Volume	43	687	730	104	92	196	859	68	927	1853
% App. Total	5.9	94.1		53.1	46.9		92.7	7.3		
PHF	.672	.970	.971	.839	.885	.860	.976	.810	.974	.967

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	8	0	0	0	0	8	0	0	0	16	16
16:15	0	9	0	0	0	0	11	0	0	0	20	20
16:30	0	10	0	1	0	0	9	0	0	0	20	20
16:45	0	7	0	0	0	0	8	0	0	0	15	15
Total	0	34	0	1	0	0	36	0	0	0	71	71
17:00	0	5	0	0	0	0	7	0	0	0	12	12
17:15	0	8	0	0	0	0	7	0	0	0	15	15
17:30	0	5	0	0	0	0	7	0	0	0	12	12
17:45	0	9	0	0	0	0	6	0	0	0	15	15
Total	0	27	0	0	0	0	27	0	0	0	54	54
Grand Total	0	61	0	1	0	0	63	0	0	0	125	125
Apprch %	0	100		100	0		100	0				
Total %	0	48.8		0.8	0		50.4	0		0	100	

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	0	8	8	0	0	0	8	0	8	16
16:15	0	9	9	0	0	0	**11**	0	**11**	**20**
16:30	0	**10**	**10**	**1**	0	**1**	9	0	9	20
16:45	0	7	7	0	0	0	8	0	8	15
Total Volume	0	34	34	1	0	1	36	0	36	71
% App. Total	0	100		100	0		100	0		
PHF	.000	.850	.850	.250	.000	.250	.818	.000	.818	.888

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Beth Israel Entrance
City/State : Boston, MA
Weather : Cloudy

File Name : 11167007
Site Code : 11167007
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South					
Start Time	Left	Thru	Peds	Left	Rght	Peds	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	1	0	0	0	0	3	0	0	0	4	4
16:15	0	1	0	0	0	0	2	0	0	0	3	3
16:30	0	2	0	0	0	0	1	0	0	0	3	3
16:45	0	0	0	0	0	0	4	0	0	0	4	4
Total	0	4	0	0	0	0	10	0	0	0	14	14
17:00	0	0	0	0	0	0	4	0	0	0	4	4
17:15	0	1	0	0	0	0	2	0	0	0	3	3
17:30	1	1	0	0	1	0	4	0	0	0	7	7
17:45	0	0	0	0	0	0	2	0	0	0	2	2
Total	1	2	0	0	1	0	12	0	0	0	16	16
Grand Total	1	6	0	0	1	0	22	0	0	0	30	30
Apprch %	14.3	85.7		0	100		100	0				
Total %	3.3	20		0	3.3		73.3	0		0	100	

	Brookline Ave From North			Beth Israel From East			Brookline Ave From South			
Start Time	Left	Thru	App. Total	Left	Rght	App. Total	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:45										
16:45	0	0	0	0	0	0	**4**	0	**4**	4
17:00	0	0	0	0	0	0	4	0	4	4
17:15	0	**1**	1	0	0	0	2	0	2	3
17:30	**1**	1	**2**	0	**1**	**1**	4	0	4	**7**
Total Volume	1	2	3	0	1	1	14	0	14	18
% App. Total	33.3	66.7		0	100		100	0		
PHF	.250	.500	.375	.000	.250	.250	.875	.000	.875	.643

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	136	11	20	9	0	17	17	19	166	2	20	9	2	13	41	98	385	483
07:15	1	136	12	13	5	2	14	2	16	167	2	9	16	1	15	45	69	387	456
07:30	0	135	9	24	12	2	13	15	18	178	2	17	13	4	7	61	117	393	510
07:45	0	143	13	29	4	0	18	7	17	153	1	19	18	4	17	60	115	388	503
Total	2	550	45	86	30	4	62	41	70	664	7	65	56	11	52	207	399	1553	1952
08:00	3	154	11	40	11	1	6	20	15	204	2	7	7	1	2	65	132	417	549
08:15	2	143	9	29	5	2	12	18	21	185	1	5	6	5	7	40	92	398	490
08:30	2	149	5	35	11	5	17	9	13	206	3	11	11	6	4	56	111	432	543
08:45	2	135	10	38	5	3	16	19	17	212	3	20	7	2	5	64	141	417	558
Total	9	581	35	142	32	11	51	66	66	807	9	43	31	14	18	225	476	1664	2140
Grand Total	11	1131	80	228	62	15	113	107	136	1471	16	108	87	25	70	432	875	3217	4092
Apprch %	0.9	92.6	6.5		32.6	7.9	59.5		8.4	90.6	1		47.8	13.7	38.5				
Total %	0.3	35.2	2.5		1.9	0.5	3.5		4.2	45.7	0.5		2.7	0.8	2.2		21.4	78.6	
Cars	8	1056	73		50	4	98		125	1371	16		80	17	68		0	0	3841
% Cars	72.7	93.4	91.2	100	80.6	26.7	86.7	100	91.9	93.2	100	100	92	68	97.1	100	0	0	93.9
Trucks	3	75	7		12	11	15		11	100	0		7	8	2		0	0	251
% Trucks	27.3	6.6	8.8	0	19.4	73.3	13.3	0	8.1	6.8	0	0	8	32	2.9	0	0	0	6.1

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	**3**	**154**	**11**	**168**	**11**												
08:15	2	143	9	154	5	2	12	19	**21**	185	1	207	6	5	**7**	18	398
08:30	2	149	5	156	11	**5**	**17**	**33**	13	206	**3**	222	**11**	**6**	4	**21**	**432**
08:45	2	135	10	147	5	3	16	24	17	**212**	3	**232**	7	2	5	14	417
Total Volume	9	581	35	625	32	11	51	94	66	807	9	882	31	14	18	63	1664
% App. Total	1.4	93	5.6		34	11.7	54.3		7.5	91.5	1		49.2	22.2	28.6		
PHF	.750	.943	.795	.930	.727	.550	.750	.712	.786	.952	.750	.950	.705	.583	.643	.750	.963

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North				Jimmy Fund Way From East				Brookline Ave From South				Deaconess/Joslin From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	8	0	0	2	0	2	0	1	13	0	0	0	0	1	0	0	27	27
07:15	1	7	0	0	0	1	1	0	2	15	0	0	1	0	0	0	0	28	28
07:30	0	9	1	0	1	2	2	0	1	9	0	0	0	2	0	0	0	27	27
07:45	0	9	3	0	2	0	4	0	2	13	0	0	2	1	1	0	0	37	37
Total	1	33	4	0	5	3	9	0	6	50	0	0	3	3	2	0	0	119	119
08:00	0	10	0	0	4	1	1	0	1	12	0	0	0	0	0	0	0	29	29
08:15	1	12	1	0	1	2	1	0	1	16	0	0	0	2	0	0	0	37	37
08:30	0	8	2	0	2	4	2	0	1	8	0	0	3	2	0	0	0	32	32
08:45	1	12	0	0	0	1	2	0	2	14	0	0	1	1	0	0	0	34	34
Total	2	42	3	0	7	8	6	0	5	50	0	0	4	5	0	0	0	132	132
Grand Total	3	75	7	0	12	11	15	0	11	100	0	0	7	8	2	0	0	251	251
Apprch %	3.5	88.2	8.2		31.6	28.9	39.5		9.9	90.1	0		41.2	47.1	11.8				
Total %	1.2	29.9	2.8		4.8	4.4	6		4.4	39.8	0		2.8	3.2	0.8		0	100	

	Brookline Ave From North				Jimmy Fund Way From East				Brookline Ave From South				Deaconess/Joslin From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	9	**3**				**4**		**2**						**1**		**37**
08:00	0	10	0	10	**4**	1	1	6	1	12	0	13	0	0	0	0	29
08:15	**1**	**12**	1	**14**	1	2	1	4	1	**16**	0	**17**	0	**2**	0	2	37
08:30	0	8	2	10	2	**4**	2	**8**	1	8	0	9	**3**	2	0	**5**	32
Total Volume	1	39	6	46	9	7	8	24	5	49	0	54	5	5	1	11	135
% App. Total	2.2	84.8	13		37.5	29.2	33.3		9.3	90.7	0		45.5	45.5	9.1		
PHF	.250	.813	.500	.821	.563	.438	.500	.750	.625	.766	.000	.794	.417	.625	.250	.550	.912

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North				Jimmy Fund Way From East				Brookline Ave From South				Deaconess/Joslin From West						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	1	0	0	0	1	0	0	0	4	0	0	0	1	0	25	25	7	32
07:15	0	3	0	0	0	1	0	0	0	1	0	0	0	1	0	42	42	6	48
07:30	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	55	55	6	61
07:45	0	2	0	0	0	1	0	0	0	4	1	0	0	4	0	53	53	12	65
Total	0	7	0	0	0	3	0	0	0	14	1	0	0	6	0	175	175	31	206
08:00	0	2	0	0	0	1	0	0	0	1	0	0	0	2	0	44	44	6	50
08:15	0	0	1	0	0	0	0	0	1	3	0	0	2	2	0	26	26	9	35
08:30	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	33	33	5	38
08:45	2	7	0	0	0	0	0	0	0	2	0	0	0	3	0	40	40	14	54
Total	2	9	1	0	0	1	0	0	1	8	0	0	3	9	0	143	143	34	177
Grand Total	2	16	1	0	0	4	0	0	1	22	1	0	3	15	0	318	318	65	383
Apprch %	10.5	84.2	5.3		0	100	0		4.2	91.7	4.2		16.7	83.3	0				
Total %	3.1	24.6	1.5		0	6.2	0		1.5	33.8	1.5		4.6	23.1	0		83	17	

	Brookline Ave From North				Jimmy Fund Way From East				Brookline Ave From South				Deaconess/Joslin From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	2	0	2	0	**1**		**1**									
08:15	0	0	**1**	1	0	0	0	0	**1**	**3**	0	**4**	**2**	2	0	**4**	9
08:30	0	0	0	0	0	0	0	0	0	2	0	2	1	2	0	3	5
08:45	**2**	**7**	0	**9**	0	0	0	0	0	2	0	2	0	**3**	0	3	**14**
Total Volume	2	9	1	12	0	1	0	1	1	8	0	9	3	9	0	12	34
% App. Total	16.7	75	8.3		0	100	0		11.1	88.9	0		25	75	0		
PHF	.250	.321	.250	.333	.000	.250	.000	.250	.250	.667	.000	.563	.375	.750	.000	.750	.607

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	178	18	42	9	2	24	6	20	130	2	12	20	2	21	38	98	426	524
16:15	0	189	9	30	16	1	23	12	14	147	2	21	26	0	14	47	110	441	551
16:30	1	209	11	48	19	3	27	11	10	122	9	15	21	1	14	40	114	447	561
16:45	0	219	12	36	17	3	44	13	20	156	4	19	16	9	20	27	95	520	615
Total	1	795	50	156	61	9	118	42	64	555	17	67	83	12	69	152	417	1834	2251
17:00	3	208	12	53	11	1	21	20	11	121	2	16	6	0	23	45	134	419	553
17:15	4	256	8	33	13	1	22	13	13	121	6	4	17	0	18	30	80	479	559
17:30	0	248	9	48	20	1	38	22	15	118	4	14	14	2	22	47	131	491	622
17:45	0	296	10	8	7	3	26	7	10	125	2	11	12	1	9	33	59	501	560
Total	7	1008	39	142	51	6	107	62	49	485	14	45	49	3	72	155	404	1890	2294
Grand Total	8	1803	89	298	112	15	225	104	113	1040	31	112	132	15	141	307	821	3724	4545
Apprch %	0.4	94.9	4.7		31.8	4.3	63.9		9.5	87.8	2.6		45.8	5.2	49				
Total %	0.2	48.4	2.4		3	0.4	6		3	27.9	0.8		3.5	0.4	3.8		18.1	81.9	
Cars	8	1725	72		101	6	199		108	996	31		114	15	124		0	0	4319
% Cars	100	95.7	80.9	100	90.2	40	88.4	100	95.6	95.8	100	100	86.4	100	87.9	99.7	0	0	95
Trucks	0	78	17		11	9	26		5	44	0		18	0	17		0	0	226
% Trucks	0	4.3	19.1	0	9.8	60	11.6	0	4.4	4.2	0	0	13.6	0	12.1	0.3	0	0	5

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	219	**12**			**3**	**44**	**64**	**20**	**156**		**180**		**9**		**45**	**520**
17:00	3	208	12	223	11	1	21	33	11	121	2	134	6	0	**23**	29	419
17:15	**4**	**256**	8	**268**	13	1	22	36	13	121	**6**	140	**17**	0	18	35	479
17:30	0	248	9	257	**20**	1	38	59	15	118	4	137	14	2	22	38	491
Total Volume	7	931	41	979	61	6	125	192	59	516	16	591	53	11	83	147	1909
% App. Total	0.7	95.1	4.2		31.8	3.1	65.1		10	87.3	2.7		36.1	7.5	56.5		
PHF	.438	.909	.854	.913	.763	.500	.710	.750	.738	.827	.667	.821	.779	.306	.902	.817	.918

Accurate Counts

978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	9	2	0	1	1	5	0	2	4	0	0	2	0	3	0	0	29	29
16:15	0	10	2	0	1	1	4	0	2	9	0	0	3	0	1	1	1	33	34
16:30	0	13	2	0	1	2	3	0	0	9	0	0	3	0	3	0	0	36	36
16:45	0	14	2	0	1	1	2	0	0	3	0	0	3	0	2	0	0	28	28
Total	0	46	8	0	4	5	14	0	4	25	0	0	11	0	9	1	1	126	127
17:00	0	10	4	0	0	1	2	0	0	8	0	0	2	0	2	0	0	29	29
17:15	0	9	2	0	5	0	3	0	1	4	0	0	2	0	2	0	0	28	28
17:30	0	9	1	0	1	0	5	0	0	3	0	0	2	0	2	0	0	23	23
17:45	0	4	2	0	1	3	2	0	0	4	0	0	1	0	2	0	0	19	19
Total	0	32	9	0	7	4	12	0	1	19	0	0	7	0	8	0	0	99	99
Grand Total	0	78	17	0	11	9	26	0	5	44	0	0	18	0	17	1	1	225	226
Apprch %	0	82.1	17.9		23.9	19.6	56.5		10.2	89.8	0		51.4	0	48.6				
Total %	0	34.7	7.6		4.9	4	11.6		2.2	19.6	0		8	0	7.6		0.4	99.6	

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	9	**2**		**1**		**5**	**7**	**2**						**3**		
16:15	0	10	2	12	1	1	4	6	2	**9**	0	**11**	**3**	0	1	4	33
16:30	0	13	2	15	1	**2**	3	6	0	9	0	9	3	0	3	**6**	**36**
16:45	0	**14**	2	**16**	1	1	2	4	0	3	0	3	3	0	2	5	28
Total Volume	0	46	8	54	4	5	14	23	4	25	0	29	11	0	9	20	126
% App. Total	0	85.2	14.8		17.4	21.7	60.9		13.8	86.2	0		55	0	45		
PHF	.000	.821	1.00	.844	1.00	.625	.700	.821	.500	.694	.000	.659	.917	.000	.750	.833	.875

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Jimmy Fund Way / Deaconess
City/State : Boston, MA
Weather : Cloudy

File Name : 11167010
Site Code : 11167010
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	0	37
16:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	43	43	1	44
16:30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	4	35
16:45	0	8	0	0	0	0	0	0	0	2	0	0	0	0	0	25	25	10	35
Total	0	12	0	0	0	1	0	0	0	2	0	0	0	0	0	136	136	15	151
17:00	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0	41	41	4	45
17:15	0	5	0	0	0	0	0	0	0	2	0	0	0	0	0	26	26	7	33
17:30	0	3	0	0	0	1	0	0	0	1	0	0	0	1	0	37	37	6	43
17:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	27	27	3	30
Total	0	12	0	0	0	1	1	0	0	5	0	0	0	1	0	131	131	20	151
Grand Total	0	24	0	0	0	2	1	0	0	7	0	0	0	1	0	267	267	35	302
Apprch %	0	100	0		0	66.7	33.3		0	100	0		0	100	0				
Total %	0	68.6	0		0	5.7	2.9		0	20	0		0	2.9	0		88.4	11.6	

	Brookline Ave From North				**Jimmy Fund Way From East**				**Brookline Ave From South**				**Deaconess/Joslin From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	**8**		**8**						**2**		**2**					**10**
17:00	0	1	0	1	0	0	**1**	**1**	0	2	0	2	0	0	0	0	4
17:15	0	5	0	5	0	0	0	0	0	2	0	2	0	0	0	0	7
17:30	0	3	0	3	0	**1**	0	1	0	1	0	1	0	**1**	0	**1**	6
Total Volume	0	17	0	17	0	1	1	2	0	7	0	7	0	1	0	1	27
% App. Total	0	100	0		0	50	50		0	100	0		0	100	0		
PHF	.000	.531	.000	.531	.000	.250	.250	.500	.000	.875	.000	.875	.000	.250	.000	.250	.675

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	7	0	0	1	0	0	4	0	0	0	6	10	8	18
07:15	0	0	0	0	0	12	0	0	4	0	0	6	0	0	0	6	12	16	28
07:30	0	0	0	0	0	21	0	0	13	0	0	20	0	0	0	8	28	34	62
07:45	0	0	0	2	0	38	0	0	28	0	0	46	0	0	0	13	61	66	127
Total	0	0	0	2	0	78	0	0	46	0	0	76	0	0	0	33	111	124	235
08:00	0	0	0	1	0	21	1	0	29	0	0	46	0	0	0	13	60	51	111
08:15	0	0	2	0	0	6	1	0	4	0	0	22	0	0	0	13	35	13	48
08:30	0	0	0	0	1	10	0	0	0	1	0	37	0	0	0	17	54	12	66
08:45	0	0	0	0	0	9	1	0	0	0	0	36	0	0	0	10	46	10	56
Total	0	0	2	1	1	46	3	0	33	1	0	141	0	0	0	53	195	86	281
Grand Total	0	0	2	3	1	124	3	0	79	1	0	217	0	0	0	86	306	210	516
Apprch %	0	0	100		0.8	96.9	2.3		98.8	1.2	0		0	0	0				
Total %	0	0	1		0.5	59	1.4		37.6	0.5	0		0	0	0		59.3	40.7	
Cars	0	0	2		1	122	3		74	1	0		0	0	0		0	0	509
% Cars	0	0	100	100	100	98.4	100	0	93.7	100	0	100	0	0	0	100	0	0	98.6
Trucks	0	0	0		0	2	0		5	0	0		0	0	0		0	0	7
% Trucks	0	0	0	0	0	1.6	0	0	6.3	0	0	0	0	0	0	0	0	0	1.4

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	0	0	0	12	0	12	4	0	0	4	0	0	0	0	16
07:30	0	0	0	0	0	21	0	21	13	0	0	13	0	0	0	0	34
07:45	0	0	0	0	0	**38**	0	**38**	28	0	0	28	0	0	0	0	**66**
08:00	0	0	0	0	0	21	**1**	22	**29**	0	0	**29**	0	0	0	0	51
Total Volume	0	0	0	0	0	92	1	93	74	0	0	74	0	0	0	0	167
% App. Total	0	0	0		0	98.9	1.1		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.605	.250	.612	.638	.000	.000	.638	.000	.000	.000	.000	.633

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3
Total	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3
08:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2
08:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	4
Grand Total	0	0	0	0	0	2	0	0	5	0	0	0	0	0	0	0	0	7	7
Apprch %	0	0	0		0	100	0		100	0	0		0	0	0				
Total %	0	0	0		0	28.6	0		71.4	0	0		0	0	0		0	100	

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	0	0	0	**3**
08:00	0	0	0	0	0	**1**	0	**1**	1	0	0	1	0	0	0	0	2
08:15	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	5	0	0	5	0	0	0	0	6
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.417	.000	.000	.417	.000	.000	.000	.000	.500

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010

Groups Printed- Bikes

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	3
Grand Total	0	3	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	5	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	100				
Total %	0	60	0		0	0	0		0	20	0		0	0	20		0	100	

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
% App. Total	0	100	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.375

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010
Page No : 1

Groups Printed- Cars - Trucks

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	4	1	1	34	1	0	2	0	0	21	0	0	0	41	63	42	105
16:15	0	0	3	3	1	15	0	0	4	0	0	22	0	0	0	27	52	23	75
16:30	0	0	0	1	0	21	0	0	0	0	0	11	0	0	0	9	21	21	42
16:45	0	0	3	2	0	15	0	0	3	0	0	15	0	0	0	15	32	21	53
Total	0	0	10	7	2	85	1	0	9	0	0	69	0	0	0	92	168	107	275
17:00	0	0	4	0	0	20	0	0	7	1	0	19	0	0	0	15	34	32	66
17:15	0	0	11	1	0	41	0	0	6	2	0	24	0	0	0	13	38	60	98
17:30	0	0	13	0	0	45	0	0	8	0	0	21	0	0	0	5	26	66	92
17:45	0	0	10	0	0	41	0	0	7	0	0	17	0	0	0	8	25	58	83
Total	0	0	38	1	0	147	0	0	28	3	0	81	0	0	0	41	123	216	339
Grand Total	0	0	48	8	2	232	1	0	37	3	0	150	0	0	0	133	291	323	614
Apprch %	0	0	100		0.9	98.7	0.4		92.5	7.5	0		0	0	0				
Total %	0	0	14.9		0.6	71.8	0.3		11.5	0.9	0		0	0	0		47.4	52.6	
Cars	0	0	48		2	230	1		35	3	0		0	0	0		0	0	610
% Cars	0	0	100	100	100	99.1	100	0	94.6	100	0	100	0	0	0	100	0	0	99.3
Trucks	0	0	0		0	2	0		2	0	0		0	0	0		0	0	4
% Trucks	0	0	0	0	0	0.9	0	0	5.4	0	0	0	0	0	0	0	0	0	0.7

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	4	4	0	20	0	20	7	1	0	**8**	0	0	0	0	32
17:15	0	0	11	11	0	41	0	41	6	**2**	0	8	0	0	0	0	60
17:30	0	0	**13**	**13**	0	**45**	0	**45**	**8**	0	0	8	0	0	0	0	**66**
17:45	0	0	10	10	0	41	0	41	7	0	0	7	0	0	0	0	58
Total Volume	0	0	38	38	0	147	0	147	28	3	0	31	0	0	0	0	216
% App. Total	0	0	100		0	100	0		90.3	9.7	0		0	0	0		
PHF	.000	.000	.731	.731	.000	.817	.000	.817	.875	.375	.000	.969	.000	.000	.000	.000	.818

Accurate Counts
978-664-2565

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010
Page No : 1

Groups Printed- Trucks

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2
Grand Total	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	4
Apprch %	0	0	0		0	100	0		100	0	0		0	0	0				
Total %	0	0	0		0	50	0		50	0	0		0	0	0		0	100	

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**2**
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

N/S Street : Parking Lot / Plymouth St
E/W Street: Short Street
City/State : Boston, MA
Weather : Cloudy

File Name : 11167011
Site Code : 11167011
Start Date : 11/16/2010
Page No : 1

Groups Printed- Bikes

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
16:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
16:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
17:30	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
17:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
Grand Total	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8	8
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		0	100	

	Parking Lot From North				Short St From East				Plymouth St From South				Short St From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	**3**
Total Volume	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	5
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.417

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			Longwood Ave From East			Brookline Ave From South			Longwood Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00	58	114	32	27	25	52	5	102	33	15	54	7	524
07:15	51	120	47	26	42	71	5	135	32	22	66	5	622
07:30	54	109	35	34	69	76	10	152	38	35	68	12	692
07:45	63	120	42	25	60	57	7	182	51	27	55	10	699
Total	226	463	156	112	196	256	27	571	154	99	243	34	2537
08:00	64	104	32	26	42	54	9	140	24	28	58	3	584
08:15	71	112	25	29	38	43	9	130	32	31	62	7	589
08:30	57	112	38	21	52	55	11	139	26	29	73	10	623
08:45	69	113	45	26	38	47	7	120	55	31	72	9	632
Total	261	441	140	102	170	199	36	529	137	119	265	29	2428
Grand Total	487	904	296	214	366	455	63	1100	291	218	508	63	4965
Apprch %	28.9	53.6	17.5	20.7	35.4	44	4.3	75.7	20	27.6	64.4	8	
Total %	9.8	18.2	6	4.3	7.4	9.2	1.3	22.2	5.9	4.4	10.2	1.3	
Cars	446	868	295	178	352	398	62	1022	277	209	497	59	4663
% Cars	91.6	96	99.7	83.2	96.2	87.5	98.4	92.9	95.2	95.9	97.8	93.7	93.9
Trucks	41	36	1	36	14	57	1	78	14	9	11	4	302
% Trucks	8.4	4	0.3	16.8	3.8	12.5	1.6	7.1	4.8	4.1	2.2	6.3	6.1

	Brookline Ave From North				Longwood Ave From East				Brookline Ave From South				Longwood Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	51	**120**	**47**														
07:30	54	109	35	198	**34**	**69**	**76**	**179**	**10**	152	38	200	**35**	**68**	**12**	**115**	692
07:45	63	120	42	**225**	25	60	57	142	7	**182**	**51**	**240**	27	55	10	92	**699**
08:00	**64**	104	32	200	26	42	54	122	9	140	24	173	28	58	3	89	584
Total Volume	232	453	156	841	111	213	258	582	31	609	145	785	112	247	30	389	2597
% App. Total	27.6	53.9	18.5		19.1	36.6	44.3		3.9	77.6	18.5		28.8	63.5	7.7		
PHF	.906	.944	.830	.934	.816	.772	.849	.813	.775	.837	.711	.818	.800	.908	.625	.846	.929
Cars	214	434	156	804	98	207	229	534	30	568	135	733	107	241	30	378	2449
% Cars	92.2	95.8	100	95.6	88.3	97.2	88.8	91.8	96.8	93.3	93.1	93.4	95.5	97.6	100	97.2	94.3
Trucks	18	19	0	37	13	6	29	48	1	41	10	52	5	6	0	11	148
% Trucks	7.8	4.2	0	4.4	11.7	2.8	11.2	8.2	3.2	6.7	6.9	6.6	4.5	2.4	0	2.8	5.7

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North			**Longwood Ave From East**			**Brookline Ave From South**			**Longwood Ave From West**			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00	7	3	0	5	1	7	0	8	1	0	0	0	32
07:15	3	3	0	2	2	8	0	13	4	0	1	0	36
07:30	6	5	0	3	1	3	0	9	1	3	1	0	32
07:45	5	7	0	3	1	8	1	11	3	1	2	0	42
Total	21	18	0	13	5	26	1	41	9	4	4	0	142
08:00	4	4	0	5	2	10	0	8	2	1	2	0	38
08:15	5	3	1	7	2	6	0	10	1	1	3	0	39
08:30	6	8	0	6	5	8	0	10	0	1	1	0	45
08:45	5	3	0	5	0	7	0	9	2	2	1	4	38
Total	20	18	1	23	9	31	0	37	5	5	7	4	160
Grand Total	41	36	1	36	14	57	1	78	14	9	11	4	302
Apprch %	52.6	46.2	1.3	33.6	13.1	53.3	1.1	83.9	15.1	37.5	45.8	16.7	
Total %	13.6	11.9	0.3	11.9	4.6	18.9	0.3	25.8	4.6	3	3.6	1.3	

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	5	7	0	12	3	1	8	12	**1**	**11**	**3**	**15**	**1**				
08:00	4	4	0	8	5	2	**10**	17	0	8	2	10	1	2	0	3	38
08:15	5	3	**1**	9	**7**	2	6	15	0	10	1	11	1	**3**	0	**4**	39
08:30	**6**	**8**	0	**14**	6	**5**	8	**19**	0	10	0	10	1	1	0	2	**45**
Total Volume	20	22	1	43	21	10	32	63	1	39	6	46	4	8	0	12	164
% App. Total	46.5	51.2	2.3		33.3	15.9	50.8		2.2	84.8	13		33.3	66.7	0		
PHF	.833	.688	.250	.768	.750	.500	.800	.829	.250	.886	.500	.767	1.00	.667	.000	.750	.911

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Bikes Peds

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	2	0	35	0	0	0	16	0	0	2	60	1	4	0	8	119	9	128
07:15	0	1	0	34	1	0	0	19	0	0	0	72	1	3	0	10	135	6	141
07:30	0	0	0	47	0	1	0	35	0	0	0	75	3	5	0	9	166	9	175
07:45	0	1	0	50	0	2	0	41	0	2	0	82	2	8	0	13	186	15	201
Total	0	4	0	166	1	3	0	111	0	2	2	289	7	20	0	40	606	39	645
08:00	0	2	0	105	0	0	0	41	0	1	0	129	1	12	1	26	301	17	318
08:15	1	0	0	105	0	1	0	19	0	1	0	139	0	13	0	20	283	16	299
08:30	0	1	0	118	0	2	1	50	0	2	0	99	2	13	0	13	280	21	301
08:45	0	0	0	113	0	1	1	51	0	3	0	114	5	18	1	20	298	29	327
Total	1	3	0	441	0	4	2	161	0	7	0	481	8	56	2	79	1162	83	1245
Grand Total	1	7	0	607	1	7	2	272	0	9	2	770	15	76	2	119	1768	122	1890
Apprch %	12.5	87.5	0		10	70	20		0	81.8	18.2		16.1	81.7	2.2				
Total %	0.8	5.7	0		0.8	5.7	1.6		0	7.4	1.6		12.3	62.3	1.6		93.5	6.5	

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	**2**		**2**											**1**		
08:15	**1**	0	0	1	0	1	0	1	0	1	0	1	0	13	0	13	16
08:30	0	1	0	1	0	**2**	**1**	**3**	0	2	0	2	2	13	0	15	21
08:45	0	0	0	0	0	1	1	2	0	**3**	0	**3**	**5**	**18**	1	**24**	**29**
Total Volume	1	3	0	4	0	4	2	6	0	7	0	7	8	56	2	66	83
% App. Total	25	75	0		0	66.7	33.3		0	100	0		12.1	84.8	3		
PHF	.250	.375	.000	.500	.000	.500	.500	.500	.000	.583	.000	.583	.400	.778	.500	.688	.716

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cross Peds

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
07:00	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	32	58
07:15	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	28	52
07:30	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	35	64
07:45	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	56	135
Total	0	0	0	158	0	0	0	0	0	0	0	0	0	0	0	151	309
08:00	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	60	116
08:15	0	0	0	69	0	0	0	0	0	0	0	0	0	0	0	54	123
08:30	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	67	114
08:45	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	79	137
Total	0	0	0	230	0	0	0	0	0	0	0	0	0	0	0	260	490
Grand Total	0	0	0	388	0	0	0	0	0	0	0	0	0	0	0	411	799
Apprch %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	
Total %	0	0	0	48.6	0	0	0	0	0	0	0	0	0	0	0	51.4	

	Brookline Ave From North					**Longwood Ave From East**					**Brookline Ave From South**					**Longwood Ave From West**					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	116
08:15	0	0	0	**69**	**69**	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	123
08:30	0	0	0	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	67	67	114
08:45	0	0	0	58	58	0	0	0	0	0	0	0	0	0	0	0	0	0	**79**	**79**	**137**
Total Volume	0	0	0	230	230	0	0	0	0	0	0	0	0	0	0	0	0	0	260	260	490
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.833	.833	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.823	.823	.894

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cars - Trucks

	Brookline Ave From North			**Longwood Ave From East**			**Brookline Ave From South**			**Longwood Ave From West**			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	51	155	26	55	61	74	13	171	32	15	32	5	690
16:15	46	113	24	54	72	90	8	146	32	17	43	3	648
16:30	52	169	14	50	74	67	15	148	19	13	49	5	675
16:45	46	134	14	57	57	89	12	136	26	11	47	11	640
Total	195	571	78	216	264	320	48	601	109	56	171	24	2653
17:00	54	162	32	51	71	57	12	147	25	13	48	7	679
17:15	45	145	15	44	68	78	10	130	24	15	55	8	637
17:30	47	147	20	47	56	61	10	150	25	14	44	4	625
17:45	38	153	22	52	72	66	7	129	34	17	49	5	644
Total	184	607	89	194	267	262	39	556	108	59	196	24	2585
Grand Total	379	1178	167	410	531	582	87	1157	217	115	367	48	5238
Apprch %	22	68.3	9.7	26.9	34.9	38.2	6	79.2	14.9	21.7	69.2	9.1	
Total %	7.2	22.5	3.2	7.8	10.1	11.1	1.7	22.1	4.1	2.2	7	0.9	
Cars	350	1139	160	384	513	548	87	1111	203	115	358	48	5016
% Cars	92.3	96.7	95.8	93.7	96.6	94.2	100	96	93.5	100	97.5	100	95.8
Trucks	29	39	7	26	18	34	0	46	14	0	9	0	222
% Trucks	7.7	3.3	4.2	6.3	3.4	5.8	0	4	6.5	0	2.5	0	4.2

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	51	155	**26**							**171**	**32**	**216**					**690**
16:15	46	113	24	183	54	72	**90**	**216**	8	146	32	186	**17**	43	3	63	648
16:30	**52**	**169**	14	**235**	50	**74**	67	191	**15**	148	19	182	13	**49**	5	67	675
16:45	46	134	14	194	**57**	57	89	203	12	136	26	174	11	47	**11**	**69**	640
Total Volume	195	571	78	844	216	264	320	800	48	601	109	758	56	171	24	251	2653
% App. Total	23.1	67.7	9.2		27	33	40		6.3	79.3	14.4		22.3	68.1	9.6		
PHF	.938	.845	.750	.898	.947	.892	.889	.926	.800	.879	.852	.877	.824	.872	.545	.909	.961
Cars	180	548	74	802	201	253	301	755	48	574	101	723	56	166	24	246	2526
% Cars	92.3	96.0	94.9	95.0	93.1	95.8	94.1	94.4	100	95.5	92.7	95.4	100	97.1	100	98.0	95.2
Trucks	15	23	4	42	15	11	19	45	0	27	8	35	0	5	0	5	127
% Trucks	7.7	4.0	5.1	5.0	6.9	4.2	5.9	5.6	0	4.5	7.3	4.6	0	2.9	0	2.0	4.8

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Trucks

	Brookline Ave From North			**Longwood Ave From East**			**Brookline Ave From South**			**Longwood Ave From West**			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	2	7	0	4	3	5	0	7	2	0	2	0	32
16:15	4	8	2	4	2	5	0	6	1	0	1	0	33
16:30	4	5	1	1	3	5	0	8	3	0	1	0	31
16:45	5	3	1	6	3	4	0	6	2	0	1	0	31
Total	15	23	4	15	11	19	0	27	8	0	5	0	127
17:00	3	5	2	3	2	5	0	4	2	0	2	0	28
17:15	4	1	0	3	2	1	0	4	2	0	1	0	18
17:30	3	7	0	3	2	4	0	5	0	0	0	0	24
17:45	4	3	1	2	1	5	0	6	2	0	1	0	25
Total	14	16	3	11	7	15	0	19	6	0	4	0	95
Grand Total	29	39	7	26	18	34	0	46	14	0	9	0	222
Apprch %	38.7	52	9.3	33.3	23.1	43.6	0	76.7	23.3	0	100	0	
Total %	13.1	17.6	3.2	11.7	8.1	15.3	0	20.7	6.3	0	4.1	0	

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	2	7	0	9	4	**3**	**5**							**2**		**2**	
16:15	4	**8**	**2**	**14**	4	2	5	11	0	6	1	7	0	1	0	1	**33**
16:30	4	5	1	10	1	3	5	9	0	**8**	**3**	**11**	0	1	0	1	31
16:45	**5**	3	1	9	**6**	3	4	**13**	0	6	2	8	0	1	0	1	31
Total Volume	15	23	4	42	15	11	19	45	0	27	8	35	0	5	0	5	127
% App. Total	35.7	54.8	9.5		33.3	24.4	42.2		0	77.1	22.9		0	100	0		
PHF	.750	.719	.500	.750	.625	.917	.950	.865	.000	.844	.667	.795	.000	.625	.000	.625	.962

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Bikes Peds

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**						
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	1	2	72	0	7	0	77	0	1	0	41	1	0	0	26	216	12	228
16:15	0	1	1	46	2	5	0	58	1	1	0	34	0	1	0	25	163	12	175
16:30	0	0	0	83	0	7	1	69	1	3	1	55	0	2	0	16	223	15	238
16:45	0	2	1	76	0	7	0	37	0	3	0	34	0	0	0	16	163	13	176
Total	0	4	4	277	2	26	1	241	2	8	1	164	1	3	0	83	765	52	817
17:00	0	0	0	108	0	12	0	75	0	2	0	49	0	0	0	21	253	14	267
17:15	0	0	1	113	0	11	1	62	0	1	0	40	1	2	0	27	242	17	259
17:30	0	1	0	92	1	11	0	76	0	3	0	51	0	1	0	14	233	17	250
17:45	0	4	0	79	1	8	0	36	0	2	0	29	1	0	0	10	154	16	170
Total	0	5	1	392	2	42	1	249	0	8	0	169	2	3	0	72	882	64	946
Grand Total	0	9	5	669	4	68	2	490	2	16	1	333	3	6	0	155	1647	116	1763
Apprch %	0	64.3	35.7		5.4	91.9	2.7		10.5	84.2	5.3		33.3	66.7	0				
Total %	0	7.8	4.3		3.4	58.6	1.7		1.7	13.8	0.9		2.6	5.2	0		93.4	6.6	

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	**12**		**12**									
17:15	0	0	**1**	1	0	11	**1**	12	0	1	0	1	**1**	**2**	0	**3**	**17**
17:30	0	1	0	1	**1**	11	0	12	0	**3**	0	**3**	0	1	0	1	17
17:45	0	**4**	0	**4**	1	8	0	9	0	2	0	2	1	0	0	1	16
Total Volume	0	5	1	6	2	42	1	45	0	8	0	8	2	3	0	5	64
% App. Total	0	83.3	16.7		4.4	93.3	2.2		0	100	0		40	60	0		
PHF	.000	.313	.250	.375	.500	.875	.250	.938	.000	.667	.000	.667	.500	.375	.000	.417	.941

Accurate Counts
978-664-2565

N/S Street : Brookline Avenue
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167012
Site Code : 11167012
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cross Peds

	Brookline Ave From North				**Longwood Ave From East**				**Brookline Ave From South**				**Longwood Ave From West**				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	38	68
16:15	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	58	111
16:30	0	0	0	61	0	0	0	0	0	0	0	0	0	0	0	33	94
16:45	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	42	122
Total	0	0	0	224	0	0	0	0	0	0	0	0	0	0	0	171	395
17:00	0	0	0	97	0	0	0	0	0	0	0	0	0	0	0	53	150
17:15	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	56	148
17:30	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	35	116
17:45	0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	44	111
Total	0	0	0	337	0	0	0	0	0	0	0	0	0	0	0	188	525
Grand Total	0	0	0	561	0	0	0	0	0	0	0	0	0	0	0	359	920
Apprch %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	
Total %	0	0	0	61	0	0	0	0	0	0	0	0	0	0	0	39	

	Brookline Ave From North					**Longwood Ave From East**					**Brookline Ave From South**					**Longwood Ave From West**					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	80	80	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42	122
17:00	0	0	0	**97**	**97**	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53	**150**
17:15	0	0	0	92	92	0	0	0	0	0	0	0	0	0	0	0	0	0	**56**	**56**	148
17:30	0	0	0	81	81	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35	116
Total Volume	0	0	0	350	350	0	0	0	0	0	0	0	0	0	0	0	0	0	186	186	536
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.902	.902	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.830	.830	.893

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North			Longwood Ave From East			Riverway From South			Longwood Ave From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	0	140	4	5	26	5	65	182	30	8	73	21	559
07:15	2	167	18	6	38	5	82	162	28	19	94	23	644
07:30	0	169	6	7	67	13	94	219	23	36	81	28	743
07:45	0	228	17	16	60	4	97	205	24	30	89	22	792
Total	2	704	45	34	191	27	338	768	105	93	337	94	2738
08:00	3	206	19	5	40	6	79	208	24	19	81	24	714
08:15	0	157	15	6	34	3	58	199	22	24	105	20	643
08:30	0	153	17	5	41	4	95	173	18	21	83	22	632
08:45	0	147	14	5	39	2	86	164	21	26	79	19	602
Total	3	663	65	21	154	15	318	744	85	90	348	85	2591
Grand Total	5	1367	110	55	345	42	656	1512	190	183	685	179	5329
Apprch %	0.3	92.2	7.4	12.4	78.1	9.5	27.8	64.1	8.1	17.5	65.4	17.1	
Total %	0.1	25.7	2.1	1	6.5	0.8	12.3	28.4	3.6	3.4	12.9	3.4	
Cars	5	1356	109	55	341	41	652	1510	189	181	677	172	5288
% Cars	100	99.2	99.1	100	98.8	97.6	99.4	99.9	99.5	98.9	98.8	96.1	99.2
Trucks	0	11	1	0	4	1	4	2	1	2	8	7	41
% Trucks	0	0.8	0.9	0	1.2	2.4	0.6	0.1	0.5	1.1	1.2	3.9	0.8

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	2	167	18	187	6	38	5	49	82	162	**28**	272	19	**94**	23	136	644
07:30	0	169	6	175	7	**67**	**13**	**87**	94	**219**	23	**336**	**36**	81	**28**	**145**	743
07:45	0	**228**	17	**245**	**16**	60	4	80	**97**	205	24	326	30	89	22	141	**792**
08:00	**3**	206	**19**	228	5	40	6	51	79	208	24	311	19	81	24	124	714
Total Volume	5	770	60	835	34	205	28	267	352	794	99	1245	104	345	97	546	2893
% App. Total	0.6	92.2	7.2		12.7	76.8	10.5		28.3	63.8	8		19	63.2	17.8		
PHF	.417	.844	.789	.852	.531	.765	.538	.767	.907	.906	.884	.926	.722	.918	.866	.941	.913
Cars	5	761	59	825	34	203	28	265	349	793	98	1240	102	342	90	534	2864
% Cars	100	98.8	98.3	98.8	100	99.0	100	99.3	99.1	99.9	99.0	99.6	98.1	99.1	92.8	97.8	99.0
Trucks	0	9	1	10	0	2	0	2	3	1	1	5	2	3	7	12	29
% Trucks	0	1.2	1.7	1.2	0	1.0	0	0.7	0.9	0.1	1.0	0.4	1.9	0.9	7.2	2.2	1.0

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010

Groups Printed- Trucks

	Riverway From North			Longwood Ave From East			Riverway From South			Longwood Ave From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
07:00	0	0	0	0	0	1	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	1	0	1
07:30	0	2	1	0	0	0	0	0	1	2	1	7	14
07:45	0	6	0	0	1	0	2	1	0	0	0	0	10
Total	0	8	1	0	1	1	2	1	1	2	2	7	26
08:00	0	1	0	0	1	0	1	0	0	0	1	0	4
08:15	0	0	0	0	1	0	0	1	0	0	3	0	5
08:30	0	1	0	0	0	0	1	0	0	0	0	0	2
08:45	0	1	0	0	1	0	0	0	0	0	2	0	4
Total	0	3	0	0	3	0	2	1	0	0	6	0	15
Grand Total	0	11	1	0	4	1	4	2	1	2	8	7	41
Apprch %	0	91.7	8.3	0	80	20	57.1	28.6	14.3	11.8	47.1	41.2	
Total %	0	26.8	2.4	0	9.8	2.4	9.8	4.9	2.4	4.9	19.5	17.1	

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	2	**1**	3	0	0	0	0	0	0	**1**	1	**2**	1	**7**	**10**	**14**
07:45	0	**6**	0	**6**	0	**1**	0	**1**	**2**	**1**	0	**3**	0	0	0	0	10
08:00	0	1	0	1	0	1	0	1	1	0	0	1	0	1	0	1	4
08:15	0	0	0	0	0	1	0	1	0	1	0	1	0	**3**	0	3	5
Total Volume	0	9	1	10	0	3	0	3	3	2	1	6	2	5	7	14	33
% App. Total	0	90	10		0	100	0		50	33.3	16.7		14.3	35.7	50		
PHF	.000	.375	.250	.417	.000	.750	.000	.750	.375	.500	.250	.500	.250	.417	.250	.350	.589

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Bikes Peds

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	88	0	0	0	3	0	0	0	2	0	0	4	4	97	4	101
07:15	0	1	0	56	0	0	0	5	0	0	0	8	0	6	0	4	73	7	80
07:30	0	0	0	95	0	1	0	4	0	0	0	11	0	15	0	2	112	16	128
07:45	0	0	0	125	0	1	0	4	0	0	0	12	0	15	0	5	146	16	162
Total	0	1	0	364	0	2	0	16	0	0	0	33	0	36	4	15	428	43	471
08:00	0	0	0	127	0	0	0	4	0	1	0	7	0	14	0	4	142	15	157
08:15	0	1	0	174	0	1	0	7	0	0	0	11	0	15	1	9	201	18	219
08:30	0	0	0	155	0	0	0	4	0	0	0	4	0	21	0	2	165	21	186
08:45	0	0	0	118	0	2	0	2	0	0	0	8	0	16	1	1	129	19	148
Total	0	1	0	574	0	3	0	17	0	1	0	30	0	66	2	16	637	73	710
Grand Total	0	2	0	938	0	5	0	33	0	1	0	63	0	102	6	31	1065	116	1181
Apprch %	0	100	0		0	100	0		0	100	0		0	94.4	5.6				
Total %	0	1.7	0		0	4.3	0		0	0.9	0		0	87.9	5.2		90.2	9.8	

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	14	0	14	15
08:15	0	**1**	0	**1**	0	1	0	1	0	0	0	0	0	15	**1**	16	18
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	**21**	0	**21**	**21**
08:45	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	16	1	17	19
Total Volume	0	1	0	1	0	3	0	3	0	1	0	1	0	66	2	68	73
% App. Total	0	100	0		0	100	0		0	100	0		0	97.1	2.9		
PHF	.000	.250	.000	.250	.000	.375	.000	.375	.000	.250	.000	.250	.000	.786	.500	.810	.869

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cross Peds

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Int. Total
07:00	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	49
07:15	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32
07:30	0	0	0	69	0	0	0	0	0	0	0	0	0	0	0	0	69
07:45	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	81
Total	0	0	0	231	0	0	0	0	0	0	0	0	0	0	0	0	231
08:00	0	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	63
08:15	0	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	93
08:30	0	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	88
08:45	0	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	64
Total	0	0	0	308	0	0	0	0	0	0	0	0	0	0	0	0	308
Grand Total	0	0	0	539	0	0	0	0	0	0	0	0	0	0	0	0	539
Apprch %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Riverway From North					Longwood Ave From East					Riverway From South					Longwood Ave From West					
Start Time	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	81	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
08:00	0	0	0	63	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63
08:15	0	0	0	**93**	**93**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**93**
08:30	0	0	0	88	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
Total Volume	0	0	0	325	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.874	.874	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.874

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cars - Trucks

	Riverway From North			Longwood Ave From East			Riverway From South			Longwood Ave From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
16:00	1	302	25	27	61	7	72	153	4	19	49	40	760
16:15	0	283	39	23	74	17	57	135	4	18	41	43	734
16:30	0	270	37	19	76	12	63	155	1	16	53	14	716
16:45	0	312	36	22	75	7	54	146	5	13	54	45	769
Total	1	1167	137	91	286	43	246	589	14	66	197	142	2979
17:00	0	282	56	18	64	7	41	119	3	16	58	45	709
17:15	0	328	55	19	83	4	50	155	7	15	57	63	836
17:30	0	249	42	12	60	3	44	144	4	20	61	39	678
17:45	0	307	54	12	75	7	54	149	4	16	48	43	769
Total	0	1166	207	61	282	21	189	567	18	67	224	190	2992
Grand Total	1	2333	344	152	568	64	435	1156	32	133	421	332	5971
Apprch %	0	87.1	12.8	19.4	72.4	8.2	26.8	71.2	2	15	47.5	37.5	
Total %	0	39.1	5.8	2.5	9.5	1.1	7.3	19.4	0.5	2.2	7.1	5.6	
Cars	1	2318	344	152	565	58	435	1153	32	132	420	331	5941
% Cars	100	99.4	100	100	99.5	90.6	100	99.7	100	99.2	99.8	99.7	99.5
Trucks	0	15	0	0	3	6	0	3	0	1	1	1	30
% Trucks	0	0.6	0	0	0.5	9.4	0	0.3	0	0.8	0.2	0.3	0.5

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	270	37	307	19	76	**12**	**107**	**63**	**155**	1	**219**	**16**	53	14	83	716
16:45	0	312	36	348	**22**	75	7	104	54	146	5	205	13	54	45	112	769
17:00	0	282	**56**	338	18	64	7	89	41	119	3	163	16	**58**	45	119	709
17:15	0	**328**	55	**383**	19	**83**	4	106	50	155	**7**	212	15	57	**63**	**135**	**836**
Total Volume	0	1192	184	1376	78	298	30	406	208	575	16	799	60	222	167	449	3030
% App. Total	0	86.6	13.4		19.2	73.4	7.4		26	72	2		13.4	49.4	37.2		
PHF	.000	.909	.821	.898	.886	.898	.625	.949	.825	.927	.571	.912	.938	.957	.663	.831	.906
Cars	0	1186	184	1370	78	296	26	400	208	572	16	796	60	222	167	449	3015
% Cars	0	99.5	100	99.6	100	99.3	86.7	98.5	100	99.5	100	99.6	100	100	100	100	99.5
Trucks	0	6	0	6	0	2	4	6	0	3	0	3	0	0	0	0	15
% Trucks	0	0.5	0	0.4	0	0.7	13.3	1.5	0	0.5	0	0.4	0	0	0	0	0.5

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Trucks

	Riverway From North			Longwood Ave From East			Riverway From South			Longwood Ave From West			
Start Time	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Left	Thru	Rght	Int. Total
16:00	0	2	0	0	0	1	0	0	0	1	1	0	5
16:15	0	2	0	0	0	1	0	0	0	0	0	1	4
16:30	0	1	0	0	1	2	0	0	0	0	0	0	4
16:45	0	1	0	0	0	1	0	2	0	0	0	0	4
Total	0	6	0	0	1	5	0	2	0	1	1	1	17
17:00	0	3	0	0	0	1	0	0	0	0	0	0	4
17:15	0	1	0	0	1	0	0	1	0	0	0	0	3
17:30	0	1	0	0	1	0	0	0	0	0	0	0	2
17:45	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	9	0	0	2	1	0	1	0	0	0	0	13
Grand Total	0	15	0	0	3	6	0	3	0	1	1	1	30
Apprch %	0	100	0	0	33.3	66.7	0	100	0	33.3	33.3	33.3	
Total %	0	50	0	0	10	20	0	10	0	3.3	3.3	3.3	

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	**2**	0	**2**	0	0	1	1	0	0	0	0	**1**	**1**	0	**2**	**5**
16:15	0	2	0	2	0	0	1	1	0	0	0	0	0	0	**1**	1	4
16:30	0	1	0	1	0	**1**	**2**	**3**	0	0	0	0	0	0	0	0	4
16:45	0	1	0	1	0	0	1	1	0	**2**	0	**2**	0	0	0	0	4
Total Volume	0	6	0	6	0	1	5	6	0	2	0	2	1	1	1	3	17
% App. Total	0	100	0		0	16.7	83.3		0	100	0		33.3	33.3	33.3		
PHF	.000	.750	.000	.750	.000	.250	.625	.500	.000	.250	.000	.250	.250	.250	.250	.375	.850

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Bikes Peds

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	1	76	0	12	0	2	0	0	1	5	0	0	0	0	83	14	97
16:15	0	0	0	121	0	9	0	3	0	1	1	2	0	3	0	1	127	14	141
16:30	0	0	0	118	0	10	0	3	1	0	0	0	0	1	0	0	121	12	133
16:45	0	1	0	125	0	10	0	4	0	0	0	2	0	1	0	1	132	12	144
Total	0	1	1	440	0	41	0	12	1	1	2	9	0	5	0	2	463	52	515
17:00	0	0	0	208	0	16	0	4	2	0	0	3	0	1	0	1	216	19	235
17:15	0	0	0	147	0	11	0	3	1	0	0	0	0	2	0	0	150	14	164
17:30	0	0	1	138	0	18	0	8	0	0	0	1	0	3	0	0	147	22	169
17:45	0	0	0	143	0	13	0	7	2	0	0	3	0	0	0	0	153	15	168
Total	0	0	1	636	0	58	0	22	5	0	0	7	0	6	0	1	666	70	736
Grand Total	0	1	2	1076	0	99	0	34	6	1	2	16	0	11	0	3	1129	122	1251
Apprch %	0	33.3	66.7		0	100	0		66.7	11.1	22.2		0	100	0				
Total %	0	0.8	1.6		0	81.1	0		4.9	0.8	1.6		0	9	0		90.2	9.8	

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	16	0	16	**2**	0	0	**2**	0	1	0	1	19
17:15	0	0	0	0	0	11	0	11	1	0	0	1	0	2	0	2	14
17:30	0	0	**1**	**1**	0	**18**	0	**18**	0	0	0	0	0	**3**	0	**3**	**22**
17:45	0	0	0	0	0	13	0	13	2	0	0	2	0	0	0	0	15
Total Volume	0	0	1	1	0	58	0	58	5	0	0	5	0	6	0	6	70
% App. Total	0	0	100		0	100	0		100	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.806	.000	.806	.625	.000	.000	.625	.000	.500	.000	.500	.795

Accurate Counts
978-664-2565

N/S Street : Riverway
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Clear

File Name : 11167013
Site Code : 11167013
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cross Peds

	Riverway From North				Longwood Ave From East				Riverway From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Int. Total
16:00	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	23
16:15	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
16:30	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	45
16:45	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
Total	0	0	0	136	0	0	0	0	0	0	0	0	0	0	0	0	136
17:00	0	0	0	84	0	0	0	0	0	0	0	0	0	0	0	0	84
17:15	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	58
17:30	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	48
17:45	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	41
Total	0	0	0	231	0	0	0	0	0	0	0	0	0	0	0	0	231
Grand Total	0	0	0	367	0	0	0	0	0	0	0	0	0	0	0	0	367
Apprch %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Riverway From North					Longwood Ave From East					Riverway From South					Longwood Ave From West					
Start Time	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	**84**	**84**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**84**
17:15	0	0	0	58	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
17:30	0	0	0	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
17:45	0	0	0	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Total Volume	0	0	0	231	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	231
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.688	.688	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.688

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Cars - Trucks

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	0	2	43	24	33	22	19	0	0	0	19	27	69	11	19	100	189	289
07:15	0	0	2	34	19	49	16	12	0	0	0	25	28	95	19	14	85	228	313
07:30	2	0	0	80	18	66	24	13	0	0	0	40	47	90	19	21	154	266	420
07:45	1	0	1	118	25	39	19	20	0	0	0	112	50	86	13	21	271	234	505
Total	4	0	5	275	86	187	81	64	0	0	0	196	152	340	62	75	610	917	1527
08:00	1	1	2	99	22	29	20	10	0	0	0	97	44	77	18	27	233	214	447
08:15	2	0	1	129	16	32	18	19	0	0	0	66	37	69	17	29	243	192	435
08:30	0	1	0	154	18	35	26	20	0	0	0	95	44	88	12	17	286	224	510
08:45	0	2	2	160	13	30	27	17	0	0	0	58	58	90	14	11	246	236	482
Total	3	4	5	542	69	126	91	66	0	0	0	316	183	324	61	84	1008	866	1874
Grand Total	7	4	10	817	155	313	172	130	0	0	0	512	335	664	123	159	1618	1783	3401
Apprch %	33.3	19	47.6		24.2	48.9	26.9		0	0	0		29.9	59.2	11				
Total %	0.4	0.2	0.6		8.7	17.6	9.6		0	0	0		18.8	37.2	6.9		47.6	52.4	
Cars	7	4	10		154	304	172		0	0	0		335	660	123		0	0	3387
% Cars	100	100	100	100	99.4	97.1	100	100	0	0	0	100	100	99.4	100	100	0	0	99.6
Trucks	0	0	0		1	9	0		0	0	0		0	4	0		0	0	14
% Trucks	0	0	0	0	0.6	2.9	0	0	0	0	0	0	0	0.6	0	0	0	0	0.4

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	**2**	2	19	49	16	84	0	0	0	0	28	**95**	**19**	142	228
07:30	**2**	0	0	2	18	**66**	**24**	**108**	0	0	0	0	47	90	19	**156**	**266**
07:45	1	0	1	2	**25**	39	19	83	0	0	0	0	**50**	86	13	149	234
08:00	1	**1**	2	**4**	22	29	20	71	0	0	0	0	44	77	18	139	214
Total Volume	4	1	5	10	84	183	79	346	0	0	0	0	169	348	69	586	942
% App. Total	40	10	50		24.3	52.9	22.8		0	0	0		28.8	59.4	11.8		
PHF	.500	.250	.625	.625	.840	.693	.823	.801	.000	.000	.000	.000	.845	.916	.908	.939	.885

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Trucks

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3	3
07:45	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	6	6
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
08:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4	4
08:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	0	0	0	1	4	0	0	0	0	0	0	0	3	0	0	0	8	8
Grand Total	0	0	0	0	1	9	0	0	0	0	0	0	0	4	0	0	0	14	14
Apprch %	0	0	0		10	90	0		0	0	0		0	100	0				
Total %	0	0	0		7.1	64.3	0		0	0	0		0	28.6	0		0	100	

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	2	0	2	0	0	0	0	0	**2**	0	**2**	**4**
Total Volume	0	0	0	0	0	5	0	5	0	0	0	0	0	3	0	3	8
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.375	.000	.375	.500

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Bikes

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	8	8
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	5
07:30	0	0	0	0	0	0	0	0	0	0	1	0	0	9	1	0	0	11	11
07:45	0	0	0	0	0	0	0	0	0	0	1	1	0	14	2	0	1	17	18
Total	0	0	0	0	0	0	0	0	0	0	2	1	0	32	7	0	1	41	42
08:00	1	0	0	0	0	1	0	0	0	0	0	0	0	21	1	0	0	24	24
08:15	0	0	0	0	0	1	0	0	0	0	0	0	0	32	1	0	0	34	34
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	24	2	0	0	26	26
08:45	0	0	0	0	0	1	0	0	0	0	0	0	0	4	2	0	0	7	7
Total	1	0	0	0	0	3	0	0	0	0	0	0	0	81	6	0	0	91	91
Grand Total	1	0	0	0	0	3	0	0	0	0	2	1	0	113	13	0	1	132	133
Apprch %	100	0	0		0	100	0		0	0	100		0	89.7	10.3				
Total %	0.8	0	0		0	2.3	0		0	0	1.5		0	85.6	9.8		0.8	99.2	

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	14	**2**	16	17
08:00	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0	0	21	1	22	24
08:15	0	0	0	0	0	1	0	1	0	0	0	0	0	**32**	1	**33**	**34**
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	24	2	26	26
Total Volume	1	0	0	1	0	2	0	2	0	0	1	1	0	91	6	97	101
% App. Total	100	0	0		0	100	0		0	0	100		0	93.8	6.2		
PHF	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.250	.250	.000	.711	.750	.735	.743

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Cars - Trucks

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	3	3	12	73	18	73	8	13	0	0	0	21	23	68	7	17	124	215	339
16:15	6	3	17	116	17	78	12	17	0	0	0	28	8	50	8	23	184	199	383
16:30	5	5	14	118	11	61	4	22	0	0	0	22	2	65	9	21	183	176	359
16:45	5	8	9	173	7	57	6	11	0	0	0	22	5	54	6	28	234	157	391
Total	19	19	52	480	53	269	30	63	0	0	0	93	38	237	30	89	725	747	1472
17:00	6	11	11	158	13	72	8	16	0	0	0	15	6	53	6	20	209	186	395
17:15	6	12	12	169	11	62	6	14	0	0	0	23	2	51	8	20	226	170	396
17:30	9	14	10	164	13	65	5	25	0	0	0	35	6	57	7	23	247	186	433
17:45	10	13	9	185	15	77	12	16	0	0	0	31	18	60	7	11	243	221	464
Total	31	50	42	676	52	276	31	71	0	0	0	104	32	221	28	74	925	763	1688
Grand Total	50	69	94	1156	105	545	61	134	0	0	0	197	70	458	58	163	1650	1510	3160
Apprch %	23.5	32.4	44.1		14.8	76.7	8.6		0	0	0		11.9	78.2	9.9				
Total %	3.3	4.6	6.2		7	36.1	4		0	0	0		4.6	30.3	3.8		52.2	47.8	
Cars	50	69	94		87	540	61		0	0	0		70	458	58		0	0	3137
% Cars	100	100	100	100	82.9	99.1	100	100	0	0	0	100	100	100	100	100	0	0	99.3
Trucks	0	0	0		18	5	0		0	0	0		0	0	0		0	0	23
% Trucks	0	0	0	0	17.1	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.7

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	6	11	11	28	13	72	8	93	0	0	0	0	6	53	6	65	186
17:15	6	12	**12**	30	11	62	6	79	0	0	0	0	2	51	**8**	61	170
17:30	9	**14**	10	**33**	13	65	5	83	0	0	0	0	6	57	7	70	186
17:45	**10**	13	9	32	**15**	**77**	**12**	**104**	0	0	0	0	**18**	**60**	7	**85**	**221**
Total Volume	31	50	42	123	52	276	31	359	0	0	0	0	32	221	28	281	763
% App. Total	25.2	40.7	34.1		14.5	76.9	8.6		0	0	0		11.4	78.6	10		
PHF	.775	.893	.875	.932	.867	.896	.646	.863	.000	.000	.000	.000	.444	.921	.875	.826	.863

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Trucks

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	4
16:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
16:30	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	4
16:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11	11
17:00	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4	4
17:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17:30	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	3
17:45	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	0	0	0	0	9	3	0	0	0	0	0	0	0	0	0	0	0	12	12
Grand Total	0	0	0	0	18	5	0	0	0	0	0	0	0	0	0	0	0	23	23
Apprch %	0	0	0		78.3	21.7	0		0	0	0		0	0	0				
Total %	0	0	0		78.3	21.7	0		0	0	0		0	0	0		0	100	

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	**3**	**1**	0	**4**	0	0	0	0	0	0	0	0	**4**
17:15	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	3
17:45	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	9	3	0	12	0	0	0	0	0	0	0	0	12
% App. Total	0	0	0		75	25	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.750	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.750

Accurate Counts
978-664-2565

N/S Street : Pilgrim Road
E/W Street: Longwood Avenue
City/State : Boston, MA
Weather : Cloudy

File Name : 111670A8
Site Code : 11167008
Start Date : 10/28/2010
Page No : 1

Groups Printed- Bikes

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West						
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	10	0	0	0	0	0	0	0	3	0	0	0	13	13
16:15	0	0	0	0	0	9	0	0	1	0	0	0	0	1	0	0	0	11	11
16:30	0	0	0	0	0	8	0	0	1	0	0	0	0	3	0	0	0	12	12
16:45	0	0	0	0	0	12	0	0	0	0	0	0	0	2	0	0	0	14	14
Total	0	0	0	0	0	39	0	0	2	0	0	0	0	9	0	0	0	50	50
17:00	0	0	0	0	0	16	0	0	0	0	0	0	0	3	0	0	0	19	19
17:15	0	0	0	0	0	25	0	0	1	0	0	0	0	4	0	0	0	30	30
17:30	0	0	0	0	1	20	0	0	0	0	0	0	0	1	0	0	0	22	22
17:45	0	0	0	0	1	19	0	0	2	0	0	0	0	1	0	0	0	23	23
Total	0	0	0	0	2	80	0	0	3	0	0	0	0	9	0	0	0	94	94
Grand Total	0	0	0	0	2	119	0	0	5	0	0	0	0	18	0	0	0	144	144
Apprch %	0	0	0		1.7	98.3	0		100	0	0		0	100	0				
Total %	0	0	0		1.4	82.6	0		3.5	0	0		0	12.5	0		0	100	

	Pilgrim Rd From North				Longwood Ave From East				Pilgrim Rd From South				Longwood Ave From West				
Start Time	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Left	Thru	Rght	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	16	0	16	0	0	0	0	0	3	0	3	19
17:15	0	0	0	0	0	**25**	0	**25**	1	0	0	1	0	**4**	0	**4**	**30**
17:30	0	0	0	0	**1**	20	0	21	0	0	0	0	0	1	0	1	22
17:45	0	0	0	0	1	19	0	20	**2**	0	0	**2**	0	1	0	1	23
Total Volume	0	0	0	0	2	80	0	82	3	0	0	3	0	9	0	9	94
% App. Total	0	0	0		2.4	97.6	0		100	0	0		0	100	0		
PHF	.000	.000	.000	.000	.500	.800	.000	.820	.375	.000	.000	.375	.000	.563	.000	.563	.783

MassDOT Crash Rate Worksheets

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston   COUNT DA' 2010

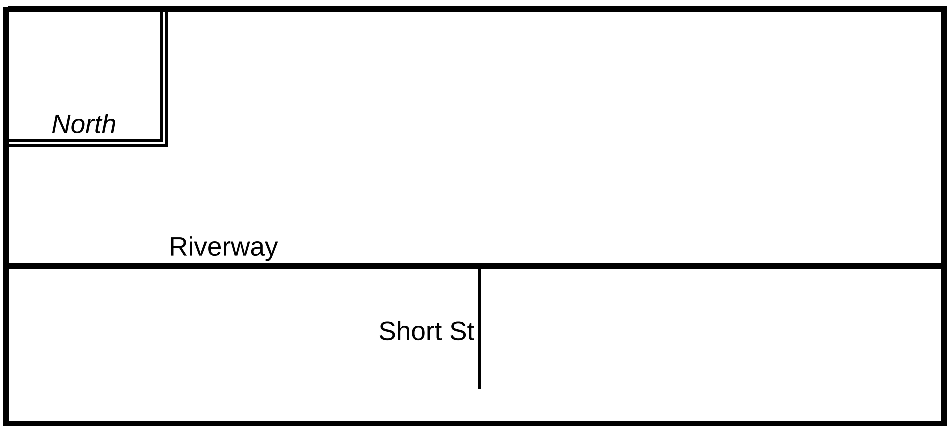
DISTRICT : 4   UNSIGNALIZED :   SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Riverway

MINOR STREET(S) : Short Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB			
PEAK HOURLY VOLUMES (AM/PM) :	727	1,355	212			2,294

" K " FACTOR : **0.090**   INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **25,489**

TOTAL # OF CRASHES : 2   # OF YEARS : 3   AVERAGE # OF CRASHES PER YEAR (**A**) : **0.67**

CRASH RATE CALCULATION : 0.07   RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston

COUNT DA 2010

DISTRICT : 4

UNSIGNALIZED :

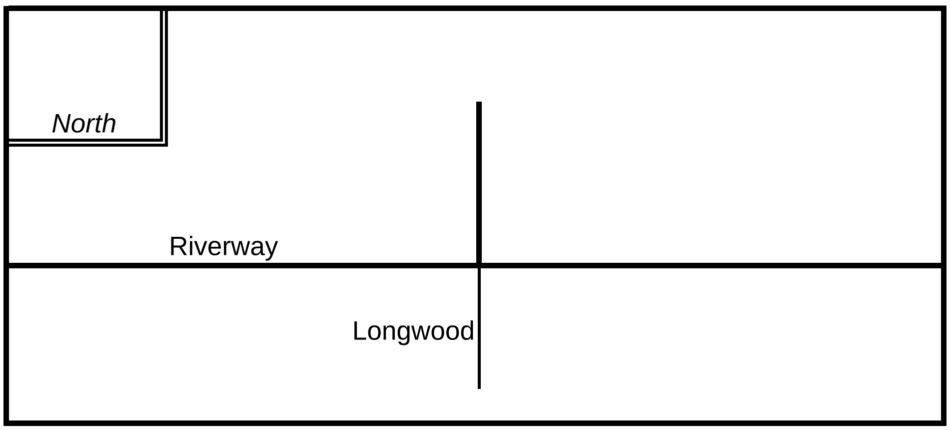
SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Riverway

MINOR STREET(S) : Longwood

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	820	1,507	364	481		**3,172**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **35,244**

TOTAL # OF CRASHES : 14

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **4.67**

CRASH RATE CALCULATION : **0.36**

$$RATE = \frac{(A * 1{,}000{,}000)}{(V * 365)}$$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston COUNT DA[illegible] 2010

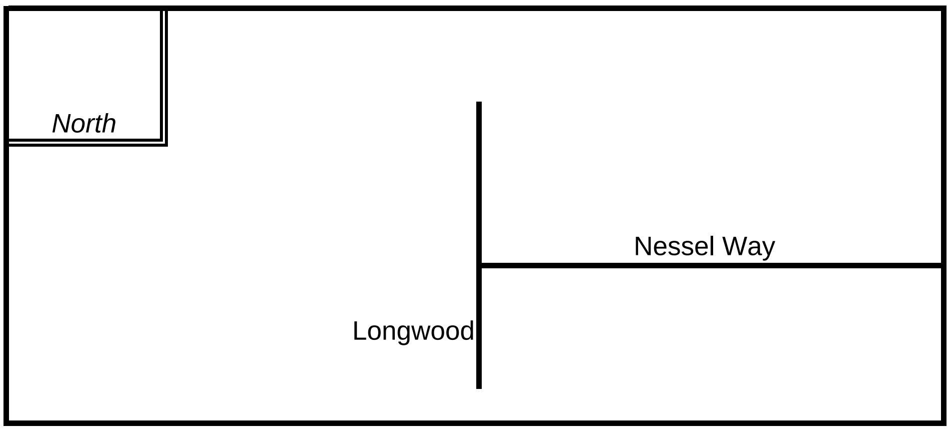
DISTRICT : 4 UNSIGNALIZED : x SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Longwood Ave

MINOR STREET(S) : Nessel Way

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	0	2	363	281		**646**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **7,178**

TOTAL # OF CRASHES : 1 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.33**

CRASH RATE CALCULATION : **0.13** RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston COUNT DATE 2010

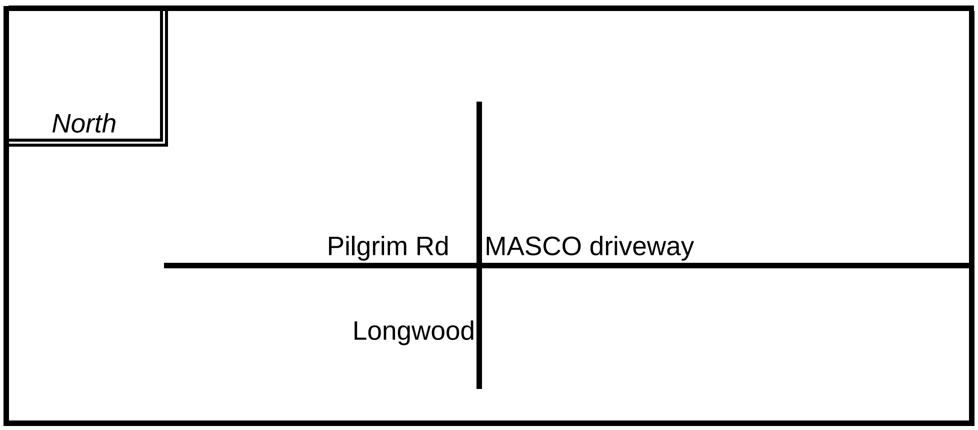
DISTRICT : 4 UNSIGNALIZED : x SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Longwood Ave

MINOR STREET(S) : Pilgrim Road/Masco Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	0	123	359	271		753

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **8,367**

TOTAL # OF CRASHES : 2 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.67**

CRASH RATE CALCULATION : 0.22 RATE = (A * 1,000,000) / (V * 365)

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston COUNT DATE 2010

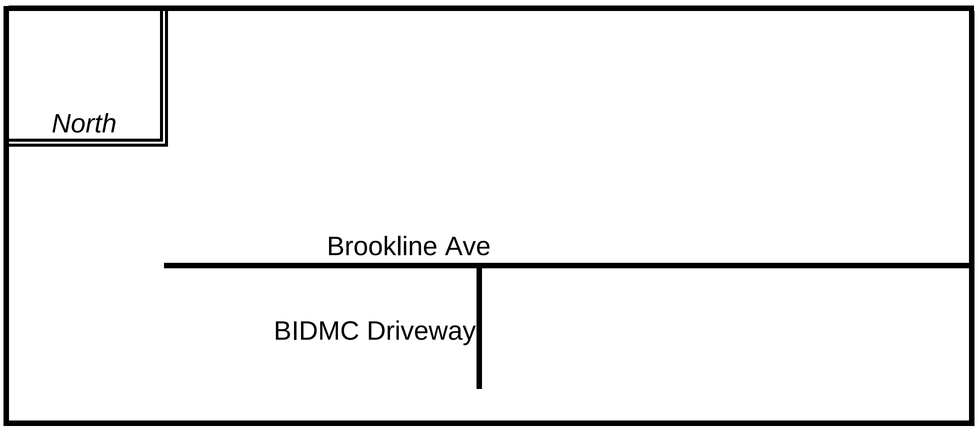
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Brookline Ave

MINOR STREET(S) : BIDMC Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	838	799	161			1,798

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **19,978**

TOTAL # OF CRASHES : 8 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **2.67**

CRASH RATE CALCULATION : **0.37** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

massDOT Highway — Moving Massachusetts Forward.

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston

COUNT DATE 2010

DISTRICT : 4

UNSIGNALIZED :

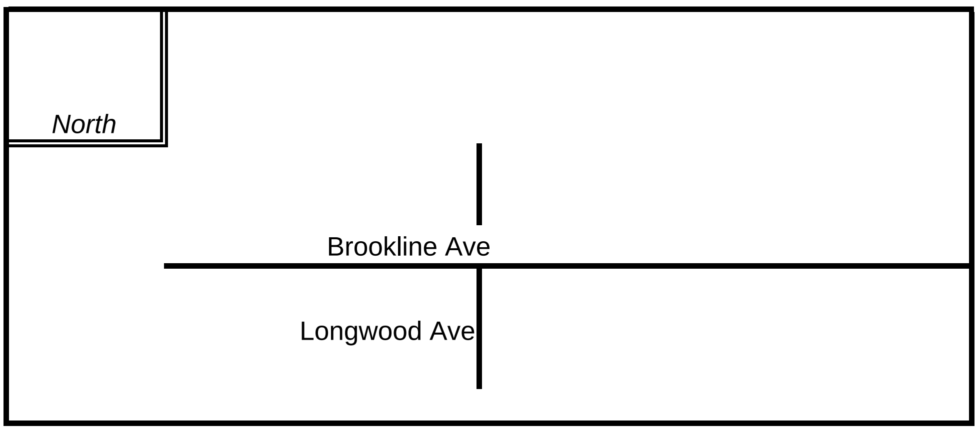
SIGNALIZED : x

~ INTERSECTION DATA ~

MAJOR STREET : Brookline Ave

MINOR STREET(S) : Longwood Ave

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	703	880	723	279		2,585

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **28,722**

TOTAL # OF CRASHES : 25

\# OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **8.33**

CRASH RATE CALCULATION : 0.79

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston COUNT DATE 2010

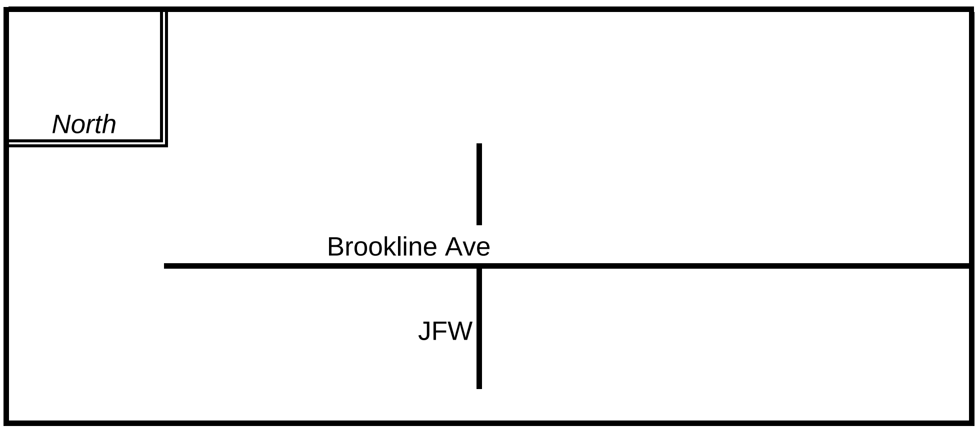
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : x

~ INTERSECTION DATA ~

MAJOR STREET : Brookline Ave

MINOR STREET(S) : JFW-Deaconess

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	548	1,015	164	124		1,851

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **20,567**

TOTAL # OF CRASHES : 5 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **1.67**

CRASH RATE CALCULATION : **0.22** RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston | COUNT DATE 2010

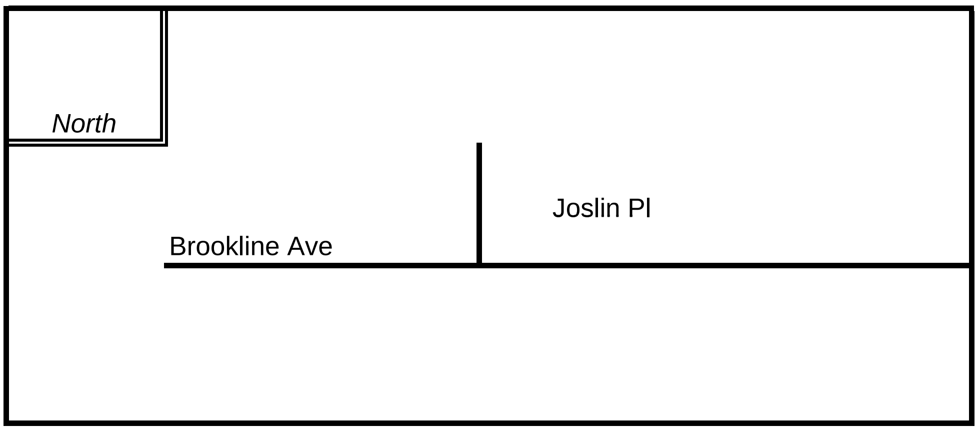
DISTRICT : 4 | UNSIGNALIZED : x | SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Brookline Ave

MINOR STREET(S) : Joslin Place

INTERSECTION DIAGRAM
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	696	1,054				1,750

" K " FACTOR : **0.090** | INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **19,444**

TOTAL # OF CRASHES : 2 | # OF YEARS : 3 | AVERAGE # OF CRASHES PER YEAR (**A**) : **0.67**

CRASH RATE CALCULATION : **0.09**

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

Moving Massachusetts Forward. massDOT Highway

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston

COUNT DATE 2010

DISTRICT : 4

UNSIGNALIZED :

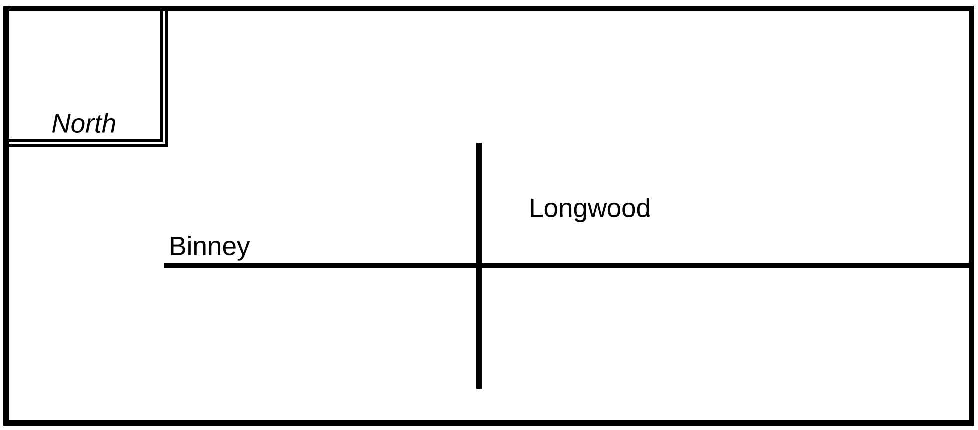
SIGNALIZED : x

~ INTERSECTION DATA ~

MAJOR STREET : Longwood Avenue

MINOR STREET(S) : Binney Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	151	233	618	488		1,490

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **16,556**

TOTAL # OF CRASHES : 7

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **2.33**

CRASH RATE CALCULATION : 0.39

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston COUNT DATE 2010

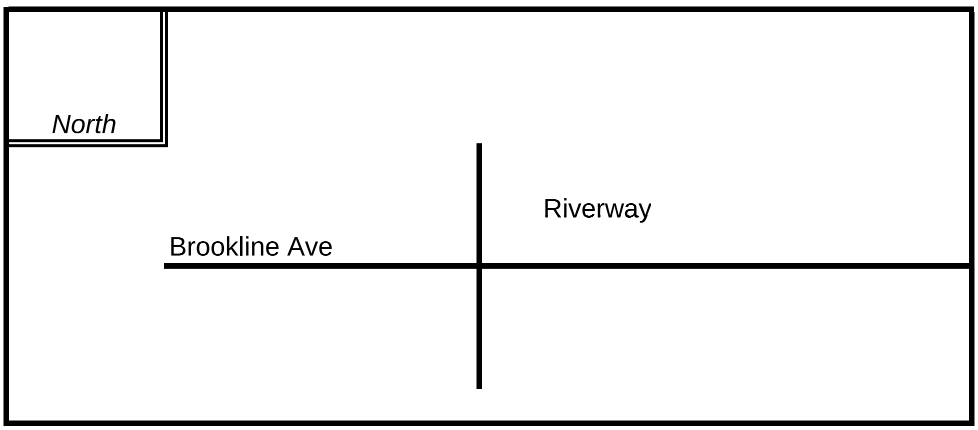
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED : x

~ INTERSECTION DATA ~

MAJOR STREET : Riverway

MINOR STREET(S) : Brookline Ave

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	**1**	**2**	**3**	**4**	**5**	**Total Peak Hourly Approach Volume**
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/**PM**) :	464	1,025	813	1,135		**3,437**

" K " FACTOR : **0.090** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **38,189**

TOTAL # OF CRASHES : 45 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **15.00**

CRASH RATE CALCULATION : **1.08** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date: Winsor - January 14, 2011

Trip Generation Calculations

Courtyard Expansion and Pilgrim Road Project Trip Gen

EXISTING TRIP GENERATION

AM Peak Hour	**In**	**Out**	**Total**
Site Parking Lot	66	4	70
Short St Lot	24	2	26
Buses	7	7	14
Student Drop-off	140	140	280
	237	153	**390**
PM Peak Hour	**In**	**Out**	**Total**
Site Parking Lot	21	56	77
Short Street Lot	0	38	38
Buses	0	0	0
Student Pick-up	23	26	49
	44	120	**164**

PROGRAM:

15 Staff

24 Students

EXISTING TRIP GEN RATES

AM PEAK HOUR

	student	employees
in	0.37	0.70
out	0.34	0.05

PM PEAK HOUR

	student	employees
in	0.05	0.19
out	0.06	0.85

PROJECT TRIP GENERATION (Courtyard and Pilgrim Rd Only)

Daily Winsor Vehicle Trips

AM Peak Hour	**In**	**Out**	**Total**
Employees	10	1	11
Students	9	8	17
Total	19	9	**28**
PM Peak Hour	**In**	**Out**	**Total**
Employees	3	13	16
Students	1	1	3
Total	4	14	18

2015 Trip Generation

AM Peak	
in	19
out	9
Total	28
PM Peak	
In	4
Out	14
Total	18

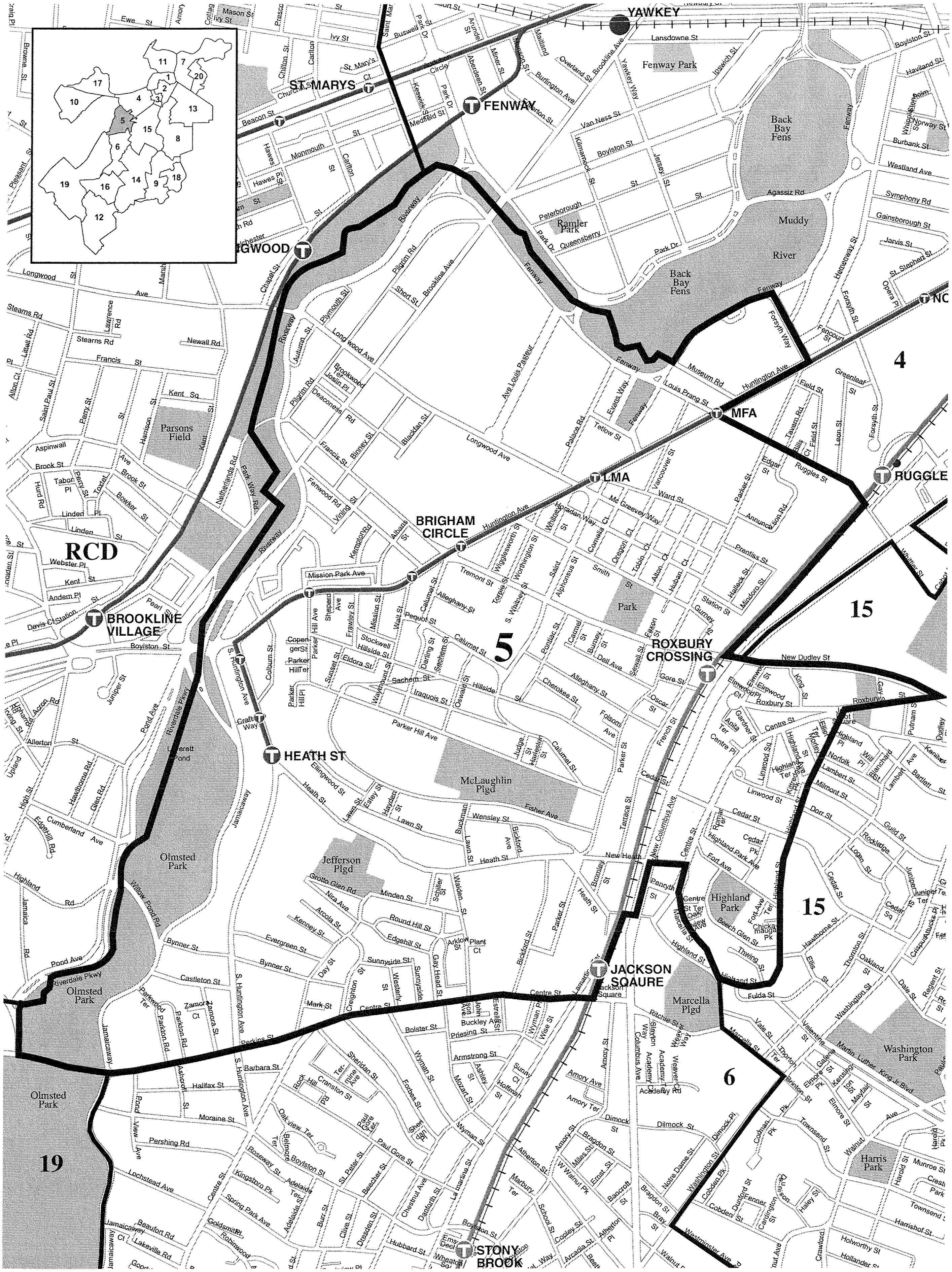
Winsor School
Longwood Avenue Project
Final Trip Generation, ITE

	Size	% In	% Out	Trip Rate	Unadjusted Vehicle Trips	VOR	Person Trips	Transit Share	Walk/Other Share	Vehicle Share	Local VOR	Transit Trips	Walk/Other Trips	Vehicle Trips
Additional Parking		4		484										484
In	121	2	50%	242										242
Out	spaces	2	50%	242										242
Daily R&D/Life Sciences				8.11	1890		2268					544	454	1058
In	233.0	50%		4.06	945	1.2	1134	24%	20%	56%	1.2	272	227	529
Out	ksf		50%	4.06	945	1.2	1134	24%	20%	56%	1.2	272	227	529
Daily MOD/Ambulatory				36.13	1084		1951					390	644	509
In	30.0	50%		18.07	542	1.8	976	20%	33%	47%	1.8	195	322	255
Out	ksf		50%	18.07	542	1.8	976	20%	33%	47%	1.8	195	322	255
Daily Office				11.01	330		396					95	79	185
In	30.0	50%		5.51	165	1.2	198	24%	20%	56%	1.2	48	40	92
Out	ksf		50%	5.51	165	1.2	198	24%	20%	56%	1.2	48	40	92
Daily Retail				42.94	301		541					108	179	141
In	7.0	50%		21.47	150	1.8	271	20%	33%	47%	1.8	54	89	71
Out	ksf		50%	21.47	150	1.8	271	20%	33%	47%	1.8	54	89	71
Total Daily					**3,604**		**5,156**					**1,138**	**1,355**	**2,378**
In					**1,802**		**2,578**					**569**	**678**	**1,189**
Out					**1,802**		**2,578**					**569**	**678**	**1,189**
Additional Parking				26										26
In	121		20%	24										24
Out	spaces		2%	2										2
AM R&D/Life Sciences				1.22	284		341					113	68	134
In	233.0	83%		1.01	236	1.2	283	33%	20%	47%	1.2	93	57	111
Out	ksf		17%	0.21	48	1.2	58	33%	20%	47%	1.2	19	12	23
AM MOD/Ambulatory				2.30	69		124					40	32	29
in	30.0	79%		1.82	55	1.8	98	32%	26%	42%	1.8	31	26	23
out	ksf		21%	0.48	14	1.8	26	32%	26%	42%	1.8	8	7	6
AM Office				1.55	47		56					18	11	22
In	30.0	88%		1.36	41	1.2	49	33%	20%	47%	1.2	16	10	19
Out	ksf		12%	0.19	6	1.2	7	33%	20%	47%	1.2	2	1	3
AM Retail				1.00	7		13					4	3	3
In	7.0	61%		0.61	4	1.8	8	32%	26%	42%	1.8	2	2	2
Out	ksf		39%	0.39	3	1.8	5	32%	26%	42%	1.8	2	1	1
Total AM Peak Hour					**407**		**534**					**175**	**115**	**213**
In					**336**		**438**					**143**	**94**	**179**
Out					**71**		**96**					**31**	**21**	**35**
Additional Parking				32										32
In	121		6%	7										7
Out	spaces		21%	25										25
PM R&D/Life Sciences				1.07	249		299					84	75	117
In	233.0	15%		0.16	37	1.2	45	28%	25%	47%	1.2	13	11	18
Out	ksf		85%	0.91	212	1.2	254	28%	25%	47%	1.2	71	64	100
PM MOD/Ambulatory				3.46	104		187					60	49	44
In	30.0	27%		0.93	28	1.8	50	32%	26%	42%	1.8	16	13	12
Out	ksf		73%	2.53	76	1.8	136	32%	26%	42%	1.8	44	35	32
PM Office				1.49	45		54					15	13	21
In	30.0	17%		0.25	8	1.2	9	28%	25%	47%	1.2	3	2	4
Out	ksf		83%	1.24	37	1.2	45	28%	25%	47%	1.2	12	11	17
PM Retail				3.73	26		47					15	12	11
In	7.0	49%		1.83	13	1.8	23	32%	26%	42%	1.8	7	6	5
Out	ksf		51%	1.90	13	1.8	24	32%	26%	42%	1.8	8	6	6
Total PM Peak Hour					**424**		**587**					**174**	**149**	**225**
In					**86**		**127**					**39**	**33**	**45**
Out					**338**		**459**					**135**	**116**	**179**

Land Use Codes
LUC 530 - High School (Employees)
LUC 760 - Research & Development
LUC 720 - MOD/Ambulatory
LUC 820 - Retail

Mode Split: BTD Zone 5 for Tennis Court Building, Wheelock Off-Campus for High School
Note: High School PM Peak Hour is for adjacent street peak hour not Generator peak hour

BTD Mode Share Guidelines – Area 5



YAWKEY
Fenway Park
ST MARYS
FENWAY
Back Bay Fens
Muddy River
Back Bay Fens
LONGWOOD
MFA
LMA
RUGGLES
BRIGHAM CIRCLE
RCD
BROOKLINE VILLAGE
Parsons Field
Ramler Park
5
4
15
15
6
19
ROXBURY CROSSING
HEATH ST
McLaughlin Plgd
Jefferson Plgd
Olmsted Park
Olmsted Park
Olmsted Park
Leverett Pond
Highland Park
Marcella Plgd
Washington Park
Harris Park
JACKSON SQUARE
STONY BROOK
10
17
11
7
2
1
3
20
4
13
5
15
8
6
19
16
14
9
18
12

Area 5

Trips Beginning by Origin Activity and Period

	All Purposes	Home	Work	Other
Daily average mode shares				
Auto	47%	46%	56%	35%
Transit	20%	15%	23%	21%
Walk	33%	38%	20%	44%
AM mode shares				
Auto	37%	37%	47%	27%
Transit	18%	17%	28%	23%
Walk	45%	45%	25%	50%
Rest of day mode shares				
Auto	48%	52%	56%	35%
Transit	20%	14%	23%	21%
Walk	31%	34%	20%	44%
PM mode shares				
Auto	42%	39%	47%	28%
Transit	31%	21%	32%	29%
Walk	26%	39%	20%	43%

Trips Ending by Destination Activity and Period

	All Purposes	Home	Work	Other
Daily average mode shares				
Auto	47%	46%	56%	35%
Transit	20%	15%	23%	21%
Walk	33%	38%	20%	44%
AM mode shares				
Auto	42%	39%	47%	28%
Transit	31%	21%	32%	29%
Walk	26%	39%	20%	43%
Rest of day mode shares				
Auto	48%	46%	63%	36%
Transit	17%	15%	16%	19%
Walk	35%	38%	20%	44%
PM mode shares				
Auto	37%	37%	47%	27%
Transit	18%	17%	28%	23%
Walk	45%	45%	25%	50%

Capacity Analyses

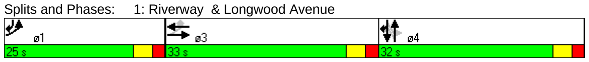
2010 Existing Conditions
2015 No-Build Conditions
2015 Build Conditions – Phase 1
2020 No-Build Conditions
2020 Build Conditions – Full Build
2020 Build Conditions – Proposed Signal at Longwood/Pilgrim

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			494			243			379	
Travel Time (s)		9.5			11.2			5.5			8.6	
Volume (vph)	328	831	93	0	867	57	34	201	26	109	356	94
Confl. Bikes (#/hr)			1			1			3			59
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Lane Group Flow (vph)	353	994	0	0	1032	68	45	303	0	0	495	100
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	25.0	33.0	0.0	0.0	33.0	33.0	32.0	32.0	0.0	32.0	32.0	57.0
Total Split (%)	27.8%	36.7%	0.0%	0.0%	36.7%	36.7%	35.6%	35.6%	0.0%	35.6%	35.6%	63.3%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.88	0.99			1.02	0.14	0.61	0.58			1.62	0.12
Control Delay	45.9	56.8			64.4	6.6	64.0	30.6			312.7	2.8
Queue Delay	0.0	0.0			0.0	0.0	0.0	32.4			0.0	0.0
Total Delay	45.9	56.8			64.4	6.6	64.0	63.0			312.7	2.8
Queue Length 50th (ft)	145	~320			~344	0	22	140			~400	9
Queue Length 95th (ft)	#296	#446			#417	24	#58	176			m#448	m9
Internal Link Dist (ft)		340			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	422	1006			1014	490	74	523			306	886
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	9	0	226			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.84	0.99			1.02	0.14	0.61	1.02			1.62	0.11

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.98			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1501	2951			3002	1315	1555	1661			1586	1505
Flt Permitted	0.13	1.00			1.00	1.00	0.15	1.00			0.61	1.00
Satd. Flow (perm)	208	2951			3002	1315	239	1661			982	1505
Volume (vph)	328	831	93	0	867	57	34	201	26	109	356	94
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Adj. Flow (vph)	353	894	100	0	1032	68	45	268	35	116	379	100
RTOR Reduction (vph)	0	9	0	0	0	45	0	6	0	0	0	0
Lane Group Flow (vph)	353	985	0	0	1032	23	45	297	0	0	495	100
Confl. Bikes (#/hr)			1			1			3			59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	48.0	29.4			29.4	29.4	27.0	27.0			27.0	50.6
Effective Green, g (s)	50.0	30.4			30.4	30.4	28.0	28.0			28.0	51.6
Actuated g/C Ratio	0.56	0.34			0.34	0.34	0.31	0.31			0.31	0.57
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	397	997			1014	444	74	517			306	863
v/s Ratio Prot	c0.19	0.33			c0.34			0.18				0.07
v/s Ratio Perm	0.30					0.02	0.19				c0.50	
v/c Ratio	0.89	0.99			1.02	0.05	0.61	0.58			1.62	0.12
Uniform Delay, d1	23.4	29.6			29.8	20.1	26.3	26.0			31.0	8.8
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.11	0.31
Incremental Delay, d2	20.8	25.2			32.8	0.0	32.0	4.6			285.4	0.0
Delay (s)	44.2	54.9			62.6	20.1	58.3	30.6			319.7	2.8
Level of Service	D	D			E	C	E	C			F	A
Approach Delay (s)		52.1			60.0			34.2			266.5	
Approach LOS		D			E			C			F	

Intersection Summary

HCM Average Control Delay	90.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	925	0	0	863	74	84	
Confl. Bikes (#/hr)		3					
Peak Hour Factor	0.93	0.93	0.82	0.82	0.61	0.61	
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%	
Lane Group Flow (vph)	995	0	0	1052	121	138	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.51			0.38	0.58	0.45	
Control Delay	15.5			13.2	46.9	11.4	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	15.5			13.2	46.9	11.4	
Queue Length 50th (ft)	203			134	65	0	
Queue Length 95th (ft)	280			156	78	10	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1961			2789	255	343	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.51			0.38	0.47	0.40	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.8
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4622	1472	1317
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4622	1472	1317
Volume (vph)	925	0	0	863	74	84
Peak-hour factor, PHF	0.93	0.93	0.82	0.82	0.61	0.61
Adj. Flow (vph)	995	0	0	1052	121	138
RTOR Reduction (vph)	0	0	0	0	0	121
Lane Group Flow (vph)	995	0	0	1052	121	17
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	50.4			50.4	10.1	10.1
Effective Green, g (s)	51.4			51.4	11.1	11.1
Actuated g/C Ratio	0.58			0.58	0.12	0.12
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1876			2669	184	164
v/s Ratio Prot	c0.31			0.23	c0.08	0.01
v/s Ratio Perm						
v/c Ratio	0.53			0.39	0.66	0.10
Uniform Delay, d1	11.4			10.3	37.1	34.5
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.1			0.4	8.2	0.3
Delay (s)	12.5			10.7	45.3	34.8
Level of Service	B			B	D	C
Approach Delay (s)	12.5			10.7	39.7	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

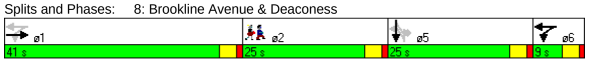
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		749			110			295			256		
Travel Time (s)		17.0			2.5			6.7			5.8		
Volume (vph)	0	796	6	5	575	0	32	0	54	44	14	33	
Confl. Bikes (#/hr)			13			5			2			8	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	882	0	0	623	0	40	0	68	76	81	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	41.0	0.0	9.0	9.0	0.0	25.0	0.0	25.0	25.0	25.0	0.0	25.0
Total Split (%)	0.0%	41.0%	0.0%	9.0%	9.0%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	25%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.85			0.38		0.41		0.38	0.50	0.42		
Control Delay		41.8			6.2		53.2		16.4	52.8	23.2		
Queue Delay		4.1			0.0		0.0		0.0	0.0	0.0		
Total Delay		45.9			6.2		53.2		16.4	52.8	23.2		
Queue Length 50th (ft)		285			53		24		0	47	14		
Queue Length 95th (ft)		m311			m67		50		30	55	24		
Internal Link Dist (ft)		669			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1033			1622		204		296	318	339		
Starvation Cap Reductn		0			0		0		0	0	0		
Spillback Cap Reductn		94			0		0		2	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.94			0.38		0.20		0.23	0.24	0.24		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 42 (42%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.98	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.89	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2790			2793		1310		1152	1512	1391	
Flt Permitted		1.00			0.96		0.68		1.00	0.95	1.00	
Satd. Flow (perm)		2790			2669		939		1152	1512	1391	
Volume (vph)	0	796	6	5	575	0	32	0	54	44	14	33
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58
Adj. Flow (vph)	0	875	7	5	618	0	40	0	68	76	24	57
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	62	0	52	0
Lane Group Flow (vph)	0	881	0	0	623	0	40	0	6	76	29	0
Confl. Bikes (#/hr)			13			5			2			8
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		35.4			58.3		8.9		8.9	8.9	8.9	
Effective Green, g (s)		35.4			58.3		8.9		8.9	8.9	8.9	
Actuated g/C Ratio		0.35			0.58		0.09		0.09	0.09	0.09	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		988			1584		84		103	135	124	
v/s Ratio Prot		c0.32			c0.09						0.02	
v/s Ratio Perm					0.14		0.04		0.01	c0.05		
v/c Ratio		0.89			0.39		0.48		0.06	0.56	0.23	
Uniform Delay, d1		30.5			11.3		43.3		41.7	43.7	42.4	
Progression Factor		1.30			0.49		1.00		1.00	1.00	1.00	
Incremental Delay, d2		4.8			0.4		4.2		0.2	5.3	1.0	
Delay (s)		44.6			6.0		47.5		42.0	49.0	43.4	
Level of Service		D			A		D		D	D	D	
Approach Delay (s)		44.6			6.0			44.0			46.1	
Approach LOS		D			A			D			D	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.8
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

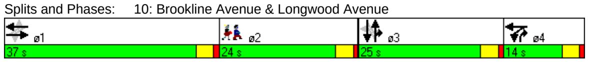
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	35	604	145	252	445	134	114	209	230	121	243	32	
Confl. Bikes (#/hr)			4			3			4			38	
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86	
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%	
Lane Group Flow (vph)	43	914	0	274	630	0	148	271	299	141	320	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	37.0	37.0	0.0	14.0	51.0	0.0	25.0	25.0	39.0	25.0	25.0	0.0	24.0
Total Split (%)	37.0%	37.0%	0.0%	14.0%	51.0%	0.0%	25.0%	25.0%	39.0%	25.0%	25.0%	0.0%	24%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	0.72	1.00		1.34	0.48		1.90	0.74	0.45	1.18	0.85		
Control Delay	65.6	46.1		203.6	18.5		469.7	46.6	2.4	176.9	58.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.2	0.0	0.0		
Total Delay	65.6	46.1		203.6	18.5		469.7	46.6	2.6	176.9	58.3		
Queue Length 50th (ft)	11	115		~190	86		~139	129	0	~109	195		
Queue Length 95th (ft)	m18	#360		m#340	m144		m#205	m179	m0	#217	#320		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	60	914		205	1303		78	366	668	119	375		
Starvation Cap Reductn	0	0		0	0		0	0	58	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	0.72	1.00		1.34	0.48		1.90	0.74	0.49	1.18	0.85		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 43 (43%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1430	2770		1444	2773		1391	1464	1245	1458	1500	
Flt Permitted	0.12	1.00		0.12	1.00		0.29	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	183	2770		184	2773		424	1464	1245	571	1500	
Volume (vph)	35	604	145	252	445	134	114	209	230	121	243	32
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	43	737	177	274	484	146	148	271	299	141	283	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	182	0	0	0
Lane Group Flow (vph)	43	914	0	274	630	0	148	271	117	141	320	0
Confl. Bikes (#/hr)			4			3			4			38
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Effective Green, g (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Actuated g/C Ratio	0.33	0.33		0.43	0.47		0.25	0.25	0.39	0.25	0.25	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	914		205	1303		106	366	486	143	375	
v/s Ratio Prot		0.33		c0.13	0.23			0.19	0.09		0.21	
v/s Ratio Perm	0.24			c0.44			c0.35			0.25		
v/c Ratio	0.72	1.00		1.34	0.48		1.40	0.74	0.24	0.99	0.85	
Uniform Delay, d1	29.4	33.5		24.7	18.2		37.5	34.5	20.5	37.3	35.8	
Progression Factor	0.68	0.59		1.56	0.95		0.95	0.97	0.15	1.00	1.00	
Incremental Delay, d2	37.7	23.9		172.4	0.2		222.5	7.3	0.2	70.4	16.9	
Delay (s)	57.7	43.8		211.0	17.5		257.9	40.9	3.3	107.8	52.7	
Level of Service	E	D		F	B		F	D	A	F	D	
Approach Delay (s)		44.4			76.2			70.0			69.5	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM Average Control Delay	63.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

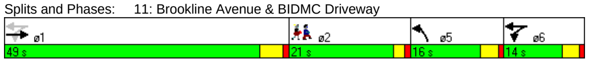
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	757	83	63	868	69	69	
Confl. Bikes (#/hr)		5					
Peak Hour Factor	0.89	0.89	0.91	0.91	0.65	0.65	
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%	
Lane Group Flow (vph)	944	0	0	1023	212	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	16.0		21.0
Total Split (s)	49.0	0.0	14.0	14.0	16.0	0.0	21.0
Total Split (%)	49.0%	0.0%	14.0%	14.0%	16.0%	0.0%	21%
Yellow Time (s)	4.0		3.0	3.0	3.0		2.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	0.69			0.69	0.93		
Control Delay	8.6			16.7	80.4		
Queue Delay	0.0			0.0	0.0		
Total Delay	8.6			16.7	80.4		
Queue Length 50th (ft)	96			196	111		
Queue Length 95th (ft)	m103			253	#135		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)							
Base Capacity (vph)	1364			1479	228		
Starvation Cap Reductn	0			0	0		
Spillback Cap Reductn	0			0	0		
Storage Cap Reductn	0			0	0		
Reduced v/c Ratio	0.69			0.69	0.93		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.93	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3013			3084	1556	
Flt Permitted	1.00			0.76	0.98	
Satd. Flow (perm)	3013			2365	1556	
Volume (vph)	757	83	63	868	69	69
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.65	0.65
Adj. Flow (vph)	851	93	69	954	106	106
RTOR Reduction (vph)	8	0	0	0	36	0
Lane Group Flow (vph)	936	0	0	1023	176	0
Confl. Bikes (#/hr)		5				
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	43.4			57.2	12.4	
Effective Green, g (s)	44.4			58.2	12.4	
Actuated g/C Ratio	0.44			0.58	0.12	
Clearance Time (s)	5.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1338			1476	193	
v/s Ratio Prot	c0.31			c0.10	c0.11	
v/s Ratio Perm				0.31		
v/c Ratio	0.70			0.69	0.91	
Uniform Delay, d1	22.4			14.6	43.3	
Progression Factor	0.33			1.00	1.00	
Incremental Delay, d2	1.4			2.7	40.8	
Delay (s)	8.8			17.3	84.1	
Level of Service	A			B	F	
Approach Delay (s)	8.8			17.3	84.1	
Approach LOS	A			B	F	

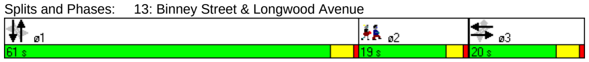
Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	82	44	89	49	36	69	56	402	56	101	423	116	
Confl. Bikes (#/hr)						1			4			43	
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87	
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0	
Lane Group Flow (vph)	0	259	0	0	97	78	0	559	0	0	735	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	20.0	61.0	61.0	0.0	61.0	61.0	0.0	19.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	20.0%	61.0%	61.0%	0.0%	61.0%	61.0%	0.0%	19%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		1.04			0.55	0.24		0.42			0.62		
Control Delay		106.3			52.9	10.9		12.8			8.7		
Queue Delay		0.0			0.0	0.0		0.0			0.6		
Total Delay		106.3			52.9	10.9		12.8			9.3		
Queue Length 50th (ft)		~191			59	0		94			57		
Queue Length 95th (ft)		#311			#133	38		134			m56		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		249			176	321		1335			1181		
Starvation Cap Reductn		0			0	0		0			155		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.04			0.55	0.24		0.42			0.72		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.94			1.00	0.85		0.98			0.97	
Flt Protected		0.98			0.97	1.00		0.99			0.99	
Satd. Flow (prot)		1411			1511	1304		2882			2686	
Flt Permitted		0.81			0.63	1.00		0.80			0.75	
Satd. Flow (perm)		1164			986	1304		2323			2033	
Volume (vph)	82	44	89	49	36	69	56	402	56	101	423	116
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	99	53	107	56	41	78	61	437	61	116	486	133
RTOR Reduction (vph)	0	24	0	0	0	63	0	10	0	0	19	0
Lane Group Flow (vph)	0	235	0	0	97	15	0	549	0	0	716	0
Confl. Bikes (#/hr)						1			4			43
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		55.2			55.2	
Effective Green, g (s)		19.8			19.8	19.8		56.2			56.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		230			195	258		1306			1143	
v/s Ratio Prot												
v/s Ratio Perm		c0.20			0.10	0.01		0.24			c0.35	
v/c Ratio		1.02			0.50	0.06		0.42			0.63	
Uniform Delay, d1		40.1			35.7	32.5		12.6			14.8	
Progression Factor		1.00			1.00	1.00		1.00			0.62	
Incremental Delay, d2		65.0			2.0	0.1		1.0			0.2	
Delay (s)		105.1			37.7	32.6		13.6			9.3	
Level of Service		F			D	C		B			A	
Approach Delay (s)		105.1			35.4			13.6			9.3	
Approach LOS		F			D			B			A	

Intersection Summary

HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

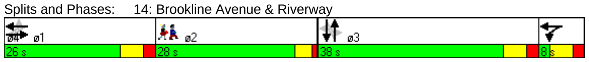
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		475			749			402			496		
Travel Time (s)		10.8			17.0			9.1			11.3		
Volume (vph)	211	521	3	228	381	15	6	938	478	0	610	66	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	222	551	0	248	430	0	0	1481	0	0	796	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	26.0	26.0	0.0	8.0	34.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0	28.0
Total Split (%)	26.0%	26.0%	0.0%	8.0%	34.0%	0.0%	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	28%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	3.47	0.87		1.88	0.50			1.01			0.54		
Control Delay	1164.7	53.3		441.9	19.8			52.2			20.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	1164.7	53.3		441.9	19.8			52.2			20.5		
Queue Length 50th (ft)	~253	179		~237	97			~584			203		
Queue Length 95th (ft)	#371	#272		#398	121			#723			247		
Internal Link Dist (ft)		395			669			322			416		
Turn Bay Length (ft)													
Base Capacity (vph)	64	635		132	864			1467			1485		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	3.47	0.87		1.88	0.50			1.01			0.54		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 58 (58%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	2887		1444	2872			2982			2958	
Flt Permitted	0.20	1.00		0.20	1.00			0.95			1.00	
Satd. Flow (perm)	315	2887		303	2872			2839			2958	
Volume (vph)	211	521	3	228	381	15	6	938	478	0	610	66
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	222	548	3	248	414	16	6	977	498	0	718	78
RTOR Reduction (vph)	0	0	0	0	3	0	0	49	0	0	6	0
Lane Group Flow (vph)	222	551	0	248	427	0	0	1433	0	0	790	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	18.4	18.4		20.4	26.4			48.0			48.0	
Effective Green, g (s)	20.4	20.4		24.4	28.4			50.0			50.0	
Actuated g/C Ratio	0.20	0.20		0.24	0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	64	589		120	816			1420			1479	
v/s Ratio Prot		0.19		c0.08	0.15						0.27	
v/s Ratio Perm	c0.71			0.42				c0.50				
v/c Ratio	3.47	0.94		2.07	0.52			1.01			0.53	
Uniform Delay, d1	39.8	39.2		36.9	30.1			25.0			17.1	
Progression Factor	1.00	1.00		0.65	0.62			1.00			1.00	
Incremental Delay, d2	1149.1	24.2		505.9	2.3			26.1			1.4	
Delay (s)	1188.9	63.3		529.7	20.9			51.1			18.4	
Level of Service	F	E		F	C			D			B	
Approach Delay (s)		386.6			207.0			51.1			18.4	
Approach LOS		F			F			D			B	

Intersection Summary

HCM Average Control Delay	142.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	909	57	16	921	3	16
Peak Hour Factor	0.95	0.95	0.83	0.83	0.59	0.59
Hourly flow rate (vph)	957	60	19	1110	5	27
Pedestrians					16	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.72		0.78	0.72
vC, conflicting volume			1033		1411	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			658		679	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		98	97
cM capacity (veh/h)			663		289	776

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	638	379	241	444	444	32
Volume Left	0	0	19	0	0	5
Volume Right	0	60	0	0	0	27
cSH	1700	1700	663	1700	1700	613
Volume to Capacity	0.38	0.22	0.03	0.26	0.26	0.05
Queue Length 95th (ft)	0	0	2	0	0	4
Control Delay (s)	0.0	0.0	1.2	0.0	0.0	11.2
Lane LOS			A			B
Approach Delay (s)	0.0		0.3			11.2
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	9	252	2	2	450
Peak Hour Factor	0.92	0.92	0.76	0.76	0.91	0.91
Hourly flow rate (vph)	10	10	332	3	2	495
Pedestrians	397		32			34
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	33		3			3
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.73					
vC, conflicting volume	1261	764			731	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1357	764			731	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	96			100	
cM capacity (veh/h)	78	263			590	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	334	497
Volume Left	10	0	2
Volume Right	10	3	0
cSH	120	1700	590
Volume to Capacity	0.16	0.20	0.00
Queue Length 95th (ft)	14	0	0
Control Delay (s)	40.8	0.0	0.1
Lane LOS	E		A
Approach Delay (s)	40.8	0.0	0.1
Approach LOS	E		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	6	1	4	81	166	81	178	322	67
Peak Hour Factor	0.25	0.25	0.25	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	7	1	4	107	218	107	196	354	74
Pedestrians		315			426			62			98	
Lane Width (ft)		0.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			38			5			7	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94				0.94		
vC, conflicting volume	1631	2061	768	1718	2045	796	742			751		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1672	2130	768	1765	2112	782	742			735		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	61	93	98	88			62		
cM capacity (veh/h)	29	16	387	17	16	213	865			508		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	12	107	325	196	427
Volume Left	7	107	0	196	0
Volume Right	4	0	107	0	74
cSH	25	865	1700	508	1700
Volume to Capacity	0.47	0.12	0.19	0.38	0.25
Queue Length 95th (ft)	36	10	0	45	0
Control Delay (s)	240.4	9.7	0.0	16.4	0.0
Lane LOS	F	A		C	
Approach Delay (s)	240.4	2.4		5.2	
Approach LOS	F				

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	4	0	66	88	0	0
Peak Hour Factor	0.33	0.33	0.63	0.63	0.92	0.92
Hourly flow rate (vph)	12	0	105	140	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	12	244
Volume Left (vph)	12	0
Volume Right (vph)	0	140
Hadj (s)	0.20	-0.33
Departure Headway (s)	4.3	3.6
Degree Utilization, x	0.01	0.24
Capacity (veh/h)	817	998
Control Delay (s)	7.4	7.7
Approach Delay (s)	7.4	7.7
Approach LOS	A	A

Intersection Summary			
Delay	7.7		
HCM Level of Service	A		
Intersection Capacity Utilization	13.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	71	818	580	42	0	0
Peak Hour Factor	0.91	0.91	0.93	0.93	0.25	0.25
Hourly flow rate (vph)	78	899	624	45	0	0
Pedestrians					226	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.92				0.76	0.92
vC, conflicting volume	895				1478	560
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	802				1004	439
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	89				100	100
cM capacity (veh/h)	725				164	527

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	78	449	449	416	253
Volume Left	78	0	0	0	0
Volume Right	0	0	0	0	45
cSH	725	1700	1700	1700	1700
Volume to Capacity	0.11	0.26	0.26	0.24	0.15
Queue Length 95th (ft)	9	0	0	0	0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	0.8			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	829	994	180	0	0
Peak Hour Factor	0.94	0.94	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	7	882	1130	205	0	0
Pedestrians					60	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.85	
vC, conflicting volume	1394				1748	727
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1394				1703	727
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	466				69	366

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	301	588	753	581
Volume Left	7	0	0	0
Volume Right	0	0	0	205
cSH	466	1700	1700	1700
Volume to Capacity	0.02	0.35	0.44	0.34
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

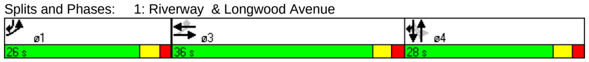
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		476			494			243			379	
Travel Time (s)		10.8			11.2			5.5			8.6	
Volume (vph)	189	613	18	0	1300	207	61	282	21	67	224	190
Confl. Bikes (#/hr)									58			6
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	203	678	0	0	1444	230	71	352	0	0	291	190
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	26.0	36.0	0.0	0.0	36.0	36.0	28.0	28.0	0.0	28.0	28.0	54.0
Total Split (%)	28.9%	40.0%	0.0%	0.0%	40.0%	40.0%	31.1%	31.1%	0.0%	31.1%	31.1%	60.0%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.52	0.57			1.23	0.35	0.44	0.79			1.24	0.24
Control Delay	17.7	24.6			137.2	5.8	37.6	44.5			151.6	5.8
Queue Delay	0.0	0.0			0.0	0.1	0.0	580.5			0.0	0.0
Total Delay	17.7	24.6			137.2	5.9	37.6	625.0			151.6	5.8
Queue Length 50th (ft)	50	162			~562	8	34	184			~201	30
Queue Length 95th (ft)	116	225			#705	58	74	#293			m127	m20
Internal Link Dist (ft)		396			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	445	1187			1178	653	162	448			234	861
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	40	0	294			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.46	0.57			1.23	0.38	0.44	2.29			1.24	0.22

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1516	3020			3002	1343	1555	1669			1634	1550
Flt Permitted	0.11	1.00			1.00	1.00	0.37	1.00			0.53	1.00
Satd. Flow (perm)	181	3020			3002	1343	606	1669			878	1550
Volume (vph)	189	613	18	0	1300	207	61	282	21	67	224	190
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Adj. Flow (vph)	203	659	19	0	1444	230	71	328	24	67	224	190
RTOR Reduction (vph)	0	2	0	0	0	126	0	3	0	0	0	0
Lane Group Flow (vph)	203	676	0	0	1444	104	71	349	0	0	291	190
Confl. Bikes (#/hr)									58			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	52.0	34.3			34.3	34.3	23.0	23.0			23.0	45.7
Effective Green, g (s)	54.0	35.3			35.3	35.3	24.0	24.0			24.0	46.7
Actuated g/C Ratio	0.60	0.39			0.39	0.39	0.27	0.27			0.27	0.52
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	386	1185			1177	527	162	445			234	804
v/s Ratio Prot	c0.11	0.22			c0.48			0.21				0.12
v/s Ratio Perm	0.21					0.08	0.12				c0.33	
v/c Ratio	0.53	0.57			1.23	0.20	0.44	0.78			1.24	0.24
Uniform Delay, d1	32.6	21.4			27.3	18.0	27.4	30.6			33.0	11.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.36	0.51
Incremental Delay, d2	1.3	0.7			109.8	0.2	8.4	13.0			113.0	0.0
Delay (s)	33.9	22.1			137.1	18.2	35.8	43.6			157.8	6.0
Level of Service	C	C			F	B	D	D			F	A
Approach Delay (s)		24.8			120.8			42.3			97.8	
Approach LOS		C			F			D			F	

Intersection Summary			
HCM Average Control Delay	83.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	G
Analysis Period (min)	15		

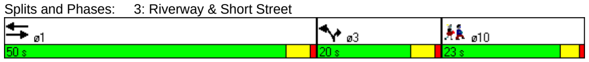
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	727	0	0	1355	113	99	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Lane Group Flow (vph)	782	0	0	1457	166	146	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.44			0.57	0.69	0.43	
Control Delay	14.9			16.3	51.8	10.5	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	14.9			16.3	51.8	10.5	
Queue Length 50th (ft)	154			221	92	0	
Queue Length 95th (ft)	204			269	116	19	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1774			2549	275	366	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.44			0.57	0.60	0.40	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.4
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4668	1501	1343
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4668	1501	1343
Volume (vph)	727	0	0	1355	113	99
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.68	0.68
Adj. Flow (vph)	782	0	0	1457	166	146
RTOR Reduction (vph)	0	0	0	0	0	123
Lane Group Flow (vph)	782	0	0	1457	166	23
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.1			46.1	12.8	12.8
Effective Green, g (s)	47.1			47.1	13.8	13.8
Actuated g/C Ratio	0.54			0.54	0.16	0.16
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1757			2524	238	213
v/s Ratio Prot	0.24			c0.31	c0.11	0.02
v/s Ratio Perm						
v/c Ratio	0.45			0.58	0.70	0.11
Uniform Delay, d1	12.1			13.4	34.7	31.4
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.8			1.0	8.6	0.2
Delay (s)	12.9			14.3	43.3	31.6
Level of Service	B			B	D	C
Approach Delay (s)	12.9			14.3	37.8	
Approach LOS	B			B	D	

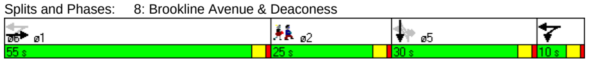
Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	87.1	Sum of lost time (s)	26.2
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		738			110			295			256		
Travel Time (s)		16.8			2.5			6.7			5.8		
Volume (vph)	0	534	14	7	1008	0	51	0	113	49	3	72	
Confl. Bikes (#/hr)			5			12			1			1	
Peak Hour Factor	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82	
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	559	0	0	1180	0	80	0	177	60	92	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	55.0	0.0	10.0	10.0	0.0	30.0	0.0	30.0	30.0	30.0	0.0	25.0
Total Split (%)	0.0%	45.8%	0.0%	8.3%	8.3%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	21%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.46			0.74		0.66		0.57	0.34	0.39		
Control Delay		17.6			10.9		73.2		14.1	51.2	14.8		
Queue Delay		0.1			0.0		0.0		0.0	0.0	0.0		
Total Delay		17.6			10.9		73.2		14.1	51.2	14.8		
Queue Length 50th (ft)		96			143		60		0	43	3		
Queue Length 95th (ft)		m110			189		73		8	73	39		
Internal Link Dist (ft)		658			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1218			1596		218		411	319	353		
Starvation Cap Reductn		0			11		0		0	0	0		
Spillback Cap Reductn		74			0		0		4	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.49			0.74		0.37		0.43	0.19	0.26		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.86	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2862			2902		1425		1257	1471	1309	
Flt Permitted		1.00			0.95		0.62		1.00	0.95	1.00	
Satd. Flow (perm)		2862			2769		926		1257	1471	1309	
Volume (vph)	0	534	14	7	1008	0	51	0	113	49	3	72
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	0	545	14	8	1172	0	80	0	177	60	4	88
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	155	0	77	0
Lane Group Flow (vph)	0	557	0	0	1180	0	80	0	22	60	15	0
Confl. Bikes (#/hr)			5			12			1			1
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		51.0			68.4		14.6		14.6	14.6	14.6	
Effective Green, g (s)		51.0			68.4		14.6		14.6	14.6	14.6	
Actuated g/C Ratio		0.42			0.57		0.12		0.12	0.12	0.12	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1216			1598		113		153	179	159	
v/s Ratio Prot		0.19			c0.11						0.01	
v/s Ratio Perm					c0.31		c0.09		0.02	0.04		
v/c Ratio		0.46			0.74		0.71		0.14	0.34	0.09	
Uniform Delay, d1		24.6			19.2		50.7		47.1	48.3	46.8	
Progression Factor		0.67			0.42		1.00		1.00	1.00	1.00	
Incremental Delay, d2		0.8			2.7		18.3		0.4	1.1	0.3	
Delay (s)		17.4			10.7		69.0		47.5	49.4	47.1	
Level of Service		B			B		E		D	D	D	
Approach Delay (s)		17.4			10.7			54.2			48.0	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	37.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

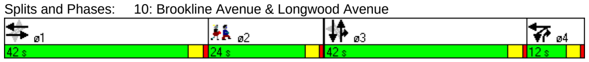
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	39	556	108	184	607	89	194	267	262	59	196	24	
Confl. Bikes (#/hr)			8			5			42			3	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%	
Lane Group Flow (vph)	41	699	0	207	782	0	204	281	276	66	247	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	42.0	42.0	0.0	12.0	54.0	0.0	42.0	42.0	54.0	42.0	42.0	0.0	24.0
Total Split (%)	35.0%	35.0%	0.0%	10.0%	45.0%	0.0%	35.0%	35.0%	45.0%	35.0%	35.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	0.80	0.78		0.89	0.63		0.88	0.56	0.38	0.31	0.48		
Control Delay	101.6	26.1		54.1	18.7		62.7	27.4	2.2	33.3	35.1		
Queue Delay	0.0	0.3		0.0	0.0		0.0	0.7	0.3	0.0	0.0		
Total Delay	101.6	26.4		54.1	18.7		62.7	28.1	2.5	33.3	35.1		
Queue Length 50th (ft)	31	280		~101	263		145	175	0	37	147		
Queue Length 95th (ft)	m#68	356		m#237	295		m#284	m208	m3	76	223		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	51	899		233	1250		241	522	733	226	534		
Starvation Cap Reductn	0	25		0	0		0	69	129	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	0.80	0.80		0.89	0.63		0.85	0.62	0.46	0.29	0.46		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1458	2836		1458	2851		1444	1520	1292	1501	1552	
Flt Permitted	0.11	1.00		0.21	1.00		0.47	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	162	2836		326	2851		715	1520	1292	671	1552	
Volume (vph)	39	556	108	184	607	89	194	267	262	59	196	24
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	41	585	114	207	682	100	204	281	276	66	220	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	152	0	0	0
Lane Group Flow (vph)	41	699	0	207	782	0	204	281	124	66	247	0
Confl. Bikes (#/hr)			8			5			42			3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	38.0	38.0		48.6	52.6		39.4	39.4	54.0	39.4	39.4	
Effective Green, g (s)	38.0	38.0		48.6	52.6		39.4	39.4	54.0	39.4	39.4	
Actuated g/C Ratio	0.32	0.32		0.40	0.44		0.33	0.33	0.45	0.33	0.33	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	898		232	1250		235	499	581	220	510	
v/s Ratio Prot		0.25		c0.08	0.27			0.18	0.10		0.16	
v/s Ratio Perm	0.25			c0.28			c0.29			0.10		
v/c Ratio	0.80	0.78		0.89	0.63		0.87	0.56	0.21	0.30	0.48	
Uniform Delay, d1	37.6	37.2		28.3	26.1		37.9	33.2	20.1	30.0	32.2	
Progression Factor	0.52	0.53		0.60	0.61		0.74	0.70	0.35	1.00	1.00	
Incremental Delay, d2	73.1	6.1		28.0	0.8		25.1	1.3	0.2	0.8	0.7	
Delay (s)	92.7	25.9		45.0	16.8		53.2	24.7	7.2	30.8	32.9	
Level of Service	F	C		D	B		D	C	A	C	C	
Approach Delay (s)		29.6			22.7			26.0			32.5	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

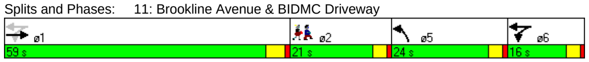
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	778	60	40	759	88	73	
Confl. Bikes (#/hr)		12					
Peak Hour Factor	0.93	0.93	0.90	0.90	0.77	0.77	
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%	
Lane Group Flow (vph)	902	0	0	887	209	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	21.0		20.0
Total Split (s)	59.0	0.0	16.0	16.0	24.0	0.0	21.0
Total Split (%)	49.2%	0.0%	13.3%	13.3%	20.0%	0.0%	18%
Yellow Time (s)	4.0		3.0	3.0	3.0		3.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	0.63			0.55	0.81		
Control Delay	21.0			15.2	65.3		
Queue Delay	0.0			0.0	0.0		
Total Delay	21.0			15.2	65.3		
Queue Length 50th (ft)	173			187	134		
Queue Length 95th (ft)	262			244	178		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)							
Base Capacity (vph)	1432			1622	290		
Starvation Cap Reductn	0			0	0		
Spillback Cap Reductn	0			0	0		
Storage Cap Reductn	0			0	0		
Reduced v/c Ratio	0.63			0.55	0.72		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 88 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3114			3147	1562	
Flt Permitted	1.00			0.86	0.97	
Satd. Flow (perm)	3114			2703	1562	
Volume (vph)	778	60	40	759	88	73
Peak-hour factor, PHF	0.93	0.93	0.90	0.90	0.77	0.77
Adj. Flow (vph)	837	65	44	843	114	95
RTOR Reduction (vph)	5	0	0	0	26	0
Lane Group Flow (vph)	897	0	0	887	183	0
Confl. Bikes (#/hr)		12				
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	54.0			69.1	17.9	
Effective Green, g (s)	55.0			70.1	17.9	
Actuated g/C Ratio	0.46			0.58	0.15	
Clearance Time (s)	5.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1427			1635	233	
v/s Ratio Prot	c0.29			c0.07	c0.12	
v/s Ratio Perm				0.25		
v/c Ratio	0.63			0.54	0.79	
Uniform Delay, d1	24.7			15.2	49.2	
Progression Factor	0.78			1.00	1.00	
Incremental Delay, d2	1.6			1.3	16.0	
Delay (s)	20.9			16.5	65.2	
Level of Service	C			B	E	
Approach Delay (s)	20.9			16.5	65.2	
Approach LOS	C			B	E	

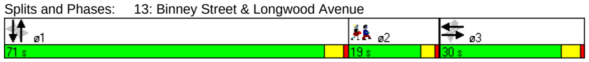
Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	48	20	83	45	59	129	51	546	21	30	367	91	
Confl. Bikes (#/hr)						3			76			11	
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85	
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0	
Lane Group Flow (vph)	0	186	0	0	121	150	0	665	0	0	574	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	71.0	71.0	0.0	71.0	71.0	0.0	19.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%	59.2%	59.2%	0.0%	59.2%	59.2%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		0.81			0.58	0.42		0.41			0.38		
Control Delay		60.0			56.2	10.0		13.9			17.1		
Queue Delay		0.0			0.0	0.0		0.0			0.2		
Total Delay		60.0			56.2	10.0		13.9			17.4		
Queue Length 50th (ft)		105			87	0		134			126		
Queue Length 95th (ft)		156			136	48		197			m147		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		289			275	422		1618			1497		
Starvation Cap Reductn		0			0	0		0			350		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.64			0.44	0.36		0.41			0.50		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.98		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.93			1.00	0.85		0.99			0.97	
Flt Protected		0.98			0.98	1.00		1.00			1.00	
Satd. Flow (prot)		1331			1641	1402		3102			2759	
Flt Permitted		0.76			0.68	1.00		0.85			0.88	
Satd. Flow (perm)		1032			1142	1402		2649			2431	
Volume (vph)	48	20	83	45	59	129	51	546	21	30	367	91
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	59	25	102	52	69	150	55	587	23	35	432	107
RTOR Reduction (vph)	0	39	0	0	0	125	0	2	0	0	14	0
Lane Group Flow (vph)	0	147	0	0	121	25	0	663	0	0	560	0
Confl. Bikes (#/hr)						3			76			11
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		72.2			72.2	
Effective Green, g (s)		19.8			19.8	19.8		73.2			73.2	
Actuated g/C Ratio		0.16			0.16	0.16		0.61			0.61	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		170			188	231		1616			1483	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.11	0.02		c0.25			0.23	
v/c Ratio		0.86			0.64	0.11		0.41			0.38	
Uniform Delay, d1		48.8			46.8	42.6		12.2			11.9	
Progression Factor		1.00			1.00	1.00		1.00			1.38	
Incremental Delay, d2		33.6			7.3	0.2		0.8			0.5	
Delay (s)		82.3			54.1	42.8		12.9			16.9	
Level of Service		F			D	D		B			B	
Approach Delay (s)		82.3			47.9			12.9			16.9	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

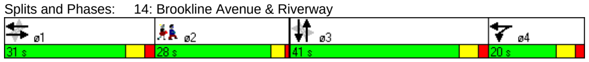
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		632			738			438			501		
Travel Time (s)		14.4			16.8			10.0			11.4		
Volume (vph)	110	347	7	397	621	7	12	572	229	0	1101	34	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87	
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	113	365	0	409	647	0	0	866	0	0	1305	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	31.0	31.0	0.0	20.0	51.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	28.0
Total Split (%)	25.8%	25.8%	0.0%	16.7%	42.5%	0.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	23%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	2.13	0.57		1.21	0.56			0.98			1.07		
Control Delay	592.1	45.4		149.4	38.7			61.6			81.3		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	592.1	45.4		149.4	38.7			61.6			81.3		
Queue Length 50th (ft)	~140	133		~281	179			~377			~632		
Queue Length 95th (ft)	#260	184		#483	278			#508			#730		
Internal Link Dist (ft)		552			658			358			421		
Turn Bay Length (ft)													
Base Capacity (vph)	53	642		337	1163			880			1223		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	2.13	0.57		1.21	0.56			0.98			1.07		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1510	2853		1486	2968			3006			2989	
Flt Permitted	0.15	1.00		0.39	1.00			0.79			1.00	
Satd. Flow (perm)	243	2853		606	2968			2376			2989	
Volume (vph)	110	347	7	397	621	7	12	572	229	0	1101	34
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	113	358	7	409	640	7	13	609	244	0	1266	39
RTOR Reduction (vph)	0	0	0	0	1	0	0	30	0	0	2	0
Lane Group Flow (vph)	113	365	0	409	646	0	0	836	0	0	1303	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	24.2	24.2		38.2	44.2			47.0			47.0	
Effective Green, g (s)	26.2	26.2		42.2	46.2			49.0			49.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.38			0.41			0.41	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	53	623		330	1143			970			1221	
v/s Ratio Prot		0.13		c0.16	0.22						c0.44	
v/s Ratio Perm	c0.47			0.27				0.35				
v/c Ratio	2.13	0.59		1.24	0.57			0.86			1.07	
Uniform Delay, d1	46.9	42.0		35.7	29.0			32.4			35.5	
Progression Factor	1.00	1.00		1.26	1.30			1.00			1.00	
Incremental Delay, d2	566.9	4.0		124.5	1.4			10.0			45.8	
Delay (s)	613.8	46.0		169.4	39.2			42.4			81.3	
Level of Service	F	D		F	D			D			F	
Approach Delay (s)		180.3			89.6			42.4			81.3	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	87.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	683	18	5	1463	44	44
Peak Hour Factor	0.90	0.90	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	759	20	5	1556	56	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.85		0.88	0.85
vC, conflicting volume			779		1298	389
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			571		477	115
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		88	93
cM capacity (veh/h)			865		455	788

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	506	273	317	623	623	111
Volume Left	0	0	5	0	0	56
Volume Right	0	20	0	0	0	56
cSH	1700	1700	865	1700	1700	577
Volume to Capacity	0.30	0.16	0.01	0.37	0.37	0.19
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.2	0.0	0.0	12.7
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			12.7
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	363	0	1	280
Peak Hour Factor	0.92	0.92	0.86	0.86	0.82	0.82
Hourly flow rate (vph)	1	1	422	0	1	341
Pedestrians	312		36			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	26		3			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.91	0.93			0.93	
vC, conflicting volume	1114	744			734	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1009	725			714	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	174	290			613	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	422	343
Volume Left	1	0	1
Volume Right	1	0	0
cSH	217	1700	613
Volume to Capacity	0.01	0.25	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	21.7	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	21.7	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	31	50	42	52	276	31	32	221	28
Peak Hour Factor	0.25	0.25	0.25	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	0	33	54	45	60	321	36	39	270	34
Pedestrians		104			300			71			74	
Lane Width (ft)		0.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			27			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.90	0.90	0.95	0.90	0.90	0.88	0.95			0.88		
vC, conflicting volume	1057	1247	462	1178	1246	713	408			657		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	981	1191	434	1116	1190	674	377			610		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	61	51	84	95			94		
cM capacity (veh/h)	76	111	565	85	111	278	1129			625		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	132	60	357	39	304
Volume Left	33	60	0	39	0
Volume Right	45	0	36	0	34
cSH	127	1129	1700	625	1700
Volume to Capacity	1.04	0.05	0.21	0.06	0.18
Queue Length 95th (ft)	184	4	0	5	0
Control Delay (s)	158.2	8.4	0.0	11.1	0.0
Lane LOS	F	A		B	
Approach Delay (s)	158.2	1.2		1.3	
Approach LOS	F				

Intersection Summary			
Average Delay	24.5		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	56	0	21	103	0	0
Peak Hour Factor	0.61	0.61	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	92	0	23	113	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	92	136
Volume Left (vph)	92	0
Volume Right (vph)	0	113
Hadj (s)	0.20	-0.50
Departure Headway (s)	4.2	3.5
Degree Utilization, x	0.11	0.13
Capacity (veh/h)	840	1022
Control Delay (s)	7.7	7.0
Approach Delay (s)	7.7	7.0
Approach LOS	A	A

Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9: Brookline Avenue & Joslin Place

11167.00 Winsor School
2010 Existing Conditions :: Weekday Evening Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	55	641	1015	39	0	0
Peak Hour Factor	0.98	0.98	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	56	654	1180	45	0	0
Pedestrians					155	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.82				0.88	0.82
vC, conflicting volume	1381				1797	768
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1244				1357	496
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				100	100
cM capacity (veh/h)	446				110	430

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	56	327	327	787	439
Volume Left	56	0	0	0	0
Volume Right	0	0	0	0	45
cSH	446	1700	1700	1700	1700
Volume to Capacity	0.13	0.19	0.19	0.46	0.26
Queue Length 95th (ft)	11	0	0	0	0
Control Delay (s)	14.2	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
12: Brookline Avenue & Pilgrim Road

11167.00 Winsor School
2010 Existing Conditions :: Weekday Evening Peak Hour

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	872	812	116	0	0
Peak Hour Factor	0.93	0.93	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	10	938	923	132	0	0
Pedestrians					145	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.82	
vC, conflicting volume	1200				1622	672
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1200				1541	672
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	572				86	398

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	322	625	615	439
Volume Left	10	0	0	0
Volume Right	0	0	0	132
cSH	572	1700	1700	1700
Volume to Capacity	0.02	0.37	0.36	0.26
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

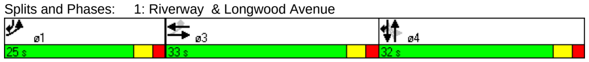
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		466			494			243			379	
Travel Time (s)		10.6			11.2			5.5			8.6	
Volume (vph)	340	875	60	0	915	60	40	220	30	110	405	95
Confl. Bikes (#/hr)			1			1			3			59
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Lane Group Flow (vph)	366	1006	0	0	1089	71	53	333	0	0	548	101
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	25.0	33.0	0.0	0.0	33.0	33.0	32.0	32.0	0.0	32.0	32.0	57.0
Total Split (%)	27.8%	36.7%	0.0%	0.0%	36.7%	36.7%	35.6%	35.6%	0.0%	35.6%	35.6%	63.3%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.91	1.00			1.08	0.15	0.73	0.64			1.93	0.12
Control Delay	50.0	61.4			84.2	6.5	81.5	32.6			444.2	3.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	90.6			0.0	0.0
Total Delay	50.0	61.4			84.2	6.5	81.5	123.2			444.2	3.0
Queue Length 50th (ft)	154	~328			~380	0	27	158			~478	10
Queue Length 95th (ft)	#316	#455			#452	25	#72	195			m#435	m7
Internal Link Dist (ft)		386			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	422	1001			1006	488	73	522			284	886
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	10	0	240			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.87	1.00			1.08	0.15	0.73	1.18			1.93	0.11

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



11167.00 Winsor School
2015 No-Build Conditions :: Weekday Morning Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1501	2969			3002	1315	1555	1660			1588	1505
Flt Permitted	0.13	1.00			1.00	1.00	0.14	1.00			0.57	1.00
Satd. Flow (perm)	209	2969			3002	1315	234	1660			911	1505
Volume (vph)	340	875	60	0	915	60	40	220	30	110	405	95
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Adj. Flow (vph)	366	941	65	0	1089	71	53	293	40	117	431	101
RTOR Reduction (vph)	0	5	0	0	0	47	0	6	0	0	0	0
Lane Group Flow (vph)	366	1001	0	0	1089	24	53	327	0	0	548	101
Confl. Bikes (#/hr)			1			1			3			59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	48.0	29.2			29.2	29.2	27.0	27.0			27.0	50.8
Effective Green, g (s)	50.0	30.2			30.2	30.2	28.0	28.0			28.0	51.8
Actuated g/C Ratio	0.56	0.34			0.34	0.34	0.31	0.31			0.31	0.58
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	400	996			1007	441	73	516			283	866
v/s Ratio Prot	c0.20	0.34			c0.36			0.20				0.07
v/s Ratio Perm	0.31					0.02	0.23				c0.60	
v/c Ratio	0.92	1.00			1.08	0.05	0.73	0.63			1.94	0.12
Uniform Delay, d1	24.1	29.9			29.9	20.2	27.6	26.6			31.0	8.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.17	0.35
Incremental Delay, d2	25.1	29.7			53.0	0.1	47.2	5.9			422.6	0.0
Delay (s)	49.2	59.6			82.9	20.3	74.8	32.5			458.8	3.1
Level of Service	D	E			F	C	E	C			F	A
Approach Delay (s)		56.8			79.1			38.3			387.9	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM Average Control Delay	122.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations	↑↑			↑↑↑	↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	970	0	0	915	75	85	
Confl. Bikes (#/hr)		3					
Peak Hour Factor	0.93	0.93	0.82	0.82	0.61	0.61	
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%	
Lane Group Flow (vph)	1043	0	0	1116	123	139	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.53			0.40	0.59	0.45	
Control Delay	16.0			13.5	47.1	11.4	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	16.0			13.5	47.1	11.4	
Queue Length 50th (ft)	217			145	66	0	
Queue Length 95th (ft)	299			168	79	10	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1960			2788	256	344	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.53			0.40	0.48	0.40	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.5
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4622	1472	1317
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4622	1472	1317
Volume (vph)	970	0	0	915	75	85
Peak-hour factor, PHF	0.93	0.93	0.82	0.82	0.61	0.61
Adj. Flow (vph)	1043	0	0	1116	123	139
RTOR Reduction (vph)	0	0	0	0	0	122
Lane Group Flow (vph)	1043	0	0	1116	123	17
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	50.2			50.2	10.1	10.1
Effective Green, g (s)	51.2			51.2	11.1	11.1
Actuated g/C Ratio	0.58			0.58	0.13	0.13
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1875			2668	184	165
v/s Ratio Prot	c0.32			0.24	c0.08	0.01
v/s Ratio Perm						
v/c Ratio	0.56			0.42	0.67	0.11
Uniform Delay, d1	11.7			10.5	37.0	34.4
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.2			0.5	8.9	0.3
Delay (s)	12.9			10.9	45.9	34.7
Level of Service	B			B	D	C
Approach Delay (s)	12.9			10.9	40.0	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	26.4
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

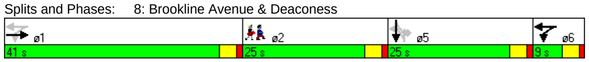
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		720			110			295			256		
Travel Time (s)		16.4			2.5			6.7			5.8		
Volume (vph)	0	1005	15	25	670	0	40	0	65	25	15	45	
Confl. Bikes (#/hr)			13			5			2			8	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	1120	0	0	747	0	50	0	81	43	104	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	41.0	0.0	9.0	9.0	0.0	25.0	0.0	25.0	25.0	25.0	0.0	25.0
Total Split (%)	0.0%	41.0%	0.0%	9.0%	9.0%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	25%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		1.09			0.54		0.51		0.41	0.26	0.47		
Control Delay		78.0			7.5		58.5		15.3	43.2	21.3		
Queue Delay		75.6			0.0		0.0		0.0	0.0	0.0		
Total Delay		153.6			7.5		58.5		15.3	43.2	21.3		
Queue Length 50th (ft)		~403			68		31		0	26	15		
Queue Length 95th (ft)		m#351			m95		58		31	35	23		
Internal Link Dist (ft)		640			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1032			1374		192		307	318	354		
Starvation Cap Reductn		0			0		0		0	0	0		
Spillback Cap Reductn		143			0		0		4	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		1.26			0.54		0.26		0.27	0.14	0.29		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 42 (42%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.98	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.89	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2787			2789		1310		1153	1512	1382	
Flt Permitted		1.00			0.88		0.60		1.00	0.95	1.00	
Satd. Flow (perm)		2787			2456		822		1153	1512	1382	
Volume (vph)	0	1005	15	25	670	0	40	0	65	25	15	45
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58
Adj. Flow (vph)	0	1104	16	27	720	0	50	0	81	43	26	78
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	72	0	70	0
Lane Group Flow (vph)	0	1119	0	0	747	0	50	0	9	43	34	0
Confl. Bikes (#/hr)			13			5			2			8
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		36.2			56.4		10.8		10.8	10.8	10.8	
Effective Green, g (s)		36.2			56.4		10.8		10.8	10.8	10.8	
Actuated g/C Ratio		0.36			0.56		0.11		0.11	0.11	0.11	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1009			1452		89		125	163	149	
v/s Ratio Prot		c0.40			c0.10						0.02	
v/s Ratio Perm					0.19		c0.06		0.01	0.03		
v/c Ratio		1.11			0.51		0.56		0.07	0.26	0.23	
Uniform Delay, d1		31.9			13.4		42.4		40.1	40.9	40.8	
Progression Factor		1.25			0.49		1.00		1.00	1.00	1.00	
Incremental Delay, d2		50.5			0.4		7.9		0.2	0.9	0.8	
Delay (s)		90.3			7.0		50.2		40.3	41.8	41.6	
Level of Service		F			A		D		D	D	D	
Approach Delay (s)		90.3			7.0			44.1			41.7	
Approach LOS		F			A			D			D	

Intersection Summary			
HCM Average Control Delay	55.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.8
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

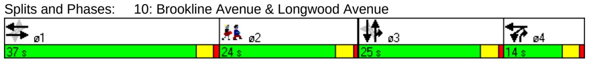
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	35	795	95	275	540	215	115	250	240	150	275	50	
Confl. Bikes (#/hr)			4			3			4			38	
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86	
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%	
Lane Group Flow (vph)	43	1086	0	299	821	0	149	325	312	174	378	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	37.0	37.0	0.0	14.0	51.0	0.0	25.0	25.0	39.0	25.0	25.0	0.0	24.0
Total Split (%)	37.0%	37.0%	0.0%	14.0%	51.0%	0.0%	25.0%	25.0%	39.0%	25.0%	25.0%	0.0%	24%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	0.72	1.17		1.46	0.64		2.13	0.89	0.46	2.23	1.02		
Control Delay	51.5	105.8		256.2	15.6		571.3	62.8	2.8	615.3	89.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.2	0.0	0.0		
Total Delay	51.5	105.8		256.2	15.6		571.3	62.8	3.0	615.3	89.6		
Queue Length 50th (ft)	13	~416		~225	80		~149	174	0	~180	~249		
Queue Length 95th (ft)	m14	m#376		m#377	m151		m#212	m#221	m0	#296	#406		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	60	928		205	1291		70	366	676	78	372		
Starvation Cap Reductn	0	0		0	0		0	0	60	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	0.72	1.17		1.46	0.64		2.13	0.89	0.51	2.23	1.02		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 43 (43%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1430	2811		1444	2747		1391	1464	1245	1458	1489	
Flt Permitted	0.12	1.00		0.12	1.00		0.19	1.00	1.00	0.28	1.00	
Satd. Flow (perm)	183	2811		184	2747		285	1464	1245	432	1489	
Volume (vph)	35	795	95	275	540	215	115	250	240	150	275	50
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	43	970	116	299	587	234	149	325	312	174	320	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	190	0	0	0
Lane Group Flow (vph)	43	1086	0	299	821	0	149	325	122	174	378	0
Confl. Bikes (#/hr)			4			3			4			38
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Effective Green, g (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Actuated g/C Ratio	0.33	0.33		0.43	0.47		0.25	0.25	0.39	0.25	0.25	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	928		205	1291		71	366	486	108	372	
v/s Ratio Prot		0.39		c0.15	0.30			0.22	0.10		0.25	
v/s Ratio Perm	0.24			c0.48			c0.52			0.40		
v/c Ratio	0.72	1.17		1.46	0.64		2.10	0.89	0.25	1.61	1.02	
Uniform Delay, d1	29.4	33.5		25.7	20.0		37.5	36.2	20.6	37.5	37.5	
Progression Factor	0.78	0.71		1.72	0.68		1.03	1.05	0.29	1.00	1.00	
Incremental Delay, d2	21.0	80.7		225.1	0.8		534.1	20.0	0.2	313.5	50.8	
Delay (s)	43.9	104.3		269.4	14.3		572.6	57.8	6.2	351.0	88.3	
Level of Service	D	F		F	B		F	E	A	F	F	
Approach Delay (s)		102.0			82.4			134.9			171.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	113.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

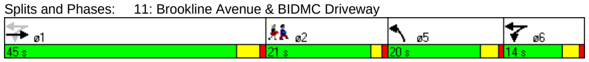
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	865	210	170	1030	100	85	
Confl. Bikes (#/hr)		5					
Peak Hour Factor	0.89	0.89	0.91	0.91	0.65	0.65	
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%	
Lane Group Flow (vph)	1208	0	187	1132	285	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	16.0		21.0
Total Split (s)	45.0	0.0	14.0	14.0	20.0	0.0	21.0
Total Split (%)	45.0%	0.0%	14.0%	14.0%	20.0%	0.0%	21%
Yellow Time (s)	4.0		3.0	3.0	3.0		2.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	0.98		0.71	0.63	0.94		
Control Delay	13.9		38.0	16.9	76.9		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	13.9		38.0	16.9	76.9		
Queue Length 50th (ft)	111		72	254	~167		
Queue Length 95th (ft)	m98		#196	327	#185		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1236		262	1786	303		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	0.98		0.71	0.63	0.94		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	2961		1547	3094	1562	
Flt Permitted	1.00		0.10	1.00	0.97	
Satd. Flow (perm)	2961		161	3094	1562	
Volume (vph)	865	210	170	1030	100	85
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.65	0.65
Adj. Flow (vph)	972	236	187	1132	154	131
RTOR Reduction (vph)	21	0	0	0	30	0
Lane Group Flow (vph)	1187	0	187	1132	255	0
Confl. Bikes (#/hr)		5				
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	39.4		52.1	52.1	17.5	
Effective Green, g (s)	40.4		53.1	53.1	17.5	
Actuated g/C Ratio	0.40		0.53	0.53	0.18	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1196		262	1767	273	
v/s Ratio Prot	c0.40		0.09	c0.08	c0.16	
v/s Ratio Perm			0.29	0.28		
v/c Ratio	0.99		0.71	0.64	0.94	
Uniform Delay, d1	29.6		21.6	16.7	40.7	
Progression Factor	0.26		1.00	1.00	1.00	
Incremental Delay, d2	6.2		15.3	1.8	37.1	
Delay (s)	13.9		36.9	18.5	77.8	
Level of Service	B		D	B	E	
Approach Delay (s)	13.9			21.1	77.8	
Approach LOS	B			C	E	

Intersection Summary

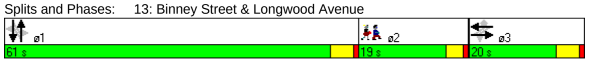
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	90	45	100	50	40	65	80	445	45	90	415	135	
Confl. Bikes (#/hr)						1			4			43	
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87	
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0	
Lane Group Flow (vph)	0	282	0	0	102	74	0	620	0	0	735	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	20.0	61.0	61.0	0.0	61.0	61.0	0.0	19.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	20.0%	61.0%	61.0%	0.0%	61.0%	61.0%	0.0%	19%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		1.15			0.59	0.23		0.50			0.62		
Control Delay		138.3			55.3	11.0		14.3			6.4		
Queue Delay		0.0			0.0	0.0		0.0			0.7		
Total Delay		138.3			55.3	11.0		14.3			7.2		
Queue Length 50th (ft)		~223			63	0		114			43		
Queue Length 95th (ft)		#345			#144	38		161			m34		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		246			173	318		1242			1190		
Starvation Cap Reductn		0			0	0		0			187		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.15			0.59	0.23		0.50			0.73		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.94			1.00	0.85		0.99			0.97	
Flt Protected		0.98			0.97	1.00		0.99			0.99	
Satd. Flow (prot)		1409			1512	1304		2893			2673	
Flt Permitted		0.80			0.62	1.00		0.74			0.76	
Satd. Flow (perm)		1143			970	1304		2161			2038	
Volume (vph)	90	45	100	50	40	65	80	445	45	90	415	135
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	108	54	120	57	45	74	87	484	49	103	477	155
RTOR Reduction (vph)	0	26	0	0	0	59	0	7	0	0	25	0
Lane Group Flow (vph)	0	256	0	0	102	15	0	613	0	0	710	0
Confl. Bikes (#/hr)						1			4			43
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		55.2			55.2	
Effective Green, g (s)		19.8			19.8	19.8		56.2			56.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		226			192	258		1214			1145	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.11	0.01		0.28			c0.35	
v/c Ratio		1.13			0.53	0.06		0.51			0.62	
Uniform Delay, d1		40.1			35.9	32.5		13.4			14.7	
Progression Factor		1.00			1.00	1.00		1.00			0.46	
Incremental Delay, d2		100.8			2.8	0.1		1.5			0.2	
Delay (s)		140.9			38.8	32.6		14.9			7.0	
Level of Service		F			D	C		B			A	
Approach Delay (s)		140.9			36.2			14.9			7.0	
Approach LOS		F			D			B			A	

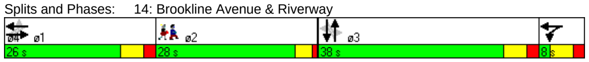
Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		454			720			358			477		
Travel Time (s)		10.3			16.4			8.1			10.8		
Volume (vph)	225	600	5	265	445	15	5	975	625	0	625	70	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	237	637	0	288	500	0	0	1672	0	0	817	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	26.0	26.0	0.0	8.0	34.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0	28.0
Total Split (%)	26.0%	26.0%	0.0%	8.0%	34.0%	0.0%	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	28%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	3.70	1.00		2.42	0.58			1.13			0.55		
Control Delay	1268.5	76.5		678.8	24.0			90.4			20.7		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	1268.5	76.5		678.8	24.0			90.4			20.7		
Queue Length 50th (ft)	~273	~216		~305	124			~700			210		
Queue Length 95th (ft)	#395	#336		#465	135			#840			255		
Internal Link Dist (ft)		374			640			278			397		
Turn Bay Length (ft)													
Base Capacity (vph)	64	635		119	864			1486			1485		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	3.70	1.00		2.42	0.58			1.13			0.55		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 58 (58%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	2886		1444	2874			2957			2957	
Flt Permitted	0.20	1.00		0.20	1.00			0.95			1.00	
Satd. Flow (perm)	315	2886		298	2874			2818			2957	
Volume (vph)	225	600	5	265	445	15	5	975	625	0	625	70
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	237	632	5	288	484	16	5	1016	651	0	735	82
RTOR Reduction (vph)	0	0	0	0	2	0	0	78	0	0	7	0
Lane Group Flow (vph)	237	637	0	288	498	0	0	1595	0	0	811	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	18.4	18.4		20.4	26.4			48.0			48.0	
Effective Green, g (s)	20.4	20.4		24.4	28.4			50.0			50.0	
Actuated g/C Ratio	0.20	0.20		0.24	0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	64	589		119	816			1409			1479	
v/s Ratio Prot		0.22		c0.10	0.17						0.27	
v/s Ratio Perm	c0.75			0.50				c0.57				
v/c Ratio	3.70	1.08		2.42	0.61			1.13			0.55	
Uniform Delay, d1	39.8	39.8		37.5	31.0			25.0			17.2	
Progression Factor	1.00	1.00		0.74	0.72			1.00			1.00	
Incremental Delay, d2	1253.8	61.0		660.4	2.9			68.7			1.5	
Delay (s)	1293.6	100.8		688.0	25.3			93.7			18.7	
Level of Service	F	F		F	C			F			B	
Approach Delay (s)		424.3			267.5			93.7			18.7	
Approach LOS		F			F			F			B	

Intersection Summary			
HCM Average Control Delay	181.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	955	60	15	975	5	15
Peak Hour Factor	0.95	0.95	0.83	0.83	0.59	0.59
Hourly flow rate (vph)	1005	63	18	1175	8	25
Pedestrians					16	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.71		0.77	0.71
vC, conflicting volume			1084		1481	550
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			714		708	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			624		276	766

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	670	398	253	470	470	34
Volume Left	0	0	18	0	0	8
Volume Right	0	63	0	0	0	25
cSH	1700	1700	624	1700	1700	531
Volume to Capacity	0.39	0.23	0.03	0.28	0.28	0.06
Queue Length 95th (ft)	0	0	2	0	0	5
Control Delay (s)	0.0	0.0	1.1	0.0	0.0	12.2
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			12.2
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	10	260	2	2	490
Peak Hour Factor	0.92	0.92	0.76	0.76	0.91	0.91
Hourly flow rate (vph)	11	11	342	3	2	538
Pedestrians	397		32			34
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	33		3			3
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.71					
vC, conflicting volume	1315	774			742	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1441	774			742	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	96			100	
cM capacity (veh/h)	68	259			585	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	345	541
Volume Left	11	0	2
Volume Right	11	3	0
cSH	107	1700	585
Volume to Capacity	0.20	0.20	0.00
Queue Length 95th (ft)	18	0	0
Control Delay (s)	46.9	0.0	0.1
Lane LOS	E		A
Approach Delay (s)	46.9	0.0	0.1
Approach LOS	E		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	1	30	6	1	5	180	180	85	180	370	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Hourly flow rate (vph)	5	1	33	7	1	5	237	237	112	198	407	71
Pedestrians		315			426			62			98	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		26			38			5			7	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked												
vC, conflicting volume	1967	2401	819	2090	2381	817	793			775		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1967	2401	819	2090	2381	817	793			775		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	37	81	88	0	82	97	61			62		
cM capacity (veh/h)	9	6	266	5	6	217	611			523		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	39	13	237	349	198	478
Volume Left	5	7	237	0	198	0
Volume Right	33	5	0	112	0	71
cSH	42	9	611	1700	523	1700
Volume to Capacity	0.93	1.40	0.39	0.21	0.38	0.28
Queue Length 95th (ft)	92	61	46	0	44	0
Control Delay (s)	267.2	982.5	14.6	0.0	16.0	0.0
Lane LOS	F	F	B		C	
Approach Delay (s)	267.2	982.5	5.9		4.7	
Approach LOS	F	F				

Intersection Summary			
Average Delay	22.8		
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	5	0	65	90	0	0
Peak Hour Factor	0.33	0.33	0.63	0.63	0.92	0.92
Hourly flow rate (vph)	15	0	103	143	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	15	246
Volume Left (vph)	15	0
Volume Right (vph)	0	143
Hadj (s)	0.20	-0.33
Departure Headway (s)	4.3	3.6
Degree Utilization, x	0.02	0.24
Capacity (veh/h)	817	999
Control Delay (s)	7.4	7.7
Approach Delay (s)	7.4	7.7
Approach LOS	A	A

Intersection Summary			
Delay	7.7		
HCM Level of Service	A		
Intersection Capacity Utilization	13.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	120	965	695	45	0	0
Peak Hour Factor	0.91	0.91	0.93	0.93	0.25	0.25
Hourly flow rate (vph)	132	1060	747	48	0	0
Pedestrians					226	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked					0.65	
vC, conflicting volume	1022				1791	624
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1022				1680	624
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	80				100	100
cM capacity (veh/h)	646				45	433

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	132	530	530	498	297
Volume Left	132	0	0	0	0
Volume Right	0	0	0	0	48
cSH	646	1700	1700	1700	1700
Volume to Capacity	0.20	0.31	0.31	0.29	0.17
Queue Length 95th (ft)	19	0	0	0	0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.3			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	945	1260	185	0	0
Peak Hour Factor	0.94	0.94	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	5	1005	1432	210	0	0
Pedestrians					60	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.78	
vC, conflicting volume	1702				2110	881
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1702				2141	881
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	353				32	290

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	340	670	955	688
Volume Left	5	0	0	0
Volume Right	0	0	0	210
cSH	353	1700	1700	1700
Volume to Capacity	0.02	0.39	0.56	0.40
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.5	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

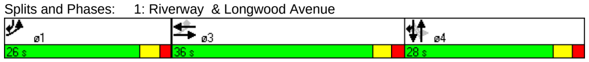
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		414			494			243			379	
Travel Time (s)		9.4			11.2			5.5			8.6	
Volume (vph)	200	635	5	0	1415	210	75	320	25	70	245	195
Confl. Bikes (#/hr)									58			6
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	215	688	0	0	1572	233	87	401	0	0	315	195
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	26.0	36.0	0.0	0.0	36.0	36.0	28.0	28.0	0.0	28.0	28.0	54.0
Total Split (%)	28.9%	40.0%	0.0%	0.0%	40.0%	40.0%	31.1%	31.1%	0.0%	31.1%	31.1%	60.0%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.58			1.34	0.36	0.60	0.90			1.70	0.24
Control Delay	19.0	24.9			183.9	6.9	48.7	56.6			348.4	5.8
Queue Delay	0.0	0.0			0.0	0.1	0.0	666.2			0.0	0.0
Total Delay	19.0	24.9			183.9	7.0	48.7	722.7			348.4	5.8
Queue Length 50th (ft)	56	165			~642	15	43	218			~260	30
Queue Length 95th (ft)	126	230			#787	68	#102	#359			m#172	m18
Internal Link Dist (ft)		334			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	445	1188			1177	643	145	447			185	861
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	39	0	308			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.48	0.58			1.34	0.39	0.60	2.88			1.70	0.23

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1516	3029			3002	1343	1555	1667			1635	1550
Flt Permitted	0.11	1.00			1.00	1.00	0.33	1.00			0.42	1.00
Satd. Flow (perm)	181	3029			3002	1343	543	1667			695	1550
Volume (vph)	200	635	5	0	1415	210	75	320	25	70	245	195
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Adj. Flow (vph)	215	683	5	0	1572	233	87	372	29	70	245	195
RTOR Reduction (vph)	0	1	0	0	0	117	0	3	0	0	0	0
Lane Group Flow (vph)	215	687	0	0	1572	116	87	398	0	0	315	195
Confl. Bikes (#/hr)									58			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	52.0	34.3			34.3	34.3	23.0	23.0			23.0	45.7
Effective Green, g (s)	54.0	35.3			35.3	35.3	24.0	24.0			24.0	46.7
Actuated g/C Ratio	0.60	0.39			0.39	0.39	0.27	0.27			0.27	0.52
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	386	1188			1177	527	145	445			185	804
v/s Ratio Prot	c0.12	0.23			c0.52			0.24				0.13
v/s Ratio Perm	0.22					0.09	0.16				c0.45	
v/c Ratio	0.56	0.58			1.34	0.22	0.60	0.89			1.70	0.24
Uniform Delay, d1	32.9	21.5			27.3	18.2	28.8	31.8			33.0	11.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.37	0.50
Incremental Delay, d2	1.7	0.7			156.9	0.2	17.0	23.1			318.3	0.0
Delay (s)	34.7	22.2			184.2	18.4	45.8	54.9			363.4	6.0
Level of Service	C	C			F	B	D	D			F	A
Approach Delay (s)		25.2			162.8			53.3			226.8	
Approach LOS		C			F			D			F	

Intersection Summary

HCM Average Control Delay	123.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

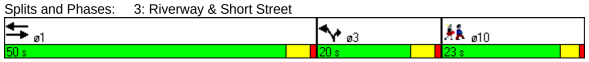
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	755	0	0	1470	115	100	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Lane Group Flow (vph)	812	0	0	1581	169	147	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.46			0.62	0.70	0.43	
Control Delay	15.2			17.1	52.4	10.5	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	15.2			17.1	52.4	10.5	
Queue Length 50th (ft)	162			249	94	0	
Queue Length 95th (ft)	214			302	117	19	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1772			2546	275	366	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.46			0.62	0.61	0.40	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4668	1501	1343
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4668	1501	1343
Volume (vph)	755	0	0	1470	115	100
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.68	0.68
Adj. Flow (vph)	812	0	0	1581	169	147
RTOR Reduction (vph)	0	0	0	0	0	124
Lane Group Flow (vph)	812	0	0	1581	169	23
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.1			46.1	12.9	12.9
Effective Green, g (s)	47.1			47.1	13.9	13.9
Actuated g/C Ratio	0.54			0.54	0.16	0.16
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1755			2521	239	214
v/s Ratio Prot	0.25			c0.34	c0.11	0.02
v/s Ratio Perm						
v/c Ratio	0.46			0.63	0.71	0.11
Uniform Delay, d1	12.3			13.9	34.7	31.4
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.9			1.2	9.2	0.2
Delay (s)	13.2			15.1	43.9	31.6
Level of Service	B			B	D	C
Approach Delay (s)	13.2			15.1	38.2	
Approach LOS	B			B	D	

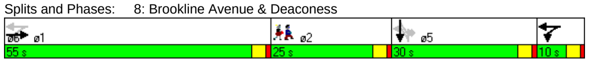
Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	26.2
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		761			110			295			256		
Travel Time (s)		17.3			2.5			6.7			5.8		
Volume (vph)	0	650	15	15	1185	0	70	0	140	5	5	125	
Confl. Bikes (#/hr)			5			12			1			1	
Peak Hour Factor	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82	
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	678	0	0	1395	0	109	0	219	6	158	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	55.0	0.0	10.0	10.0	0.0	30.0	0.0	30.0	30.0	30.0	0.0	25.0
Total Split (%)	0.0%	45.8%	0.0%	8.3%	8.3%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	21%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.56			0.96		0.81		0.55	0.02	0.45		
Control Delay		18.0			27.8		86.7		10.9	38.0	11.3		
Queue Delay		0.1			0.7		0.0		0.0	0.0	0.0		
Total Delay		18.0			28.6		86.7		11.0	38.0	11.3		
Queue Length 50th (ft)		113			186		81		0	4	4		
Queue Length 95th (ft)		m127			m#693		95		4	14	45		
Internal Link Dist (ft)		681			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1219			1448		172		444	319	403		
Starvation Cap Reductn		0			9		0		0	0	0		
Spillback Cap Reductn		51			0		0		4	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.58			0.97		0.63		0.50	0.02	0.39		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.86	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2864			2901		1425		1258	1471	1308	
Flt Permitted		1.00			0.95		0.48		1.00	0.95	1.00	
Satd. Flow (perm)		2864			2745		714		1258	1471	1308	
Volume (vph)	0	650	15	15	1185	0	70	0	140	5	5	125
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	0	663	15	17	1378	0	109	0	219	6	6	152
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	182	0	126	0
Lane Group Flow (vph)	0	677	0	0	1395	0	109	0	37	6	32	0
Confl. Bikes (#/hr)			5			12			1			1
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		51.0			62.7		20.3		20.3	20.3	20.3	
Effective Green, g (s)		51.0			62.7		20.3		20.3	20.3	20.3	
Actuated g/C Ratio		0.42			0.52		0.17		0.17	0.17	0.17	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1217			1449		121		213	249	221	
v/s Ratio Prot		0.24			c0.09						0.02	
v/s Ratio Perm					c0.41		c0.15		0.03	0.00		
v/c Ratio		0.56			0.96		0.90		0.17	0.02	0.14	
Uniform Delay, d1		26.0			27.5		48.9		42.7	41.6	42.4	
Progression Factor		0.65			0.45		1.00		1.00	1.00	1.00	
Incremental Delay, d2		1.0			12.6		52.3		0.4	0.0	0.3	
Delay (s)		17.8			24.9		101.1		43.1	41.6	42.7	
Level of Service		B			C		F		D	D	D	
Approach Delay (s)		17.8			24.9			62.4			42.7	
Approach LOS		B			C			E			D	

Intersection Summary

HCM Average Control Delay	29.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	37.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

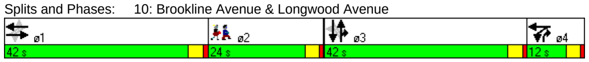
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	55	640	65	195	825	130	165	280	270	185	265	30	
Confl. Bikes (#/hr)			8			5			42			3	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%	
Lane Group Flow (vph)	58	742	0	219	1073	0	174	295	284	208	332	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	42.0	42.0	0.0	12.0	54.0	0.0	42.0	42.0	54.0	42.0	42.0	0.0	24.0
Total Split (%)	35.0%	35.0%	0.0%	10.0%	45.0%	0.0%	35.0%	35.0%	45.0%	35.0%	35.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.14	0.82		1.16	0.90		0.95	0.55	0.38	0.95	0.61		
Control Delay	188.8	24.0		131.4	28.9		80.5	25.0	1.8	88.7	38.0		
Queue Delay	0.0	0.5		0.0	0.0		0.0	0.7	0.3	0.0	0.0		
Total Delay	188.8	24.5		131.4	28.9		80.5	25.7	2.1	88.7	38.0		
Queue Length 50th (ft)	~27	224		~127	260		131	117	0	156	211		
Queue Length 95th (ft)	m#96	291		m#247	m299		m#271	m220	m3	#309	308		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	51	909		189	1187		184	532	738	219	544		
Starvation Cap Reductn	0	25		0	0		0	63	125	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.14	0.84		1.16	0.90		0.95	0.63	0.46	0.95	0.61		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1458	2871		1458	2847		1444	1520	1292	1501	1554	
Flt Permitted	0.11	1.00		0.19	1.00		0.38	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	162	2871		288	2847		575	1520	1292	670	1554	
Volume (vph)	55	640	65	195	825	130	165	280	270	185	265	30
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	58	674	68	219	927	146	174	295	284	208	298	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	156	0	0	0
Lane Group Flow (vph)	58	742	0	219	1073	0	174	295	128	208	332	0
Confl. Bikes (#/hr)			8			5			42			3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Effective Green, g (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Actuated g/C Ratio	0.32	0.32		0.38	0.42		0.35	0.35	0.45	0.35	0.35	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	909		188	1186		201	532	581	235	544	
v/s Ratio Prot		0.26		c0.08	0.38			0.19	0.10		0.21	
v/s Ratio Perm	0.36			c0.37			0.30			c0.31		
v/c Ratio	1.14	0.82		1.16	0.90		0.87	0.55	0.22	0.89	0.61	
Uniform Delay, d1	41.0	37.8		33.6	32.8		36.4	31.5	20.1	36.7	32.2	
Progression Factor	0.44	0.43		0.99	0.62		0.71	0.66	0.20	1.00	1.00	
Incremental Delay, d2	161.1	7.2		105.1	6.8		27.6	1.1	0.2	30.1	2.0	
Delay (s)	179.1	23.5		138.3	27.0		53.3	22.0	4.3	66.9	34.3	
Level of Service	F	C		F	C		D	C	A	E	C	
Approach Delay (s)		34.8			45.8			22.5			46.8	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

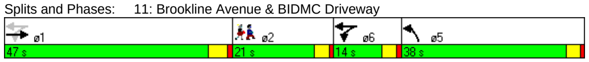
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	965	85	55	885	210	160	
Confl. Bikes (#/hr)		12					
Peak Hour Factor	0.93	0.93	0.90	0.90	0.77	0.77	
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%	
Lane Group Flow (vph)	1129	0	61	983	481	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	20.0		21.0
Total Split (s)	47.0	0.0	14.0	14.0	38.0	0.0	21.0
Total Split (%)	39.2%	0.0%	11.7%	11.7%	31.7%	0.0%	18%
Yellow Time (s)	4.0		3.0	3.0	3.0		3.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.01		0.30	0.69	1.03		
Control Delay	48.2		24.8	18.3	89.4		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	48.2		24.8	18.3	89.4		
Queue Length 50th (ft)	~226		16	187	~381		
Queue Length 95th (ft)	m#587		35	260	#449		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1119		200	1419	467		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.01		0.31	0.69	1.03		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 106 (88%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.99		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3108		1577	3154	1566	
Flt Permitted	1.00		0.09	1.00	0.97	
Satd. Flow (perm)	3108		154	3154	1566	
Volume (vph)	965	85	55	885	210	160
Peak-hour factor, PHF	0.93	0.93	0.90	0.90	0.77	0.77
Adj. Flow (vph)	1038	91	61	983	273	208
RTOR Reduction (vph)	5	0	0	0	23	0
Lane Group Flow (vph)	1124	0	61	983	458	0
Confl. Bikes (#/hr)		12				
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	42.0		53.0	53.0	34.0	
Effective Green, g (s)	43.0		54.0	54.0	34.0	
Actuated g/C Ratio	0.36		0.45	0.45	0.28	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1114		200	1419	444	
v/s Ratio Prot	c0.36		0.03	c0.06	c0.29	
v/s Ratio Perm			0.11	0.25		
v/c Ratio	1.01		0.30	0.69	1.03	
Uniform Delay, d1	38.5		45.4	26.4	43.0	
Progression Factor	0.59		1.00	1.00	1.00	
Incremental Delay, d2	24.1		3.9	2.8	51.1	
Delay (s)	46.8		49.3	29.2	94.1	
Level of Service	D		D	C	F	
Approach Delay (s)	46.8			30.4	94.1	
Approach LOS	D			C	F	

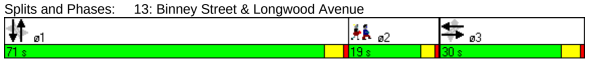
Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	55	25	105	40	60	120	60	535	20	25	400	100	
Confl. Bikes (#/hr)						3			76			11	
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85	
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0	
Lane Group Flow (vph)	0	229	0	0	117	140	0	662	0	0	618	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	71.0	71.0	0.0	71.0	71.0	0.0	19.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%	59.2%	59.2%	0.0%	59.2%	59.2%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		0.88			0.50	0.37		0.44			0.42		
Control Delay		68.5			50.0	9.2		15.7			15.2		
Queue Delay		0.0			0.0	0.0		0.0			0.3		
Total Delay		68.5			50.0	9.2		15.7			15.5		
Queue Length 50th (ft)		134			79	0		152			109		
Queue Length 95th (ft)		#213			132	46		200			m115		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		287			266	414		1492			1464		
Starvation Cap Reductn		0			0	0		0			311		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.80			0.44	0.34		0.44			0.54		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.98		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.92			1.00	0.85		1.00			0.97	
Flt Protected		0.99			0.98	1.00		1.00			1.00	
Satd. Flow (prot)		1329			1643	1403		3100			2758	
Flt Permitted		0.81			0.70	1.00		0.82			0.90	
Satd. Flow (perm)		1090			1168	1403		2554			2485	
Volume (vph)	55	25	105	40	60	120	60	535	20	25	400	100
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	68	31	130	47	70	140	65	575	22	29	471	118
RTOR Reduction (vph)	0	40	0	0	0	113	0	2	0	0	16	0
Lane Group Flow (vph)	0	189	0	0	117	27	0	660	0	0	602	0
Confl. Bikes (#/hr)						3			76			11
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		22.0			22.0	22.0		69.0			69.0	
Effective Green, g (s)		23.0			23.0	23.0		70.0			70.0	
Actuated g/C Ratio		0.19			0.19	0.19		0.58			0.58	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		209			224	269		1490			1450	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.10	0.02		c0.26			0.24	
v/c Ratio		0.90			0.52	0.10		0.44			0.42	
Uniform Delay, d1		47.4			43.6	40.0		14.0			13.7	
Progression Factor		1.00			1.00	1.00		1.00			1.08	
Incremental Delay, d2		36.5			2.2	0.2		1.0			0.5	
Delay (s)		83.9			45.8	40.1		15.0			15.4	
Level of Service		F			D	D		B			B	
Approach Delay (s)		83.9			42.7			15.0			15.4	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

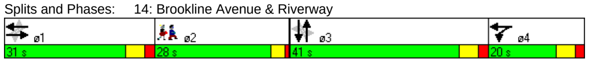
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		440			761			345			449		
Travel Time (s)		10.0			17.3			7.8			10.2		
Volume (vph)	135	425	5	535	715	5	10	595	270	0	1125	35	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87	
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	139	443	0	552	742	0	0	931	0	0	1333	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	31.0	31.0	0.0	20.0	51.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	28.0
Total Split (%)	25.8%	25.8%	0.0%	16.7%	42.5%	0.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	23%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	2.62	0.69		1.79	0.64			1.03			1.09		
Control Delay	802.4	49.1		387.2	43.8			72.2			89.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	802.4	49.1		387.2	43.8			72.2			89.5		
Queue Length 50th (ft)	~181	166		~561	255			~420			~657		
Queue Length 95th (ft)	#314	226		m#625	m290			#553			#754		
Internal Link Dist (ft)		360			681			265			369		
Turn Bay Length (ft)													
Base Capacity (vph)	53	643		309	1164			904			1221		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	2.62	0.69		1.79	0.64			1.03			1.09		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.95			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1510	2857		1486	2970			2994			2989	
Flt Permitted	0.15	1.00		0.31	1.00			0.80			1.00	
Satd. Flow (perm)	243	2857		480	2970			2382			2989	
Volume (vph)	135	425	5	535	715	5	10	595	270	0	1125	35
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	139	438	5	552	737	5	11	633	287	0	1293	40
RTOR Reduction (vph)	0	0	0	0	1	0	0	36	0	0	2	0
Lane Group Flow (vph)	139	443	0	552	741	0	0	895	0	0	1331	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	24.2	24.2		38.2	44.2			47.0			47.0	
Effective Green, g (s)	26.2	26.2		42.2	46.2			49.0			49.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.38			0.41			0.41	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	53	624		303	1143			973			1221	
v/s Ratio Prot		0.16		c0.24	0.25						c0.45	
v/s Ratio Perm	c0.57			0.40				0.38				
v/c Ratio	2.62	0.71		1.82	0.65			0.92			1.09	
Uniform Delay, d1	46.9	43.4		34.8	30.2			33.6			35.5	
Progression Factor	1.00	1.00		1.40	1.43			1.00			1.00	
Incremental Delay, d2	781.5	6.7		375.0	1.2			15.0			54.0	
Delay (s)	828.4	50.1		423.9	44.3			48.6			89.5	
Level of Service	F	D		F	D			D			F	
Approach Delay (s)		236.0			206.2			48.6			89.5	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	137.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis | 11167.00 Winsor School
2: Riverway & Nessel Way | 2015 No-Build Conditions :: Weekday Evening Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	710	20	5	1580	45	45
Peak Hour Factor	0.90	0.90	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	789	22	5	1681	57	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			811		1371	406
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			597		460	118
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		87	93
cM capacity (veh/h)			838		453	777

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	526	285	341	672	672	114
Volume Left	0	0	5	0	0	57
Volume Right	0	22	0	0	0	57
cSH	1700	1700	838	1700	1700	572
Volume to Capacity	0.31	0.17	0.01	0.40	0.40	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.2	0.0	0.0	12.8
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			12.8
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis | 11167.00 Winsor School
4: Nessel Way & Longwood Avenue | 2015 No-Build Conditions :: Weekday Evening Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	405	0	1	345
Peak Hour Factor	0.92	0.92	0.86	0.86	0.82	0.82
Hourly flow rate (vph)	1	1	471	0	1	421
Pedestrians	312		36			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	26		3			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.88	0.95			0.95	
vC, conflicting volume	1242	793			783	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1197	783			773	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	130	276			598	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	471	422
Volume Left	1	0	1
Volume Right	1	0	0
cSH	176	1700	598
Volume to Capacity	0.01	0.28	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	25.7	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	25.7	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	1	105	31	50	42	90	305	31	32	315	20
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Hourly flow rate (vph)	11	1	114	33	54	45	105	355	36	39	384	24
Pedestrians		104			300			71			74	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		9			27			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.93	0.93	0.92	0.93	0.93	0.89	0.92			0.89		
vC, conflicting volume	1288	1478	571	1530	1473	747	513			691		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1175	1380	532	1435	1374	714	468			651		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	99	74	3	29	83	89			94		
cM capacity (veh/h)	33	75	437	34	75	266	920			608		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	126	132	105	391	39	409
Volume Left	11	33	105	0	39	0
Volume Right	114	45	0	36	0	24
cSH	209	71	920	1700	608	1700
Volume to Capacity	0.60	1.85	0.11	0.23	0.06	0.24
Queue Length 95th (ft)	86	295	10	0	5	0
Control Delay (s)	45.6	528.6	9.4	0.0	11.3	0.0
Lane LOS	E	F	A		B	
Approach Delay (s)	45.6	528.6	2.0		1.0	
Approach LOS	E	F				

Intersection Summary			
Average Delay	64.2		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	55	0	20	105	0	0
Peak Hour Factor	0.61	0.61	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	90	0	22	115	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	90	137
Volume Left (vph)	90	0
Volume Right (vph)	0	115
Hadj (s)	0.20	-0.50
Departure Headway (s)	4.2	3.5
Degree Utilization, x	0.11	0.13
Capacity (veh/h)	839	1025
Control Delay (s)	7.7	7.0
Approach Delay (s)	7.7	7.0
Approach LOS	A	A

Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	70	695	1200	40	0	0
Peak Hour Factor	0.98	0.98	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	71	709	1395	47	0	0
Pedestrians					155	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.68				0.76	0.68
vC, conflicting volume	1597				2071	876
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1406				1475	344
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				100	100
cM capacity (veh/h)	320				70	446

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	71	355	355	930	512
Volume Left	71	0	0	0	0
Volume Right	0	0	0	0	47
cSH	320	1700	1700	1700	1700
Volume to Capacity	0.22	0.21	0.21	0.55	0.30
Queue Length 95th (ft)	21	0	0	0	0
Control Delay (s)	19.5	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	1.8			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	1120	930	120	0	0
Peak Hour Factor	0.93	0.93	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	11	1204	1057	136	0	0
Pedestrians					145	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.70	
vC, conflicting volume	1338				1894	742
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1338				1849	742
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	506				45	358

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	412	803	705	489
Volume Left	11	0	0	0
Volume Right	0	0	0	136
cSH	506	1700	1700	1700
Volume to Capacity	0.02	0.47	0.41	0.29
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	0.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

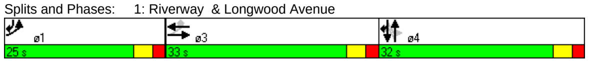
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		466			494			243			379	
Travel Time (s)		10.6			11.2			5.5			8.6	
Volume (vph)	340	852	60	0	928	61	41	220	31	105	411	95
Confl. Bikes (#/hr)			1			1			3			59
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Lane Group Flow (vph)	366	981	0	0	1105	73	55	334	0	0	549	101
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	25.0	33.0	0.0	0.0	33.0	33.0	32.0	32.0	0.0	32.0	32.0	57.0
Total Split (%)	27.8%	36.7%	0.0%	0.0%	36.7%	36.7%	35.6%	35.6%	0.0%	35.6%	35.6%	63.3%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.91	0.98			1.10	0.15	0.75	0.64			1.90	0.12
Control Delay	50.0	55.3			89.8	6.4	86.3	32.6			431.0	3.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	122.5			0.0	0.0
Total Delay	50.0	55.3			89.8	6.4	86.3	155.1			431.0	3.0
Queue Length 50th (ft)	154	~301			~391	0	28	158			~477	10
Queue Length 95th (ft)	#316	#437			#462	25	#75	196			m#433	m7
Internal Link Dist (ft)		386			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	422	1001			1006	489	73	522			289	886
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	11	0	256			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.87	0.98			1.10	0.15	0.75	1.26			1.90	0.11

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1501	2968			3002	1315	1555	1659			1589	1505
Flt Permitted	0.13	1.00			1.00	1.00	0.14	1.00			0.58	1.00
Satd. Flow (perm)	209	2968			3002	1315	234	1659			928	1505
Volume (vph)	340	852	60	0	928	61	41	220	31	105	411	95
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Adj. Flow (vph)	366	916	65	0	1105	73	55	293	41	112	437	101
RTOR Reduction (vph)	0	6	0	0	0	49	0	6	0	0	0	0
Lane Group Flow (vph)	366	975	0	0	1105	24	55	328	0	0	549	101
Confl. Bikes (#/hr)			1			1			3			59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	48.0	29.2			29.2	29.2	27.0	27.0			27.0	50.8
Effective Green, g (s)	50.0	30.2			30.2	30.2	28.0	28.0			28.0	51.8
Actuated g/C Ratio	0.56	0.34			0.34	0.34	0.31	0.31			0.31	0.58
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	400	996			1007	441	73	516			289	866
v/s Ratio Prot	c0.20	0.33			c0.37			0.20				0.07
v/s Ratio Perm	0.31					0.02	0.24				c0.59	
v/c Ratio	0.92	0.98			1.10	0.06	0.75	0.64			1.90	0.12
Uniform Delay, d1	24.2	29.6			29.9	20.2	27.9	26.6			31.0	8.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.17	0.35
Incremental Delay, d2	25.1	23.2			58.8	0.1	51.5	5.9			406.0	0.0
Delay (s)	49.2	52.8			88.7	20.3	79.4	32.5			442.3	3.1
Level of Service	D	D			F	C	E	C			F	A
Approach Delay (s)		51.8			84.5			39.1			374.0	
Approach LOS		D			F			D			F	

Intersection Summary

HCM Average Control Delay	120.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	939	0	0	927	77	87	
Confl. Bikes (#/hr)		3					
Peak Hour Factor	0.93	0.93	0.82	0.82	0.61	0.61	
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%	
Lane Group Flow (vph)	1010	0	0	1130	126	143	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.52			0.41	0.59	0.46	
Control Delay	15.7			13.6	47.5	11.3	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	15.7			13.6	47.5	11.3	
Queue Length 50th (ft)	208			148	68	0	
Queue Length 95th (ft)	285			170	81	10	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1958			2786	257	348	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.52			0.41	0.49	0.41	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.3
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4622	1472	1317
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4622	1472	1317
Volume (vph)	939	0	0	927	77	87
Peak-hour factor, PHF	0.93	0.93	0.82	0.82	0.61	0.61
Adj. Flow (vph)	1010	0	0	1130	126	143
RTOR Reduction (vph)	0	0	0	0	0	125
Lane Group Flow (vph)	1010	0	0	1130	126	18
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	50.0			50.0	10.1	10.1
Effective Green, g (s)	51.0			51.0	11.1	11.1
Actuated g/C Ratio	0.58			0.58	0.13	0.13
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1872			2664	185	165
v/s Ratio Prot	c0.31			0.24	c0.09	0.01
v/s Ratio Perm						
v/c Ratio	0.54			0.42	0.68	0.11
Uniform Delay, d1	11.5			10.5	37.0	34.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.1			0.5	9.9	0.3
Delay (s)	12.7			11.0	46.9	34.6
Level of Service	B			B	D	C
Approach Delay (s)	12.7			11.0	40.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	26.4
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

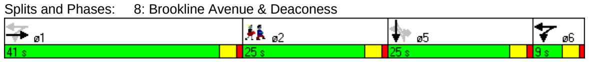
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		720			110			295			256		
Travel Time (s)		16.4			2.5			6.7			5.8		
Volume (vph)	0	1032	15	25	671	0	40	0	65	25	15	45	
Confl. Bikes (#/hr)			13			5			2			8	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	1150	0	0	749	0	50	0	81	43	104	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	41.0	0.0	9.0	9.0	0.0	25.0	0.0	25.0	25.0	25.0	0.0	25.0
Total Split (%)	0.0%	41.0%	0.0%	9.0%	9.0%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	25%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		1.11			0.55		0.51		0.41	0.26	0.47		
Control Delay		90.1			7.5		58.5		15.3	43.2	21.3		
Queue Delay		78.6			0.0		0.0		0.0	0.0	0.0		
Total Delay		168.7			7.5		58.5		15.3	43.2	21.3		
Queue Length 50th (ft)		~424			71		31		0	26	15		
Queue Length 95th (ft)		m#363			m95		58		31	35	23		
Internal Link Dist (ft)		640			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1032			1361		192		307	318	354		
Starvation Cap Reductn		0			0		0		0	0	0		
Spillback Cap Reductn		143			0		0		4	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		1.29			0.55		0.26		0.27	0.14	0.29		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 42 (42%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.98	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.89	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2787			2789		1310		1153	1512	1382	
Flt Permitted		1.00			0.86		0.60		1.00	0.95	1.00	
Satd. Flow (perm)		2787			2416		822		1153	1512	1382	
Volume (vph)	0	1032	15	25	671	0	40	0	65	25	15	45
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58
Adj. Flow (vph)	0	1134	16	27	722	0	50	0	81	43	26	78
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	72	0	70	0
Lane Group Flow (vph)	0	1149	0	0	749	0	50	0	9	43	34	0
Confl. Bikes (#/hr)			13			5			2			8
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		36.2			56.4		10.8		10.8	10.8	10.8	
Effective Green, g (s)		36.2			56.4		10.8		10.8	10.8	10.8	
Actuated g/C Ratio		0.36			0.56		0.11		0.11	0.11	0.11	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1009			1438		89		125	163	149	
v/s Ratio Prot		c0.41			c0.11						0.02	
v/s Ratio Perm					0.19		c0.06		0.01	0.03		
v/c Ratio		1.14			0.52		0.56		0.07	0.26	0.23	
Uniform Delay, d1		31.9			13.5		42.4		40.1	40.9	40.8	
Progression Factor		1.25			0.50		1.00		1.00	1.00	1.00	
Incremental Delay, d2		63.6			0.4		7.9		0.2	0.9	0.8	
Delay (s)		103.5			7.1		50.2		40.3	41.8	41.6	
Level of Service		F			A		D		D	D	D	
Approach Delay (s)		103.5			7.1			44.1			41.7	
Approach LOS		F			A			D			D	

Intersection Summary

HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.8
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

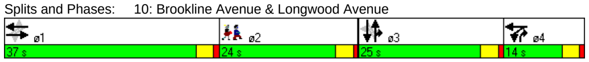
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	62	795	95	275	540	241	115	253	237	152	275	51	
Confl. Bikes (#/hr)			4			3			4			38	
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86	
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%	
Lane Group Flow (vph)	76	1086	0	299	849	0	149	329	308	177	379	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	37.0	37.0	0.0	14.0	51.0	0.0	25.0	25.0	39.0	25.0	25.0	0.0	24.0
Total Split (%)	37.0%	37.0%	0.0%	14.0%	51.0%	0.0%	25.0%	25.0%	39.0%	25.0%	25.0%	0.0%	24%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.27	1.17		1.46	0.66		2.13	0.90	0.46	2.36	1.02		
Control Delay	180.8	105.5		255.8	16.2		571.3	64.3	2.7	672.5	90.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.2	0.0	0.0		
Total Delay	180.8	105.5		255.8	16.2		571.3	64.3	3.0	672.5	90.2		
Queue Length 50th (ft)	~60	~417		~226	85		~149	176	0	~186	~250		
Queue Length 95th (ft)	m#62	m#360		m#377	m163		m#212	m#228	m0	#303	#407		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	60	928		205	1286		70	366	673	75	372		
Starvation Cap Reductn	0	0		0	0		0	0	59	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.27	1.17		1.46	0.66		2.13	0.90	0.50	2.36	1.02		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 43 (43%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1430	2811		1444	2735		1391	1464	1245	1458	1488	
Flt Permitted	0.12	1.00		0.12	1.00		0.19	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	183	2811		184	2735		283	1464	1245	422	1488	
Volume (vph)	62	795	95	275	540	241	115	253	237	152	275	51
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	76	970	116	299	587	262	149	329	308	177	320	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	188	0	0	0
Lane Group Flow (vph)	76	1086	0	299	849	0	149	329	120	177	379	0
Confl. Bikes (#/hr)			4			3			4			38
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Effective Green, g (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Actuated g/C Ratio	0.33	0.33		0.43	0.47		0.25	0.25	0.39	0.25	0.25	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	928		205	1285		71	366	486	106	372	
v/s Ratio Prot		0.39		c0.15	0.31			0.22	0.10		0.25	
v/s Ratio Perm	0.42			c0.48			c0.53			0.42		
v/c Ratio	1.27	1.17		1.46	0.66		2.10	0.90	0.25	1.67	1.02	
Uniform Delay, d1	33.5	33.5		25.7	20.4		37.5	36.3	20.6	37.5	37.5	
Progression Factor	0.75	0.72		1.72	0.69		1.03	1.04	0.29	1.00	1.00	
Incremental Delay, d2	151.0	80.1		224.8	0.9		534.1	21.7	0.2	339.0	51.5	
Delay (s)	176.2	104.2		269.0	15.0		572.6	59.5	6.2	376.5	89.0	
Level of Service	F	F		F	B		F	E	A	F	F	
Approach Delay (s)		108.9			81.1			135.9			180.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	116.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

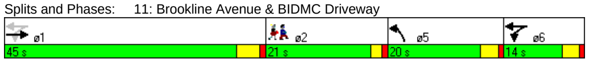
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	864	210	170	1056	100	85	
Confl. Bikes (#/hr)		5					
Peak Hour Factor	0.89	0.89	0.91	0.91	0.65	0.65	
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%	
Lane Group Flow (vph)	1207	0	187	1160	285	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	16.0		21.0
Total Split (s)	45.0	0.0	14.0	14.0	20.0	0.0	21.0
Total Split (%)	45.0%	0.0%	14.0%	14.0%	20.0%	0.0%	21%
Yellow Time (s)	4.0		3.0	3.0	3.0		2.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	0.98		0.71	0.65	0.94		
Control Delay	13.8		38.0	17.3	76.9		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	13.8		38.0	17.3	76.9		
Queue Length 50th (ft)	112		72	264	~167		
Queue Length 95th (ft)	m98		#196	339	#185		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1236		262	1786	303		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	0.98		0.71	0.65	0.94		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	2961		1547	3094	1562	
Flt Permitted	1.00		0.10	1.00	0.97	
Satd. Flow (perm)	2961		161	3094	1562	
Volume (vph)	864	210	170	1056	100	85
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.65	0.65
Adj. Flow (vph)	971	236	187	1160	154	131
RTOR Reduction (vph)	21	0	0	0	30	0
Lane Group Flow (vph)	1186	0	187	1160	255	0
Confl. Bikes (#/hr)		5				
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	39.4		52.1	52.1	17.5	
Effective Green, g (s)	40.4		53.1	53.1	17.5	
Actuated g/C Ratio	0.40		0.53	0.53	0.18	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1196		262	1767	273	
v/s Ratio Prot	c0.40		0.09	c0.08	c0.16	
v/s Ratio Perm			0.29	0.29		
v/c Ratio	0.99		0.71	0.66	0.94	
Uniform Delay, d1	29.6		21.6	16.9	40.7	
Progression Factor	0.26		1.00	1.00	1.00	
Incremental Delay, d2	6.1		15.3	1.9	37.1	
Delay (s)	13.7		36.9	18.8	77.8	
Level of Service	B		D	B	E	
Approach Delay (s)	13.7			21.3	77.8	
Approach LOS	B			C	E	

Intersection Summary

HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

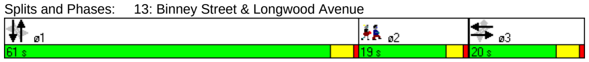
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	90	45	100	50	40	65	80	445	45	90	415	135	
Confl. Bikes (#/hr)						1			4			43	
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87	
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0	
Lane Group Flow (vph)	0	282	0	0	102	74	0	620	0	0	735	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	20.0	61.0	61.0	0.0	61.0	61.0	0.0	19.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	20.0%	61.0%	61.0%	0.0%	61.0%	61.0%	0.0%	19%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		1.15			0.59	0.23		0.50			0.62		
Control Delay		138.3			55.3	11.0		14.3			6.4		
Queue Delay		0.0			0.0	0.0		0.0			0.7		
Total Delay		138.3			55.3	11.0		14.3			7.1		
Queue Length 50th (ft)		~223			63	0		114			43		
Queue Length 95th (ft)		#345			#144	38		161			m33		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		246			173	318		1242			1190		
Starvation Cap Reductn		0			0	0		0			187		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.15			0.59	0.23		0.50			0.73		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.94			1.00	0.85		0.99			0.97	
Flt Protected		0.98			0.97	1.00		0.99			0.99	
Satd. Flow (prot)		1409			1512	1304		2893			2673	
Flt Permitted		0.80			0.62	1.00		0.74			0.76	
Satd. Flow (perm)		1143			970	1304		2161			2038	
Volume (vph)	90	45	100	50	40	65	80	445	45	90	415	135
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	108	54	120	57	45	74	87	484	49	103	477	155
RTOR Reduction (vph)	0	26	0	0	0	59	0	7	0	0	25	0
Lane Group Flow (vph)	0	256	0	0	102	15	0	613	0	0	710	0
Confl. Bikes (#/hr)						1			4			43
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		55.2			55.2	
Effective Green, g (s)		19.8			19.8	19.8		56.2			56.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		226			192	258		1214			1145	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.11	0.01		0.28			c0.35	
v/c Ratio		1.13			0.53	0.06		0.51			0.62	
Uniform Delay, d1		40.1			35.9	32.5		13.4			14.7	
Progression Factor		1.00			1.00	1.00		1.00			0.46	
Incremental Delay, d2		100.8			2.8	0.1		1.5			0.2	
Delay (s)		140.9			38.8	32.6		14.9			7.0	
Level of Service		F			D	C		B			A	
Approach Delay (s)		140.9			36.2			14.9			7.0	
Approach LOS		F			D			B			A	

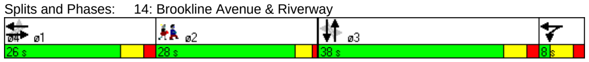
Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		454			720			358			477		
Travel Time (s)		10.3			16.4			8.1			10.8		
Volume (vph)	216	612	5	265	446	15	5	964	640	0	627	71	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	227	649	0	288	501	0	0	1676	0	0	822	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	26.0	26.0	0.0	8.0	34.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0	28.0
Total Split (%)	26.0%	26.0%	0.0%	8.0%	34.0%	0.0%	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	28%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	3.55	1.02		2.42	0.58			1.12			0.55		
Control Delay	1199.2	81.0		678.7	23.9			90.0			20.8		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	1199.2	81.0		678.7	23.9			90.0			20.8		
Queue Length 50th (ft)	~260	~232		~305	124			~697			212		
Queue Length 95th (ft)	#379	#345		#465	136			#838			257		
Internal Link Dist (ft)		374			640			278			397		
Turn Bay Length (ft)													
Base Capacity (vph)	64	635		119	864			1490			1485		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	3.55	1.02		2.42	0.58			1.12			0.55		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 58 (58%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	2886		1444	2874			2953			2956	
Flt Permitted	0.20	1.00		0.20	1.00			0.95			1.00	
Satd. Flow (perm)	315	2886		298	2874			2814			2956	
Volume (vph)	216	612	5	265	446	15	5	964	640	0	627	71
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	227	644	5	288	485	16	5	1004	667	0	738	84
RTOR Reduction (vph)	0	0	0	0	2	0	0	85	0	0	7	0
Lane Group Flow (vph)	227	649	0	288	499	0	0	1592	0	0	816	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	18.4	18.4		20.4	26.4			48.0			48.0	
Effective Green, g (s)	20.4	20.4		24.4	28.4			50.0			50.0	
Actuated g/C Ratio	0.20	0.20		0.24	0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	64	589		119	816			1407			1478	
v/s Ratio Prot		0.22		c0.10	0.17						0.28	
v/s Ratio Perm	c0.72			0.50				c0.57				
v/c Ratio	3.55	1.10		2.42	0.61			1.13			0.55	
Uniform Delay, d1	39.8	39.8		37.7	31.0			25.0			17.3	
Progression Factor	1.00	1.00		0.73	0.72			1.00			1.00	
Incremental Delay, d2	1184.0	68.1		660.3	2.9			68.5			1.5	
Delay (s)	1223.8	107.9		687.9	25.2			93.5			18.8	
Level of Service	F	F		F	C			F			B	
Approach Delay (s)		397.1			267.1			93.5			18.8	
Approach LOS		F			F			F			B	

Intersection Summary			
HCM Average Control Delay	175.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	924	64	15	984	5	15
Peak Hour Factor	0.95	0.95	0.83	0.83	0.59	0.59
Hourly flow rate (vph)	973	67	18	1186	8	25
Pedestrians					16	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.72		0.78	0.72
vC, conflicting volume			1056		1454	536
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			687		675	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			645		293	774

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	648	392	255	474	474	34
Volume Left	0	0	18	0	0	8
Volume Right	0	67	0	0	0	25
cSH	1700	1700	645	1700	1700	549
Volume to Capacity	0.38	0.23	0.03	0.28	0.28	0.06
Queue Length 95th (ft)	0	0	2	0	0	5
Control Delay (s)	0.0	0.0	1.1	0.0	0.0	12.0
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			12.0
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	10	262	2	2	496
Peak Hour Factor	0.92	0.92	0.76	0.76	0.91	0.91
Hourly flow rate (vph)	11	11	345	3	2	545
Pedestrians	397		32			34
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	33		3			3
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.71					
vC, conflicting volume	1325	777			744	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1455	777			744	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	96			100	
cM capacity (veh/h)	66	258			584	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	347	547
Volume Left	11	0	2
Volume Right	11	3	0
cSH	105	1700	584
Volume to Capacity	0.21	0.20	0.00
Queue Length 95th (ft)	18	0	0
Control Delay (s)	47.8	0.0	0.1
Lane LOS	E		A
Approach Delay (s)	47.8	0.0	0.1
Approach LOS	E		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	16	30	9	1	7	180	180	141	186	370	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Hourly flow rate (vph)	5	17	33	10	1	8	237	237	186	204	407	71
Pedestrians		315			426			62			98	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		26			38			5			7	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked												
vC, conflicting volume	1983	2488	819	2148	2431	854	793			848		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1983	2488	819	2148	2431	854	793			848		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	31	0	88	0	79	96	61			58		
cM capacity (veh/h)	8	5	266	0	5	207	611			491		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	55	18	237	422	204	478
Volume Left	5	10	237	0	204	0
Volume Right	33	8	0	186	0	71
cSH	13	0	611	1700	491	1700
Volume to Capacity	4.42	Err	0.39	0.25	0.42	0.28
Queue Length 95th (ft)	Err	Err	46	0	51	0
Control Delay (s)	Err	Err	14.6	0.0	17.5	0.0
Lane LOS	F	F	B		C	
Approach Delay (s)	Err	Err	5.2		5.2	
Approach LOS	F	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	0	0	0	94	0	0
Peak Hour Factor	0.33	0.33	0.63	0.63	0.92	0.92
Hourly flow rate (vph)	0	0	0	149	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	0	149
Volume Left (vph)	0	0
Volume Right (vph)	0	149
Hadj (s)	0.00	-0.58
Departure Headway (s)	4.0	3.3
Degree Utilization, x	0.00	0.14
Capacity (veh/h)	900	1079
Control Delay (s)	7.0	6.8
Approach Delay (s)	0.0	6.8
Approach LOS	A	A

Intersection Summary			
Delay	6.8		
HCM Level of Service	A		
Intersection Capacity Utilization	10.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	120	992	696	45	0	0
Peak Hour Factor	0.91	0.91	0.93	0.93	0.25	0.25
Hourly flow rate (vph)	132	1090	748	48	0	0
Pedestrians					226	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked					0.65	
vC, conflicting volume	1023				1807	624
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1023				1704	624
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	80				100	100
cM capacity (veh/h)	645				44	433

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	132	545	545	499	298
Volume Left	132	0	0	0	0
Volume Right	0	0	0	0	48
cSH	645	1700	1700	1700	1700
Volume to Capacity	0.20	0.32	0.32	0.29	0.18
Queue Length 95th (ft)	19	0	0	0	0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.3			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	947	1286	126	0	0
Peak Hour Factor	0.94	0.94	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	2	1007	1461	143	0	0
Pedestrians					60	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.78	
vC, conflicting volume	1665				2101	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1665				2129	862
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	365				33	298

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	338	672	974	630
Volume Left	2	0	0	0
Volume Right	0	0	0	143
cSH	365	1700	1700	1700
Volume to Capacity	0.01	0.40	0.57	0.37
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.2	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.1		0.0	
Approach LOS				

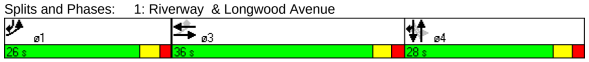
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		414			494			243			379	
Travel Time (s)		9.4			11.2			5.5			8.6	
Volume (vph)	200	627	5	0	1394	206	87	326	38	68	247	195
Confl. Bikes (#/hr)									58			6
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	215	679	0	0	1549	229	101	423	0	0	315	195
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	26.0	36.0	0.0	0.0	36.0	36.0	28.0	28.0	0.0	28.0	28.0	54.0
Total Split (%)	28.9%	40.0%	0.0%	0.0%	40.0%	40.0%	31.1%	31.1%	0.0%	31.1%	31.1%	60.0%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.55	0.57			1.32	0.36	0.70	0.95			1.88	0.24
Control Delay	19.0	24.7			175.6	6.7	57.3	65.4			423.5	5.8
Queue Delay	0.0	0.0			0.0	0.1	0.0	661.1			0.0	0.0
Total Delay	19.0	24.7			175.6	6.7	57.3	726.5			423.5	5.8
Queue Length 50th (ft)	56	163			~628	13	52	233			~270	30
Queue Length 95th (ft)	126	226			#772	65	#125	#388			m#183	m18
Internal Link Dist (ft)		334			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	445	1188			1177	643	145	446			168	861
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	38	0	296			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.48	0.57			1.32	0.38	0.70	2.82			1.88	0.23

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	0.99			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1516	3029			3002	1343	1555	1656			1635	1550
Flt Permitted	0.11	1.00			1.00	1.00	0.33	1.00			0.38	1.00
Satd. Flow (perm)	181	3029			3002	1343	543	1656			629	1550
Volume (vph)	200	627	5	0	1394	206	87	326	38	68	247	195
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Adj. Flow (vph)	215	674	5	0	1549	229	101	379	44	68	247	195
RTOR Reduction (vph)	0	1	0	0	0	117	0	4	0	0	0	0
Lane Group Flow (vph)	215	678	0	0	1549	112	101	419	0	0	315	195
Confl. Bikes (#/hr)									58			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	52.0	34.3			34.3	34.3	23.0	23.0			23.0	45.7
Effective Green, g (s)	54.0	35.3			35.3	35.3	24.0	24.0			24.0	46.7
Actuated g/C Ratio	0.60	0.39			0.39	0.39	0.27	0.27			0.27	0.52
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	386	1188			1177	527	145	442			168	804
v/s Ratio Prot	c0.12	0.22			c0.52			0.25				0.13
v/s Ratio Perm	0.22					0.08	0.19				c0.50	
v/c Ratio	0.56	0.57			1.32	0.21	0.70	0.95			1.88	0.24
Uniform Delay, d1	32.9	21.4			27.3	18.1	29.7	32.4			33.0	11.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.36	0.50
Incremental Delay, d2	1.7	0.7			148.3	0.2	24.2	31.4			395.8	0.0
Delay (s)	34.7	22.1			175.7	18.3	53.9	63.8			440.8	6.0
Level of Service	C	C			F	B	D	E			F	A
Approach Delay (s)		25.1			155.4			61.9			274.5	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	127.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		

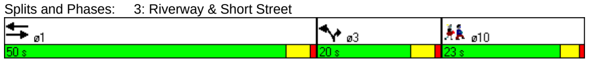
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	758	0	0	1474	86	74	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Lane Group Flow (vph)	815	0	0	1585	126	109	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.42			0.56	0.61	0.39	
Control Delay	14.0			15.7	48.2	11.2	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	14.0			15.7	48.2	11.2	
Queue Length 50th (ft)	154			237	68	0	
Queue Length 95th (ft)	215			304	91	19	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1960			2815	244	310	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.42			0.56	0.52	0.35	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 94.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4668	1501	1343
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4668	1501	1343
Volume (vph)	758	0	0	1474	86	74
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.68	0.68
Adj. Flow (vph)	815	0	0	1585	126	109
RTOR Reduction (vph)	0	0	0	0	0	95
Lane Group Flow (vph)	815	0	0	1585	126	14
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	55.3			55.3	11.0	11.0
Effective Green, g (s)	56.3			56.3	12.0	12.0
Actuated g/C Ratio	0.59			0.59	0.12	0.12
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1905			2738	188	168
v/s Ratio Prot	0.25			c0.34	c0.08	0.01
v/s Ratio Perm						
v/c Ratio	0.43			0.58	0.67	0.08
Uniform Delay, d1	11.0			12.4	40.1	37.1
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.7			0.9	9.0	0.2
Delay (s)	11.7			13.3	49.1	37.3
Level of Service	B			B	D	D
Approach Delay (s)	11.7			13.3	43.7	
Approach LOS	B			B	D	

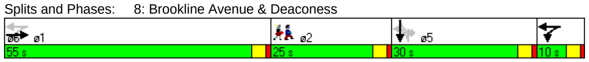
Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	27.7
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		761			110			295			256		
Travel Time (s)		17.3			2.5			6.7			5.8		
Volume (vph)	0	658	15	15	1196	0	70	0	140	5	5	128	
Confl. Bikes (#/hr)			5			12			1			1	
Peak Hour Factor	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82	
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	686	0	0	1408	0	109	0	219	6	162	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	55.0	0.0	10.0	10.0	0.0	30.0	0.0	30.0	30.0	30.0	0.0	25.0
Total Split (%)	0.0%	45.8%	0.0%	8.3%	8.3%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	21%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.56			0.98		0.82		0.55	0.02	0.46		
Control Delay		18.2			30.1		87.9		10.9	37.8	11.3		
Queue Delay		0.1			1.2		0.0		0.0	0.0	0.0		
Total Delay		18.3			31.3		87.9		10.9	37.8	11.3		
Queue Length 50th (ft)		115			~192		81		0	4	4		
Queue Length 95th (ft)		m129			m#694		95		4	14	46		
Internal Link Dist (ft)		681			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1219			1443		169		444	319	406		
Starvation Cap Reductn		0			11		0		0	0	0		
Spillback Cap Reductn		49			0		0		3	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.59			0.98		0.64		0.50	0.02	0.40		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.86	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2864			2901		1425		1258	1471	1308	
Flt Permitted		1.00			0.95		0.47		1.00	0.95	1.00	
Satd. Flow (perm)		2864			2745		702		1258	1471	1308	
Volume (vph)	0	658	15	15	1196	0	70	0	140	5	5	128
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	0	671	15	17	1391	0	109	0	219	6	6	156
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	182	0	129	0
Lane Group Flow (vph)	0	685	0	0	1408	0	109	0	37	6	33	0
Confl. Bikes (#/hr)			5			12			1			1
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		51.0			62.5		20.5		20.5	20.5	20.5	
Effective Green, g (s)		51.0			62.5		20.5		20.5	20.5	20.5	
Actuated g/C Ratio		0.42			0.52		0.17		0.17	0.17	0.17	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1217			1445		120		215	251	223	
v/s Ratio Prot		0.24			c0.09						0.02	
v/s Ratio Perm					c0.41		c0.16		0.03	0.00		
v/c Ratio		0.56			0.97		0.91		0.17	0.02	0.15	
Uniform Delay, d1		26.1			28.0		48.8		42.5	41.4	42.3	
Progression Factor		0.65			0.46		1.00		1.00	1.00	1.00	
Incremental Delay, d2		1.0			14.3		54.0		0.4	0.0	0.3	
Delay (s)		18.0			27.1		102.9		42.9	41.5	42.6	
Level of Service		B			C		F		D	D	D	
Approach Delay (s)		18.0			27.1			62.8			42.6	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	37.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

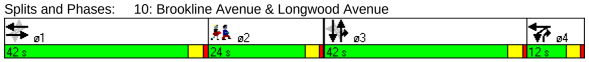
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	63	640	65	195	825	138	165	281	269	204	268	41	
Confl. Bikes (#/hr)			8			5			42			3	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%	
Lane Group Flow (vph)	66	742	0	219	1082	0	174	296	283	229	347	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	42.0	42.0	0.0	12.0	54.0	0.0	42.0	42.0	54.0	42.0	42.0	0.0	24.0
Total Split (%)	35.0%	35.0%	0.0%	10.0%	45.0%	0.0%	35.0%	35.0%	45.0%	35.0%	35.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.29	0.82		1.16	0.91		1.00	0.56	0.38	1.05	0.64		
Control Delay	242.0	23.8		131.2	29.7		96.3	25.0	1.8	113.9	39.2		
Queue Delay	0.0	0.5		0.0	0.0		0.0	0.7	0.3	0.0	0.0		
Total Delay	242.0	24.3		131.2	29.7		96.3	25.7	2.1	113.9	39.2		
Queue Length 50th (ft)	~38	220		~126	263		~135	118	0	~193	224		
Queue Length 95th (ft)	m#117	283		m#248	m#304		m#279	m223	m3	#348	326		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	51	909		189	1185		174	532	737	218	541		
Starvation Cap Reductn	0	25		0	0		0	63	125	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.29	0.84		1.16	0.91		1.00	0.63	0.46	1.05	0.64		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1458	2871		1458	2843		1444	1520	1292	1501	1546	
Flt Permitted	0.11	1.00		0.19	1.00		0.36	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	162	2871		288	2843		548	1520	1292	668	1546	
Volume (vph)	63	640	65	195	825	138	165	281	269	204	268	41
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	66	674	68	219	927	155	174	296	283	229	301	46
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	156	0	0	0
Lane Group Flow (vph)	66	742	0	219	1082	0	174	296	127	229	347	0
Confl. Bikes (#/hr)			8			5			42			3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Effective Green, g (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Actuated g/C Ratio	0.32	0.32		0.38	0.42		0.35	0.35	0.45	0.35	0.35	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	909		188	1185		192	532	581	234	541	
v/s Ratio Prot		0.26		c0.08	0.38			0.19	0.10		0.22	
v/s Ratio Perm	c0.41			0.37			0.32			c0.34		
v/c Ratio	1.29	0.82		1.16	0.91		0.91	0.56	0.22	0.98	0.64	
Uniform Delay, d1	41.0	37.8		33.6	33.0		37.1	31.5	20.1	38.6	32.7	
Progression Factor	0.43	0.43		0.99	0.62		0.71	0.66	0.20	1.00	1.00	
Incremental Delay, d2	216.2	7.1		104.9	7.4		36.6	1.1	0.2	52.2	2.6	
Delay (s)	233.9	23.3		138.2	27.8		63.0	22.0	4.2	90.7	35.3	
Level of Service	F	C		F	C		E	C	A	F	D	
Approach Delay (s)		40.5			46.3			24.8			57.3	
Approach LOS		D			D			C			E	

Intersection Summary

HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

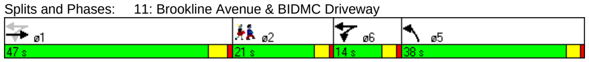
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	983	85	55	893	210	160	
Confl. Bikes (#/hr)		12					
Peak Hour Factor	0.93	0.93	0.90	0.90	0.77	0.77	
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%	
Lane Group Flow (vph)	1148	0	61	992	481	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	20.0		21.0
Total Split (s)	47.0	0.0	14.0	14.0	38.0	0.0	21.0
Total Split (%)	39.2%	0.0%	11.7%	11.7%	31.7%	0.0%	18%
Yellow Time (s)	4.0		3.0	3.0	3.0		3.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.03		0.30	0.70	1.03		
Control Delay	52.6		24.8	18.6	89.4		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	52.6		24.8	18.6	89.4		
Queue Length 50th (ft)	~283		16	190	~381		
Queue Length 95th (ft)	m#583		35	264	#449		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1119		200	1419	467		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.03		0.31	0.70	1.03		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 106 (88%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.99		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3109		1577	3154	1566	
Flt Permitted	1.00		0.09	1.00	0.97	
Satd. Flow (perm)	3109		154	3154	1566	
Volume (vph)	983	85	55	893	210	160
Peak-hour factor, PHF	0.93	0.93	0.90	0.90	0.77	0.77
Adj. Flow (vph)	1057	91	61	992	273	208
RTOR Reduction (vph)	5	0	0	0	23	0
Lane Group Flow (vph)	1143	0	61	992	458	0
Confl. Bikes (#/hr)		12				
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	42.0		53.0	53.0	34.0	
Effective Green, g (s)	43.0		54.0	54.0	34.0	
Actuated g/C Ratio	0.36		0.45	0.45	0.28	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1114		200	1419	444	
v/s Ratio Prot	c0.37		0.03	c0.06	c0.29	
v/s Ratio Perm			0.11	0.25		
v/c Ratio	1.03		0.30	0.70	1.03	
Uniform Delay, d1	38.5		45.9	26.5	43.0	
Progression Factor	0.60		1.00	1.00	1.00	
Incremental Delay, d2	28.3		3.9	2.9	51.1	
Delay (s)	51.2		49.8	29.4	94.1	
Level of Service	D		D	C	F	
Approach Delay (s)	51.2			30.5	94.1	
Approach LOS	D			C	F	

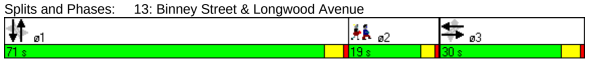
Intersection Summary			
HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	55	25	105	40	60	120	60	535	20	25	403	100	
Confl. Bikes (#/hr)						3			76			11	
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85	
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0	
Lane Group Flow (vph)	0	229	0	0	117	140	0	662	0	0	621	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	71.0	71.0	0.0	71.0	71.0	0.0	19.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%	59.2%	59.2%	0.0%	59.2%	59.2%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		0.88			0.50	0.37		0.44			0.42		
Control Delay		68.5			50.0	9.2		15.7			15.1		
Queue Delay		0.0			0.0	0.0		0.0			0.3		
Total Delay		68.5			50.0	9.2		15.7			15.4		
Queue Length 50th (ft)		134			79	0		152			110		
Queue Length 95th (ft)		#213			132	46		200			m116		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		287			266	414		1490			1464		
Starvation Cap Reductn		0			0	0		0			319		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.80			0.44	0.34		0.44			0.54		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.98		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.92			1.00	0.85		1.00			0.97	
Flt Protected		0.99			0.98	1.00		1.00			1.00	
Satd. Flow (prot)		1329			1643	1403		3100			2759	
Flt Permitted		0.81			0.70	1.00		0.82			0.90	
Satd. Flow (perm)		1090			1168	1403		2552			2486	
Volume (vph)	55	25	105	40	60	120	60	535	20	25	403	100
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	68	31	130	47	70	140	65	575	22	29	474	118
RTOR Reduction (vph)	0	40	0	0	0	113	0	2	0	0	16	0
Lane Group Flow (vph)	0	189	0	0	117	27	0	660	0	0	605	0
Confl. Bikes (#/hr)						3			76			11
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		22.0			22.0	22.0		69.0			69.0	
Effective Green, g (s)		23.0			23.0	23.0		70.0			70.0	
Actuated g/C Ratio		0.19			0.19	0.19		0.58			0.58	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		209			224	269		1489			1450	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.10	0.02		c0.26			0.24	
v/c Ratio		0.90			0.52	0.10		0.44			0.42	
Uniform Delay, d1		47.4			43.6	40.0		14.0			13.8	
Progression Factor		1.00			1.00	1.00		1.00			1.07	
Incremental Delay, d2		36.5			2.2	0.2		1.0			0.5	
Delay (s)		83.9			45.8	40.1		15.0			15.3	
Level of Service		F			D	D		B			B	
Approach Delay (s)		83.9			42.7			15.0			15.3	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

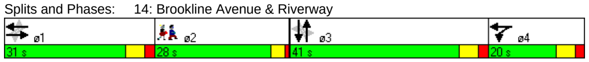
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		440			761			345			449		
Travel Time (s)		10.0			17.3			7.8			10.2		
Volume (vph)	132	429	5	540	725	5	10	592	275	0	1121	27	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87	
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	136	447	0	557	752	0	0	934	0	0	1320	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	31.0	31.0	0.0	20.0	51.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	28.0
Total Split (%)	25.8%	25.8%	0.0%	16.7%	42.5%	0.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	23%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	2.57	0.70		1.81	0.65			1.03			1.08		
Control Delay	777.9	49.3		396.5	44.0			72.7			85.4		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	777.9	49.3		396.5	44.0			72.7			85.4		
Queue Length 50th (ft)	~177	168		~572	261			~421			~645		
Queue Length 95th (ft)	#307	227		m#624	m291			#554			#743		
Internal Link Dist (ft)		360			681			265			369		
Turn Bay Length (ft)													
Base Capacity (vph)	53	643		308	1164			905			1223		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	2.57	0.70		1.81	0.65			1.03			1.08		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.95			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1510	2857		1486	2970			2991			2992	
Flt Permitted	0.15	1.00		0.30	1.00			0.80			1.00	
Satd. Flow (perm)	243	2857		474	2970			2400			2992	
Volume (vph)	132	429	5	540	725	5	10	592	275	0	1121	27
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	136	442	5	557	747	5	11	630	293	0	1289	31
RTOR Reduction (vph)	0	0	0	0	1	0	0	38	0	0	1	0
Lane Group Flow (vph)	136	447	0	557	751	0	0	896	0	0	1319	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	24.2	24.2		38.2	44.2			47.0			47.0	
Effective Green, g (s)	26.2	26.2		42.2	46.2			49.0			49.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.38			0.41			0.41	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	53	624		302	1143			980			1222	
v/s Ratio Prot		0.16		c0.25	0.25						c0.44	
v/s Ratio Perm	c0.56			0.40				0.37				
v/c Ratio	2.57	0.72		1.84	0.66			0.91			1.08	
Uniform Delay, d1	46.9	43.5		34.8	30.4			33.5			35.5	
Progression Factor	1.00	1.00		1.41	1.43			1.00			1.00	
Incremental Delay, d2	756.6	6.9		384.9	1.2			14.3			50.0	
Delay (s)	803.5	50.4		433.9	44.5			47.8			85.5	
Level of Service	F	D		F	D			D			F	
Approach Delay (s)		226.0			210.2			47.8			85.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	136.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	713	20	5	1555	45	45
Peak Hour Factor	0.90	0.90	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	792	22	5	1654	57	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.85		0.87	0.85
vC, conflicting volume			814		1365	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			606		524	127
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		87	93
cM capacity (veh/h)			835		423	770

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	528	286	336	662	662	114
Volume Left	0	0	5	0	0	57
Volume Right	0	22	0	0	0	57
cSH	1700	1700	835	1700	1700	546
Volume to Capacity	0.31	0.17	0.01	0.39	0.39	0.21
Queue Length 95th (ft)	0	0	0	0	0	20
Control Delay (s)	0.0	0.0	0.2	0.0	0.0	13.3
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			13.3
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	435	0	1	347
Peak Hour Factor	0.92	0.92	0.86	0.86	0.82	0.82
Hourly flow rate (vph)	1	1	506	0	1	423
Pedestrians	312		36			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	26		3			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.87	0.98			0.98	
vC, conflicting volume	1279	828			818	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	825			814	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	112	268			593	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	506	424
Volume Left	1	0	1
Volume Right	1	0	0
cSH	158	1700	593
Volume to Capacity	0.01	0.30	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	28.1	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	28.1	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	6	105	66	54	72	90	305	48	34	315	20
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Hourly flow rate (vph)	11	7	114	71	58	77	105	355	56	41	384	24
Pedestrians		104			300			71			74	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		9			27			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.93	0.93	0.91	0.93	0.93	0.88	0.91			0.88		
vC, conflicting volume	1328	1503	571	1547	1487	757	513			710		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1216	1405	531	1453	1388	725	467			672		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	50	91	74	0	21	70	89			93		
cM capacity (veh/h)	22	72	437	31	73	261	919			595		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	132	206	105	410	41	409
Volume Left	11	71	105	0	41	0
Volume Right	114	77	0	56	0	24
cSH	153	62	919	1700	595	1700
Volume to Capacity	0.86	3.35	0.11	0.24	0.07	0.24
Queue Length 95th (ft)	145	Err	10	0	6	0
Control Delay (s)	96.7	Err	9.4	0.0	11.5	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	96.7	Err	1.9		1.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	1595.0		
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	0	0	0	106	0	0
Peak Hour Factor	0.61	0.61	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	0	0	0	116	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	0	116
Volume Left (vph)	0	0
Volume Right (vph)	0	116
Hadj (s)	0.00	-0.60
Departure Headway (s)	4.0	3.3
Degree Utilization, x	0.00	0.11
Capacity (veh/h)	900	1085
Control Delay (s)	7.0	6.7
Approach Delay (s)	0.0	6.7
Approach LOS	A	A

Intersection Summary			
Delay	6.7		
HCM Level of Service	A		
Intersection Capacity Utilization	12.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	70	703	1211	40	0	0
Peak Hour Factor	0.98	0.98	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	71	717	1408	47	0	0
Pedestrians					155	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.67				0.75	0.67
vC, conflicting volume	1610				2088	882
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1422				1484	344
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				100	100
cM capacity (veh/h)	314				69	444

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	71	359	359	939	516
Volume Left	71	0	0	0	0
Volume Right	0	0	0	0	47
cSH	314	1700	1700	1700	1700
Volume to Capacity	0.23	0.21	0.21	0.55	0.30
Queue Length 95th (ft)	22	0	0	0	0
Control Delay (s)	19.8	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	1.8			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	1139	938	101	0	0
Peak Hour Factor	0.93	0.93	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	10	1225	1066	115	0	0
Pedestrians					145	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.70	
vC, conflicting volume	1326				1900	735
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1326				1857	735
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	512				45	362

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	418	816	711	470
Volume Left	10	0	0	0
Volume Right	0	0	0	115
cSH	512	1700	1700	1700
Volume to Capacity	0.02	0.48	0.42	0.28
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

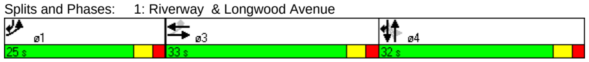
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		445			494			243			379	
Travel Time (s)		10.1			11.2			5.5			8.6	
Volume (vph)	350	895	65	0	935	65	40	230	30	115	415	100
Confl. Bikes (#/hr)			1			1			3			59
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Lane Group Flow (vph)	376	1032	0	0	1113	77	53	347	0	0	563	106
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	25.0	33.0	0.0	0.0	33.0	33.0	32.0	32.0	0.0	32.0	32.0	57.0
Total Split (%)	27.8%	36.7%	0.0%	0.0%	36.7%	36.7%	35.6%	35.6%	0.0%	35.6%	35.6%	63.3%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.92	1.04			1.12	0.16	0.73	0.66			2.11	0.12
Control Delay	53.2	70.4			96.0	6.3	81.5	33.5			523.2	3.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	177.6			0.0	0.0
Total Delay	53.2	70.4			96.0	6.3	81.5	211.1			523.2	3.0
Queue Length 50th (ft)	161	~345			~395	0	27	166			~506	10
Queue Length 95th (ft)	#329	#472			#466	26	#72	205			m#411	m7
Internal Link Dist (ft)		365			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	422	993			998	489	73	523			267	886
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	13	0	272			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.89	1.04			1.12	0.16	0.73	1.38			2.11	0.12

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1501	2968			3002	1315	1555	1661			1588	1505
Flt Permitted	0.13	1.00			1.00	1.00	0.14	1.00			0.53	1.00
Satd. Flow (perm)	211	2968			3002	1315	234	1661			858	1505
Volume (vph)	350	895	65	0	935	65	40	230	30	115	415	100
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Adj. Flow (vph)	376	962	70	0	1113	77	53	307	40	122	441	106
RTOR Reduction (vph)	0	6	0	0	0	51	0	6	0	0	0	0
Lane Group Flow (vph)	376	1026	0	0	1113	26	53	341	0	0	563	106
Confl. Bikes (#/hr)			1			1			3			59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	48.0	28.9			28.9	28.9	27.0	27.0			27.0	51.1
Effective Green, g (s)	50.0	29.9			29.9	29.9	28.0	28.0			28.0	52.1
Actuated g/C Ratio	0.56	0.33			0.33	0.33	0.31	0.31			0.31	0.58
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	405	986			997	437	73	517			267	871
v/s Ratio Prot	c0.21	0.35			c0.37			0.21				0.07
v/s Ratio Perm	0.31					0.02	0.23				c0.66	
v/c Ratio	0.93	1.04			1.12	0.06	0.73	0.66			2.11	0.12
Uniform Delay, d1	24.4	30.1			30.1	20.5	27.6	26.9			31.0	8.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.18	0.35
Incremental Delay, d2	27.2	39.8			66.1	0.1	47.2	6.5			500.0	0.0
Delay (s)	51.7	69.8			96.1	20.5	74.8	33.4			536.7	3.0
Level of Service	D	E			F	C	E	C			F	A
Approach Delay (s)		65.0			91.2			38.9			452.2	
Approach LOS		E			F			D			F	

Intersection Summary

HCM Average Control Delay	141.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	995	0	0	930	80	90	
Confl. Bikes (#/hr)		3					
Peak Hour Factor	0.93	0.93	0.82	0.82	0.61	0.61	
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%	
Lane Group Flow (vph)	1070	0	0	1134	131	148	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.59			0.44	0.60	0.46	
Control Delay	17.0			14.2	47.4	11.2	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	17.0			14.2	47.4	11.2	
Queue Length 50th (ft)	229			150	71	0	
Queue Length 95th (ft)	310			171	83	10	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1802			2564	267	360	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.59			0.44	0.49	0.41	

Intersection Summary	
Area Type:	CBD
Cycle Length: 93	
Actuated Cycle Length: 86.1	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Riverway & Short Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4622	1472	1317
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4622	1472	1317
Volume (vph)	995	0	0	930	80	90
Peak-hour factor, PHF	0.93	0.93	0.82	0.82	0.61	0.61
Adj. Flow (vph)	1070	0	0	1134	131	148
RTOR Reduction (vph)	0	0	0	0	0	126
Lane Group Flow (vph)	1070	0	0	1134	131	22
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.7			46.7	11.8	11.8
Effective Green, g (s)	47.7			47.7	12.8	12.8
Actuated g/C Ratio	0.55			0.55	0.15	0.15
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1785			2540	217	194
v/s Ratio Prot	c0.33			0.25	c0.09	0.02
v/s Ratio Perm						
v/c Ratio	0.60			0.45	0.60	0.11
Uniform Delay, d1	13.1			11.7	34.6	32.1
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.5			0.6	4.7	0.3
Delay (s)	14.6			12.2	39.3	32.3
Level of Service	B			B	D	C
Approach Delay (s)	14.6			12.2	35.6	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	26.3
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

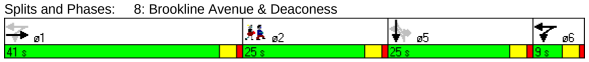
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		744			110			295			256		
Travel Time (s)		16.9			2.5			6.7			5.8		
Volume (vph)	0	1035	15	25	700	0	45	0	70	25	15	50	
Confl. Bikes (#/hr)			13			5			2			8	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	1153	0	0	780	0	56	0	88	43	112	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	41.0	0.0	9.0	9.0	0.0	25.0	0.0	25.0	25.0	25.0	0.0	25.0
Total Split (%)	0.0%	41.0%	0.0%	9.0%	9.0%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	25%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		1.12			0.58		0.55		0.42	0.25	0.48		
Control Delay		92.1			8.3		60.4		14.6	41.8	19.8		
Queue Delay		93.6			0.0		0.0		0.0	0.0	0.0		
Total Delay		185.7			8.3		60.4		14.6	41.8	19.8		
Queue Length 50th (ft)		~426			77		34		0	25	15		
Queue Length 95th (ft)		m#347			m104		63		32	35	21		
Internal Link Dist (ft)		664			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1032			1340		186		312	318	359		
Starvation Cap Reductn		0			0		0		0	0	0		
Spillback Cap Reductn		165			0		0		5	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		1.33			0.58		0.30		0.29	0.14	0.31		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 42 (42%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.98	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.88	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2787			2790		1310		1154	1512	1378	
Flt Permitted		1.00			0.86		0.57		1.00	0.95	1.00	
Satd. Flow (perm)		2787			2400		791		1154	1512	1378	
Volume (vph)	0	1035	15	25	700	0	45	0	70	25	15	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58
Adj. Flow (vph)	0	1137	16	27	753	0	56	0	88	43	26	86
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	78	0	76	0
Lane Group Flow (vph)	0	1152	0	0	780	0	56	0	10	43	36	0
Confl. Bikes (#/hr)			13			5			2			8
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		36.2			55.7		11.5		11.5	11.5	11.5	
Effective Green, g (s)		36.2			55.7		11.5		11.5	11.5	11.5	
Actuated g/C Ratio		0.36			0.56		0.12		0.12	0.12	0.12	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1009			1413		91		133	174	158	
v/s Ratio Prot		c0.41			c0.11						0.03	
v/s Ratio Perm					0.20		c0.07		0.01	0.03		
v/c Ratio		1.14			0.55		0.62		0.08	0.25	0.23	
Uniform Delay, d1		31.9			14.2		42.1		39.5	40.3	40.2	
Progression Factor		1.28			0.51		1.00		1.00	1.00	1.00	
Incremental Delay, d2		64.9			0.5		11.7		0.2	0.7	0.7	
Delay (s)		105.8			7.7		53.9		39.8	41.1	40.9	
Level of Service		F			A		D		D	D	D	
Approach Delay (s)		105.8			7.7			45.2			41.0	
Approach LOS		F			A			D			D	

Intersection Summary			
HCM Average Control Delay	63.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.8
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

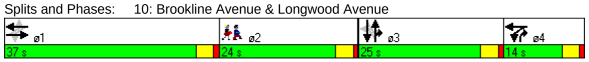
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	45	820	100	285	570	220	115	255	250	150	280	55	
Confl. Bikes (#/hr)			4			3			4			38	
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86	
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%	
Lane Group Flow (vph)	55	1122	0	310	859	0	149	331	325	174	390	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	37.0	37.0	0.0	14.0	51.0	0.0	25.0	25.0	39.0	25.0	25.0	0.0	24.0
Total Split (%)	37.0%	37.0%	0.0%	14.0%	51.0%	0.0%	25.0%	25.0%	39.0%	25.0%	25.0%	0.0%	24%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	0.92	1.21		1.51	0.66		2.13	0.90	0.48	2.35	1.05		
Control Delay	76.9	123.0		277.9	16.6		570.6	65.3	3.0	669.3	98.8		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.2	0.0	0.0		
Total Delay	76.9	123.0		277.9	16.6		570.6	65.3	3.2	669.3	98.8		
Queue Length 50th (ft)	16	~442		~241	90		~150	179	0	~183	~273		
Queue Length 95th (ft)	m17	m#383		m#396	m167		m#208	m#229	m0	#299	#424		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	60	927		205	1292		70	366	684	74	371		
Starvation Cap Reductn	0	0		0	0		0	0	63	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	0.92	1.21		1.51	0.66		2.13	0.90	0.52	2.35	1.05		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 43 (43%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1430	2810		1444	2750		1391	1464	1245	1458	1486	
Flt Permitted	0.12	1.00		0.12	1.00		0.18	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	183	2810		184	2750		257	1464	1245	417	1486	
Volume (vph)	45	820	100	285	570	220	115	255	250	150	280	55
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	55	1000	122	310	620	239	149	331	325	174	326	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	198	0	0	0
Lane Group Flow (vph)	55	1122	0	310	859	0	149	331	127	174	390	0
Confl. Bikes (#/hr)			4			3			4			38
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Effective Green, g (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Actuated g/C Ratio	0.33	0.33		0.43	0.47		0.25	0.25	0.39	0.25	0.25	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	927		205	1293		64	366	486	104	372	
v/s Ratio Prot		0.40		c0.15	0.31			0.23	0.10		0.26	
v/s Ratio Perm	0.30			c0.50			c0.58			0.42		
v/c Ratio	0.92	1.21		1.51	0.66		2.33	0.90	0.26	1.67	1.05	
Uniform Delay, d1	32.2	33.5		26.0	20.4		37.5	36.3	20.7	37.5	37.5	
Progression Factor	0.77	0.72		1.71	0.70		1.05	1.06	0.38	1.00	1.00	
Incremental Delay, d2	43.4	97.7		247.7	0.9		637.7	22.3	0.2	341.1	59.9	
Delay (s)	68.2	121.8		292.1	15.2		677.0	60.9	8.0	378.6	97.4	
Level of Service	E	F		F	B		F	E	A	F	F	
Approach Delay (s)		119.3			88.7			153.6			184.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	126.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

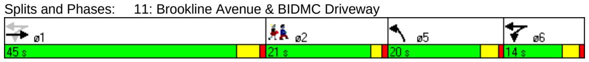
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	895	210	170	1070	100	85	
Confl. Bikes (#/hr)		5					
Peak Hour Factor	0.89	0.89	0.91	0.91	0.65	0.65	
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%	
Lane Group Flow (vph)	1242	0	187	1176	285	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	16.0		21.0
Total Split (s)	45.0	0.0	14.0	14.0	20.0	0.0	21.0
Total Split (%)	45.0%	0.0%	14.0%	14.0%	20.0%	0.0%	21%
Yellow Time (s)	4.0		3.0	3.0	3.0		2.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.01		0.71	0.66	0.94		
Control Delay	19.8		38.0	17.5	76.9		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	19.8		38.0	17.5	76.9		
Queue Length 50th (ft)	~118		72	270	~167		
Queue Length 95th (ft)	m98		#196	347	#185		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1234		262	1786	303		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.01		0.71	0.66	0.94		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	2964		1547	3094	1562	
Flt Permitted	1.00		0.10	1.00	0.97	
Satd. Flow (perm)	2964		161	3094	1562	
Volume (vph)	895	210	170	1070	100	85
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.65	0.65
Adj. Flow (vph)	1006	236	187	1176	154	131
RTOR Reduction (vph)	20	0	0	0	30	0
Lane Group Flow (vph)	1222	0	187	1176	255	0
Confl. Bikes (#/hr)		5				
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	39.4		52.1	52.1	17.5	
Effective Green, g (s)	40.4		53.1	53.1	17.5	
Actuated g/C Ratio	0.40		0.53	0.53	0.18	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1197		262	1767	273	
v/s Ratio Prot	c0.41		0.09	c0.08	c0.16	
v/s Ratio Perm			0.29	0.30		
v/c Ratio	1.02		0.71	0.67	0.94	
Uniform Delay, d1	29.8		21.8	17.0	40.7	
Progression Factor	0.26		1.00	1.00	1.00	
Incremental Delay, d2	13.8		15.3	2.0	37.1	
Delay (s)	21.5		37.2	19.0	77.8	
Level of Service	C		D	B	E	
Approach Delay (s)	21.5			21.5	77.8	
Approach LOS	C			C	E	

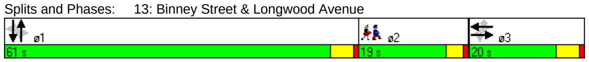
Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	95	45	105	50	45	65	85	455	45	90	425	140	
Confl. Bikes (#/hr)						1			4			43	
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87	
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0	
Lane Group Flow (vph)	0	295	0	0	108	74	0	636	0	0	753	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	20.0	61.0	61.0	0.0	61.0	61.0	0.0	19.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	20.0%	61.0%	61.0%	0.0%	61.0%	61.0%	0.0%	19%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		1.23			0.61	0.23		0.52			0.64		
Control Delay		167.9			56.2	11.0		14.8			6.6		
Queue Delay		0.0			0.0	0.0		0.0			0.8		
Total Delay		167.9			56.2	11.0		14.8			7.5		
Queue Length 50th (ft)		~244			67	0		120			45		
Queue Length 95th (ft)		#368			#153	38		169			m34		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		240			177	318		1213			1185		
Starvation Cap Reductn		0			0	0		0			182		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.23			0.61	0.23		0.52			0.75		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.94			1.00	0.85		0.99			0.97	
Flt Protected		0.98			0.97	1.00		0.99			0.99	
Satd. Flow (prot)		1408			1515	1304		2893			2671	
Flt Permitted		0.78			0.63	1.00		0.72			0.75	
Satd. Flow (perm)		1119			981	1304		2112			2029	
Volume (vph)	95	45	105	50	45	65	85	455	45	90	425	140
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	114	54	127	57	51	74	92	495	49	103	489	161
RTOR Reduction (vph)	0	26	0	0	0	59	0	6	0	0	25	0
Lane Group Flow (vph)	0	269	0	0	108	15	0	630	0	0	728	0
Confl. Bikes (#/hr)						1			4			43
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		55.2			55.2	
Effective Green, g (s)		19.8			19.8	19.8		56.2			56.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		222			194	258		1187			1140	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.11	0.01		0.30			c0.36	
v/c Ratio		1.21			0.56	0.06		0.53			0.64	
Uniform Delay, d1		40.1			36.1	32.5		13.7			15.0	
Progression Factor		1.00			1.00	1.00		1.00			0.47	
Incremental Delay, d2		130.0			3.4	0.1		1.7			0.3	
Delay (s)		170.1			39.6	32.6		15.4			7.3	
Level of Service		F			D	C		B			A	
Approach Delay (s)		170.1			36.7			15.4			7.3	
Approach LOS		F			D			B			A	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		486			744			327			484		
Travel Time (s)		11.0			16.9			7.4			11.0		
Volume (vph)	230	635	5	275	465	15	5	1000	640	0	640	70	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	242	673	0	299	521	0	0	1714	0	0	835	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	26.0	26.0	0.0	8.0	34.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0	28.0
Total Split (%)	26.0%	26.0%	0.0%	8.0%	34.0%	0.0%	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	28%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	3.78	1.06		2.51	0.60			1.15			0.56		
Control Delay	1303.1	91.3		719.0	25.3			101.8			21.0		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	1303.1	91.3		719.0	25.3			101.8			21.0		
Queue Length 50th (ft)	~280	~249		~320	130			~730			217		
Queue Length 95th (ft)	#403	#364		#483	147			#871			263		
Internal Link Dist (ft)		406			664			247			404		
Turn Bay Length (ft)													
Base Capacity (vph)	64	635		119	864			1486			1485		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	3.78	1.06		2.51	0.60			1.15			0.56		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 1:EBWB, Start of Green

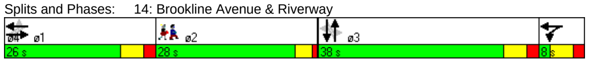
Natural Cycle: 75

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.94			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	2886		1444	2875			2957			2958	
Flt Permitted	0.20	1.00		0.20	1.00			0.95			1.00	
Satd. Flow (perm)	315	2886		298	2875			2818			2958	
Volume (vph)	230	635	5	275	465	15	5	1000	640	0	640	70
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	242	668	5	299	505	16	5	1042	667	0	753	82
RTOR Reduction (vph)	0	0	0	0	2	0	0	78	0	0	7	0
Lane Group Flow (vph)	242	673	0	299	519	0	0	1637	0	0	829	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	18.4	18.4		20.4	26.4			48.0			48.0	
Effective Green, g (s)	20.4	20.4		24.4	28.4			50.0			50.0	
Actuated g/C Ratio	0.20	0.20		0.24	0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	64	589		119	817			1409			1479	
v/s Ratio Prot		0.23		c0.10	0.18						0.28	
v/s Ratio Perm	c0.77			0.51				c0.58				
v/c Ratio	3.78	1.14		2.51	0.64			1.16			0.56	
Uniform Delay, d1	39.8	39.8		37.9	31.3			25.0			17.4	
Progression Factor	1.00	1.00		0.76	0.75			1.00			1.00	
Incremental Delay, d2	1288.7	83.1		700.9	3.1			80.9			1.5	
Delay (s)	1328.5	122.9		729.7	26.6			105.9			18.9	
Level of Service	F	F		F	C			F			B	
Approach Delay (s)		441.7			283.0			105.9			18.9	
Approach LOS		F			F			F			B	

Intersection Summary			
HCM Average Control Delay	194.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	980	60	15	995	5	15
Peak Hour Factor	0.95	0.95	0.83	0.83	0.59	0.59
Hourly flow rate (vph)	1032	63	18	1199	8	25
Pedestrians					16	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.71		0.78	0.71
vC, conflicting volume			1111		1515	563
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			747		698	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			605		281	764

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	688	407	258	480	480	34
Volume Left	0	0	18	0	0	8
Volume Right	0	63	0	0	0	25
cSH	1700	1700	605	1700	1700	535
Volume to Capacity	0.40	0.24	0.03	0.28	0.28	0.06
Queue Length 95th (ft)	0	0	2	0	0	5
Control Delay (s)	0.0	0.0	1.1	0.0	0.0	12.2
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			12.2
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	10	275	2	2	505
Peak Hour Factor	0.92	0.92	0.76	0.76	0.91	0.91
Hourly flow rate (vph)	11	11	362	3	2	555
Pedestrians	397		32			34
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	33		3			3
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.71					
vC, conflicting volume	1351	794			761	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1493	794			761	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	96			100	
cM capacity (veh/h)	63	252			575	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	364	557
Volume Left	11	0	2
Volume Right	11	3	0
cSH	100	1700	575
Volume to Capacity	0.22	0.21	0.00
Queue Length 95th (ft)	19	0	0
Control Delay (s)	50.5	0.0	0.1
Lane LOS	F		A
Approach Delay (s)	50.5	0.0	0.1
Approach LOS	F		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	1	30	6	1	5	180	190	85	180	380	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Hourly flow rate (vph)	5	1	33	7	1	5	237	250	112	198	418	77
Pedestrians		315			426			62			98	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		26			38			5			7	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	1994	2428	833	2114	2411	830	810			788		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2078	2548	819	2207	2529	830	794			788		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	11	73	87	0	74	97	58			62		
cM capacity (veh/h)	6	4	246	4	4	213	563			517		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	39	13	237	362	198	495
Volume Left	5	7	237	0	198	0
Volume Right	33	5	0	112	0	77
cSH	30	6	563	1700	517	1700
Volume to Capacity	1.29	2.03	0.42	0.21	0.38	0.29
Queue Length 95th (ft)	111	67	52	0	44	0
Control Delay (s)	461.7	1553.6	16.0	0.0	16.2	0.0
Lane LOS	F	F	C		C	
Approach Delay (s)	461.7	1553.6	6.3		4.6	
Approach LOS	F	F				

Intersection Summary			
Average Delay	33.7		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	5	0	65	95	0	0
Peak Hour Factor	0.33	0.33	0.63	0.63	0.92	0.92
Hourly flow rate (vph)	15	0	103	151	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	15	254
Volume Left (vph)	15	0
Volume Right (vph)	0	151
Hadj (s)	0.20	-0.34
Departure Headway (s)	4.3	3.6
Degree Utilization, x	0.02	0.25
Capacity (veh/h)	815	1001
Control Delay (s)	7.4	7.8
Approach Delay (s)	7.4	7.8
Approach LOS	A	A

Intersection Summary			
Delay	7.8		
HCM Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	125	1000	730	45	0	0
Peak Hour Factor	0.91	0.91	0.93	0.93	0.25	0.25
Hourly flow rate (vph)	137	1099	785	48	0	0
Pedestrians					226	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked					0.65	
vC, conflicting volume	1059				1859	643
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1059				1784	643
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	78				100	100
cM capacity (veh/h)	624				38	421

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	137	549	549	523	310
Volume Left	137	0	0	0	0
Volume Right	0	0	0	0	48
cSH	624	1700	1700	1700	1700
Volume to Capacity	0.22	0.32	0.32	0.31	0.18
Queue Length 95th (ft)	21	0	0	0	0
Control Delay (s)	12.4	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.4			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	975	1305	190	0	0
Peak Hour Factor	0.94	0.94	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	5	1037	1483	216	0	0
Pedestrians					60	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.76	
vC, conflicting volume	1759				2180	909
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1759				2238	909
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	335				27	277

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	351	691	989	710
Volume Left	5	0	0	0
Volume Right	0	0	0	216
cSH	335	1700	1700	1700
Volume to Capacity	0.02	0.41	0.58	0.42
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

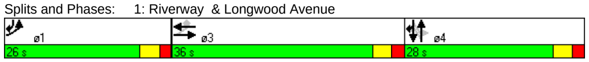
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			494			243			379	
Travel Time (s)		10.9			11.2			5.5			8.6	
Volume (vph)	210	665	5	0	1445	220	75	335	30	70	255	200
Confl. Bikes (#/hr)									58			6
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	226	720	0	0	1606	244	87	425	0	0	325	200
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	26.0	36.0	0.0	0.0	36.0	36.0	28.0	28.0	0.0	28.0	28.0	54.0
Total Split (%)	28.9%	40.0%	0.0%	0.0%	40.0%	40.0%	31.1%	31.1%	0.0%	31.1%	31.1%	60.0%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.57	0.61			1.37	0.38	0.63	0.95			1.99	0.25
Control Delay	20.2	25.4			197.0	7.2	52.2	65.9			475.5	5.8
Queue Delay	0.0	0.0			0.0	0.1	0.0	660.8			0.0	0.0
Total Delay	20.2	25.4			197.0	7.2	52.2	726.7			475.5	5.8
Queue Length 50th (ft)	63	175			~664	17	44	235			~285	31
Queue Length 95th (ft)	135	242			#810	73	#106	#391			m#190	m19
Internal Link Dist (ft)		400			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	445	1187			1176	646	138	447			163	861
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	42	0	324			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.51	0.61			1.37	0.40	0.63	3.46			1.99	0.23

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1516	3029			3002	1343	1555	1664			1635	1550
Flt Permitted	0.11	1.00			1.00	1.00	0.32	1.00			0.37	1.00
Satd. Flow (perm)	181	3029			3002	1343	518	1664			612	1550
Volume (vph)	210	665	5	0	1445	220	75	335	30	70	255	200
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Adj. Flow (vph)	226	715	5	0	1606	244	87	390	35	70	255	200
RTOR Reduction (vph)	0	1	0	0	0	120	0	4	0	0	0	0
Lane Group Flow (vph)	226	719	0	0	1606	124	87	421	0	0	325	200
Confl. Bikes (#/hr)									58			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	52.0	34.2			34.2	34.2	23.0	23.0			23.0	45.8
Effective Green, g (s)	54.0	35.2			35.2	35.2	24.0	24.0			24.0	46.8
Actuated g/C Ratio	0.60	0.39			0.39	0.39	0.27	0.27			0.27	0.52
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	387	1185			1174	525	138	444			163	806
v/s Ratio Prot	c0.12	0.24			c0.53			0.25				0.13
v/s Ratio Perm	0.23					0.09	0.17				c0.53	
v/c Ratio	0.58	0.61			1.37	0.24	0.63	0.95			1.99	0.25
Uniform Delay, d1	33.1	21.9			27.4	18.4	29.1	32.4			33.0	11.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.36	0.50
Incremental Delay, d2	2.2	0.9			171.1	0.2	19.9	31.7			449.2	0.0
Delay (s)	35.3	22.8			198.5	18.6	49.0	64.1			494.2	6.0
Level of Service	D	C			F	B	D	E			F	A
Approach Delay (s)		25.8			174.8			61.5			308.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	141.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
Analysis Period (min)	15		

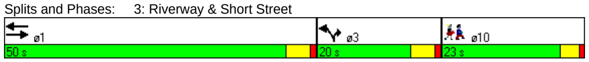
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	790	0	0	1505	120	105	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Lane Group Flow (vph)	849	0	0	1618	176	154	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.48			0.64	0.72	0.44	
Control Delay	15.6			17.5	53.8	10.4	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	15.6			17.5	53.8	10.4	
Queue Length 50th (ft)	172			258	98	0	
Queue Length 95th (ft)	226			313	122	19	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1767			2539	275	372	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.48			0.64	0.64	0.41	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.7
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4668	1501	1343
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4668	1501	1343
Volume (vph)	790	0	0	1505	120	105
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.68	0.68
Adj. Flow (vph)	849	0	0	1618	176	154
RTOR Reduction (vph)	0	0	0	0	0	129
Lane Group Flow (vph)	849	0	0	1618	176	25
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.1			46.1	13.1	13.1
Effective Green, g (s)	47.1			47.1	14.1	14.1
Actuated g/C Ratio	0.54			0.54	0.16	0.16
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1751			2516	242	217
v/s Ratio Prot	0.26			c0.35	c0.12	0.02
v/s Ratio Perm						
v/c Ratio	0.48			0.64	0.73	0.11
Uniform Delay, d1	12.6			14.2	34.8	31.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.0			1.3	10.4	0.2
Delay (s)	13.5			15.5	45.2	31.6
Level of Service	B			B	D	C
Approach Delay (s)	13.5			15.5	38.8	
Approach LOS	B			B	D	

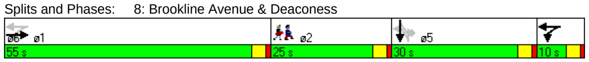
Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	26.2
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		737			110			295			256		
Travel Time (s)		16.8			2.5			6.7			5.8		
Volume (vph)	0	685	20	15	1225	0	70	0	145	5	5	125	
Confl. Bikes (#/hr)			5			12			1			1	
Peak Hour Factor	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82	
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	719	0	0	1441	0	109	0	227	6	158	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	55.0	0.0	10.0	10.0	0.0	30.0	0.0	30.0	30.0	30.0	0.0	25.0
Total Split (%)	0.0%	45.8%	0.0%	8.3%	8.3%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	21%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.59			1.00		0.81		0.57	0.02	0.45		
Control Delay		18.7			34.7		86.7		11.0	38.0	11.3		
Queue Delay		0.1			1.1		0.0		0.0	0.0	0.0		
Total Delay		18.8			35.8		86.7		11.0	38.0	11.3		
Queue Length 50th (ft)		119			~222		81		0	4	4		
Queue Length 95th (ft)		m129			m#724		95		3	14	45		
Internal Link Dist (ft)		657			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1218			1448		172		450	319	403		
Starvation Cap Reductn		0			7		0		0	0	0		
Spillback Cap Reductn		51			0		0		4	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.62			1.00		0.63		0.51	0.02	0.39		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.86	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2861			2901		1425		1258	1471	1308	
Flt Permitted		1.00			0.95		0.48		1.00	0.95	1.00	
Satd. Flow (perm)		2861			2744		714		1258	1471	1308	
Volume (vph)	0	685	20	15	1225	0	70	0	145	5	5	125
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	0	699	20	17	1424	0	109	0	227	6	6	152
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	189	0	126	0
Lane Group Flow (vph)	0	717	0	0	1441	0	109	0	38	6	32	0
Confl. Bikes (#/hr)			5			12			1			1
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		51.0			62.7		20.3		20.3	20.3	20.3	
Effective Green, g (s)		51.0			62.7		20.3		20.3	20.3	20.3	
Actuated g/C Ratio		0.42			0.52		0.17		0.17	0.17	0.17	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1216			1449		121		213	249	221	
v/s Ratio Prot		0.25			c0.10						0.02	
v/s Ratio Perm					c0.42		c0.15		0.03	0.00		
v/c Ratio		0.59			0.99		0.90		0.18	0.02	0.14	
Uniform Delay, d1		26.5			28.5		48.9		42.7	41.6	42.4	
Progression Factor		0.66			0.47		1.00		1.00	1.00	1.00	
Incremental Delay, d2		1.0			18.0		52.3		0.4	0.0	0.3	
Delay (s)		18.5			31.4		101.1		43.1	41.6	42.7	
Level of Service		B			C		F		D	D	D	
Approach Delay (s)		18.5			31.4			61.9			42.7	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	37.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

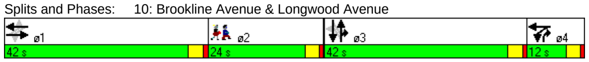
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	70	660	70	205	850	135	170	290	285	185	270	30	
Confl. Bikes (#/hr)			8			5			42			3	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%	
Lane Group Flow (vph)	74	769	0	230	1107	0	179	305	300	208	337	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	42.0	42.0	0.0	12.0	54.0	0.0	42.0	42.0	54.0	42.0	42.0	0.0	24.0
Total Split (%)	35.0%	35.0%	0.0%	10.0%	45.0%	0.0%	35.0%	35.0%	45.0%	35.0%	35.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.45	0.85		1.27	0.93		0.99	0.57	0.40	0.99	0.62		
Control Delay	299.6	25.1		174.8	32.4		92.2	24.8	1.7	98.6	38.4		
Queue Delay	0.0	0.7		0.0	0.0		0.0	0.7	0.3	0.0	0.0		
Total Delay	299.6	25.8		174.8	32.4		92.2	25.5	2.0	98.6	38.4		
Queue Length 50th (ft)	~50	225		~157	270		138	127	0	159	215		
Queue Length 95th (ft)	m#129	#308		m#278	m#332		m#282	m225	m2	#315	314		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	51	909		181	1185		180	532	746	211	544		
Starvation Cap Reductn	0	25		0	0		0	61	123	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.45	0.87		1.27	0.93		0.99	0.65	0.48	0.99	0.62		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1458	2869		1458	2846		1444	1520	1292	1501	1554	
Flt Permitted	0.11	1.00		0.17	1.00		0.37	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	162	2869		265	2846		566	1520	1292	650	1554	
Volume (vph)	70	660	70	205	850	135	170	290	285	185	270	30
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	74	695	74	230	955	152	179	305	300	208	303	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	165	0	0	0
Lane Group Flow (vph)	74	769	0	230	1107	0	179	305	135	208	337	0
Confl. Bikes (#/hr)			8			5			42			3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Effective Green, g (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Actuated g/C Ratio	0.32	0.32		0.38	0.42		0.35	0.35	0.45	0.35	0.35	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	909		181	1186		198	532	581	228	544	
v/s Ratio Prot		0.27		c0.08	0.39			0.20	0.10		0.22	
v/s Ratio Perm	c0.46			0.40			0.32			c0.32		
v/c Ratio	1.45	0.85		1.27	0.93		0.90	0.57	0.23	0.91	0.62	
Uniform Delay, d1	41.0	38.3		33.2	33.4		37.1	31.7	20.3	37.2	32.4	
Progression Factor	0.43	0.42		1.06	0.64		0.69	0.64	0.14	1.00	1.00	
Incremental Delay, d2	275.4	8.4		146.4	9.1		34.9	1.3	0.2	36.5	2.1	
Delay (s)	293.2	24.4		181.7	30.4		60.6	21.7	2.9	73.8	34.5	
Level of Service	F	C		F	C		E	C	A	E	C	
Approach Delay (s)		48.0			56.4			23.4			49.5	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

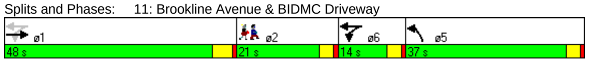
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	1015	85	55	920	210	160	
Confl. Bikes (#/hr)		12					
Peak Hour Factor	0.93	0.93	0.90	0.90	0.77	0.77	
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%	
Lane Group Flow (vph)	1182	0	61	1022	481	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	20.0		21.0
Total Split (s)	48.0	0.0	14.0	14.0	37.0	0.0	21.0
Total Split (%)	40.0%	0.0%	11.7%	11.7%	30.8%	0.0%	18%
Yellow Time (s)	4.0		3.0	3.0	3.0		3.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.03		0.30	0.71	1.06		
Control Delay	53.2		24.4	18.6	98.4		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	53.2		24.4	18.6	98.4		
Queue Length 50th (ft)	~345		15	198	~391		
Queue Length 95th (ft)	m#616		35	273	#460		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1145		200	1446	454		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.03		0.31	0.71	1.06		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.99		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3110		1577	3154	1566	
Flt Permitted	1.00		0.09	1.00	0.97	
Satd. Flow (perm)	3110		151	3154	1566	
Volume (vph)	1015	85	55	920	210	160
Peak-hour factor, PHF	0.93	0.93	0.90	0.90	0.77	0.77
Adj. Flow (vph)	1091	91	61	1022	273	208
RTOR Reduction (vph)	5	0	0	0	23	0
Lane Group Flow (vph)	1177	0	61	1022	458	0
Confl. Bikes (#/hr)		12				
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	43.0		54.0	54.0	33.0	
Effective Green, g (s)	44.0		55.0	55.0	33.0	
Actuated g/C Ratio	0.37		0.46	0.46	0.28	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1140		200	1446	431	
v/s Ratio Prot	c0.38		0.03	c0.06	c0.29	
v/s Ratio Perm			0.11	0.26		
v/c Ratio	1.03		0.30	0.71	1.06	
Uniform Delay, d1	38.0		46.0	26.0	43.5	
Progression Factor	0.57		1.00	1.00	1.00	
Incremental Delay, d2	30.0		3.9	2.9	60.8	
Delay (s)	51.7		49.9	29.0	104.3	
Level of Service	D		D	C	F	
Approach Delay (s)	51.7			30.2	104.3	
Approach LOS	D			C	F	

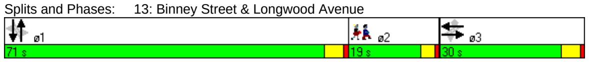
Intersection Summary			
HCM Average Control Delay	52.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	65	25	115	40	60	120	65	545	20	25	410	105	
Confl. Bikes (#/hr)						3			76			11	
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85	
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0	
Lane Group Flow (vph)	0	253	0	0	117	140	0	678	0	0	635	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	71.0	71.0	0.0	71.0	71.0	0.0	19.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%	59.2%	59.2%	0.0%	59.2%	59.2%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		0.94			0.46	0.35		0.48			0.45		
Control Delay		80.6			48.0	8.8		17.0			16.3		
Queue Delay		0.0			0.0	0.0		0.0			0.3		
Total Delay		80.6			48.0	8.8		17.0			16.6		
Queue Length 50th (ft)		160			79	0		158			114		
Queue Length 95th (ft)		#265			133	46		208			m116		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		275			261	414		1422			1420		
Starvation Cap Reductn		0			0	0		0			311		
Spillback Cap Reductn		0			0	0		3			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.92			0.45	0.34		0.48			0.57		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.98		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.92			1.00	0.85		1.00			0.97	
Flt Protected		0.98			0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1329			1643	1403		3100			2756	
Flt Permitted		0.80			0.71	1.00		0.81			0.90	
Satd. Flow (perm)		1079			1189	1403		2516			2482	
Volume (vph)	65	25	115	40	60	120	65	545	20	25	410	105
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	80	31	142	47	70	140	70	586	22	29	482	124
RTOR Reduction (vph)	0	39	0	0	0	111	0	2	0	0	17	0
Lane Group Flow (vph)	0	214	0	0	117	29	0	676	0	0	618	0
Confl. Bikes (#/hr)						3			76			11
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		24.2			24.2	24.2		66.8			66.8	
Effective Green, g (s)		25.2			25.2	25.2		67.8			67.8	
Actuated g/C Ratio		0.21			0.21	0.21		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		227			250	295		1422			1402	
v/s Ratio Prot												
v/s Ratio Perm		c0.20			0.10	0.02		c0.27			0.25	
v/c Ratio		0.94			0.47	0.10		0.48			0.44	
Uniform Delay, d1		46.7			41.5	38.2		15.5			15.1	
Progression Factor		1.00			1.00	1.00		1.00			1.09	
Incremental Delay, d2		44.0			1.4	0.1		1.1			0.5	
Delay (s)		90.7			42.9	38.4		16.7			17.0	
Level of Service		F			D	D		B			B	
Approach Delay (s)		90.7			40.5			16.7			17.0	
Approach LOS		F			D			B			B	

Intersection Summary

HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

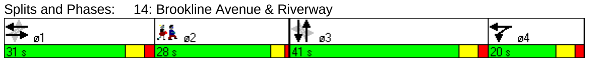
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		549			737			350			481		
Travel Time (s)		12.5			16.8			8.0			10.9		
Volume (vph)	135	445	5	555	760	5	15	610	280	0	1155	35	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87	
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	139	464	0	572	789	0	0	963	0	0	1368	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	31.0	31.0	0.0	20.0	51.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	28.0
Total Split (%)	25.8%	25.8%	0.0%	16.7%	42.5%	0.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	23%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	2.62	0.72		1.89	0.68			1.12			1.12		
Control Delay	802.4	50.4		433.4	44.4			103.0			99.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	802.4	50.4		433.4	44.4			103.0			99.5		
Queue Length 50th (ft)	~181	176		~606	273			~466			~686		
Queue Length 95th (ft)	#314	237		m#645	m298			#601			#783		
Internal Link Dist (ft)		469			657			270			401		
Turn Bay Length (ft)													
Base Capacity (vph)	53	643		302	1164			858			1223		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	2.62	0.72		1.89	0.68			1.12			1.12		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.95			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1510	2857		1486	2970			2992			2989	
Flt Permitted	0.15	1.00		0.29	1.00			0.74			1.00	
Satd. Flow (perm)	243	2857		449	2970			2202			2989	
Volume (vph)	135	445	5	555	760	5	15	610	280	0	1155	35
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	139	459	5	572	784	5	16	649	298	0	1328	40
RTOR Reduction (vph)	0	0	0	0	1	0	0	37	0	0	2	0
Lane Group Flow (vph)	139	464	0	572	788	0	0	926	0	0	1366	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	24.2	24.2		38.2	44.2			47.0			47.0	
Effective Green, g (s)	26.2	26.2		42.2	46.2			49.0			49.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.38			0.41			0.41	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	53	624		296	1143			899			1221	
v/s Ratio Prot		0.16		c0.26	0.27						c0.46	
v/s Ratio Perm	c0.57			0.42				0.42				
v/c Ratio	2.62	0.74		1.93	0.69			1.03			1.12	
Uniform Delay, d1	46.9	43.8		34.5	30.9			35.5			35.5	
Progression Factor	1.00	1.00		1.42	1.41			1.00			1.00	
Incremental Delay, d2	781.5	7.8		424.0	1.2			38.1			65.0	
Delay (s)	828.4	51.6		472.9	44.9			73.6			100.5	
Level of Service	F	D		F	D			E			F	
Approach Delay (s)		230.7			224.8			73.6			100.5	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	152.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	745	20	5	1620	45	45
Peak Hour Factor	0.90	0.90	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	828	22	5	1723	57	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.84		0.85	0.84
vC, conflicting volume			850		1424	425
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			623		462	114
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		87	93
cM capacity (veh/h)			808		449	771

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	552	298	350	689	689	114
Volume Left	0	0	5	0	0	57
Volume Right	0	22	0	0	0	57
cSH	1700	1700	808	1700	1700	568
Volume to Capacity	0.32	0.18	0.01	0.41	0.41	0.20
Queue Length 95th (ft)	0	0	0	0	0	19
Control Delay (s)	0.0	0.0	0.2	0.0	0.0	12.9
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			12.9
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	430	0	1	355
Peak Hour Factor	0.92	0.92	0.86	0.86	0.82	0.82
Hourly flow rate (vph)	1	1	500	0	1	433
Pedestrians	312		36			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	26		3			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.88	0.94			0.94	
vC, conflicting volume	1283	822			812	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1217	810			800	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	126	262			575	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	500	434
Volume Left	1	0	1
Volume Right	1	0	0
cSH	170	1700	575
Volume to Capacity	0.01	0.29	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	26.4	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	26.4	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	1	105	31	50	42	90	330	35	35	320	20
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Hourly flow rate (vph)	11	1	114	33	54	45	105	384	41	43	390	24
Pedestrians		104			300			71			74	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		9			27			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.92	0.92	0.91	0.92	0.92	0.88	0.91			0.88		
vC, conflicting volume	1331	1526	577	1575	1517	778	519			724		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1210	1421	535	1474	1412	747	470			686		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	98	74	0	23	82	89			93		
cM capacity (veh/h)	27	69	432	32	70	252	910			583		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	126	132	105	424	43	415
Volume Left	11	33	105	0	43	0
Volume Right	114	45	0	41	0	24
cSH	185	66	910	1700	583	1700
Volume to Capacity	0.68	2.00	0.11	0.25	0.07	0.24
Queue Length 95th (ft)	103	307	10	0	6	0
Control Delay (s)	58.2	599.5	9.5	0.0	11.7	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	58.2	599.5	1.9		1.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	70.8		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	55	0	20	110	0	0
Peak Hour Factor	0.61	0.61	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	90	0	22	121	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	90	143
Volume Left (vph)	90	0
Volume Right (vph)	0	121
Hadj (s)	0.20	-0.51
Departure Headway (s)	4.2	3.5
Degree Utilization, x	0.11	0.14
Capacity (veh/h)	838	1026
Control Delay (s)	7.7	7.0
Approach Delay (s)	7.7	7.0
Approach LOS	A	A

Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	75	740	1240	40	0	0
Peak Hour Factor	0.98	0.98	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	77	755	1442	47	0	0
Pedestrians					155	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.66				0.75	0.66
vC, conflicting volume	1643				2151	899
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1460				1512	333
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	74				100	100
cM capacity (veh/h)	296				62	442

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	77	378	378	961	527
Volume Left	77	0	0	0	0
Volume Right	0	0	0	0	47
cSH	296	1700	1700	1700	1700
Volume to Capacity	0.26	0.22	0.22	0.57	0.31
Queue Length 95th (ft)	25	0	0	0	0
Control Delay (s)	21.3	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	2.0			0.0	
Approach LOS					

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	1170	965	120	0	0
Peak Hour Factor	0.93	0.93	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	11	1258	1097	136	0	0
Pedestrians					145	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.69	
vC, conflicting volume	1378				1960	761
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1378				1942	761
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	488				38	348

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	430	839	731	502
Volume Left	11	0	0	0
Volume Right	0	0	0	136
cSH	488	1700	1700	1700
Volume to Capacity	0.02	0.49	0.43	0.30
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	0.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

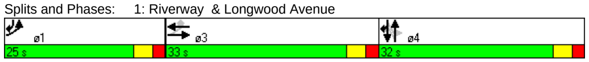
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		445			494			243			379	
Travel Time (s)		10.1			11.2			5.5			8.6	
Volume (vph)	350	902	87	0	948	66	42	231	39	117	420	100
Confl. Bikes (#/hr)			1			1			3			59
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Lane Group Flow (vph)	376	1064	0	0	1129	79	56	360	0	0	571	106
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	25.0	33.0	0.0	0.0	33.0	33.0	32.0	32.0	0.0	32.0	32.0	57.0
Total Split (%)	27.8%	36.7%	0.0%	0.0%	36.7%	36.7%	35.6%	35.6%	0.0%	35.6%	35.6%	63.3%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.92	1.07			1.13	0.16	0.77	0.69			2.25	0.12
Control Delay	53.2	80.9			102.1	6.3	88.7	34.5			584.8	3.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	190.0			0.0	0.0
Total Delay	53.2	80.9			102.1	6.3	88.7	224.6			584.8	3.0
Queue Length 50th (ft)	161	~365			~405	0	29	173			~524	10
Queue Length 95th (ft)	#329	#493			#476	26	#77	212			m#429	m7
Internal Link Dist (ft)		365			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	422	992			998	490	73	521			254	886
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	13	0	266			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.89	1.07			1.13	0.17	0.77	1.41			2.25	0.12

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1501	2957			3002	1315	1555	1653			1588	1505
Flt Permitted	0.13	1.00			1.00	1.00	0.14	1.00			0.51	1.00
Satd. Flow (perm)	211	2957			3002	1315	234	1653			816	1505
Volume (vph)	350	902	87	0	948	66	42	231	39	117	420	100
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.75	0.75	0.75	0.94	0.94	0.94
Adj. Flow (vph)	376	970	94	0	1129	79	56	308	52	124	447	106
RTOR Reduction (vph)	0	8	0	0	0	53	0	7	0	0	0	0
Lane Group Flow (vph)	376	1056	0	0	1129	26	56	353	0	0	571	106
Confl. Bikes (#/hr)			1			1			3			59
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	48.0	28.9			28.9	28.9	27.0	27.0			27.0	51.1
Effective Green, g (s)	50.0	29.9			29.9	29.9	28.0	28.0			28.0	52.1
Actuated g/C Ratio	0.56	0.33			0.33	0.33	0.31	0.31			0.31	0.58
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	405	982			997	437	73	514			254	871
v/s Ratio Prot	c0.21	0.36			c0.38			0.21				0.07
v/s Ratio Perm	0.31					0.02	0.24				c0.70	
v/c Ratio	0.93	1.08			1.13	0.06	0.77	0.69			2.25	0.12
Uniform Delay, d1	24.5	30.1			30.1	20.5	28.0	27.2			31.0	8.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.18	0.36
Incremental Delay, d2	27.2	51.2			72.3	0.1	53.7	7.3			562.8	0.0
Delay (s)	51.7	81.3			102.4	20.5	81.8	34.5			599.4	3.1
Level of Service	D	F			F	C	F	C			F	A
Approach Delay (s)		73.6			97.0			40.8			506.1	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM Average Control Delay	155.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	1009	0	0	939	85	94	
Confl. Bikes (#/hr)		3					
Peak Hour Factor	0.93	0.93	0.82	0.82	0.61	0.61	
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%	
Lane Group Flow (vph)	1085	0	0	1145	139	154	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.61			0.45	0.62	0.47	
Control Delay	17.4			14.3	48.3	11.1	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	17.4			14.3	48.3	11.1	
Queue Length 50th (ft)	236			154	76	0	
Queue Length 95th (ft)	316			173	88	9	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1790			2546	270	367	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.61			0.45	0.51	0.42	

Intersection Summary	
Area Type:	CBD
Cycle Length: 93	
Actuated Cycle Length: 85.7	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	

Splits and Phases: 3: Riverway & Short Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4622	1472	1317
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4622	1472	1317
Volume (vph)	1009	0	0	939	85	94
Peak-hour factor, PHF	0.93	0.93	0.82	0.82	0.61	0.61
Adj. Flow (vph)	1085	0	0	1145	139	154
RTOR Reduction (vph)	0	0	0	0	0	131
Lane Group Flow (vph)	1085	0	0	1145	139	23
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.2			46.2	12.1	12.1
Effective Green, g (s)	47.2			47.2	13.1	13.1
Actuated g/C Ratio	0.55			0.55	0.15	0.15
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1773			2522	223	199
v/s Ratio Prot	c0.33			0.25	c0.09	0.02
v/s Ratio Perm						
v/c Ratio	0.61			0.45	0.62	0.12
Uniform Delay, d1	13.4			11.9	34.4	31.7
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.6			0.6	5.3	0.3
Delay (s)	15.0			12.5	39.7	32.0
Level of Service	B			B	D	C
Approach Delay (s)	15.0			12.5	35.6	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	86.5	Sum of lost time (s)	26.2
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

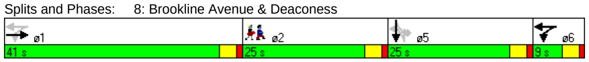
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		744			110			295			256		
Travel Time (s)		16.9			2.5			6.7			5.8		
Volume (vph)	0	1080	15	25	707	0	45	0	70	5	15	55	
Confl. Bikes (#/hr)			13			5			2			8	
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	1203	0	0	787	0	56	0	88	9	121	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	41.0	0.0	9.0	9.0	0.0	25.0	0.0	25.0	25.0	25.0	0.0	25.0
Total Split (%)	0.0%	41.0%	0.0%	9.0%	9.0%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	25%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		1.17			0.60		0.55		0.41	0.05	0.49		
Control Delay		112.9			8.5		60.8		14.3	36.6	19.3		
Queue Delay		96.4			0.0		0.0		0.0	0.0	0.0		
Total Delay		209.3			8.5		60.8		14.4	36.6	19.3		
Queue Length 50th (ft)		~460			79		34		0	5	15		
Queue Length 95th (ft)		m#352			m106		63		32	12	21		
Internal Link Dist (ft)		664			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1032			1310		181		312	318	365		
Starvation Cap Reductn		0			0		0		0	0	0		
Spillback Cap Reductn		162			0		0		5	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		1.38			0.60		0.31		0.29	0.03	0.33		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 42 (42%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.98	1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.88	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2788			2790		1310		1154	1512	1374	
Flt Permitted		1.00			0.83		0.54		1.00	0.95	1.00	
Satd. Flow (perm)		2788			2328		748		1154	1512	1374	
Volume (vph)	0	1080	15	25	707	0	45	0	70	5	15	55
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.80	0.80	0.80	0.58	0.58	0.58
Adj. Flow (vph)	0	1187	16	27	760	0	56	0	88	9	26	95
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	78	0	84	0
Lane Group Flow (vph)	0	1202	0	0	787	0	56	0	10	9	37	0
Confl. Bikes (#/hr)			13			5			2			8
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	24%	24%	24%	9%	9%	9%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		36.2			55.5		11.7		11.7	11.7	11.7	
Effective Green, g (s)		36.2			55.5		11.7		11.7	11.7	11.7	
Actuated g/C Ratio		0.36			0.56		0.12		0.12	0.12	0.12	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1009			1381		88		135	177	161	
v/s Ratio Prot		c0.43			c0.11						0.03	
v/s Ratio Perm					0.21		c0.07		0.01	0.01		
v/c Ratio		1.19			0.57		0.64		0.08	0.05	0.23	
Uniform Delay, d1		31.9			14.5		42.1		39.3	39.2	40.1	
Progression Factor		1.29			0.50		1.00		1.00	1.00	1.00	
Incremental Delay, d2		87.2			0.4		14.1		0.2	0.1	0.7	
Delay (s)		128.5			7.7		56.2		39.6	39.3	40.8	
Level of Service		F			A		E		D	D	D	
Approach Delay (s)		128.5			7.7			46.1			40.7	
Approach LOS		F			A			D			D	

Intersection Summary			
HCM Average Control Delay	76.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.8
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	68	820	100	285	570	274	115	291	251	154	287	62	
Confl. Bikes (#/hr)			4			3			4			38	
Peak Hour Factor	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86	
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%	
Lane Group Flow (vph)	83	1122	0	310	918	0	149	378	326	179	406	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	37.0	37.0	0.0	14.0	51.0	0.0	25.0	25.0	39.0	25.0	25.0	0.0	24.0
Total Split (%)	37.0%	37.0%	0.0%	14.0%	51.0%	0.0%	25.0%	25.0%	39.0%	25.0%	25.0%	0.0%	24%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.38	1.21		1.51	0.72		2.13	1.03	0.48	2.45	1.10		
Control Delay	209.8	121.0		277.1	18.3		570.4	93.3	3.4	713.4	112.5		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.2	0.0	0.0		
Total Delay	209.8	121.0		277.1	18.3		570.4	93.3	3.6	713.4	112.5		
Queue Length 50th (ft)	~68	~441		~240	110		~150	~220	0	~190	~295		
Queue Length 95th (ft)	m#65	m#353		m#398	m193		m#213	m#310	m3	#308	#447		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	60	927		205	1282		70	366	684	73	370		
Starvation Cap Reductn	0	0		0	0		0	0	63	0	0		
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.38	1.21		1.51	0.72		2.13	1.03	0.52	2.45	1.10		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 43 (43%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

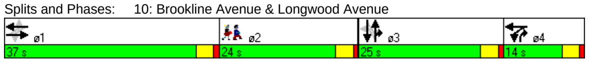
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1430	2810		1444	2727		1391	1464	1245	1458	1482	
Flt Permitted	0.12	1.00		0.12	1.00		0.16	1.00	1.00	0.19	1.00	
Satd. Flow (perm)	183	2810		184	2727		234	1464	1245	299	1482	
Volume (vph)	68	820	100	285	570	274	115	291	251	154	287	62
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	83	1000	122	310	620	298	149	378	326	179	334	72
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	199	0	0	0
Lane Group Flow (vph)	83	1122	0	310	918	0	149	378	127	179	406	0
Confl. Bikes (#/hr)			4			3			4			38
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	9%	9%	9%	4%	4%	4%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Effective Green, g (s)	33.0	33.0		43.0	47.0		25.0	25.0	39.0	25.0	25.0	
Actuated g/C Ratio	0.33	0.33		0.43	0.47		0.25	0.25	0.39	0.25	0.25	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	927		205	1282		59	366	486	75	371	
v/s Ratio Prot		0.40		c0.15	0.34			0.26	0.10		0.27	
v/s Ratio Perm	0.45			c0.50			c0.64			0.60		
v/c Ratio	1.38	1.21		1.51	0.72		2.53	1.03	0.26	2.39	1.09	
Uniform Delay, d1	33.5	33.5		26.0	21.2		37.5	37.5	20.7	37.5	37.5	
Progression Factor	0.75	0.72		1.70	0.74		1.08	1.08	0.51	1.00	1.00	
Incremental Delay, d2	181.7	95.7		246.9	1.3		727.3	52.2	0.2	662.9	74.5	
Delay (s)	206.8	119.8		291.2	16.9		767.6	92.9	10.9	700.4	112.0	
Level of Service	F	F		F	B		F	F	B	F	F	
Approach Delay (s)		125.8			86.1			179.4			292.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	150.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

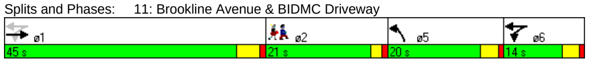
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	899	210	170	1124	100	85	
Confl. Bikes (#/hr)		5					
Peak Hour Factor	0.89	0.89	0.91	0.91	0.65	0.65	
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%	
Lane Group Flow (vph)	1246	0	187	1235	285	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	16.0		21.0
Total Split (s)	45.0	0.0	14.0	14.0	20.0	0.0	21.0
Total Split (%)	45.0%	0.0%	14.0%	14.0%	20.0%	0.0%	21%
Yellow Time (s)	4.0		3.0	3.0	3.0		2.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lag	Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.01		0.71	0.69	0.94		
Control Delay	20.4		38.0	18.3	76.9		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	20.4		38.0	18.3	76.9		
Queue Length 50th (ft)	~121		72	293	~167		
Queue Length 95th (ft)	m100		#196	376	#185		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1236		262	1786	303		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.01		0.71	0.69	0.94		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	2964		1547	3094	1562	
Flt Permitted	1.00		0.10	1.00	0.97	
Satd. Flow (perm)	2964		161	3094	1562	
Volume (vph)	899	210	170	1124	100	85
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.65	0.65
Adj. Flow (vph)	1010	236	187	1235	154	131
RTOR Reduction (vph)	20	0	0	0	30	0
Lane Group Flow (vph)	1226	0	187	1235	255	0
Confl. Bikes (#/hr)		5				
Heavy Vehicles (%)	6%	6%	5%	5%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	39.4		52.1	52.1	17.5	
Effective Green, g (s)	40.4		53.1	53.1	17.5	
Actuated g/C Ratio	0.40		0.53	0.53	0.18	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1197		262	1767	273	
v/s Ratio Prot	c0.41		0.09	c0.09	c0.16	
v/s Ratio Perm			0.29	0.31		
v/c Ratio	1.02		0.71	0.70	0.94	
Uniform Delay, d1	29.8		21.9	17.5	40.7	
Progression Factor	0.26		1.00	1.00	1.00	
Incremental Delay, d2	15.0		15.3	2.3	37.1	
Delay (s)	22.7		37.2	19.8	77.8	
Level of Service	C		D	B	E	
Approach Delay (s)	22.7			22.1	77.8	
Approach LOS	C			C	E	

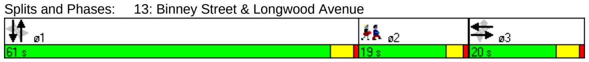
Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	95	45	105	50	45	65	85	492	45	90	432	140	
Confl. Bikes (#/hr)						1			4			43	
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87	
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0	
Lane Group Flow (vph)	0	295	0	0	108	74	0	676	0	0	761	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	20.0	61.0	61.0	0.0	61.0	61.0	0.0	19.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	20.0%	61.0%	61.0%	0.0%	61.0%	61.0%	0.0%	19%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		1.23			0.61	0.23		0.55			0.65		
Control Delay		167.9			56.2	11.0		15.4			6.7		
Queue Delay		0.0			0.0	0.0		0.0			0.8		
Total Delay		167.9			56.2	11.0		15.4			7.6		
Queue Length 50th (ft)		~244			67	0		131			45		
Queue Length 95th (ft)		#368			#153	38		184			m33		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		240			177	318		1221			1165		
Starvation Cap Reductn		0			0	0		0			166		
Spillback Cap Reductn		0			0	0		0			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		1.23			0.61	0.23		0.55			0.76		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 7 (7%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.94			1.00	0.85		0.99			0.97	
Flt Protected		0.98			0.97	1.00		0.99			0.99	
Satd. Flow (prot)		1408			1515	1304		2897			2673	
Flt Permitted		0.78			0.63	1.00		0.73			0.74	
Satd. Flow (perm)		1119			981	1304		2125			1996	
Volume (vph)	95	45	105	50	45	65	85	492	45	90	432	140
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	114	54	127	57	51	74	92	535	49	103	497	161
RTOR Reduction (vph)	0	26	0	0	0	59	0	6	0	0	25	0
Lane Group Flow (vph)	0	269	0	0	108	15	0	670	0	0	736	0
Confl. Bikes (#/hr)						1			4			43
Heavy Vehicles (%)	16%	16%	16%	10%	10%	10%	15%	15%	15%	8%	8%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	10	10	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		18.8			18.8	18.8		55.2			55.2	
Effective Green, g (s)		19.8			19.8	19.8		56.2			56.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		222			194	258		1194			1122	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.11	0.01		0.32			c0.37	
v/c Ratio		1.21			0.56	0.06		0.56			0.66	
Uniform Delay, d1		40.1			36.1	32.5		14.0			15.2	
Progression Factor		1.00			1.00	1.00		1.00			0.46	
Incremental Delay, d2		130.0			3.4	0.1		1.9			0.3	
Delay (s)		170.1			39.6	32.6		15.9			7.3	
Level of Service		F			D	C		B			A	
Approach Delay (s)		170.1			36.7			15.9			7.3	
Approach LOS		F			D			B			A	

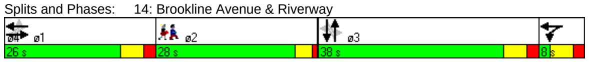
Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		486			744			327			484		
Travel Time (s)		11.0			16.9			7.4			11.0		
Volume (vph)	251	671	5	277	475	15	5	1017	648	0	644	71	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85	
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	264	711	0	301	532	0	0	1739	0	0	842	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	26.0	26.0	0.0	8.0	34.0	0.0	38.0	38.0	0.0	38.0	38.0	0.0	28.0
Total Split (%)	26.0%	26.0%	0.0%	8.0%	34.0%	0.0%	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	28%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	4.12	1.12		2.53	0.62			1.17			0.57		
Control Delay	1455.7	110.6		726.0	25.4			108.9			21.1		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	1455.7	110.6		726.0	25.4			108.9			21.1		
Queue Length 50th (ft)	~309	~276		~324	131			~748			220		
Queue Length 95th (ft)	#439	#392		#488	154			#890			265		
Internal Link Dist (ft)		406			664			247			404		
Turn Bay Length (ft)													
Base Capacity (vph)	64	635		119	864			1485			1485		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	4.13	1.12		2.53	0.62			1.17			0.57		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 58 (58%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.94			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1525	2886		1444	2875			2957			2957	
Flt Permitted	0.20	1.00		0.20	1.00			0.95			1.00	
Satd. Flow (perm)	315	2886		298	2875			2818			2957	
Volume (vph)	251	671	5	277	475	15	5	1017	648	0	644	71
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	264	706	5	301	516	16	5	1059	675	0	758	84
RTOR Reduction (vph)	0	0	0	0	2	0	0	77	0	0	7	0
Lane Group Flow (vph)	264	711	0	301	530	0	0	1663	0	0	836	0
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	18.4	18.4		20.4	26.4			48.0			48.0	
Effective Green, g (s)	20.4	20.4		24.4	28.4			50.0			50.0	
Actuated g/C Ratio	0.20	0.20		0.24	0.28			0.50			0.50	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	64	589		119	817			1409			1479	
v/s Ratio Prot		0.25		c0.10	0.18						0.28	
v/s Ratio Perm	c0.84			0.52				c0.59				
v/c Ratio	4.12	1.21		2.53	0.65			1.18			0.56	
Uniform Delay, d1	39.8	39.8		38.2	31.4			25.0			17.4	
Progression Factor	1.00	1.00		0.75	0.75			1.00			1.00	
Incremental Delay, d2	1442.4	108.5		708.0	3.2			88.6			1.6	
Delay (s)	1482.2	148.3		736.7	26.8			113.6			19.0	
Level of Service	F	F		F	C			F			B	
Approach Delay (s)		509.5			283.3			113.6			19.0	
Approach LOS		F			F			F			B	

Intersection Summary			
HCM Average Control Delay	215.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	25.6
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	994	64	15	1009	5	15
Peak Hour Factor	0.95	0.95	0.83	0.83	0.59	0.59
Hourly flow rate (vph)	1046	67	18	1216	8	25
Pedestrians					16	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.71		0.78	0.71
vC, conflicting volume			1130		1537	573
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			772		712	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			591		276	763

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	698	416	261	486	486	34
Volume Left	0	0	18	0	0	8
Volume Right	0	67	0	0	0	25
cSH	1700	1700	591	1700	1700	529
Volume to Capacity	0.41	0.24	0.03	0.29	0.29	0.06
Queue Length 95th (ft)	0	0	2	0	0	5
Control Delay (s)	0.0	0.0	1.2	0.0	0.0	12.3
Lane LOS			A			B
Approach Delay (s)	0.0		0.2			12.3
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	10	287	2	2	532
Peak Hour Factor	0.92	0.92	0.76	0.76	0.91	0.91
Hourly flow rate (vph)	11	11	378	3	2	585
Pedestrians	397		32			34
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	33		3			3
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.71					
vC, conflicting volume	1397	810			777	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1558	810			777	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			100	
cM capacity (veh/h)	57	247			568	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	22	380	587
Volume Left	11	0	2
Volume Right	11	3	0
cSH	93	1700	568
Volume to Capacity	0.23	0.22	0.00
Queue Length 95th (ft)	21	0	0
Control Delay (s)	55.3	0.0	0.1
Lane LOS	F		A
Approach Delay (s)	55.3	0.0	0.1
Approach LOS	F		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	39	30	23	5	17	180	190	193	207	380	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Hourly flow rate (vph)	5	42	33	25	5	18	237	250	254	227	418	77
Pedestrians		315			426			62			98	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		26			38			5			7	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.93	0.93		0.93	0.93	0.93				0.93		
vC, conflicting volume	2069	2630	833	2265	2541	901	810			930		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2150	2754	833	2361	2658	893	810			925		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	88	0	0	90	61			47		
cM capacity (veh/h)	0	2	262	0	3	182	602			427		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	80	49	237	504	227	495
Volume Left	5	25	237	0	227	0
Volume Right	33	18	0	254	0	77
cSH	0	0	602	1700	427	1700
Volume to Capacity	Err	Err	0.39	0.30	0.53	0.29
Queue Length 95th (ft)	Err	Err	47	0	76	0
Control Delay (s)	Err	Err	14.8	0.0	22.6	0.0
Lane LOS	F	F	B		C	
Approach Delay (s)	Err	Err	4.7		7.1	
Approach LOS	F	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	6	0	76	99	0	0
Peak Hour Factor	0.33	0.33	0.63	0.63	0.92	0.92
Hourly flow rate (vph)	18	0	121	157	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	18	278
Volume Left (vph)	18	0
Volume Right (vph)	0	157
Hadj (s)	0.20	-0.32
Departure Headway (s)	4.3	3.6
Degree Utilization, x	0.02	0.28
Capacity (veh/h)	811	996
Control Delay (s)	7.4	8.0
Approach Delay (s)	7.4	8.0
Approach LOS	A	A

Intersection Summary			
Delay	7.9		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	146	1024	737	45	0	0
Peak Hour Factor	0.91	0.91	0.93	0.93	0.25	0.25
Hourly flow rate (vph)	160	1125	792	48	0	0
Pedestrians					226	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked					0.65	
vC, conflicting volume	1067				1926	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1067				1886	646
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	74				100	100
cM capacity (veh/h)	620				31	419

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	160	563	563	528	313
Volume Left	160	0	0	0	0
Volume Right	0	0	0	0	48
cSH	620	1700	1700	1700	1700
Volume to Capacity	0.26	0.33	0.33	0.31	0.18
Queue Length 95th (ft)	26	0	0	0	0
Control Delay (s)	12.8	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	1.6			0.0	
Approach LOS					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	979	1359	204	0	0
Peak Hour Factor	0.94	0.94	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	6	1041	1544	232	0	0
Pedestrians					60	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.75	
vC, conflicting volume	1836				2254	948
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1836				2337	948
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	312				23	262

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	354	694	1030	747
Volume Left	6	0	0	0
Volume Right	0	0	0	232
cSH	312	1700	1700	1700
Volume to Capacity	0.02	0.41	0.61	0.44
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	0.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

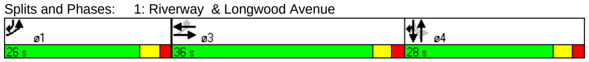
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	12	12	11	11	14
Storage Length (ft)	200		0	0		0	50		0	0		100
Storage Lanes	1		0	0		1	1		0	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50		50	50	50
Trailing Detector (ft)	0	0			0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			494			243			379	
Travel Time (s)		10.9			11.2			5.5			8.6	
Volume (vph)	210	666	11	0	1454	221	84	340	75	70	256	200
Confl. Bikes (#/hr)									58			6
Peak Hour Factor	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Lane Group Flow (vph)	226	728	0	0	1616	246	98	482	0	0	326	200
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Detector Phases	1	3			3	3	4	4		4	4	1 4
Minimum Initial (s)	5.0	20.0			20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	30.0			30.0	30.0	21.0	21.0		21.0	21.0	
Total Split (s)	26.0	36.0	0.0	0.0	36.0	36.0	28.0	28.0	0.0	28.0	28.0	54.0
Total Split (%)	28.9%	40.0%	0.0%	0.0%	40.0%	40.0%	31.1%	31.1%	0.0%	31.1%	31.1%	60.0%
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lead/Lag		Lead			Lead	Lead	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?		Yes			Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min			Min	Min	C-Max	C-Max		C-Max	C-Max	
v/c Ratio	0.57	0.61			1.37	0.38	0.71	1.09			3.05	0.25
Control Delay	20.2	25.6			200.6	7.2	60.0	101.4			941.3	5.8
Queue Delay	0.0	0.0			0.0	0.1	0.0	623.7			0.0	0.0
Total Delay	20.2	25.6			200.6	7.3	60.0	725.2			941.3	5.8
Queue Length 50th (ft)	63	178			~670	18	50	~307			~321	31
Queue Length 95th (ft)	135	246			#816	74	#125	#465			m#226	m19
Internal Link Dist (ft)		400			414			163			299	
Turn Bay Length (ft)	200						50					100
Base Capacity (vph)	445	1186			1176	646	138	443			107	861
Starvation Cap Reductn	0	0			0	0	0	0			0	0
Spillback Cap Reductn	0	0			0	41	0	315			0	0
Storage Cap Reductn	0	0			0	0	0	0			0	0
Reduced v/c Ratio	0.51	0.61			1.37	0.41	0.71	3.77			3.05	0.23

Intersection Summary

Area Type: CBD
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverway & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	11	12	12	11	11	14
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	0.99			1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.99	1.00
Satd. Flow (prot)	1516	3025			3002	1343	1555	1629			1635	1550
Flt Permitted	0.11	1.00			1.00	1.00	0.31	1.00			0.24	1.00
Satd. Flow (perm)	181	3025			3002	1343	515	1629			400	1550
Volume (vph)	210	666	11	0	1454	221	84	340	75	70	256	200
Peak-hour factor, PHF	0.93	0.93	0.93	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00
Adj. Flow (vph)	226	716	12	0	1616	246	98	395	87	70	256	200
RTOR Reduction (vph)	0	1	0	0	0	120	0	9	0	0	0	0
Lane Group Flow (vph)	226	727	0	0	1616	126	98	473	0	0	326	200
Confl. Bikes (#/hr)									58			6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt					Perm	Perm			Perm		pt+ov
Protected Phases	1	3			3			4			4	1 4
Permitted Phases	3					3	4			4		
Actuated Green, G (s)	52.0	34.2			34.2	34.2	23.0	23.0			23.0	45.8
Effective Green, g (s)	54.0	35.2			35.2	35.2	24.0	24.0			24.0	46.8
Actuated g/C Ratio	0.60	0.39			0.39	0.39	0.27	0.27			0.27	0.52
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	387	1183			1174	525	137	434			107	806
v/s Ratio Prot	c0.12	0.24			c0.54			0.29				0.13
v/s Ratio Perm	0.23					0.09	0.19				c0.81	
v/c Ratio	0.58	0.61			1.38	0.24	0.72	1.09			3.05	0.25
Uniform Delay, d1	33.1	22.0			27.4	18.4	29.9	33.0			33.0	11.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.36	0.50
Incremental Delay, d2	2.2	1.0			174.9	0.2	27.2	69.8			923.3	0.0
Delay (s)	35.3	22.9			202.3	18.7	57.1	102.8			968.1	6.0
Level of Service	D	C			F	B	E	F			F	A
Approach Delay (s)		25.9			178.0			95.1			602.3	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	185.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		

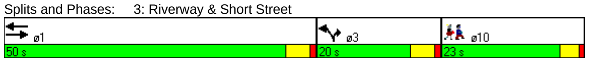
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø10
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	10	10	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50			50	50	50	
Trailing Detector (ft)	0			0	0	0	
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	249			607	271		
Travel Time (s)	5.7			13.8	6.2		
Volume (vph)	836	0	0	1507	127	112	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.68	0.68	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Lane Group Flow (vph)	899	0	0	1620	187	165	
Turn Type						Prot	
Protected Phases	1			1	3	3	10
Permitted Phases							
Detector Phases	1			1	3	3	
Minimum Initial (s)	4.0			4.0	4.0	4.0	4.0
Minimum Split (s)	20.0			20.0	20.0	20.0	23.0
Total Split (s)	50.0	0.0	0.0	50.0	20.0	20.0	23.0
Total Split (%)	53.8%	0.0%	0.0%	53.8%	21.5%	21.5%	25%
Yellow Time (s)	4.0			4.0	4.0	4.0	3.0
All-Red Time (s)	1.0			1.0	1.0	1.0	1.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max			Max	None	None	None
v/c Ratio	0.51			0.64	0.75	0.46	
Control Delay	16.1			17.6	56.1	10.3	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	16.1			17.6	56.1	10.3	
Queue Length 50th (ft)	186			258	105	0	
Queue Length 95th (ft)	244			313	129	18	
Internal Link Dist (ft)	169			527	191		
Turn Bay Length (ft)							
Base Capacity (vph)	1760			2529	275	381	
Starvation Cap Reductn	0			0	0	0	
Spillback Cap Reductn	0			0	0	0	
Storage Cap Reductn	0			0	0	0	
Reduced v/c Ratio	0.51			0.64	0.68	0.43	

Intersection Summary

Area Type: CBD
Cycle Length: 93
Actuated Cycle Length: 86.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Riverway & Short Street



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	10	10
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.91	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3249			4668	1501	1343
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3249			4668	1501	1343
Volume (vph)	836	0	0	1507	127	112
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.68	0.68
Adj. Flow (vph)	899	0	0	1620	187	165
RTOR Reduction (vph)	0	0	0	0	0	138
Lane Group Flow (vph)	899	0	0	1620	187	27
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Turn Type						Prot
Protected Phases	1			1	3	3
Permitted Phases						
Actuated Green, G (s)	46.1			46.1	13.4	13.4
Effective Green, g (s)	47.1			47.1	14.4	14.4
Actuated g/C Ratio	0.54			0.54	0.16	0.16
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1745			2507	246	221
v/s Ratio Prot	0.28			c0.35	c0.12	0.02
v/s Ratio Perm						
v/c Ratio	0.52			0.65	0.76	0.12
Uniform Delay, d1	13.0			14.4	35.0	31.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	1.1			1.3	12.9	0.3
Delay (s)	14.1			15.7	47.9	31.5
Level of Service	B			B	D	C
Approach Delay (s)	14.1			15.7	40.2	
Approach LOS	B			B	D	

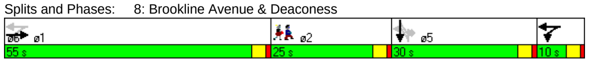
Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	26.2
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	12	12	12	16	16	16	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)		50		50	50		50		50	50	50		
Trailing Detector (ft)		0		0	0		0		0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			No			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		737			110			295			256		
Travel Time (s)		16.8			2.5			6.7			5.8		
Volume (vph)	0	697	20	15	1263	0	70	0	145	5	5	154	
Confl. Bikes (#/hr)			5			12			1			1	
Peak Hour Factor	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82	
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%	
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0	
Parking (#/hr)										1	1	1	
Lane Group Flow (vph)	0	731	0	0	1486	0	109	0	227	6	194	0	
Turn Type				D.P+P			D.Pm		custom	Perm			
Protected Phases		1		6	6						5		2
Permitted Phases				1	1		5		5	5			
Detector Phases		1		6	6		5		5	5	5		
Minimum Initial (s)		10.0		4.0	4.0		6.0		6.0	6.0	6.0		5.0
Minimum Split (s)		29.0		9.0	9.0		10.0		10.0	10.0	10.0		25.0
Total Split (s)	0.0	55.0	0.0	10.0	10.0	0.0	30.0	0.0	30.0	30.0	30.0	0.0	25.0
Total Split (%)	0.0%	45.8%	0.0%	8.3%	8.3%	0.0%	25.0%	0.0%	25.0%	25.0%	25.0%	0.0%	21%
Yellow Time (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0		3.0
All-Red Time (s)		1.0		1.0	1.0		1.0		1.0	1.0	1.0		1.0
Lead/Lag		Lead		Lag	Lag		Lead		Lead	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes	Yes		Yes		Yes	Yes	Yes		Yes
Recall Mode		C-Max		Max	Max		None		None	None	None		None
v/c Ratio		0.60			1.06		0.87		0.54	0.02	0.49		
Control Delay		18.6			53.9		97.7		10.3	37.4	10.8		
Queue Delay		0.1			3.3		0.0		0.0	0.0	0.0		
Total Delay		18.7			57.2		97.7		10.4	37.4	10.8		
Queue Length 50th (ft)		120			~686		80		0	4	4		
Queue Length 95th (ft)		m130			m#711		98		3	14	48		
Internal Link Dist (ft)		657			30			215			176		
Turn Bay Length (ft)													
Base Capacity (vph)		1218			1404		148		450	319	430		
Starvation Cap Reductn		0			11		0		0	0	0		
Spillback Cap Reductn		47			0		0		3	0	0		
Storage Cap Reductn		0			0		0		0	0	0		
Reduced v/c Ratio		0.62			1.07		0.74		0.51	0.02	0.45		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brookline Avenue & Deaconess



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	12	12	12	16	16	16
Total Lost time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00		1.00	1.00	1.00	
Frt		1.00			1.00		1.00		0.85	1.00	0.85	
Flt Protected		1.00			1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		2861			2901		1425		1258	1471	1307	
Flt Permitted		1.00			0.94		0.41		1.00	0.95	1.00	
Satd. Flow (perm)		2861			2743		616		1258	1471	1307	
Volume (vph)	0	697	20	15	1263	0	70	0	145	5	5	154
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.64	0.64	0.64	0.82	0.82	0.82
Adj. Flow (vph)	0	711	20	17	1469	0	109	0	227	6	6	188
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	185	0	153	0
Lane Group Flow (vph)	0	729	0	0	1486	0	109	0	42	6	41	0
Confl. Bikes (#/hr)			5			12			1			1
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	14%	14%	14%	12%	12%	12%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)										1	1	1
Turn Type				D.P+P			D.Pm		custom	Perm		
Protected Phases		1		6	6						5	
Permitted Phases				1	1		5		5	5		
Actuated Green, G (s)		51.0			60.9		22.1		22.1	22.1	22.1	
Effective Green, g (s)		51.0			60.9		22.1		22.1	22.1	22.1	
Actuated g/C Ratio		0.42			0.51		0.18		0.18	0.18	0.18	
Clearance Time (s)		4.0			4.0		4.0		4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)		1216			1405		113		232	271	241	
v/s Ratio Prot		0.25			c0.09						0.03	
v/s Ratio Perm					c0.45		c0.18		0.03	0.00		
v/c Ratio		0.60			1.06		0.96		0.18	0.02	0.17	
Uniform Delay, d1		26.6			29.6		48.6		41.3	40.1	41.2	
Progression Factor		0.66			0.49		1.00		1.00	1.00	1.00	
Incremental Delay, d2		1.0			35.8		72.9		0.4	0.0	0.3	
Delay (s)		18.4			50.2		121.4		41.7	40.1	41.5	
Level of Service		B			D		F		D	D	D	
Approach Delay (s)		18.4			50.2			67.6			41.5	
Approach LOS		B			D			E			D	

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	37.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	10	10	10	10	10	10	
Storage Length (ft)	70		0	350		0	0		0	170		0	
Storage Lanes	1		0	1		0	0		1	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50		
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			No			Yes			No	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		317			623			415			343		
Travel Time (s)		7.2			14.2			9.4			7.8		
Volume (vph)	76	660	70	205	850	149	170	299	285	203	306	68	
Confl. Bikes (#/hr)			8			5			42			3	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%	
Lane Group Flow (vph)	80	769	0	230	1122	0	179	315	300	228	420	0	
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm			
Protected Phases		1		4	1 4			3	3 4		3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3	3 4	3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	10.0	10.0		5.0			8.0	8.0		8.0	8.0		21.0
Total Split (s)	42.0	42.0	0.0	12.0	54.0	0.0	42.0	42.0	54.0	42.0	42.0	0.0	24.0
Total Split (%)	35.0%	35.0%	0.0%	10.0%	45.0%	0.0%	35.0%	35.0%	45.0%	35.0%	35.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0			1.0	1.0		1.0	1.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		None			None	None		None	None		Ped
v/c Ratio	1.57	0.85		1.27	0.95		1.44	0.59	0.40	1.12	0.78		
Control Delay	345.7	24.8		174.5	34.3		261.3	25.2	1.7	135.7	46.7		
Queue Delay	0.0	0.7		0.0	1.3		10.4	0.8	0.3	0.0	0.3		
Total Delay	345.7	25.5		174.5	35.6		271.7	25.9	2.0	135.7	47.1		
Queue Length 50th (ft)	~59	216		~158	272		~191	133	0	~203	290		
Queue Length 95th (ft)	m#142	#292		m#273	m#520		m#328	m236	m2	#358	#416		
Internal Link Dist (ft)		237			543			335			263		
Turn Bay Length (ft)	70			350						170			
Base Capacity (vph)	51	909		181	1184		124	532	746	204	537		
Starvation Cap Reductn	0	26		0	0		0	58	123	0	0		
Spillback Cap Reductn	0	0		0	15		2	0	0	0	9		
Storage Cap Reductn	0	0		0	0		0	0	0	0	0		
Reduced v/c Ratio	1.57	0.87		1.27	0.96		1.47	0.66	0.48	1.12	0.80		

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 110

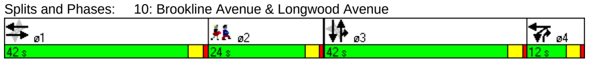
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Brookline Avenue & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	*0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1458	2869		1458	2840		1444	1520	1292	1501	1533	
Flt Permitted	0.11	1.00		0.17	1.00		0.27	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	162	2869		265	2840		416	1520	1292	631	1533	
Volume (vph)	76	660	70	205	850	149	170	299	285	203	306	68
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	80	695	74	230	955	167	179	315	300	228	344	76
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	165	0	0	0
Lane Group Flow (vph)	80	769	0	230	1122	0	179	315	135	228	420	0
Confl. Bikes (#/hr)			8			5			42			3
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	Perm			D.P+P			Perm		pt+ov	Perm		
Protected Phases		1		4	1 4			3	3 4		3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Effective Green, g (s)	38.0	38.0		46.0	50.0		42.0	42.0	54.0	42.0	42.0	
Actuated g/C Ratio	0.32	0.32		0.38	0.42		0.35	0.35	0.45	0.35	0.35	
Clearance Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	909		181	1183		146	532	581	221	537	
v/s Ratio Prot		0.27		c0.08	0.40			0.21	0.10		0.27	
v/s Ratio Perm	c0.50			0.40			c0.43			0.36		
v/c Ratio	1.57	0.85		1.27	0.95		1.23	0.59	0.23	1.03	0.78	
Uniform Delay, d1	41.0	38.3		33.2	33.8		39.0	32.0	20.3	39.0	34.9	
Progression Factor	0.43	0.41		1.07	0.64		0.70	0.64	0.13	1.00	1.00	
Incremental Delay, d2	322.6	8.4		146.0	10.7		143.2	1.5	0.2	69.0	7.3	
Delay (s)	340.2	24.0		181.5	32.4		170.5	22.1	2.8	108.0	42.2	
Level of Service	F	C		F	C		F	C	A	F	D	
Approach Delay (s)		53.8			57.8			48.2			65.4	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM Average Control Delay	56.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

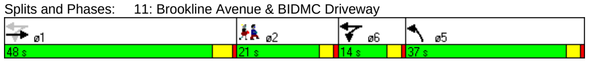
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø2
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		0	300		0	0	
Storage Lanes		0	1		1	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50		50	50	50		
Trailing Detector (ft)	0		0	0	0		
Turning Speed (mph)		9	15		15	9	
Right Turn on Red		Yes				Yes	
Link Speed (mph)	30			30	30		
Link Distance (ft)	623			1009	263		
Travel Time (s)	14.2			22.9	6.0		
Volume (vph)	1033	85	55	934	210	160	
Confl. Bikes (#/hr)		12					
Peak Hour Factor	0.93	0.93	0.90	0.90	0.77	0.77	
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%	
Lane Group Flow (vph)	1202	0	61	1038	481	0	
Turn Type			D.P+P				
Protected Phases	1		6	6	5		2
Permitted Phases			1	1			
Detector Phases	1		6	6	5		
Minimum Initial (s)	10.0		6.0	6.0	10.0		8.0
Minimum Split (s)	21.0		14.0	14.0	20.0		21.0
Total Split (s)	48.0	0.0	14.0	14.0	37.0	0.0	21.0
Total Split (%)	40.0%	0.0%	11.7%	11.7%	30.8%	0.0%	18%
Yellow Time (s)	4.0		3.0	3.0	3.0		3.0
All-Red Time (s)	1.0		1.0	1.0	1.0		1.0
Lead/Lag	Lead		Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max		Max	Max	None		None
v/c Ratio	1.05		0.30	0.72	1.06		
Control Delay	58.1		24.4	19.0	98.4		
Queue Delay	0.0		0.0	0.0	0.0		
Total Delay	58.1		24.4	19.0	98.4		
Queue Length 50th (ft)	~511		15	205	~391		
Queue Length 95th (ft)	m#607		35	282	#460		
Internal Link Dist (ft)	543			929	183		
Turn Bay Length (ft)			300				
Base Capacity (vph)	1146		200	1446	454		
Starvation Cap Reductn	0		0	0	0		
Spillback Cap Reductn	0		0	0	0		
Storage Cap Reductn	0		0	0	0		
Reduced v/c Ratio	1.05		0.31	0.72	1.06		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Brookline Avenue & BIDMC Driveway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.99		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3111		1577	3154	1566	
Flt Permitted	1.00		0.09	1.00	0.97	
Satd. Flow (perm)	3111		151	3154	1566	
Volume (vph)	1033	85	55	934	210	160
Peak-hour factor, PHF	0.93	0.93	0.90	0.90	0.77	0.77
Adj. Flow (vph)	1111	91	61	1038	273	208
RTOR Reduction (vph)	5	0	0	0	23	0
Lane Group Flow (vph)	1197	0	61	1038	458	0
Confl. Bikes (#/hr)		12				
Heavy Vehicles (%)	3%	3%	3%	3%	0%	0%
Turn Type			D.P+P			
Protected Phases	1		6	6	5	
Permitted Phases			1	1		
Actuated Green, G (s)	43.0		54.0	54.0	33.0	
Effective Green, g (s)	44.0		55.0	55.0	33.0	
Actuated g/C Ratio	0.37		0.46	0.46	0.28	
Clearance Time (s)	5.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1141		200	1446	431	
v/s Ratio Prot	c0.38		0.03	c0.07	c0.29	
v/s Ratio Perm			0.11	0.26		
v/c Ratio	1.05		0.30	0.72	1.06	
Uniform Delay, d1	38.0		46.4	26.2	43.5	
Progression Factor	0.58		1.00	1.00	1.00	
Incremental Delay, d2	34.7		3.9	3.1	60.8	
Delay (s)	56.7		50.3	29.3	104.3	
Level of Service	E		D	C	F	
Approach Delay (s)	56.7			30.5	104.3	
Approach LOS	E			C	F	

Intersection Summary

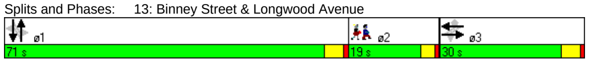
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	13	13	13	12	12	12	10	14	14	10	10	10	
Storage Length (ft)	0		0	0		0	63		0	0		0	
Storage Lanes	0		0	0		1	1		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50	50	50	50		50	50		
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		576			248			544			415		
Travel Time (s)		13.1			5.6			12.4			9.4		
Volume (vph)	65	25	115	40	60	120	65	554	20	25	446	105	
Confl. Bikes (#/hr)						3			76			11	
Peak Hour Factor	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85	
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0	
Lane Group Flow (vph)	0	253	0	0	117	140	0	688	0	0	678	0	
Turn Type	Perm			Perm		Perm	Perm			Perm			
Protected Phases		3			3			1			1		2
Permitted Phases	3			3		3	1			1			
Detector Phases	3	3		3	3	3	1	1		1	1		
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	12.0	12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0		19.0
Total Split (s)	30.0	30.0	0.0	30.0	30.0	30.0	71.0	71.0	0.0	71.0	71.0	0.0	19.0
Total Split (%)	25.0%	25.0%	0.0%	25.0%	25.0%	25.0%	59.2%	59.2%	0.0%	59.2%	59.2%	0.0%	16%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0
Lead/Lag							Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max		None
v/c Ratio		0.94			0.46	0.35		0.49			0.48		
Control Delay		80.6			48.0	8.8		17.2			15.3		
Queue Delay		0.0			0.0	0.0		0.0			0.5		
Total Delay		80.6			48.0	8.8		17.2			15.8		
Queue Length 50th (ft)		160			79	0		162			115		
Queue Length 95th (ft)		#265			133	46		213			m118		
Internal Link Dist (ft)		496			168			464			335		
Turn Bay Length (ft)													
Base Capacity (vph)		275			261	414		1410			1426		
Starvation Cap Reductn		0			0	0		0			340		
Spillback Cap Reductn		0			0	0		7			0		
Storage Cap Reductn		0			0	0		0			0		
Reduced v/c Ratio		0.92			0.45	0.34		0.49			0.62		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 40 (33%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Binney Street & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	13	13	12	12	12	10	14	14	10	10	10
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		1.00			1.00	0.98		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.92			1.00	0.85		1.00			0.97	
Flt Protected		0.98			0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1329			1643	1403		3100			2763	
Flt Permitted		0.80			0.71	1.00		0.80			0.90	
Satd. Flow (perm)		1079			1189	1403		2494			2494	
Volume (vph)	65	25	115	40	60	120	65	554	20	25	446	105
Peak-hour factor, PHF	0.81	0.81	0.81	0.86	0.86	0.86	0.93	0.93	0.93	0.85	0.85	0.85
Adj. Flow (vph)	80	31	142	47	70	140	70	596	22	29	525	124
RTOR Reduction (vph)	0	39	0	0	0	111	0	2	0	0	16	0
Lane Group Flow (vph)	0	214	0	0	117	29	0	686	0	0	662	0
Confl. Bikes (#/hr)						3			76			11
Heavy Vehicles (%)	21%	21%	21%	2%	2%	2%	8%	8%	8%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3		3	1			1		
Actuated Green, G (s)		24.2			24.2	24.2		66.8			66.8	
Effective Green, g (s)		25.2			25.2	25.2		67.8			67.8	
Actuated g/C Ratio		0.21			0.21	0.21		0.56			0.56	
Clearance Time (s)		5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		227			250	295		1409			1409	
v/s Ratio Prot												
v/s Ratio Perm		c0.20			0.10	0.02		c0.28			0.27	
v/c Ratio		0.94			0.47	0.10		0.49			0.47	
Uniform Delay, d1		46.7			41.5	38.2		15.7			15.5	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		44.0			1.4	0.1		1.2			0.4	
Delay (s)		90.7			42.9	38.4		16.9			15.8	
Level of Service		F			D	D		B			B	
Approach Delay (s)		90.7			40.5			16.9			15.8	
Approach LOS		F			D			B			B	

Intersection Summary

HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

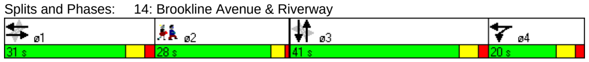
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø2
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	10	10	10	11	11	11	10	10	10	
Storage Length (ft)	0		150	0		0	0		0	0		0	
Storage Lanes	1		1	1		0	0		0	0		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			No			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		549			737			350			481		
Travel Time (s)		12.5			16.8			8.0			10.9		
Volume (vph)	140	455	5	568	814	5	15	614	282	0	1168	37	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87	
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%	
Parking (#/hr)		1	1										
Lane Group Flow (vph)	144	474	0	586	844	0	0	969	0	0	1386	0	
Turn Type	Perm			D.P+P			Perm			Perm			
Protected Phases		1		4	1 4			3			3		2
Permitted Phases	1			1			3			3			
Detector Phases	1	1		4	1 4		3	3		3	3		
Minimum Initial (s)	4.0	4.0		1.0			4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	22.0	22.0		7.0			22.0	22.0		22.0	22.0		20.0
Total Split (s)	31.0	31.0	0.0	20.0	51.0	0.0	41.0	41.0	0.0	41.0	41.0	0.0	28.0
Total Split (%)	25.8%	25.8%	0.0%	16.7%	42.5%	0.0%	34.2%	34.2%	0.0%	34.2%	34.2%	0.0%	23%
Yellow Time (s)	4.0	4.0		4.0			4.0	4.0		4.0	4.0		3.0
All-Red Time (s)	2.0	2.0		2.0			2.0	2.0		2.0	2.0		1.0
Lead/Lag	Lead	Lead		Lag			Lead	Lead		Lead	Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max		Max			Max	Max		Max	Max		None
v/c Ratio	2.72	0.74		1.97	0.73			1.13			1.14		
Control Delay	843.4	51.1		464.1	46.3			105.6			105.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	843.4	51.1		464.1	46.3			105.6			105.5		
Queue Length 50th (ft)	~190	181		~636	312			~471			~702		
Queue Length 95th (ft)	#323	243		m#624	m304			#605			#798		
Internal Link Dist (ft)		469			657			270			401		
Turn Bay Length (ft)													
Base Capacity (vph)	53	643		298	1164			858			1221		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	2.72	0.74		1.97	0.73			1.13			1.14		

Intersection Summary

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Brookline Avenue & Riverway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	1.00		1.00	1.00			0.95			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1510	2857		1486	2970			2992			2988	
Flt Permitted	0.15	1.00		0.28	1.00			0.73			1.00	
Satd. Flow (perm)	243	2857		434	2970			2175			2988	
Volume (vph)	140	455	5	568	814	5	15	614	282	0	1168	37
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	144	469	5	586	839	5	16	653	300	0	1343	43
RTOR Reduction (vph)	0	0	0	0	1	0	0	37	0	0	2	0
Lane Group Flow (vph)	144	474	0	586	843	0	0	932	0	0	1384	0
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Parking (#/hr)		1	1									
Turn Type	Perm			D.P+P			Perm			Perm		
Protected Phases		1		4	1 4			3			3	
Permitted Phases	1			1			3			3		
Actuated Green, G (s)	24.2	24.2		38.2	44.2			47.0			47.0	
Effective Green, g (s)	26.2	26.2		42.2	46.2			49.0			49.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.38			0.41			0.41	
Clearance Time (s)	6.0	6.0		6.0				6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0				3.0			3.0	
Lane Grp Cap (vph)	53	624		293	1143			888			1220	
v/s Ratio Prot		0.17		c0.27	0.28						c0.46	
v/s Ratio Perm	c0.59			0.44				0.43				
v/c Ratio	2.72	0.76		2.00	0.74			1.05			1.13	
Uniform Delay, d1	46.9	43.9		34.4	31.7			35.5			35.5	
Progression Factor	1.00	1.00		1.46	1.44			1.00			1.00	
Incremental Delay, d2	823.1	8.5		453.1	1.1			44.1			71.2	
Delay (s)	870.0	52.4		503.4	46.8			79.6			106.7	
Level of Service	F	D		F	D			E			F	
Approach Delay (s)		242.9			233.9			79.6			106.7	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	161.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	791	20	5	1630	45	45
Peak Hour Factor	0.90	0.90	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	879	22	5	1734	57	57
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	494			249		
pX, platoon unblocked			0.83		0.85	0.83
vC, conflicting volume			901		1479	451
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			682		519	142
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		86	92
cM capacity (veh/h)			767		414	739

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	586	315	352	694	694	114
Volume Left	0	0	5	0	0	57
Volume Right	0	22	0	0	0	57
cSH	1700	1700	767	1700	1700	530
Volume to Capacity	0.34	0.19	0.01	0.41	0.41	0.21
Queue Length 95th (ft)	0	0	1	0	0	20
Control Delay (s)	0.0	0.0	0.2	0.0	0.0	13.6
Lane LOS			A			B
Approach Delay (s)	0.0		0.0			13.6
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	489	0	1	362
Peak Hour Factor	0.92	0.92	0.86	0.86	0.82	0.82
Hourly flow rate (vph)	1	1	569	0	1	441
Pedestrians	312		36			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	26		3			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			592			243
pX, platoon unblocked	0.86	0.98			0.98	
vC, conflicting volume	1361	891			881	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1377	888			878	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	99	245			559	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	569	443
Volume Left	1	0	1
Volume Right	1	0	0
cSH	141	1700	559
Volume to Capacity	0.02	0.33	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	31.0	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	31.0	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	11	105	123	79	101	90	330	64	42	320	20
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Hourly flow rate (vph)	11	12	114	132	85	109	105	384	74	51	390	24
Pedestrians		104			300			71			74	
Lane Width (ft)		12.0			13.0			10.5			10.5	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		9			27			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								343			492	
pX, platoon unblocked	0.91	0.91	0.91	0.91	0.91	0.87	0.91			0.87		
vC, conflicting volume	1427	1576	577	1614	1551	795	519			758		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1328	1492	538	1533	1464	764	474			721		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	80	74	0	0	55	89			91		
cM capacity (veh/h)	0	61	433	24	63	244	913			560		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	137	326	105	458	51	415
Volume Left	11	132	105	0	51	0
Volume Right	114	109	0	74	0	24
cSH	0	45	913	1700	560	1700
Volume to Capacity	Err	7.21	0.11	0.27	0.09	0.24
Queue Length 95th (ft)	Err	Err	10	0	8	0
Control Delay (s)	Err	Err	9.5	0.0	12.1	0.0
Lane LOS	F	F	A		B	
Approach Delay (s)	Err	Err	1.8		1.3	
Approach LOS	F	F				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	68	0	23	111	0	0
Peak Hour Factor	0.61	0.61	0.91	0.91	0.92	0.92
Hourly flow rate (vph)	111	0	25	122	0	0

Direction, Lane #	EB 1	WB 1
Volume Total (vph)	111	147
Volume Left (vph)	111	0
Volume Right (vph)	0	122
Hadj (s)	0.20	-0.50
Departure Headway (s)	4.2	3.5
Degree Utilization, x	0.13	0.14
Capacity (veh/h)	838	1016
Control Delay (s)	7.9	7.1
Approach Delay (s)	7.9	7.1
Approach LOS	A	A

Intersection Summary			
Delay	7.4		
HCM Level of Service	A		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

9: Brookline Avenue & Joslin Place

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	81	746	1278	40	0	0
Peak Hour Factor	0.98	0.98	0.86	0.86	0.25	0.25
Hourly flow rate (vph)	83	761	1486	47	0	0
Pedestrians					155	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		110	317			
pX, platoon unblocked	0.65				0.74	0.65
vC, conflicting volume	1688				2210	921
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1522				1573	349
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	70				100	100
cM capacity (veh/h)	278				54	427

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2
Volume Total	83	381	381	991	542
Volume Left	83	0	0	0	0
Volume Right	0	0	0	0	47
cSH	278	1700	1700	1700	1700
Volume to Capacity	0.30	0.22	0.22	0.58	0.32
Queue Length 95th (ft)	30	0	0	0	0
Control Delay (s)	23.4	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	2.3			0.0	
Approach LOS					

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	52.5%	ICU Level of Service		A
Analysis Period (min)	15			

12: Brookline Avenue & Pilgrim Road

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	1188	979	124	0	0
Peak Hour Factor	0.93	0.93	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	11	1277	1112	141	0	0
Pedestrians					145	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		1009				
pX, platoon unblocked					0.68	
vC, conflicting volume	1398				1988	772
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1398				1983	772
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	480				36	342

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	437	852	742	512
Volume Left	11	0	0	0
Volume Right	0	0	0	141
cSH	480	1700	1700	1700
Volume to Capacity	0.02	0.50	0.44	0.30
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	0.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.2		0.0	
Approach LOS				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	47.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	13	13	13	10	11	11	10	11	11	
Storage Length (ft)	0		0	0		0	70		0	90		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		101			225			343			249		
Travel Time (s)		2.3			5.1			7.8			5.7		
Volume (vph)	5	40	30	24	6	17	180	190	198	207	380	70	
Confl. Bikes (#/hr)									2			76	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	0%	
Lane Group Flow (vph)	0	81	0	0	51	0	237	511	0	227	495	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			2			6		9
Permitted Phases	4			8			2			6			
Detector Phases	4	4		8	8		2	2		6	6		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0		21.0
Total Split (s)	20.0	20.0	0.0	20.0	20.0	0.0	59.0	59.0	0.0	59.0	59.0	0.0	21.0
Total Split (%)	20.0%	20.0%	0.0%	20.0%	20.0%	0.0%	59.0%	59.0%	0.0%	59.0%	59.0%	0.0%	21%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		2.0
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		Ped
v/c Ratio		0.49			0.36		0.64	0.52		0.62	0.48		
Control Delay		38.6			37.0		15.2	8.1		22.4	12.0		
Queue Delay		0.0			0.0		0.0	1.5		0.0	0.8		
Total Delay		38.6			37.0		15.2	9.6		22.4	12.8		
Queue Length 50th (ft)		32			20		59	108		83	152		
Queue Length 95th (ft)		76			55		m51	m87		#218	261		
Internal Link Dist (ft)		21			145			263			169		
Turn Bay Length (ft)							70			90			
Base Capacity (vph)		280			243		369	978		364	1029		
Starvation Cap Reductn		0			0		0	281		0	262		
Spillback Cap Reductn		0			0		0	0		0	0		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.29			0.21		0.64	0.73		0.62	0.65		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 2 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Pilgrim Road & Longwood Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	13	13	10	11	11	10	11	11
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.95		1.00	0.92		1.00	0.98	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1641		1486	1480		1516	1598	
Flt Permitted		0.98			0.70		0.41	1.00		0.40	1.00	
Satd. Flow (perm)		1583			1184		637	1480		632	1598	
Volume (vph)	5	40	30	24	6	17	180	190	198	207	380	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.76	0.76	0.76	0.91	0.91	0.91
Adj. Flow (vph)	5	43	33	26	7	18	237	250	261	227	418	77
RTOR Reduction (vph)	0	27	0	0	17	0	0	31	0	0	6	0
Lane Group Flow (vph)	0	54	0	0	34	0	237	480	0	227	489	0
Confl. Bikes (#/hr)									2			76
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.7			7.7		63.3	63.3		63.3	63.3	
Effective Green, g (s)		7.7			7.7		63.3	63.3		63.3	63.3	
Actuated g/C Ratio		0.08			0.08		0.63	0.63		0.63	0.63	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		122			91		403	937		400	1012	
v/s Ratio Prot								0.32			0.31	
v/s Ratio Perm		c0.03			0.03		c0.37			0.36		
v/c Ratio		0.44			0.38		0.59	0.51		0.57	0.48	
Uniform Delay, d1		44.1			43.9		10.7	10.0		10.5	9.7	
Progression Factor		1.00			1.00		0.82	0.81		1.00	1.00	
Incremental Delay, d2		2.6			2.6		2.1	0.7		5.7	1.7	
Delay (s)		46.7			46.5		10.9	8.7		16.2	11.4	
Level of Service		D			D		B	A		B	B	
Approach Delay (s)		46.7			46.5			9.4			12.9	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

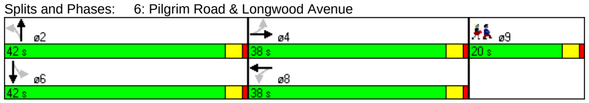
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	13	13	13	10	11	11	10	11	11	
Storage Length (ft)	0		0	0		0	70		0	90		0	
Storage Lanes	0		0	0		0	1		0	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Right Turn on Red			Yes			Yes			Yes			Yes	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		101			225			343			249		
Travel Time (s)		2.3			5.1			7.8			5.7		
Volume (vph)	10	11	105	123	79	101	90	330	64	42	320	20	
Confl. Bikes (#/hr)						110			43			9	
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	
Lane Group Flow (vph)	0	137	0	0	326	0	105	458	0	51	414	0	
Turn Type	Perm			Perm			Perm			Perm			
Protected Phases		4			8			2			6		9
Permitted Phases	4			8			2			6			
Detector Phases	4	4		8	8		2	2		6	6		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0		20.0
Total Split (s)	38.0	38.0	0.0	38.0	38.0	0.0	42.0	42.0	0.0	42.0	42.0	0.0	20.0
Total Split (%)	38.0%	38.0%	0.0%	38.0%	38.0%	0.0%	42.0%	42.0%	0.0%	42.0%	42.0%	0.0%	20%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min		Ped
v/c Ratio		0.29			0.89		0.46	0.64		0.26	0.57		
Control Delay		8.4			56.9		30.3	27.5		24.9	25.6		
Queue Delay		0.3			26.0		0.0	6.4		0.0	0.8		
Total Delay		8.7			82.9		30.3	33.9		24.9	26.4		
Queue Length 50th (ft)		11			182		46	218		20	191		
Queue Length 95th (ft)		52			273		106	344		50	282		
Internal Link Dist (ft)		21			145			263			169		
Turn Bay Length (ft)							70			90			
Base Capacity (vph)		575			457		228	719		195	732		
Starvation Cap Reductn		0			0		0	207		0	75		
Spillback Cap Reductn		161			133		0	0		0	116		
Storage Cap Reductn		0			0		0	0		0	0		
Reduced v/c Ratio		0.33			1.01		0.46	0.89		0.26	0.67		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 6: Pilgrim Road & Longwood Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	13	13	10	11	11	10	11	11
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.89			0.95		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1512			1559		1501	1583		1501	1620	
Flt Permitted		0.97			0.76		0.38	1.00		0.34	1.00	
Satd. Flow (perm)		1473			1210		596	1583		531	1620	
Volume (vph)	10	11	105	123	79	101	90	330	64	42	320	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.86	0.86	0.86	0.82	0.82	0.82
Adj. Flow (vph)	11	12	114	132	85	109	105	384	74	51	390	24
RTOR Reduction (vph)	0	83	0	0	20	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	54	0	0	306	0	105	452	0	51	412	0
Confl. Bikes (#/hr)						110			43			9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.9			26.9		45.1	45.1		45.1	45.1	
Effective Green, g (s)		26.9			26.9		45.1	45.1		45.1	45.1	
Actuated g/C Ratio		0.27			0.27		0.45	0.45		0.45	0.45	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		396			325		269	714		239	731	
v/s Ratio Prot								c0.29			0.25	
v/s Ratio Perm		0.04			c0.25		0.18			0.10		
v/c Ratio		0.14			0.94		0.39	0.63		0.21	0.56	
Uniform Delay, d1		27.7			35.8		18.3	21.1		16.7	20.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			34.9		4.2	4.2		2.0	3.1	
Delay (s)		27.9			70.7		22.5	25.3		18.7	23.3	
Level of Service		C			E		C	C		B	C	
Approach Delay (s)		27.9			70.7			24.8			22.8	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Wind Analysis

- **Data Tables**
- **Figures**

Data Tables

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			**Mean Wind Speed**			**Effective Gust Wind Speed**		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
1	A	Spring	13	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	20	+0%	Acceptable
		Winter	14	+0%	Standing	23	+0%	Acceptable
		Annual	13	+0%	Standing	21	+0%	Acceptable
	B	Spring	11	-14%	Sitting	17	-18%	Acceptable
		Summer	8	-19%	Sitting	12	-24%	Acceptable
		Fall	10	-16%	Sitting	16	-19%	Acceptable
		Winter	11	-20%	Sitting	18	-21%	Acceptable
		Annual	10	-22%	Sitting	17	-18%	Acceptable
2	A	Spring	20	+0%	Uncomfortable	29	+0%	Acceptable
		Summer	15	+0%	Standing	21	+0%	Acceptable
		Fall	18	+0%	Walking	27	+0%	Acceptable
		Winter	22	+0%	Uncomfortable	31	+0%	Acceptable
		Annual	20	+0%	Uncomfortable	28	+0%	Acceptable
	B	Spring	15	-24%	Standing	22	-23%	Acceptable
		Summer	11	-26%	Sitting	17	-18%	Acceptable
		Fall	14	-21%	Standing	21	-21%	Acceptable
		Winter	16	-26%	Walking	24	-22%	Acceptable
		Annual	15	-24%	Standing	22	-20%	Acceptable
3	A	Spring	13	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	19	+0%	Acceptable
		Winter	13	+0%	Standing	21	+0%	Acceptable
		Annual	12	+0%	Sitting	19	+0%	Acceptable
	B	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
4	A	Spring	15	+0%	Standing	23	+0%	Acceptable
		Summer	10	+0%	Sitting	17	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	14	+0%	Standing	23	+0%	Acceptable
		Annual	13	+0%	Standing	21	+0%	Acceptable
	B	Spring	11	-26%	Sitting	18	-21%	Acceptable
		Summer	9	+0%	Sitting	14	-17%	Acceptable
		Fall	11	-14%	Sitting	17	-14%	Acceptable
		Winter	13	+0%	Standing	19	-16%	Acceptable
		Annual	11	-14%	Sitting	18	-13%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations

A – No Build
B – Build

Mean Wind Speed Criteria

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

Effective Gust Criteria

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
5	A	Spring	17	+0%	Walking	24	+0%	Acceptable
		Summer	13	+0%	Standing	18	+0%	Acceptable
		Fall	15	+0%	Standing	22	+0%	Acceptable
		Winter	17	+0%	Walking	25	+0%	Acceptable
		Annual	16	+0%	Walking	23	+0%	Acceptable
	B	Spring	15	-11%	Standing	22	+0%	Acceptable
		Summer	11	-14%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	16	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable
6	A	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	12	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	12	-13%	Sitting	20	+0%	Acceptable
		Summer	9	-24%	Sitting	14	-12%	Acceptable
		Fall	11	-14%	Sitting	18	+0%	Acceptable
		Winter	12	-13%	Sitting	20	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
7	A	Spring	12	+0%	Sitting	18	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
	B	Spring	15	+25%	Standing	25	+39%	Acceptable
		Summer	11	+10%	Sitting	18	+20%	Acceptable
		Fall	13	+18%	Standing	22	+29%	Acceptable
		Winter	14	+17%	Standing	23	+28%	Acceptable
		Annual	13	+18%	Standing	22	+29%	Acceptable
8	A	Spring	11	+0%	Sitting	17	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	13	+18%	Standing	20	+18%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+20%	Sitting	18	+13%	Acceptable
		Winter	13	+18%	Standing	20	+11%	Acceptable
		Annual	12	+20%	Sitting	19	+19%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations

A – No Build
B – Build

Mean Wind Speed Criteria

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

Effective Gust Criteria

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
9	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	20	+0%	Acceptable
		Annual	11	+0%	Sitting	18	+0%	Acceptable
	B	Spring	12	+0%	Sitting	19	+0%	Acceptable
		Summer	9	+13%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+0%	Sitting	18	+0%	Acceptable
10	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	14	+0%	Acceptable
		Fall	10	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	20	+0%	Acceptable
		Annual	11	+0%	Sitting	18	+0%	Acceptable
	B	Spring	20	+82%	Uncomfortable	28	+56%	Acceptable
		Summer	14	+75%	Standing	20	+43%	Acceptable
		Fall	18	+80%	Walking	26	+52%	Acceptable
		Winter	20	+67%	Uncomfortable	30	+50%	Acceptable
		Annual	19	+73%	Walking	27	+50%	Acceptable
11	A	Spring	9	+0%	Sitting	15	+0%	Acceptable
		Summer	7	+0%	Sitting	12	+0%	Acceptable
		Fall	8	+0%	Sitting	14	+0%	Acceptable
		Winter	9	+0%	Sitting	16	+0%	Acceptable
		Annual	8	+0%	Sitting	14	+0%	Acceptable
	B	Spring	18	+100%	Walking	25	+67%	Acceptable
		Summer	13	+86%	Standing	18	+50%	Acceptable
		Fall	16	+100%	Walking	23	+64%	Acceptable
		Winter	20	+122%	Uncomfortable	28	+75%	Acceptable
		Annual	18	+125%	Walking	25	+79%	Acceptable
12	A	Spring	7	+0%	Sitting	12	+0%	Acceptable
		Summer	5	+0%	Sitting	8	+0%	Acceptable
		Fall	7	+0%	Sitting	11	+0%	Acceptable
		Winter	7	+0%	Sitting	12	+0%	Acceptable
		Annual	7	+0%	Sitting	11	+0%	Acceptable
	B	Spring	10	+43%	Sitting	16	+33%	Acceptable
		Summer	7	+40%	Sitting	12	+50%	Acceptable
		Fall	9	+29%	Sitting	14	+27%	Acceptable
		Winter	10	+43%	Sitting	16	+33%	Acceptable
		Annual	9	+29%	Sitting	15	+36%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
13	A	Spring	10	+0%	Sitting	14	+0%	Acceptable
		Summer	8	+0%	Sitting	11	+0%	Acceptable
		Fall	9	+0%	Sitting	13	+0%	Acceptable
		Winter	10	+0%	Sitting	15	+0%	Acceptable
		Annual	9	+0%	Sitting	13	+0%	Acceptable
	B	Spring	11	+10%	Sitting	17	+21%	Acceptable
		Summer	8	+0%	Sitting	13	+18%	Acceptable
		Fall	10	+11%	Sitting	16	+23%	Acceptable
		Winter	11	+10%	Sitting	17	+13%	Acceptable
		Annual	10	+11%	Sitting	16	+23%	Acceptable
14	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	7	+0%	Sitting	12	+0%	Acceptable
		Winter	8	+0%	Sitting	13	+0%	Acceptable
		Annual	7	+0%	Sitting	12	+0%	Acceptable
	B	Spring	8	+0%	Sitting	14	+0%	Acceptable
		Summer	7	+17%	Sitting	11	+10%	Acceptable
		Fall	8	+14%	Sitting	13	+0%	Acceptable
		Winter	8	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+14%	Sitting	13	+0%	Acceptable
15	A	Spring	9	+0%	Sitting	16	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	14	+0%	Acceptable
		Winter	10	+0%	Sitting	16	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	15	+67%	Standing	24	+50%	Acceptable
		Summer	11	+38%	Sitting	17	+42%	Acceptable
		Fall	14	+56%	Standing	22	+57%	Acceptable
		Winter	16	+60%	Walking	25	+56%	Acceptable
		Annual	15	+67%	Standing	23	+52%	Acceptable
16	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	11	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	8	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	13	+63%	Standing	21	+62%	Acceptable
		Summer	9	+50%	Sitting	15	+36%	Acceptable
		Fall	11	+38%	Sitting	18	+38%	Acceptable
		Winter	13	+63%	Standing	21	+50%	Acceptable
		Annual	12	+50%	Sitting	19	+46%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
17	A	Spring	8	+0%	Sitting	14	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	15	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	10	+25%	Sitting	16	+14%	Acceptable
		Summer	8	+14%	Sitting	12	+0%	Acceptable
		Fall	9	+13%	Sitting	15	+15%	Acceptable
		Winter	10	+11%	Sitting	17	+13%	Acceptable
		Annual	9	+13%	Sitting	16	+23%	Acceptable
18	A	Spring	10	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	15	+50%	Standing	24	+41%	Acceptable
		Summer	11	+38%	Sitting	17	+31%	Acceptable
		Fall	13	+44%	Standing	21	+40%	Acceptable
		Winter	15	+36%	Standing	24	+33%	Acceptable
		Annual	14	+40%	Standing	22	+38%	Acceptable
19	A	Spring	10	+0%	Sitting	16	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	17	+0%	Acceptable
		Annual	9	+0%	Sitting	16	+0%	Acceptable
	B	Spring	13	+30%	Standing	20	+25%	Acceptable
		Summer	10	+25%	Sitting	15	+25%	Acceptable
		Fall	12	+33%	Sitting	19	+27%	Acceptable
		Winter	14	+27%	Standing	21	+24%	Acceptable
		Annual	13	+44%	Standing	20	+25%	Acceptable
20	A	Spring	10	+0%	Sitting	16	+0%	Acceptable
		Summer	7	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	11	+10%	Sitting	18	+13%	Acceptable
		Summer	8	+14%	Sitting	13	+0%	Acceptable
		Fall	11	+22%	Sitting	17	+13%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+10%	Sitting	18	+13%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
21	A	Spring	10	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	15	+50%	Standing	25	+47%	Acceptable
		Summer	11	+38%	Sitting	18	+38%	Acceptable
		Fall	13	+30%	Standing	22	+38%	Acceptable
		Winter	15	+36%	Standing	24	+33%	Acceptable
		Annual	14	+40%	Standing	23	+44%	Acceptable
22	A	Spring	11	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
	B	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	14	+0%	Acceptable
		Fall	11	+10%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	20	+11%	Acceptable
		Annual	11	+10%	Sitting	18	+0%	Acceptable
23	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
	B	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+10%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+10%	Sitting	18	+0%	Acceptable
24	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
	B	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	14	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
25	A	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	15	+0%	Standing	23	+10%	Acceptable
		Summer	12	+20%	Sitting	18	+13%	Acceptable
		Fall	14	+0%	Standing	22	+16%	Acceptable
		Winter	16	+14%	Walking	25	+19%	Acceptable
		Annual	15	+15%	Standing	22	+16%	Acceptable
26	A	Spring	9	+0%	Sitting	15	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	8	+0%	Sitting	14	+0%	Acceptable
		Winter	10	+0%	Sitting	16	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	7	-21%	Sitting	12	-19%	Acceptable
		Summer	5	-28%	Sitting	9	-17%	Acceptable
		Fall	7	-12%	Sitting	11	-20%	Acceptable
		Winter	8	-19%	Sitting	13	-18%	Acceptable
		Annual	7	-21%	Sitting	12	-19%	Acceptable
27	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	8	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	7	-12%	Sitting	12	+0%	Acceptable
		Summer	6	+0%	Sitting	9	+0%	Acceptable
		Fall	7	-12%	Sitting	11	-14%	Acceptable
		Winter	8	+0%	Sitting	13	+0%	Acceptable
		Annual	7	-12%	Sitting	12	+0%	Acceptable
28	A	Spring	9	+0%	Sitting	14	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	8	-10%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	12	+0%	Acceptable
		Winter	8	-10%	Sitting	13	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
29	A	Spring	10	+0%	Sitting	16	+0%	Acceptable
		Summer	7	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	14	+0%	Acceptable
		Winter	10	+0%	Sitting	16	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	11	+10%	Sitting	16	+0%	Acceptable
		Summer	8	+14%	Sitting	13	+0%	Acceptable
		Fall	10	+11%	Sitting	15	+0%	Acceptable
		Winter	11	+10%	Sitting	17	+0%	Acceptable
		Annual	10	+11%	Sitting	15	+0%	Acceptable
30	A	Spring	10	+0%	Sitting	14	+0%	Acceptable
		Summer	7	+0%	Sitting	10	+0%	Acceptable
		Fall	9	+0%	Sitting	13	+0%	Acceptable
		Winter	10	+0%	Sitting	14	+0%	Acceptable
		Annual	9	+0%	Sitting	13	+0%	Acceptable
	B	Spring	12	+20%	Sitting	18	+29%	Acceptable
		Summer	9	+29%	Sitting	14	+40%	Acceptable
		Fall	11	+22%	Sitting	16	+23%	Acceptable
		Winter	12	+20%	Sitting	18	+29%	Acceptable
		Annual	11	+22%	Sitting	17	+31%	Acceptable
31	A	Spring	7	+0%	Sitting	11	+0%	Acceptable
		Summer	5	+0%	Sitting	9	+0%	Acceptable
		Fall	6	+0%	Sitting	11	+0%	Acceptable
		Winter	7	+0%	Sitting	12	+0%	Acceptable
		Annual	7	+0%	Sitting	11	+0%	Acceptable
	B	Spring	6	-13%	Sitting	11	+0%	Acceptable
		Summer	4	-19%	Sitting	8	-10%	Acceptable
		Fall	6	+0%	Sitting	10	+0%	Acceptable
		Winter	6	-13%	Sitting	11	+0%	Acceptable
		Annual	6	-13%	Sitting	10	+0%	Acceptable
32	A	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	16	+0%	Walking	23	+0%	Acceptable
		Annual	14	+0%	Standing	21	+0%	Acceptable
	B	Spring	15	+0%	Standing	21	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	14	-12%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
33	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	8	-10%	Sitting	12	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
34	A	Spring	12	+0%	Sitting	19	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
	B	Spring	12	+0%	Sitting	18	+0%	Acceptable
		Summer	8	-10%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
35	A	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable
	B	Spring	12	+0%	Sitting	18	+0%	Acceptable
		Summer	8	-19%	Sitting	13	-12%	Acceptable
		Fall	11	-14%	Sitting	17	-10%	Acceptable
		Winter	12	-19%	Sitting	19	-13%	Acceptable
		Annual	11	-14%	Sitting	18	+0%	Acceptable
36	A	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	16	+0%	Walking	24	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
	B	Spring	14	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	16	+0%	Walking	24	+0%	Acceptable
		Annual	14	+0%	Standing	22	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations

A – No Build
B – Build

Mean Wind Speed Criteria

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

Effective Gust Criteria

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
37	A	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	15	+0%	Standing	23	+0%	Acceptable
		Annual	14	+0%	Standing	21	+0%	Acceptable
	B	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+10%	Sitting	16	+0%	Acceptable
		Fall	14	+0%	Standing	21	+0%	Acceptable
		Winter	16	+0%	Walking	25	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
38	A	Spring	9	+0%	Sitting	14	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	10	+0%	Sitting	15	+0%	Acceptable
		Annual	9	+0%	Sitting	14	+0%	Acceptable
	B	Spring	10	+11%	Sitting	15	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	9	+13%	Sitting	14	+0%	Acceptable
		Winter	10	+0%	Sitting	17	+13%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
39	A	Spring	15	+0%	Standing	21	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	14	+0%	Standing	20	+0%	Acceptable
	B	Spring	16	+0%	Walking	22	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	14	+0%	Standing	21	+11%	Acceptable
		Winter	16	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable
40	A	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	15	+0%	Standing	22	+10%	Acceptable
		Summer	11	+10%	Sitting	16	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	15	+0%	Standing	23	+10%	Acceptable
		Annual	14	+0%	Standing	21	+11%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
41	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+11%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
42	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	10	+0%	Sitting	13	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	14	+0%	Standing	19	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
	B	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	13	+0%	Standing	18	+0%	Acceptable
		Annual	12	+0%	Sitting	17	+0%	Acceptable
43	A	Spring	11	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
	B	Spring	10	+0%	Sitting	16	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	17	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
44	A	Spring	16	+0%	Walking	23	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	15	+0%	Standing	22	+0%	Acceptable
		Winter	18	+0%	Walking	26	+0%	Acceptable
		Annual	16	+0%	Walking	23	+0%	Acceptable
	B	Spring	14	-12%	Standing	22	+0%	Acceptable
		Summer	10	-16%	Sitting	16	+0%	Acceptable
		Fall	13	-12%	Standing	20	+0%	Acceptable
		Winter	16	-10%	Walking	25	+0%	Acceptable
		Annual	14	-12%	Standing	22	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
45	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	17	+0%	Acceptable
46	A	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	16	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable
	B	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	15	+0%	Standing	21	+0%	Acceptable
		Annual	13	-12%	Standing	19	+0%	Acceptable
47	A	Spring	17	+0%	Walking	24	+0%	Acceptable
		Summer	12	+0%	Sitting	18	+0%	Acceptable
		Fall	16	+0%	Walking	22	+0%	Acceptable
		Winter	18	+0%	Walking	26	+0%	Acceptable
		Annual	17	+0%	Walking	23	+0%	Acceptable
	B	Spring	16	+0%	Walking	23	+0%	Acceptable
		Summer	11	+0%	Sitting	17	+0%	Acceptable
		Fall	14	-12%	Standing	21	+0%	Acceptable
		Winter	17	+0%	Walking	25	+0%	Acceptable
		Annual	15	-11%	Standing	22	+0%	Acceptable
48	A	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	14	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable
	B	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+10%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	21	+11%	Acceptable
		Winter	16	+14%	Walking	24	+0%	Acceptable
		Annual	14	+0%	Standing	22	+10%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations

A – No Build
B – Build

Mean Wind Speed Criteria

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

Effective Gust Criteria

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
49	A	Spring	11	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
	B	Spring	17	+55%	Walking	25	+47%	Acceptable
		Summer	12	+50%	Sitting	18	+50%	Acceptable
		Fall	15	+50%	Standing	22	+38%	Acceptable
		Winter	17	+55%	Walking	25	+39%	Acceptable
		Annual	16	+60%	Walking	23	+35%	Acceptable
50	A	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	16	+0%	Acceptable
	B	Spring	11	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
51	A	Spring	10	+0%	Sitting	15	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	9	+0%	Sitting	14	+0%	Acceptable
		Winter	10	+0%	Sitting	17	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	10	+0%	Sitting	17	+13%	Acceptable
		Summer	8	+14%	Sitting	12	+0%	Acceptable
		Fall	10	+11%	Sitting	15	+0%	Acceptable
		Winter	11	+10%	Sitting	18	+0%	Acceptable
		Annual	10	+11%	Sitting	16	+0%	Acceptable
52	A	Spring	10	+0%	Sitting	17	+0%	Acceptable
		Summer	7	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	13	+30%	Standing	20	+18%	Acceptable
		Summer	10	+43%	Sitting	15	+25%	Acceptable
		Fall	12	+33%	Sitting	19	+27%	Acceptable
		Winter	14	+27%	Standing	22	+22%	Acceptable
		Annual	13	+30%	Standing	20	+25%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			**Mean Wind Speed**			**Effective Gust Wind Speed**		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
53	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	12	+0%	Acceptable
		Winter	9	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	12	+0%	Acceptable
		Winter	8	-10%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
54	A	Spring	9	+0%	Sitting	14	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	10	+0%	Sitting	15	+0%	Acceptable
		Annual	9	+0%	Sitting	14	+0%	Acceptable
	B	Spring	8	-10%	Sitting	13	+0%	Acceptable
		Summer	6	-13%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	12	+0%	Acceptable
		Winter	9	+0%	Sitting	14	+0%	Acceptable
		Annual	8	-10%	Sitting	13	+0%	Acceptable
55	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	14	+0%	Acceptable
		Fall	10	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	20	+0%	Acceptable
		Annual	11	+0%	Sitting	18	+0%	Acceptable
	B	Spring	10	+0%	Sitting	17	+0%	Acceptable
		Summer	7	-12%	Sitting	12	-13%	Acceptable
		Fall	9	+0%	Sitting	16	+0%	Acceptable
		Winter	11	+0%	Sitting	18	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable
56	A	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	14	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable
	B	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
57	A	Spring	17	+0%	Walking	24	+0%	Acceptable
		Summer	13	+0%	Standing	18	+0%	Acceptable
		Fall	16	+0%	Walking	22	+0%	Acceptable
		Winter	18	+0%	Walking	25	+0%	Acceptable
		Annual	16	+0%	Walking	23	+0%	Acceptable
	B	Spring	16	+0%	Walking	22	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	14	-12%	Standing	21	+0%	Acceptable
		Winter	17	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
58	A	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
	B	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	13	+0%	Standing	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
59	A	Spring	9	+0%	Sitting	16	+0%	Acceptable
		Summer	7	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	10	+0%	Sitting	17	+0%	Acceptable
		Annual	9	+0%	Sitting	16	+0%	Acceptable
	B	Spring	8	-10%	Sitting	14	-12%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	8	-10%	Sitting	13	-12%	Acceptable
		Winter	9	+0%	Sitting	15	-11%	Acceptable
		Annual	8	-10%	Sitting	13	-18%	Acceptable
60	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
	B	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	18	+0%	Acceptable
		Annual	12	+0%	Sitting	17	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
61	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	7	+0%	Sitting	11	+0%	Acceptable
		Winter	8	+0%	Sitting	13	+0%	Acceptable
		Annual	7	+0%	Sitting	12	+0%	Acceptable
	B	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	7	+0%	Sitting	11	+0%	Acceptable
		Winter	8	+0%	Sitting	13	+0%	Acceptable
		Annual	7	+0%	Sitting	12	+0%	Acceptable
62	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	10	+0%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
	B	Spring	9	-17%	Sitting	16	-10%	Acceptable
		Summer	7	-12%	Sitting	11	-14%	Acceptable
		Fall	8	-19%	Sitting	14	-12%	Acceptable
		Winter	10	-16%	Sitting	16	-15%	Acceptable
		Annual	9	-17%	Sitting	15	-11%	Acceptable
63	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	11	-14%	Sitting	17	+0%	Acceptable
		Summer	8	-10%	Sitting	13	+0%	Acceptable
		Fall	10	-16%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	17	-10%	Acceptable
		Annual	11	+0%	Sitting	16	-10%	Acceptable
64	A	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	23	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable
	B	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
65	A	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	14	+0%	Standing	20	+0%	Acceptable
	B	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	14	+0%	Standing	20	+0%	Acceptable
66	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
	B	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+11%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
67	A	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	14	+0%	Standing	21	+0%	Acceptable
	B	Spring	13	-12%	Standing	19	-13%	Acceptable
		Summer	9	-17%	Sitting	14	-12%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	-12%	Standing	21	+0%	Acceptable
		Annual	12	-13%	Sitting	19	+0%	Acceptable
68	A	Spring	22	+0%	Uncomfortable	30	+0%	Acceptable
		Summer	16	+0%	Walking	22	+0%	Acceptable
		Fall	20	+0%	Uncomfortable	28	+0%	Acceptable
		Winter	22	+0%	Uncomfortable	31	+0%	Acceptable
		Annual	21	+0%	Uncomfortable	29	+0%	Acceptable
	B	Spring	14	-35%	Standing	19	-36%	Acceptable
		Summer	11	-30%	Sitting	15	-31%	Acceptable
		Fall	13	-34%	Standing	18	-35%	Acceptable
		Winter	14	-35%	Standing	20	-34%	Acceptable
		Annual	13	-37%	Standing	18	-37%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
69	A	Spring	17	+0%	Walking	24	+0%	Acceptable
		Summer	13	+0%	Standing	18	+0%	Acceptable
		Fall	16	+0%	Walking	23	+0%	Acceptable
		Winter	17	+0%	Walking	25	+0%	Acceptable
		Annual	16	+0%	Walking	23	+0%	Acceptable
	B	Spring	13	-23%	Standing	19	-20%	Acceptable
		Summer	11	-14%	Sitting	15	-16%	Acceptable
		Fall	12	-24%	Sitting	17	-25%	Acceptable
		Winter	13	-23%	Standing	19	-23%	Acceptable
		Annual	12	-24%	Sitting	18	-21%	Acceptable
70	A	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	17	+31%	Walking	23	+15%	Acceptable
		Summer	12	+20%	Sitting	16	+0%	Acceptable
		Fall	15	+25%	Standing	20	+11%	Acceptable
		Winter	16	+14%	Walking	22	+10%	Acceptable
		Annual	15	+15%	Standing	21	+11%	Acceptable
71	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	12	+0%	Sitting	19	+0%	Acceptable
	B	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable
72	A	Spring	18	+0%	Walking	25	+0%	Acceptable
		Summer	14	+0%	Standing	20	+0%	Acceptable
		Fall	17	+0%	Walking	24	+0%	Acceptable
		Winter	20	+0%	Uncomfortable	28	+0%	Acceptable
		Annual	18	+0%	Walking	25	+0%	Acceptable
	B	Spring	17	+0%	Walking	25	+0%	Acceptable
		Summer	13	+0%	Standing	19	+0%	Acceptable
		Fall	16	+0%	Walking	23	+0%	Acceptable
		Winter	19	+0%	Walking	28	+0%	Acceptable
		Annual	17	+0%	Walking	25	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations

A – No Build
B – Build

Mean Wind Speed Criteria

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

Effective Gust Criteria

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
73	A	Spring	11	+0%	Sitting	16	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	10	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	16	+0%	Acceptable
		Annual	10	+0%	Sitting	15	+0%	Acceptable
	B	Spring	11	+0%	Sitting	16	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	10	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	17	+0%	Acceptable
		Annual	10	+0%	Sitting	15	+0%	Acceptable
74	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
75	A	Spring	16	+0%	Walking	23	+0%	Acceptable
		Summer	12	+0%	Sitting	18	+0%	Acceptable
		Fall	14	+0%	Standing	21	+0%	Acceptable
		Winter	16	+0%	Walking	24	+0%	Acceptable
		Annual	15	+0%	Standing	23	+0%	Acceptable
	B	Spring	15	+0%	Standing	23	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	21	+0%	Acceptable
		Winter	16	+0%	Walking	24	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
76	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	+0%	Standing	20	+0%	Acceptable
		Annual	12	+0%	Sitting	19	+0%	Acceptable
	B	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	+0%	Standing	20	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
77	A	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	15	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	14	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
78	A	Spring	9	+0%	Sitting	15	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	10	+0%	Sitting	16	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	10	+11%	Sitting	17	+13%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	9	+0%	Sitting	16	+0%	Acceptable
		Winter	10	+0%	Sitting	17	+0%	Acceptable
		Annual	10	+11%	Sitting	16	+0%	Acceptable
79	A	Spring	18	+0%	Walking	27	+0%	Acceptable
		Summer	13	+0%	Standing	20	+0%	Acceptable
		Fall	17	+0%	Walking	25	+0%	Acceptable
		Winter	19	+0%	Walking	28	+0%	Acceptable
		Annual	18	+0%	Walking	26	+0%	Acceptable
	B	Spring	15	-16%	Standing	23	-14%	Acceptable
		Summer	11	-14%	Sitting	17	-14%	Acceptable
		Fall	14	-17%	Standing	21	-15%	Acceptable
		Winter	16	-15%	Walking	25	-10%	Acceptable
		Annual	15	-16%	Standing	23	-11%	Acceptable
80	A	Spring	18	+0%	Walking	27	+0%	Acceptable
		Summer	13	+0%	Standing	19	+0%	Acceptable
		Fall	16	+0%	Walking	24	+0%	Acceptable
		Winter	18	+0%	Walking	27	+0%	Acceptable
		Annual	17	+0%	Walking	25	+0%	Acceptable
	B	Spring	16	-10%	Walking	24	-10%	Acceptable
		Summer	11	-14%	Sitting	17	-10%	Acceptable
		Fall	14	-12%	Standing	22	+0%	Acceptable
		Winter	16	-10%	Walking	25	+0%	Acceptable
		Annual	15	-11%	Standing	23	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
81	A	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	7	+0%	Sitting	12	+0%	Acceptable
		Winter	8	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	7	+0%	Sitting	12	+0%	Acceptable
		Winter	8	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
82	A	Spring	21	+0%	Uncomfortable	29	+0%	Acceptable
		Summer	15	+0%	Standing	21	+0%	Acceptable
		Fall	19	+0%	Walking	26	+0%	Acceptable
		Winter	22	+0%	Uncomfortable	30	+0%	Acceptable
		Annual	20	+0%	Uncomfortable	28	+0%	Acceptable
	B	Spring	18	-13%	Walking	25	-13%	Acceptable
		Summer	13	-12%	Standing	18	-13%	Acceptable
		Fall	16	-15%	Walking	23	-11%	Acceptable
		Winter	19	-13%	Walking	27	+0%	Acceptable
		Annual	17	-14%	Walking	24	-13%	Acceptable
83	A	Spring	9	+0%	Sitting	16	+0%	Acceptable
		Summer	7	+0%	Sitting	11	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	17	+0%	Acceptable
		Annual	9	+0%	Sitting	15	+0%	Acceptable
	B	Spring	17	+89%	Walking	24	+50%	Acceptable
		Summer	12	+71%	Sitting	17	+55%	Acceptable
		Fall	15	+67%	Standing	21	+40%	Acceptable
		Winter	16	+45%	Walking	23	+35%	Acceptable
		Annual	15	+67%	Standing	22	+47%	Acceptable
84	A	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	9	+0%	Sitting	15	+0%	Acceptable
		Fall	10	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+0%	Sitting	18	+0%	Acceptable
	B	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	9	+0%	Sitting	15	+0%	Acceptable
		Fall	10	+0%	Sitting	17	+0%	Acceptable
		Winter	11	+0%	Sitting	19	+0%	Acceptable
		Annual	10	+0%	Sitting	17	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
85	A	Spring	16	+0%	Walking	23	+0%	Acceptable
		Summer	13	+0%	Standing	19	+0%	Acceptable
		Fall	15	+0%	Standing	21	+0%	Acceptable
		Winter	17	+0%	Walking	24	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
	B	Spring	15	+0%	Standing	22	+0%	Acceptable
		Summer	13	+0%	Standing	18	+0%	Acceptable
		Fall	14	+0%	Standing	21	+0%	Acceptable
		Winter	16	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable
86	A	Spring	12	+0%	Sitting	18	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
	B	Spring	10	-16%	Sitting	17	+0%	Acceptable
		Summer	8	-10%	Sitting	12	+0%	Acceptable
		Fall	10	+0%	Sitting	15	-11%	Acceptable
		Winter	11	+0%	Sitting	17	-10%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
87	A	Spring	16	+0%	Walking	24	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	21	+0%	Acceptable
		Winter	16	+0%	Walking	24	+0%	Acceptable
		Annual	15	+0%	Standing	22	+0%	Acceptable
	B	Spring	15	+0%	Standing	21	-12%	Acceptable
		Summer	11	+0%	Sitting	15	-11%	Acceptable
		Fall	13	+0%	Standing	19	+0%	Acceptable
		Winter	14	-12%	Standing	21	-12%	Acceptable
		Annual	13	-12%	Standing	19	-13%	Acceptable
88	A	Spring	14	+0%	Standing	21	+0%	Acceptable
		Summer	11	+0%	Sitting	17	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	15	+0%	Standing	23	+0%	Acceptable
		Annual	14	+0%	Standing	21	+0%	Acceptable
	B	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	12	+0%	Sitting	19	+0%	Acceptable
		Winter	14	+0%	Standing	22	+0%	Acceptable
		Annual	13	+0%	Standing	20	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			**Mean Wind Speed**			**Effective Gust Wind Speed**		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
89	A	Spring	14	+0%	Standing	22	+0%	Acceptable
		Summer	11	+0%	Sitting	17	+0%	Acceptable
		Fall	13	+0%	Standing	21	+0%	Acceptable
		Winter	15	+0%	Standing	23	+0%	Acceptable
		Annual	14	+0%	Standing	21	+0%	Acceptable
	B	Spring	13	+0%	Standing	21	+0%	Acceptable
		Summer	11	+0%	Sitting	16	+0%	Acceptable
		Fall	13	+0%	Standing	20	+0%	Acceptable
		Winter	14	+0%	Standing	23	+0%	Acceptable
		Annual	13	+0%	Standing	21	+0%	Acceptable
90	A	Spring	10	+0%	Sitting	17	+0%	Acceptable
		Summer	8	+0%	Sitting	12	+0%	Acceptable
		Fall	9	+0%	Sitting	15	+0%	Acceptable
		Winter	11	+0%	Sitting	17	+0%	Acceptable
		Annual	10	+0%	Sitting	16	+0%	Acceptable
	B	Spring	12	+20%	Sitting	18	+0%	Acceptable
		Summer	8	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+22%	Sitting	16	+0%	Acceptable
		Winter	12	+0%	Sitting	18	+0%	Acceptable
		Annual	11	+10%	Sitting	17	+0%	Acceptable
91	A	Spring	18	+0%	Walking	24	+0%	Acceptable
		Summer	13	+0%	Standing	18	+0%	Acceptable
		Fall	16	+0%	Walking	22	+0%	Acceptable
		Winter	18	+0%	Walking	25	+0%	Acceptable
		Annual	17	+0%	Walking	23	+0%	Acceptable
	B	Spring	16	-10%	Walking	24	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	14	-12%	Standing	21	+0%	Acceptable
		Winter	16	-10%	Walking	25	+0%	Acceptable
		Annual	15	-11%	Standing	23	+0%	Acceptable
92	A	Spring	8	+0%	Sitting	14	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	15	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable
	B	Spring	8	+0%	Sitting	13	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	14	+0%	Acceptable
		Annual	8	+0%	Sitting	13	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
93	A	Spring	8	+0%	Sitting	14	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	16	+0%	Acceptable
		Annual	8	+0%	Sitting	14	+0%	Acceptable
	B	Spring	9	+13%	Sitting	14	+0%	Acceptable
		Summer	6	+0%	Sitting	10	+0%	Acceptable
		Fall	8	+0%	Sitting	13	+0%	Acceptable
		Winter	9	+0%	Sitting	16	+0%	Acceptable
		Annual	8	+0%	Sitting	14	+0%	Acceptable
94	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	18	+0%	Acceptable
		Annual	12	+0%	Sitting	17	+0%	Acceptable
	B	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	11	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
95	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	13	+0%	Standing	18	+0%	Acceptable
		Winter	14	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
	B	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	+0%	Standing	20	+0%	Acceptable
		Annual	13	+0%	Standing	18	+0%	Acceptable
96	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
97	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
	B	Spring	13	+0%	Standing	20	+0%	Acceptable
		Summer	10	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	18	+0%	Acceptable
		Winter	14	+0%	Standing	21	+0%	Acceptable
		Annual	13	+0%	Standing	19	+0%	Acceptable
98	A	Spring	12	+0%	Sitting	18	+0%	Acceptable
		Summer	9	+0%	Sitting	14	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	11	+0%	Sitting	18	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	17	+0%	Acceptable
		Winter	12	+0%	Sitting	19	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable
99	A	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	15	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	13	+0%	Standing	19	+0%	Acceptable
		Summer	10	+0%	Sitting	14	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	17	+0%	Acceptable
100	A	Spring	13	+0%	Standing	18	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	12	+0%	Sitting	17	+0%	Acceptable
		Winter	13	+0%	Standing	19	+0%	Acceptable
		Annual	12	+0%	Sitting	18	+0%	Acceptable
	B	Spring	12	+0%	Sitting	17	+0%	Acceptable
		Summer	9	+0%	Sitting	13	+0%	Acceptable
		Fall	11	+0%	Sitting	16	+0%	Acceptable
		Winter	13	+0%	Standing	18	+0%	Acceptable
		Annual	11	+0%	Sitting	17	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

Configurations	Mean Wind Speed Criteria		Effective Gust Criteria	
A – No Build	Comfortable for Sitting:	≤ 12 mph	Acceptable:	≤ 31 mph
B – Build	Comfortable for Standing:	> 12 and ≤ 15 mph	Unacceptable:	> 31 mph
	Comfortable for Walking:	> 15 and ≤ 19 mph		
	Uncomfortable for Walking:	> 19 and ≤ 27 mph		
	Dangerous Conditions:	> 27 mph		

Table 1: Pedestrian Wind Comfort and Safety Categories - Multiple Seasons

BRA Criteria			Mean Wind Speed			Effective Gust Wind Speed		
Loc.	Config.	Season	Speed (mph)	%Change	RATING	Speed (mph)	%Change	RATING
101	A	Spring	16	+0%	Walking	22	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	15	+0%	Standing	20	+0%	Acceptable
		Winter	17	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable
	B	Spring	16	+0%	Walking	22	+0%	Acceptable
		Summer	12	+0%	Sitting	17	+0%	Acceptable
		Fall	14	+0%	Standing	20	+0%	Acceptable
		Winter	17	+0%	Walking	23	+0%	Acceptable
		Annual	15	+0%	Standing	21	+0%	Acceptable

Notes: 1) Wind speeds are for a 1% probability of exceedance; and,
2) %Change is based on comparison with Configuration A and only those that are greater than 10% are listed.

<u>Configurations</u>

A – No Build
B – Build

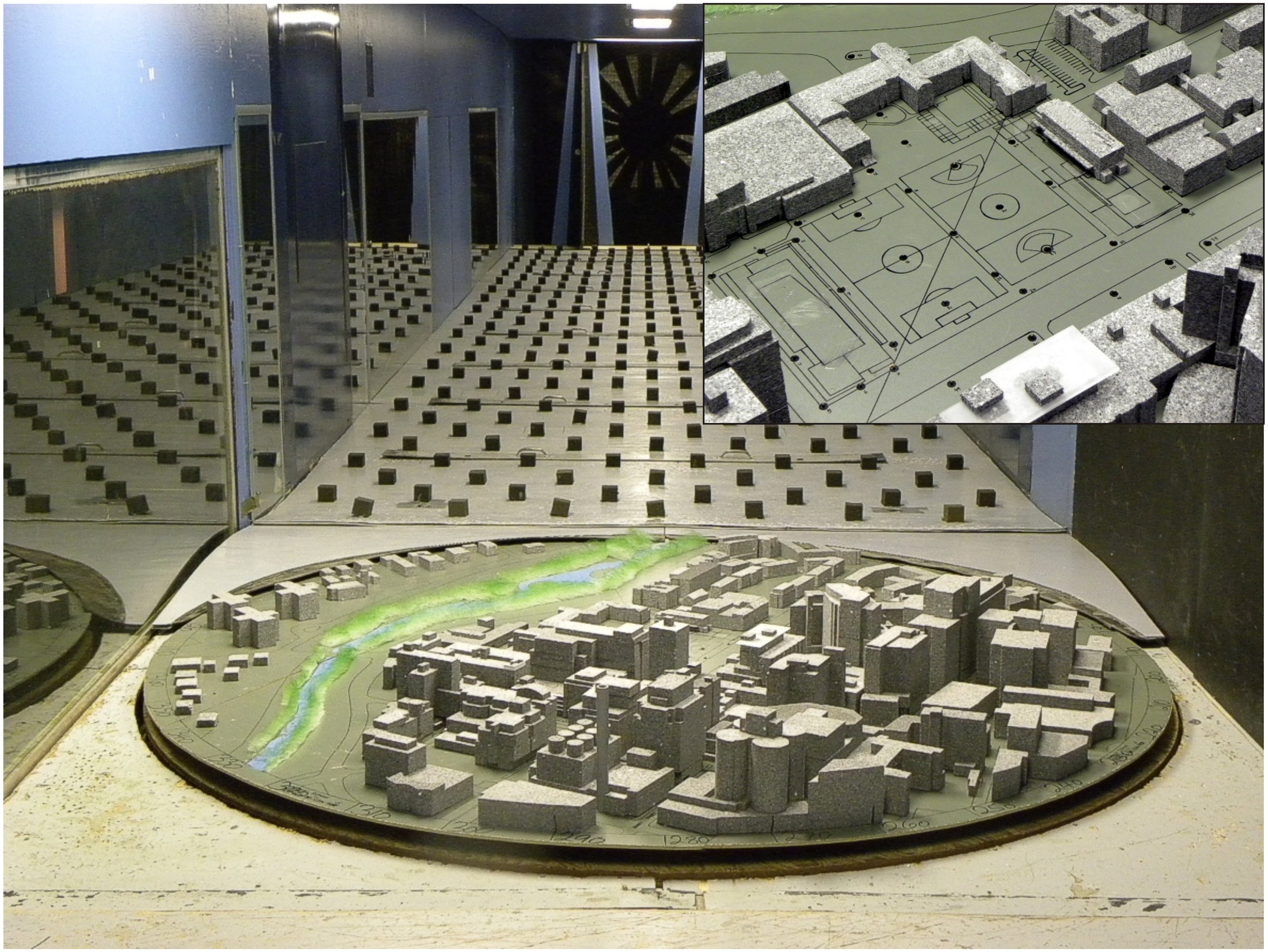
<u>Mean Wind Speed Criteria</u>

Comfortable for Sitting:	≤ 12 mph
Comfortable for Standing:	> 12 and ≤ 15 mph
Comfortable for Walking:	> 15 and ≤ 19 mph
Uncomfortable for Walking:	> 19 and ≤ 27 mph
Dangerous Conditions:	> 27 mph

<u>Effective Gust Criteria</u>

Acceptable:	≤ 31 mph
Unacceptable:	> 31 mph

Figures



Wind Tunnel Study Model
No Build Configuration

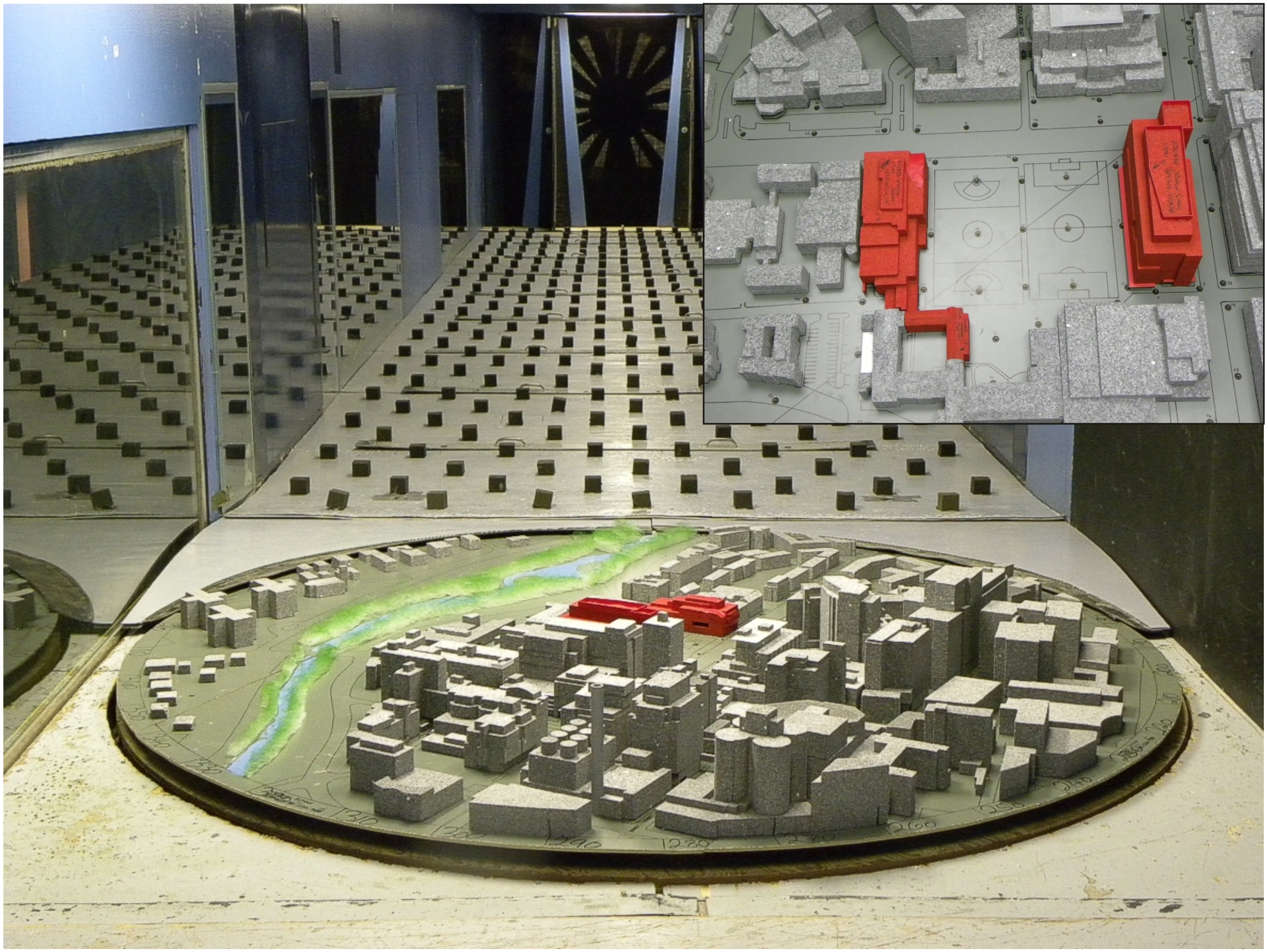
The Winsor School Centers for Performing Arts,
Health, and Wellness - Boston, MA

Project #1100592

Figure: 1a

Date: December 14, 2010

RWDI



Wind Tunnel Study Model
Build Configuration

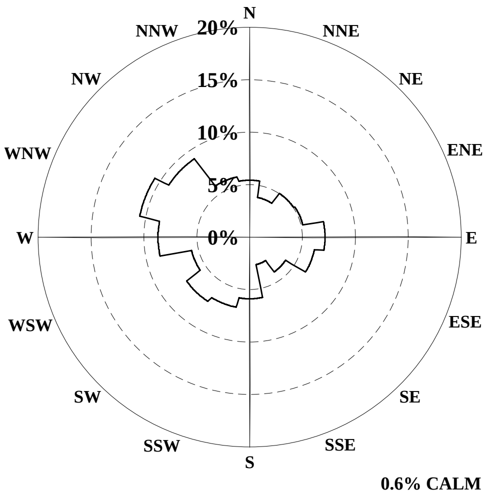
The Winsor School Centers for Performing Arts,
Health, and Wellness - Boston, MA

Project #1100592

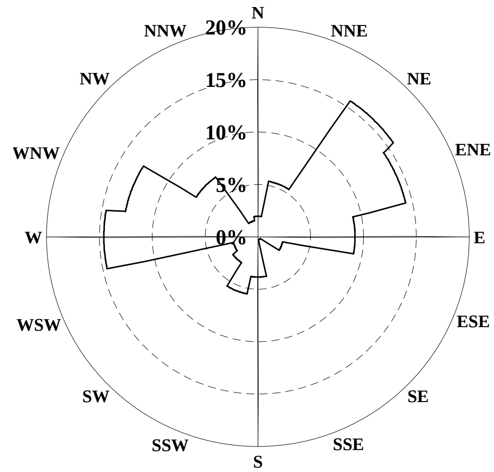
Figure: 1b

Date: December 14, 2010

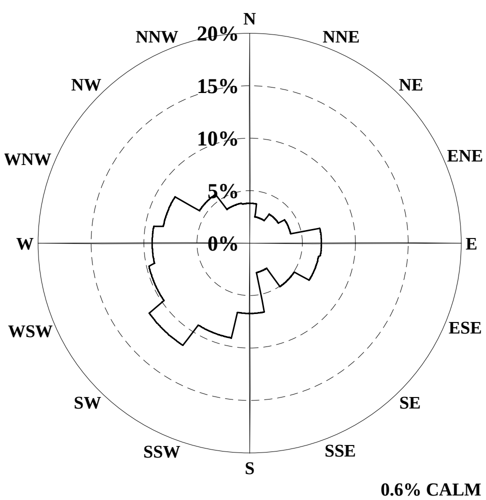
RWDI



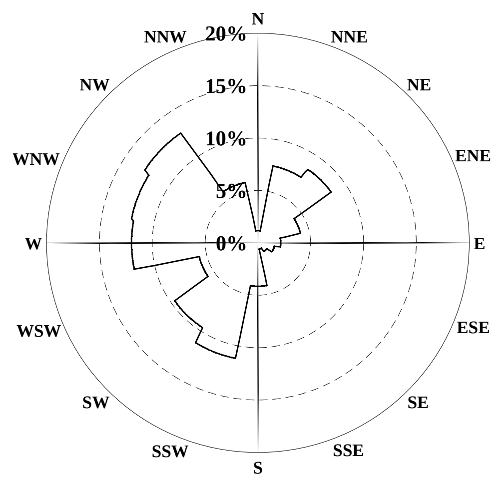
ALL SPRING WINDS



STRONG SPRING WINDS

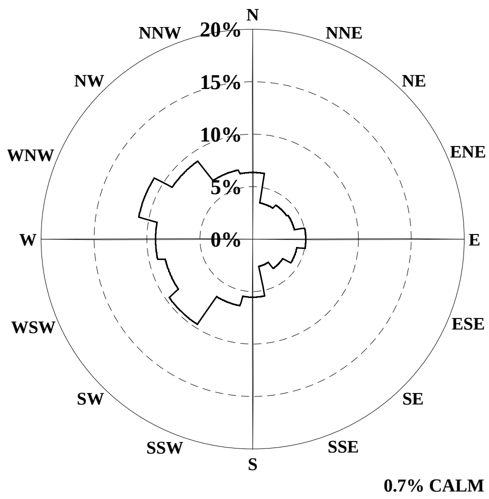


ALL SUMMER WINDS

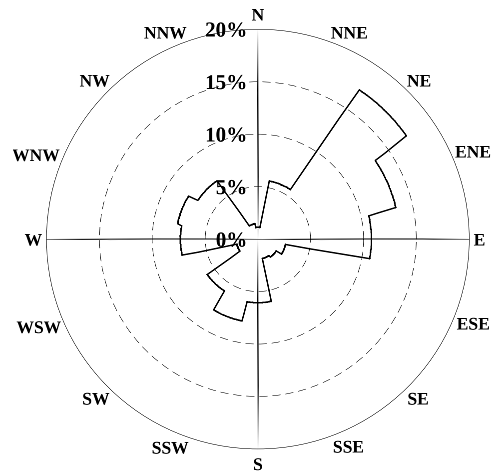


STRONG SUMMER WINDS

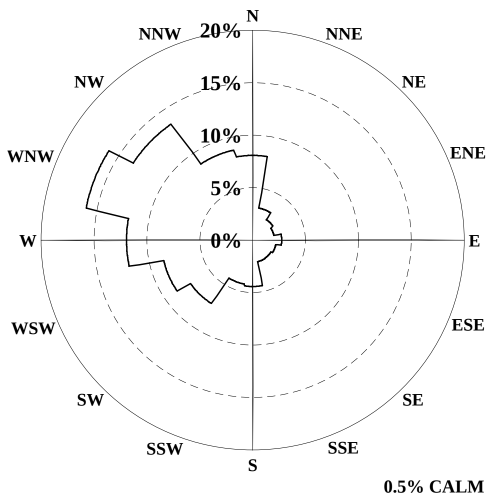
Directional Distribution (%) of Winds (Blowing From) **Boston-Logan International Airport, Massachusetts (1945 - 1998)** The Winsor School Center for Performing Arts, Health, and Wellness - Boston, MA — Project #1100592	Figure No. **2a** Date: December 21, 2010	RWDI



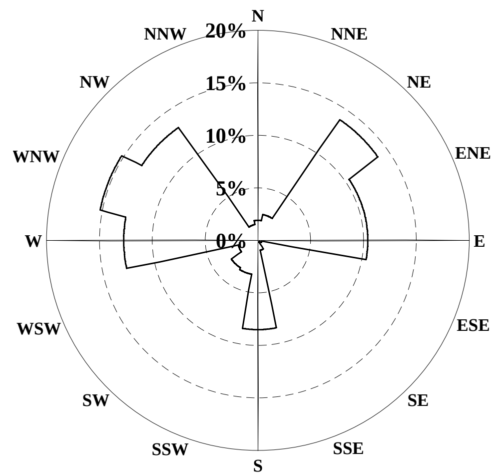
ALL FALL WINDS



STRONG FALL WINDS

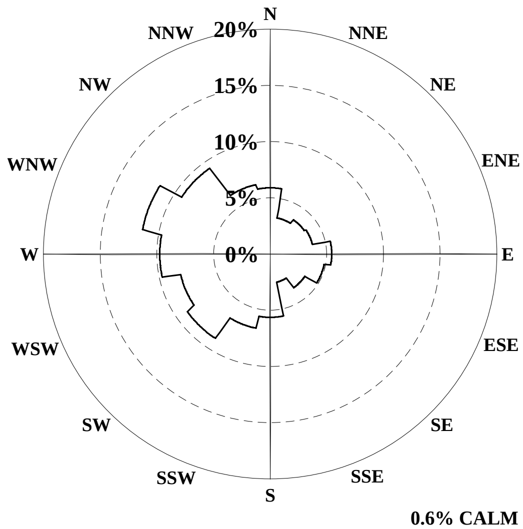


ALL WINTER WINDS

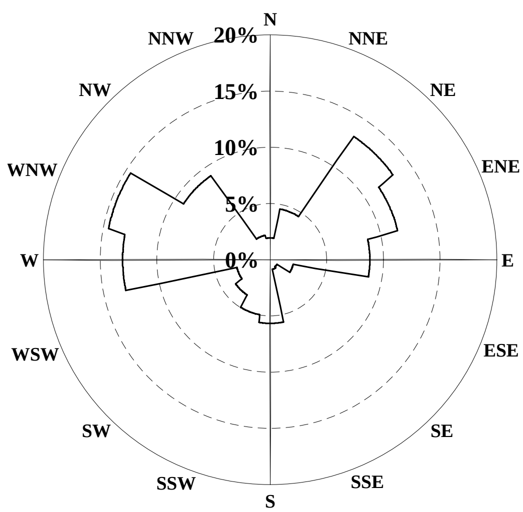


STRONG WINTER WINDS

Directional Distribution (%) of Winds (Blowing From) **Boston-Logan International Airport, Massachusetts (1945 - 1998)** The Winsor School Center for Performing Arts, Health, and Wellness - Boston, MA — Project #1100592	Figure No. **2b** Date: December 21, 2010	RWDI



ALL ANNUAL WINDS



STRONG ANNUAL WINDS

Directional Distribution (%) of Winds (Blowing From) **Boston-Logan International Airport, Massachusetts (1945 - 1998)**	Figure No. **2c**	RWDI
The Winsor School Center for Performing Arts, Health, and Wellness - Boston, MA — Project #1100592	Date: December 21, 2010	

Air Quality Analysis

- **MOBILE 6.2 Input Files**

- **MOBILE 6.2 Output Files**

- **Microscale Input Files**
  - 2010 Existing Condition
  - 2015 No-Build Condition
  - 2015 Build Condition
  - 2020 No-Build Condition
  - 2020 Build Condition

- **Microscale Output Files**
  - 2010 Existing Condition
  - 2015 No-Build Condition
  - 2015 Build Condition
  - 2020 No-Build Condition
  - 2020 Build Condition

- **Microscale Results**
  - Carbon Monoxide
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)

MOBILE 6.2 Input Files

MA10_WIN.inp

```
* Calendar Year 2010 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA09_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2009
*
***************    Header Section    ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT  :
EMISSIONS TABLE   : MA10_WIN.tb1 REPLACE
REPORT FILE       : MA10_WIN.txt REPLACE
*
RUN DATA
***************    Run Section #1    ***************
> *** Winter 2010 ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
```

MIN/MAX TEMP : 22.8 38.3

* Fuel inputs

FUEL RVP : 13.5

FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002
0.002	0.002	0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.003
0.001	0.002	0.000	0.015	0.009					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002
0.002	0.003	0.003	0.006	0.013					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002
0.002	0.003	0.003	0.006	0.013					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017
0.014	0.018	0.016	0.021	0.048					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017
0.014	0.018	0.016	0.021	0.048					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202
0.206	0.243	0.176	0.285	0.267	0.212	0.255	0.295	0.249	0.251
0.188	0.175	0.182	0.186	0.219					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467
0.464	0.480	0.375	0.472	0.480	0.366	0.400	0.344	0.285	0.333
0.314	0.253	0.208	0.197	0.168					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719
0.717	0.744	0.715	0.565	0.810	0.803	0.644	0.654	0.605	0.525
0.389	0.356	0.376	0.108	0.136					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840
0.819	0.813	0.610	0.686	0.570	0.733	0.607	0.729	0.685	0.725
0.631	0.350	0.305	0.186	0.209					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931
0.917	0.914	0.923	0.901	0.908	0.898	0.903	0.876	0.804	0.844
0.782	0.702	0.679	0.554	0.529					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993
0.992	0.992	0.990	0.981	0.976	0.975	0.959	0.982	0.965	0.963
0.945	0.902	0.875	0.857	0.791					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995
0.992	0.991	0.995	0.993	0.993	0.995	0.992	0.986	0.995	0.981

0.993	0.971	0.982	0.977	0.993					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.917	0.884	0.925
0.968	0.961	0.972	0.985	0.971	0.941	0.905	0.965	0.940	0.907
0.964	0.609	0.880	1.000	0.778					

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

through

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2010

EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15
*************** End of This Run ***************

MA10_SUM.inp

```
* Calendar Year 2010 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA09_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2009
*
***************   Header Section   ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
EMISSIONS TABLE   : MA10_SUM.tb1 REPLACE
REPORT FILE       : MA10_SUM.txt REPLACE
*
RUN DATA
***************   Run Section #1   ***************
> *** Summer 2010 ***

* Pollutant output format
EXPRESS HC AS VOC :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D
```

* Meteorological inputs
MIN/MAX TEMP : 70.4 93.7

* Fuel inputs
FUEL RVP : 6.8
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002
0.002	0.002	0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.003
0.001	0.002	0.000	0.015	0.009					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002
0.002	0.003	0.003	0.006	0.013					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002
0.002	0.003	0.003	0.006	0.013					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017
0.014	0.018	0.016	0.021	0.048					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017
0.014	0.018	0.016	0.021	0.048					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202
0.206	0.243	0.176	0.285	0.267	0.212	0.255	0.295	0.249	0.251
0.188	0.175	0.182	0.186	0.219					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467
0.464	0.480	0.375	0.472	0.480	0.366	0.400	0.344	0.285	0.333
0.314	0.253	0.208	0.197	0.168					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719
0.717	0.744	0.715	0.565	0.810	0.803	0.644	0.654	0.605	0.525
0.389	0.356	0.376	0.108	0.136					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840
0.819	0.813	0.610	0.686	0.570	0.733	0.607	0.729	0.685	0.725
0.631	0.350	0.305	0.186	0.209					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931
0.917	0.914	0.923	0.901	0.908	0.898	0.903	0.876	0.804	0.844
0.782	0.702	0.679	0.554	0.529					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993
0.992	0.992	0.990	0.981	0.976	0.975	0.959	0.982	0.965	0.963
0.945	0.902	0.875	0.857	0.791					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995

0.992	0.991	0.995	0.993	0.993	0.995	0.992	0.986	0.995	0.981
0.993	0.971	0.982	0.977	0.993					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.917	0.884	0.925
0.968	0.961	0.972	0.985	0.971	0.941	0.905	0.965	0.940	0.907
0.964	0.609	0.880	1.000	0.778					

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2010
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2010
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

through

SCENARIO RECORD : MA Arterial speed 65 mph

CALENDAR YEAR : 2010
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15
*************** End of This Run ***************

MA15_WIN.inp

```
* Calendar Year 2015 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA09_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2009
*
***************    Header Section    ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
EMISSIONS TABLE   : MA15_WIN.tb1 REPLACE
REPORT FILE       : MA15_WIN.txt REPLACE
*
RUN DATA
***************    Run Section #1    ***************
> *** Winter 2015 ***

* Pollutant output format
EXPRESS HC AS VOC :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D
```

* Meteorological inputs
MIN/MAX TEMP : 22.8 38.3

* Fuel inputs
FUEL RVP : 13.5
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :
0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
0.000 0.000 0.003 0.003 0.002 0.002 0.002 0.002 0.001 0.001
0.001 0.000 0.001 0.001 0.003
0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001
0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.000 0.001 0.001
0.001 0.001 0.001 0.001 0.002
0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001
0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.000 0.001 0.001
0.001 0.001 0.001 0.001 0.002
0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005
0.005 0.005 0.005 0.005 0.005 0.005 0.006 0.005 0.012 0.012
0.017 0.015 0.014 0.016 0.017
0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005
0.005 0.005 0.005 0.005 0.005 0.005 0.006 0.005 0.012 0.012
0.017 0.015 0.014 0.016 0.017
0.176 0.176 0.176 0.176 0.176 0.176 0.176 0.176 0.176 0.176
0.176 0.176 0.170 0.207 0.202 0.206 0.243 0.176 0.285 0.267
0.212 0.255 0.295 0.249 0.251
0.385 0.385 0.385 0.385 0.385 0.385 0.385 0.385 0.385 0.385
0.385 0.385 0.407 0.433 0.467 0.464 0.480 0.375 0.472 0.480
0.366 0.400 0.344 0.285 0.333
0.674 0.674 0.674 0.674 0.674 0.674 0.674 0.674 0.674 0.674
0.674 0.674 0.634 0.664 0.719 0.717 0.744 0.715 0.565 0.810
0.803 0.644 0.654 0.605 0.525
0.830 0.830 0.830 0.830 0.830 0.830 0.830 0.830 0.830 0.830
0.830 0.830 0.845 0.860 0.840 0.819 0.813 0.610 0.686 0.570
0.733 0.607 0.729 0.685 0.725
0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884 0.884
0.884 0.884 0.840 0.887 0.931 0.917 0.914 0.923 0.901 0.908
0.898 0.903 0.876 0.804 0.844
0.977 0.977 0.977 0.977 0.977 0.977 0.977 0.977 0.977 0.977
0.977 0.977 0.972 0.953 0.993 0.992 0.992 0.990 0.981 0.976
0.975 0.959 0.982 0.965 0.963
0.972 0.972 0.972 0.972 0.972 0.972 0.972 0.972 0.972 0.972

0.972	0.972	0.955	0.984	0.995	0.992	0.991	0.995	0.993	0.993
0.995	0.992	0.986	0.995	0.981					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.917	0.884	0.925	0.968	0.961	0.972	0.985	0.971
0.941	0.905	0.965	0.940	0.907					

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2015
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15
through
SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 1

AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15
*************** End of This Run ***************

MA15_SUM.inp

```
* Calendar Year 2015 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA09_MES.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2009
*
***************   Header Section   ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT :
EMISSIONS TABLE   : MA15_SUM.tb1 REPLACE
REPORT FILE       : MA15_SUM.txt REPLACE
*
RUN DATA
***************   Run Section #1   ***************
> *** Summer 2015 ***

* Pollutant output format
EXPRESS HC AS VOC :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D
```

* Meteorological inputs
MIN/MAX TEMP : 70.4 93.7

* Fuel inputs
FUEL RVP : 6.8
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.003	0.003	0.002	0.002	0.002	0.002	0.001	0.001
0.001	0.000	0.001	0.001	0.003					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001
0.001	0.001	0.001	0.001	0.002					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.001
0.001	0.001	0.001	0.001	0.002					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012	0.012
0.017	0.015	0.014	0.016	0.017					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012	0.012
0.017	0.015	0.014	0.016	0.017					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.170	0.207	0.202	0.206	0.243	0.176	0.285	0.267
0.212	0.255	0.295	0.249	0.251					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.407	0.433	0.467	0.464	0.480	0.375	0.472	0.480
0.366	0.400	0.344	0.285	0.333					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.634	0.664	0.719	0.717	0.744	0.715	0.565	0.810
0.803	0.644	0.654	0.605	0.525					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.845	0.860	0.840	0.819	0.813	0.610	0.686	0.570
0.733	0.607	0.729	0.685	0.725					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.840	0.887	0.931	0.917	0.914	0.923	0.901	0.908
0.898	0.903	0.876	0.804	0.844					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.972	0.953	0.993	0.992	0.992	0.990	0.981	0.976
0.975	0.959	0.982	0.965	0.963					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972

0.972 0.972 0.955 0.984 0.995 0.992 0.991 0.995 0.993 0.993
0.995 0.992 0.986 0.995 0.981
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000
0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786 0.786
0.786 0.786 0.917 0.884 0.925 0.968 0.961 0.972 0.985 0.971
0.941 0.905 0.965 0.940 0.907

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2015
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15
through
SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2015
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15
*************** End of This Run ***************

MA20_WIN.inp

```
* Calendar Year 2020 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA20_ALL.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2020
*
***************    Header Section    ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
EMISSIONS TABLE    : MA20_WIN.tb1 REPLACE
REPORT FILE       : MA20_WIN.txt REPLACE
*
RUN DATA
> *** Winter 2020 ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
```

MIN/MAX TEMP : 22.8 38.3

* Fuel inputs
FUEL RVP : 13.5
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002
0.002	0.002	0.002	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202
0.206	0.243	0.176	0.285	0.267					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467
0.464	0.480	0.375	0.472	0.480					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719
0.717	0.744	0.715	0.565	0.810					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840
0.819	0.813	0.610	0.686	0.570					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931
0.917	0.914	0.923	0.901	0.908					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993
0.992	0.992	0.990	0.981	0.976					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995

0.992	0.991	0.995	0.993	0.993					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.917	0.884	0.925
0.968	0.961	0.972	0.985	0.971					

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2020
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2020
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2020
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

through

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2020

EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

*************** End of This Run ***************

MA20_SUM.inp

```
* Calendar Year 2020 Generic MOBILE6 input file for Mesoscale Build/No-Build Analyses
* Filename MA20_ALL.INP created by Craig Woleader, MADEP 617-348-4046,
craig.woleader@state.ma.us and Marc Bennett, MADEP 617-292-5597, marc.bennett@state.ma.us
* revised 12/2/05 to include actual diesel rebuild effects
* revised 12/17/08 to include new IM program program for 2020
*
***************   Header Section   ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT  :
EMISSIONS TABLE   : MA20_SUM.tb1 REPLACE
REPORT FILE       : MA20_SUM.txt REPLACE
*
RUN DATA
> *** Winter 2020 ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

STAGE II REFUELING :
91 3 84. 84.

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
```

MIN/MAX TEMP : 70.4 93.7

* Fuel inputs
FUEL RVP : 6.8
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002
0.002	0.002	0.002	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.000	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.006	0.005	0.012	0.012					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202
0.206	0.243	0.176	0.285	0.267					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467
0.464	0.480	0.375	0.472	0.480					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719
0.717	0.744	0.715	0.565	0.810					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840
0.819	0.813	0.610	0.686	0.570					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931
0.917	0.914	0.923	0.901	0.908					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993
0.992	0.992	0.990	0.981	0.976					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995

0.992	0.991	0.995	0.993	0.993					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.917	0.884	0.925
0.968	0.961	0.972	0.985	0.971					

*************** Scenario Section ***************

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2020
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2020
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2020
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

throught

SCENARIO RECORD : MA Arterial speed 65 mph

CALENDAR YEAR : 2020
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

*************** End of This Run ***************

MOBILE 6.2 Output Files

2010 Emission Factors (g/mi) Arterial Roadways			
Speed	CO	PM10	PM2.5
2.5	25.686	0.0398	0.0241
3	23.081	0.0398	0.0241
4	19.823	0.0398	0.0241
5	17.869	0.0398	0.0241
6	16.523	0.0398	0.0241
7	15.562	0.0398	0.0241
8	14.841	0.0398	0.0241
9	14.281	0.0398	0.0241
10	13.832	0.0398	0.0241
11	13.459	0.0398	0.0241
12	13.148	0.0398	0.0241
13	12.885	0.0398	0.0241
14	12.659	0.0398	0.0241
15	12.464	0.0398	0.0241
16	12.283	0.0398	0.0241
17	12.124	0.0398	0.0241
18	11.982	0.0398	0.0241
19	11.855	0.0398	0.0241
20	11.741	0.0398	0.0241
21	11.643	0.0398	0.0241
22	11.553	0.0398	0.0241
23	11.472	0.0398	0.0241
24	11.397	0.0398	0.0241
25	11.328	0.0398	0.0241
26	11.287	0.0398	0.0241
27	11.249	0.0398	0.0241
28	11.214	0.0398	0.0241
29	11.181	0.0398	0.0241
30	11.150	0.0398	0.0241
31	11.151	0.0398	0.0241
32	11.153	0.0398	0.0241
33	11.154	0.0398	0.0241
34	11.155	0.0398	0.0241
35	11.156	0.0398	0.0241
36	11.222	0.0398	0.0241
37	11.285	0.0398	0.0241
38	11.344	0.0398	0.0241
39	11.4	0.0398	0.0241
40	11.454	0.0398	0.0241
41	11.523	0.0398	0.0241
42	11.589	0.0398	0.0241
43	11.653	0.0398	0.0241
44	11.713	0.0398	0.0241
45	11.771	0.0398	0.0241
46	11.843	0.0398	0.0241
47	11.913	0.0398	0.0241
48	11.98	0.0398	0.0241
49	12.044	0.0398	0.0241
50	12.106	0.0398	0.0241
51	12.182	0.0398	0.0241
52	12.255	0.0398	0.0241
53	12.326	0.0398	0.0241
54	12.394	0.0398	0.0241
55	12.459	0.0398	0.0241
56	12.545	0.0398	0.0241
57	12.628	0.0398	0.0241
58	12.708	0.0398	0.0241
59	12.785	0.0398	0.0241
60	12.859	0.0398	0.0241
61	12.951	0.0398	0.0241
62	13.039	0.0398	0.0241
63	13.125	0.0398	0.0241
64	13.208	0.0398	0.0241
65	13.289	0.0398	0.0241

2015 Emission Factors (g/mi) Arterial Roadways			
Speed	CO	PM10	PM2.5
2.5	20.391	0.0307	0.0157
3	18.405	0.0307	0.0157
4	15.924	0.0307	0.0157
5	14.435	0.0307	0.0157
6	13.401	0.0307	0.0157
7	12.662	0.0307	0.0157
8	12.108	0.0307	0.0157
9	11.678	0.0307	0.0157
10	11.333	0.0307	0.0157
11	11.044	0.0307	0.0157
12	10.803	0.0307	0.0157
13	10.599	0.0307	0.0157
14	10.424	0.0307	0.0157
15	10.272	0.0307	0.0157
16	10.133	0.0307	0.0157
17	10.01	0.0307	0.0157
18	9.901	0.0307	0.0157
19	9.804	0.0307	0.0157
20	9.716	0.0307	0.0157
21	9.639	0.0307	0.0157
22	9.569	0.0307	0.0157
23	9.506	0.0307	0.0157
24	9.447	0.0307	0.0157
25	9.394	0.0307	0.0157
26	9.364	0.0307	0.0157
27	9.337	0.0307	0.0157
28	9.311	0.0307	0.0157
29	9.287	0.0307	0.0157
30	9.265	0.0307	0.0157
31	9.267	0.0307	0.0157
32	9.268	0.0307	0.0157
33	9.27	0.0307	0.0157
34	9.271	0.0307	0.0157
35	9.273	0.0307	0.0157
36	9.328	0.0307	0.0157
37	9.381	0.0307	0.0157
38	9.431	0.0307	0.0157
39	9.479	0.0307	0.0157
40	9.524	0.0307	0.0157
41	9.583	0.0307	0.0157
42	9.638	0.0307	0.0157
43	9.691	0.0307	0.0157
44	9.742	0.0307	0.0157
45	9.79	0.0307	0.0157
46	9.851	0.0307	0.0157
47	9.909	0.0307	0.0157
48	9.965	0.0307	0.0157
49	10.018	0.0307	0.0157
50	10.069	0.0307	0.0157
51	10.133	0.0307	0.0157
52	10.193	0.0307	0.0157
53	10.252	0.0307	0.0157
54	10.308	0.0307	0.0157
55	10.363	0.0307	0.0157
56	10.434	0.0307	0.0157
57	10.503	0.0307	0.0157
58	10.569	0.0307	0.0157
59	10.633	0.0307	0.0157
60	10.696	0.0307	0.0157
61	10.771	0.0307	0.0157
62	10.845	0.0307	0.0157
63	10.916	0.0307	0.0157
64	10.985	0.0307	0.0157
65	11.051	0.0307	0.0157

2020 Emission Factors (g/mi) Arterial Roadways			
Speed	CO	PM10	PM2.5
2.5	18.682	0.0284	0.0137
3	16.883	0.0284	0.0137
4	14.634	0.0284	0.0137
5	13.285	0.0284	0.0137
6	12.347	0.0284	0.0137
7	11.676	0.0284	0.0137
8	11.174	0.0284	0.0137
9	10.782	0.0284	0.0137
10	10.47	0.0284	0.0137
11	10.207	0.0284	0.0137
12	9.988	0.0284	0.0137
13	9.802	0.0284	0.0137
14	9.643	0.0284	0.0137
15	9.506	0.0284	0.0137
16	9.379	0.0284	0.0137
17	9.268	0.0284	0.0137
18	9.169	0.0284	0.0137
19	9.081	0.0284	0.0137
20	9.001	0.0284	0.0137
21	8.931	0.0284	0.0137
22	8.868	0.0284	0.0137
23	8.81	0.0284	0.0137
24	8.756	0.0284	0.0137
25	8.708	0.0284	0.0137
26	8.681	0.0284	0.0137
27	8.657	0.0284	0.0137
28	8.634	0.0284	0.0137
29	8.613	0.0284	0.0137
30	8.593	0.0284	0.0137
31	8.595	0.0284	0.0137
32	8.597	0.0284	0.0137
33	8.598	0.0284	0.0137
34	8.599	0.0284	0.0137
35	8.601	0.0284	0.0137
36	8.653	0.0284	0.0137
37	8.702	0.0284	0.0137
38	8.749	0.0284	0.0137
39	8.793	0.0284	0.0137
40	8.835	0.0284	0.0137
41	8.889	0.0284	0.0137
42	8.941	0.0284	0.0137
43	8.99	0.0284	0.0137
44	9.037	0.0284	0.0137
45	9.082	0.0284	0.0137
46	9.139	0.0284	0.0137
47	9.193	0.0284	0.0137
48	9.245	0.0284	0.0137
49	9.294	0.0284	0.0137
50	9.342	0.0284	0.0137
51	9.401	0.0284	0.0137
52	9.457	0.0284	0.0137
53	9.511	0.0284	0.0137
54	9.564	0.0284	0.0137
55	9.614	0.0284	0.0137
56	9.68	0.0284	0.0137
57	9.744	0.0284	0.0137
58	9.806	0.0284	0.0137
59	9.866	0.0284	0.0137
60	9.923	0.0284	0.0137
61	9.994	0.0284	0.0137
62	10.062	0.0284	0.0137
63	10.128	0.0284	0.0137
64	10.192	0.0284	0.0137
65	10.254	0.0284	0.0137

Microscale Input Files

2010 Existing Condition

Carbon Monoxide (CO)

```
'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2010EX'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   64.215   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   64.215   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   64.215   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1507   64.215   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   64.215   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   64.215   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   64.215   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   64.215   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   64.215   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   64.215   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   64.215   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   64.215   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   64.215   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   64.215   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   64.215   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   64.215   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   64.215   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   64.215   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   64.215   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   64.215   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   64.215   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   64.215   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   64.215   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   64.215   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   279   64.215   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   64.215   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   64.215   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   64.215   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   11.150   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   11.150   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   11.150   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   11.150   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   11.150   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   11.150   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   11.150   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   11.150   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   11.150   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   11.150   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   11.150   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   11.150   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   11.150   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   11.150   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   11.150   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   11.150   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   11.150   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   11.150   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   11.150   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   11.150   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   11.150   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   11.150   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   11.150   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   11.150   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2010EX'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   64.215   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   64.215   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   64.215   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   64.215   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   64.215   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   64.215   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   64.215   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   64.215   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   64.215   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   64.215   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   64.215   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   64.215   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   64.215   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   64.215   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   64.215   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   64.215   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   64.215   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   64.215   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   64.215   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   64.215   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   64.215   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   64.215   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   64.215   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   64.215   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   279   64.215   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   64.215   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   64.215   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   64.215   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   11.150   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   11.150   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   11.150   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   11.150   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   11.150   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   11.150   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   11.150   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   11.150   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   11.150   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   11.150   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   11.150   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   11.150   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   11.150   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   11.150   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   11.150   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   11.150   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   11.150   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   11.150   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   11.150   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   11.150   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   11.150   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   11.150   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   11.150   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   11.150   1
82
1   0   4   1000   0   'Y'   10   0   36
```

```
'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2010EX'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   64.215   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   64.215   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   64.215   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   64.215   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   64.215   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   64.215   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   64.215   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   64.215   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   64.215   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   64.215   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   64.215   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   64.215   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   64.215   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   64.215   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   64.215   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   64.215   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   64.215   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   64.215   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   64.215   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   64.215   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   64.215   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   64.215   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   64.215   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   64.215   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   279   64.215   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   64.215   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   64.215   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   64.215   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   11.15   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   11.15   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   11.15   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   11.15   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   11.15   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   11.15   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   11.15   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   11.15   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   11.15   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   11.15   1
```

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66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   11.15   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   11.15   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   11.15   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   11.15   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   11.15   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   11.15   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   11.15   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   11.15   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   11.15   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   11.15   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   11.15   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   11.15   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   11.15   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   11.15   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2010EX'   8   1   0   'C'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1135   64.215   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   464   64.215   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   813   64.215   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1025   64.215   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1824   11.15   1
 66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1601   11.15   1
 78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2318   11.15   1
66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1131   11.15   1
 78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2010EX'   16   1   0   'C'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
90   56   3   657   64.215   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
90   63   3   1008   64.215   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
90   61   3   1022   64.215   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
90   56   3   1426   64.215   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
90   66   3   1130   64.215   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
90   47   3   1740   64.215   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
90   66   3   910   64.215   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2336
11.150   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1102
11.150   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1121
11.150   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1022   11.150
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2159   11.150
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2165   11.150
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   795   11.150   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1740   11.150   1
 42
 1
'roadway L36'   'AG'   24101.86   43474.92   24345.13   43435.79   235   11.150   1
 38
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 10 (PM_{10})

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.0995   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.0995   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.0995   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1507   0.0995   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.0995   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.0995   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.0995   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.0995   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.0995   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.0995   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.0995   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.0995   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.0995   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.0995   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.0995   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.0995   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.0995   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.0995   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.0995   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.0995   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.0995   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.0995   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.0995   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   0.0995   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   279   0.0995   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   0.0995   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   0.0995   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   0.0995   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   0.0398   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   0.0398   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   0.0398   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   0.0398   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   0.0398   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   0.0398   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   0.0398   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   0.0398   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   0.0398   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   0.0398   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   0.0398   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   0.0398   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   0.0398   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   0.0398   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   0.0398   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   0.0398   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   0.0398   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   0.0398   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   0.0398   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0398   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0398   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   0.0398   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0398   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   0.0398   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.0995   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.0995   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.0995   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   0.0995   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.0995   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.0995   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.0995   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.0995   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.0995   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.0995   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.0995   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.0995   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.0995   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.0995   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.0995   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.0995   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.0995   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.0995   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.0995   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.0995   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.0995   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.0995   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.0995   1600   1   3
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2
'Brook/Long WB TTR' 'AG' -34 -333.28 37.07 -246.75 1 30 3
120 66 3 791 0.0995 1600 1 3
2
'Brook/Long SB LTR' 'AG' -99.28 -348.08 -174.26 -289.99 1 20 2
120 78 3 279 0.0995 1600 1 3
2
'Beth/Brook EB TTR' 'AG' 319.77 83.77 274.21 19.5 1 20 2
120 61 3 838 0.0995 1600 1 3
2
'Beth/Brook NB LR' 'AG' 367.47 86.98 397.49 67.16 1 10 1
120 96 3 161 0.0995 1600 1 3
2
'Beth/Brook WB LT' 'AG' 344.43 154.45 389.45 210.15 1 20 2
120 104 3 799 0.0995 1600 1 3
1
'Brook/Long N' 'AG' -62.48 -374.89 -224.8 -246.53 674 0.0398 1 54
1
'Brook/Long E' 'AG' -55.49 -379.32 104.04 -179.6 1757 0.0398 1 78
1
'Brook/Long S' 'AG' -62.48 -374.89 117.14 -513.1 1211 0.0398 1 78
1
'Brook/Long W' 'AG' -55.49 -379.32 -163 -521.63 1528 0.0398 1 78
1
'Brook/Deacon N' 'AG' -356.85 -714.5 -490.49 -610.04 124 0.0398 1
60
1
'Brook/Deacon E' 'AG' -339.96 -727.37 -288.24 -659.05 1598 0.0398 1
66
1
'Brook/Deacon S' 'AG' -328.46 -735.98 -252.62 -797.99 188 0.0398 1
30
1
'Brook/Deacon W' 'AG' -337.15 -732.13 -443.45 -867.04 1679 0.0398 1
54
1
'Joslin/Brook N' 'AG' -299.23 -651.18 -415.29 -563.34 94 0.0398 1
42
1
'Joslin/Brook E' 'AG' -284.29 -659.79 -210.74 -573.67 1695 0.0398 1
66
1
'River/Long N' 'AG' -789.48 139.52 -1036.98 185.59 1159 0.0398 1
60
1
'River/Long E' 'AG' -795.15 154.07 -655.22 358.53 2208 0.0398 1 78
1
'River/Long S' 'AG' -768.45 155.68 -584.04 29.61 606 0.0398 1 54
1
'River/Long W' 'AG' -791.91 162.96 -896.25 -93.23 2371 0.0398 1 78
1
'Binney/Long N' 'AG' 258.29 -618.17 126.99 -519.88 1211 0.0398 1
78
1
'Binney/Long E' 'AG' 256.07 -619.5 358.44 -484.31 304 0.0398 1 54
1
'Binney/Long S' 'AG' 258.53 -619.18 358.72 -692.95 1113 0.0398 1
54
1
'Binney/Long W' 'AG' 276.92 -635.02 188.4 -748.97 352 0.0398 1 42
1
'Beth/Brook E' 'AG' 314.78 106.17 433.83 259.55 1650 0.0398 1 66
1

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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0398   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0398   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   0.0398   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0398   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   0.0398   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.0995   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.0995   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.0995   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   0.0995   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.0995   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.0995   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.0995   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.0995   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.0995   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.0995   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.0995   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.0995   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.0995   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.0995   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.0995   1600   1   3
 2
```

'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.0995   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.0995   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.0995   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.0995   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.0995   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.0995   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.0995   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.0995   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   0.0995   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   279   0.0995   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   0.0995   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   0.0995   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   0.0995   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   0.0398   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   0.0398   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   0.0398   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   0.0398   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   0.0398   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   0.0398   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   0.0398   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   0.0398   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   0.0398   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   0.0398   1

```
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   0.0398   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   0.0398   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   0.0398   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   0.0398   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   0.0398   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   0.0398   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   0.0398   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   0.0398   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   0.0398   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0398   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0398   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   0.0398   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0398   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   0.0398   1
82
1   0   4   1000   0   'Y'   10   0   36
```

```
'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2010EX'   8   1   0   'PC'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1135   0.0995   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   464   0.0995   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   813   0.0995   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1025   0.0995   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1824   0.0398   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1601   0.0398   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2318   0.0398   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1131   0.0398   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2010EX'   16   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
90   56   3   657   0.0995   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
90   63   3   1008   0.0995   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
90   61   3   1022   0.0995   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
90   56   3   1426   0.0995   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
90   66   3   1130   0.0995   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
90   47   3   1740   0.0995   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
90   66   3   910   0.0995   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2336
0.0398   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1102
0.0398   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1121
0.0398   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1022   0.0398
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2159   0.0398
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2165   0.0398
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   795   0.0398   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1740   0.0398   1
 42
 1
'roadway L36'   'AG'   24101.86   43474.92   24345.13   43435.79   235   0.0398   1
 38
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 2.5 ($PM_{2.5}$)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.06025   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.06025   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.06025   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1507   0.06025   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.06025   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.06025   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.06025   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.06025   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.06025   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.06025   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.06025   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.06025   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.06025   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.06025   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.06025   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.06025   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.06025   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.06025   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.06025   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.06025   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.06025   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.06025   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.06025   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   0.06025   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   279   0.06025   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   0.06025   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   0.06025   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   0.06025   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   0.0241   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   0.0241   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   0.0241   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   0.0241   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   0.0241   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   0.0241   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   0.0241   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   0.0241   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   0.0241   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   0.0241   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   0.0241   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2181   0.0241   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   0.0241   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2195   0.0241   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   0.0241   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   0.0241   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   0.0241   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   0.0241   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   0.0241   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0241   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0241   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2208   0.0241   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0241   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2371   0.0241   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.06025   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.06025   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.06025   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   0.06025   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.06025   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.06025   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.06025   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.06025   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.06025   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.06025   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.06025   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.06025   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.06025   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.06025   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.06025   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.06025   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.06025   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.06025   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.06025   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.06025   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.06025   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.06025   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.06025   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   0.06025   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   279   0.06025   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   0.06025   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   0.06025   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   0.06025   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   0.0241   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   0.0241   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   0.0241   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   0.0241   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   0.0241   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   0.0241   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   0.0241   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   0.0241   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   0.0241   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   0.0241   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   0.0241   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   0.0241   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   0.0241   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   0.0241   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   0.0241   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   0.0241   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   0.0241   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   0.0241   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   0.0241   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0241   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0241   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   0.0241   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0241   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   0.0241   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2010EX'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   189   0.06025   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   631   0.06025   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   364   0.06025   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1507   0.06025   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   291   0.06025   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   190   0.06025   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   548   0.06025   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   113   0.06025   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1015   0.06025   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   124   0.06025   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   55   0.06025   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   641   0.06025   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1054   0.06025   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   151   0.06025   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   618   0.06025   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   233   0.06025   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   488   0.06025   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   727   0.06025   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   212   0.06025   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1355   0.06025   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   703   0.06025   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   461   0.06025   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   262   0.06025   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   791   0.06025   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   279   0.06025   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   61   3   838   0.06025   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   96   3   161   0.06025   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   104   3   799   0.06025   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   674   0.0241   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   1757   0.0241   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1211   0.0241   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1528   0.0241   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   124   0.0241   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1598   0.0241   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   188   0.0241   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   1679   0.0241   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   94   0.0241   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1695   0.0241   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1159   0.0241   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2208   0.0241   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   606   0.0241   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2371   0.0241   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1211   0.0241   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   304   0.0241   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1113   0.0241   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   352   0.0241   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   1650   0.0241   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   261   0.0241   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   1685   0.0241   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2181   0.0241   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   212   0.0241   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2195   0.0241   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2010EX'   8   1   0   'PC'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1135   0.06025   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   464   0.06025   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   813   0.06025   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1025   0.06025   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1824   0.0241   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1601   0.0241   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2318   0.0241   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1131   0.0241   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2010EX'   16   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
90   56   3   657   0.06025   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
90   63   3   1008   0.06025   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
90   61   3   1022   0.06025   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
90   56   3   1426   0.06025   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
90   66   3   1130   0.06025   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
90   47   3   1740   0.06025   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
90   66   3   910   0.06025   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2336
0.0241   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1102
0.0241   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1121
0.0241   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1022   0.0241
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2159   0.0241
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2165   0.0241
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   795   0.0241   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1740   0.0241   1
 42
 1
'roadway L36'   'AG'   24101.86   43474.92   24345.13   43435.79   235   0.0241   1
 38
1   0   4   1000   0   'Y'   10   0   36
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2015 No-Build Condition

Carbon Monoxide (CO)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   50.9775   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1625   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   50.9775   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   480   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   9.265   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   9.265   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   9.265   1   50
 1
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'River/Short W' 'AG' -136.94 551.27 -285.82 480.48 2340 9.265 1 82
1 0 4 1000 0 'Y' 10 0 36

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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   50.9775   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   50.9775   1600   1   3
```

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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   9.265   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   9.265   1   66
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 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   9.265   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   9.265   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   50.9775   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   50.9775   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   9.265   1
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66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   9.265   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   9.265   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   9.265   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015NB'   8   1   0   'C'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1160   50.9775   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   565   50.9775   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   875   50.9775   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1255   50.9775   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1895   9.265   1
 66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1950   9.265   1
 78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2540   9.265   1
66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1325   9.265   1
 78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 NB'   15   1   0   'C'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   860   50.9775   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1045   50.9775   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   805   50.9775   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1750   50.9775   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1290   50.9775   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1785   50.9775   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1030   50.9775   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2880
9.265   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1415
9.265   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1120   9.265
  1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1335   9.265
 1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2320   9.265
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2455   9.265
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   905   9.265   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1635   9.265   1
42
1   0   4   1000   0   'Y'   10   0   36
```

Particulate Matter 10 (PM_{10})

```
'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   0.07675   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1625   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   0.07675   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   480   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0307   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0307   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0307   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
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90   54   3   640   0.07675   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
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120   66   3   270   0.07675   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0307   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0307   1   66
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 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0307   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   0.07675   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   0.07675   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0307   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0307   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0307   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015NB'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1160   0.07675   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   565   0.07675   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   875   0.07675   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1255   0.07675   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1895   0.0307   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1950   0.0307   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2540   0.0307   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1325   0.0307   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 NB'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   860   0.07675   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1045   0.07675   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   805   0.07675   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1750   0.07675   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1290   0.07675   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1785   0.07675   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1030   0.07675   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2880
0.0307   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1415
0.0307   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1120
0.0307   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1335   0.0307
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2320   0.0307
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2455   0.0307
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   905   0.0307   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1635   0.0307   1
 42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 2.5 ($PM_{2.5}$)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   0.03925   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1625   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   0.03925   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   480   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0157   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0157   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0157   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   0.03925   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   0.03925   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0157   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0157   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0157   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   640   0.03925   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   420   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1625   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   665   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   695   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1240   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   525   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   755   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   215   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1470   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   760   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   445   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   270   0.03925   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1150   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   480   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1050   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   940   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   945   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2245   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1240   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1770   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1855   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2045   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1935   0.0157   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1240   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2485   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   670   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2340   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1235   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1160   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2065   0.0157   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2145   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2325   0.0157   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   215   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2340   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
```

```
'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015NB'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1160   0.03925   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   565   0.03925   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   875   0.03925   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1255   0.03925   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1895   0.0157   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1950   0.0157   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2540   0.0157   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1325   0.0157   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 NB'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   860   0.03925   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1045   0.03925   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   805   0.03925   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1750   0.03925   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1290   0.03925   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1785   0.03925   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1030   0.03925   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2880
0.0157   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1415
0.0157   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1120
0.0157   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1335   0.0157
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2320   0.0157
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2455   0.0157
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   905   0.0157   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1635   0.0157   1
 42
1   0   4   1000   0   'Y'   10   0   36
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2015 Build Condition

Carbon Monoxide (CO)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   50.9775   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1600   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   50.9775   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   513   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   9.265   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   9.265   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   9.265   1   50
 1
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'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   9.265   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   50.9775   1600   1   3
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 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   50.9775   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   9.265   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   9.265   1   66
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 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   9.265   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   9.265   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   50.9775   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   50.9775   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   50.9775   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   50.9775   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   50.9775   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   50.9775   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   50.9775   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   50.9775   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   50.9775   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   50.9775   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   50.9775   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   50.9775   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   50.9775   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   50.9775   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   50.9775   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   50.9775   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   50.9775   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   50.9775   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   50.9775   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   50.9775   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   50.9775   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   50.9775   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   50.9775   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   50.9775   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   50.9775   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   50.9775   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   50.9775   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   50.9775   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   9.265   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   9.265   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   9.265   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   9.265   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   9.265   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   9.265   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   9.265   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   9.265   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   9.265   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   9.265   1
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66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   9.265   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   9.265   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   9.265   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   9.265   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   9.265   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   9.265   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   9.265   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   9.265   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   9.265   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   9.265   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   9.265   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   9.265   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   9.265   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   9.265   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015BD'   8   1   0   'C'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1148   50.9775   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   566   50.9775   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   877   50.9775   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1270   50.9775   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1877   9.265   1
 66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1974   9.265   1
 78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2543   9.265   1
66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1328   9.265   1
 78
1   0   4   1000   0   'Y'   10   0   36
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```
'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 BD'   15   1   0   'C'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   50.9775   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   50.9775   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   50.9775   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   50.9775   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   50.9775   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   50.9775   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   50.9775   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
9.265   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
9.265   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148   9.265
  1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   9.265
 1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   9.265
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   9.265
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   9.265   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   9.265   1
42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 10 (PM_{10})

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.07675   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1600   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.07675   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   513   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0307   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0307   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0307   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.07675   1600   1   3
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 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.07675   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0307   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0307   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0307   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.07675   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.07675   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.07675   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   0.07675   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.07675   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.07675   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.07675   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.07675   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.07675   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.07675   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.07675   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.07675   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.07675   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.07675   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.07675   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.07675   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.07675   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.07675   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.07675   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.07675   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.07675   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.07675   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.07675   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.07675   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   0.07675   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.07675   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.07675   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.07675   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0307   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0307   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0307   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0307   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0307   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0307   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0307   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0307   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0307   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0307   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0307   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0307   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0307   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0307   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0307   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0307   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0307   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0307   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0307   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0307   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0307   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0307   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0307   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0307   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015BD'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1148   0.07675   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   566   0.07675   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   877   0.07675   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1270   0.07675   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1877   0.0307   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1974   0.0307   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2543   0.0307   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1328   0.0307   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 BD'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   0.07675   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   0.07675   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   0.07675   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   0.07675   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   0.07675   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   0.07675   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   0.07675   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
0.0307   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
0.0307   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148
0.0307   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   0.0307
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   0.0307
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   0.0307
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   0.0307   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   0.0307   1
 42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 2.5 ($PM_{2.5}$)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.03925   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1600   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.03925   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   513   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0157   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0157   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0157   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.03925   1600   1   3
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 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.03925   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0157   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0157   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0157   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2015BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   200   0.03925   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   632   0.03925   1600   1   3
 2
'River/Long NB LTR'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   413   0.03925   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1600   0.03925   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   315   0.03925   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   195   0.03925   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   673   0.03925   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   210   0.03925   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1211   0.03925   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   138   0.03925   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   70   0.03925   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   703   0.03925   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1251   0.03925   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   185   0.03925   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   615   0.03925   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03925   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   528   0.03925   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   758   0.03925   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   160   0.03925   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1474   0.03925   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   768   0.03925   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   446   0.03925   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   269   0.03925   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1158   0.03925   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   513   0.03925   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   73   3   1068   0.03925   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   82   3   370   0.03925   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   948   0.03925   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   995   0.0157   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2271   0.0157   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1243   0.0157   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1799   0.0157   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   138   0.0157   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   2014   0.0157   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   245   0.0157   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2067   0.0157   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   110   0.0157   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   1954   0.0157   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1242   0.0157   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2333   0.0157   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   703   0.0157   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2508   0.0157   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1238   0.0157   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0157   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1163   0.0157   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   405   0.0157   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2091   0.0157   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0157   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2171   0.0157   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2306   0.0157   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   160   0.0157   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2318   0.0157   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2015BD'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1148   0.03925   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   566   0.03925   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   877   0.03925   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1270   0.03925   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1877   0.0157   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   1974   0.0157   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2543   0.0157   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1328   0.0157   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2015 BD'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   0.03925   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   0.03925   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   0.03925   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   0.03925   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   0.03925   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   0.03925   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   0.03925   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
0.0157   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
0.0157   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148
0.0157   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   0.0157
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   0.0157
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   0.0157
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   0.0157   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   0.0157   1
 42
1   0   4   1000   0   'Y'   10   0   36
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2020 No-Build Condition

Carbon Monoxide (CO)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   46.705   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1665   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   46.705   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   46.705   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   46.705   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   485   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   8.593   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   8.593   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   8.593   1   50
 1
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'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   46.705   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   46.705   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   46.705   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   46.705   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   485   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   8.593   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   8.593   1   66
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 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   8.593   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020NB'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   46.705   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   46.705   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   46.705   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   46.705   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   485   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   8.593   1
```

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66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   8.593   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   8.593   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36
```

```
'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020NB'   8   1   0   'C'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1190   46.705   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   585   46.705   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   905   46.705   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1320   46.705   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1940   8.593   1
 66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2045   8.593   1
 78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2620   8.593   1
66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1395   8.593   1
 78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 NB'   15   1   0   'C'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   46.705   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   46.705   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   46.705   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   46.705   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   46.705   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   46.705   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   46.705   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
8.593   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
8.593   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148   8.593
  1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   8.593
 1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   8.593
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   8.593
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   8.593   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   8.593   1
42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 10 (PM_{10})

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   0.071   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1665   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.071   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.071   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.071   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   0.071   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   485   0.071   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   0.071   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.071   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   0.071   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   0.0284   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   0.0284   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   0.0284   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   0.0284   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0284   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   0.0284   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0284   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   0.0284   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   0.0284   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   0.0284   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   0.0284   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   0.0284   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   0.0284   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   0.0284   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   0.0284   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0284   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   0.0284   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0284   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   0.0284   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0284   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   620   0.071   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.071   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.071   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.071   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
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2
'Brook/Long WB TTR' 'AG' -34 -333.28 37.07 -246.75 1 30 3
120 66 3 1190 0.071 1600 1 3
2
'Brook/Long SB LTR' 'AG' -99.28 -348.08 -174.26 -289.99 1 20 2
120 78 3 485 0.071 1600 1 3
2
'Beth/Brook EB TTR' 'AG' 319.77 83.77 274.21 19.5 1 20 2
120 72 3 1100 0.071 1600 1 3
2
'Beth/Brook NB LR' 'AG' 367.47 86.98 397.49 67.16 1 10 1
120 83 3 370 0.071 1600 1 3
2
'Beth/Brook WB LT' 'AG' 344.43 154.45 389.45 210.15 1 20 2
120 106 3 975 0.071 1600 1 3
1
'Brook/Long N' 'AG' -62.48 -374.89 -224.8 -246.53 980 0.0284 1 54
1
'Brook/Long E' 'AG' -55.49 -379.32 104.04 -179.6 2320 0.0284 1 78
1
'Brook/Long S' 'AG' -62.48 -374.89 117.14 -513.1 1290 0.0284 1 78
1
'Brook/Long W' 'AG' -55.49 -379.32 -163 -521.63 1850 0.0284 1 78
1
'Brook/Deacon N' 'AG' -356.85 -714.5 -490.49 -610.04 135 0.0284 1
60
1
'Brook/Deacon E' 'AG' -339.96 -727.37 -288.24 -659.05 1890 0.0284 1
66
1
'Brook/Deacon S' 'AG' -328.46 -735.98 -252.62 -797.99 255 0.0284 1
30
1
'Brook/Deacon W' 'AG' -337.15 -732.13 -443.45 -867.04 2085 0.0284 1
54
1
'Joslin/Brook N' 'AG' -299.23 -651.18 -415.29 -563.34 115 0.0284 1
42
1
'Joslin/Brook E' 'AG' -284.29 -659.79 -210.74 -573.67 2020 0.0284 1
66
1
'River/Long N' 'AG' -789.48 139.52 -1036.98 185.59 1290 0.0284 1
60
1
'River/Long E' 'AG' -795.15 154.07 -655.22 358.53 2430 0.0284 1 78
1
'River/Long S' 'AG' -768.45 155.68 -584.04 29.61 700 0.0284 1 54
1
'River/Long W' 'AG' -791.91 162.96 -896.25 -93.23 2600 0.0284 1 78
1
'Binney/Long N' 'AG' 258.29 -618.17 126.99 -519.88 1270 0.0284 1
78
1
'Binney/Long E' 'AG' 256.07 -619.5 358.44 -484.31 290 0.0284 1 54
1
'Binney/Long S' 'AG' 258.53 -619.18 358.72 -692.95 1195 0.0284 1
54
1
'Binney/Long W' 'AG' 276.92 -635.02 188.4 -748.97 435 0.0284 1 42
1
'Beth/Brook E' 'AG' 314.78 106.17 433.83 259.55 2150 0.0284 1 66
1

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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0284   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   0.071   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.071   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.071   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.071   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   0.071   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   485   0.071   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   0.071   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.071   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   0.071   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   0.0284   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   0.0284   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   0.0284   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   0.0284   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0284   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   0.0284   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0284   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   0.0284   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   0.0284   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   0.0284   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   0.0284   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   0.0284   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   0.0284   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   0.0284   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   0.0284   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0284   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   0.0284   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0284   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   0.0284   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0284   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020NB'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1190   0.071   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   585   0.071   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   905   0.071   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1320   0.071   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1940   0.0284   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2045   0.0284   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2620   0.0284   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1395   0.0284   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 NB'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   0.071   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   0.071   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   0.071   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   0.071   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   0.071   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   0.071   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   0.071   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
0.0284   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
0.0284   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148
0.0284   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   0.0284
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   0.0284
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   0.0284
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   0.0284   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   0.0284   1
 42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 2.5 ($PM_{2.5}$)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   0.03425   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1665   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03425   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.03425   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.03425   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   485   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   0.0137   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   0.0137   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0137   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   0.03425   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03425   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.03425   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.03425   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   485   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   0.0137   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   0.0137   1   66
 1
```

'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0137   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36

```
'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020NB'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   670   0.03425   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   410   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1665   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   325   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   705   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1200   0.03425   1600   1   3
 2
'Brook/Deacon SB LR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   135   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   75   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   740   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1280   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   630   0.03425   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   540   0.03425   1600   1   3
 2
'River/Short EB TR'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   790   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   225   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1505   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   800   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   460   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   1190   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   485   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1100   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   975   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   980   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2320   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1290   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1850   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   135   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1890   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2085   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   115   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2020   0.0137   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1290   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2430   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   700   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2600   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1270   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1195   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2150   0.0137   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2230   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2400   0.0137   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   225   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2415   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020NB'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1190   0.03425   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   585   0.03425   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   905   0.03425   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1320   0.03425   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1940   0.0137   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2045   0.0137   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2620   0.0137   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1395   0.0137   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 NB'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   882   0.03425   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1071   0.03425   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   825   0.03425   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1794   0.03425   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1323   0.03425   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1830   0.03425   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1056   0.03425   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   2953
0.0137   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1451
0.0137   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1148
0.0137   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1369   0.0137
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2379   0.0137
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2517   0.0137
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   928   0.0137   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1676   0.0137   1
 42
1   0   4   1000   0   'Y'   10   0   36
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2020 Build Condition

Carbon Monoxide (CO)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   46.705   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1675   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   46.705   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   46.705   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   46.705   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   577   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   8.593   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   8.593   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   8.593   1   50
 1
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'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36

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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   46.705   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   46.705   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   46.705   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   46.705   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   8.593   1
66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   8.593   1   66
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 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   8.593   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020BD'   52   1   0   'C'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   46.705   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   46.705   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   46.705   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   46.705   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   46.705   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   46.705   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   46.705   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   46.705   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   46.705   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   46.705   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   46.705   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   46.705   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   46.705   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   46.705   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   46.705   1600   1   3
 2
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```
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   46.705   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   46.705   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   46.705   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   46.705   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   46.705   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   46.705   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   46.705   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   46.705   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   46.705   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   46.705   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   46.705   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   46.705   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   46.705   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   8.593   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   8.593   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   8.593   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   8.593   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   8.593   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   8.593   1
66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   8.593   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   8.593   1
54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   8.593   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   8.593   1
```

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66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   8.593   1   60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   8.593   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   8.593   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   8.593   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   8.593   1   78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   8.593   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   8.593   1   54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   8.593   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   8.593   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   8.593   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   8.593   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   8.593   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   8.593   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   8.593   1   82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020BD'   8   1   0   'C'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1205   46.705   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   600   46.705   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   911   46.705   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1387   46.705   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1964   8.593   1
 66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2124   8.593   1
 78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2652   8.593   1
66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1466   8.593   1
 78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 BD'   15   1   0   'C'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   904   46.705   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1098   46.705   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   846   46.705   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1839   46.705   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1356   46.705   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1876   46.705   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1083   46.705   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   3028
8.593   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1488
8.593   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1177   8.593
  1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1404   8.593
 1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2439   8.593
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2581   8.593
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   951   8.593   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1718   8.593   1
42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 10 (PM_{10})

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.071   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1675   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.071   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.071   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.071   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.071   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   577   0.071   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.071   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.071   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.071   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0284   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0284   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0284   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0284   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0284   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0284   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0284   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0284   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0284   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0284   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0284   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0284   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0284   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0284   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0284   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0284   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0284   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0284   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0284   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0284   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.071   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.071   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.071   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.071   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.071   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   0.071   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.071   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.071   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.071   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0284   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0284   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0284   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0284   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0284   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0284   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0284   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0284   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0284   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0284   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0284   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0284   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0284   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0284   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0284   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0284   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0284   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0284   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0284   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0284   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.071   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.071   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.071   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   0.071   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.071   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.071   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.071   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.071   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.071   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.071   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.071   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.071   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.071   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.071   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.071   1600   1   3
 2
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'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.071   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.071   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.071   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.071   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.071   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.071   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.071   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.071   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.071   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   0.071   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.071   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.071   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.071   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0284   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0284   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0284   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0284   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0284   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0284   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0284   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0284   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0284   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0284   1
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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0284   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0284   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0284   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0284   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0284   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0284   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0284   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0284   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0284   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0284   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0284   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0284   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0284   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0284   1
82
1   0   4   1000   0   'Y'   10   0   36
```

```
'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020BD'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1205   0.071   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   600   0.071   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   911   0.071   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1387   0.071   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1964   0.0284   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2124   0.0284   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2652   0.0284   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1466   0.0284   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 BD'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   904   0.071   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1098   0.071   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   846   0.071   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1839   0.071   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1356   0.071   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1876   0.071   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1083   0.071   1600   1   3
 1
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'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   3028
0.0284   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1488
0.0284   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1177
0.0284   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1404   0.0284
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2439   0.0284
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2581   0.0284
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   951   0.0284   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1718   0.0284   1
 42
1   0   4   1000   0   'Y'   10   0   36
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Particulate Matter 2.5 ($PM_{2.5}$)

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'Winsor School'   60   175   0   0   50   0.3048   1   0
'River/Long NE1'   -978.78   215.44   6
'River/Long NE2'   -904.35   201.59   6
'River/Long NE3'   -831.31   187.99   6
'River/Long NE4'   -787.98   251.3   6
'River/Long NE5'   -746.59   311.78   6
'River/Long SE1'   -639.82   294.27   6
'River/Long SE2'   -682.18   232.37   6
'River/Long SE3'   -724.54   170.48   6
'River/Long SE4'   -662.63   128.15   6
'River/Long SE5'   -600.71   85.83   6
'River/Long SW1'   -638.18   21.81   6
'River/Long SW2'   -700.1   64.13   6
'River/Long SW3'   -762.01   106.46   6
'River/Long SW4'   -790.3   37   6
'River/Long SW5'   -818.59   -32.46   6
'River/Long NW1'   -921.77   -25.99   6
'River/Long NW2'   -893.48   43.47   6
'River/Long NW3'   -865.2   112.93   6
'River/Long NW4'   -938.93   126.65   6
'River/Long NW5'   -1012.66   140.38   6
'Brook/Deacon NE1'   -468.03   -576.82   6
'Brook/Deacon NE2'   -408.94   -623.01   6
'Brook/Deacon NE3'   -349.85   -669.2   6
'Brook/Deacon NE4'   -300.58   -612.65   6
'Brook/Deacon NE5'   -251.87   -555.62   6
'Brook/Deacon SE1'   -193.81   -620.06   6
'Brook/Deacon SE2'   -242.52   -677.1   6
'Brook/Deacon SE3'   -291.18   -734.17   6
'Brook/Deacon SE4'   -233.11   -781.65   6
'Brook/Deacon SE5'   -175.05   -829.12   6
'Brook/Deacon SW1'   -206.29   -868.16   6
'Brook/Deacon SW2'   -264.35   -820.69   6
'Brook/Deacon SW3'   -322.42   -773.21   6
'Brook/Deacon SW4'   -368.83   -832.12   6
'Brook/Deacon SW5'   -415.25   -891.04   6
'Brook/Deacon NW1'   -482.8   -857.2   6
'Brook/Deacon NW2'   -436.39   -798.29   6
'Brook/Deacon NW3'   -389.97   -739.38   6
'Brook/Deacon NW4'   -449.06   -693.19   6
'Brook/Deacon NW5'   -508.15   -647.01   6
'Brook/Joselin NE1'   -419.47   -521.3   6
'Brook/Joselin NE2'   -359.67   -566.56   6
'Brook/Joselin NE3'   -299.87   -611.82   6
'Brook/Joselin NE4'   -251.16   -554.79   6
'Brook/Joselin NE5'   -204.86   -495.75   6
'Brook/Joselin S1'   -160.69   -581.28   6
'Brook/Joselin S2'   -209.42   -638.33   6
'Brook/Joselin S3'   -260.32   -693.41   6
'Brook/Joselin S4'   -305.59   -753.21   6
'Brook/Joselin S5'   -352.67   -811.61   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.03425   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
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90   54   3   1675   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.03425   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.03425   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.03425   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
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120   78   3   577   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0137   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0137   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0137   1   82
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 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   55   0.3048   1   0
'Brook/Long NE1'   -189.03   -227.65   6
'Brook/Long NE2'   -130.2   -274.17   6
'Brook/Long NE3'   -71.37   -320.69   6
'Brook/Long NE4'   -24.56   -262.09   6
'Brook/Long NE5'   22.25   -203.49   6
'Brook/Long SE1'   107.08   -254.3   6
'Brook/Long SE2'   60.28   -312.9   6
'Brook/Long SE3'   13.47   -371.5   6
'Brook/Long SE4'   72.91   -417.24   6
'Brook/Long SE5'   132.35   -462.98   6
'Brook/Long SW1'   72.24   -540.37   6
'Brook/Long SW2'   12.8   -494.64   6
'Brook/Long SW3'   -46.64   -448.9   6
'Brook/Long SW4'   -91.85   -508.74   6
'Brook/Long SW5'   -137.06   -568.59   6
'Brook/Long NW1'   -207.18   -498.82   6
'Brook/Long NW2'   -161.97   -438.98   6
'Brook/Long NW3'   -116.76   -379.14   6
'Brook/Long NW4'   -175.59   -332.61   6
'Brook/Long NW5'   -234.42   -286.09   6
'Binney/Long NE1'   137.4   -466.46   6
'Binney/Long NE2'   197.44   -511.41   6
'Binney/Long NE3'   257.45   -556.33   6
'Binney/Long NE4'   302.75   -496.56   6
'Binney/Long NE5'   348.03   -436.77   6
'Binney/Long SE1'   399.79   -490.99   6
'Binney/Long SE2'   354.5   -550.8   6
'Binney/Long SE3'   309.27   -610.59   6
'Binney/Long SE4'   369.64   -655.04   6
'Binney/Long SE5'   429.27   -698.94   6
'Binney/Long SW1'   394.12   -778.89   6
'Binney/Long SW2'   340.72   -725.64   6
'Binney/Long SW3'   280.32   -681.17   6
'Binney/Long SW4'   234.31   -740.4   6
'Binney/Long SW5'   188.63   -799.21   6
'Binney/Long NW1'   131.44   -771.76   6
'Binney/Long NW2'   177.45   -712.53   6
'Binney/Long NW3'   223.46   -653.31   6
'Binney/Long NW4'   163.42   -608.36   6
'Binney/Long NW5'   103.38   -563.41   6
'Beth/Brook SE1'   463.36   227.47   6
'Beth/Brook SE2'   417.38   168.22   6
'Beth/Brook SE3'   371.39   108.98   6
'Beth/Brook SE4'   433.55   67.01   6
'Beth/Brook SE5'   495.71   25.05   6
'Beth/Brook SW1'   454.8   -29.38   6
'Beth/Brook SW2'   392.64   12.59   6
'Beth/Brook SW3'   330.48   54.55   6
'Beth/Brook SW4'   285.52   -5.48   6
'Beth/Brook SW5'   240.57   -65.52   6
'Beth/Brook N1'   191.3   12.16   6
'Beth/Brook N2'   242.03   79.91   6
'Beth/Brook N3'   286.98   139.95   6
'Beth/Brook N4'   332.71   199.4   6
'Beth/Brook N5'   372.78   251.03   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.03425   1600   1   3
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 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.03425   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.03425   1600   1   3
 2
'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.03425   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
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 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0137   1
 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0137   1   66
 1
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'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0137   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   15   0.3048   1   0
'Short/River SE1'   64.17   619.47   6
'Short/River SE2'   0.55   579.18   6
'Short/River SE3'   -62.34   538.88   6
'Short/River SE4'   -2.25   494   6
'Short/River SE5'   57.84   449.13   6
'Short/River SW1'   -6.59   409.88   6
'Short/River SW2'   -66.68   454.75   6
'Short/River SW3'   -126.77   499.63   6
'Short/River SW4'   -194.5   467.43   6
'Short/River SW5'   -262.24   435.22   6
'Short/River N1'   -300.63   529.91   6
'Short/River N2'   -232.9   562.11   6
'Short/River N3'   -165.17   594.32   6
'Short/River N4'   -101.91   634.61   6
'Short/River N5'   -38.65   674.91   6
'2020BD'   52   1   0   'P'
 2
'River/Long EB L'   'AG'   -827.07   101.14   -878.17   -27.13   1   10   1
90   64   3   210   0.03425   1600   1   3
 2
'River/Long EB TR'   'AG'   -811.49   92.43   -860.1   -35.23   1   20   2
90   54   3   677   0.03425   1600   1   3
 2
'River/Long NB LT'   'AG'   -736.08   145.98   -678.74   112.98   1   20   2
90   62   3   424   0.03425   1600   1   3
 2
'River/Long WB LTR'   'AG'   -795.68   191.25   -757.94   247.82   1   30   3
90   54   3   1675   0.03425   1600   1   3
 2
'River/Long SB LT'   'AG'   -860.86   156.12   -916.61   166.4   1   10   1
90   62   3   326   0.03425   1600   1   3
 2
'River/Long SB R'   'AG'   -867.29   144.33   -919.19   153.55   1   10   1
90   64   3   200   0.03425   1600   1   3
 2
'Brook/Deacon EB TR'   'AG'   -349.14   -767.61   -405.62   -839.48   1   20   2
120   65   3   717   0.03425   1600   1   3
 2
'Brook/Deacon NB LR'   'AG'   -306.2   -749.88   -270.95   -777.15   1   20   2
120   90   3   215   0.03425   1600   1   3
 2
'Brook/Deacon WB LT'   'AG'   -338.37   -690.86   -309.48   -653.9   1   20   2
120   110   3   1278   0.03425   1600   1   3
 2
'Brook/Deacon SB LTR'   'AG'   -380.13   -702.53   -425.25   -667.3   1   20   2
120   90   3   164   0.03425   1600   1   3
 2
'Brook/Joslin EB L'   'AG'   -281.35   -673.17   -311.11   -709.02   1   10   1
120   70   3   81   0.03425   1600   1   3
 2
'Brook/Joslin EB T'   'AG'   -271.97   -680.1   -301.33   -716.76   1   10   1
120   70   3   746   0.03425   1600   1   3
 2
'Brook/Joslin WB TTR'   'AG'   -284.61   -643.43   -261.37   -613.28   1   20   2
120   70   3   1318   0.03425   1600   1   3
 2
'Binney/Long EB LTR'   'AG'   253.09   -669.39   218.83   -707.67   1   10   1
120   90   3   205   0.03425   1600   1   3
 2
'Binney/Long NB LTR'   'AG'   297.72   -636.06   338.29   -664.89   1   20   2
120   49   3   639   0.03425   1600   1   3
 2
```

'Binney/Long WB LTR'   'AG'   281.49   -577.51   323.41   -522.11   1   20   2
120   90   3   220   0.03425   1600   1   3
 2
'Binney/Long SB LTR'   'AG'   217.48   -600.03   151.67   -553.19   1   20   2
120   49   3   576   0.03425   1600   1   3
 2
'River/Short EB T'   'AG'   -145.85   542.57   -238.48   499.42   1   20   2
93   43   3   836   0.03425   1600   1   3
 2
'River/Short NB LR'   'AG'   -92.02   525.06   -45.08   498.17   1   20   2
93   73   3   239   0.03425   1600   1   3
 2
'River/Short WB LTR'   'AG'   -103.89   601.59   -23.15   650.99   1   30   3
93   43   3   1507   0.03425   1600   1   3
 2
'Brook/Long EB LTR'   'AG'   -61.28   -419.34   -104.75   -471.46   1   30   3
120   78   3   806   0.03425   1600   1   3
 2
'Brook/Long NB LT'   'AG'   -4.23   -401.43   60.98   -451.92   1   20   2
120   78   3   469   0.03425   1600   1   3
 2
'Brook/Long NB R'   'AG'   7.73   -389.48   72.39   -438.89   1   10   1
120   66   3   285   0.03425   1600   1   3
 2
'Brook/Long WB TTR'   'AG'   -34   -333.28   37.07   -246.75   1   30   3
120   66   3   2004   0.03425   1600   1   3
 2
'Brook/Long SB LTR'   'AG'   -99.28   -348.08   -174.26   -289.99   1   20   2
120   78   3   577   0.03425   1600   1   3
 2
'Beth/Brook EB TTR'   'AG'   319.77   83.77   274.21   19.5   1   20   2
120   72   3   1118   0.03425   1600   1   3
 2
'Beth/Brook NB LR'   'AG'   367.47   86.98   397.49   67.16   1   10   1
120   83   3   370   0.03425   1600   1   3
 2
'Beth/Brook WB LT'   'AG'   344.43   154.45   389.45   210.15   1   20   2
120   106   3   989   0.03425   1600   1   3
 1
'Brook/Long N'   'AG'   -62.48   -374.89   -224.8   -246.53   1098   0.0137   1   54
 1
'Brook/Long E'   'AG'   -55.49   -379.32   104.04   -179.6   2352   0.0137   1   78
 1
'Brook/Long S'   'AG'   -62.48   -374.89   117.14   -513.1   1335   0.0137   1   78
 1
'Brook/Long W'   'AG'   -55.49   -379.32   -163   -521.63   1894   0.0137   1   78
 1
'Brook/Deacon N'   'AG'   -356.85   -714.5   -490.49   -610.04   164   0.0137   1
60
 1
'Brook/Deacon E'   'AG'   -339.96   -727.37   -288.24   -659.05   1980   0.0137   1
 66
 1
'Brook/Deacon S'   'AG'   -328.46   -735.98   -252.62   -797.99   255   0.0137   1
30
 1
'Brook/Deacon W'   'AG'   -337.15   -732.13   -443.45   -867.04   2204   0.0137   1
 54
 1
'Joslin/Brook N'   'AG'   -299.23   -651.18   -415.29   -563.34   121   0.0137   1
42
 1
'Joslin/Brook E'   'AG'   -284.29   -659.79   -210.74   -573.67   2064   0.0137   1

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 66
 1
'River/Long N'   'AG'   -789.48   139.52   -1036.98   185.59   1297   0.0137   1
60
 1
'River/Long E'   'AG'   -795.15   154.07   -655.22   358.53   2486   0.0137   1   78
 1
'River/Long S'   'AG'   -768.45   155.68   -584.04   29.61   766   0.0137   1   54
 1
'River/Long W'   'AG'   -791.91   162.96   -896.25   -93.23   2625   0.0137   1   78
 1
'Binney/Long N'   'AG'   258.29   -618.17   126.99   -519.88   1315   0.0137   1
78
 1
'Binney/Long E'   'AG'   256.07   -619.5   358.44   -484.31   290   0.0137   1   54
 1
'Binney/Long S'   'AG'   258.53   -619.18   358.72   -692.95   1240   0.0137   1
54
 1
'Binney/Long W'   'AG'   276.92   -635.02   188.4   -748.97   435   0.0137   1   42
 1
'Beth/Brook E'   'AG'   314.78   106.17   433.83   259.55   2182   0.0137   1   66
 1
'Beth/Brook S'   'AG'   314.78   106.17   430.69   27.92   510   0.0137   1   48
 1
'Beth/Brook W'   'AG'   315.41   106.17   188.85   -62.85   2262   0.0137   1   66
 1
'River/Short E'   'AG'   -139.33   550.31   13.86   647.89   2455   0.0137   1   82
 1
'River/Short S'   'AG'   -137.42   551.27   6.68   443.65   239   0.0137   1   50
 1
'River/Short W'   'AG'   -136.94   551.27   -285.82   480.48   2470   0.0137   1
82
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   20   0.3048   1   0
'Brook/River NE1'   -898.92   -1152.83   6
'Brook/River NE2'   -861.93   -1218.08   6
'Brook/River NE3'   -824.95   -1283.33   6
'Brook/River NE4'   -777.92   -1224.9   6
'Brook/River NE5'   -730.89   -1166.48   6
'Brook/River SE1'   -673.97   -1252.06   6
'Brook/River SE2'   -721   -1310.48   6
'Brook/River SE3'   -768.03   -1368.9   6
'Brook/River SE4'   -747.47   -1441.03   6
'Brook/River SE5'   -726.91   -1513.15   6
'Brook/River SW1'   -793.27   -1594.06   6
'Brook/River SW2'   -813.83   -1521.93   6
'Brook/River SW3'   -834.39   -1449.81   6
'Brook/River SW4'   -878.93   -1510.15   6
'Brook/River SW5'   -923.47   -1570.5   6
'Brook/River NW1'   -973.57   -1473.36   6
'Brook/River NW2'   -929.04   -1413.02   6
'Brook/River NW3'   -884.5   -1352.67   6
'Brook/River NW4'   -921.48   -1287.42   6
'Brook/River NW5'   -958.47   -1222.17   6
'2020BD'   8   1   0   'P'
 2
'Brook/River SB LTR'   'AG'   -864.74   -1312.57   -919.24   -1216.68   1   20   2
120   79   3   1205   0.03425   1600   1   3
 2
'Brook/River EB LTR'   'AG'   -862.43   -1425.5   -926.26   -1508.82   1   30   3
120   89   3   600   0.03425   1600   1   3
 2
'Brook/River NB LTR'   'AG'   -792.15   -1400.7   -769.72   -1470.08   1   20   2
120   79   3   911   0.03425   1600   1   3
 2
'Brook/River WB LTTR'   'AG'   -798.49   -1299.49   -745.85   -1235.25   1   30   3
120   69   3   1387   0.03425   1600   1   3
 1
'Brook/River N'   'AG'   -825.51   -1369.54   -975.81   -1104.37   1964   0.0137   1
  66
 1
'Brook/River E'   'AG'   -833.63   -1372.25   -633.24   -1123.32   2124   0.0137   1
  78
 1
'Brook/River S'   'AG'   -816.03   -1357.37   -752.39   -1580.6   2652   0.0137   1
 66
 1
'Brook/River W'   'AG'   -839.05   -1373.6   -1017.78   -1615.77   1466   0.0137   1
  78
1   0   4   1000   0   'Y'   10   0   36
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'Winsor School'   60   175   0   0   39   0.3048   1   0
'R7'   24234.59   43539.68   6
'R8'   24198.54   43493.84   6
'R9'   24247.7   43485.1   6
'R10'   24131.9   43602.98   6
'R11'   24100.22   43558.23   6
'R12'   24075.09   43588.79   6
'R13'   23988.79   43538.58   6
'R14'   24019.38   43509.12   6
'R15'   23968.04   43510.21   6
'R16'   23940.73   43418.52   6
'R17'   23992.07   43417.43   6
'R18'   23951.65   43363.95   6
'R19'   24080.56   43343.21   6
'R20'   24111.15   43390.15   6
'R21'   24138.46   43348.67   6
'R22'   24229.13   43394.51   6
'R23'   24198.54   43426.16   6
'R24'   24258.62   43409.79   6
'R41'   24433.59   43813.29   6
'R42'   24498.23   43841.35   6
'R43'   24569.1   43866.74   6
'R44'   24472.82   43859.61   6
'R45'   24517.84   43916.62   6
'R46'   24181.97   43865.3   6
'R47'   24230.11   43812.3   6
'R48'   24268.44   43765.98   6
'R49'   24307.23   43819.43   6
'R50'   24356.7   43884   6
'R51'   24367.52   43656.06   6
'R52'   24433.49   43678.33   6
'R53'   24498.57   43702.82   6
'R54'   24409.42   43607.51   6
'R55'   24444.64   43558.97   6
'R56'   24282.38   43606.18   6
'R57'   24328.74   43546.5   6
'R58'   24243.6   43550.95   6
'R59'   24204.27   43692.17   6
'R60'   24150.33   43750.96   6
'R61'   24161.03   43638.28   6
'2020 BD'   15   1   0   'P'
 2
'Brookline SB Q1'   'AG'   24377.6   43850.81   24517.54   44038.29   1   30   3
100   53   3   904   0.03425   1600   1   3
 2
'Boylston WB Q2'   'AG'   24434.84   43765.01   24647.93   43841.28   1   40   4
100   73   3   1098   0.03425   1600   1   3
 2
'Park Dr NB Q3'   'AG'   24313.99   43650.62   24447.57   43463.14   1   40   4
100   53   3   846   0.03425   1600   1   3
 2
'Brookline EB Q4'   'AG'   24250.38   43637.91   24100.9   43447.25   1   40   4
100   74   3   1839   0.03425   1600   1   3
 2
'Brookline Q27'   'AG'   24079.17   43421.07   23933.83   43220.25   1   20   2
100   54   3   1356   0.03425   1600   1   3
 2
'Fenway Q28'   'AG'   24063.71   43526.12   23982.27   43622.93   1   20   2
100   46   3   1876   0.03425   1600   1   3
 2
'Brookline Q29'   'AG'   24121.43   43515.82   24203.9   43618.81   1   20   2
100   54   3   1083   0.03425   1600   1   3
 1
```

```
'Brookline Ave west'   'AG'   24281.22   43703.56   24102.89   43457.42   3028
0.0137   1   68
 1
'Broolkine Ave east'   'AG'   24277.03   43684.63   24672.76   44220.7   1488
0.0137   1   68
 1
'Park drive north'   'AG'   24272.17   43689.48   23956.55   44033.92   1177
0.0137   1   68
 1
'Park drive south'   'AG'   24274.6   43701.61   24694.61   43148.56   1404   0.0137
  1   68
 1
'Boylston St L5'   'AG'   24272.17   43682.2   25010.22   43953.88   2439   0.0137
1   103
 1
'Brookline L33'   'AG'   24106.85   43476.65   23847.09   43141.94   2581   0.0137
1   68
 1
'Fenway L34'   'AG'   24101.86   43470.8   24241.02   43294.69   951   0.0137   1
42
 1
'fenway L35'   'AG'   24108.04   43464.62   23937.96   43672.66   1718   0.0137   1
 42
1   0   4   1000   0   'Y'   10   0   36
```

Microscale Output Files

2010 Existing Condition

Carbon Monoxide (CO)

```
♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:30

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG    122. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG    207. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -682.6     115.2 *      62.
120. AG    237. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG    310. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG    119. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG    122. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG    187. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG    258. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG    316. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG    258. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG    100. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG    100. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG    201. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG    129. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG    141. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG    258. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG    141. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB T    *   -145.9     542.6    -223.2     506.5 *      85.
245. AG    159. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
```

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120. AG    270. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG    239. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG    336. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    224. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG     95. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG    284. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG    224. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG    175. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG    138. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG    299. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.  11.1   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.  11.1   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.  11.1   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.  11.1   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.  11.1   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.  11.1   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.  11.1   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.  11.1   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.  11.1   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.  11.1   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.  11.1   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.  11.1   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.  11.1   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.  11.1   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.  11.1   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.  11.1   1.0 54.0
♀
                       PAGE  2
      JOB: Winsor School                                   RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:30

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                          *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.  11.1   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.  11.1   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.  11.1   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.  11.1   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.  11.1   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.  11.1   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.  11.1   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.  11.1   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:30

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*---------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0        189       1600
64.21     1        3
       2. River/Long EB TR    *      90       54       3.0        631       1600
64.21     1        3
       3. River/Long NB LTR   *      90       62       3.0        364       1600
64.21     1        3
       4. River/Long WB LTR   *      90       54       3.0       1507       1600
64.21     1        3
       5. River/Long SB LT    *      90       62       3.0        291       1600
64.21     1        3
       6. River/Long SB R     *      90       64       3.0        190       1600
64.21     1        3
       7. Brook/Deacon EB TR  *     120       65       3.0        548       1600
64.21     1        3
       8. Brook/Deacon NB LR  *     120       90       3.0        113       1600
64.21     1        3
       9. Brook/Deacon WB LT  *     120      110       3.0       1015       1600
64.21     1        3
      10. Brook/Deacon SB LR  *     120       90       3.0        124       1600
64.21     1        3
      11. Brook/Joslin EB L   *     120       70       3.0         55       1600
64.21     1        3
      12. Brook/Joslin EB T   *     120       70       3.0        641       1600
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64.21      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
64.21      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
64.21      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
64.21      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
64.21      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
64.21      1        3
      18. River/Short EB T    *      93        43        3.0       727        1600
64.21      1        3
      19. River/Short NB LR   *      93        73        3.0       212        1600
64.21      1        3
      20. River/Short WB LTR  *      93        43        3.0      1355        1600
64.21      1        3
      21. Brook/Long EB LTR   *     120        78        3.0       703        1600
64.21      1        3
      22. Brook/Long NB LT    *     120        78        3.0       461        1600
64.21      1        3
      23. Brook/Long NB R     *     120        66        3.0       262        1600
64.21      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       791        1600
64.21      1        3
      25. Brook/Long SB LTR   *     120        78        3.0       279        1600
64.21      1        3
      26. Beth/Brook EB TTR   *     120        61        3.0       838        1600
64.21      1        3
      27. Beth/Brook NB LR    *     120        96        3.0       161        1600
64.21      1        3
      28. Beth/Brook WB LT    *     120       104        3.0       799        1600
64.21      1        3

       RECEPTOR LOCATIONS
       ------------------
                            *         COORDINATES (FT)          *
         RECEPTOR           *      X           Y          Z     *
     -------------------------*-----------------------------------*
      1. River/Long NE1     *      -978.8      215.4        6.0   *
      2. River/Long NE2     *      -904.3      201.6        6.0   *
      3. River/Long NE3     *      -831.3      188.0        6.0   *
      4. River/Long NE4     *      -788.0      251.3        6.0   *
      5. River/Long NE5     *      -746.6      311.8        6.0   *
      6. River/Long SE1     *      -639.8      294.3        6.0   *
      7. River/Long SE2     *      -682.2      232.4        6.0   *
      8. River/Long SE3     *      -724.5      170.5        6.0   *
      9. River/Long SE4     *      -662.6      128.1        6.0   *
     10. River/Long SE5     *      -600.7       85.8        6.0   *
     11. River/Long SW1     *      -638.2       21.8        6.0   *
     12. River/Long SW2     *      -700.1       64.1        6.0   *
     13. River/Long SW3     *      -762.0      106.5        6.0   *
     14. River/Long SW4     *      -790.3       37.0        6.0   *
     15. River/Long SW5     *      -818.6      -32.5        6.0   *
     16. River/Long NW1     *      -921.8      -26.0        6.0   *
     17. River/Long NW2     *      -893.5       43.5        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                     RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:30
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0
24. Brook/Deacon NE4	-300.6	-612.7	6.0
25. Brook/Deacon NE5	-251.9	-555.6	6.0
26. Brook/Deacon SE1	-193.8	-620.1	6.0
27. Brook/Deacon SE2	-242.5	-677.1	6.0
28. Brook/Deacon SE3	-291.2	-734.2	6.0
29. Brook/Deacon SE4	-233.1	-781.7	6.0
30. Brook/Deacon SE5	-175.1	-829.1	6.0
31. Brook/Deacon SW1	-206.3	-868.2	6.0
32. Brook/Deacon SW2	-264.4	-820.7	6.0
33. Brook/Deacon SW3	-322.4	-773.2	6.0
34. Brook/Deacon SW4	-368.8	-832.1	6.0
35. Brook/Deacon SW5	-415.3	-891.0	6.0
36. Brook/Deacon NW1	-482.8	-857.2	6.0
37. Brook/Deacon NW2	-436.4	-798.3	6.0
38. Brook/Deacon NW3	-390.0	-739.4	6.0
39. Brook/Deacon NW4	-449.1	-693.2	6.0
40. Brook/Deacon NW5	-508.2	-647.0	6.0
41. Brook/Joselin NE1	-419.5	-521.3	6.0
42. Brook/Joselin NE2	-359.7	-566.6	6.0
43. Brook/Joselin NE3	-299.9	-611.8	6.0
44. Brook/Joselin NE4	-251.2	-554.8	6.0
45. Brook/Joselin NE5	-204.9	-495.8	6.0
46. Brook/Joselin S1	-160.7	-581.3	6.0
47. Brook/Joselin S2	-209.4	-638.3	6.0
48. Brook/Joselin S3	-260.3	-693.4	6.0
49. Brook/Joselin S4	-305.6	-753.2	6.0
50. Brook/Joselin S5	-352.7	-811.6	6.0

(COORDINATES (FT))

♀

PAGE 5

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.2	0.3	0.1	0.4	1.0								

```
1.3   1.3   1.5   0.2   0.4   0.5   0.6   0.3
  10.  *   0.0   0.0   0.0   0.0   0.0   0.2   0.7   1.0   0.1   0.0   0.2   0.8
1.4   1.3   1.4   0.2   0.6   0.7   0.7   0.4
  20.  *   0.0   0.0   0.2   0.2   0.0   0.2   0.5   0.9   0.0   0.0   0.2   0.5
1.3   1.1   1.1   0.6   0.7   0.8   0.6   0.3
  30.  *   0.0   0.0   0.7   0.5   0.2   0.1   0.3   0.5   0.0   0.0   0.2   0.3
0.9   0.6   0.7   1.3   1.3   1.3   0.8   0.3
  40.  *   0.0   0.2   1.2   1.0   0.6   0.0   0.1   0.2   0.0   0.1   0.3   0.2
0.7   0.4   0.4   1.5   1.3   1.6   1.1   0.4
  50.  *   0.1   0.4   1.7   1.6   1.1   0.2   0.3   0.3   0.3   0.3   0.4   0.5
0.7   0.4   0.3   1.6   1.5   1.7   1.5   0.8
  60.  *   0.4   0.8   1.9   2.0   1.5   0.4   0.4   0.3   0.2   0.2   0.4   0.4
0.8   0.4   0.3   1.3   1.7   1.6   1.6   1.1
  70.  *   0.6   1.0   1.7   2.0   1.8   0.3   0.2   0.2   0.2   0.2   0.3   0.4
0.8   0.3   0.2   1.0   1.6   1.5   1.6   1.2
  80.  *   0.6   1.0   1.4   1.9   1.7   0.2   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.2   1.0   1.4   1.3   1.5   1.2
  90.  *   0.6   0.7   1.0   1.8   1.7   0.2   0.2   0.1   0.1   0.1   0.2   0.3
0.5   0.2   0.1   0.7   1.1   1.1   1.1   1.1
 100.  *   0.7   1.0   1.2   1.6   1.6   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.4   0.1   0.1   0.7   1.1   1.2   0.9   0.7
 110.  *   1.0   1.0   1.2   1.5   1.5   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.3   0.1   0.1   0.8   1.1   1.2   0.8   0.6
 120.  *   1.0   1.0   1.4   1.5   1.6   0.1   0.1   0.3   0.1   0.2   0.1   0.2
0.2   0.1   0.1   0.8   1.0   1.1   0.7   0.5
 130.  *   1.2   1.0   1.3   1.7   1.6   0.1   0.1   0.5   0.2   0.1   0.1   0.1
0.2   0.1   0.1   0.7   0.8   1.2   0.7   0.5
 140.  *   1.1   1.2   1.1   1.7   1.6   0.1   0.1   0.7   0.3   0.2   0.1   0.1
0.1   0.1   0.1   0.6   0.9   1.3   0.5   0.2
 150.  *   1.0   1.3   1.0   1.8   1.7   0.1   0.1   0.8   0.3   0.2   0.1   0.1
0.1   0.0   0.0   0.5   0.7   1.2   0.5   0.2
 160.  *   0.7   1.3   1.2   1.8   1.8   0.1   0.1   0.8   0.2   0.2   0.0   0.0
0.0   0.0   0.0   0.4   0.7   1.3   0.3   0.1
 170.  *   0.4   1.1   1.5   1.8   2.0   0.0   0.2   0.8   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.4   0.7   1.1   0.2   0.0
 180.  *   0.3   0.9   1.5   1.9   2.2   0.1   0.2   0.7   0.2   0.2   0.0   0.0
0.1   0.0   0.0   0.3   0.6   1.0   0.1   0.0
 190.  *   0.4   0.8   1.4   1.8   2.2   0.2   0.3   0.8   0.2   0.2   0.0   0.0
0.1   0.1   0.1   0.2   0.5   0.7   0.0   0.0
 200.  *   0.3   0.6   1.0   1.6   2.1   0.4   0.5   0.8   0.2   0.2   0.0   0.0
0.4   0.3   0.1   0.1   0.3   0.4   0.0   0.0
 210.  *   0.3   0.6   0.6   0.9   1.3   0.6   0.8   1.0   0.3   0.2   0.0   0.0
0.8   0.5   0.3   0.0   0.1   0.2   0.0   0.0
 220.  *   0.3   0.6   0.7   0.6   0.6   1.2   1.1   1.2   0.5   0.2   0.0   0.1
1.1   0.8   0.4   0.0   0.0   0.1   0.0   0.0
 230.  *   0.3   0.6   0.6   0.4   0.3   1.2   1.2   1.3   0.8   0.3   0.0   0.2
1.2   0.9   0.5   0.0   0.0   0.0   0.0   0.0
 240.  *   0.3   0.5   0.7   0.3   0.1   1.3   1.1   1.2   1.1   0.4   0.1   0.4
1.2   1.0   0.6   0.0   0.0   0.0   0.0   0.0
 250.  *   0.2   0.5   0.7   0.2   0.1   1.3   1.3   1.2   1.2   0.5   0.2   0.5
1.0   1.0   0.7   0.0   0.0   0.0   0.0   0.0
 260.  *   0.2   0.4   0.7   0.1   0.0   1.3   1.2   1.4   1.3   0.6   0.3   0.6
1.1   1.1   0.7   0.0   0.0   0.0   0.0   0.0
 270.  *   0.1   0.3   0.5   0.0   0.0   1.2   1.1   1.3   1.4   0.7   0.4   0.7
1.0   1.1   0.6   0.0   0.0   0.1   0.0   0.0
 280.  *   0.0   0.1   0.2   0.0   0.0   1.1   1.1   1.1   1.4   0.7   0.5   0.7
1.1   1.1   0.6   0.0   0.0   0.2   0.1   0.0
 290.  *   0.0   0.1   0.1   0.0   0.0   1.1   1.1   1.0   1.1   0.8   0.5   0.7
1.3   1.3   0.7   0.0   0.0   0.4   0.2   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.1   1.0   1.0   0.8   0.5   0.6
1.2   1.3   0.7   0.0   0.0   0.6   0.3   0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.1   1.1   0.7   0.6   0.7   0.8
1.0   1.4   0.8   0.0   0.1   0.7   0.4   0.1
```

```
 320.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.1   1.1   0.7   0.4   0.7   0.9
1.0   1.6   1.0   0.0   0.1   0.8   0.4   0.2
 330.  *   0.0   0.0   0.0   0.0   0.0   0.6   1.1   1.1   0.7   0.4   0.8   1.0
1.1   1.3   1.2   0.1   0.2   0.8   0.5   0.2
 340.  *   0.0   0.0   0.0   0.0   0.0   0.5   1.0   1.2   0.6   0.3   0.7   1.1
1.4   1.2   1.3   0.1   0.4   0.8   0.5   0.2
 350.  *   0.0   0.0   0.0   0.0   0.0   0.4   1.1   1.2   0.5   0.2   0.6   1.1
1.3   1.2   1.5   0.1   0.4   0.5   0.4   0.3
 360.  *   0.0   0.0   0.0   0.0   0.0   0.3   0.9   1.2   0.3   0.1   0.4   1.0
1.3   1.3   1.5   0.2   0.4   0.5   0.6   0.3

------*--------------------------------------------------------------------------
-----------------------------------------
 MAX   *   1.2   1.3   1.9   2.0   2.2   1.3   1.3   1.4   1.4   0.8   0.8   1.1
1.4   1.6   1.5   1.6   1.7   1.7   1.6   1.2
 DEGR. *  130   150    60    60   180   240   250   260   270   300   330   340
10   320     0    50    60    50    70    70

♀
                                    PAGE  6
      JOB: Winsor School                                          RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------
-----------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   1.1   1.4   1.6   0.7   0.6   0.4   0.8
1.5   1.7   1.1   0.0   0.0   0.3   0.0   0.0
  10.  *   0.0   0.0   0.0   0.0   0.1   1.3   1.6   1.8   0.9   0.7   0.6   0.8
1.6   1.7   1.4   0.0   0.1   0.4   0.0   0.0
  20.  *   0.0   0.0   0.2   0.3   0.4   1.5   1.6   1.8   0.9   0.8   0.7   0.9
2.0   1.9   1.9   0.1   0.3   0.6   0.0   0.0
  30.  *   0.1   0.3   1.0   1.2   1.6   1.6   1.8   1.8   0.9   0.6   0.6   0.8
2.2   2.2   2.0   0.8   1.1   1.3   0.3   0.1
  40.  *   0.4   0.6   2.2   2.4   2.5   1.4   1.3   1.4   0.4   0.3   0.3   0.4
1.8   1.6   1.6   1.6   1.7   2.1   0.8   0.4
  50.  *   0.6   1.0   2.7   2.9   3.1   0.7   0.6   0.6   0.1   0.0   0.0   0.1
1.1   0.5   0.4   1.4   1.7   2.0   1.2   0.6
  60.  *   0.5   1.0   2.3   2.7   2.9   0.2   0.1   0.0   0.0   0.0   0.0   0.0
0.6   0.1   0.0   1.1   1.2   1.2   1.1   0.7
  70.  *   0.7   1.0   1.8   2.4   2.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.6   0.0   0.0   0.8   1.1   0.8   0.9   0.7
  80.  *   0.7   0.8   1.7   2.1   2.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.8   1.1   0.6   0.9   0.5
  90.  *   0.5   0.8   1.5   2.0   1.9   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.3   0.0   0.0   0.6   1.0   0.8   0.8   0.5
 100.  *   0.4   0.8   1.6   2.0   1.6   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.2   0.0   0.0   0.4   0.9   0.7   0.7   0.5
 110.  *   0.5   0.6   1.5   1.8   1.7   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

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0.0   0.0   0.0   0.3   0.9   0.8   0.5   0.4
 120.  *   0.4   0.5   1.4   1.8   1.8   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.2   0.9   0.8   0.6   0.4
 130.  *   0.2   0.5   1.4   1.8   1.9   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.9   0.8   0.4   0.4
 140.  *   0.5   0.6   1.3   1.7   2.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.9   0.5   0.4
 150.  *   0.4   0.4   1.2   1.6   2.0   0.0   0.0   0.3   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.9   0.5   0.4
 160.  *   0.5   0.7   1.0   1.8   2.1   0.0   0.0   0.4   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.7   0.9   0.4   0.2
 170.  *   0.3   0.6   0.9   1.8   2.2   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.6   1.0   0.4   0.2
 180.  *   0.2   0.6   0.8   2.0   2.4   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.5   1.0   0.2   0.1
 190.  *   0.1   0.3   0.9   1.9   2.7   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.2   0.6   1.0   0.2   0.1
 200.  *   0.0   0.2   0.7   1.9   2.8   0.0   0.1   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.2   0.5   0.8   0.1   0.0
 210.  *   0.0   0.0   0.7   1.4   2.2   0.2   0.4   0.9   0.0   0.0   0.0   0.0
0.3   0.1   0.1   0.1   0.3   0.5   0.1   0.0
 220.  *   0.0   0.0   0.4   0.9   1.4   0.6   0.8   1.3   0.1   0.0   0.0   0.0
0.8   0.4   0.2   0.1   0.2   0.3   0.0   0.0
 230.  *   0.0   0.0   0.3   0.4   0.6   1.1   1.0   1.5   0.1   0.0   0.0   0.1
1.2   0.7   0.3   0.0   0.0   0.1   0.0   0.0
 240.  *   0.0   0.0   0.3   0.1   0.1   1.1   0.9   1.3   0.3   0.1   0.1   0.1
1.4   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 250.  *   0.0   0.0   0.3   0.0   0.0   1.0   0.9   1.2   0.5   0.1   0.1   0.3
1.4   1.1   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.0   0.0   0.2   0.0   0.0   1.2   1.2   1.0   0.5   0.2   0.1   0.4
1.3   1.2   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.0   0.1   0.0   0.0   1.2   1.1   0.7   0.6   0.3   0.2   0.5
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   1.2   1.0   0.8   0.7   0.4   0.3   0.6
1.0   1.2   0.2   0.0   0.0   0.0   0.0   0.0
 290.  *   0.0   0.0   0.0   0.0   0.0   1.2   0.8   0.8   0.7   0.4   0.4   0.6
0.9   1.2   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.2   0.9   0.8   0.7   0.4   0.4   0.4
0.9   1.2   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.1   1.2   1.1   1.0   0.5   0.4   0.5   0.6
0.8   1.2   0.5   0.0   0.0   0.0   0.0   0.0
 320.  *   0.1   0.1   0.1   0.1   0.1   1.2   1.2   1.0   0.5   0.4   0.5   0.5
0.9   1.2   0.5   0.0   0.0   0.0   0.0   0.0
 330.  *   0.1   0.1   0.1   0.0   0.0   1.1   1.2   1.0   0.7   0.5   0.3   0.8
1.0   1.2   0.6   0.0   0.1   0.2   0.1   0.1
 340.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.3   1.1   0.6   0.4   0.5   0.8
0.8   1.3   0.7   0.0   0.0   0.2   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.4   1.4   0.8   0.4   0.4   0.9
1.1   1.4   0.8   0.0   0.0   0.3   0.0   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   1.1   1.4   1.6   0.7   0.6   0.4   0.8
1.5   1.7   1.1   0.0   0.0   0.3   0.0   0.0

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   0.7   1.0   2.7   2.9   3.1   1.6   1.8   1.8   0.9   0.8   0.7   0.9
2.2   2.2   2.0   1.6   1.7   2.1   1.2   0.7
 DEGR. *   70    50    50    50    50    30    30    20    10    20    20    20
30    30    30    40    40    40    50    60

♀
                                PAGE  7
      JOB: Winsor School                                           RUN: 2010EX
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.0	0.0	0.0	0.0	0.1	1.2	1.2	1.4	1.7	1.5
10.	0.0	0.0	0.0	0.1	0.2	1.6	1.4	1.5	1.9	1.7
20.	0.0	0.0	0.3	0.4	0.5	1.6	1.4	1.8	2.3	1.7
30.	0.1	0.3	1.2	1.6	1.6	1.9	1.6	1.7	2.3	2.2
40.	0.4	0.6	2.4	2.6	2.9	1.5	1.3	1.3	1.9	1.5
50.	0.6	0.9	2.9	3.1	3.1	0.7	0.7	0.7	1.1	0.6
60.	0.5	1.0	2.7	2.9	3.1	0.2	0.1	0.1	0.6	0.1
70.	0.7	0.9	2.4	2.6	3.0	0.1	0.1	0.0	0.6	0.1
80.	0.7	1.0	2.1	2.1	2.8	0.2	0.1	0.0	0.6	0.0
90.	0.6	0.7	2.0	1.9	2.4	0.1	0.0	0.0	0.9	0.0
100.	0.5	0.8	2.0	1.6	2.3	0.0	0.0	0.0	1.1	0.0
110.	0.4	0.8	1.8	1.7	1.9	0.0	0.0	0.0	1.2	0.0
120.	0.4	0.8	1.8	1.8	1.7	0.0	0.0	0.0	1.2	0.0
130.	0.5	0.8	1.8	1.9	1.6	0.0	0.0	0.0	1.2	0.0
140.	0.4	0.6	1.7	1.9	1.6	0.0	0.0	0.0	1.1	0.0
150.	0.3	0.7	1.7	2.0	1.5	0.0	0.0	0.0	0.9	0.0
160.	0.4	0.7	1.8	2.1	1.6	0.0	0.0	0.0	0.7	0.0
170.	0.4	0.6	1.8	2.2	1.8	0.0	0.0	0.0	0.5	0.0
180.	0.2	0.7	2.0	2.4	2.1	0.0	0.0	0.0	0.4	0.0
190.	0.2	0.5	1.9	2.7	2.3	0.0	0.0	0.1	0.3	0.0
200.	0.1	0.3	1.9	2.8	2.7	0.0	0.0	0.2	0.2	0.0
210.	0.0	0.2	1.4	2.2	2.4	0.3	0.3	0.7	0.6	0.2
220.	0.0	0.0	0.9	1.4	1.6	0.7	0.8	0.9	1.1	0.6
230.	0.0	0.0	0.4	0.6	0.7	0.9	1.0	1.1	1.3	0.9
240.	0.0	0.0	0.1	0.1	0.2	1.2	0.9	1.0	1.3	1.1
250.	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.9	1.3	1.3
260.	0.0	0.0	0.0	0.0	0.0	1.2	1.1	1.0	1.3	1.4
270.	0.0	0.0	0.0	0.0	0.0	1.0	1.2	1.2	0.9	1.3
280.	0.0	0.0	0.0	0.0	0.0	0.9	1.2	1.1	0.7	1.2
290.	0.0	0.0	0.0	0.0	0.0	0.8	1.2	1.1	0.9	1.2
300.	0.0	0.0	0.0	0.0	0.0	0.8	1.2	1.1	0.9	1.2
310.	0.0	0.0	0.0	0.1	0.1	0.8	1.2	1.3	0.9	1.2
320.	0.1	0.1	0.1	0.1	0.0	0.7	1.3	1.3	0.9	1.2
330.	0.1	0.1	0.0	0.0	0.0	0.7	1.2	1.2	1.0	1.3
340.	0.1	0.0	0.0	0.0	0.0	0.8	1.1	1.2	1.2	1.3
350.	0.0	0.0	0.0	0.0	0.0	1.0	1.2	1.3	1.4	1.4
360.	0.0	0.0	0.0	0.0	0.1	1.2	1.2	1.4	1.7	1.5
MAX	0.7	1.0	2.9	3.1	3.1	1.9	1.6	1.8	2.3	2.2
DEGR.	70	60	50	50	50	30	30	20	20	30

THE HIGHEST CONCENTRATION OF 3.10 PPM OCCURRED AT RECEPTOR REC45.

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                           PAGE  1

      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:41

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG    122. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG    207. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG    237. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG    310. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG    119. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG    122. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG    187. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG    258. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG    316. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG    258. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG    100. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG    100. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG    201. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG    129. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG    141. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG    258. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG    141. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG    159. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
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120. AG    270. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG    239. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG    336. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    224. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG     95. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG    284. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG    224. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG    175. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG    138. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG    299. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.  11.1   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.  11.1   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.  11.1   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.  11.1   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.  11.1   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.  11.1   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.  11.1   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.  11.1   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.  11.1   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.  11.1   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.  11.1   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.  11.1   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.  11.1   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.  11.1   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.  11.1   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.  11.1   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:41

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.  11.1   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.  11.1   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.  11.1   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.  11.1   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.  11.1   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.  11.1   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.  11.1   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.  11.1   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:41

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64        3.0        189        1600
64.21      1        3
       2. River/Long EB TR    *      90       54        3.0        631        1600
64.21      1        3
       3. River/Long NB LT    *      90       62        3.0        364        1600
64.21      1        3
       4. River/Long WB LTR   *      90       54        3.0       1507        1600
64.21      1        3
       5. River/Long SB LT    *      90       62        3.0        291        1600
64.21      1        3
       6. River/Long SB R     *      90       64        3.0        190        1600
64.21      1        3
       7. Brook/Deacon EB TR  *     120       65        3.0        548        1600
64.21      1        3
       8. Brook/Deacon NB LR  *     120       90        3.0        113        1600
64.21      1        3
       9. Brook/Deacon WB LT  *     120      110        3.0       1015        1600
64.21      1        3
      10. Brook/Deacon SB LR  *     120       90        3.0        124        1600
64.21      1        3
      11. Brook/Joslin EB L   *     120       70        3.0         55        1600
64.21      1        3
      12. Brook/Joslin EB T   *     120       70        3.0        641        1600
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64.21      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
64.21      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
64.21      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
64.21      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
64.21      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
64.21      1        3
      18. River/Short EB TR   *      93        43        3.0       727        1600
64.21      1        3
      19. River/Short NB LR   *      93        73        3.0       212        1600
64.21      1        3
      20. River/Short WB LTR  *      93        43        3.0      1355        1600
64.21      1        3
      21. Brook/Long EB LTR   *     120        78        3.0       703        1600
64.21      1        3
      22. Brook/Long NB LT    *     120        78        3.0       461        1600
64.21      1        3
      23. Brook/Long NB R     *     120        66        3.0       262        1600
64.21      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       791        1600
64.21      1        3
      25. Brook/Long SB LTR   *     120        78        3.0       279        1600
64.21      1        3
      26. Beth/Brook EB TTR   *     120        61        3.0       838        1600
64.21      1        3
      27. Beth/Brook NB LR    *     120        96        3.0       161        1600
64.21      1        3
      28. Beth/Brook WB LT    *     120       104        3.0       799        1600
64.21      1        3

       RECEPTOR LOCATIONS
       ------------------
                          *          COORDINATES (FT)           *
         RECEPTOR         *       X            Y          Z     *
     -------------------------*------------------------------------*
      1. Brook/Long NE1       *     -189.0      -227.6        6.0   *
      2. Brook/Long NE2       *     -130.2      -274.2        6.0   *
      3. Brook/Long NE3       *      -71.4      -320.7        6.0   *
      4. Brook/Long NE4       *      -24.6      -262.1        6.0   *
      5. Brook/Long NE5       *       22.3      -203.5        6.0   *
      6. Brook/Long SE1       *      107.1      -254.3        6.0   *
      7. Brook/Long SE2       *       60.3      -312.9        6.0   *
      8. Brook/Long SE3       *       13.5      -371.5        6.0   *
      9. Brook/Long SE4       *       72.9      -417.2        6.0   *
     10. Brook/Long SE5       *      132.4      -463.0        6.0   *
     11. Brook/Long SW1       *       72.2      -540.4        6.0   *
     12. Brook/Long SW2       *       12.8      -494.6        6.0   *
     13. Brook/Long SW3       *      -46.6      -448.9        6.0   *
     14. Brook/Long SW4       *      -91.9      -508.7        6.0   *
     15. Brook/Long SW5       *     -137.1      -568.6        6.0   *
     16. Brook/Long NW1       *     -207.2      -498.8        6.0   *
     17. Brook/Long NW2       *     -162.0      -439.0        6.0   *
♀
                                 PAGE   4
      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:41
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RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
18. Brook/Long NW3	-116.8	-379.1	6.0
19. Brook/Long NW4	-175.6	-332.6	6.0
20. Brook/Long NW5	-234.4	-286.1	6.0
21. Binney/Long NE1	137.4	-466.5	6.0
22. Binney/Long NE2	197.4	-511.4	6.0
23. Binney/Long NE3	257.5	-556.3	6.0
24. Binney/Long NE4	302.7	-496.6	6.0
25. Binney/Long NE5	348.0	-436.8	6.0
26. Binney/Long SE1	399.8	-491.0	6.0
27. Binney/Long SE2	354.5	-550.8	6.0
28. Binney/Long SE3	309.3	-610.6	6.0
29. Binney/Long SE4	369.6	-655.0	6.0
30. Binney/Long SE5	429.3	-698.9	6.0
31. Binney/Long SW1	394.1	-778.9	6.0
32. Binney/Long SW2	340.7	-725.6	6.0
33. Binney/Long SW3	280.3	-681.2	6.0
34. Binney/Long SW4	234.3	-740.4	6.0
35. Binney/Long SW5	188.6	-799.2	6.0
36. Binney/Long NW1	131.4	-771.8	6.0
37. Binney/Long NW2	177.5	-712.5	6.0
38. Binney/Long NW3	223.5	-653.3	6.0
39. Binney/Long NW4	163.4	-608.4	6.0
40. Binney/Long NW5	103.4	-563.4	6.0
41. Beth/Brook SE1	463.4	227.5	6.0
42. Beth/Brook SE2	417.4	168.2	6.0
43. Beth/Brook SE3	371.4	109.0	6.0
44. Beth/Brook SE4	433.6	67.0	6.0
45. Beth/Brook SE5	495.7	25.1	6.0
46. Beth/Brook SW1	454.8	-29.4	6.0
47. Beth/Brook SW2	392.6	12.6	6.0
48. Beth/Brook SW3	330.5	54.6	6.0
49. Beth/Brook SW4	285.5	-5.5	6.0
50. Beth/Brook SW5	240.6	-65.5	6.0
51. Beth/Brook N1	191.3	12.2	6.0
52. Beth/Brook N2	242.0	79.9	6.0
53. Beth/Brook N3	287.0	140.0	6.0
54. Beth/Brook N4	332.7	199.4	6.0
55. Beth/Brook N5	372.8	251.0	6.0

♀

PAGE 5

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

```
WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
```

```
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-------------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.1   1.5   0.5   0.3   1.2   1.6
1.6   2.2   1.4   0.1   0.2   0.6   0.2   0.1
  10.  *   0.0   0.0   0.1   0.1   0.1   0.9   1.0   1.4   0.6   0.5   0.8   1.3
1.6   2.2   1.7   0.2   0.3   0.7   0.2   0.1
  20.  *   0.0   0.0   0.3   0.3   0.3   1.0   1.2   1.5   0.7   0.6   0.8   1.4
1.8   2.2   1.9   0.6   0.5   0.8   0.2   0.1
  30.  *   0.2   0.3   1.1   1.3   1.2   1.4   1.3   1.3   0.7   0.5   0.8   1.5
1.9   2.2   1.8   1.6   1.5   1.7   0.5   0.4
  40.  *   0.5   0.6   2.1   2.2   2.3   1.0   0.9   0.9   0.4   0.2   0.5   1.1
1.4   1.4   1.4   2.9   2.6   2.6   0.9   0.7
  50.  *   0.7   0.8   2.6   2.4   2.5   0.2   0.3   0.3   0.0   0.0   0.2   0.6
0.9   0.6   0.7   3.1   2.8   3.0   1.3   0.8
  60.  *   0.5   0.8   2.5   2.2   2.0   0.0   0.0   0.0   0.0   0.0   0.3   0.5
0.7   0.4   0.2   3.2   2.5   2.6   1.4   0.7
  70.  *   0.5   0.7   2.5   2.1   1.6   0.0   0.0   0.0   0.0   0.0   0.3   0.4
0.8   0.3   0.1   3.1   2.4   2.4   1.5   0.6
  80.  *   0.4   0.8   2.3   2.1   1.6   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.8   0.3   0.2   2.7   2.4   2.3   1.5   0.8
  90.  *   0.6   0.9   2.0   2.0   1.6   0.0   0.0   0.0   0.0   0.0   0.6   0.4
0.7   0.2   0.1   2.4   2.4   2.0   1.4   0.9
 100.  *   0.6   1.0   1.9   2.0   1.5   0.0   0.0   0.0   0.0   0.0   0.5   0.4
0.7   0.2   0.1   2.1   2.3   2.2   1.5   1.0
 110.  *   0.6   0.9   1.8   2.1   1.5   0.0   0.0   0.0   0.0   0.1   0.5   0.5
0.6   0.1   0.0   1.9   2.1   2.4   1.4   1.2
 120.  *   0.7   1.1   2.0   2.1   1.5   0.0   0.0   0.3   0.2   0.2   0.4   0.6
0.4   0.0   0.0   1.7   2.1   2.0   1.4   1.0
 130.  *   0.8   1.2   2.2   2.1   1.5   0.0   0.0   0.5   0.2   0.4   0.1   0.2
0.2   0.0   0.0   1.6   2.0   2.0   1.2   0.7
 140.  *   1.0   1.3   2.3   2.3   1.5   0.0   0.1   0.8   0.6   0.5   0.0   0.0
0.1   0.0   0.0   1.5   2.0   1.8   1.0   0.7
 150.  *   1.0   1.5   1.9   2.4   1.6   0.0   0.1   1.2   0.6   0.5   0.0   0.0
0.0   0.0   0.0   1.5   1.9   1.8   0.9   0.5
 160.  *   0.9   1.4   2.1   2.5   1.8   0.1   0.2   1.2   0.6   0.5   0.0   0.0
0.0   0.0   0.0   1.7   1.9   1.9   0.9   0.6
 170.  *   0.9   1.4   2.2   2.5   2.2   0.1   0.3   1.1   0.8   0.5   0.0   0.0
0.0   0.0   0.0   1.8   2.0   2.1   0.8   0.6
 180.  *   0.7   1.5   2.3   2.7   2.5   0.1   0.5   1.1   0.8   0.3   0.0   0.0
0.0   0.0   0.0   2.1   2.0   2.2   0.8   0.5
 190.  *   0.6   1.3   2.7   2.8   2.9   0.2   0.5   0.8   0.9   0.2   0.0   0.0
0.0   0.0   0.0   2.3   2.4   2.2   0.8   0.4
 200.  *   0.4   1.1   2.7   2.8   2.9   0.2   0.5   0.7   0.9   0.3   0.0   0.0
0.0   0.0   0.0   2.7   2.6   2.4   0.7   0.3
 210.  *   0.3   0.7   2.5   2.5   2.6   0.6   0.8   0.9   0.9   0.3   0.0   0.0
0.2   0.1   0.1   2.4   2.5   2.2   0.5   0.0
 220.  *   0.2   0.4   1.8   1.6   1.9   1.1   1.2   1.6   1.0   0.3   0.0   0.0
0.9   0.7   0.4   1.6   1.7   1.5   0.1   0.0
 230.  *   0.2   0.2   1.1   1.0   0.8   1.5   1.4   1.9   1.4   0.3   0.1   0.4
1.5   0.9   0.7   0.7   0.5   0.6   0.0   0.0
 240.  *   0.1   0.2   0.6   0.3   0.4   1.7   1.6   1.8   1.6   0.4   0.3   0.5
1.9   1.1   1.0   0.2   0.1   0.1   0.0   0.0
 250.  *   0.1   0.2   0.6   0.2   0.1   1.6   1.7   1.6   1.8   1.1   0.3   0.5
2.1   1.0   1.0   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.2   0.6   0.1   0.0   1.4   1.4   1.4   2.0   1.0   0.4   0.8
2.1   1.2   1.0   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.2   0.5   0.1   0.0   1.1   1.5   1.4   1.8   1.2   0.5   0.8
1.9   1.1   0.9   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.2   0.5   0.0   0.0   1.0   1.5   1.3   1.7   1.2   0.5   0.9
1.7   1.3   0.8   0.0   0.0   0.0   0.0   0.0
 290.  *   0.1   0.3   0.4   0.1   0.0   0.9   1.4   1.4   1.5   1.4   0.7   1.0
```

```
1.7   1.4   0.7   0.0   0.0   0.0   0.1   0.1
 300.  *   0.1   0.2   0.3   0.0   0.0   0.9   1.4   1.3   1.2   1.2   0.7   0.9
1.7   1.6   0.7   0.0   0.1   0.2   0.1   0.1
 310.  *   0.1   0.2   0.1   0.0   0.0   0.9   1.3   1.3   1.1   0.9   0.8   1.2
1.9   1.6   0.8   0.1   0.1   0.1   0.1   0.1
 320.  *   0.1   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.8   0.6   1.1   1.3
1.8   1.7   0.8   0.0   0.0   0.3   0.2   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.1   1.3   0.8   0.5   1.0   1.1
1.9   1.7   0.9   0.0   0.0   0.4   0.2   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.0   1.4   0.8   0.5   1.3   1.2
1.6   1.9   0.9   0.0   0.1   0.6   0.2   0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.9   1.4   0.7   0.3   1.2   1.4
1.5   2.0   1.2   0.0   0.1   0.6   0.2   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.1   1.5   0.5   0.3   1.2   1.6
1.6   2.2   1.4   0.1   0.2   0.6   0.2   0.1

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.0   1.5   2.7   2.8   2.9   1.7   1.7   1.9   2.0   1.4   1.3   1.6
2.1   2.2   1.9   3.2   2.8   3.0   1.5   1.2
 DEGR. *  140   150   190   190   200   240   250   230   260   290   340     0
250     0    20    60    50    50   100   110

♀
                              PAGE  6
      JOB: Winsor School                                        RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*-----------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.3   0.3   0.3   0.4   0.4   0.2   0.3   0.7   0.2   0.2   0.2   0.8
0.8   0.5   0.4   0.5   0.5   0.7   0.6   0.6
  10.  *   0.5   0.4   0.3   0.3   0.3   0.3   0.4   0.6   0.2   0.2   0.2   0.7
1.0   0.9   0.6   0.4   0.6   0.6   0.9   0.7
  20.  *   0.6   0.4   0.4   0.4   0.4   0.4   0.4   0.6   0.3   0.2   0.2   0.7
0.9   0.8   0.8   0.4   0.6   0.9   0.8   0.7
  30.  *   0.5   0.4   0.3   0.3   0.3   0.2   0.2   0.3   0.2   0.2   0.2   0.5
0.8   0.7   0.6   0.4   0.5   1.0   1.0   0.7
  40.  *   0.2   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2
0.5   0.3   0.2   0.7   0.6   0.8   0.8   0.5
  50.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.3   0.2   0.3   0.5   0.5   0.7   0.3
  60.  *   0.0   0.0   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.1   0.4   0.5   0.6   0.7   0.3
  70.  *   0.0   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.0   0.3   0.5   0.6   0.7   0.3
  80.  *   0.0   0.0   0.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.5   0.5   0.8   0.6
```

```
  90.  *   0.0   0.1   0.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.4   0.6   0.5   0.6
 100.  *   0.0   0.1   0.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.0   0.3   0.5   0.5   0.8
 110.  *   0.1   0.2   0.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.2   0.5   0.5   0.5
 120.  *   0.2   0.3   0.5   0.1   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.0   0.2   0.3   0.3   0.4
 130.  *   0.4   0.4   0.6   0.1   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.4   0.2
 140.  *   0.5   0.5   0.7   0.2   0.0   0.0   0.0   0.4   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.2   0.0
 150.  *   0.5   0.4   0.6   0.3   0.0   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.1   0.0
 160.  *   0.4   0.5   0.5   0.6   0.0   0.0   0.0   0.8   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.1   0.0
 170.  *   0.5   0.5   0.5   0.7   0.1   0.0   0.2   0.7   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.0   0.0
 180.  *   0.3   0.6   0.6   0.8   0.4   0.0   0.2   0.7   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 190.  *   0.3   0.5   0.7   0.7   0.3   0.2   0.2   0.6   0.3   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 200.  *   0.3   0.5   0.4   0.6   0.4   0.2   0.3   0.5   0.5   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 210.  *   0.2   0.4   0.3   0.3   0.3   0.2   0.3   0.6   0.6   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 220.  *   0.3   0.5   0.4   0.3   0.2   0.3   0.1   0.6   0.6   0.0   0.0   0.0
0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 230.  *   0.3   0.3   0.4   0.3   0.1   0.5   0.4   0.5   0.6   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 240.  *   0.4   0.3   0.5   0.3   0.1   0.4   0.5   0.6   0.7   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.1
 250.  *   0.7   0.5   0.6   0.3   0.3   0.4   0.7   0.4   1.0   0.0   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.1
 260.  *   1.0   0.5   0.7   0.4   0.5   0.4   0.9   0.6   1.0   0.1   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.1   0.3
 270.  *   1.2   0.9   0.8   0.6   0.5   0.6   1.1   0.8   0.9   0.3   0.0   0.1
0.4   0.1   0.0   0.1   0.1   0.1   0.3   0.4
 280.  *   1.2   0.9   0.8   0.5   0.4   0.4   1.0   0.8   0.9   0.4   0.1   0.2
0.5   0.2   0.1   0.1   0.1   0.2   0.3   0.5
 290.  *   1.3   0.9   0.9   0.4   0.3   0.3   0.9   1.0   1.2   0.6   0.1   0.3
0.5   0.4   0.1   0.3   0.2   0.4   0.4   0.5
 300.  *   1.2   0.9   0.8   0.4   0.3   0.2   0.6   1.1   0.8   0.7   0.2   0.7
0.7   0.4   0.2   0.2   0.3   0.5   0.5   0.6
 310.  *   0.9   0.6   0.6   0.3   0.2   0.2   0.4   0.8   0.6   0.7   0.4   0.5
1.0   0.7   0.2   0.3   0.3   0.8   0.8   0.7
 320.  *   0.6   0.5   0.3   0.2   0.2   0.1   0.3   0.6   0.5   0.3   0.7   0.9
1.0   0.6   0.3   0.3   0.4   0.8   0.8   0.9
 330.  *   0.5   0.4   0.2   0.2   0.1   0.1   0.2   0.6   0.3   0.2   0.7   0.9
1.0   0.7   0.3   0.4   0.4   1.1   0.9   1.0
 340.  *   0.5   0.3   0.2   0.1   0.2   0.2   0.2   0.6   0.2   0.1   0.4   0.9
0.7   0.9   0.4   0.4   0.5   0.8   0.9   1.2
 350.  *   0.3   0.3   0.2   0.3   0.3   0.2   0.3   0.6   0.1   0.1   0.3   0.8
0.8   0.7   0.4   0.3   0.5   0.7   0.8   0.9
 360.  *   0.3   0.3   0.3   0.4   0.4   0.2   0.3   0.7   0.2   0.2   0.2   0.8
0.8   0.5   0.4   0.5   0.5   0.7   0.6   0.6

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.3   0.9   0.9   0.8   0.5   0.6   1.1   1.1   1.2   0.7   0.7   0.9
1.0   0.9   0.8   0.7   0.6   1.1   1.0   1.2
 DEGR. *  290   290   290   180   260   270   270   300   290   310   320   320
10    10    20    40    10   330    30   340
```

♀

PAGE 7

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	*	1.1	1.6	1.7	0.8	0.4	0.5	1.1	1.5	1.6	1.4	0.0	0.0	0.0	0.0	0.0
10.	*	1.3	1.7	1.8	0.9	0.6	0.6	1.1	1.7	1.9	1.7	0.1	0.1	0.0	0.0	0.0
20.	*	1.4	1.6	1.8	0.8	0.6	0.6	1.2	1.9	2.1	2.0	0.4	0.4	0.3	0.3	0.3
30.	*	1.5	1.7	1.8	0.8	0.6	0.6	1.1	1.8	1.9	2.0	1.5	1.3	1.3	1.3	1.1
40.	*	1.0	1.0	1.1	0.4	0.2	0.2	0.7	1.3	1.2	1.3	2.6	2.5	2.5	2.2	2.1
50.	*	0.3	0.3	0.4	0.2	0.0	0.0	0.4	0.6	0.5	0.5	3.0	2.8	2.9	2.7	2.5
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	2.6	2.4	2.7	2.5	2.3
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	2.3	2.1	2.3	2.5	2.1
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	2.1	1.8	2.0	2.3	2.1
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	1.9	1.9	1.6	2.1	2.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.8	1.8	1.5	2.0	1.9
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.7	1.7	1.4	2.0	2.0
120.	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.6	2.0	2.0
130.	*	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.7	1.6	2.0	2.0
140.	*	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.7	1.7	2.1	2.0
150.	*	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.7	1.5	2.0	2.0
160.	*	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.8	1.7	1.9	2.0
170.	*	0.0	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.9	1.9	1.9	2.2
180.	*	0.0	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.0	2.0	2.0	2.3
190.	*	0.0	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	2.0	2.1	2.2	2.5

Concentration in (PPM).

200.	*	0.1	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.1	2.2	2.1	2.2	2.2	2.5
210.	*	0.5	0.6	0.7	0.4	0.0	0.0	0.0	0.4	0.4	0.3	2.2	2.0	2.0	2.1	2.4
220.	*	1.2	1.0	1.2	0.7	0.1	0.1	0.2	1.0	1.0	0.8	1.5	1.4	1.3	1.4	1.5
230.	*	1.6	1.4	1.7	0.9	0.3	0.3	0.4	1.6	1.2	0.9	0.7	0.6	0.6	0.6	0.7
240.	*	1.7	1.5	1.6	1.1	0.3	0.3	0.5	1.7	1.4	0.8	0.2	0.1	0.1	0.1	0.1
250.	*	1.6	1.3	1.4	1.0	0.3	0.3	0.6	1.6	1.4	0.8	0.0	0.0	0.0	0.0	0.0
260.	*	1.7	1.4	1.3	1.2	0.4	0.3	0.6	1.6	1.4	0.7	0.0	0.0	0.0	0.0	0.0
270.	*	1.5	1.4	1.1	1.0	0.6	0.4	0.8	1.5	1.5	0.8	0.0	0.0	0.0	0.0	0.0
280.	*	1.5	1.5	1.0	1.1	0.7	0.5	0.8	1.3	1.4	0.7	0.0	0.0	0.0	0.0	0.0
290.	*	1.3	1.4	0.9	0.8	0.8	0.5	0.8	1.3	1.3	0.8	0.0	0.0	0.0	0.0	0.0
300.	*	1.4	1.4	0.9	0.7	0.5	0.5	0.7	1.3	1.3	0.9	0.0	0.0	0.0	0.1	0.1
310.	*	1.3	1.5	1.0	0.6	0.6	0.5	0.7	1.3	1.3	0.9	0.0	0.1	0.1	0.1	0.1
320.	*	1.1	1.4	1.1	0.8	0.6	0.7	0.7	1.3	1.4	0.9	0.1	0.0	0.1	0.1	0.0
330.	*	1.0	1.4	1.2	0.8	0.6	0.7	0.9	1.2	1.5	0.9	0.0	0.1	0.1	0.0	0.0
340.	*	1.1	1.5	1.4	0.9	0.5	0.7	0.8	1.3	1.4	1.0	0.1	0.0	0.0	0.0	0.0
350.	*	1.2	1.6	1.5	0.8	0.5	0.6	0.9	1.5	1.5	1.2	0.0	0.0	0.0	0.0	0.0
360.	*	1.1	1.6	1.7	0.8	0.4	0.5	1.1	1.5	1.6	1.4	0.0	0.0	0.0	0.0	0.0
MAX	*	1.7	1.7	1.8	1.2	0.8	0.7	1.2	1.9	2.1	2.0	3.0	2.8	2.9	2.7	2.5
DEGR.	*	240	30	10	260	290	320	20	20	20	20	50	50	50	50	50

THE HIGHEST CONCENTRATION OF 3.20 PPM OCCURRED AT RECEPTOR REC16.

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                            RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:55

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG    122. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG    207. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG    237. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG    310. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG    119. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG    122. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG    187. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG    258. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG    316. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG    258. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG    100. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG    100. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG    201. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG    129. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG    141. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG    258. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG    141. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG    159. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
```

```
120. AG    270. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG    239. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG    336. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    224. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG     95. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG    284. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG    224. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG    175. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG    138. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG    299. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.  11.1   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.  11.1   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.  11.1   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.  11.1   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.  11.1   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.  11.1   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.  11.1   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.  11.1   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.  11.1   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.  11.1   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.  11.1   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.  11.1   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.  11.1   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.  11.1   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.  11.1   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.  11.1   1.0 54.0
♀
                              PAGE  2
      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:55

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                             *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.  11.1   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.  11.1   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.  11.1   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.  11.1   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.  11.1   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.  11.1   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.  11.1   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.  11.1   1.0 82.0
♀
                              PAGE  3
      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:55:55

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0        189       1600
64.21      1        3
       2. River/Long EB TR    *      90       54       3.0        631       1600
64.21      1        3
       3. River/Long NB LT    *      90       62       3.0        364       1600
64.21      1        3
       4. River/Long WB LTR   *      90       54       3.0       1507       1600
64.21      1        3
       5. River/Long SB LT    *      90       62       3.0        291       1600
64.21      1        3
       6. River/Long SB R     *      90       64       3.0        190       1600
64.21      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0        548       1600
64.21      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0        113       1600
64.21      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0       1015       1600
64.21      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0        124       1600
64.21      1        3
      11. Brook/Joslin EB L   *     120       70       3.0         55       1600
64.21      1        3
      12. Brook/Joslin EB T   *     120       70       3.0        641       1600
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64.21      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
64.21      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
64.21      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
64.21      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
64.21      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
64.21      1        3
      18. River/Short EB TR   *      93        43        3.0       727        1600
64.21      1        3
      19. River/Short NB LR   *      93        73        3.0       212        1600
64.21      1        3
      20. River/Short WB LTR  *      93        43        3.0      1355        1600
64.21      1        3
      21. Brook/Long EB LTR   *     120        78        3.0       703        1600
64.21      1        3
      22. Brook/Long NB LT    *     120        78        3.0       461        1600
64.21      1        3
      23. Brook/Long NB R     *     120        66        3.0       262        1600
64.21      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       791        1600
64.21      1        3
      25. Brook/Long SB LTR   *     120        78        3.0       279        1600
64.21      1        3
      26. Beth/Brook EB TTR   *     120        61        3.0       838        1600
64.21      1        3
      27. Beth/Brook NB LR    *     120        96        3.0       161        1600
64.21      1        3
      28. Beth/Brook WB LT    *     120       104        3.0       799        1600
64.21      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)         *
         RECEPTOR             *       X          Y          Z     *
     -------------------------*-----------------------------------*
      1. Short/River SE1      *        64.2      619.5        6.0   *
      2. Short/River SE2      *         0.6      579.2        6.0   *
      3. Short/River SE3      *       -62.3      538.9        6.0   *
      4. Short/River SE4      *        -2.3      494.0        6.0   *
      5. Short/River SE5      *        57.8      449.1        6.0   *
      6. Short/River SW1      *        -6.6      409.9        6.0   *
      7. Short/River SW2      *       -66.7      454.8        6.0   *
      8. Short/River SW3      *      -126.8      499.6        6.0   *
      9. Short/River SW4      *      -194.5      467.4        6.0   *
     10. Short/River SW5      *      -262.2      435.2        6.0   *
     11. Short/River N1       *      -300.6      529.9        6.0   *
     12. Short/River N2       *      -232.9      562.1        6.0   *
     13. Short/River N3       *      -165.2      594.3        6.0   *
     14. Short/River N4       *      -101.9      634.6        6.0   *
     15. Short/River N5       *       -38.7      674.9        6.0   *
♀
                         PAGE  4
      JOB: Winsor School                                    RUN: 2010EX

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
```

the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.0	0.6	0.9	0.4	0.1	0.4	1.0	0.8	0.9	0.5	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.4	1.0	0.2	0.0	0.1	0.8	0.9	1.0	0.6	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.3	0.9	0.1	0.0	0.0	0.6	1.0	1.1	0.8	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.3	0.7	0.0	0.0	0.0	0.3	1.0	1.1	0.9	0.0	0.0	0.0	0.0	0.0
40.	*	0.1	0.3	0.7	0.1	0.2	0.1	0.3	1.0	1.1	1.2	0.0	0.0	0.1	0.0	0.0
50.	*	0.2	0.3	0.6	0.2	0.3	0.3	0.3	1.1	1.1	1.2	0.4	0.4	0.5	0.4	0.2
60.	*	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.9	0.9	1.1	0.7	0.7	0.9	0.6	0.2
70.	*	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.8	0.5	0.6	1.0	1.0	1.2	1.0	0.3
80.	*	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.7	0.3	0.3	1.2	1.0	1.3	1.3	0.3
90.	*	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.6	0.2	0.2	1.4	1.1	1.2	1.5	0.4
100.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.2	1.2	1.1	1.0	1.5	0.5
110.	*	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.2	1.0	1.2	1.0	1.5	0.7
120.	*	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.8	1.2	0.9	1.5	0.9
130.	*	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.7	0.9	0.9	1.5	1.1
140.	*	0.3	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.6	0.9	0.9	1.3	1.3
150.	*	0.3	0.1	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.6	0.9	1.0	1.4	1.3
160.	*	0.1	0.1	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.5	0.9	0.9	1.4	1.3
170.	*	0.1	0.1	0.6	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.8	0.9	1.3	1.3
180.	*	0.1	0.1	0.7	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.8	1.0	1.3	1.5
190.	*	0.1	0.1	0.8	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.6	0.9	1.0	1.6
200.	*	0.1	0.0	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.6	0.9	1.0	1.6
210.	*	0.0	0.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.9	1.5
220.	*	0.1	0.2	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.8	0.9	1.5
230.	*	0.4	0.4	0.7	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.6	0.8	0.8	1.0
240.	*	0.5	0.8	1.0	0.2	0.0	0.0	0.1	0.4	0.4	0.3	0.2	0.4	0.6	0.5	0.7

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 250.  *   0.9   1.1   1.3   0.3   0.0   0.2   0.2   0.6   0.4   0.2   0.2   0.3
0.3   0.1   0.2
 260.  *   0.9   1.0   1.3   0.4   0.1   0.2   0.3   0.7   0.5   0.2   0.0   0.0
0.1   0.0   0.0
 270.  *   1.0   1.0   1.2   0.7   0.1   0.1   0.2   0.8   0.4   0.0   0.0   0.0
0.0   0.0   0.0
 280.  *   0.8   1.0   0.9   0.9   0.4   0.1   0.4   0.9   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 290.  *   0.6   0.9   0.7   0.9   0.6   0.2   0.4   1.0   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 300.  *   0.4   0.9   0.7   0.6   0.5   0.3   0.4   0.9   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 310.  *   0.3   1.0   0.7   0.5   0.4   0.5   0.5   0.9   0.7   0.1   0.0   0.0
0.0   0.0   0.0
 320.  *   0.1   1.0   0.7   0.4   0.3   0.5   0.7   0.7   0.7   0.2   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.9   0.8   0.6   0.3   0.5   0.6   0.8   0.8   0.3   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.9   0.9   0.5   0.3   0.5   0.8   0.7   0.8   0.4   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.7   0.9   0.5   0.1   0.4   0.9   0.7   0.9   0.5   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.6   0.9   0.4   0.1   0.4   1.0   0.8   0.9   0.5   0.0   0.0
0.0   0.0   0.0

------*--------------------------------------------------------------------------
-------------
 MAX   *   1.0   1.1   1.3   0.9   0.6   0.5   1.0   1.1   1.1   1.2   1.4   1.2
1.3   1.5   1.6
 DEGR. *  270   250   250   280   290   310     0    50    20    40    90   110
80    90   200

 THE HIGHEST CONCENTRATION OF    1.60 PPM OCCURRED AT RECEPTOR REC15.
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♀                      CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                       PAGE  1

      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:30

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1476.0    -237.1 *    1237.
330. AG    227. 100.0   1.0 20.0 1.18  62.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -908.0   -1485.0 *      75.
217. AG    383. 100.0   1.0 30.0 0.45   3.8
       3. Brook/River NB LTR  *   -792.2   -1400.7    -732.2   -1586.0 *     195.
162. AG    227. 100.0   1.0 20.0 0.85   9.9
       4. Brook/River WB LTTR *   -798.5   -1299.5    -716.9   -1200.0 *     129.
39. AG    297. 100.0   1.0 30.0 0.56   6.5
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1824.  11.1   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1601.  11.1   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2318.  11.1   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1131.  11.1   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:30

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. Brook/River SB LTR  *     120       79       3.0      1135       1600
64.21      1        3
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       2. Brook/River EB LTR  *     120       89       3.0       464       1600
64.21     1        3
       3. Brook/River NB LTR  *     120       79       3.0       813       1600
64.21     1        3
       4. Brook/River WB LTTR *     120       69       3.0      1025       1600
64.21     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *         COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z      *
     -------------------------*-----------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8       6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1       6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3       6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9       6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5       6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1       6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5       6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9       6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0       6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2       6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1       6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9       6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8       6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2       6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5       6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4       6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0       6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7       6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4       6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2       6.0   *
♀
                              PAGE  3
      JOB: Winsor School                                          RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *     (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.8   0.9   0.5   0.4   1.5   1.5
1.3   1.8   1.0   0.3   0.6   1.2   1.2   1.2
  10.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.7   1.0   0.5   0.3   1.5   1.4
1.5   1.5   1.1   0.4   0.6   1.0   1.1   1.1
  20.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1   1.4   1.4
1.4   1.4   1.4   0.4   0.5   0.9   1.1   1.1
  30.  *   0.0   0.0   0.2   0.1   0.1   0.3   0.4   0.6   0.1   0.0   1.2   1.3
1.6   1.3   1.3   0.6   0.6   1.0   1.0   1.0
  40.  *   0.0   0.0   0.6   0.3   0.1   0.2   0.2   0.3   0.0   0.0   1.0   1.1
```

```
1.3   0.9   0.8   0.8   1.0   1.2   1.0   1.0
  50.  *   0.0   0.0   1.1   0.6   0.3   0.1   0.1   0.1   0.0   0.0   0.9   1.0
1.0   0.7   0.6   0.9   1.2   1.4   1.2   1.0
  60.  *   0.0   0.1   1.4   0.9   0.3   0.0   0.0   0.0   0.0   0.0   0.8   0.9
0.9   0.6   0.5   1.2   0.9   1.3   1.3   1.0
  70.  *   0.0   0.3   1.5   1.1   0.4   0.0   0.0   0.0   0.0   0.0   0.7   1.0
1.0   0.6   0.5   1.3   0.8   1.2   1.5   1.1
  80.  *   0.1   0.4   1.3   1.2   0.4   0.0   0.0   0.0   0.0   0.0   0.4   1.0
1.1   0.6   0.3   1.3   1.0   1.1   1.6   1.2
  90.  *   0.1   0.6   1.3   1.3   0.5   0.0   0.0   0.0   0.0   0.0   0.2   0.9
0.9   0.6   0.3   1.3   0.9   1.2   1.4   1.4
 100.  *   0.3   0.6   1.2   1.2   0.4   0.0   0.0   0.0   0.0   0.0   0.1   0.9
1.1   0.6   0.2   0.9   1.1   1.1   1.4   1.5
 110.  *   0.4   0.6   1.0   1.1   0.4   0.0   0.0   0.0   0.0   0.0   0.0   1.0
1.1   0.5   0.0   0.8   1.3   1.1   1.3   1.5
 120.  *   0.4   0.6   0.8   1.1   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.9
1.2   0.3   0.0   0.6   1.4   1.3   1.3   1.6
 130.  *   0.4   0.6   0.7   1.3   0.5   0.0   0.0   0.0   0.0   0.0   0.0   0.8
1.2   0.1   0.0   0.3   1.3   1.5   1.3   1.4
 140.  *   0.6   0.7   0.7   1.1   0.5   0.0   0.0   0.0   0.0   0.0   0.0   0.6
1.1   0.0   0.0   0.3   1.2   1.3   1.2   1.2
 150.  *   1.0   0.8   1.0   1.2   0.7   0.0   0.0   0.2   0.1   0.0   0.0   0.4
0.8   0.0   0.0   0.3   0.9   1.0   0.9   0.9
 160.  *   1.2   1.1   1.3   1.5   0.9   0.0   0.0   0.5   0.4   0.2   0.0   0.2
0.5   0.0   0.0   0.3   0.7   0.9   0.8   0.5
 170.  *   1.6   1.5   1.6   1.6   1.3   0.0   0.2   1.0   0.7   0.4   0.0   0.1
0.2   0.0   0.0   0.4   0.7   0.9   0.5   0.2
 180.  *   1.4   1.3   1.6   1.8   1.5   0.2   0.3   1.3   1.1   0.6   0.0   0.0
0.1   0.0   0.0   0.4   0.5   0.9   0.4   0.2
 190.  *   1.2   1.3   1.5   1.8   1.7   0.2   0.5   1.4   1.3   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.4   0.8   0.3   0.1
 200.  *   1.1   1.2   1.4   1.6   1.8   0.4   0.6   1.3   1.4   1.0   0.0   0.0
0.0   0.0   0.0   0.3   0.4   0.6   0.1   0.0
 210.  *   0.9   1.0   1.2   1.2   1.3   0.6   0.9   1.3   1.4   1.2   0.0   0.0
0.1   0.1   0.0   0.2   0.3   0.4   0.0   0.0
 220.  *   0.9   0.9   1.0   0.9   1.0   0.8   1.0   1.3   1.2   1.1   0.0   0.0
0.3   0.2   0.1   0.1   0.1   0.2   0.0   0.0
 230.  *   0.9   0.9   0.8   0.6   0.5   1.0   1.2   1.5   1.3   1.1   0.0   0.0
0.7   0.3   0.2   0.0   0.1   0.1   0.0   0.0
 240.  *   0.9   0.9   0.7   0.5   0.3   1.1   1.0   1.5   1.4   1.2   0.0   0.1
0.9   0.4   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.9   0.9   0.8   0.5   0.4   1.1   0.9   1.5   1.6   1.3   0.0   0.2
1.1   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.9   0.9   0.9   0.5   0.4   1.2   1.1   1.3   1.7   1.3   0.1   0.2
1.3   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.9   0.9   0.9   0.5   0.4   1.3   1.1   1.2   1.6   1.3   0.1   0.2
1.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0
 280.  *   0.9   1.0   1.0   0.5   0.3   1.4   1.2   1.3   1.6   1.6   0.1   0.3
1.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0
 290.  *   0.9   1.0   1.0   0.6   0.3   1.3   1.3   1.2   1.6   1.6   0.1   0.4
1.1   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   1.0   1.1   1.2   0.5   0.2   1.1   1.4   1.4   1.7   1.7   0.2   0.5
0.9   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.9   1.1   1.2   0.4   0.2   1.1   1.5   1.7   1.8   1.8   0.2   0.6
0.8   0.7   0.3   0.0   0.0   0.0   0.0   0.0
 320.  *   0.8   1.0   1.1   0.2   0.1   0.7   1.2   1.5   1.7   2.0   0.4   0.8
0.9   0.9   0.3   0.0   0.0   0.3   0.3   0.3
 330.  *   0.5   0.7   0.7   0.1   0.1   0.6   1.0   1.3   1.6   1.8   0.7   1.0
1.0   1.3   0.4   0.1   0.2   0.8   0.8   0.6
 340.  *   0.1   0.2   0.3   0.0   0.0   0.6   1.0   1.0   1.1   1.4   1.1   1.3
1.3   1.5   0.5   0.2   0.4   1.2   1.1   0.9
 350.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.9   0.9   0.7   0.7   1.5   1.3
1.5   1.8   0.8   0.3   0.5   1.3   1.3   1.2
```

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 360.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.8   0.9   0.5   0.4   1.5   1.5
1.3   1.8   1.0   0.3   0.6   1.2   1.2   1.2

------*-----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.6   1.5   1.6   1.8   1.8   1.4   1.5   1.7   1.8   2.0   1.5   1.5
1.6   1.8   1.4   1.3   1.4   1.5   1.6   1.6
 DEGR. *  170   170   170   190   200   280   310   310   310   320   350     0
30   350    20    70   120   130    80   120

 THE HIGHEST CONCENTRATION OF    2.00 PPM OCCURRED AT RECEPTOR REC10.
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♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                           PAGE  1

      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/10/11
      TIME :  9:27:23

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24417.7   43904.5 *      67.
37. AG    322. 100.0   1.0 30.0 0.43   3.4
       2. Boylston WB Q2      *  24434.8   43765.0   24516.6   43794.3 *      87.
70. AG    482. 100.0   1.0 40.0 0.64   4.4
       3. Park Dr NB Q3       *  24314.0   43650.6   24363.3   43581.4 *      85.
145. AG    467. 100.0   1.0 40.0 0.60   4.3
       4. Brookline EB Q4     *  24250.4   43637.9   24183.1   43552.1 *     109.
218. AG    429. 100.0   1.0 40.0 0.69   5.5
       5. Brookline Q27       *  24079.2   43421.1   22555.9   41316.3 *    2598.
216. AG    253. 100.0   1.0 20.0 1.68 132.0
       6. Fenway Q28          *  24063.7   43526.1   22579.1   45291.0 *    2306.
320. AG    180. 100.0   1.0 20.0 1.29 117.2
       7. Brookline Q29       *  24121.4   43515.8   25025.6   44645.0 *    1447.
39. AG    253. 100.0   1.0 20.0 1.35  73.5
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2336.  11.1   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1102.  11.1   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1121.  11.1   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1022.  11.1   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2159.  11.1   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2165.  11.1   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    795.  11.1   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1740.  11.1   1.0 42.0
      16. roadway L36         *  24101.9   43474.9   24345.1   43435.8 *     246.
99. AG    235.  11.1   1.0 38.0
♀
                             PAGE  2
      JOB: Winsor School                                          RUN: 2010EX
```

DATE : 1/10/11
TIME : 9:27:23

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Brookline SB Q1	*	90	56	3.0	657	1600	64.21	1	3
2. Boylston WB Q2	*	90	63	3.0	1008	1600	64.21	1	3
3. Park Dr NB Q3	*	90	61	3.0	1022	1600	64.21	1	3
4. Brookline EB Q4	*	90	56	3.0	1426	1600	64.21	1	3
5. Brookline Q27	*	90	66	3.0	1130	1600	64.21	1	3
6. Fenway Q28	*	90	47	3.0	1740	1600	64.21	1	3
7. Brookline Q29	*	90	66	3.0	910	1600	64.21	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. R7	*	24234.6	43539.7	6.0	*
2. R8	*	24198.5	43493.8	6.0	*
3. R9	*	24247.7	43485.1	6.0	*
4. R10	*	24131.9	43603.0	6.0	*
5. R11	*	24100.2	43558.2	6.0	*
6. R12	*	24075.1	43588.8	6.0	*
7. R13	*	23988.8	43538.6	6.0	*
8. R14	*	24019.4	43509.1	6.0	*
9. R15	*	23968.0	43510.2	6.0	*
10. R16	*	23940.7	43418.5	6.0	*
11. R17	*	23992.1	43417.4	6.0	*
12. R18	*	23951.7	43364.0	6.0	*
13. R19	*	24080.6	43343.2	6.0	*
14. R20	*	24111.2	43390.1	6.0	*
15. R21	*	24138.5	43348.7	6.0	*
16. R22	*	24229.1	43394.5	6.0	*
17. R23	*	24198.5	43426.2	6.0	*
18. R24	*	24258.6	43409.8	6.0	*
19. R41	*	24433.6	43813.3	6.0	*
20. R42	*	24498.2	43841.4	6.0	*
21. R43	*	24569.1	43866.7	6.0	*
22. R44	*	24472.8	43859.6	6.0	*
23. R45	*	24517.8	43916.6	6.0	*
24. R46	*	24182.0	43865.3	6.0	*
25. R47	*	24230.1	43812.3	6.0	*
26. R48	*	24268.4	43766.0	6.0	*
27. R49	*	24307.2	43819.4	6.0	*
28. R50	*	24356.7	43884.0	6.0	*
29. R51	*	24367.5	43656.1	6.0	*

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     30. R52                  *     24433.5    43678.3         6.0   *
     31. R53                  *     24498.6    43702.8         6.0   *
     32. R54                  *     24409.4    43607.5         6.0   *
     33. R55                  *     24444.6    43559.0         6.0   *
     34. R56                  *     24282.4    43606.2         6.0   *
     35. R57                  *     24328.7    43546.5         6.0   *
     36. R58                  *     24243.6    43550.9         6.0   *
     37. R59                  *     24204.3    43692.2         6.0   *
     38. R60                  *     24150.3    43751.0         6.0   *
♀
                                PAGE  3
      JOB: Winsor School                                    RUN: 2010EX


      DATE :  1/10/11
      TIME :  9:27:23


       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
         RECEPTOR             *      X          Y          Z         *
     -------------------------*-------------------------------------*
     39. R61                  *     24161.0    43638.3         6.0   *
♀
                                PAGE  4
      JOB: Winsor School                                    RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *   2.1   1.9   1.5   0.2   0.1   0.1   1.0   1.1   0.7   0.3   0.5   0.2
1.5   1.4   1.2   1.0   1.3   1.2   1.1   0.5
  10.  *   2.0   2.2   1.4   0.1   0.1   0.1   0.9   0.9   0.6   0.5   0.5   0.4
1.5   1.7   1.2   1.1   1.5   1.1   1.0   0.6
  20.  *   1.9   2.1   1.2   0.1   0.1   0.1   0.9   0.9   0.6   0.4   0.5   0.4
1.9   1.9   1.4   1.1   1.3   1.0   0.9   0.6
  30.  *   1.7   1.8   1.3   0.4   0.5   0.2   0.9   1.0   0.7   0.5   0.8   0.8
1.5   1.9   1.4   0.9   1.3   1.0   0.8   0.4
  40.  *   1.4   1.3   1.0   1.2   1.2   0.6   1.1   1.5   0.9   1.1   1.5   1.3
1.2   1.6   1.2   0.6   1.1   0.7   0.5   0.2
  50.  *   1.3   0.9   0.7   1.7   2.0   1.0   1.4   1.9   1.3   1.3   2.0   1.7
0.7   1.0   0.6   0.3   0.6   0.4   0.2   0.0
  60.  *   1.0   0.6   0.4   2.2   2.4   1.4   1.8   2.5   1.6   1.4   1.8   1.8
0.3   0.6   0.4   0.2   0.4   0.3   0.2   0.1
  70.  *   0.7   0.3   0.2   2.5   2.6   1.9   2.2   2.2   1.7   1.1   1.6   1.3
0.2   0.4   0.3   0.1   0.2   0.2   0.4   0.3
  80.  *   0.4   0.1   0.1   2.3   2.2   1.7   1.9   1.8   1.4   0.9   1.2   1.1
```

```
0.2   0.3   0.3   0.1   0.2   0.1   0.8   0.6
  90.  *   0.3   0.1   0.1   2.2   1.7   1.6   1.6   1.2   1.1   0.8   1.1   1.1
0.2   0.3   0.3   0.1   0.2   0.1   1.1   0.7
 100.  *   0.2   0.1   0.1   2.1   1.5   1.3   1.3   1.2   0.9   0.8   1.1   1.0
0.2   0.3   0.3   0.1   0.1   0.1   1.3   0.7
 110.  *   0.2   0.2   0.1   1.8   1.3   1.0   1.3   1.1   0.8   0.7   0.9   0.8
0.1   0.3   0.2   0.1   0.1   0.1   1.5   0.6
 120.  *   0.2   0.2   0.2   1.7   1.2   0.9   0.9   0.9   0.7   0.7   1.0   0.9
0.0   0.2   0.1   0.1   0.1   0.1   1.7   0.6
 130.  *   0.1   0.2   0.2   1.5   1.0   0.7   0.7   0.9   0.5   0.7   0.9   0.9
0.0   0.1   0.1   0.0   0.0   0.0   1.6   0.5
 140.  *   0.1   0.1   0.1   1.2   1.0   0.7   0.7   0.7   0.5   0.7   0.8   0.9
0.0   0.1   0.0   0.0   0.0   0.0   1.6   0.6
 150.  *   0.0   0.1   0.1   1.1   0.9   0.8   0.5   0.7   0.5   0.7   1.0   0.9
0.0   0.0   0.0   0.0   0.1   0.0   1.5   0.8
 160.  *   0.0   0.2   0.1   1.1   1.1   0.8   0.5   0.6   0.5   0.7   1.0   1.0
0.0   0.0   0.0   0.1   0.1   0.0   1.5   1.0
 170.  *   0.0   0.2   0.1   1.2   1.1   1.0   0.5   0.8   0.5   0.7   1.0   1.0
0.0   0.0   0.0   0.1   0.2   0.0   1.4   1.3
 180.  *   0.1   0.2   0.2   1.4   1.2   1.2   0.6   0.8   0.6   0.7   1.1   1.1
0.0   0.0   0.0   0.2   0.2   0.0   1.1   1.5
 190.  *   0.1   0.2   0.2   1.4   1.6   1.3   0.6   0.9   0.6   0.7   1.2   1.2
0.0   0.0   0.0   0.2   0.2   0.1   1.0   1.6
 200.  *   0.2   0.3   0.2   1.3   1.5   1.4   0.5   0.8   0.5   0.7   1.2   1.1
0.1   0.1   0.0   0.2   0.2   0.1   1.0   1.8
 210.  *   0.4   0.6   0.4   1.1   1.4   1.3   0.4   0.5   0.4   0.4   1.0   0.9
0.4   0.4   0.2   0.3   0.4   0.2   1.6   2.0
 220.  *   0.9   1.1   0.6   1.0   1.1   1.0   0.1   0.3   0.1   0.2   0.5   0.5
0.8   0.9   0.5   0.4   0.6   0.3   2.0   2.4
 230.  *   1.2   1.3   0.9   0.6   0.8   0.7   0.0   0.0   0.0   0.0   0.2   0.2
1.2   1.3   0.6   0.6   0.9   0.5   2.3   2.1
 240.  *   1.2   1.4   1.0   0.5   0.6   0.7   0.0   0.0   0.0   0.0   0.0   0.0
1.2   1.3   0.7   0.7   1.0   0.6   1.8   1.6
 250.  *   1.1   1.3   0.8   0.5   0.7   0.7   0.0   0.0   0.0   0.0   0.0   0.0
1.1   1.3   0.8   0.8   0.9   0.6   1.5   1.1
 260.  *   1.3   1.2   1.0   0.5   0.7   0.7   0.0   0.0   0.0   0.0   0.0   0.0
1.1   1.1   0.7   0.7   0.8   0.6   1.0   0.9
 270.  *   1.4   1.1   0.8   0.5   0.7   0.7   0.0   0.0   0.0   0.0   0.0   0.0
1.1   1.1   0.7   0.7   0.8   0.5   0.9   0.9
 280.  *   1.7   1.2   0.9   0.4   0.9   0.8   0.0   0.0   0.0   0.0   0.0   0.0
0.9   1.1   0.7   0.6   0.8   0.6   0.9   1.0
 290.  *   1.9   1.3   1.0   0.4   0.8   0.8   0.0   0.0   0.0   0.0   0.0   0.0
0.9   0.9   0.7   0.7   1.0   0.8   1.0   1.0
 300.  *   2.0   1.5   1.1   0.4   0.8   0.7   0.0   0.0   0.0   0.0   0.0   0.0
0.9   0.9   0.7   0.8   1.2   1.0   1.1   0.9
 310.  *   2.0   1.3   1.1   0.3   0.6   0.6   0.1   0.3   0.1   0.0   0.0   0.0
1.0   1.1   0.8   1.2   1.4   1.0   1.1   0.7
 320.  *   1.9   1.3   1.2   0.2   0.4   0.4   0.4   0.6   0.2   0.1   0.1   0.1
1.1   1.2   1.0   1.0   1.1   1.0   1.1   0.6
 330.  *   1.9   1.3   1.2   0.2   0.1   0.1   0.6   0.8   0.3   0.2   0.2   0.2
1.3   1.4   1.2   0.8   0.9   1.0   1.2   0.5
 340.  *   2.1   1.3   1.3   0.1   0.1   0.1   0.7   1.0   0.4   0.2   0.3   0.2
1.4   1.4   1.1   0.8   0.9   1.0   1.1   0.5
 350.  *   2.1   1.8   1.3   0.1   0.1   0.1   0.9   1.0   0.5   0.3   0.4   0.3
1.6   1.4   1.2   0.9   1.3   1.0   1.0   0.5
 360.  *   2.1   1.9   1.5   0.2   0.1   0.1   1.0   1.1   0.7   0.3   0.5   0.2
1.5   1.4   1.2   1.0   1.3   1.2   1.1   0.5

------*--------------------------------------------------------------------------------
------------------------------------------
 MAX   *   2.1   2.2   1.5   2.5   2.6   1.9   2.2   2.5   1.7   1.4   2.0   1.8
1.9   1.9   1.4   1.2   1.5   1.2   2.3   2.4
 DEGR. *    0    10     0    70    70    70    70    60    70    60    50    60
```

20 30 20 310 10 0 230 220

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	0.5	0.8	0.7	0.0	0.0	0.0	0.0	0.0	1.1	1.4	1.4	1.0	0.9	1.6	2.0	2.0	0.4	0.4	0.2
10.	0.4	0.9	0.9	0.0	0.0	0.0	0.0	0.0	1.4	1.6	1.3	1.2	0.8	1.9	2.1	1.9	0.3	0.3	0.2
20.	0.4	0.9	0.8	0.0	0.0	0.0	0.0	0.0	1.5	1.6	1.1	1.0	0.8	2.1	2.2	2.0	0.3	0.3	0.2
30.	0.2	0.8	0.7	0.0	0.1	0.4	0.4	0.3	1.5	1.5	0.9	1.0	0.5	2.2	2.0	1.8	0.6	0.3	0.5
40.	0.1	0.4	0.4	0.1	0.3	0.9	0.9	0.6	1.5	1.3	0.9	0.6	0.3	2.2	1.5	1.7	1.2	0.6	1.2
50.	0.0	0.1	0.1	0.3	0.6	1.3	1.3	1.1	1.2	1.1	0.8	0.4	0.3	2.2	1.1	1.5	1.6	0.8	1.9
60.	0.1	0.0	0.0	0.3	0.7	1.3	1.3	1.3	1.1	0.8	0.8	0.3	0.1	1.9	0.7	1.2	2.1	1.0	2.0
70.	0.3	0.2	0.1	0.4	0.8	1.5	1.5	1.6	0.7	0.6	0.5	0.1	0.0	1.8	0.5	0.8	2.5	1.2	2.4
80.	0.6	0.4	0.2	0.5	1.0	1.7	1.3	1.6	0.3	0.2	0.2	0.0	0.0	1.4	0.3	0.4	2.4	1.3	2.3
90.	0.7	0.5	0.3	0.7	1.2	1.8	1.5	1.8	0.1	0.1	0.1	0.0	0.0	1.2	0.3	0.3	2.4	1.4	2.2
100.	0.7	0.5	0.4	0.8	1.1	1.6	1.5	1.9	0.1	0.0	0.0	0.0	0.0	1.1	0.3	0.2	2.1	1.3	2.3
110.	0.6	0.5	0.4	0.7	1.0	1.5	1.4	1.9	0.0	0.0	0.0	0.0	0.0	0.9	0.4	0.2	2.1	1.3	2.1
120.	0.6	0.5	0.4	0.7	1.0	1.3	1.3	2.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.2	2.1	1.5	2.0
130.	0.5	0.5	0.4	0.7	1.0	1.5	1.2	2.0	0.1	0.0	0.0	0.1	0.1	0.5	0.4	0.1	1.9	1.3	1.8
140.	0.5	0.7	0.3	1.0	1.4	1.8	1.2	1.8	0.2	0.0	0.0	0.2	0.2	0.3	0.3	0.1	1.8	1.1	1.8
150.	0.5	0.9	0.3	1.3	1.5	2.3	1.5	1.6	0.4	0.1	0.0	0.3	0.3	0.1	0.1	0.0	1.6	0.9	1.6
160.	0.5	1.1	0.3	1.1	1.5	2.1	1.6	1.5	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.7	0.8	1.6
170.	0.5	1.2	0.5	1.0	1.5	2.1	1.8	1.4	0.7	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.9	0.8	1.5
180.	0.6	1.2	0.7	1.1	1.3	2.1	1.8	1.4	1.0	0.2	0.1	0.3	0.3	0.0	0.0	0.1	1.9	0.8	1.5
190.	0.7	1.3	0.9	1.0	1.4	2.1	1.8	1.7	1.1	0.2	0.1	0.3							

CONCENTRATION (PPM)

```
0.3   0.0   0.0   0.1   2.0   0.7   1.6
 200.  *   0.9   1.2   1.0   1.1   1.4   2.4   2.0   2.0   1.3   0.3   0.1   0.3
0.3   0.2   0.0   0.2   1.7   0.7   1.4
 210.  *   1.3   1.7   1.4   0.8   1.0   2.1   1.9   1.6   1.5   0.5   0.2   0.4
0.4   0.5   0.2   0.5   1.5   0.8   1.3
 220.  *   1.9   1.7   1.8   0.6   0.8   1.4   1.2   1.1   1.9   0.9   0.5   0.7
0.5   1.0   0.5   1.0   0.9   0.5   0.9
 230.  *   2.1   1.9   1.6   0.5   0.5   0.9   0.8   0.6   2.3   1.4   0.9   1.1
0.6   1.6   0.6   1.2   0.5   0.2   0.5
 240.  *   1.6   1.6   1.6   0.4   0.5   0.5   0.4   0.3   2.7   1.7   1.3   1.3
0.7   2.0   0.7   1.3   0.3   0.2   0.3
 250.  *   1.3   1.3   1.3   0.4   0.4   0.5   0.3   0.2   2.7   1.9   1.5   1.8
0.7   2.2   0.6   1.3   0.2   0.2   0.4
 260.  *   0.9   1.1   1.1   0.4   0.4   0.4   0.3   0.2   2.4   1.8   1.5   2.1
1.0   2.3   0.7   1.6   0.2   0.1   0.4
 270.  *   0.8   1.2   1.1   0.4   0.4   0.5   0.3   0.2   2.1   1.6   1.5   2.2
1.2   2.2   0.9   1.7   0.2   0.1   0.4
 280.  *   0.8   1.3   1.0   0.5   0.5   0.5   0.3   0.2   2.1   1.3   1.3   2.2
1.5   2.2   1.1   2.0   0.1   0.1   0.3
 290.  *   0.6   1.3   0.8   0.5   0.5   0.5   0.3   0.2   1.9   1.3   1.3   2.0
1.6   1.9   1.2   2.0   0.1   0.2   0.2
 300.  *   0.5   1.2   0.8   0.5   0.5   0.5   0.2   0.1   1.8   1.3   1.3   1.8
1.7   1.9   1.2   2.1   0.2   0.2   0.2
 310.  *   0.4   0.9   0.7   0.3   0.4   0.4   0.2   0.1   1.8   1.2   1.4   1.4
1.6   1.7   1.1   2.0   0.2   0.2   0.2
 320.  *   0.4   0.8   0.7   0.1   0.1   0.2   0.0   0.0   1.4   0.9   1.4   1.0
1.1   1.6   1.2   2.0   0.4   0.3   0.1
 330.  *   0.4   0.7   0.7   0.0   0.0   0.1   0.0   0.0   1.2   1.1   1.6   0.8
0.9   1.5   1.1   1.9   0.4   0.4   0.1
 340.  *   0.4   0.7   0.7   0.0   0.0   0.0   0.0   0.0   1.1   1.2   1.7   0.7
0.6   1.7   1.4   2.0   0.4   0.4   0.2
 350.  *   0.5   0.7   0.7   0.0   0.0   0.0   0.0   0.0   1.2   1.3   1.6   0.9
0.8   1.6   1.7   2.1   0.4   0.4   0.2
 360.  *   0.5   0.8   0.7   0.0   0.0   0.0   0.0   0.0   1.1   1.4   1.4   1.0
0.9   1.6   2.0   2.0   0.4   0.4   0.2

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *   2.1   1.9   1.8   1.3   1.5   2.4   2.0   2.0   2.7   1.9   1.7   2.2
1.7   2.3   2.2   2.1   2.5   1.5   2.4
 DEGR. *  230   230   220   150   160   200   200   120   250   250   340   270
300   260    20   300    70   120    70

 THE HIGHEST CONCENTRATION OF    2.70 PPM OCCURRED AT RECEPTOR REC29.
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Particulate Matter 10 (PM_{10})

```
♀                                  CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                  PAGE  1

      JOB: Winsor School                                                RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:48

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
---------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *       66.
202. AG      0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *       93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *       62.
120. AG      0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *      193.
34. AG      0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *      101.
280. AG      0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *       66.
280. AG      0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *       97.
218. AG      0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *       28.
128. AG      0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *     4951.
38. AG      0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *       31.
308. AG      0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *       21.
220. AG      0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *      786.
219. AG      0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *      230.
38. AG      0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *       74.
222. AG      0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *       83.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *       57.
37. AG      0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *       65.
305. AG      0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *       85.
245. AG      0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *       42.
```

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120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      1. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                   RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:48

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:48

       1. River/Long EB L     *       90        64        3.0       189        1600
 0.10      1        3
       2. River/Long EB TR    *       90        54        3.0       631        1600
 0.10      1        3
       3. River/Long NB LT    *       90        62        3.0       364        1600
 0.10      1        3
       4. River/Long WB LTR   *       90        54        3.0      1507        1600
 0.10      1        3
       5. River/Long SB LT    *       90        62        3.0       291        1600
 0.10      1        3
       6. River/Long SB R     *       90        64        3.0       190        1600
 0.10      1        3
       7. Brook/Deacon EB TR  *      120        65        3.0       548        1600
 0.10      1        3
       8. Brook/Deacon NB LR  *      120        90        3.0       113        1600
 0.10      1        3
       9. Brook/Deacon WB LT  *      120       110        3.0      1015        1600
 0.10      1        3
      10. Brook/Deacon SB LR  *      120        90        3.0       124        1600
 0.10      1        3
      11. Brook/Joslin EB L   *      120        70        3.0        55        1600
 0.10      1        3
      12. Brook/Joslin EB T   *      120        70        3.0       641        1600
 0.10      1        3
      13. Brook/Joslin WB TTR *      120        70        3.0      1054        1600
 0.10      1        3
      14. Binney/Long EB LTR  *      120        90        3.0       151        1600
 0.10      1        3
      15. Binney/Long NB LTR  *      120        49        3.0       618        1600
 0.10      1        3
      16. Binney/Long WB LTR  *      120        90        3.0       233        1600
 0.10      1        3
      17. Binney/Long SB LTR  *      120        49        3.0       488        1600
 0.10      1        3
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      18. River/Short EB TR   *      93        43        3.0        727        1600
0.10      1        3
      19. River/Short NB LR   *      93        73        3.0        212        1600
0.10      1        3
      20. River/Short WB LTR  *      93        43        3.0       1355        1600
0.10      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        703        1600
0.10      1        3
      22. Brook/Long NB LT    *     120        78        3.0        461        1600
0.10      1        3
      23. Brook/Long NB R     *     120        66        3.0        262        1600
0.10      1        3
      24. Brook/Long WB TTR   *     120        66        3.0        791        1600
0.10      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        279        1600
0.10      1        3
      26. Beth/Brook EB TTR   *     120        61        3.0        838        1600
0.10      1        3
      27. Beth/Brook NB LR    *     120        96        3.0        161        1600
0.10      1        3
      28. Beth/Brook WB LT    *     120       104        3.0        799        1600
0.10      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)           *
         RECEPTOR             *      X          Y           Z       *
     -------------------------*-------------------------------------*
      1. River/Long NE1       *      -978.8      215.4        6.0   *
      2. River/Long NE2       *      -904.3      201.6        6.0   *
      3. River/Long NE3       *      -831.3      188.0        6.0   *
      4. River/Long NE4       *      -788.0      251.3        6.0   *
      5. River/Long NE5       *      -746.6      311.8        6.0   *
      6. River/Long SE1       *      -639.8      294.3        6.0   *
      7. River/Long SE2       *      -682.2      232.4        6.0   *
      8. River/Long SE3       *      -724.5      170.5        6.0   *
      9. River/Long SE4       *      -662.6      128.1        6.0   *
     10. River/Long SE5       *      -600.7       85.8        6.0   *
     11. River/Long SW1       *      -638.2       21.8        6.0   *
     12. River/Long SW2       *      -700.1       64.1        6.0   *
     13. River/Long SW3       *      -762.0      106.5        6.0   *
     14. River/Long SW4       *      -790.3       37.0        6.0   *
     15. River/Long SW5       *      -818.6      -32.5        6.0   *
     16. River/Long NW1       *      -921.8      -26.0        6.0   *
     17. River/Long NW2       *      -893.5       43.5        6.0   *
     18. River/Long NW3       *      -865.2      112.9        6.0   *
     19. River/Long NW4       *      -938.9      126.7        6.0   *
     20. River/Long NW5       *     -1012.7      140.4        6.0   *
     21. Brook/Deacon NE1     *      -468.0     -576.8        6.0   *
     22. Brook/Deacon NE2     *      -408.9     -623.0        6.0   *
     23. Brook/Deacon NE3     *      -349.9     -669.2        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                    RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:48


       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)           *
```

RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.	0.	0.	0.	0.	1.	3.	4.	1.	0.	1.	3.	5.	5.	5.	1.	1.	2.	2.	1.
10.	*	0.	0.	0.	0.	0.	1.	3.	4.	1.	0.	1.	2.	5.	4.	5.	2.	2.	2.	2.	1.
20.	*	0.	0.	1.	0.	0.	1.	2.	3.	0.	0.	1.	2.	4.	4.	4.	3.	3.	3.	2.	1.
30.	*	0.	0.	2.	1.	1.	0.	1.	2.	0.	0.	1.	1.	3.	2.	2.	4.	4.	4.	2.	1.
40.	*	0.	0.	4.	3.	2.	0.	1.	1.	0.	1.	1.	1.	2.	2.	1.	5.	5.	6.	3.	2.
50.	*	0.	1.	5.	4.	3.	0.	1.	1.	1.	1.	1.	1.	2.	1.	1.	5.	6.	6.	4.	2.

```
  60.  *    1.    2.    6.    5.    4.    1.    1.    1.    1.    1.    1.    1.
2.    1.    1.    5.    5.    6.    5.    3.
  70.  *    2.    3.    5.    6.    5.    1.    1.    1.    1.    0.    1.    1.
2.    1.    1.    4.    5.    6.    5.    4.
  80.  *    2.    3.    4.    5.    5.    1.    1.    0.    0.    0.    1.    1.
2.    1.    1.    4.    4.    5.    4.    4.
  90.  *    2.    3.    4.    5.    4.    0.    1.    1.    0.    0.    1.    1.
2.    1.    0.    3.    4.    5.    4.    4.
 100.  *    3.    3.    4.    4.    4.    0.    0.    0.    0.    0.    1.    1.
2.    0.    0.    3.    4.    4.    3.    3.
 110.  *    4.    3.    4.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    3.    4.    4.    2.    2.
 120.  *    4.    4.    5.    4.    4.    0.    0.    1.    1.    1.    1.    1.
1.    1.    1.    3.    4.    4.    2.    2.
 130.  *    4.    4.    5.    5.    4.    0.    1.    2.    1.    1.    1.    1.
1.    0.    0.    3.    3.    4.    2.    2.
 140.  *    4.    4.    5.    5.    4.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    3.    3.    4.    2.    1.
 150.  *    3.    4.    5.    5.    5.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    4.    2.    1.
 160.  *    2.    4.    5.    5.    5.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    4.    1.    0.
 170.  *    2.    4.    5.    6.    5.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    4.    1.    0.
 180.  *    2.    3.    6.    6.    6.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    1.    3.    4.    0.    0.
 190.  *    1.    2.    5.    6.    6.    1.    1.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    0.    0.
 200.  *    1.    2.    4.    5.    6.    1.    2.    2.    1.    1.    0.    0.
2.    1.    1.    0.    1.    2.    0.    0.
 210.  *    1.    2.    3.    4.    4.    2.    3.    4.    1.    1.    0.    0.
3.    2.    1.    0.    0.    1.    0.    0.
 220.  *    1.    2.    2.    2.    2.    4.    4.    4.    2.    1.    0.    0.
4.    3.    2.    0.    0.    0.    0.    0.
 230.  *    1.    2.    2.    1.    1.    5.    4.    5.    2.    1.    0.    1.
4.    3.    2.    0.    0.    0.    0.    0.
 240.  *    1.    2.    2.    1.    1.    5.    4.    5.    3.    2.    0.    1.
4.    4.    2.    0.    0.    0.    0.    0.
 250.  *    1.    2.    2.    1.    0.    4.    5.    5.    4.    2.    1.    2.
4.    4.    3.    0.    0.    0.    0.    0.
 260.  *    1.    2.    2.    0.    0.    4.    4.    5.    4.    2.    1.    2.
4.    4.    3.    0.    0.    0.    0.    0.
 270.  *    0.    1.    2.    0.    0.    4.    4.    5.    4.    2.    1.    2.
4.    3.    3.    0.    0.    0.    0.    0.
 280.  *    0.    1.    1.    0.    0.    3.    3.    4.    4.    3.    2.    2.
4.    4.    3.    0.    0.    1.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    3.    4.    4.    3.    2.    3.
5.    4.    3.    0.    0.    2.    1.    0.
 300.  *    0.    0.    0.    0.    0.    3.    3.    3.    3.    2.    2.    3.
5.    4.    3.    0.    0.    2.    1.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    2.    3.
4.    4.    3.    0.    0.    2.    2.    0.
 320.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    3.    3.
4.    4.    3.    0.    1.    2.    2.    1.
 330.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    3.    3.
4.    5.    4.    0.    1.    2.    2.    1.
 340.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    2.    3.
4.    5.    5.    0.    1.    2.    2.    1.
 350.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    2.    3.
4.    4.    5.    1.    1.    2.    2.    1.
 360.  *    0.    0.    0.    0.    0.    1.    3.    4.    1.    0.    1.    3.
5.    5.    5.    1.    1.    2.    2.    1.
```

```
------*---------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    4.    6.    6.    6.    5.    5.    5.    4.    3.    3.    3.
5.    5.    5.    5.    6.    6.    5.    4.
 DEGR. *  120   150    60   190   190   240   250   250   270   280   320   350
10   330     0    40    50    50    60    80

♀
                                PAGE  6
      JOB: Winsor School                                        RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*---------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    2.    2.
4.    5.    4.    0.    0.    1.    0.    0.
  10.  *    0.    0.    0.    0.    0.    3.    4.    5.    2.    2.    2.    2.
5.    5.    4.    0.    1.    1.    0.    0.
  20.  *    0.    0.    1.    1.    1.    4.    5.    5.    3.    2.    2.    3.
5.    5.    5.    1.    1.    2.    0.    0.
  30.  *    0.    1.    3.    3.    4.    4.    5.    5.    2.    2.    2.    2.
6.    6.    6.    2.    3.    4.    1.    0.
  40.  *    1.    2.    5.    6.    6.    4.    4.    4.    2.    1.    1.    2.
4.    4.    4.    4.    5.    6.    2.    1.
  50.  *    2.    2.    6.    7.    7.    2.    2.    2.    0.    0.    0.    0.
3.    2.    2.    5.    5.    5.    3.    2.
  60.  *    2.    3.    6.    6.    6.    1.    1.    1.    0.    0.    0.    0.
1.    0.    0.    4.    4.    4.    3.    2.
  70.  *    2.    3.    5.    6.    6.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    4.    3.    3.    2.
  80.  *    2.    2.    4.    5.    5.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    4.    3.    3.    2.
  90.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
 100.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    2.    3.    3.    2.    2.
 110.  *    1.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    3.    3.    2.    1.
 120.  *    1.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    3.    3.    2.    1.
 130.  *    1.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    3.    3.    1.    1.
 140.  *    1.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    3.    3.    1.    1.
 150.  *    1.    2.    3.    4.    5.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    1.
 160.  *    1.    2.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    1.
```

```
 170.  *    1.    2.    3.    5.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 180.  *    0.    2.    3.    5.    6.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 190.  *    0.    1.    3.    5.    6.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    0.    0.
 200.  *    0.    0.    3.    5.    6.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    1.    3.    0.    0.
 210.  *    0.    0.    2.    4.    5.    1.    1.    2.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    0.    0.
 220.  *    0.    0.    1.    2.    4.    2.    2.    3.    0.    0.    0.    0.
2.    1.    0.    0.    0.    1.    0.    0.
 230.  *    0.    0.    1.    1.    2.    3.    3.    4.    0.    0.    0.    0.
3.    2.    1.    0.    0.    0.    0.    0.
 240.  *    0.    0.    1.    0.    0.    4.    3.    4.    1.    0.    0.    0.
4.    2.    1.    0.    0.    0.    0.    0.
 250.  *    0.    0.    1.    0.    0.    4.    3.    4.    1.    0.    0.    1.
4.    3.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    4.    3.    3.    2.    1.    0.    1.
4.    3.    1.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    4.    3.    3.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    4.    3.    3.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    3.    4.    3.    2.    2.    2.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    1.    0.    3.    4.    3.    2.    2.    2.    3.
3.    4.    2.    0.    0.    1.    1.    0.
 340.  *    1.    0.    1.    0.    0.    3.    4.    4.    2.    1.    2.    2.
3.    4.    3.    0.    0.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    1.    2.
4.    4.    3.    0.    0.    1.    0.    0.
 360.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    2.    2.
4.    5.    4.    0.    0.    1.    0.    0.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    3.    6.    7.    7.    4.    5.    5.    3.    2.    2.    3.
6.    6.    6.    5.    5.    6.    3.    2.
 DEGR. *   60    60    50    50    50    30    30    30    20    20    20    20
30    30    30    50    50    40    70    60

♀
                                PAGE  7
      JOB: Winsor School                                         RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	*	0.	0.	0.	0.	0.	3.	3.	4.	5.	4.
10.	*	0.	0.	0.	0.	1.	4.	4.	4.	5.	5.
20.	*	0.	0.	1.	1.	1.	5.	4.	5.	6.	5.
30.	*	0.	1.	3.	4.	4.	5.	4.	5.	6.	6.
40.	*	1.	2.	6.	6.	6.	4.	4.	4.	5.	4.
50.	*	2.	3.	7.	7.	8.	2.	2.	2.	3.	2.
60.	*	2.	3.	6.	6.	7.	1.	1.	1.	2.	1.
70.	*	2.	3.	6.	6.	7.	1.	0.	0.	2.	0.
80.	*	2.	2.	5.	5.	6.	0.	0.	0.	2.	0.
90.	*	2.	2.	5.	4.	6.	0.	0.	0.	2.	0.
100.	*	2.	2.	5.	4.	5.	0.	0.	0.	2.	0.
110.	*	1.	2.	4.	4.	4.	0.	0.	0.	2.	0.
120.	*	1.	2.	4.	4.	4.	0.	0.	0.	2.	0.
130.	*	1.	2.	4.	4.	3.	0.	0.	0.	2.	0.
140.	*	2.	2.	4.	4.	3.	0.	0.	0.	2.	0.
150.	*	1.	2.	4.	5.	3.	0.	0.	0.	2.	0.
160.	*	1.	2.	4.	5.	3.	0.	0.	0.	1.	0.
170.	*	1.	2.	5.	5.	4.	0.	0.	0.	1.	0.
180.	*	1.	2.	5.	6.	4.	0.	0.	0.	1.	0.
190.	*	0.	2.	5.	6.	5.	0.	0.	0.	1.	0.
200.	*	0.	1.	5.	6.	6.	0.	0.	1.	1.	0.
210.	*	0.	1.	4.	6.	5.	1.	1.	2.	2.	0.
220.	*	0.	0.	2.	4.	4.	2.	2.	3.	3.	2.
230.	*	0.	0.	1.	2.	1.	3.	3.	3.	4.	2.
240.	*	0.	0.	0.	0.	0.	3.	3.	4.	4.	3.
250.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
260.	*	0.	0.	0.	0.	0.	3.	4.	3.	4.	4.
270.	*	0.	0.	0.	0.	0.	3.	4.	3.	3.	4.
280.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
290.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
300.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
310.	*	0.	0.	0.	0.	0.	2.	4.	3.	3.	3.
320.	*	0.	0.	0.	0.	1.	2.	4.	4.	3.	4.
330.	*	1.	1.	1.	0.	0.	2.	4.	4.	4.	4.
340.	*	0.	0.	0.	0.	0.	2.	3.	3.	4.	4.
350.	*	0.	0.	0.	0.	0.	2.	3.	4.	4.	4.
360.	*	0.	0.	0.	0.	0.	3.	3.	4.	5.	4.
MAX	*	2.	3.	7.	7.	8.	5.	4.	5.	6.	6.
DEGR.	*	60	60	50	50	50	30	30	30	20	30

THE HIGHEST CONCENTRATION OF 8. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                                RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:49:14

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG      0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG      0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG      0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG      0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG      0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG      0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG      0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG      0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG      0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG      0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG      0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG      0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG      0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG      0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG      0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG      0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
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120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      1. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                           RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:49:14

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *          LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                             *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                           RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:49:14

       1. River/Long EB L     *      90        64        3.0       189        1600
 0.10     1        3
       2. River/Long EB TR    *      90        54        3.0       631        1600
 0.10     1        3
       3. River/Long NB LT    *      90        62        3.0       364        1600
 0.10     1        3
       4. River/Long WB LTR   *      90        54        3.0      1507        1600
 0.10     1        3
       5. River/Long SB LT    *      90        62        3.0       291        1600
 0.10     1        3
       6. River/Long SB R     *      90        64        3.0       190        1600
 0.10     1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       548        1600
 0.10     1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       113        1600
 0.10     1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1015        1600
 0.10     1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       124        1600
 0.10     1        3
      11. Brook/Joslin EB L   *     120        70        3.0        55        1600
 0.10     1        3
      12. Brook/Joslin EB T   *     120        70        3.0       641        1600
 0.10     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
 0.10     1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
 0.10     1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
 0.10     1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
 0.10     1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
 0.10     1        3
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      18. River/Short EB TR   *      93        43        3.0        727        1600
0.10       1        3
      19. River/Short NB LR   *      93        73        3.0        212        1600
0.10       1        3
      20. River/Short WB LTR  *      93        43        3.0       1355        1600
0.10       1        3
      21. Brook/Long EB LTR   *     120        78        3.0        703        1600
0.10       1        3
      22. Brook/Long NB LT    *     120        78        3.0        461        1600
0.10       1        3
      23. Brook/Long NB R     *     120        66        3.0        262        1600
0.10       1        3
      24. Brook/Long WB TTR   *     120        66        3.0        791        1600
0.10       1        3
      25. Brook/Long SB LTR   *     120        78        3.0        279        1600
0.10       1        3
      26. Beth/Brook EB TTR   *     120        61        3.0        838        1600
0.10       1        3
      27. Beth/Brook NB LR    *     120        96        3.0        161        1600
0.10       1        3
      28. Beth/Brook WB LT    *     120       104        3.0        799        1600
0.10       1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)          *
         RECEPTOR             *      X           Y          Z       *
     -------------------------*-------------------------------------*
      1. Brook/Long NE1       *       -189.0     -227.6        6.0   *
      2. Brook/Long NE2       *       -130.2     -274.2        6.0   *
      3. Brook/Long NE3       *        -71.4     -320.7        6.0   *
      4. Brook/Long NE4       *        -24.6     -262.1        6.0   *
      5. Brook/Long NE5       *         22.3     -203.5        6.0   *
      6. Brook/Long SE1       *        107.1     -254.3        6.0   *
      7. Brook/Long SE2       *         60.3     -312.9        6.0   *
      8. Brook/Long SE3       *         13.5     -371.5        6.0   *
      9. Brook/Long SE4       *         72.9     -417.2        6.0   *
     10. Brook/Long SE5       *        132.4     -463.0        6.0   *
     11. Brook/Long SW1       *         72.2     -540.4        6.0   *
     12. Brook/Long SW2       *         12.8     -494.6        6.0   *
     13. Brook/Long SW3       *        -46.6     -448.9        6.0   *
     14. Brook/Long SW4       *        -91.9     -508.7        6.0   *
     15. Brook/Long SW5       *       -137.1     -568.6        6.0   *
     16. Brook/Long NW1       *       -207.2     -498.8        6.0   *
     17. Brook/Long NW2       *       -162.0     -439.0        6.0   *
     18. Brook/Long NW3       *       -116.8     -379.1        6.0   *
     19. Brook/Long NW4       *       -175.6     -332.6        6.0   *
     20. Brook/Long NW5       *       -234.4     -286.1        6.0   *
     21. Binney/Long NE1      *        137.4     -466.5        6.0   *
     22. Binney/Long NE2      *        197.4     -511.4        6.0   *
     23. Binney/Long NE3      *        257.5     -556.3        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                            RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:49:14


       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)          *
```

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   RECEPTOR              *      X          Y          Z        *
-------------------------*-------------------------------------*
24. Binney/Long NE4      *       302.7     -496.6        6.0   *
25. Binney/Long NE5      *       348.0     -436.8        6.0   *
26. Binney/Long SE1      *       399.8     -491.0        6.0   *
27. Binney/Long SE2      *       354.5     -550.8        6.0   *
28. Binney/Long SE3      *       309.3     -610.6        6.0   *
29. Binney/Long SE4      *       369.6     -655.0        6.0   *
30. Binney/Long SE5      *       429.3     -698.9        6.0   *
31. Binney/Long SW1      *       394.1     -778.9        6.0   *
32. Binney/Long SW2      *       340.7     -725.6        6.0   *
33. Binney/Long SW3      *       280.3     -681.2        6.0   *
34. Binney/Long SW4      *       234.3     -740.4        6.0   *
35. Binney/Long SW5      *       188.6     -799.2        6.0   *
36. Binney/Long NW1      *       131.4     -771.8        6.0   *
37. Binney/Long NW2      *       177.5     -712.5        6.0   *
38. Binney/Long NW3      *       223.5     -653.3        6.0   *
39. Binney/Long NW4      *       163.4     -608.4        6.0   *
40. Binney/Long NW5      *       103.4     -563.4        6.0   *
41. Beth/Brook SE1       *       463.4      227.5        6.0   *
42. Beth/Brook SE2       *       417.4      168.2        6.0   *
43. Beth/Brook SE3       *       371.4      109.0        6.0   *
44. Beth/Brook SE4       *       433.6       67.0        6.0   *
45. Beth/Brook SE5       *       495.7       25.1        6.0   *
46. Beth/Brook SW1       *       454.8      -29.4        6.0   *
47. Beth/Brook SW2       *       392.6       12.6        6.0   *
48. Beth/Brook SW3       *       330.5       54.6        6.0   *
49. Beth/Brook SW4       *       285.5       -5.5        6.0   *
50. Beth/Brook SW5       *       240.6      -65.5        6.0   *
51. Beth/Brook N1        *       191.3       12.2        6.0   *
52. Beth/Brook N2        *       242.0       79.9        6.0   *
53. Beth/Brook N3        *       287.0      140.0        6.0   *
54. Beth/Brook N4        *       332.7      199.4        6.0   *
55. Beth/Brook N5        *       372.8      251.0        6.0   *
♀
                        PAGE  5
  JOB: Winsor School                                        RUN: 2010EX


   MODEL RESULTS
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   REMARKS : In search of the angle corresponding to
             the maximum concentration, only the first
             angle, of the angles with same maximum
             concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    1.    1.
  10.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    3.    4.
5.    6.    4.    1.    1.    2.    1.    1.
  20.  *    0.    0.    1.    1.    1.    3.    4.    4.    2.    1.    2.    4.
6.    6.    5.    1.    1.    2.    1.    1.
  30.  *    0.    1.    3.    3.    3.    3.    4.    4.    2.    1.    2.    4.
```

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6.     5.     5.     4.     4.     4.     2.     1.
  40.  *     1.     2.     5.     5.     5.     2.     2.     3.     1.     0.     2.     3.
4.     4.     4.     6.     6.     6.     2.     2.
  50.  *     1.     2.     6.     6.     5.     1.     1.     1.     0.     0.     1.     2.
3.     2.     2.     7.     7.     7.     3.     2.
  60.  *     1.     2.     6.     5.     4.     0.     0.     0.     0.     0.     1.     2.
2.     1.     1.     7.     6.     7.     4.     2.
  70.  *     1.     2.     6.     5.     4.     0.     0.     0.     0.     0.     1.     2.
2.     1.     1.     7.     6.     6.     4.     2.
  80.  *     1.     2.     5.     5.     4.     0.     0.     0.     0.     0.     2.     2.
2.     1.     1.     6.     6.     6.     4.     2.
  90.  *     1.     2.     5.     5.     4.     0.     0.     0.     0.     0.     2.     2.
2.     1.     0.     6.     6.     6.     4.     3.
 100.  *     1.     2.     5.     5.     4.     0.     0.     0.     0.     0.     2.     2.
2.     1.     0.     5.     5.     6.     4.     3.
 110.  *     2.     2.     5.     5.     4.     0.     0.     0.     0.     0.     2.     2.
2.     1.     0.     4.     5.     6.     4.     3.
 120.  *     2.     3.     5.     5.     4.     0.     0.     1.     1.     1.     2.     2.
2.     0.     0.     4.     5.     6.     4.     3.
 130.  *     3.     4.     6.     5.     4.     0.     0.     2.     2.     1.     1.     1.
1.     0.     0.     3.     5.     5.     3.     3.
 140.  *     3.     4.     6.     6.     4.     0.     1.     3.     2.     2.     0.     0.
0.     0.     0.     3.     4.     5.     2.     2.
 150.  *     3.     4.     6.     6.     4.     0.     1.     3.     2.     2.     0.     0.
0.     0.     0.     3.     4.     4.     2.     2.
 160.  *     3.     4.     6.     6.     5.     0.     1.     3.     2.     2.     0.     0.
0.     0.     0.     3.     4.     4.     2.     1.
 170.  *     2.     4.     6.     6.     6.     1.     1.     3.     2.     2.     0.     0.
0.     0.     0.     4.     4.     5.     2.     1.
 180.  *     2.     4.     6.     7.     6.     1.     1.     3.     2.     1.     0.     0.
0.     0.     0.     4.     5.     5.     2.     1.
 190.  *     2.     3.     6.     7.     7.     1.     1.     2.     2.     1.     0.     0.
0.     0.     0.     5.     5.     5.     2.     1.
 200.  *     2.     3.     7.     7.     7.     1.     2.     2.     2.     1.     0.     0.
0.     0.     0.     6.     6.     6.     2.     1.
 210.  *     1.     2.     6.     6.     7.     2.     3.     3.     3.     1.     0.     0.
1.     1.     0.     5.     5.     5.     1.     0.
 220.  *     1.     1.     4.     4.     5.     4.     4.     4.     3.     1.     0.     0.
2.     2.     2.     4.     3.     3.     0.     0.
 230.  *     1.     1.     3.     2.     2.     5.     5.     6.     4.     2.     0.     1.
4.     3.     2.     1.     2.     1.     0.     0.
 240.  *     0.     1.     2.     1.     1.     5.     5.     5.     4.     2.     1.     2.
5.     3.     3.     0.     0.     0.     0.     0.
 250.  *     0.     1.     2.     1.     0.     4.     5.     5.     5.     3.     1.     2.
5.     3.     3.     0.     0.     0.     0.     0.
 260.  *     0.     1.     2.     1.     0.     4.     4.     4.     5.     3.     1.     2.
5.     3.     2.     0.     0.     0.     0.     0.
 270.  *     0.     1.     2.     0.     0.     4.     4.     4.     5.     4.     1.     2.
4.     3.     2.     0.     0.     0.     0.     0.
 280.  *     0.     1.     2.     0.     0.     3.     4.     4.     5.     4.     2.     2.
4.     3.     2.     0.     0.     0.     0.     0.
 290.  *     1.     1.     2.     0.     0.     3.     4.     4.     4.     4.     2.     2.
4.     4.     1.     0.     0.     0.     0.     0.
 300.  *     1.     1.     1.     1.     1.     3.     4.     4.     4.     4.     2.     3.
5.     4.     1.     0.     0.     1.     1.     1.
 310.  *     1.     1.     1.     0.     0.     3.     4.     4.     3.     3.     3.     3.
5.     4.     2.     0.     0.     1.     1.     1.
 320.  *     0.     0.     0.     0.     0.     3.     3.     4.     2.     2.     3.     4.
5.     4.     2.     1.     1.     1.     1.     0.
 330.  *     0.     0.     0.     0.     0.     3.     3.     3.     2.     2.     4.     4.
5.     4.     2.     0.     0.     2.     1.     0.
 340.  *     0.     0.     0.     0.     0.     3.     3.     4.     2.     2.     4.     4.
5.     4.     2.     0.     0.     2.     1.     0.
```

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 350.  *    0.    0.    0.    0.    0.    3.    3.    4.    2.    1.    4.    4.
5.    5.    3.    0.    1.    2.    1.    0.
 360.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    1.    1.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    7.    7.    7.    5.    5.    6.    5.    4.    4.    4.
6.    6.    5.    7.    7.    7.    4.    3.
 DEGR. *  140   140   200   200   200   230   240   230   260   280   340     0
30    10    30    50    50    50   110   120

♀
                              PAGE  6
      JOB: Winsor School                                        RUN: 2010EX


       MODEL RESULTS
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       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    3.    2.    1.    2.    2.    3.    2.
  10.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    2.
3.    2.    2.    1.    2.    2.    2.    2.
  20.  *    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.    2.
3.    2.    2.    1.    2.    2.    3.    2.
  30.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    2.    2.    2.    3.    2.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
2.    1.    1.    1.    2.    2.    2.    2.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    1.    1.    1.    2.    2.    2.    1.
  60.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    1.    0.    1.    2.    2.    2.    1.
  70.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    0.    0.    1.    2.    2.    2.    2.
  80.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    0.    0.    0.    1.    2.    2.    2.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    0.    0.    0.    1.    2.    2.    2.
 100.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 110.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 120.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    2.    2.
 130.  *    1.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    1.    1.
 140.  *    2.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.     0.     0.     0.     1.     0.     0.
 150.  *     2.     2.     2.     1.     0.     0.     0.     2.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 160.  *     2.     2.     2.     1.     0.     0.     0.     2.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 170.  *     2.     2.     2.     2.     0.     0.     0.     2.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 180.  *     1.     2.     2.     2.     1.     0.     1.     2.     1.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 190.  *     1.     2.     2.     2.     1.     0.     1.     2.     1.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 200.  *     1.     2.     2.     2.     1.     0.     1.     2.     1.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 210.  *     1.     2.     2.     2.     1.     1.     1.     2.     2.     0.     0.     0.
0.    0.     0.     0.     0.     0.     0.     0.
 220.  *     1.     2.     2.     1.     1.     1.     1.     2.     2.     0.     0.     0.
0.    0.     0.     0.     0.     0.     0.     0.
 230.  *     2.     2.     2.     1.     1.     1.     1.     2.     2.     0.     0.     0.
1.    0.     0.     0.     0.     0.     0.     0.
 240.  *     2.     2.     2.     1.     1.     2.     2.     2.     2.     0.     0.     0.
1.    0.     0.     0.     0.     0.     0.     0.
 250.  *     3.     2.     2.     2.     1.     2.     2.     2.     2.     0.     0.     0.
1.    0.     0.     0.     0.     0.     1.     1.
 260.  *     3.     3.     3.     2.     1.     2.     3.     2.     3.     1.     0.     0.
1.    1.     0.     0.     0.     1.     1.     1.
 270.  *     3.     3.     3.     2.     2.     2.     3.     3.     3.     1.     0.     1.
1.    1.     0.     0.     0.     1.     1.     1.
 280.  *     4.     3.     3.     2.     2.     2.     3.     3.     4.     2.     1.     1.
2.    1.     0.     0.     1.     1.     1.     1.
 290.  *     4.     3.     3.     2.     1.     1.     2.     4.     4.     3.     1.     1.
2.    1.     1.     1.     1.     1.     1.     1.
 300.  *     4.     3.     3.     2.     1.     1.     2.     4.     4.     3.     2.     2.
3.    2.     1.     1.     1.     2.     2.     2.
 310.  *     3.     2.     2.     1.     1.     1.     2.     3.     3.     2.     2.     3.
3.    2.     1.     1.     1.     3.     3.     3.
 320.  *     2.     2.     1.     1.     0.     1.     1.     2.     2.     1.     3.     4.
4.    2.     1.     1.     2.     3.     3.     3.
 330.  *     2.     1.     1.     1.     1.     1.     1.     2.     1.     1.     2.     3.
4.    3.     2.     1.     2.     3.     3.     3.
 340.  *     2.     1.     1.     1.     1.     1.     1.     2.     1.     1.     2.     3.
3.    3.     2.     2.     2.     3.     3.     3.
 350.  *     1.     1.     1.     1.     1.     1.     1.     2.     1.     1.     1.     3.
3.    2.     2.     2.     2.     3.     3.     3.
 360.  *     1.     1.     1.     1.     1.     1.     1.     2.     1.     0.     1.     2.
3.    3.     2.     1.     2.     2.     3.     2.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *     4.     3.     3.     2.     2.     2.     3.     4.     4.     3.     3.     3.
4.    3.     2.     2.     2.     3.     3.     3.
 DEGR. *   290    300    300    190    270    260    270    290    300    300    320    320
320     0     20    340    350    320    320    340

♀
                               PAGE  7
      JOB: Winsor School                                           RUN: 2010EX


       MODEL RESULTS
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       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
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angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0. *	2.	4.	4.	2.	1.	1.	3.	4.	4.	4.	0.	0.	0.	0.	0.
10. *	2.	4.	4.	2.	1.	1.	2.	4.	5.	4.	0.	0.	0.	0.	0.
20. *	2.	4.	4.	2.	1.	1.	2.	5.	5.	5.	1.	1.	1.	1.	0.
30. *	3.	3.	4.	1.	1.	1.	2.	4.	5.	5.	3.	3.	3.	2.	2.
40. *	2.	2.	3.	1.	0.	0.	1.	3.	3.	3.	6.	5.	5.	4.	4.
50. *	1.	1.	1.	0.	0.	0.	1.	1.	1.	1.	7.	6.	6.	6.	5.
60. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	6.	6.	6.	5.
70. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	6.	6.	4.
80. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	5.	5.	4.
90. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	4.	5.	4.
100. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	4.
110. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
120. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	5.
130. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	5.
140. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	4.
150. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	4.
160. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	5.
170. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	5.	4.	5.	5.
180. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	5.	5.	5.	6.
190. *	0.	1.	1.	1.	0.	0.	0.	0.	0.	0.	4.	5.	6.	6.	6.
200. *	1.	1.	1.	1.	0.	0.	0.	1.	0.	1.	5.	6.	6.	6.	7.
210. *	2.	2.	2.	1.	0.	0.	0.	2.	2.	2.	5.	6.	5.	6.	6.
220. *	4.	4.	4.	2.	0.	1.	1.	4.	3.	3.	4.	4.	4.	4.	4.
230. *	5.	4.	5.	3.	1.	1.	2.	5.	4.	3.	2.	2.	1.	2.	1.
240. *	5.	4.	5.	3.	1.	1.	2.	5.	4.	2.	1.	0.	0.	0.	0.
250. *	5.	4.	4.	3.	1.	1.	2.	4.	4.	2.	0.	0.			

```
0.    0.    0.
 260.  *    4.    4.    4.    3.    1.    1.    2.    4.    4.    2.    0.    0.
0.    0.    0.
 270.  *    4.    4.    4.    3.    2.    1.    2.    4.    4.    2.    0.    0.
0.    0.    0.
 280.  *    4.    4.    3.    3.    2.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 290.  *    4.    4.    3.    2.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 300.  *    4.    4.    3.    2.    2.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 310.  *    3.    4.    3.    2.    2.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 320.  *    3.    4.    3.    2.    2.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 330.  *    2.    4.    3.    2.    2.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 340.  *    2.    4.    4.    2.    1.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 350.  *    2.    4.    4.    2.    1.    2.    3.    4.    4.    3.    0.    0.
0.    0.    0.
 360.  *    2.    4.    4.    2.    1.    1.    3.    4.    4.    4.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    5.    4.    5.    3.    2.    2.    3.    5.    5.    5.    7.    6.
6.    6.    7.
 DEGR. *  240   240   230   260   290   320     0    20    20    20    50    50
50   200   200

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC5 .
```

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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                           RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 2

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG      0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG      0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG      0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG      0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG      0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG      0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG      0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG      0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG      0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG      0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG      0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG      0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG      0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG      0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG      0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG      0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
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120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      1. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 2

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                             *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S      *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W      *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E       *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S       *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W       *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E      *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.   0.0   1.0 82.0
      51. River/Short S      *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W      *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.   0.0   1.0 82.0
♀
                            PAGE  3
      JOB: Winsor School                                       RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 2

       1. River/Long EB L     *      90        64        3.0       189        1600
 0.10      1        3
       2. River/Long EB TR    *      90        54        3.0       631        1600
 0.10      1        3
       3. River/Long NB LT    *      90        62        3.0       364        1600
 0.10      1        3
       4. River/Long WB LTR   *      90        54        3.0      1507        1600
 0.10      1        3
       5. River/Long SB LT    *      90        62        3.0       291        1600
 0.10      1        3
       6. River/Long SB R     *      90        64        3.0       190        1600
 0.10      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       548        1600
 0.10      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       113        1600
 0.10      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1015        1600
 0.10      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       124        1600
 0.10      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        55        1600
 0.10      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       641        1600
 0.10      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
 0.10      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
 0.10      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
 0.10      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
 0.10      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
 0.10      1        3
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      18. River/Short EB TR   *     93        43       3.0       727        1600
 0.10      1        3
      19. River/Short NB LR   *     93        73       3.0       212        1600
 0.10      1        3
      20. River/Short WB LTR  *     93        43       3.0      1355        1600
 0.10      1        3
      21. Brook/Long EB LTR   *    120        78       3.0       703        1600
 0.10      1        3
      22. Brook/Long NB LT    *    120        78       3.0       461        1600
 0.10      1        3
      23. Brook/Long NB R     *    120        66       3.0       262        1600
 0.10      1        3
      24. Brook/Long WB TTR   *    120        66       3.0       791        1600
 0.10      1        3
      25. Brook/Long SB LTR   *    120        78       3.0       279        1600
 0.10      1        3
      26. Beth/Brook EB TTR   *    120        61       3.0       838        1600
 0.10      1        3
      27. Beth/Brook NB LR    *    120        96       3.0       161        1600
 0.10      1        3
      28. Beth/Brook WB LT    *    120       104       3.0       799        1600
 0.10      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X           Y           Z     *
     -------------------------*------------------------------------*
      1. Short/River SE1      *        64.2       619.5        6.0   *
      2. Short/River SE2      *         0.6       579.2        6.0   *
      3. Short/River SE3      *       -62.3       538.9        6.0   *
      4. Short/River SE4      *        -2.3       494.0        6.0   *
      5. Short/River SE5      *        57.8       449.1        6.0   *
      6. Short/River SW1      *        -6.6       409.9        6.0   *
      7. Short/River SW2      *       -66.7       454.8        6.0   *
      8. Short/River SW3      *      -126.8       499.6        6.0   *
      9. Short/River SW4      *      -194.5       467.4        6.0   *
     10. Short/River SW5      *      -262.2       435.2        6.0   *
     11. Short/River N1       *      -300.6       529.9        6.0   *
     12. Short/River N2       *      -232.9       562.1        6.0   *
     13. Short/River N3       *      -165.2       594.3        6.0   *
     14. Short/River N4       *      -101.9       634.6        6.0   *
     15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                               PAGE  4
      JOB: Winsor School                                          RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*---------------------------------------------------------------------------------
-------------
   0.  *    0.    2.    3.    1.    0.    1.    3.    3.    3.    2.    0.    0.
0.    0.    0.
  10.  *    0.    2.    3.    1.    0.    1.    2.    3.    3.    3.    0.    0.
0.    0.    0.
  20.  *    0.    1.    3.    0.    0.    0.    2.    4.    4.    3.    0.    0.
0.    0.    0.
  30.  *    0.    1.    3.    0.    0.    0.    1.    4.    4.    4.    0.    0.
0.    0.    0.
  40.  *    0.    1.    2.    0.    0.    0.    1.    4.    4.    4.    0.    0.
0.    0.    0.
  50.  *    0.    1.    2.    0.    0.    0.    1.    3.    4.    4.    1.    1.
1.    1.    0.
  60.  *    0.    1.    1.    1.    1.    1.    1.    2.    3.    3.    2.    2.
2.    2.    0.
  70.  *    0.    0.    1.    1.    1.    1.    1.    2.    2.    2.    3.    3.
3.    3.    1.
  80.  *    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    4.    4.
4.    4.    1.
  90.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    4.    4.
4.    4.    1.
 100.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    4.    4.
4.    4.    2.
 110.  *    0.    0.    1.    0.    0.    1.    1.    1.    1.    1.    4.    4.
4.    4.    2.
 120.  *    0.    0.    1.    1.    1.    1.    1.    1.    1.    1.    3.    4.
3.    4.    2.
 130.  *    0.    1.    1.    1.    1.    1.    1.    1.    0.    0.    3.    3.
4.    4.    3.
 140.  *    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.    2.    3.
4.    4.    4.
 150.  *    1.    0.    1.    1.    1.    1.    0.    0.    0.    0.    2.    3.
4.    4.    4.
 160.  *    0.    0.    1.    1.    1.    0.    0.    0.    1.    1.    2.    3.
3.    4.    4.
 170.  *    0.    0.    2.    1.    1.    1.    1.    1.    1.    1.    2.    3.
4.    4.    4.
 180.  *    1.    1.    2.    1.    1.    1.    1.    1.    0.    0.    1.    3.
3.    4.    4.
 190.  *    0.    1.    2.    1.    1.    1.    1.    0.    0.    0.    0.    3.
3.    4.    4.
 200.  *    0.    0.    2.    0.    1.    0.    0.    0.    0.    0.    0.    2.
3.    4.    5.
 210.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
3.    4.    5.
 220.  *    0.    1.    2.    0.    0.    0.    0.    0.    0.    0.    1.    2.
3.    4.    4.
 230.  *    1.    2.    2.    0.    0.    0.    0.    1.    0.    1.    1.    2.
3.    3.    4.
 240.  *    3.    3.    3.    1.    0.    0.    1.    2.    1.    1.    1.    2.
2.    2.    2.
 250.  *    4.    4.    4.    1.    1.    1.    1.    2.    2.    1.    1.    1.
1.    1.    1.
 260.  *    4.    4.    4.    2.    1.    1.    1.    3.    2.    1.    0.    0.
0.    0.    0.
 270.  *    3.    4.    4.    2.    1.    0.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 280.  *    3.    3.    4.    2.    1.    1.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 290.  *    2.    3.    3.    2.    2.    1.    2.    3.    2.    0.    0.    0.
0.    0.    0.
 300.  *    2.    3.    3.    2.    2.    1.    2.    3.    2.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    1.    3.    3.    2.    1.    1.    2.    3.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    3.    3.    2.    1.    2.    2.    3.    3.    1.    0.    0.
0.    0.    0.
 330.  *    0.    3.    3.    2.    1.    2.    2.    3.    3.    1.    0.    0.
0.    0.    0.
 340.  *    0.    3.    3.    2.    1.    2.    2.    3.    3.    2.    0.    0.
0.    0.    0.
 350.  *    0.    2.    3.    2.    1.    2.    2.    3.    3.    2.    0.    0.
0.    0.    0.
 360.  *    0.    2.    3.    1.    0.    1.    3.    3.    3.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------------
-------------
 MAX   *    4.    4.    4.    2.    2.    2.    3.    4.    4.    4.    4.    4.
4.    4.    5.
 DEGR. *  250   260   260   280   300   320     0    30    40    50    90   110
80   150   210

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

```
♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:21

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1476.0    -237.1 *    1237.
330. AG      0. 100.0   1.0 20.0 1.18  62.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -908.0   -1485.0 *      75.
217. AG      1. 100.0   1.0 30.0 0.45   3.8
       3. Brook/River NB LTR  *   -792.2   -1400.7    -732.2   -1586.0 *     195.
162. AG      0. 100.0   1.0 20.0 0.85   9.9
       4. Brook/River WB LTTR *   -798.5   -1299.5    -716.9   -1200.0 *     129.
39. AG      0. 100.0   1.0 30.0 0.56   6.5
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1824.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1601.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2318.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1131.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:21

       1. Brook/River SB LTR  *     120       79       3.0      1135       1600
 0.10      1        3
       2. Brook/River EB LTR  *     120       89       3.0       464       1600
 0.10      1        3
       3. Brook/River NB LTR  *     120       79       3.0       813       1600
 0.10      1        3
       4. Brook/River WB LTTR *     120       69       3.0      1025       1600
 0.10      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
```

1. Brook/River NE1	*	-898.9	-1152.8	6.0
2. Brook/River NE2	*	-861.9	-1218.1	6.0
3. Brook/River NE3	*	-825.0	-1283.3	6.0
4. Brook/River NE4	*	-777.9	-1224.9	6.0
5. Brook/River NE5	*	-730.9	-1166.5	6.0
6. Brook/River SE1	*	-674.0	-1252.1	6.0
7. Brook/River SE2	*	-721.0	-1310.5	6.0
8. Brook/River SE3	*	-768.0	-1368.9	6.0
9. Brook/River SE4	*	-747.5	-1441.0	6.0
10. Brook/River SE5	*	-726.9	-1513.2	6.0
11. Brook/River SW1	*	-793.3	-1594.1	6.0
12. Brook/River SW2	*	-813.8	-1521.9	6.0
13. Brook/River SW3	*	-834.4	-1449.8	6.0
14. Brook/River SW4	*	-878.9	-1510.2	6.0
15. Brook/River SW5	*	-923.5	-1570.5	6.0
16. Brook/River NW1	*	-973.6	-1473.4	6.0
17. Brook/River NW2	*	-929.0	-1413.0	6.0
18. Brook/River NW3	*	-884.5	-1352.7	6.0
19. Brook/River NW4	*	-921.5	-1287.4	6.0
20. Brook/River NW5	*	-958.5	-1222.2	6.0

♀

PAGE 3

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	5.	5.	5.	5.	3.	1.	2.	4.	4.	3.
10. *	0.	0.	0.	0.	0.	2.	2.	3.	2.	1.	5.	5.	6.	5.	4.	1.	2.	3.	4.	3.
20. *	0.	0.	0.	0.	0.	2.	2.	3.	1.	0.	4.	5.	6.	5.	4.	1.	2.	3.	3.	3.
30. *	0.	0.	1.	0.	0.	1.	2.	2.	0.	0.	4.	4.	5.	4.	4.	2.	2.	3.	3.	3.
40. *	0.	0.	2.	1.	1.	1.	1.	1.	0.	0.	3.	4.	4.	3.	3.	3.	3.	4.	3.	3.
50. *	0.	0.	3.	2.	1.	0.	0.	0.	0.	0.	3.	3.	4.	2.	2.	4.	4.	5.	3.	3.
60. *	0.	0.	4.	3.	1.	0.	0.	0.	0.	0.	2.	3.	3.	2.	2.	4.	4.	5.	4.	3.
70. *	0.	1.	4.	3.	2.	0.	0.	0.	0.	0.	2.	3.	3.	2.	2.	4.	4.	5.	4.	3.
80. *	0.	1.	4.	3.	2.	0.	0.	0.	0.	0.	1.	3.	3.	2.	1.	4.	3.	4.	4.	4.
90. *	1.	2.	3.	3.	2.	0.	0.	0.	0.	0.	1.	3.	3.	2.	1.	4.	4.	4.	4.	4.

```
 100.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    0.    3.
3.    2.    0.    3.    4.    5.    4.    4.
 110.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    0.    3.
4.    2.    0.    2.    4.    5.    5.    5.
 120.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    0.    3.
4.    1.    0.    2.    4.    5.    5.    5.
 130.  *    2.    2.    3.    3.    2.    0.    0.    0.    0.    0.    0.    3.
4.    1.    0.    2.    4.    5.    5.    5.
 140.  *    2.    2.    3.    3.    2.    0.    0.    0.    0.    0.    0.    2.
4.    0.    0.    1.    3.    5.    4.    4.
 150.  *    3.    4.    4.    3.    2.    0.    0.    0.    0.    0.    0.    2.
3.    0.    0.    1.    2.    4.    3.    3.
 160.  *    4.    5.    5.    4.    3.    0.    0.    2.    1.    0.    0.    1.
2.    0.    0.    1.    2.    3.    2.    2.
 170.  *    5.    5.    6.    5.    3.    0.    0.    3.    2.    1.    0.    0.
1.    0.    0.    1.    2.    2.    2.    1.
 180.  *    5.    5.    6.    5.    4.    0.    1.    4.    3.    2.    0.    0.
0.    0.    0.    2.    2.    2.    1.    1.
 190.  *    4.    4.    6.    6.    5.    1.    2.    4.    4.    2.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 200.  *    3.    4.    5.    5.    5.    2.    2.    4.    4.    3.    0.    0.
0.    0.    0.    1.    2.    2.    0.    0.
 210.  *    3.    3.    4.    4.    5.    2.    3.    4.    4.    3.    0.    0.
1.    0.    0.    1.    1.    1.    0.    0.
 220.  *    3.    3.    3.    3.    3.    3.    3.    5.    4.    4.    0.    0.
1.    1.    0.    0.    1.    1.    0.    0.
 230.  *    3.    3.    3.    2.    2.    4.    4.    5.    4.    4.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    3.    3.    3.    2.    1.    4.    4.    5.    4.    4.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    3.    3.    3.    2.    1.    4.    4.    5.    5.    4.    0.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 260.  *    3.    3.    3.    2.    1.    4.    4.    5.    5.    4.    0.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 270.  *    3.    3.    3.    2.    1.    4.    4.    5.    5.    4.    0.    1.
3.    1.    1.    0.    0.    0.    0.    0.
 280.  *    3.    3.    3.    2.    1.    4.    4.    5.    5.    5.    0.    1.
3.    1.    1.    0.    0.    0.    0.    0.
 290.  *    3.    3.    3.    2.    1.    4.    4.    5.    5.    5.    1.    1.
3.    1.    1.    0.    0.    0.    0.    0.
 300.  *    3.    3.    4.    1.    0.    3.    4.    5.    6.    5.    1.    2.
2.    2.    1.    0.    0.    0.    0.    0.
 310.  *    2.    3.    4.    1.    0.    3.    4.    6.    6.    6.    1.    2.
2.    2.    1.    0.    0.    0.    0.    0.
 320.  *    2.    3.    3.    1.    0.    2.    3.    5.    6.    6.    1.    2.
3.    2.    1.    0.    0.    1.    1.    1.
 330.  *    1.    2.    2.    0.    0.    2.    3.    4.    5.    6.    2.    3.
4.    3.    1.    0.    0.    2.    2.    2.
 340.  *    0.    1.    1.    0.    0.    2.    3.    3.    4.    4.    4.    4.
4.    4.    2.    0.    1.    4.    3.    2.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    3.    5.    5.
5.    4.    2.    1.    2.    4.    4.    3.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    5.    5.
5.    5.    3.    1.    2.    4.    4.    3.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    5.    5.    6.    6.    5.    4.    4.    6.    6.    6.    5.    5.
6.    5.    4.    4.    4.    5.    5.    5.
 DEGR. *  170   170   170   190   200   250   300   310   320   320     0    10
20     0    20    70   120    60   120   130

 THE HIGHEST CONCENTRATION OF      6. ug/m**3 OCCURRED AT RECEPTOR REC10.
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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                        PAGE  1

      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/10/11
      TIME :  9:27:31

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
---------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24417.7   43904.5 *      67.
37. AG      0. 100.0   1.0 30.0 0.43   3.4
       2. Boylston WB Q2      *  24434.8   43765.0   24516.6   43794.3 *      87.
70. AG      1. 100.0   1.0 40.0 0.64   4.4
       3. Park Dr NB Q3       *  24314.0   43650.6   24363.3   43581.4 *      85.
145. AG      1. 100.0   1.0 40.0 0.60   4.3
       4. Brookline EB Q4     *  24250.4   43637.9   24183.1   43552.1 *     109.
218. AG      1. 100.0   1.0 40.0 0.69   5.5
       5. Brookline Q27       *  24079.2   43421.1   22555.9   41316.3 *    2598.
216. AG      0. 100.0   1.0 20.0 1.68 132.0
       6. Fenway Q28          *  24063.7   43526.1   22579.1   45291.0 *    2306.
320. AG      0. 100.0   1.0 20.0 1.29 117.2
       7. Brookline Q29       *  24121.4   43515.8   25025.6   44645.0 *    1447.
39. AG      0. 100.0   1.0 20.0 1.35  73.5
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2336.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1102.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1121.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1022.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2159.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2165.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    795.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1740.   0.0   1.0 42.0
      16. roadway L36         *  24101.9   43474.9   24345.1   43435.8 *     246.
99. AG    235.   0.0   1.0 38.0
♀
                            PAGE  2
      JOB: Winsor School                                        RUN: 2010EX
```

DATE : 1/10/11
TIME : 9:27:31

```
      1. Brookline SB Q1     *      90        56        3.0        657         1600
0.10      1        3
      2. Boylston WB Q2      *      90        63        3.0       1008         1600
0.10      1        3
      3. Park Dr NB Q3       *      90        61        3.0       1022         1600
0.10      1        3
      4. Brookline EB Q4     *      90        56        3.0       1426         1600
0.10      1        3
      5. Brookline Q27       *      90        66        3.0       1130         1600
0.10      1        3
      6. Fenway Q28          *      90        47        3.0       1740         1600
0.10      1        3
      7. Brookline Q29       *      90        66        3.0        910         1600
0.10      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0
39. R61	24161.0	43638.3	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (ug/m**3)																			
0.	6.	6.	4.	1.	0.	0.	3.	3.	2.	1.	1.	1.	5.	6.	4.	3.	4.	3.	3.	2.
10.	6.	6.	4.	1.	0.	0.	3.	3.	2.	1.	2.	1.	5.	6.	5.	4.	4.	3.	3.	2.
20.	6.	6.	4.	1.	1.	0.	3.	3.	2.	1.	2.	2.	6.	7.	5.	3.	4.	3.	3.	2.
30.	5.	5.	4.	2.	2.	1.	3.	3.	2.	2.	3.	3.	5.	6.	4.	3.	4.	3.	2.	1.
40.	4.	4.	3.	3.	4.	2.	3.	4.	3.	3.	5.	5.	4.	5.	3.	2.	3.	2.	1.	0.
50.	4.	3.	2.	5.	6.	3.	5.	6.	4.	5.	7.	6.	3.	4.	2.	2.	2.	2.	1.	0.
60.	3.	2.	2.	7.	7.	5.	6.	7.	6.	5.	7.	6.	2.	2.	2.	1.	1.	1.	1.	0.
70.	2.	1.	1.	7.	7.	5.	6.	7.	6.	4.	5.	5.	1.	2.	1.	1.	1.	1.	2.	1.
80.	1.	1.	1.	7.	6.	5.	6.	6.	4.	4.	4.	4.	1.	1.	1.	0.	1.	1.	3.	2.
90.	1.	0.	1.	6.	5.	4.	5.	5.	4.	3.	4.	4.	1.	1.	1.	0.	1.	1.	4.	3.
100.	1.	1.	1.	5.	4.	4.	4.	5.	3.	3.	4.	3.	1.	1.	1.	0.	0.	0.	4.	3.
110.	1.	1.	1.	5.	4.	3.	4.	5.	3.	2.	3.	3.	0.	1.	1.	0.	0.	0.	4.	2.
120.	1.	1.	1.	5.	4.	3.	4.	4.	3.	2.	3.	3.	0.	1.	1.	0.	0.	0.	4.	2.
130.	1.	0.	1.	4.	4.	3.	3.	4.	2.	2.	3.	3.	0.	1.	0.	0.	0.	0.	4.	2.
140.	0.	0.	0.	4.	3.	3.	2.	3.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	4.	2.
150.	0.	0.	0.	3.	4.	3.	2.	2.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	4.	3.
160.	0.	0.	0.	4.	4.	4.	2.	2.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	4.	3.
170.	0.	1.	0.	4.	5.	4.	2.	2.	2.	2.	3.	3.	0.	0.	0.	0.	1.	0.	4.	4.
180.	0.	1.	0.	4.	5.	4.	2.	2.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	4.	4.
190.	0.	1.	1.	5.	5.	5.	2.	2.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	3.	4.
200.	1.	1.	1.	5.	6.	4.	1.	2.	1.	2.	4.	3.	0.	0.	0.	1.	1.	0.	4.	5.

```
 210.  *    2.    2.    1.    4.    5.    4.    1.    2.    1.    1.    3.    2.
1.    1.    0.    1.    1.    1.    5.    6.
 220.  *    3.    3.    2.    3.    4.    3.    0.    1.    0.    0.    1.    1.
2.    2.    1.    1.    2.    1.    7.    6.
 230.  *    4.    5.    3.    2.    2.    2.    0.    0.    0.    0.    0.    0.
3.    4.    2.    2.    3.    2.    7.    6.
 240.  *    4.    5.    3.    2.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    2.    3.    2.    6.    6.
 250.  *    4.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    3.    2.    4.    4.
 260.  *    4.    4.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
3.    4.    2.    2.    3.    2.    3.    3.
 270.  *    5.    4.    3.    2.    2.    2.    0.    0.    0.    0.    0.    0.
3.    3.    2.    2.    3.    2.    3.    2.
 280.  *    5.    4.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
3.    3.    2.    2.    3.    2.    3.    2.
 290.  *    5.    4.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
3.    3.    2.    3.    4.    3.    3.    2.
 300.  *    5.    4.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
3.    3.    2.    3.    4.    3.    3.    2.
 310.  *    5.    4.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
3.    3.    2.    4.    4.    3.    3.    2.
 320.  *    5.    4.    3.    0.    1.    1.    1.    1.    0.    0.    0.    0.
3.    4.    3.    3.    4.    3.    3.    2.
 330.  *    5.    4.    4.    0.    0.    0.    2.    2.    1.    0.    0.    0.
4.    5.    4.    3.    3.    3.    3.    1.
 340.  *    6.    4.    4.    0.    0.    0.    2.    3.    1.    0.    1.    0.
4.    5.    4.    3.    3.    3.    3.    1.
 350.  *    6.    5.    4.    1.    0.    0.    3.    3.    1.    1.    1.    1.
5.    6.    4.    3.    4.    3.    3.    2.
 360.  *    6.    6.    4.    1.    0.    0.    3.    3.    2.    1.    1.    1.
5.    6.    4.    3.    4.    3.    3.    2.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    6.    6.    4.    7.    7.    5.    6.    7.    6.    5.    7.    6.
6.    7.    5.    4.    4.    3.    7.    6.
 DEGR. *   10    20    10    70    60    70    70    60    60    60    60    50
20    20    20   310   300    10   230   220

♀
                             PAGE  4
      JOB: Winsor School                                           RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*--------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    4.    3.
```

```
2.    6.    6.    6.    2.    2.    1.
  10.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    4.    3.
2.    6.    6.    6.    1.    1.    1.
  20.  *    1.    2.    2.    0.    0.    0.    0.    0.    5.    5.    4.    3.
2.    6.    6.    6.    2.    1.    1.
  30.  *    0.    2.    2.    0.    0.    1.    1.    1.    4.    4.    3.    3.
2.    6.    5.    5.    2.    1.    2.
  40.  *    0.    1.    1.    0.    1.    2.    2.    2.    4.    4.    3.    2.
1.    6.    4.    4.    4.    2.    3.
  50.  *    0.    0.    0.    1.    1.    3.    3.    3.    4.    4.    4.    2.
1.    6.    3.    4.    5.    2.    5.
  60.  *    0.    0.    0.    1.    2.    4.    4.    3.    4.    3.    3.    1.
1.    6.    2.    3.    7.    3.    7.
  70.  *    1.    1.    0.    1.    2.    4.    4.    4.    3.    2.    2.    1.
0.    4.    2.    2.    8.    4.    8.
  80.  *    2.    1.    1.    2.    3.    5.    4.    4.    1.    1.    1.    0.
0.    3.    1.    1.    8.    4.    7.
  90.  *    3.    2.    1.    2.    3.    5.    4.    5.    0.    0.    0.    0.
0.    3.    1.    1.    8.    5.    6.
 100.  *    3.    2.    2.    2.    3.    5.    4.    5.    0.    0.    0.    0.
0.    3.    1.    1.    7.    5.    6.
 110.  *    2.    2.    2.    2.    3.    4.    4.    5.    0.    0.    0.    0.
0.    2.    1.    1.    7.    5.    6.
 120.  *    2.    2.    1.    2.    3.    4.    4.    5.    0.    0.    0.    0.
0.    2.    2.    1.    6.    5.    5.
 130.  *    2.    2.    1.    3.    3.    5.    4.    5.    0.    0.    0.    0.
0.    2.    2.    1.    6.    4.    5.
 140.  *    2.    2.    1.    3.    4.    6.    4.    5.    1.    0.    0.    1.
1.    1.    1.    0.    5.    4.    5.
 150.  *    2.    3.    1.    4.    5.    7.    4.    4.    2.    0.    0.    1.
1.    0.    0.    0.    5.    3.    4.
 160.  *    2.    3.    2.    4.    5.    7.    5.    4.    2.    1.    0.    2.
2.    0.    0.    0.    5.    3.    4.
 170.  *    2.    3.    2.    4.    5.    7.    5.    4.    2.    1.    0.    2.
2.    0.    0.    0.    5.    3.    4.
 180.  *    2.    3.    2.    4.    5.    7.    6.    5.    2.    1.    0.    1.
1.    0.    0.    0.    5.    3.    5.
 190.  *    3.    4.    2.    4.    4.    7.    6.    5.    3.    1.    1.    1.
1.    0.    0.    0.    6.    3.    5.
 200.  *    3.    4.    3.    3.    4.    8.    6.    6.    3.    1.    1.    1.
1.    1.    0.    1.    6.    3.    5.
 210.  *    4.    5.    4.    3.    4.    7.    6.    5.    4.    2.    1.    2.
1.    2.    1.    2.    4.    2.    4.
 220.  *    6.    6.    5.    2.    3.    5.    4.    4.    5.    3.    2.    2.
2.    4.    1.    3.    3.    1.    3.
 230.  *    7.    6.    5.    2.    2.    3.    2.    2.    6.    4.    3.    3.
2.    5.    2.    4.    1.    1.    2.
 240.  *    5.    4.    4.    2.    2.    2.    1.    1.    7.    5.    4.    4.
3.    6.    2.    4.    1.    1.    1.
 250.  *    4.    4.    3.    1.    2.    2.    1.    1.    7.    5.    5.    5.
3.    6.    3.    5.    1.    0.    1.
 260.  *    2.    3.    3.    2.    2.    2.    1.    1.    7.    6.    5.    5.
4.    6.    3.    5.    1.    0.    1.
 270.  *    2.    3.    3.    2.    2.    2.    1.    1.    7.    5.    5.    6.
4.    6.    3.    5.    0.    0.    1.
 280.  *    2.    3.    2.    2.    2.    2.    1.    1.    6.    5.    5.    6.
4.    5.    3.    5.    0.    0.    1.
 290.  *    2.    3.    2.    2.    2.    2.    1.    0.    6.    5.    4.    6.
5.    5.    3.    5.    0.    0.    0.
 300.  *    1.    3.    2.    2.    2.    2.    1.    0.    6.    5.    4.    5.
5.    5.    3.    5.    0.    0.    0.
 310.  *    1.    2.    2.    1.    1.    2.    0.    0.    6.    4.    4.    5.
5.    5.    3.    5.    1.    1.    0.
```

```
 320.  *    1.    2.    2.    1.    1.    1.    0.    0.    5.    4.    4.    4.
4.    5.    4.    5.    1.    1.    0.
 330.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    4.    3.
3.    5.    4.    5.    2.    2.    0.
 340.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    5.    3.
2.    5.    5.    6.    2.    2.    1.
 350.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    5.    3.
2.    6.    5.    6.    2.    2.    1.
 360.  *    1.    2.    2.    0.    0.    0.    0.    0.    4.    4.    4.    3.
2.    6.    6.    6.    2.    2.    1.

------*------------------------------------------------------------------------------------
-------------------------------------
 MAX   *    7.    6.    5.    4.    5.    8.    6.    6.    7.    6.    5.    6.
5.    6.    6.    6.    8.    5.    8.
 DEGR. *  230   230   230   150   150   200   200   200   260   260   260   280
300    20    10     0    80    90    70

 THE HIGHEST CONCENTRATION OF      8. ug/m**3 OCCURRED AT RECEPTOR REC37.
```

Particulate Matter 2.5 ($PM_{2.5}$)

```
♀                                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                PAGE  1

      JOB: Winsor School                                                    RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:54

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG      0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG      0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG      0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG      0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG      0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG      0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG      0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG      0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG      0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG      0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG      0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG      0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG      0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG      0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG      0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG      0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
```

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120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      0. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2181.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2195.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                    RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:54

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2208.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2371.   0.0   1.0 82.0
♀
                              PAGE  3
      JOB: Winsor School                                       RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:48:54

       1. River/Long EB L     *      90        64        3.0       189        1600
 0.06      1        3
       2. River/Long EB TR    *      90        54        3.0       631        1600
 0.06      1        3
       3. River/Long NB LT    *      90        62        3.0       364        1600
 0.06      1        3
       4. River/Long WB LTR   *      90        54        3.0      1507        1600
 0.06      1        3
       5. River/Long SB LT    *      90        62        3.0       291        1600
 0.06      1        3
       6. River/Long SB R     *      90        64        3.0       190        1600
 0.06      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       548        1600
 0.06      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       113        1600
 0.06      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1015        1600
 0.06      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       124        1600
 0.06      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        55        1600
 0.06      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       641        1600
 0.06      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1054        1600
 0.06      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       151        1600
 0.06      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       618        1600
 0.06      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       233        1600
 0.06      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       488        1600
 0.06      1        3
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     18. River/Short EB TR   *     93        43        3.0        727         1600
0.06      1        3
     19. River/Short NB LR   *     93        73        3.0        212         1600
0.06      1        3
     20. River/Short WB LTR  *     93        43        3.0       1355         1600
0.06      1        3
     21. Brook/Long EB LTR   *    120        78        3.0        703         1600
0.06      1        3
     22. Brook/Long NB LT    *    120        78        3.0        461         1600
0.06      1        3
     23. Brook/Long NB R     *    120        66        3.0        262         1600
0.06      1        3
     24. Brook/Long WB TTR   *    120        66        3.0        791         1600
0.06      1        3
     25. Brook/Long SB LTR   *    120        78        3.0        279         1600
0.06      1        3
     26. Beth/Brook EB TTR   *    120        61        3.0        838         1600
0.06      1        3
     27. Beth/Brook NB LR    *    120        96        3.0        161         1600
0.06      1        3
     28. Beth/Brook WB LT    *    120       104        3.0        799         1600
0.06      1        3

      RECEPTOR LOCATIONS
      ------------------
                             *          COORDINATES (FT)           *
        RECEPTOR             *      X           Y          Z       *
    -------------------------*-------------------------------------*
     1. River/Long NE1       *      -978.8      215.4        6.0   *
     2. River/Long NE2       *      -904.3      201.6        6.0   *
     3. River/Long NE3       *      -831.3      188.0        6.0   *
     4. River/Long NE4       *      -788.0      251.3        6.0   *
     5. River/Long NE5       *      -746.6      311.8        6.0   *
     6. River/Long SE1       *      -639.8      294.3        6.0   *
     7. River/Long SE2       *      -682.2      232.4        6.0   *
     8. River/Long SE3       *      -724.5      170.5        6.0   *
     9. River/Long SE4       *      -662.6      128.1        6.0   *
    10. River/Long SE5       *      -600.7       85.8        6.0   *
    11. River/Long SW1       *      -638.2       21.8        6.0   *
    12. River/Long SW2       *      -700.1       64.1        6.0   *
    13. River/Long SW3       *      -762.0      106.5        6.0   *
    14. River/Long SW4       *      -790.3       37.0        6.0   *
    15. River/Long SW5       *      -818.6      -32.5        6.0   *
    16. River/Long NW1       *      -921.8      -26.0        6.0   *
    17. River/Long NW2       *      -893.5       43.5        6.0   *
    18. River/Long NW3       *      -865.2      112.9        6.0   *
    19. River/Long NW4       *      -938.9      126.7        6.0   *
    20. River/Long NW5       *     -1012.7      140.4        6.0   *
    21. Brook/Deacon NE1     *      -468.0     -576.8        6.0   *
    22. Brook/Deacon NE2     *      -408.9     -623.0        6.0   *
    23. Brook/Deacon NE3     *      -349.9     -669.2        6.0   *
♀
                          PAGE  4
     JOB: Winsor School                                 RUN: 2010EX


     DATE :  1/13/11
     TIME : 15:48:54


      RECEPTOR LOCATIONS
      ------------------
                             *          COORDINATES (FT)           *
```

RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (ug/m**3)

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	1.	2.	3.	3.	3.	0.	1.	1.	1.	1.
10.	*	0.	0.	0.	0.	0.	1.	2.	2.	0.	0.	1.	1.	3.	2.	3.	1.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	0.	1.	2.	2.	2.	2.	2.	2.	1.	1.
30.	*	0.	0.	1.	1.	0.	0.	1.	1.	0.	0.	1.	1.	2.	1.	1.	2.	2.	3.	1.	1.
40.	*	0.	0.	2.	2.	1.	0.	0.	1.	0.	0.	1.	1.	1.	1.	1.	3.	3.	3.	2.	1.
50.	*	0.	1.	3.	3.	2.	0.	0.	1.	0.	0.	1.	1.	1.	1.	1.	3.	3.	4.	2.	1.

```
  60.  *    1.    1.    3.    3.    2.    0.    1.    0.    0.    0.    1.    1.
1.    1.    1.    3.    3.    4.    3.    2.
  70.  *    1.    2.    3.    3.    3.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    3.    3.    2.
  80.  *    1.    2.    3.    3.    3.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    2.    3.    3.    2.
  90.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    2.    2.    2.
 100.  *    1.    2.    2.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    2.    2.    2.
 110.  *    2.    2.    3.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    2.    2.    1.
 120.  *    2.    2.    3.    3.    3.    0.    0.    0.    0.    0.    1.    0.
1.    0.    0.    2.    2.    2.    2.    1.
 130.  *    2.    2.    3.    3.    3.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    2.    2.    2.    1.    1.
 140.  *    2.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 150.  *    2.    2.    2.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 160.  *    2.    2.    3.    3.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 170.  *    1.    2.    3.    3.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    0.    0.
 180.  *    1.    2.    3.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 190.  *    1.    2.    3.    3.    4.    0.    1.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 200.  *    1.    1.    2.    3.    3.    1.    1.    1.    0.    0.    0.    0.
1.    1.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    2.    2.    1.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    2.    2.    3.    1.    1.    0.    0.
2.    2.    1.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    3.    3.    3.    1.    1.    0.    0.
2.    2.    1.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    0.    3.    3.    3.    2.    1.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    3.    3.    3.    2.    1.    0.    1.
2.    2.    2.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    3.    2.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    2.    2.    3.    2.    2.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    1.    1.
3.    2.    2.    0.    0.    1.    0.    0.
 300.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    1.    2.
3.    2.    2.    0.    0.    1.    1.    0.
 310.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    3.    2.    0.    0.    2.    1.    0.
 320.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    3.    2.    0.    0.    1.    1.    0.
 330.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    2.    2.
3.    3.    2.    0.    0.    1.    1.    0.
 340.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    2.    2.
3.    2.    3.    0.    1.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
3.    3.    3.    0.    1.    1.    1.    1.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
3.    3.    3.    0.    1.    1.    1.    1.
```

```
------*---------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    3.    4.    3.    3.    3.    2.    2.    2.    2.
3.    3.    3.    3.    3.    4.    3.    2.
 DEGR. *  120   120    60   180   190   240   240   260   270   280   320   340
290     0     0    50    50    50    60    70

♀
                            PAGE  6
      JOB: Winsor School                                        RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*---------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    1.    1.
2.    3.    2.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    1.    1.
3.    3.    2.    0.    0.    0.    0.    0.
  20.  *    0.    0.    0.    0.    1.    2.    3.    3.    2.    1.    1.    1.
3.    3.    3.    0.    0.    1.    0.    0.
  30.  *    0.    0.    2.    2.    2.    3.    3.    3.    1.    1.    1.    2.
4.    4.    3.    1.    2.    2.    0.    0.
  40.  *    1.    1.    3.    4.    4.    2.    2.    2.    1.    0.    0.    1.
3.    2.    3.    3.    3.    3.    1.    1.
  50.  *    1.    2.    4.    4.    4.    1.    1.    1.    0.    0.    0.    0.
1.    1.    1.    3.    3.    3.    2.    1.
  60.  *    1.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    3.    2.    1.
  70.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
  80.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
  90.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 100.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 110.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 120.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 130.  *    1.    1.    2.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 140.  *    1.    1.    2.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 150.  *    1.    1.    2.    2.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 160.  *    1.    1.    2.    2.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    1.    0.
```

```
 170.  *    1.    1.    2.    3.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    1.    0.
 180.  *    0.    1.    2.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 190.  *    0.    1.    2.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 200.  *    0.    0.    2.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 210.  *    0.    0.    1.    2.    3.    1.    1.    1.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    0.    0.
 220.  *    0.    0.    1.    1.    2.    1.    1.    2.    0.    0.    0.    0.
1.    1.    0.    0.    0.    1.    0.    0.
 230.  *    0.    0.    0.    1.    1.    2.    2.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    0.    0.    0.    2.    2.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    0.    0.    0.
2.    2.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    0.    0.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    0.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 340.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    1.    0.    0.
 350.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
2.    2.    2.    0.    0.    0.    0.    0.
 360.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    1.    1.
2.    3.    2.    0.    0.    0.    0.    0.

------*-----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    2.    4.    4.    4.    3.    3.    3.    2.    1.    1.    2.
4.    4.    3.    3.    3.    3.    2.    1.
 DEGR. *   60    50    50    50    50    30    30    30    20     0   330    30
30    30    30    50    50    40    60    60

♀
                               PAGE  7
      JOB: Winsor School                                         RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.	0.	0.	0.	0.	2.	2.	2.	3.	2.
10.	0.	0.	0.	0.	0.	2.	2.	3.	3.	3.
20.	0.	0.	0.	1.	1.	3.	2.	3.	4.	3.
30.	0.	0.	2.	2.	2.	3.	3.	3.	4.	4.
40.	0.	1.	4.	4.	4.	3.	2.	2.	3.	3.
50.	1.	2.	4.	4.	4.	1.	1.	1.	2.	1.
60.	1.	1.	4.	4.	4.	0.	0.	0.	1.	0.
70.	1.	2.	4.	3.	4.	0.	0.	0.	1.	0.
80.	1.	1.	3.	3.	4.	0.	0.	0.	1.	0.
90.	1.	1.	3.	2.	4.	0.	0.	0.	1.	0.
100.	1.	1.	3.	2.	3.	0.	0.	0.	1.	0.
110.	1.	1.	3.	2.	3.	0.	0.	0.	1.	0.
120.	1.	1.	3.	2.	2.	0.	0.	0.	2.	0.
130.	1.	1.	3.	3.	2.	0.	0.	0.	1.	0.
140.	1.	1.	3.	3.	2.	0.	0.	0.	1.	0.
150.	1.	1.	2.	3.	2.	0.	0.	0.	1.	0.
160.	1.	1.	2.	3.	2.	0.	0.	0.	1.	0.
170.	1.	1.	3.	3.	2.	0.	0.	0.	1.	0.
180.	0.	1.	3.	3.	2.	0.	0.	0.	0.	0.
190.	0.	1.	3.	4.	3.	0.	0.	0.	0.	0.
200.	0.	1.	3.	4.	4.	0.	0.	1.	0.	0.
210.	0.	0.	2.	3.	3.	0.	1.	1.	1.	0.
220.	0.	0.	1.	2.	2.	1.	1.	2.	2.	1.
230.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.
240.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
250.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
260.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
270.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
280.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
290.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
300.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
310.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
320.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
330.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
340.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
350.	0.	0.	0.	0.	0.	1.	2.	2.	2.	3.
360.	0.	0.	0.	0.	0.	2.	2.	2.	3.	2.
MAX	1.	2.	4.	4.	4.	3.	3.	3.	4.	4.
DEGR.	60	50	50	50	60	30	30	30	20	30

THE HIGHEST CONCENTRATION OF 4. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                PAGE  1

      JOB: Winsor School                                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:54:31

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG      0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG      0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG      0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG      0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG      0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG      0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG      0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG      0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG      0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG      0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG      0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG      0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG      0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG      0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG      0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG      0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
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120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      0. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                              PAGE  2
      JOB: Winsor School                                    RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:54:31

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                *   X1         Y1         X2         Y2      *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                       RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:54:31

       1. River/Long EB L     *      90         64        3.0        189        1600
 0.06      1        3
       2. River/Long EB TR    *      90         54        3.0        631        1600
 0.06      1        3
       3. River/Long NB LT    *      90         62        3.0        364        1600
 0.06      1        3
       4. River/Long WB LTR   *      90         54        3.0       1507        1600
 0.06      1        3
       5. River/Long SB LT    *      90         62        3.0        291        1600
 0.06      1        3
       6. River/Long SB R     *      90         64        3.0        190        1600
 0.06      1        3
       7. Brook/Deacon EB TR  *     120         65        3.0        548        1600
 0.06      1        3
       8. Brook/Deacon NB LR  *     120         90        3.0        113        1600
 0.06      1        3
       9. Brook/Deacon WB LT  *     120        110        3.0       1015        1600
 0.06      1        3
      10. Brook/Deacon SB LR  *     120         90        3.0        124        1600
 0.06      1        3
      11. Brook/Joslin EB L   *     120         70        3.0         55        1600
 0.06      1        3
      12. Brook/Joslin EB T   *     120         70        3.0        641        1600
 0.06      1        3
      13. Brook/Joslin WB TTR *     120         70        3.0       1054        1600
 0.06      1        3
      14. Binney/Long EB LTR  *     120         90        3.0        151        1600
 0.06      1        3
      15. Binney/Long NB LTR  *     120         49        3.0        618        1600
 0.06      1        3
      16. Binney/Long WB LTR  *     120         90        3.0        233        1600
 0.06      1        3
      17. Binney/Long SB LTR  *     120         49        3.0        488        1600
 0.06      1        3
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        18. River/Short EB TR   *      93        43        3.0        727        1600
   0.06      1        3
        19. River/Short NB LR   *      93        73        3.0        212        1600
   0.06      1        3
        20. River/Short WB LTR  *      93        43        3.0       1355        1600
   0.06      1        3
        21. Brook/Long EB LTR   *     120        78        3.0        703        1600
   0.06      1        3
        22. Brook/Long NB LT    *     120        78        3.0        461        1600
   0.06      1        3
        23. Brook/Long NB R     *     120        66        3.0        262        1600
   0.06      1        3
        24. Brook/Long WB TTR   *     120        66        3.0        791        1600
   0.06      1        3
        25. Brook/Long SB LTR   *     120        78        3.0        279        1600
   0.06      1        3
        26. Beth/Brook EB TTR   *     120        61        3.0        838        1600
   0.06      1        3
        27. Beth/Brook NB LR    *     120        96        3.0        161        1600
   0.06      1        3
        28. Beth/Brook WB LT    *     120       104        3.0        799        1600
   0.06      1        3

         RECEPTOR LOCATIONS
         ------------------
                                *          COORDINATES (FT)          *
           RECEPTOR             *      X          Y          Z       *
       -------------------------*------------------------------------*
        1. Brook/Long NE1       *      -189.0     -227.6        6.0   *
        2. Brook/Long NE2       *      -130.2     -274.2        6.0   *
        3. Brook/Long NE3       *       -71.4     -320.7        6.0   *
        4. Brook/Long NE4       *       -24.6     -262.1        6.0   *
        5. Brook/Long NE5       *        22.3     -203.5        6.0   *
        6. Brook/Long SE1       *       107.1     -254.3        6.0   *
        7. Brook/Long SE2       *        60.3     -312.9        6.0   *
        8. Brook/Long SE3       *        13.5     -371.5        6.0   *
        9. Brook/Long SE4       *        72.9     -417.2        6.0   *
       10. Brook/Long SE5       *       132.4     -463.0        6.0   *
       11. Brook/Long SW1       *        72.2     -540.4        6.0   *
       12. Brook/Long SW2       *        12.8     -494.6        6.0   *
       13. Brook/Long SW3       *       -46.6     -448.9        6.0   *
       14. Brook/Long SW4       *       -91.9     -508.7        6.0   *
       15. Brook/Long SW5       *      -137.1     -568.6        6.0   *
       16. Brook/Long NW1       *      -207.2     -498.8        6.0   *
       17. Brook/Long NW2       *      -162.0     -439.0        6.0   *
       18. Brook/Long NW3       *      -116.8     -379.1        6.0   *
       19. Brook/Long NW4       *      -175.6     -332.6        6.0   *
       20. Brook/Long NW5       *      -234.4     -286.1        6.0   *
       21. Binney/Long NE1      *       137.4     -466.5        6.0   *
       22. Binney/Long NE2      *       197.4     -511.4        6.0   *
       23. Binney/Long NE3      *       257.5     -556.3        6.0   *
♀
                             PAGE  4
        JOB: Winsor School                                      RUN: 2010EX


        DATE :  1/13/11
        TIME : 15:54:31


         RECEPTOR LOCATIONS
         ------------------
                                *          COORDINATES (FT)          *
```

RECEPTOR	*	X	Y	Z	*
24. Binney/Long NE4	*	302.7	-496.6	6.0	*
25. Binney/Long NE5	*	348.0	-436.8	6.0	*
26. Binney/Long SE1	*	399.8	-491.0	6.0	*
27. Binney/Long SE2	*	354.5	-550.8	6.0	*
28. Binney/Long SE3	*	309.3	-610.6	6.0	*
29. Binney/Long SE4	*	369.6	-655.0	6.0	*
30. Binney/Long SE5	*	429.3	-698.9	6.0	*
31. Binney/Long SW1	*	394.1	-778.9	6.0	*
32. Binney/Long SW2	*	340.7	-725.6	6.0	*
33. Binney/Long SW3	*	280.3	-681.2	6.0	*
34. Binney/Long SW4	*	234.3	-740.4	6.0	*
35. Binney/Long SW5	*	188.6	-799.2	6.0	*
36. Binney/Long NW1	*	131.4	-771.8	6.0	*
37. Binney/Long NW2	*	177.5	-712.5	6.0	*
38. Binney/Long NW3	*	223.5	-653.3	6.0	*
39. Binney/Long NW4	*	163.4	-608.4	6.0	*
40. Binney/Long NW5	*	103.4	-563.4	6.0	*
41. Beth/Brook SE1	*	463.4	227.5	6.0	*
42. Beth/Brook SE2	*	417.4	168.2	6.0	*
43. Beth/Brook SE3	*	371.4	109.0	6.0	*
44. Beth/Brook SE4	*	433.6	67.0	6.0	*
45. Beth/Brook SE5	*	495.7	25.1	6.0	*
46. Beth/Brook SW1	*	454.8	-29.4	6.0	*
47. Beth/Brook SW2	*	392.6	12.6	6.0	*
48. Beth/Brook SW3	*	330.5	54.6	6.0	*
49. Beth/Brook SW4	*	285.5	-5.5	6.0	*
50. Beth/Brook SW5	*	240.6	-65.5	6.0	*
51. Beth/Brook N1	*	191.3	12.2	6.0	*
52. Beth/Brook N2	*	242.0	79.9	6.0	*
53. Beth/Brook N3	*	287.0	140.0	6.0	*
54. Beth/Brook N4	*	332.7	199.4	6.0	*
55. Beth/Brook N5	*	372.8	251.0	6.0	*

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	2.	3.	3.	3.	2.	0.	0.	1.	1.	0.
10. *	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	2.	2.	3.	3.	3.	0.	1.	1.	1.	0.
20. *	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	2.	2.	3.	4.	3.	1.	1.	1.	0.	0.
30. *	0.	0.	2.	2.	2.	2.	2.	2.	1.	1.	2.	2.								

```
3.    3.    3.    2.    2.    2.    1.    1.
  40.  *    0.    1.    3.    3.    3.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    4.    4.    4.    2.    1.
  50.  *    1.    1.    4.    3.    3.    0.    0.    0.    0.    0.    1.    1.
2.    1.    1.    4.    4.    4.    2.    1.
  60.  *    1.    1.    4.    3.    3.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    4.    4.    4.    2.    1.
  70.  *    0.    1.    4.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    4.    4.    4.    2.    1.
  80.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    4.    4.    4.    2.    1.
  90.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    1.
2.    0.    0.    3.    4.    3.    2.    2.
 100.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    3.    3.    4.    2.    2.
 110.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    4.    2.    2.
 120.  *    1.    2.    3.    3.    2.    0.    0.    0.    1.    0.    1.    1.
1.    0.    0.    2.    3.    4.    2.    2.
 130.  *    2.    2.    4.    3.    2.    0.    0.    1.    1.    1.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
 140.  *    2.    2.    4.    4.    2.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    3.    2.    1.
 150.  *    2.    2.    4.    4.    2.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    3.    1.    1.
 160.  *    2.    2.    4.    4.    3.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    3.    1.    1.
 170.  *    2.    2.    4.    4.    3.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    3.    1.    1.
 180.  *    1.    2.    4.    4.    4.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    3.    3.    1.    1.
 190.  *    1.    2.    4.    4.    4.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.    3.    3.    3.    1.    1.
 200.  *    1.    2.    4.    4.    4.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.    4.    3.    3.    1.    0.
 210.  *    1.    1.    4.    4.    4.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.    3.    3.    3.    1.    0.
 220.  *    0.    1.    3.    3.    3.    2.    2.    3.    2.    1.    0.    0.
1.    1.    1.    2.    2.    2.    0.    0.
 230.  *    0.    0.    2.    1.    1.    3.    3.    3.    2.    1.    0.    0.
2.    2.    1.    1.    1.    1.    0.    0.
 240.  *    0.    0.    1.    1.    1.    3.    3.    3.    3.    1.    0.    1.
3.    2.    2.    0.    0.    0.    0.    0.
 250.  *    0.    0.    1.    0.    0.    3.    3.    3.    3.    2.    1.    1.
3.    2.    2.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    3.    3.    3.    2.    1.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    2.    2.    3.    3.    2.    1.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 280.  *    0.    1.    1.    0.    0.    2.    2.    3.    3.    2.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 290.  *    0.    1.    1.    0.    0.    2.    2.    3.    2.    2.    1.    2.
2.    2.    1.    0.    0.    0.    0.    0.
 300.  *    0.    1.    1.    0.    0.    2.    2.    3.    2.    2.    1.    2.
3.    2.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    2.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
3.    3.    1.    0.    0.    1.    0.    0.
 330.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
3.    2.    1.    0.    0.    1.    0.    0.
 340.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
3.    3.    2.    0.    0.    1.    0.    0.
```

```
 350.  *     0.     0.     0.     0.     0.     2.     2.     3.     1.     1.     2.     2.
3.    3.     2.     0.     0.     1.     1.     0.
 360.  *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     2.     3.
3.    3.     2.     0.     0.     1.     1.     0.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *     2.     2.     4.     4.     4.     3.     3.     3.     3.     2.     2.     3.
3.    4.     3.     4.     4.     4.     2.     2.
 DEGR. *   140    150    200    190    200    230    250    230    260    290    350      0
20    20     20     50     50     50    100    110

♀
                             PAGE  6
      JOB: Winsor School                                                   RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *     0.     0.     0.     1.     0.     0.     1.     1.     0.     0.     0.     2.
2.    1.     1.     1.     1.     1.     2.     1.
  10.  *     1.     1.     0.     0.     0.     0.     0.     1.     0.     0.     0.     1.
2.    2.     1.     1.     1.     2.     2.     1.
  20.  *     1.     1.     0.     0.     0.     0.     0.     1.     0.     0.     0.     1.
2.    1.     1.     1.     1.     1.     2.     1.
  30.  *     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     1.
1.    1.     1.     1.     1.     2.     2.     1.
  40.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    1.     0.     1.     1.     1.     1.     1.
  50.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     1.     1.     1.     1.     1.
  60.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     1.     1.     1.     1.     1.
  70.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     0.     1.     1.     1.     1.
  80.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     0.     1.     1.     1.     1.
  90.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     0.     1.     1.     1.     2.
 100.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
1.    0.     0.     0.     1.     1.     1.     1.
 110.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     1.     1.
 120.  *     0.     1.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     1.     1.
 130.  *     1.     1.     1.     0.     0.     0.     0.     0.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     1.     0.
 140.  *     1.     1.     1.     0.     0.     0.     0.     1.     0.     0.     0.     0.
```

```
0.    0.    0.    0.    0.    0.    0.    0.
 150.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 160.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 170.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 180.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 190.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 200.  *    1.    1.    1.    1.    1.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 210.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 250.  *    2.    1.    1.    1.    1.    1.    1.    1.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 260.  *    2.    1.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 270.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 290.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 300.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    1.    1.
2.    1.    0.    0.    1.    1.    1.    1.
 310.  *    2.    1.    2.    1.    0.    0.    1.    2.    1.    1.    1.    2.
2.    1.    0.    0.    1.    2.    2.    2.
 320.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    1.    1.    2.
2.    1.    1.    1.    1.    2.    2.    2.
 330.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    2.
2.    2.    1.    1.    1.    2.    2.    2.
 340.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    2.
2.    1.    1.    1.    1.    2.    2.    2.
 350.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    2.
2.    1.    1.    1.    1.    2.    2.    2.
 360.  *    0.    0.    0.    1.    0.    0.    1.    1.    0.    0.    0.    2.
2.    1.    1.    1.    1.    1.    2.    1.

------*----------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    2.    1.    1.    1.    2.    2.    2.    2.    1.    2.
2.    2.    1.    1.    1.    2.    2.    2.
 DEGR. *  290   290   290   190   270   280   290   300   280   300   310   330
310    10    10    10    10   320   320   340
```

♀

PAGE 7

JOB: Winsor School RUN: 2010EX

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	*	1.	2.	3.	1.	1.	1.	2.	3.	3.	2.	0.	0.	0.	0.	0.
10.	*	1.	2.	3.	1.	1.	1.	2.	3.	3.	3.	0.	0.	0.	0.	0.
20.	*	2.	2.	3.	1.	1.	1.	1.	3.	3.	3.	1.	1.	0.	0.	0.
30.	*	2.	2.	2.	1.	1.	1.	1.	3.	3.	3.	2.	2.	2.	1.	1.
40.	*	1.	1.	2.	0.	0.	0.	1.	2.	2.	2.	3.	3.	3.	3.	2.
50.	*	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	4.	4.	4.	3.	3.
60.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	3.	3.
70.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
80.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
90.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
100.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	2.	3.	3.
110.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	3.	3.
120.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	3.	3.
130.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	3.	3.
140.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	3.	3.	3.
150.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	3.	3.
160.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
170.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
180.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	3.	4.
190.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	3.	4.
200.	*	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
210.	*	1.	1.	1.	1.	0.	0.	0.	1.	1.	1.	3.	3.	3.	3.	4.
220.	*	2.	2.	2.	1.	0.	0.	1.	2.	2.	2.	2.	2.	2.	2.	2.
230.	*	3.	3.	3.	1.	1.	1.	1.	3.	2.	2.	1.	1.	1.	1.	1.
240.	*	3.	3.	3.	2.	1.	1.	1.	3.	2.	1.	0.	0.	0.	0.	0.
250.	*	3.	2.	2.	2.	1.	1.	1.	3.	2.	1.	0.	0.			

```
0.    0.    0.
 260.  *    3.    2.    2.    2.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    3.    2.    2.    2.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 280.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 290.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 300.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 310.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 320.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 330.  *    1.    2.    2.    1.    1.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 340.  *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 350.  *    1.    2.    2.    1.    1.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    1.    2.    3.    1.    1.    1.    2.    3.    3.    2.    0.    0.
0.    0.    0.

------*----------------------------------------------------------------------------
-------------
 MAX   *    3.    3.    3.    2.    1.    1.    2.    3.    3.    3.    4.    4.
4.    4.    4.
 DEGR. *  240   230   240   270   280   320     0    20    20    20    50    50
50   200   200

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC5 .
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♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                           PAGE  1

      JOB: Winsor School                                            RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 8

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -851.5      39.7 *      66.
202. AG       0. 100.0   1.0 10.0 0.51   3.4
       2. River/Long EB TR    *   -811.5      92.4    -844.6       5.5 *      93.
201. AG       0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LT    *   -736.1     146.0    -682.6     115.2 *      62.
120. AG       0. 100.0   1.0 20.0 0.45   3.1
       4. River/Long WB LTR   *   -795.7     191.2    -688.8     351.5 *     193.
34. AG       0. 100.0   1.0 30.0 0.91   9.8
       5. River/Long SB LT    *   -860.9     156.1    -959.9     174.4 *     101.
280. AG       0. 100.0   1.0 10.0 0.71   5.1
       6. River/Long SB R     *   -867.3     144.3    -932.8     156.0 *      66.
280. AG       0. 100.0   1.0 10.0 0.51   3.4
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -409.3    -844.2 *      97.
218. AG       0. 100.0   1.0 20.0 0.41   4.9
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -284.4    -766.7 *      28.
128. AG       0. 100.0   1.0 20.0 0.17   1.4
       9. Brook/Deacon WB LT  *   -338.4    -690.9    2710.5    3209.6 *    4951.
38. AG       0. 100.0   1.0 20.0 7.68 251.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -404.2    -683.8 *      31.
308. AG       0. 100.0   1.0 20.0 0.19   1.5
      11. Brook/Joslin EB L   *   -281.4    -673.2    -294.8    -689.4 *      21.
220. AG       0. 100.0   1.0 10.0 0.09   1.1
      12. Brook/Joslin EB T   *   -272.0    -680.1    -763.4   -1293.7 *     786.
219. AG       0. 100.0   1.0 10.0 1.07  39.9
      13. Brook/Joslin WB TTR *   -284.6    -643.4    -144.2    -461.2 *     230.
38. AG       0. 100.0   1.0 20.0 0.88  11.7
      14. Binney/Long EB LTR  *    253.1    -669.4     203.5    -724.8 *      74.
222. AG       0. 100.0   1.0 10.0 0.45   3.8
      15. Binney/Long NB LTR  *    297.7    -636.1     365.2    -684.0 *      83.
125. AG       0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     315.9    -532.0 *      57.
37. AG       0. 100.0   1.0 20.0 0.35   2.9
      17. Binney/Long SB LTR  *    217.5    -600.0     164.2    -562.1 *      65.
305. AG       0. 100.0   1.0 20.0 0.28   3.3
      18. River/Short EB TR   *   -145.9     542.6    -223.2     506.5 *      85.
245. AG       0. 100.0   1.0 20.0 0.47   4.3
      19. River/Short NB LR   *    -92.0     525.1     -55.3     504.0 *      42.
```

```
120. AG      0. 100.0   1.0 20.0 0.41   2.1
      20. River/Short WB LTR  *   -103.9     601.6     -13.4     656.9 *     106.
59. AG      0. 100.0   1.0 30.0 0.58   5.4
      21. Brook/Long EB LTR   *    -61.3    -419.3    -125.2    -496.0 *     100.
220. AG      0. 100.0   1.0 30.0 0.47   5.1
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      82.9    -446.9 *      95.
127. AG      0. 100.0   1.0 10.0 0.40   4.8
      24. Brook/Long WB TTR   *    -34.0    -333.3      26.2    -259.9 *      95.
39. AG      0. 100.0   1.0 30.0 0.40   4.8
      25. Brook/Long SB LTR   *    -99.3    -348.1    -146.1    -311.8 *      59.
308. AG      0. 100.0   1.0 20.0 0.28   3.0
      26. Beth/Brook EB TTR   *    319.8      83.8     238.9     -30.2 *     140.
215. AG      0. 100.0   1.0 20.0 0.58   7.1
      27. Beth/Brook NB LR    *    367.5      87.0     438.1      40.3 *      85.
123. AG      0. 100.0   1.0 10.0 0.64   4.3
      28. Beth/Brook WB LT    *    344.4     154.4    2153.6    2392.8 *    2878.
39. AG      0. 100.0   1.0 20.0 2.73 146.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    674.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   1757.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1211.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1528.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    124.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1598.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    188.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   1679.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG     94.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1695.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1159.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2208.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    606.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2371.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1211.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    304.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                    RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 8

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2      *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*-----------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1113.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    352.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   1650.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    261.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   1685.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2181.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    212.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2195.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56: 8

       1. River/Long EB L     *      90        64       3.0       189        1600
 0.06      1        3
       2. River/Long EB TR    *      90        54       3.0       631        1600
 0.06      1        3
       3. River/Long NB LT    *      90        62       3.0       364        1600
 0.06      1        3
       4. River/Long WB LTR   *      90        54       3.0      1507        1600
 0.06      1        3
       5. River/Long SB LT    *      90        62       3.0       291        1600
 0.06      1        3
       6. River/Long SB R     *      90        64       3.0       190        1600
 0.06      1        3
       7. Brook/Deacon EB TR  *     120        65       3.0       548        1600
 0.06      1        3
       8. Brook/Deacon NB LR  *     120        90       3.0       113        1600
 0.06      1        3
       9. Brook/Deacon WB LT  *     120       110       3.0      1015        1600
 0.06      1        3
      10. Brook/Deacon SB LR  *     120        90       3.0       124        1600
 0.06      1        3
      11. Brook/Joslin EB L   *     120        70       3.0        55        1600
 0.06      1        3
      12. Brook/Joslin EB T   *     120        70       3.0       641        1600
 0.06      1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1054        1600
 0.06      1        3
      14. Binney/Long EB LTR  *     120        90       3.0       151        1600
 0.06      1        3
      15. Binney/Long NB LTR  *     120        49       3.0       618        1600
 0.06      1        3
      16. Binney/Long WB LTR  *     120        90       3.0       233        1600
 0.06      1        3
      17. Binney/Long SB LTR  *     120        49       3.0       488        1600
 0.06      1        3
```

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     18. River/Short EB TR    *     93        43        3.0        727        1600
0.06      1        3
     19. River/Short NB LR    *     93        73        3.0        212        1600
0.06      1        3
     20. River/Short WB LTR   *     93        43        3.0       1355        1600
0.06      1        3
     21. Brook/Long EB LTR    *    120        78        3.0        703        1600
0.06      1        3
     22. Brook/Long NB LT     *    120        78        3.0        461        1600
0.06      1        3
     23. Brook/Long NB R      *    120        66        3.0        262        1600
0.06      1        3
     24. Brook/Long WB TTR    *    120        66        3.0        791        1600
0.06      1        3
     25. Brook/Long SB LTR    *    120        78        3.0        279        1600
0.06      1        3
     26. Beth/Brook EB TTR    *    120        61        3.0        838        1600
0.06      1        3
     27. Beth/Brook NB LR     *    120        96        3.0        161        1600
0.06      1        3
     28. Beth/Brook WB LT     *    120       104        3.0        799        1600
0.06      1        3

      RECEPTOR LOCATIONS
      ------------------
                              *           COORDINATES (FT)          *
        RECEPTOR              *      X            Y          Z      *
    -------------------------*-----------------------------------*
     1. Short/River SE1      *        64.2       619.5        6.0   *
     2. Short/River SE2      *         0.6       579.2        6.0   *
     3. Short/River SE3      *       -62.3       538.9        6.0   *
     4. Short/River SE4      *        -2.3       494.0        6.0   *
     5. Short/River SE5      *        57.8       449.1        6.0   *
     6. Short/River SW1      *        -6.6       409.9        6.0   *
     7. Short/River SW2      *       -66.7       454.8        6.0   *
     8. Short/River SW3      *      -126.8       499.6        6.0   *
     9. Short/River SW4      *      -194.5       467.4        6.0   *
    10. Short/River SW5      *      -262.2       435.2        6.0   *
    11. Short/River N1       *      -300.6       529.9        6.0   *
    12. Short/River N2       *      -232.9       562.1        6.0   *
    13. Short/River N3       *      -165.2       594.3        6.0   *
    14. Short/River N4       *      -101.9       634.6        6.0   *
    15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                          PAGE  4
     JOB: Winsor School                                       RUN: 2010EX


      MODEL RESULTS
      -------------

      REMARKS : In search of the angle corresponding to
                the maximum concentration, only the first
                angle, of the angles with same maximum
                concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*---------------------------------------------------------------------------
-------------
    0.  *     0.     1.     2.     1.     0.     1.     2.     2.     2.     1.     0.     0.
0.    0.     0.
   10.  *     0.     1.     2.     0.     0.     0.     2.     2.     2.     2.     0.     0.
0.    0.     0.
   20.  *     0.     1.     2.     0.     0.     0.     1.     2.     2.     2.     0.     0.
0.    0.     0.
   30.  *     0.     1.     2.     0.     0.     0.     1.     2.     2.     2.     0.     0.
0.    0.     0.
   40.  *     0.     1.     1.     0.     0.     0.     0.     2.     2.     2.     0.     0.
0.    0.     0.
   50.  *     0.     0.     1.     0.     0.     0.     0.     2.     2.     2.     1.     1.
1.    0.     0.
   60.  *     0.     0.     1.     0.     0.     0.     1.     2.     2.     2.     1.     1.
1.    1.     0.
   70.  *     0.     0.     0.     0.     0.     0.     0.     1.     1.     1.     2.     2.
2.    2.     0.
   80.  *     0.     0.     0.     0.     0.     0.     0.     1.     1.     0.     2.     2.
2.    2.     0.
   90.  *     0.     0.     0.     0.     0.     0.     0.     1.     0.     0.     3.     2.
2.    2.     1.
  100.  *     0.     0.     0.     0.     0.     0.     0.     1.     0.     0.     2.     2.
2.    2.     1.
  110.  *     0.     0.     0.     0.     0.     0.     0.     1.     0.     0.     2.     2.
2.    2.     1.
  120.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     2.     2.
2.    2.     1.
  130.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     2.     2.
2.    2.     2.
  140.  *     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.     2.     2.
2.    2.     2.
  150.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     1.     2.
2.    3.     2.
  160.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     1.     2.
2.    2.     2.
  170.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     1.     2.
2.    2.     2.
  180.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     2.
2.    2.     3.
  190.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     1.
2.    2.     3.
  200.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     1.
2.    2.     3.
  210.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     1.
2.    2.     3.
  220.  *     0.     0.     1.     0.     0.     0.     0.     0.     0.     0.     0.     1.
2.    2.     3.
  230.  *     1.     1.     1.     0.     0.     0.     0.     0.     0.     0.     1.     1.
2.    2.     2.
  240.  *     2.     2.     2.     0.     0.     0.     0.     1.     1.     1.     1.     1.
1.    1.     1.
  250.  *     2.     2.     3.     1.     0.     0.     0.     1.     1.     1.     0.     0.
1.    0.     1.
  260.  *     2.     2.     3.     1.     0.     0.     0.     2.     1.     0.     0.     0.
0.    0.     0.
  270.  *     2.     2.     2.     1.     0.     0.     0.     2.     1.     0.     0.     0.
0.    0.     0.
  280.  *     2.     2.     2.     2.     1.     0.     1.     2.     1.     0.     0.     0.
0.    0.     0.
  290.  *     1.     2.     2.     2.     1.     0.     1.     2.     1.     0.     0.     0.
0.    0.     0.
  300.  *     1.     2.     2.     1.     1.     1.     1.     2.     1.     0.     0.     0.
```

```
0.    0.    0.
 310.  *    0.    2.    2.    1.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    2.    2.    1.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 330.  *    0.    2.    2.    1.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 340.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 350.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 360.  *    0.    1.    2.    1.    0.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    2.    2.    3.    2.    1.    1.    2.    2.    2.    2.    3.    2.
2.    3.    3.
 DEGR. *  250   250   250   290   290   320     0    30    40    40    90   110
80   150   200

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:16

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1476.0    -237.1 *    1237.
330. AG      0. 100.0   1.0 20.0 1.18  62.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -908.0   -1485.0 *      75.
217. AG      0. 100.0   1.0 30.0 0.45   3.8
       3. Brook/River NB LTR  *   -792.2   -1400.7    -732.2   -1586.0 *     195.
162. AG      0. 100.0   1.0 20.0 0.85   9.9
       4. Brook/River WB LTTR *   -798.5   -1299.5    -716.9   -1200.0 *     129.
39. AG      0. 100.0   1.0 30.0 0.56   6.5
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1824.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1601.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2318.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1131.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                          RUN: 2010EX


      DATE :  1/13/11
      TIME : 15:56:16

       1. Brook/River SB LTR  *     120       79       3.0      1135       1600
 0.06      1        3
       2. Brook/River EB LTR  *     120       89       3.0       464       1600
 0.06      1        3
       3. Brook/River NB LTR  *     120       79       3.0       813       1600
 0.06      1        3
       4. Brook/River WB LTTR *     120       69       3.0      1025       1600
 0.06      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
```

```
     -------------------------*-------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*----------------------------------------------------------------------------
-----------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    3.    3.
3.    3.    2.    0.    1.    2.    2.    2.
  10.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    3.    3.
3.    3.    2.    1.    1.    2.    2.    2.
  20.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    3.    3.
4.    3.    3.    1.    1.    2.    2.    2.
  30.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    2.    3.
3.    3.    2.    1.    1.    2.    2.    2.
  40.  *    0.    0.    1.    1.    0.    0.    1.    1.    0.    0.    2.    2.
3.    2.    2.    2.    2.    2.    2.    2.
  50.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.    2.    2.    3.    2.    2.
  60.  *    0.    0.    2.    2.    1.    0.    0.    0.    0.    0.    2.    2.
2.    1.    1.    2.    2.    3.    2.    2.
  70.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    1.    2.
2.    1.    1.    2.    2.    3.    3.    2.
  80.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    1.    2.
2.    1.    1.    2.    2.    3.    3.    2.
  90.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    2.
2.    1.    0.    2.    2.    3.    3.    2.
```

```
 100.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    2.
2.    1.    0.    2.    2.    3.    3.    3.
 110.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    2.
2.    1.    0.    2.    2.    3.    3.    3.
 120.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    2.
2.    1.    0.    1.    2.    3.    3.    3.
 130.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    2.
2.    0.    0.    1.    2.    3.    3.    3.
 140.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    3.    2.    3.
 150.  *    2.    2.    2.    2.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 160.  *    3.    3.    3.    2.    2.    0.    0.    1.    1.    0.    0.    0.
1.    0.    0.    1.    1.    2.    1.    1.
 170.  *    3.    3.    4.    3.    2.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    1.    1.    2.    1.    1.
 180.  *    3.    3.    4.    3.    3.    0.    1.    3.    2.    1.    0.    0.
0.    0.    0.    1.    1.    2.    1.    0.
 190.  *    2.    2.    3.    3.    3.    1.    1.    3.    2.    2.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 200.  *    2.    2.    3.    3.    3.    1.    1.    3.    2.    2.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 210.  *    2.    2.    3.    2.    3.    1.    2.    3.    2.    2.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 220.  *    2.    2.    2.    2.    2.    2.    2.    3.    2.    2.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 230.  *    2.    2.    2.    1.    1.    2.    3.    3.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    2.    2.    3.    3.    2.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    2.    2.    3.    3.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    2.    2.    3.    3.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 270.  *    2.    2.    2.    1.    1.    2.    2.    3.    3.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    2.    2.    3.    3.    3.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 290.  *    2.    2.    2.    1.    0.    2.    2.    3.    3.    3.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 300.  *    2.    2.    2.    1.    0.    2.    2.    3.    3.    3.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 310.  *    2.    2.    2.    1.    0.    2.    2.    3.    4.    4.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 320.  *    1.    2.    2.    0.    0.    2.    2.    3.    4.    4.    1.    1.
2.    1.    1.    0.    0.    1.    0.    0.
 330.  *    1.    1.    1.    0.    0.    1.    2.    3.    3.    4.    1.    2.
2.    2.    1.    0.    0.    1.    1.    1.
 340.  *    0.    0.    1.    0.    0.    1.    2.    2.    2.    2.    2.    2.
3.    2.    1.    0.    0.    2.    2.    2.
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    2.    3.    3.
3.    3.    2.    0.    1.    2.    2.    2.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    3.    3.
3.    3.    2.    0.    1.    2.    2.    2.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    4.    3.    3.    2.    3.    3.    4.    4.    3.    3.
4.    3.    3.    2.    2.    3.    3.    3.
 DEGR. *  170   170   180   180   200   240   230   310   320   320     0    10
20    10    20    60    50    50   130   130

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC10.
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♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                           PAGE  1

      JOB: Winsor School                                         RUN: 2010EX


      DATE :  1/10/11
      TIME :  9:27:36

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24417.7   43904.5 *      67.
37. AG      0. 100.0   1.0 30.0 0.43   3.4
       2. Boylston WB Q2      *  24434.8   43765.0   24516.6   43794.3 *      87.
70. AG      0. 100.0   1.0 40.0 0.64   4.4
       3. Park Dr NB Q3       *  24314.0   43650.6   24363.3   43581.4 *      85.
145. AG      0. 100.0   1.0 40.0 0.60   4.3
       4. Brookline EB Q4     *  24250.4   43637.9   24183.1   43552.1 *     109.
218. AG      0. 100.0   1.0 40.0 0.69   5.5
       5. Brookline Q27       *  24079.2   43421.1   22555.9   41316.3 *    2598.
216. AG      0. 100.0   1.0 20.0 1.68 132.0
       6. Fenway Q28          *  24063.7   43526.1   22579.1   45291.0 *    2306.
320. AG      0. 100.0   1.0 20.0 1.29 117.2
       7. Brookline Q29       *  24121.4   43515.8   25025.6   44645.0 *    1447.
39. AG      0. 100.0   1.0 20.0 1.35  73.5
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2336.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1102.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1121.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1022.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2159.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2165.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    795.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1740.   0.0   1.0 42.0
      16. roadway L36         *  24101.9   43474.9   24345.1   43435.8 *     246.
99. AG    235.   0.0   1.0 38.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2010EX
```

DATE : 1/10/11
TIME : 9:27:36

1. Brookline SB Q1	*	90	56	3.0	657	1600		
0.06							1	3
2. Boylston WB Q2	*	90	63	3.0	1008	1600		
0.06							1	3
3. Park Dr NB Q3	*	90	61	3.0	1022	1600		
0.06							1	3
4. Brookline EB Q4	*	90	56	3.0	1426	1600		
0.06							1	3
5. Brookline Q27	*	90	66	3.0	1130	1600		
0.06							1	3
6. Fenway Q28	*	90	47	3.0	1740	1600		
0.06							1	3
7. Brookline Q29	*	90	66	3.0	910	1600		
0.06							1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. R7	*	24234.6	43539.7	6.0	*
2. R8	*	24198.5	43493.8	6.0	*
3. R9	*	24247.7	43485.1	6.0	*
4. R10	*	24131.9	43603.0	6.0	*
5. R11	*	24100.2	43558.2	6.0	*
6. R12	*	24075.1	43588.8	6.0	*
7. R13	*	23988.8	43538.6	6.0	*
8. R14	*	24019.4	43509.1	6.0	*
9. R15	*	23968.0	43510.2	6.0	*
10. R16	*	23940.7	43418.5	6.0	*
11. R17	*	23992.1	43417.4	6.0	*
12. R18	*	23951.7	43364.0	6.0	*
13. R19	*	24080.6	43343.2	6.0	*
14. R20	*	24111.2	43390.1	6.0	*
15. R21	*	24138.5	43348.7	6.0	*
16. R22	*	24229.1	43394.5	6.0	*
17. R23	*	24198.5	43426.2	6.0	*
18. R24	*	24258.6	43409.8	6.0	*
19. R41	*	24433.6	43813.3	6.0	*
20. R42	*	24498.2	43841.4	6.0	*
21. R43	*	24569.1	43866.7	6.0	*
22. R44	*	24472.8	43859.6	6.0	*
23. R45	*	24517.8	43916.6	6.0	*
24. R46	*	24182.0	43865.3	6.0	*
25. R47	*	24230.1	43812.3	6.0	*
26. R48	*	24268.4	43766.0	6.0	*
27. R49	*	24307.2	43819.4	6.0	*
28. R50	*	24356.7	43884.0	6.0	*
29. R51	*	24367.5	43656.1	6.0	*
30. R52	*	24433.5	43678.3	6.0	*
31. R53	*	24498.6	43702.8	6.0	*
32. R54	*	24409.4	43607.5	6.0	*
33. R55	*	24444.6	43559.0	6.0	*
34. R56	*	24282.4	43606.2	6.0	*
35. R57	*	24328.7	43546.5	6.0	*
36. R58	*	24243.6	43550.9	6.0	*
37. R59	*	24204.3	43692.2	6.0	*
38. R60	*	24150.3	43751.0	6.0	*
39. R61	*	24161.0	43638.3	6.0	*

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	4.	3.	2.	0.	0.	0.	2.	2.	1.	1.	1.	1.	3.	4.	2.	2.	2.	2.	2.	1.
10. *	4.	4.	2.	0.	0.	0.	2.	2.	1.	1.	1.	1.	3.	4.	3.	2.	3.	2.	2.	1.
20. *	4.	4.	2.	0.	0.	0.	2.	2.	1.	1.	1.	1.	3.	4.	3.	2.	3.	2.	2.	1.
30. *	3.	3.	2.	1.	1.	0.	2.	2.	1.	1.	2.	2.	3.	4.	3.	2.	2.	2.	1.	1.
40. *	3.	3.	2.	2.	2.	1.	2.	3.	2.	2.	3.	3.	2.	3.	2.	1.	2.	2.	1.	0.
50. *	2.	2.	1.	3.	4.	2.	3.	4.	2.	3.	4.	4.	2.	2.	1.	1.	1.	1.	0.	0.
60. *	2.	1.	1.	4.	4.	3.	4.	4.	3.	3.	4.	4.	1.	1.	1.	1.	1.	1.	0.	0.
70. *	1.	1.	0.	4.	4.	3.	4.	4.	3.	2.	4.	3.	1.	1.	1.	0.	0.	0.	1.	1.
80. *	1.	0.	0.	4.	4.	3.	4.	3.	3.	2.	3.	2.	0.	1.	1.	0.	0.	0.	2.	2.
90. *	0.	0.	0.	4.	3.	3.	3.	3.	2.	2.	2.	2.	0.	1.	1.	0.	0.	0.	2.	2.
100. *	0.	0.	0.	3.	2.	2.	3.	3.	2.	2.	2.	2.	0.	1.	1.	0.	0.	0.	2.	2.
110. *	0.	0.	0.	3.	2.	2.	3.	3.	2.	2.	2.	2.	0.	1.	0.	0.	0.	0.	3.	2.
120. *	0.	0.	0.	3.	2.	2.	2.	3.	2.	1.	2.	2.	0.	1.	0.	0.	0.	0.	2.	1.
130. *	0.	0.	0.	3.	2.	2.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
140. *	0.	0.	0.	2.	2.	2.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
150. *	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
160. *	0.	0.	0.	2.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	3.	2.
170. *	0.	0.	0.	3.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
180. *	0.	0.	0.	3.	3.	3.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
190. *	0.	0.	0.	3.	3.	3.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	3.
200. *	0.	1.	0.	3.	3.	3.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	3.

```
 210.  *    1.    1.    1.    2.    3.    2.    0.    1.    0.    1.    2.    2.
0.    1.    0.    1.    1.    0.    3.    3.
 220.  *    2.    2.    1.    2.    2.    2.    0.    0.    0.    0.    1.    1.
1.    2.    1.    1.    1.    1.    4.    4.
 230.  *    3.    3.    2.    1.    2.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    4.    4.
 240.  *    3.    3.    2.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    4.    3.
 250.  *    3.    3.    2.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    3.    2.
 260.  *    3.    3.    2.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    2.    2.
 270.  *    3.    3.    2.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    2.    2.
 280.  *    3.    2.    2.    1.    2.    2.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    2.    2.
 290.  *    3.    3.    2.    1.    2.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    2.    1.
 300.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    3.    2.    2.    1.
 310.  *    3.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    3.    2.    2.    1.
 320.  *    3.    2.    2.    0.    1.    1.    1.    1.    0.    0.    0.    0.
2.    2.    2.    2.    2.    2.    2.    1.
 330.  *    3.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    2.    2.    2.    2.    1.
 340.  *    3.    3.    2.    0.    0.    0.    1.    2.    1.    0.    0.    0.
2.    3.    2.    2.    2.    2.    2.    1.
 350.  *    3.    3.    2.    0.    0.    0.    2.    2.    1.    0.    1.    0.
3.    4.    2.    2.    2.    2.    2.    1.
 360.  *    4.    3.    2.    0.    0.    0.    2.    2.    1.    1.    1.    1.
3.    4.    2.    2.    2.    2.    2.    1.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    4.    2.    4.    4.    3.    4.    4.    3.    3.    4.    4.
3.    4.    3.    2.    3.    2.    4.    4.
 DEGR. *    0    20     0    70    60    70    70    60    60    60    50    50
30    20    20   310   300    10   230   220
```

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                               PAGE  4
      JOB: Winsor School                                               RUN: 2010EX


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*--------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    1.    1.    0.    0.    0.    0.    0.    2.    3.    2.    2.
```

```
 2.     4.     3.     4.     1.     1.     0.
   10.  *      1.     1.     1.     0.     0.     0.     0.     0.     3.     3.     2.     2.
 1.     4.     4.     3.     1.     1.     0.
   20.  *      0.     2.     1.     0.     0.     0.     0.     0.     3.     3.     2.     2.
 1.     4.     4.     4.     1.     1.     0.
   30.  *      0.     1.     1.     0.     0.     1.     1.     0.     3.     3.     2.     2.
 1.     4.     3.     3.     1.     1.     1.
   40.  *      0.     1.     1.     0.     0.     1.     1.     1.     3.     2.     2.     1.
 1.     4.     3.     3.     2.     1.     2.
   50.  *      0.     0.     0.     0.     1.     2.     2.     2.     2.     2.     2.     1.
 1.     4.     2.     2.     3.     2.     3.
   60.  *      0.     0.     0.     1.     1.     2.     2.     2.     2.     2.     2.     1.
 0.     3.     2.     2.     4.     2.     4.
   70.  *      1.     0.     0.     1.     1.     3.     2.     2.     2.     1.     1.     0.
 0.     3.     1.     1.     5.     2.     5.
   80.  *      1.     1.     0.     1.     2.     3.     2.     2.     1.     1.     1.     0.
 0.     2.     1.     1.     5.     3.     4.
   90.  *      2.     1.     1.     1.     2.     3.     3.     3.     0.     0.     0.     0.
 0.     2.     1.     0.     5.     3.     4.
  100.  *      2.     1.     1.     1.     2.     3.     3.     3.     0.     0.     0.     0.
 0.     2.     1.     0.     4.     3.     3.
  110.  *      2.     1.     1.     1.     2.     3.     3.     3.     0.     0.     0.     0.
 0.     2.     1.     0.     4.     3.     3.
  120.  *      1.     1.     1.     1.     2.     3.     2.     3.     0.     0.     0.     0.
 0.     1.     1.     0.     4.     3.     3.
  130.  *      1.     1.     1.     2.     2.     3.     2.     3.     0.     0.     0.     0.
 0.     1.     1.     0.     4.     3.     3.
  140.  *      1.     1.     1.     2.     3.     4.     2.     3.     0.     0.     0.     0.
 0.     1.     1.     0.     3.     2.     3.
  150.  *      1.     2.     1.     3.     3.     4.     3.     3.     1.     0.     0.     1.
 1.     0.     0.     0.     3.     2.     3.
  160.  *      1.     2.     1.     2.     3.     4.     3.     3.     1.     0.     0.     1.
 1.     0.     0.     0.     3.     2.     3.
  170.  *      1.     2.     1.     2.     3.     4.     3.     2.     1.     0.     0.     1.
 1.     0.     0.     0.     3.     2.     3.
  180.  *      1.     2.     1.     2.     3.     4.     3.     3.     2.     0.     0.     1.
 1.     0.     0.     0.     3.     2.     3.
  190.  *      2.     2.     2.     2.     3.     4.     4.     3.     2.     0.     0.     1.
 1.     0.     0.     0.     3.     1.     3.
  200.  *      2.     2.     2.     2.     3.     4.     4.     3.     2.     1.     0.     1.
 1.     1.     0.     0.     3.     2.     3.
  210.  *      2.     3.     2.     2.     2.     4.     3.     3.     2.     1.     0.     1.
 1.     1.     0.     1.     3.     1.     2.
  220.  *      3.     3.     3.     1.     2.     3.     2.     2.     3.     2.     1.     1.
 1.     2.     1.     2.     2.     1.     2.
  230.  *      4.     3.     3.     1.     1.     2.     1.     1.     4.     2.     2.     2.
 1.     3.     1.     3.     1.     0.     1.
  240.  *      3.     3.     2.     1.     1.     1.     1.     0.     4.     3.     2.     2.
 2.     3.     1.     3.     0.     0.     1.
  250.  *      2.     2.     2.     1.     1.     1.     1.     0.     4.     3.     3.     3.
 2.     4.     2.     3.     0.     0.     1.
  260.  *      2.     2.     2.     1.     1.     1.     1.     0.     4.     3.     3.     3.
 2.     4.     2.     3.     0.     0.     1.
  270.  *      1.     2.     2.     1.     1.     1.     1.     0.     4.     3.     3.     3.
 2.     4.     2.     3.     0.     0.     1.
  280.  *      1.     2.     1.     1.     1.     1.     1.     0.     4.     3.     3.     3.
 3.     3.     2.     3.     0.     0.     0.
  290.  *      1.     2.     1.     1.     1.     1.     1.     0.     4.     3.     3.     3.
 3.     3.     2.     3.     0.     0.     0.
  300.  *      1.     2.     1.     1.     1.     1.     0.     0.     4.     3.     2.     3.
 3.     3.     2.     3.     0.     0.     0.
  310.  *      1.     1.     1.     1.     1.     1.     0.     0.     4.     2.     2.     3.
 3.     3.     2.     3.     0.     0.     0.
```

```
 320.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    1.    1.    0.
 330.  *    1.    1.    1.    0.    0.    0.    0.    0.    2.    2.    3.    2.
2.    3.    2.    3.    1.    1.    0.
 340.  *    1.    1.    1.    0.    0.    0.    0.    0.    2.    2.    3.    2.
1.    3.    3.    3.    1.    1.    0.
 350.  *    1.    1.    1.    0.    0.    0.    0.    0.    2.    2.    3.    2.
1.    3.    3.    4.    1.    1.    0.
 360.  *    1.    1.    1.    0.    0.    0.    0.    0.    2.    3.    2.    2.
2.    4.    3.    4.    1.    1.    0.

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *    4.    3.    3.    3.    3.    4.    4.    3.    4.    3.    3.    3.
3.    4.    4.    4.    5.    3.    5.
 DEGR. *  230   220   220   150   150   200   200   200   250   260   270   290
300    20    10     0    80    90    70

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC37.
```

2015 No-Build Condition

Carbon Monoxide (CO)

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:56:52

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG     97. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *       94.
201. AG    164. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *       71.
120. AG    188. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *      255.
34. AG    246. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG     94. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG     97. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *      118.
218. AG    148. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG    205. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG    251. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG    205. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG     80. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *     1349.
219. AG     80. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *      567.
38. AG    160. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG    103. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG    112. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    205. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *       70.
305. AG    112. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *       89.
245. AG    126. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *       43.
```

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120. AG    215. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG    267. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG    226. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG    178. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG    164. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     95. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG    242. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:56:52

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                    *   X1         Y1         X2         Y2      *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   9.3   1.0 82.0
♀
                                    PAGE  3
      JOB: Winsor School                                           RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:56:52

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*--------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       200        1600
50.98      1        3
       2. River/Long EB TR    *      90       54       3.0       640        1600
50.98      1        3
       3. River/Long NB LT    *      90       62       3.0       420        1600
50.98      1        3
       4. River/Long WB LTR   *      90       54       3.0      1625        1600
50.98      1        3
       5. River/Long SB LT    *      90       62       3.0       315        1600
50.98      1        3
       6. River/Long SB R     *      90       64       3.0       195        1600
50.98      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       665        1600
50.98      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       210        1600
50.98      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1200        1600
50.98      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0       135        1600
50.98      1        3
      11. Brook/Joslin EB L   *     120       70       3.0        70        1600
50.98      1        3
      12. Brook/Joslin EB T   *     120       70       3.0       695        1600
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50.98      1        3
      13. Brook/Joslin WB TTR *      120        70        3.0       1240        1600
50.98      1        3
      14. Binney/Long EB LTR  *      120        90        3.0        185        1600
50.98      1        3
      15. Binney/Long NB LTR  *      120        49        3.0        615        1600
50.98      1        3
      16. Binney/Long WB LTR  *      120        90        3.0        220        1600
50.98      1        3
      17. Binney/Long SB LTR  *      120        49        3.0        525        1600
50.98      1        3
      18. River/Short EB TR   *       93        43        3.0        755        1600
50.98      1        3
      19. River/Short NB LR   *       93        73        3.0        215        1600
50.98      1        3
      20. River/Short WB LTR  *       93        43        3.0       1470        1600
50.98      1        3
      21. Brook/Long EB LTR   *      120        78        3.0        760        1600
50.98      1        3
      22. Brook/Long NB LT    *      120        78        3.0        445        1600
50.98      1        3
      23. Brook/Long NB R     *      120        66        3.0        270        1600
50.98      1        3
      24. Brook/Long WB TTR   *      120        66        3.0       1150        1600
50.98      1        3
      25. Brook/Long SB LTR   *      120        78        3.0        480        1600
50.98      1        3
      26. Beth/Brook EB TTR   *      120        72        3.0       1050        1600
50.98      1        3
      27. Beth/Brook NB LR    *      120        83        3.0        370        1600
50.98      1        3
      28. Beth/Brook WB LT    *      120       106        3.0        940        1600
50.98      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. River/Long NE1       *      -978.8      215.4        6.0   *
      2. River/Long NE2       *      -904.3      201.6        6.0   *
      3. River/Long NE3       *      -831.3      188.0        6.0   *
      4. River/Long NE4       *      -788.0      251.3        6.0   *
      5. River/Long NE5       *      -746.6      311.8        6.0   *
      6. River/Long SE1       *      -639.8      294.3        6.0   *
      7. River/Long SE2       *      -682.2      232.4        6.0   *
      8. River/Long SE3       *      -724.5      170.5        6.0   *
      9. River/Long SE4       *      -662.6      128.1        6.0   *
     10. River/Long SE5       *      -600.7       85.8        6.0   *
     11. River/Long SW1       *      -638.2       21.8        6.0   *
     12. River/Long SW2       *      -700.1       64.1        6.0   *
     13. River/Long SW3       *      -762.0      106.5        6.0   *
     14. River/Long SW4       *      -790.3       37.0        6.0   *
     15. River/Long SW5       *      -818.6      -32.5        6.0   *
     16. River/Long NW1       *      -921.8      -26.0        6.0   *
     17. River/Long NW2       *      -893.5       43.5        6.0   *
♀
                              PAGE  4
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:56:52
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RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0
24. Brook/Deacon NE4	-300.6	-612.7	6.0
25. Brook/Deacon NE5	-251.9	-555.6	6.0
26. Brook/Deacon SE1	-193.8	-620.1	6.0
27. Brook/Deacon SE2	-242.5	-677.1	6.0
28. Brook/Deacon SE3	-291.2	-734.2	6.0
29. Brook/Deacon SE4	-233.1	-781.7	6.0
30. Brook/Deacon SE5	-175.1	-829.1	6.0
31. Brook/Deacon SW1	-206.3	-868.2	6.0
32. Brook/Deacon SW2	-264.4	-820.7	6.0
33. Brook/Deacon SW3	-322.4	-773.2	6.0
34. Brook/Deacon SW4	-368.8	-832.1	6.0
35. Brook/Deacon SW5	-415.3	-891.0	6.0
36. Brook/Deacon NW1	-482.8	-857.2	6.0
37. Brook/Deacon NW2	-436.4	-798.3	6.0
38. Brook/Deacon NW3	-390.0	-739.4	6.0
39. Brook/Deacon NW4	-449.1	-693.2	6.0
40. Brook/Deacon NW5	-508.2	-647.0	6.0
41. Brook/Joselin NE1	-419.5	-521.3	6.0
42. Brook/Joselin NE2	-359.7	-566.6	6.0
43. Brook/Joselin NE3	-299.9	-611.8	6.0
44. Brook/Joselin NE4	-251.2	-554.8	6.0
45. Brook/Joselin NE5	-204.9	-495.8	6.0
46. Brook/Joselin S1	-160.7	-581.3	6.0
47. Brook/Joselin S2	-209.4	-638.3	6.0
48. Brook/Joselin S3	-260.3	-693.4	6.0
49. Brook/Joselin S4	-305.6	-753.2	6.0
50. Brook/Joselin S5	-352.7	-811.6	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.1	0.4	0.1	0.4	1.0								

```
1.3   1.1   1.3   0.1   0.4   0.5   0.5   0.3
  10.  *   0.0   0.0   0.0   0.0   0.0   0.3   0.7   1.1   0.2   0.0   0.2   0.8
1.2   1.1   1.2   0.2   0.3   0.5   0.5   0.3
  20.  *   0.0   0.0   0.2   0.2   0.1   0.2   0.5   0.8   0.0   0.0   0.2   0.6
1.2   1.0   0.8   0.6   0.6   0.7   0.5   0.3
  30.  *   0.0   0.0   0.7   0.5   0.3   0.1   0.3   0.5   0.0   0.0   0.2   0.3
0.8   0.6   0.6   1.1   1.0   1.1   0.6   0.3
  40.  *   0.0   0.1   1.2   1.0   0.7   0.0   0.1   0.2   0.0   0.1   0.2   0.3
0.6   0.3   0.4   1.3   1.2   1.5   0.9   0.3
  50.  *   0.2   0.4   1.6   1.5   1.2   0.2   0.2   0.3   0.3   0.2   0.4   0.4
0.7   0.4   0.3   1.4   1.4   1.7   1.2   0.7
  60.  *   0.4   0.8   1.6   1.8   1.5   0.4   0.3   0.2   0.2   0.2   0.4   0.4
0.7   0.4   0.3   1.1   1.3   1.4   1.5   1.1
  70.  *   0.6   0.8   1.5   1.7   1.6   0.3   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.2   0.9   1.3   1.3   1.3   1.1
  80.  *   0.6   0.8   1.2   1.7   1.6   0.2   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.1   0.8   1.1   1.2   1.1   1.2
  90.  *   0.6   0.6   1.0   1.4   1.5   0.2   0.1   0.1   0.1   0.1   0.2   0.3
0.5   0.2   0.1   0.6   0.9   0.9   1.0   0.9
 100.  *   0.7   0.8   1.1   1.4   1.4   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.4   0.1   0.1   0.6   0.9   1.0   0.7   0.5
 110.  *   0.8   1.0   1.1   1.4   1.4   0.1   0.1   0.1   0.1   0.1   0.1   0.2
0.3   0.1   0.1   0.7   0.9   1.0   0.7   0.5
 120.  *   0.9   0.9   1.1   1.4   1.4   0.1   0.1   0.3   0.1   0.2   0.1   0.2
0.2   0.1   0.1   0.7   0.8   0.9   0.6   0.4
 130.  *   1.1   0.8   1.2   1.6   1.4   0.1   0.1   0.4   0.2   0.1   0.1   0.1
0.2   0.1   0.1   0.6   0.7   0.9   0.6   0.4
 140.  *   1.0   0.9   1.0   1.5   1.3   0.1   0.1   0.6   0.3   0.2   0.1   0.1
0.1   0.1   0.0   0.5   0.6   0.8   0.4   0.2
 150.  *   0.6   0.9   0.9   1.5   1.4   0.1   0.1   0.6   0.3   0.2   0.1   0.0
0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1
 160.  *   0.6   0.9   1.1   1.6   1.5   0.0   0.1   0.7   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1
 170.  *   0.5   0.9   1.2   1.6   1.7   0.0   0.2   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.3   0.6   1.0   0.2   0.0
 180.  *   0.3   0.7   1.2   1.6   1.8   0.1   0.2   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.2   0.5   0.8   0.1   0.0
 190.  *   0.3   0.6   1.2   1.6   1.6   0.2   0.3   0.7   0.3   0.2   0.0   0.0
0.1   0.1   0.0   0.2   0.4   0.6   0.0   0.0
 200.  *   0.3   0.5   0.8   1.3   1.7   0.4   0.4   0.7   0.3   0.2   0.0   0.0
0.3   0.2   0.1   0.1   0.2   0.4   0.0   0.0
 210.  *   0.3   0.5   0.5   0.8   1.1   0.5   0.7   0.9   0.4   0.2   0.0   0.0
0.6   0.4   0.2   0.0   0.1   0.2   0.0   0.0
 220.  *   0.3   0.4   0.6   0.4   0.6   0.8   0.9   1.0   0.6   0.2   0.0   0.1
0.9   0.7   0.3   0.0   0.0   0.1   0.0   0.0
 230.  *   0.3   0.4   0.5   0.3   0.3   1.1   0.9   1.1   0.9   0.3   0.0   0.2
1.1   0.7   0.4   0.0   0.0   0.0   0.0   0.0
 240.  *   0.2   0.5   0.6   0.3   0.1   1.2   1.0   1.1   1.1   0.3   0.1   0.4
1.1   0.8   0.5   0.0   0.0   0.0   0.0   0.0
 250.  *   0.2   0.4   0.7   0.1   0.1   1.2   1.0   1.0   1.1   0.5   0.2   0.4
0.9   0.9   0.5   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.4   0.6   0.1   0.0   1.2   1.0   1.1   1.3   0.5   0.2   0.4
0.9   0.9   0.5   0.0   0.0   0.0   0.0   0.0
 270.  *   0.1   0.2   0.4   0.0   0.0   1.0   1.1   1.3   1.3   0.7   0.3   0.4
0.8   0.9   0.5   0.0   0.0   0.1   0.0   0.0
 280.  *   0.0   0.1   0.2   0.0   0.0   1.0   1.0   0.9   1.3   0.7   0.3   0.5
0.8   0.9   0.5   0.0   0.0   0.2   0.1   0.0
 290.  *   0.0   0.1   0.1   0.0   0.0   1.0   1.0   0.9   0.9   0.7   0.4   0.6
1.1   1.1   0.6   0.0   0.0   0.4   0.2   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.0   0.9   0.8   0.8   0.5   0.6
1.1   1.0   0.5   0.0   0.0   0.6   0.3   0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.0   1.0   0.6   0.5   0.6   0.5
0.9   1.1   0.7   0.0   0.1   0.6   0.3   0.1
```

```
 320.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   1.0   0.5   0.4   0.7   0.7
0.8   1.2   0.7   0.0   0.1   0.7   0.4   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.0   1.0   0.5   0.4   0.6   0.9
1.0   1.1   0.9   0.1   0.2   0.6   0.4   0.2
 340.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.0   1.0   0.5   0.4   0.7   0.9
1.1   1.1   1.1   0.1   0.3   0.5   0.4   0.2
 350.  *   0.0   0.0   0.0   0.0   0.0   0.5   1.0   1.1   0.5   0.2   0.6   1.0
1.1   1.1   1.2   0.1   0.4   0.5   0.4   0.3
 360.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.9   1.1   0.4   0.1   0.4   1.0
1.3   1.1   1.3   0.1   0.4   0.5   0.5   0.3

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.1   1.0   1.6   1.8   1.8   1.2   1.1   1.3   1.3   0.8   0.7   1.0
1.3   1.2   1.3   1.4   1.4   1.7   1.5   1.2
 DEGR. *  130   110    50    60   180   240   270   270   260   300   320     0
0   320     0    50    50    50    60    80

♀
                              PAGE  6
      JOB: Winsor School                                         RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.7   0.5   0.4   0.9
1.3   1.5   1.1   0.0   0.0   0.3   0.0   0.0
  10.  *   0.0   0.0   0.0   0.0   0.1   1.3   1.4   1.5   0.7   0.6   0.5   0.9
1.3   1.4   1.3   0.0   0.1   0.2   0.0   0.0
  20.  *   0.0   0.0   0.2   0.2   0.6   1.5   1.5   1.5   0.9   0.7   0.6   1.0
1.8   1.6   1.8   0.1   0.2   0.5   0.0   0.0
  30.  *   0.1   0.2   0.9   1.2   1.5   1.6   1.7   1.8   0.8   0.5   0.4   0.8
2.0   1.9   1.9   0.6   1.0   1.1   0.3   0.1
  40.  *   0.3   0.7   2.0   2.0   2.3   1.3   1.2   1.3   0.4   0.2   0.2   0.3
1.7   1.5   1.4   1.3   1.5   1.7   0.7   0.3
  50.  *   0.6   0.8   2.3   2.6   2.9   0.7   0.6   0.4   0.0   0.0   0.0   0.0
0.8   0.2   0.5   1.4   1.6   1.8   1.2   0.6
  60.  *   0.6   0.9   2.1   2.3   2.5   0.1   0.1   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   1.1   1.1   1.1   1.0   0.6
  70.  *   0.6   0.8   1.6   2.1   2.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.6   0.1   0.0   0.8   1.0   0.8   0.7   0.6
  80.  *   0.6   0.7   1.4   1.8   1.8   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.6   0.0   0.0   0.8   1.0   0.7   0.7   0.4
  90.  *   0.4   0.6   1.3   1.7   1.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.6   1.0   0.8   0.6   0.5
 100.  *   0.4   0.7   1.2   1.7   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.5   0.8   0.7   0.7   0.4
 110.  *   0.5   0.5   1.2   1.6   1.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
0.3   0.0   0.0   0.3   0.8   0.7   0.5   0.4
 120.  *   0.4   0.4   1.2   1.5   1.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.2   0.8   0.8   0.6   0.3
 130.  *   0.2   0.5   1.3   1.5   1.6   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.3
 140.  *   0.3   0.6   1.1   1.4   1.6   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 150.  *   0.3   0.5   1.1   1.3   1.6   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 160.  *   0.3   0.6   0.9   1.6   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.9   0.4   0.1
 170.  *   0.2   0.6   0.8   1.6   1.8   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.7   1.0   0.4   0.1
 180.  *   0.2   0.5   0.8   1.7   2.0   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.6   0.9   0.2   0.1
 190.  *   0.1   0.3   0.9   1.9   2.4   0.0   0.1   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.5   0.9   0.2   0.1
 200.  *   0.1   0.2   0.7   1.6   2.4   0.1   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.4   0.7   0.1   0.1
 210.  *   0.0   0.1   0.7   1.1   2.1   0.3   0.4   0.8   0.0   0.0   0.0   0.0
0.3   0.1   0.1   0.1   0.3   0.6   0.1   0.0
 220.  *   0.0   0.0   0.4   0.7   1.2   0.6   0.7   1.1   0.1   0.0   0.0   0.1
0.7   0.4   0.2   0.1   0.2   0.3   0.0   0.0
 230.  *   0.0   0.0   0.2   0.4   0.4   0.9   1.0   1.3   0.1   0.1   0.1   0.1
1.1   0.7   0.3   0.0   0.0   0.1   0.0   0.0
 240.  *   0.0   0.0   0.3   0.1   0.1   1.0   0.8   1.3   0.3   0.1   0.1   0.1
1.3   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 250.  *   0.0   0.0   0.2   0.0   0.0   0.9   0.9   1.0   0.6   0.1   0.1   0.3
1.2   1.0   0.2   0.0   0.0   0.0   0.0   0.0
 260.  *   0.0   0.0   0.2   0.0   0.0   1.1   1.1   0.8   0.7   0.3   0.1   0.4
1.2   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.0   0.1   0.0   0.0   1.0   1.1   0.7   0.8   0.3   0.3   0.4
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.8   0.8   0.9   0.5   0.3   0.5
0.9   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 290.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.7   0.7   0.9   0.3   0.3   0.5
0.8   1.1   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.8   0.8   0.6   0.3   0.3   0.4
0.8   1.1   0.4   0.0   0.0   0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   0.8   0.6   0.3   0.3   0.5
0.8   1.1   0.5   0.0   0.0   0.0   0.0   0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.9   0.9   0.8   0.6   0.3   0.4   0.7
0.9   1.1   0.5   0.0   0.0   0.0   0.0   0.0
 330.  *   0.1   0.1   0.0   0.0   0.0   0.8   1.0   0.9   0.6   0.5   0.3   0.9
0.8   1.1   0.7   0.0   0.0   0.1   0.1   0.1
 340.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.2   1.0   0.5   0.4   0.6   0.9
0.8   1.2   0.8   0.0   0.0   0.2   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.6   0.4   0.4   1.0
0.9   1.3   0.9   0.0   0.0   0.3   0.0   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.7   0.5   0.4   0.9
1.3   1.5   1.1   0.0   0.0   0.3   0.0   0.0

------*--------------------------------------------------------------------------------------
--------------------------------------------
 MAX   *   0.6   0.9   2.3   2.6   2.9   1.6   1.7   1.8   0.9   0.7   0.6   1.0
2.0   1.9   1.9   1.4   1.6   1.8   1.2   0.6
 DEGR. *   50    60    50    50    50    30    30    30    20    20    20    20
30    30    30    50    50    50    50    50

♀
                              PAGE  7
      JOB: Winsor School                                         RUN: 2015NB
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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.2	1.4	1.2
10.	0.0	0.0	0.0	0.1	0.3	1.5	1.0	1.3	1.8	1.5
20.	0.0	0.0	0.2	0.6	0.6	1.7	1.4	1.7	2.0	1.5
30.	0.1	0.3	1.2	1.5	1.6	1.8	1.5	1.8	2.2	1.9
40.	0.3	0.7	2.0	2.3	2.6	1.3	1.4	1.3	1.7	1.4
50.	0.6	0.9	2.6	3.0	3.0	0.7	0.6	0.6	0.8	0.3
60.	0.7	0.9	2.3	2.5	2.9	0.2	0.1	0.0	0.5	0.2
70.	0.6	0.9	2.1	2.1	2.8	0.1	0.0	0.0	0.5	0.1
80.	0.6	0.9	1.8	1.8	2.4	0.1	0.0	0.0	0.6	0.1
90.	0.5	0.6	1.7	1.5	2.1	0.1	0.0	0.0	0.8	0.0
100.	0.4	0.7	1.7	1.3	1.8	0.0	0.0	0.0	1.0	0.0
110.	0.4	0.7	1.6	1.4	1.6	0.0	0.0	0.0	1.2	0.0
120.	0.4	0.6	1.5	1.5	1.4	0.0	0.0	0.0	1.3	0.0
130.	0.5	0.6	1.5	1.6	1.3	0.0	0.0	0.0	1.2	0.0
140.	0.4	0.6	1.4	1.6	1.3	0.0	0.0	0.0	1.1	0.0
150.	0.2	0.6	1.4	1.6	1.2	0.0	0.0	0.0	0.9	0.0
160.	0.3	0.7	1.6	1.7	1.2	0.0	0.0	0.0	0.6	0.0
170.	0.2	0.5	1.6	1.8	1.4	0.0	0.0	0.1	0.5	0.0
180.	0.2	0.6	1.7	2.0	1.7	0.0	0.0	0.1	0.4	0.0
190.	0.2	0.5	1.8	2.4	1.8	0.0	0.0	0.2	0.3	0.0
200.	0.1	0.3	1.6	2.4	2.2	0.0	0.1	0.2	0.3	0.0
210.	0.0	0.1	1.1	2.1	1.9	0.3	0.3	0.5	0.6	0.2
220.	0.0	0.0	0.7	1.2	1.3	0.5	0.8	0.9	1.0	0.5
230.	0.0	0.0	0.4	0.4	0.6	0.8	0.9	1.0	1.2	0.9
240.	0.0	0.0	0.1	0.1	0.1	0.9	0.8	1.0	1.3	1.1
250.	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.8	1.2	1.2
260.	0.0	0.0	0.0	0.0	0.0	1.0	0.9	0.9	1.1	1.2
270.	0.0	0.0	0.0	0.0	0.0	0.8	1.0	1.0	0.9	1.2
280.	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.1	0.7	1.1
290.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	0.9	1.1
300.	0.0	0.0	0.0	0.0	0.0	0.6	1.0	1.0	0.9	1.1
310.	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.0	0.9	1.1
320.	0.1	0.1	0.0	0.0	0.0	0.5	1.0	1.1	0.9	1.1
330.	0.1	0.0	0.0	0.0	0.0	0.5	0.9	1.1	1.0	1.2
340.	0.0	0.0	0.0	0.0	0.0	0.6	1.1	1.1	1.1	1.2
350.	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	1.2	1.3
360.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.2	1.4	1.2
MAX	0.7	0.9	2.6	3.0	3.0	1.8	1.5	1.8	2.2	1.9
DEGR.	60	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 3.00 PPM OCCURRED AT RECEPTOR REC44.

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2015NB

DATE : 1/13/11
TIME : 15:57:21

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. River/Long EB L	-827.1	101.1	-853.0	36.1	70.	202.	AG	97.	100.0	1.0	10.0	0.54	3.6
2. River/Long EB TR	-811.5	92.4	-845.1	4.1	94.	201.	AG	164.	100.0	1.0	20.0	0.58	4.8
3. River/Long NB LT	-736.1	146.0	-674.4	110.5	71.	120.	AG	188.	100.0	1.0	20.0	0.51	3.6
4. River/Long WB LTR	-795.7	191.2	-654.1	403.5	255.	34.	AG	246.	100.0	1.0	30.0	0.98	13.0
5. River/Long SB LT	-860.9	156.1	-973.8	176.9	115.	280.	AG	94.	100.0	1.0	10.0	0.77	5.8
6. River/Long SB R	-867.3	144.3	-934.5	156.3	68.	280.	AG	97.	100.0	1.0	10.0	0.52	3.5
7. Brook/Deacon EB TR	-349.1	-767.6	-422.1	-860.4	118.	218.	AG	148.	100.0	1.0	20.0	0.50	6.0
8. Brook/Deacon NB LR	-306.2	-749.9	-265.3	-781.5	52.	128.	AG	205.	100.0	1.0	20.0	0.32	2.6
9. Brook/Deacon WB LT	-338.4	-690.9	3343.1	4019.0	5978.	38.	AG	251.	100.0	1.0	20.0	9.09	303.7
10. Brook/Deacon SB LR	-380.1	-702.5	-406.1	-682.2	33.	308.	AG	205.	100.0	1.0	20.0	0.20	1.7
11. Brook/Joslin EB L	-281.4	-673.2	-298.5	-693.8	27.	220.	AG	80.	100.0	1.0	10.0	0.12	1.4
12. Brook/Joslin EB T	-272.0	-680.1	-1115.2	-1733.0	1349.	219.	AG	80.	100.0	1.0	10.0	1.16	68.5
13. Brook/Joslin WB TTR	-284.6	-643.4	61.7	-194.2	567.	38.	AG	160.	100.0	1.0	20.0	1.04	28.8
14. Binney/Long EB LTR	253.1	-669.4	192.4	-737.2	91.	222.	AG	103.	100.0	1.0	10.0	0.56	4.6
15. Binney/Long NB LTR	297.7	-636.1	364.8	-683.7	82.	125.	AG	112.	100.0	1.0	20.0	0.35	4.2
16. Binney/Long WB LTR	281.5	-577.5	314.2	-534.3	54.	37.	AG	205.	100.0	1.0	20.0	0.33	2.8
17. Binney/Long SB LTR	217.5	-600.0	160.3	-559.3	70.	305.	AG	112.	100.0	1.0	20.0	0.30	3.6
18. River/Short EB TR	-145.9	542.6	-226.2	505.1	89.	245.	AG	126.	100.0	1.0	20.0	0.49	4.5
19. River/Short NB LR	-92.0	525.1	-55.0	503.8	43.								

```
120. AG    215. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG    267. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG    226. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG    178. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG    164. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     95. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG    242. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:21

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   9.3   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:21

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       200        1600
50.98      1        3
       2. River/Long EB TR    *      90       54       3.0       640        1600
50.98      1        3
       3. River/Long NB LT    *      90       62       3.0       420        1600
50.98      1        3
       4. River/Long WB LTR   *      90       54       3.0      1625        1600
50.98      1        3
       5. River/Long SB LT    *      90       62       3.0       315        1600
50.98      1        3
       6. River/Long SB R     *      90       64       3.0       195        1600
50.98      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       665        1600
50.98      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       210        1600
50.98      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1200        1600
50.98      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0       135        1600
50.98      1        3
      11. Brook/Joslin EB L   *     120       70       3.0        70        1600
50.98      1        3
      12. Brook/Joslin EB T   *     120       70       3.0       695        1600
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50.98      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0       1240        1600
50.98      1        3
      14. Binney/Long EB LTR  *     120        90        3.0        185        1600
50.98      1        3
      15. Binney/Long NB LTR  *     120        49        3.0        615        1600
50.98      1        3
      16. Binney/Long WB LTR  *     120        90        3.0        220        1600
50.98      1        3
      17. Binney/Long SB LTR  *     120        49        3.0        525        1600
50.98      1        3
      18. River/Short EB TR   *      93        43        3.0        755        1600
50.98      1        3
      19. River/Short NB LR   *      93        73        3.0        215        1600
50.98      1        3
      20. River/Short WB LTR  *      93        43        3.0       1470        1600
50.98      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        760        1600
50.98      1        3
      22. Brook/Long NB LT    *     120        78        3.0        445        1600
50.98      1        3
      23. Brook/Long NB R     *     120        66        3.0        270        1600
50.98      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1150        1600
50.98      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        480        1600
50.98      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1050        1600
50.98      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
50.98      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        940        1600
50.98      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *         COORDINATES (FT)          *
         RECEPTOR             *      X           Y          Z       *
     -------------------------*-----------------------------------*
      1. Brook/Long NE1       *      -189.0      -227.6        6.0   *
      2. Brook/Long NE2       *      -130.2      -274.2        6.0   *
      3. Brook/Long NE3       *       -71.4      -320.7        6.0   *
      4. Brook/Long NE4       *       -24.6      -262.1        6.0   *
      5. Brook/Long NE5       *        22.3      -203.5        6.0   *
      6. Brook/Long SE1       *       107.1      -254.3        6.0   *
      7. Brook/Long SE2       *        60.3      -312.9        6.0   *
      8. Brook/Long SE3       *        13.5      -371.5        6.0   *
      9. Brook/Long SE4       *        72.9      -417.2        6.0   *
     10. Brook/Long SE5       *       132.4      -463.0        6.0   *
     11. Brook/Long SW1       *        72.2      -540.4        6.0   *
     12. Brook/Long SW2       *        12.8      -494.6        6.0   *
     13. Brook/Long SW3       *       -46.6      -448.9        6.0   *
     14. Brook/Long SW4       *       -91.9      -508.7        6.0   *
     15. Brook/Long SW5       *      -137.1      -568.6        6.0   *
     16. Brook/Long NW1       *      -207.2      -498.8        6.0   *
     17. Brook/Long NW2       *      -162.0      -439.0        6.0   *
♀
                              PAGE  4
      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:21
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
18. Brook/Long NW3	-116.8	-379.1	6.0
19. Brook/Long NW4	-175.6	-332.6	6.0
20. Brook/Long NW5	-234.4	-286.1	6.0
21. Binney/Long NE1	137.4	-466.5	6.0
22. Binney/Long NE2	197.4	-511.4	6.0
23. Binney/Long NE3	257.5	-556.3	6.0
24. Binney/Long NE4	302.7	-496.6	6.0
25. Binney/Long NE5	348.0	-436.8	6.0
26. Binney/Long SE1	399.8	-491.0	6.0
27. Binney/Long SE2	354.5	-550.8	6.0
28. Binney/Long SE3	309.3	-610.6	6.0
29. Binney/Long SE4	369.6	-655.0	6.0
30. Binney/Long SE5	429.3	-698.9	6.0
31. Binney/Long SW1	394.1	-778.9	6.0
32. Binney/Long SW2	340.7	-725.6	6.0
33. Binney/Long SW3	280.3	-681.2	6.0
34. Binney/Long SW4	234.3	-740.4	6.0
35. Binney/Long SW5	188.6	-799.2	6.0
36. Binney/Long NW1	131.4	-771.8	6.0
37. Binney/Long NW2	177.5	-712.5	6.0
38. Binney/Long NW3	223.5	-653.3	6.0
39. Binney/Long NW4	163.4	-608.4	6.0
40. Binney/Long NW5	103.4	-563.4	6.0
41. Beth/Brook SE1	463.4	227.5	6.0
42. Beth/Brook SE2	417.4	168.2	6.0
43. Beth/Brook SE3	371.4	109.0	6.0
44. Beth/Brook SE4	433.6	67.0	6.0
45. Beth/Brook SE5	495.7	25.1	6.0
46. Beth/Brook SW1	454.8	-29.4	6.0
47. Beth/Brook SW2	392.6	12.6	6.0
48. Beth/Brook SW3	330.5	54.6	6.0
49. Beth/Brook SW4	285.5	-5.5	6.0
50. Beth/Brook SW5	240.6	-65.5	6.0
51. Beth/Brook N1	191.3	12.2	6.0
52. Beth/Brook N2	242.0	79.9	6.0
53. Beth/Brook N3	287.0	140.0	6.0
54. Beth/Brook N4	332.7	199.4	6.0
55. Beth/Brook N5	372.8	251.0	6.0

Column group: COORDINATES (FT)

♀

PAGE 5

JOB: Winsor School RUN: 2015NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12

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REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-------------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.3   1.6   0.6   0.3   1.1   1.3
1.5   2.1   1.5   0.1   0.2   0.7   0.6   0.1
  10.  *   0.0   0.0   0.0   0.0   0.1   0.9   1.2   1.5   0.6   0.4   0.8   1.4
1.7   2.2   1.8   0.3   0.4   0.5   0.5   0.1
  20.  *   0.0   0.0   0.3   0.2   0.2   1.0   1.3   1.6   0.7   0.5   0.8   1.5
1.9   2.0   1.8   0.6   0.4   0.7   0.6   0.2
  30.  *   0.2   0.3   1.2   1.1   0.9   1.3   1.3   1.5   0.7   0.4   0.7   1.4
2.0   1.8   1.8   1.6   1.5   1.6   0.9   0.4
  40.  *   0.4   0.7   2.3   2.1   2.0   0.9   0.9   1.0   0.4   0.2   0.5   0.9
1.5   1.4   1.3   2.6   2.6   2.7   1.2   0.5
  50.  *   0.6   0.8   2.9   2.4   2.2   0.3   0.3   0.3   0.0   0.0   0.2   0.5
0.9   0.6   0.7   3.0   3.0   3.1   1.5   0.8
  60.  *   0.6   0.9   2.6   2.6   1.8   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.2   2.8   2.8   2.8   1.5   0.8
  70.  *   0.5   0.8   2.7   2.4   1.8   0.0   0.0   0.0   0.0   0.0   0.3   0.4
0.6   0.3   0.1   2.8   2.6   2.7   1.7   0.8
  80.  *   0.4   1.0   2.4   2.4   1.7   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.6   0.2   0.2   2.3   2.5   2.4   1.7   1.0
  90.  *   0.6   1.0   2.2   2.3   1.7   0.0   0.0   0.0   0.0   0.0   0.4   0.4
0.5   0.2   0.1   2.1   2.4   2.1   1.5   1.1
 100.  *   0.6   1.0   2.1   2.2   1.7   0.0   0.0   0.0   0.0   0.0   0.4   0.3
0.5   0.2   0.1   1.8   2.2   2.2   1.6   1.2
 110.  *   0.6   1.0   2.1   2.2   1.8   0.0   0.0   0.0   0.0   0.1   0.5   0.4
0.5   0.1   0.0   1.6   2.2   2.3   1.5   1.2
 120.  *   0.8   1.0   1.9   2.2   1.9   0.0   0.0   0.1   0.1   0.2   0.4   0.2
0.3   0.0   0.0   1.4   2.0   2.1   1.5   1.2
 130.  *   1.1   1.2   2.3   2.2   2.0   0.0   0.0   0.5   0.2   0.4   0.1   0.2
0.2   0.0   0.0   1.3   2.0   2.1   1.0   0.8
 140.  *   1.2   1.4   2.2   2.4   2.1   0.0   0.1   0.8   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.2   2.0   1.9   1.0   0.6
 150.  *   1.2   1.3   2.1   2.5   2.2   0.0   0.1   0.9   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.2   1.9   2.0   0.9   0.5
 160.  *   1.1   1.5   2.2   2.5   2.3   0.1   0.2   0.9   0.5   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.8   2.0   0.9   0.5
 170.  *   1.0   1.5   2.5   2.7   2.7   0.1   0.2   0.9   0.5   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.8   2.2   0.8   0.4
 180.  *   0.8   1.4   2.5   2.9   2.9   0.1   0.4   0.8   0.7   0.3   0.0   0.0
0.0   0.0   0.0   1.7   1.8   2.2   0.7   0.4
 190.  *   0.7   1.3   2.8   2.8   3.1   0.2   0.5   0.7   0.8   0.2   0.0   0.0
0.0   0.0   0.0   1.9   2.0   2.2   0.7   0.4
 200.  *   0.3   1.1   2.7   2.9   3.2   0.2   0.4   0.7   0.8   0.3   0.0   0.0
0.0   0.0   0.0   2.2   2.1   2.3   0.7   0.3
 210.  *   0.2   0.9   2.5   2.5   2.7   0.6   0.6   0.7   0.8   0.2   0.0   0.0
0.2   0.0   0.1   1.9   2.1   2.0   0.3   0.0
 220.  *   0.2   0.6   1.6   1.7   1.9   1.0   1.2   1.4   0.9   0.3   0.0   0.1
0.9   0.5   0.4   1.3   1.4   1.3   0.0   0.0
 230.  *   0.2   0.5   0.9   0.9   0.8   1.4   1.4   1.6   1.2   0.3   0.1   0.3
1.4   0.9   0.7   0.6   0.4   0.5   0.0   0.0
 240.  *   0.1   0.5   0.6   0.4   0.3   1.9   1.7   1.8   1.5   0.4   0.1   0.4
1.6   1.0   0.8   0.1   0.1   0.1   0.0   0.0
 250.  *   0.1   0.4   0.6   0.2   0.2   1.9   1.8   1.8   1.6   0.7   0.2   0.5
1.7   0.9   0.9   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.5   0.7   0.2   0.0   1.8   1.7   1.5   1.6   0.9   0.3   0.6
1.9   1.0   0.7   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.4   0.7   0.2   0.0   1.6   1.6   1.5   1.4   1.0   0.5   0.7
1.6   1.0   0.7   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.2   0.6   0.1   0.0   1.3   1.6   1.6   1.5   1.1   0.5   0.8
1.6   1.2   0.6   0.0   0.0   0.0   0.0   0.0
 290.  *   0.1   0.3   0.5   0.0   0.0   1.3   1.4   1.4   1.5   1.4   0.6   0.8
```

```
1.6   1.4   0.5   0.0   0.0   0.0   0.0   0.1
 300.  *   0.1   0.1   0.3   0.0   0.0   1.2   1.4   1.4   1.2   1.3   0.8   0.9
1.6   1.5   0.5   0.0   0.0   0.1   0.1   0.1
 310.  *   0.1   0.1   0.1   0.0   0.0   1.1   1.4   1.3   0.9   0.9   0.8   1.0
1.8   1.5   0.5   0.0   0.0   0.2   0.1   0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.4   1.3   0.8   0.7   1.2   1.1
1.8   1.5   0.6   0.0   0.0   0.4   0.2   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.4   1.3   0.8   0.6   1.0   1.2
1.8   1.8   0.7   0.0   0.0   0.6   0.2   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.3   1.4   0.8   0.6   1.2   1.1
1.6   1.8   0.8   0.0   0.1   0.7   0.3   0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.4   1.5   0.8   0.3   1.2   1.1
1.6   1.9   1.1   0.0   0.2   0.7   0.5   0.1
 360.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.3   1.6   0.6   0.3   1.1   1.3
1.5   2.1   1.5   0.1   0.2   0.7   0.6   0.1

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.2   1.5   2.9   2.9   3.2   1.9   1.8   1.8   1.6   1.4   1.2   1.5
2.0   2.2   1.8   3.0   3.0   3.1   1.7   1.2
 DEGR. *  140   160    50   180   200   240   250   240   250   290   320    20
30    10    30    50    50    50    70   100

♀
                            PAGE  6
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.3   0.4   0.3   0.3   0.3   0.2   0.3   0.5   0.2   0.2   0.2   0.7
0.8   0.5   0.4   0.3   0.4   0.5   0.5   0.5
  10.  *   0.4   0.5   0.2   0.2   0.2   0.2   0.2   0.5   0.2   0.2   0.2   0.6
0.8   0.7   0.5   0.3   0.5   0.5   0.9   0.6
  20.  *   0.5   0.3   0.3   0.3   0.4   0.2   0.2   0.4   0.2   0.2   0.2   0.5
0.7   0.6   0.5   0.4   0.5   0.6   0.8   0.6
  30.  *   0.4   0.4   0.2   0.2   0.2   0.2   0.2   0.3   0.2   0.2   0.2   0.4
0.6   0.4   0.5   0.3   0.4   0.6   0.8   0.7
  40.  *   0.2   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2
0.5   0.2   0.1   0.5   0.6   0.7   0.7   0.4
  50.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.1   0.3   0.3   0.4   0.5   0.2
  60.  *   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.0   0.3   0.4   0.4   0.6   0.3
  70.  *   0.0   0.0   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.3   0.5   0.4   0.6   0.3
  80.  *   0.0   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.5   0.5   0.5   0.5
```

```
  90.  *   0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.0   0.4   0.5   0.5   0.5
 100.  *   0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.3   0.4   0.4   0.5
 110.  *   0.1   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.3   0.5   0.4   0.5
 120.  *   0.2   0.2   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.0   0.3   0.3   0.2   0.4
 130.  *   0.4   0.3   0.5   0.1   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.3   0.2   0.3   0.1
 140.  *   0.4   0.4   0.6   0.1   0.0   0.0   0.0   0.4   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0
 150.  *   0.4   0.4   0.6   0.2   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.3   0.1   0.0
 160.  *   0.4   0.5   0.5   0.5   0.0   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.3   0.1   0.0
 170.  *   0.3   0.4   0.4   0.6   0.0   0.0   0.0   0.6   0.1   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.0   0.0
 180.  *   0.3   0.4   0.5   0.6   0.2   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 190.  *   0.2   0.5   0.5   0.5   0.3   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 200.  *   0.2   0.4   0.4   0.5   0.3   0.2   0.2   0.5   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 210.  *   0.2   0.4   0.3   0.2   0.3   0.1   0.2   0.6   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 220.  *   0.2   0.4   0.4   0.1   0.2   0.2   0.1   0.6   0.6   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 230.  *   0.3   0.3   0.4   0.3   0.1   0.3   0.4   0.5   0.6   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 240.  *   0.4   0.3   0.4   0.3   0.1   0.3   0.4   0.5   0.6   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 250.  *   0.6   0.3   0.5   0.2   0.3   0.3   0.4   0.3   0.7   0.0   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.1
 260.  *   0.9   0.5   0.5   0.4   0.4   0.3   0.8   0.4   0.8   0.1   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.1   0.3
 270.  *   0.9   0.8   0.6   0.6   0.5   0.4   0.7   0.6   0.8   0.2   0.0   0.1
0.4   0.2   0.0   0.1   0.0   0.1   0.3   0.3
 280.  *   1.2   0.8   0.8   0.6   0.4   0.3   1.0   0.8   0.7   0.4   0.1   0.2
0.3   0.3   0.0   0.1   0.1   0.2   0.2   0.4
 290.  *   1.3   0.8   0.8   0.5   0.4   0.3   0.7   1.1   0.9   0.5   0.1   0.3
0.4   0.4   0.1   0.2   0.2   0.3   0.4   0.4
 300.  *   1.3   0.8   0.8   0.4   0.4   0.4   0.6   1.0   0.7   0.7   0.2   0.4
0.8   0.5   0.2   0.2   0.3   0.6   0.5   0.5
 310.  *   0.9   0.6   0.6   0.4   0.2   0.2   0.6   0.8   0.7   0.6   0.5   0.6
0.9   0.7   0.2   0.2   0.4   0.7   0.8   0.7
 320.  *   0.7   0.5   0.4   0.2   0.2   0.1   0.3   0.8   0.3   0.3   0.5   0.7
0.9   0.7   0.4   0.4   0.5   0.9   0.8   0.9
 330.  *   0.6   0.4   0.2   0.2   0.1   0.1   0.2   0.6   0.3   0.1   0.5   0.7
0.8   0.8   0.4   0.5   0.4   0.9   0.9   0.8
 340.  *   0.6   0.2   0.2   0.1   0.3   0.3   0.2   0.5   0.2   0.1   0.3   0.6
0.7   0.7   0.4   0.4   0.6   0.7   0.7   0.9
 350.  *   0.3   0.2   0.1   0.3   0.3   0.2   0.3   0.6   0.1   0.1   0.3   0.7
0.7   0.7   0.3   0.3   0.4   0.6   0.7   1.0
 360.  *   0.3   0.4   0.3   0.3   0.3   0.2   0.3   0.5   0.2   0.2   0.2   0.7
0.8   0.5   0.4   0.3   0.4   0.5   0.5   0.5

------*-------------------------------------------------------------------------------------
------------------------------------------
 MAX   *   1.3   0.8   0.8   0.6   0.5   0.4   1.0   1.1   0.9   0.7   0.5   0.7
0.9   0.8   0.5   0.5   0.6   0.9   0.9   1.0
 DEGR. *  290   280   280   170   270   270   280   290   290   300   310     0
310   330    10    40    40   320    10   350
```

♀

PAGE 7

JOB: Winsor School RUN: 2015NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
	CONCENTRATION (PPM)														
0.	0.9	1.4	1.5	0.8	0.4	0.6	0.9	1.3	1.6	1.5	0.0	0.0	0.0	0.0	0.0
10.	1.0	1.4	1.6	0.7	0.4	0.5	1.0	1.5	1.6	1.8	0.1	0.0	0.0	0.0	0.0
20.	1.1	1.4	1.6	0.6	0.4	0.5	0.9	1.7	1.8	2.0	0.4	0.3	0.3	0.3	0.3
30.	1.1	1.3	1.5	0.6	0.4	0.5	0.8	1.6	1.8	1.9	1.2	1.1	1.0	1.0	0.9
40.	0.9	1.0	1.1	0.4	0.2	0.3	0.6	1.1	1.3	1.1	2.2	2.1	2.0	1.9	1.8
50.	0.3	0.3	0.4	0.1	0.0	0.1	0.3	0.6	0.5	0.4	2.5	2.4	2.4	2.3	2.0
60.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	2.1	2.2	2.3	2.3	2.0
70.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	2.0	1.8	2.0	2.0	1.7
80.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	1.9	1.8	1.7	2.1	1.7
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	1.7	1.7	1.4	1.8	1.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.5	1.7	1.2	1.7	1.6
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.5	1.7	1.4	1.7	1.7
120.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	1.5	1.4	1.4	1.7	1.7
130.	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.4	1.7	1.7
140.	0.0	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.6	1.7	1.7
150.	0.0	0.1	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.4	1.7	1.7
160.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.6	1.5	1.7	1.8
170.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.6	1.8	1.6	1.7	2.0
180.	0.1	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.6	1.9	1.9	1.9	2.0
190.	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.6	1.9	1.9	1.9	2.2

```
 200.  *   0.0   0.2   0.3   0.3   0.2   0.0   0.0   0.2   0.0   0.0   2.1   2.1
2.0   2.1   2.2
 210.  *   0.4   0.6   0.7   0.3   0.2   0.0   0.0   0.7   0.6   0.5   1.9   2.0
1.9   2.0   2.1
 220.  *   1.2   1.2   1.3   0.6   0.3   0.0   0.3   1.3   1.2   1.0   1.4   1.4
1.2   1.4   1.5
 230.  *   1.6   1.6   1.8   0.9   0.5   0.3   0.6   1.7   1.7   1.4   0.7   0.6
0.5   0.5   0.6
 240.  *   1.5   1.4   1.6   1.2   0.7   0.4   0.7   1.6   1.7   1.3   0.1   0.1
0.1   0.1   0.1
 250.  *   1.4   1.1   1.3   1.0   0.7   0.5   0.7   1.5   1.4   1.2   0.0   0.0
0.0   0.0   0.0
 260.  *   1.5   1.3   1.2   1.0   0.7   0.4   0.6   1.5   1.5   1.1   0.0   0.0
0.0   0.0   0.0
 270.  *   1.3   1.2   1.0   0.9   0.9   0.5   0.7   1.4   1.4   1.2   0.0   0.0
0.0   0.0   0.0
 280.  *   1.3   1.3   1.0   0.9   0.9   0.5   0.7   1.3   1.3   1.2   0.0   0.0
0.0   0.0   0.0
 290.  *   1.1   1.2   0.9   0.6   0.8   0.5   0.7   1.2   1.2   1.1   0.0   0.0
0.0   0.0   0.0
 300.  *   1.1   1.2   0.8   0.7   0.7   0.5   0.6   1.2   1.2   1.2   0.0   0.0
0.0   0.0   0.0
 310.  *   1.0   1.2   0.8   0.6   0.6   0.6   0.7   1.2   1.2   1.2   0.0   0.0
0.0   0.1   0.1
 320.  *   0.9   1.2   0.9   0.6   0.5   0.6   0.6   1.1   1.2   1.2   0.0   0.0
0.1   0.1   0.0
 330.  *   0.9   1.3   1.1   0.7   0.6   0.7   0.7   1.3   1.2   1.3   0.0   0.1
0.0   0.0   0.0
 340.  *   0.9   1.3   1.2   0.7   0.5   0.7   0.7   1.2   1.3   1.5   0.0   0.0
0.0   0.0   0.0
 350.  *   1.0   1.4   1.4   0.6   0.5   0.6   0.9   1.3   1.5   1.5   0.0   0.0
0.0   0.0   0.0
 360.  *   0.9   1.4   1.5   0.8   0.4   0.6   0.9   1.3   1.6   1.5   0.0   0.0
0.0   0.0   0.0

------*---------------------------------------------------------------------------
-------------
 MAX   *   1.6   1.6   1.8   1.2   0.9   0.7   1.0   1.7   1.8   2.0   2.5   2.4
2.4   2.3   2.2
 DEGR. *  230   230   230   240   270   330    10    20    30    20    50    50
50    50   200

 THE HIGHEST CONCENTRATION OF    3.20 PPM OCCURRED AT RECEPTOR REC5 .
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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:27

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG     97. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *       94.
201. AG    164. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *       71.
120. AG    188. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *      255.
34. AG    246. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG     94. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG     97. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *      118.
218. AG    148. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG    205. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG    251. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG    205. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG     80. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *     1349.
219. AG     80. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *      567.
38. AG    160. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG    103. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG    112. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    205. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *       70.
305. AG    112. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *       89.
245. AG    126. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *       43.
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120. AG    215. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG    267. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG    226. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG    178. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG    164. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     95. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG    242. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:27

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *          LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   9.3   1.0 82.0
♀
                                   PAGE  3
      JOB: Winsor School                                           RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:27

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION      *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                               *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                               *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L      *      90       64       3.0        200        1600
50.98      1        3
       2. River/Long EB TR     *      90       54       3.0        640        1600
50.98      1        3
       3. River/Long NB LT     *      90       62       3.0        420        1600
50.98      1        3
       4. River/Long WB LTR    *      90       54       3.0       1625        1600
50.98      1        3
       5. River/Long SB LT     *      90       62       3.0        315        1600
50.98      1        3
       6. River/Long SB R      *      90       64       3.0        195        1600
50.98      1        3
       7. Brook/Deacon EB TR   *     120       65       3.0        665        1600
50.98      1        3
       8. Brook/Deacon NB LR   *     120       90       3.0        210        1600
50.98      1        3
       9. Brook/Deacon WB LT   *     120      110       3.0       1200        1600
50.98      1        3
      10. Brook/Deacon SB LR   *     120       90       3.0        135        1600
50.98      1        3
      11. Brook/Joslin EB L    *     120       70       3.0         70        1600
50.98      1        3
      12. Brook/Joslin EB T    *     120       70       3.0        695        1600
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50.98      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1240        1600
50.98      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
50.98      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
50.98      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
50.98      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       525        1600
50.98      1        3
      18. River/Short EB TR   *      93        43        3.0       755        1600
50.98      1        3
      19. River/Short NB LR   *      93        73        3.0       215        1600
50.98      1        3
      20. River/Short WB LTR  *      93        43        3.0      1470        1600
50.98      1        3
      21. Brook/Long EB LTR   *     120        78        3.0       760        1600
50.98      1        3
      22. Brook/Long NB LT    *     120        78        3.0       445        1600
50.98      1        3
      23. Brook/Long NB R     *     120        66        3.0       270        1600
50.98      1        3
      24. Brook/Long WB TTR   *     120        66        3.0      1150        1600
50.98      1        3
      25. Brook/Long SB LTR   *     120        78        3.0       480        1600
50.98      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0      1050        1600
50.98      1        3
      27. Beth/Brook NB LR    *     120        83        3.0       370        1600
50.98      1        3
      28. Beth/Brook WB LT    *     120       106        3.0       940        1600
50.98      1        3

       RECEPTOR LOCATIONS
       ------------------
                               *         COORDINATES (FT)         *
         RECEPTOR              *      X           Y          Z     *
     -------------------------*-----------------------------------*
      1. Short/River SE1       *        64.2      619.5        6.0   *
      2. Short/River SE2       *         0.6      579.2        6.0   *
      3. Short/River SE3       *       -62.3      538.9        6.0   *
      4. Short/River SE4       *        -2.3      494.0        6.0   *
      5. Short/River SE5       *        57.8      449.1        6.0   *
      6. Short/River SW1       *        -6.6      409.9        6.0   *
      7. Short/River SW2       *       -66.7      454.8        6.0   *
      8. Short/River SW3       *      -126.8      499.6        6.0   *
      9. Short/River SW4       *      -194.5      467.4        6.0   *
     10. Short/River SW5       *      -262.2      435.2        6.0   *
     11. Short/River N1        *      -300.6      529.9        6.0   *
     12. Short/River N2        *      -232.9      562.1        6.0   *
     13. Short/River N3        *      -165.2      594.3        6.0   *
     14. Short/River N4        *      -101.9      634.6        6.0   *
     15. Short/River N5        *       -38.7      674.9        6.0   *
♀
                            PAGE  4
      JOB: Winsor School                                         RUN: 2015NB

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
```

the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
	CONCENTRATION (PPM)														
0.	0.0	0.5	0.9	0.3	0.0	0.3	0.8	0.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.5	0.9	0.2	0.0	0.1	0.7	0.7	0.8	0.5	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.3	0.8	0.1	0.0	0.0	0.5	0.9	0.8	0.7	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.2	0.6	0.0	0.0	0.0	0.3	1.0	1.0	0.8	0.0	0.0	0.0	0.0	0.0
40.	0.1	0.3	0.6	0.1	0.2	0.2	0.3	0.9	0.9	1.0	0.0	0.0	0.1	0.0	0.0
50.	0.2	0.3	0.5	0.2	0.3	0.2	0.3	1.0	0.9	1.1	0.4	0.4	0.4	0.4	0.2
60.	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.7	0.7	0.8	0.6	0.6	0.7	0.6	0.2
70.	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.7	0.5	0.5	0.8	0.9	1.0	0.9	0.3
80.	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.3	0.3	1.1	1.0	1.1	1.1	0.4
90.	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.2	0.2	1.0	1.1	1.0	1.3	0.4
100.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	1.0	1.0	0.9	1.4	0.6
110.	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.9	1.1	0.8	1.4	0.8
120.	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.6	1.0	0.9	1.2	0.9
130.	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.6	0.8	0.8	1.2	1.0
140.	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.6	0.8	0.9	1.1	1.1
150.	0.2	0.1	0.4	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.5	0.8	0.9	1.3	1.1
160.	0.2	0.2	0.4	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.4	0.8	0.8	1.2	1.1
170.	0.1	0.1	0.5	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.7	0.8	1.1	1.1
180.	0.1	0.1	0.6	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.7	0.9	1.1	1.2
190.	0.1	0.1	0.7	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.5	0.8	0.9	1.4
200.	0.1	0.0	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.9	1.4
210.	0.0	0.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.9	1.2
220.	0.0	0.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.8	1.2
230.	0.3	0.3	0.6	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.6	0.6	0.6	1.0
240.	0.5	0.6	0.8	0.1	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.4	0.5	0.5	0.7

```
 250.  *   0.8   1.0   1.1   0.3   0.0   0.0   0.2   0.5   0.4   0.2   0.2   0.3
0.2   0.1   0.2
 260.  *   0.8   0.8   0.9   0.3   0.0   0.2   0.3   0.7   0.5   0.2   0.0   0.0
0.1   0.0   0.0
 270.  *   0.8   0.9   1.0   0.5   0.1   0.0   0.1   0.7   0.4   0.0   0.0   0.0
0.0   0.0   0.0
 280.  *   0.7   0.8   0.8   0.7   0.2   0.1   0.2   0.8   0.4   0.0   0.0   0.0
0.0   0.0   0.0
 290.  *   0.6   0.8   0.6   0.8   0.5   0.2   0.4   0.8   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 300.  *   0.5   0.8   0.6   0.5   0.3   0.3   0.4   0.8   0.5   0.1   0.0   0.0
0.0   0.0   0.0
 310.  *   0.3   0.8   0.5   0.5   0.4   0.4   0.5   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 320.  *   0.1   0.8   0.6   0.4   0.3   0.4   0.4   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.9   0.7   0.4   0.3   0.5   0.5   0.7   0.8   0.3   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.7   0.7   0.5   0.3   0.5   0.7   0.7   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.7   0.8   0.4   0.1   0.4   0.8   0.6   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.5   0.9   0.3   0.0   0.3   0.8   0.7   0.7   0.5   0.0   0.0
0.0   0.0   0.0

------*-------------------------------------------------------------------------
-------------
 MAX   *   0.8   1.0   1.1   0.8   0.5   0.5   0.8   1.0   1.0   1.1   1.1   1.1
1.1   1.4   1.4
 DEGR. *  250   250   250   290   290   330     0    30    30    50    80    90
80   100   190

 THE HIGHEST CONCENTRATION OF    1.40 PPM OCCURRED AT RECEPTOR REC14.
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♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

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      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/10/11
      TIME : 10: 2:16

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1543.4    -118.5 *    1373.
330. AG    180. 100.0   1.0 20.0 1.21  69.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG    304. 100.0   1.0 30.0 0.54   4.6
       3. Brook/River NB LTR  *   -792.2   -1400.7    -720.9   -1621.2 *     232.
162. AG    180. 100.0   1.0 20.0 0.91  11.8
       4. Brook/River WB LTTR *   -798.5   -1299.5    -698.5   -1177.5 *     158.
39. AG    236. 100.0   1.0 30.0 0.68   8.0
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1895.   9.3   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1950.   9.3   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2540.   9.3   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1325.   9.3   1.0 78.0
♀
                            PAGE  2
      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/10/11
      TIME : 10: 2:16

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. Brook/River SB LTR  *     120      79       3.0      1160       1600
50.98      1        3
```

```
       2. Brook/River EB LTR  *     120       89       3.0       565       1600
50.98     1        3
       3. Brook/River NB LTR  *     120       79       3.0       875       1600
50.98     1        3
       4. Brook/River WB LTTR *     120       69       3.0      1255       1600
50.98     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8       6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1       6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3       6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9       6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5       6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1       6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5       6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9       6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0       6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2       6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1       6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9       6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8       6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2       6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5       6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4       6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0       6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7       6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4       6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2       6.0   *
♀
                                PAGE  3
      JOB: Winsor School                                          RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-----------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.9   0.5   0.4   1.4   1.4
1.3   1.3   1.0   0.3   0.4   1.0   1.1   1.0
  10.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.7   1.0   0.5   0.3   1.4   1.3
1.3   1.5   1.2   0.4   0.5   0.9   0.9   0.9
  20.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1   1.2   1.2
1.4   1.3   1.3   0.3   0.5   0.8   0.9   0.9
  30.  *   0.0   0.0   0.2   0.1   0.1   0.3   0.4   0.6   0.1   0.0   1.1   1.2
1.4   1.2   1.2   0.6   0.6   0.9   0.9   0.9
  40.  *   0.0   0.0   0.6   0.3   0.1   0.2   0.2   0.3   0.0   0.0   0.9   1.1
```

```
1.1   0.8   0.7   0.7   1.0   1.0   0.8   0.8
  50.  *   0.0   0.0   1.0   0.7   0.3   0.1   0.1   0.1   0.0   0.0   0.8   0.9
0.9   0.6   0.5   0.9   1.1   1.3   1.0   0.8
  60.  *   0.0   0.1   1.3   1.0   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.9
0.8   0.6   0.4   1.1   0.9   1.3   1.2   0.9
  70.  *   0.0   0.3   1.3   1.1   0.4   0.0   0.0   0.0   0.0   0.0   0.6   0.9
0.9   0.6   0.4   1.2   0.8   1.1   1.3   1.1
  80.  *   0.1   0.4   1.2   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.5   0.9
0.9   0.6   0.3   1.2   1.0   1.0   1.3   1.1
  90.  *   0.2   0.6   1.1   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.6   0.3   1.1   0.9   1.1   1.3   1.3
 100.  *   0.3   0.6   1.0   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.5   0.2   1.0   1.0   1.0   1.2   1.3
 110.  *   0.4   0.6   0.9   1.0   0.7   0.0   0.0   0.0   0.0   0.0   0.1   0.9
1.0   0.5   0.0   0.9   1.2   1.1   1.1   1.2
 120.  *   0.4   0.6   0.8   1.1   0.9   0.0   0.0   0.0   0.0   0.0   0.1   0.9
1.0   0.3   0.0   0.7   1.3   1.2   1.2   1.4
 130.  *   0.4   0.5   0.7   1.1   1.0   0.0   0.0   0.0   0.0   0.0   0.0   0.7
1.0   0.2   0.0   0.4   1.1   1.3   1.2   1.2
 140.  *   0.5   0.7   0.7   1.0   1.0   0.0   0.0   0.0   0.0   0.0   0.0   0.6
1.0   0.0   0.0   0.3   1.0   1.1   0.9   1.2
 150.  *   0.9   0.8   0.9   1.0   1.0   0.0   0.0   0.2   0.2   0.0   0.0   0.4
0.8   0.0   0.0   0.3   0.9   1.0   0.8   0.9
 160.  *   1.1   1.0   1.3   1.3   1.1   0.0   0.0   0.5   0.4   0.2   0.0   0.2
0.5   0.0   0.0   0.3   0.7   0.8   0.8   0.4
 170.  *   1.4   1.4   1.5   1.4   1.4   0.0   0.2   0.9   0.7   0.4   0.0   0.1
0.2   0.0   0.0   0.3   0.7   0.7   0.4   0.2
 180.  *   1.2   1.2   1.5   1.5   1.5   0.2   0.3   1.2   1.0   0.7   0.0   0.0
0.1   0.0   0.0   0.4   0.6   0.8   0.4   0.2
 190.  *   1.1   1.2   1.3   1.7   1.6   0.2   0.5   1.2   1.2   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.5   0.7   0.3   0.1
 200.  *   0.9   1.0   1.4   1.5   1.8   0.3   0.6   1.1   1.2   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.4   0.6   0.1   0.0
 210.  *   0.8   0.9   1.0   1.1   1.2   0.5   0.9   1.2   1.2   1.0   0.0   0.0
0.1   0.1   0.0   0.2   0.3   0.4   0.0   0.0
 220.  *   0.7   0.7   0.9   0.8   0.9   0.8   0.9   1.3   1.0   1.0   0.0   0.0
0.3   0.2   0.1   0.1   0.1   0.2   0.0   0.0
 230.  *   0.8   0.7   0.6   0.6   0.5   0.8   1.1   1.4   1.1   1.0   0.0   0.0
0.7   0.3   0.2   0.0   0.1   0.1   0.0   0.0
 240.  *   0.8   0.8   0.7   0.4   0.3   1.0   1.0   1.2   1.2   1.0   0.0   0.1
0.9   0.3   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.8   0.8   0.8   0.5   0.3   1.1   0.9   1.3   1.4   1.1   0.0   0.1
1.1   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.7   0.7   0.7   0.5   0.3   1.1   0.8   1.2   1.5   1.1   0.1   0.2
1.1   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.8   0.8   0.8   0.5   0.3   1.2   0.9   1.1   1.4   1.2   0.1   0.3
1.0   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 280.  *   0.8   0.8   0.8   0.4   0.2   1.2   1.0   1.2   1.4   1.3   0.1   0.4
1.0   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 290.  *   0.8   0.9   0.9   0.4   0.2   1.0   1.2   1.2   1.4   1.5   0.1   0.5
0.9   0.7   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.8   0.9   1.0   0.4   0.2   1.2   1.2   1.3   1.4   1.5   0.2   0.5
0.8   0.8   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.7   0.9   1.0   0.3   0.2   1.1   1.3   1.5   1.5   1.6   0.3   0.6
0.7   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 320.  *   0.6   0.8   0.9   0.2   0.1   0.9   1.1   1.4   1.6   1.8   0.4   0.6
0.7   1.0   0.3   0.0   0.0   0.3   0.3   0.3
 330.  *   0.4   0.5   0.6   0.1   0.1   0.8   0.9   1.2   1.5   1.4   0.7   0.8
0.9   1.1   0.4   0.1   0.1   0.7   0.6   0.6
 340.  *   0.1   0.2   0.2   0.0   0.0   0.7   0.9   0.9   1.0   1.1   1.0   1.0
1.2   1.3   0.4   0.1   0.3   1.0   0.9   0.8
 350.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.9   0.8   0.6   0.7   1.3   1.1
1.2   1.4   0.7   0.3   0.5   1.1   1.0   0.9
```

```
 360.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.9   0.5   0.4   1.4   1.4
1.3   1.3   1.0   0.3   0.4   1.0   1.1   1.0

------*-------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.4   1.4   1.5   1.7   1.8   1.2   1.3   1.5   1.6   1.8   1.4   1.4
1.4   1.5   1.3   1.2   1.3   1.3   1.3   1.4
 DEGR. *  170   170   170   190   200   270   310   310   320   320     0     0
20    10    20    70   120    50    70   120

 THE HIGHEST CONCENTRATION OF    1.80 PPM OCCURRED AT RECEPTOR REC5 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2015 NB

DATE : 1/10/11
TIME : 8:28:16

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Brookline SB Q1	*	24377.6	43850.8	24427.2	43917.2	*	83.	37.	AG	217.	100.0	1.0	30.0	0.43	4.2
2. Boylston WB Q2	*	24434.8	43765.0	24537.8	43801.9	*	109.	70.	AG	399.	100.0	1.0	40.0	0.74	5.6
3. Park Dr NB Q3	*	24314.0	43650.6	24347.8	43603.2	*	58.	145.	AG	290.	100.0	1.0	40.0	0.30	3.0
4. Brookline EB Q4	*	24250.4	43637.9	23456.2	42625.0	*	1287.	218.	AG	405.	100.0	1.0	40.0	1.30	65.4
5. Brookline Q27	*	24079.2	43421.1	23906.5	43182.4	*	295.	216.	AG	148.	100.0	1.0	20.0	0.98	15.0
6. Fenway Q28	*	24063.7	43526.1	23135.0	44630.1	*	1443.	320.	AG	126.	100.0	1.0	20.0	1.14	73.3
7. Brookline Q29	*	24121.4	43515.8	24218.6	43637.1	*	155.	39.	AG	148.	100.0	1.0	20.0	0.79	7.9
8. Brookline Ave west	*	24281.2	43703.6	24102.9	43457.4	*	304.	216.	AG	2880.	9.3	1.0	68.0		
9. Broolkine Ave east	*	24277.0	43684.6	24672.8	44220.7	*	666.	36.	AG	1415.	9.3	1.0	68.0		
10. Park drive north	*	24272.2	43689.5	23956.6	44033.9	*	467.	318.	AG	1120.	9.5	1.0	68.0		
11. Park drive south	*	24274.6	43701.6	24694.6	43148.6	*	694.	143.	AG	1335.	9.5	1.0	68.0		
12. Boylston St L5	*	24272.2	43682.2	25010.2	43953.9	*	786.	70.	AG	2320.	9.3	1.0	****		
13. Brookline L33	*	24106.9	43476.6	23847.1	43141.9	*	424.	218.	AG	2455.	9.3	1.0	68.0		
14. Fenway L34	*	24101.9	43470.8	24241.0	43294.7	*	224.	142.	AG	905.	9.3	1.0	42.0		
15. fenway L35	*	24108.0	43464.6	23938.0	43672.7	*	269.	321.	AG	1635.	9.3	1.0	42.0		

♀ PAGE 2
JOB: Winsor School RUN: 2015 NB

DATE : 1/10/11
TIME : 8:28:16

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Brookline SB Q1	100	53	3.0	860	1600	50.98	1	3
2. Boylston WB Q2	100	73	3.0	1045	1600	50.98	1	3
3. Park Dr NB Q3	100	53	3.0	805	1600	50.98	1	3
4. Brookline EB Q4	100	74	3.0	1750	1600	50.98	1	3
5. Brookline Q27	100	54	3.0	1290	1600	50.98	1	3
6. Fenway Q28	100	46	3.0	1785	1600	50.98	1	3
7. Brookline Q29	100	54	3.0	1030	1600	50.98	1	3

RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0

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     32. R54                 *     24409.4    43607.5        6.0   *
     33. R55                 *     24444.6    43559.0        6.0   *
     34. R56                 *     24282.4    43606.2        6.0   *
     35. R57                 *     24328.7    43546.5        6.0   *
     36. R58                 *     24243.6    43550.9        6.0   *
     37. R59                 *     24204.3    43692.2        6.0   *
     38. R60                 *     24150.3    43751.0        6.0   *
♀
                           PAGE  3
      JOB: Winsor School                                   RUN: 2015 NB


      DATE :  1/10/11
      TIME :  8:28:16


       RECEPTOR LOCATIONS
       ------------------
                             *          COORDINATES (FT)          *
         RECEPTOR            *      X          Y          Z       *
     ------------------------*------------------------------------*
     39. R61                 *     24161.0    43638.3        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                   RUN: 2015 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *   1.8   2.0   1.2   0.1   0.1   0.1   0.7   0.8   0.4   0.2   0.3   0.2
2.2   2.5   1.6   0.8   1.3   0.8   0.6   0.3
  10.  *   1.6   2.0   1.0   0.1   0.1   0.1   0.7   0.7   0.5   0.2   0.4   0.2
2.3   2.5   1.4   0.8   1.3   0.6   0.5   0.3
  20.  *   1.2   1.7   0.8   0.1   0.1   0.1   0.7   0.7   0.5   0.4   0.4   0.3
2.3   2.5   1.3   0.7   1.0   0.6   0.5   0.2
  30.  *   1.2   1.4   0.9   0.2   0.3   0.1   0.6   0.7   0.4   0.4   0.7   0.7
1.7   2.0   0.9   0.6   0.8   0.6   0.3   0.1
  40.  *   1.2   0.9   0.8   0.6   0.8   0.2   0.7   1.0   0.5   0.7   1.2   1.3
1.2   1.5   0.9   0.4   0.6   0.4   0.2   0.0
  50.  *   1.0   0.6   0.7   1.0   1.5   0.5   0.9   1.5   0.8   1.0   2.1   1.9
0.6   0.8   0.5   0.3   0.4   0.3   0.1   0.0
  60.  *   0.8   0.4   0.4   1.7   1.9   1.1   1.3   2.0   1.2   1.5   2.1   2.1
0.3   0.4   0.4   0.2   0.2   0.2   0.1   0.1
  70.  *   0.4   0.2   0.2   2.0   2.2   1.4   1.7   2.1   1.3   1.4   2.0   2.0
0.2   0.3   0.3   0.1   0.1   0.1   0.5   0.3
  80.  *   0.2   0.1   0.2   1.8   2.0   1.4   1.6   1.9   1.3   1.4   1.9   1.8
0.2   0.3   0.3   0.1   0.1   0.1   0.8   0.5
  90.  *   0.2   0.1   0.2   1.8   1.7   1.4   1.5   1.6   1.2   1.3   1.7   1.8
```

```
0.2   0.3   0.3   0.1   0.1   0.1   1.2   0.6
 100.  *   0.2   0.1   0.2   1.9   1.7   1.2   1.4   1.5   1.1   1.2   1.6   1.6
0.2   0.3   0.3   0.1   0.1   0.1   1.3   0.6
 110.  *   0.2   0.1   0.2   1.8   1.7   1.2   1.4   1.5   1.1   1.1   1.5   1.4
0.1   0.3   0.3   0.1   0.1   0.1   1.5   0.6
 120.  *   0.2   0.1   0.1   1.7   1.7   1.2   1.3   1.3   1.0   1.0   1.5   1.4
0.0   0.2   0.1   0.1   0.1   0.1   1.4   0.7
 130.  *   0.1   0.1   0.1   1.7   1.6   1.2   1.0   1.3   0.9   1.0   1.4   1.4
0.0   0.1   0.1   0.0   0.0   0.0   1.4   0.8
 140.  *   0.1   0.0   0.0   1.6   1.6   1.1   1.1   1.2   0.8   1.0   1.4   1.4
0.0   0.1   0.0   0.0   0.0   0.0   1.4   0.9
 150.  *   0.0   0.0   0.0   1.6   1.6   1.3   0.8   1.0   0.8   1.1   1.4   1.4
0.0   0.0   0.0   0.0   0.1   0.0   1.3   1.2
 160.  *   0.0   0.0   0.0   1.7   1.8   1.2   0.8   1.1   0.8   1.1   1.5   1.5
0.0   0.0   0.0   0.1   0.1   0.0   1.4   1.3
 170.  *   0.0   0.1   0.0   1.7   1.9   1.4   0.9   1.2   0.9   1.2   1.6   1.6
0.0   0.0   0.0   0.1   0.2   0.0   1.2   1.3
 180.  *   0.1   0.1   0.1   1.9   1.9   1.5   0.9   1.2   0.9   1.1   1.6   1.6
0.0   0.0   0.0   0.1   0.2   0.0   0.9   1.3
 190.  *   0.1   0.1   0.1   2.1   2.1   1.5   0.9   1.3   0.9   1.1   1.8   1.7
0.0   0.0   0.0   0.2   0.2   0.1   0.8   1.5
 200.  *   0.2   0.2   0.1   2.0   2.1   1.7   0.7   1.2   0.7   0.8   1.6   1.7
0.1   0.1   0.0   0.2   0.2   0.1   0.9   1.4
 210.  *   0.7   0.7   0.3   1.6   1.7   1.3   0.5   0.7   0.5   0.6   1.3   1.2
0.5   0.7   0.1   0.3   0.4   0.2   1.4   1.7
 220.  *   1.5   1.5   0.7   1.1   1.3   0.9   0.1   0.4   0.1   0.2   0.6   0.6
1.2   1.5   0.5   0.5   0.8   0.3   1.9   2.0
 230.  *   2.1   2.2   1.2   0.5   0.6   0.6   0.0   0.1   0.0   0.0   0.2   0.2
1.8   2.1   1.0   0.9   1.2   0.6   2.0   1.7
 240.  *   2.3   2.3   1.3   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
2.1   2.3   1.1   1.1   1.6   0.9   1.3   1.3
 250.  *   2.1   2.3   1.3   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
2.0   2.1   1.3   1.1   1.5   1.0   0.8   0.7
 260.  *   2.1   2.1   1.4   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.9   2.0   1.3   1.1   1.4   1.0   0.7   0.5
 270.  *   2.0   1.8   1.2   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.9   1.2   1.1   1.3   0.9   0.5   0.4
 280.  *   2.0   2.0   1.5   0.4   0.6   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.8   1.2   1.1   1.3   0.9   0.5   0.6
 290.  *   1.9   1.9   1.4   0.3   0.6   0.6   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.6   1.2   1.0   1.4   0.9   0.6   0.5
 300.  *   1.9   2.1   1.4   0.3   0.6   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.6   1.2   1.2   1.5   1.1   0.4   0.4
 310.  *   1.8   2.0   1.4   0.2   0.5   0.4   0.1   0.1   0.0   0.0   0.0   0.0
1.7   1.8   1.2   1.4   1.7   1.1   0.5   0.4
 320.  *   1.8   1.8   1.2   0.1   0.3   0.3   0.3   0.3   0.1   0.1   0.1   0.0
1.8   1.9   1.3   1.1   1.5   1.0   0.6   0.3
 330.  *   1.8   1.7   1.2   0.0   0.1   0.1   0.5   0.6   0.2   0.1   0.1   0.1
1.9   2.0   1.5   1.1   1.3   0.9   0.6   0.3
 340.  *   1.8   1.9   1.1   0.1   0.1   0.0   0.6   0.7   0.3   0.1   0.3   0.1
2.0   2.3   1.5   1.0   1.2   0.9   0.6   0.2
 350.  *   1.8   2.0   1.1   0.1   0.1   0.1   0.7   0.7   0.4   0.1   0.2   0.1
2.1   2.3   1.6   0.9   1.3   0.8   0.7   0.3
 360.  *   1.8   2.0   1.2   0.1   0.1   0.1   0.7   0.8   0.4   0.2   0.3   0.2
2.2   2.5   1.6   0.8   1.3   0.8   0.6   0.3

------*-----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   2.3   2.3   1.5   2.1   2.2   1.7   1.7   2.1   1.3   1.5   2.1   2.1
2.3   2.5   1.6   1.4   1.7   1.1   2.0   2.0
 DEGR. *  240   240   280   190    70   200    70    70    70    60    50    60
10     0     0   310   310   300   230   220
```

JOB: Winsor School RUN: 2015 NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
		CONCENTRATION (PPM)																		
0.	*	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.3	0.7	0.6	1.3	1.3	1.6	0.3	0.3	0.2
10.	*	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	0.8	0.6	1.4	1.3	1.4	0.3	0.3	0.2
20.	*	0.1	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.1	1.3	1.1	0.8	0.6	1.5	1.2	1.2	0.3	0.3	0.2
30.	*	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.1	1.1	1.2	0.8	0.8	0.4	1.6	1.1	1.3	0.4	0.3	0.3
40.	*	0.0	0.1	0.1	0.0	0.1	0.4	0.5	0.4	1.2	1.1	0.8	0.6	0.3	1.6	0.9	1.2	0.7	0.4	0.5
50.	*	0.0	0.0	0.0	0.1	0.3	0.5	0.6	0.5	1.1	1.0	0.8	0.5	0.2	1.7	0.7	1.0	1.0	0.4	1.0
60.	*	0.1	0.0	0.0	0.1	0.3	0.6	0.7	0.7	1.0	0.8	0.7	0.3	0.1	1.6	0.5	0.8	1.3	0.7	1.3
70.	*	0.3	0.2	0.1	0.2	0.4	0.8	0.7	0.9	0.7	0.5	0.5	0.1	0.0	1.2	0.4	0.5	1.7	0.9	1.6
80.	*	0.5	0.3	0.2	0.3	0.6	1.1	0.9	1.1	0.3	0.2	0.2	0.0	0.0	0.9	0.3	0.2	1.7	1.0	1.8
90.	*	0.6	0.4	0.3	0.5	0.7	1.2	0.9	1.1	0.1	0.1	0.1	0.0	0.0	0.7	0.3	0.2	1.7	1.0	1.6
100.	*	0.6	0.5	0.3	0.6	0.8	1.1	1.0	1.2	0.1	0.0	0.0	0.0	0.0	0.7	0.4	0.2	1.4	1.0	1.7
110.	*	0.5	0.5	0.3	0.5	0.6	0.9	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.5	1.1	1.7
120.	*	0.5	0.6	0.3	0.4	0.6	0.8	0.9	1.4	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.4	1.1	1.8
130.	*	0.5	0.7	0.3	0.4	0.6	0.8	0.8	1.3	0.1	0.0	0.0	0.1	0.1	0.4	0.4	0.2	1.3	1.0	1.7
140.	*	0.4	0.9	0.3	0.8	1.0	1.1	0.7	1.2	0.2	0.0	0.0	0.2	0.2	0.3	0.3	0.1	1.3	0.9	1.7
150.	*	0.5	1.0	0.3	1.0	0.9	1.5	0.8	1.1	0.4	0.1	0.0	0.4	0.4	0.1	0.1	0.0	1.2	0.8	1.6
160.	*	0.5	1.1	0.4	0.8	1.1	1.6	0.9	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.4	0.8	1.6
170.	*	0.6	1.1	0.6	1.0	1.2	1.6	1.0	0.9	0.4	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.6	1.0	1.9
180.	*	0.6	1.1	0.8	1.1	1.2	1.7	1.2	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.8	1.0	2.0
190.	*	0.7	1.0	0.8	1.2	1.4	1.7	1.4	1.0	0.6	0.2	0.1	0.4	0.4	0.0	0.0	0.1	2.1	1.2	2.2
200.	*	0.9	1.1	0.9	1.0	1.7	2.1	1.9	1.4	0.7	0.2	0.1	0.3							

```
0.3   0.2   0.0   0.2   2.1   1.0   2.0
 210.  *   1.2   1.4   1.4   0.8   1.1   2.2   1.6   1.4   1.1   0.3   0.2   0.4
0.3   0.8   0.2   0.8   1.9   0.8   1.6
 220.  *   1.8   1.7   1.4   0.6   0.8   1.4   1.2   1.0   1.8   0.8   0.5   0.7
0.5   1.7   0.5   1.6   1.2   0.5   1.1
 230.  *   2.1   1.4   1.2   0.5   0.6   0.9   0.6   0.4   2.3   1.4   0.9   1.2
0.7   2.4   1.0   2.2   0.4   0.2   0.5
 240.  *   1.2   0.9   1.0   0.3   0.4   0.5   0.4   0.1   2.5   1.6   1.1   1.3
1.0   2.4   1.1   2.2   0.2   0.2   0.3
 250.  *   0.9   0.6   0.7   0.3   0.3   0.5   0.3   0.2   2.4   1.6   1.4   1.4
0.9   2.3   1.1   2.1   0.2   0.2   0.3
 260.  *   0.5   0.6   0.6   0.4   0.4   0.4   0.3   0.2   2.1   1.6   1.3   1.4
1.1   2.2   1.2   2.0   0.2   0.1   0.3
 270.  *   0.4   0.7   0.6   0.4   0.4   0.4   0.3   0.2   1.8   1.3   1.2   1.5
1.0   2.0   1.1   2.0   0.2   0.1   0.2
 280.  *   0.4   0.8   0.4   0.4   0.4   0.4   0.3   0.2   1.7   1.1   1.0   1.5
1.3   1.9   1.1   1.9   0.1   0.1   0.2
 290.  *   0.3   0.6   0.3   0.4   0.4   0.5   0.3   0.2   1.5   1.2   0.9   1.4
1.1   1.7   1.2   1.9   0.1   0.1   0.1
 300.  *   0.2   0.6   0.3   0.4   0.4   0.5   0.2   0.0   1.4   1.0   0.9   1.3
1.2   1.5   1.0   1.9   0.1   0.1   0.1
 310.  *   0.2   0.6   0.3   0.2   0.2   0.3   0.1   0.0   1.2   0.8   0.9   1.0
1.0   1.4   1.0   1.8   0.2   0.2   0.1
 320.  *   0.2   0.5   0.3   0.1   0.1   0.2   0.0   0.0   1.0   0.7   1.1   0.7
0.8   1.2   0.8   1.9   0.2   0.2   0.1
 330.  *   0.2   0.4   0.3   0.0   0.0   0.1   0.0   0.0   0.8   0.7   1.2   0.5
0.4   1.2   1.0   1.8   0.3   0.3   0.1
 340.  *   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.9   1.3   0.5
0.4   1.2   1.1   1.8   0.4   0.4   0.1
 350.  *   0.2   0.4   0.3   0.0   0.0   0.0   0.0   0.0   0.7   1.0   1.3   0.6
0.6   1.2   1.1   1.7   0.3   0.3   0.2
 360.  *   0.2   0.4   0.4   0.0   0.0   0.0   0.0   0.0   0.9   1.1   1.3   0.7
0.6   1.3   1.3   1.6   0.3   0.3   0.2

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *   2.1   1.7   1.4   1.2   1.7   2.2   1.9   1.4   2.5   1.6   1.4   1.5
1.3   2.4   1.3   2.2   2.1   1.2   2.2
 DEGR. *  230   220   210   190   200   210   200   120   240   240   250   270
280   230     0   230   190   190   190

 THE HIGHEST CONCENTRATION OF    2.50 PPM OCCURRED AT RECEPTOR REC14.
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Particulate Matter 10 (PM_{10})

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                              PAGE  1

      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:50

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *      94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *      71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *     255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *     118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *    1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *     567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *      70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *      89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *      43.
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120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:50

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                            *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S      *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W      *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E       *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S       *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W       *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E      *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S      *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W      *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   0.0   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:50

       1. River/Long EB L     *      90         64        3.0        200        1600
 0.08       1        3
       2. River/Long EB TR    *      90         54        3.0        640        1600
 0.08       1        3
       3. River/Long NB LT    *      90         62        3.0        420        1600
 0.08       1        3
       4. River/Long WB LTR   *      90         54        3.0       1625        1600
 0.08       1        3
       5. River/Long SB LT    *      90         62        3.0        315        1600
 0.08       1        3
       6. River/Long SB R     *      90         64        3.0        195        1600
 0.08       1        3
       7. Brook/Deacon EB TR  *     120         65        3.0        665        1600
 0.08       1        3
       8. Brook/Deacon NB LR  *     120         90        3.0        210        1600
 0.08       1        3
       9. Brook/Deacon WB LT  *     120        110        3.0       1200        1600
 0.08       1        3
      10. Brook/Deacon SB LR  *     120         90        3.0        135        1600
 0.08       1        3
      11. Brook/Joslin EB L   *     120         70        3.0         70        1600
 0.08       1        3
      12. Brook/Joslin EB T   *     120         70        3.0        695        1600
 0.08       1        3
      13. Brook/Joslin WB TTR *     120         70        3.0       1240        1600
 0.08       1        3
      14. Binney/Long EB LTR  *     120         90        3.0        185        1600
 0.08       1        3
      15. Binney/Long NB LTR  *     120         49        3.0        615        1600
 0.08       1        3
      16. Binney/Long WB LTR  *     120         90        3.0        220        1600
 0.08       1        3
      17. Binney/Long SB LTR  *     120         49        3.0        525        1600
 0.08       1        3
```

```
      18. River/Short EB TR   *     93      43       3.0       755       1600
0.08      1        3
      19. River/Short NB LR   *     93      73       3.0       215       1600
0.08      1        3
      20. River/Short WB LTR  *     93      43       3.0      1470       1600
0.08      1        3
      21. Brook/Long EB LTR   *    120      78       3.0       760       1600
0.08      1        3
      22. Brook/Long NB LT    *    120      78       3.0       445       1600
0.08      1        3
      23. Brook/Long NB R     *    120      66       3.0       270       1600
0.08      1        3
      24. Brook/Long WB TTR   *    120      66       3.0      1150       1600
0.08      1        3
      25. Brook/Long SB LTR   *    120      78       3.0       480       1600
0.08      1        3
      26. Beth/Brook EB TTR   *    120      72       3.0      1050       1600
0.08      1        3
      27. Beth/Brook NB LR    *    120      83       3.0       370       1600
0.08      1        3
      28. Beth/Brook WB LT    *    120     106       3.0       940       1600
0.08      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. River/Long NE1	-978.8	215.4	6.0
2. River/Long NE2	-904.3	201.6	6.0
3. River/Long NE3	-831.3	188.0	6.0
4. River/Long NE4	-788.0	251.3	6.0
5. River/Long NE5	-746.6	311.8	6.0
6. River/Long SE1	-639.8	294.3	6.0
7. River/Long SE2	-682.2	232.4	6.0
8. River/Long SE3	-724.5	170.5	6.0
9. River/Long SE4	-662.6	128.1	6.0
10. River/Long SE5	-600.7	85.8	6.0
11. River/Long SW1	-638.2	21.8	6.0
12. River/Long SW2	-700.1	64.1	6.0
13. River/Long SW3	-762.0	106.5	6.0
14. River/Long SW4	-790.3	37.0	6.0
15. River/Long SW5	-818.6	-32.5	6.0
16. River/Long NW1	-921.8	-26.0	6.0
17. River/Long NW2	-893.5	43.5	6.0
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0

COORDINATES (FT) applies to X, Y, Z.

PAGE 4

JOB: Winsor School RUN: 2015NB

DATE : 1/13/11
TIME : 15:57:50

RECEPTOR LOCATIONS

* COORDINATES (FT) *

```
         RECEPTOR              *       X           Y           Z         *
     -------------------------*------------------------------------*
     24. Brook/Deacon NE4      *      -300.6      -612.7        6.0   *
     25. Brook/Deacon NE5      *      -251.9      -555.6        6.0   *
     26. Brook/Deacon SE1      *      -193.8      -620.1        6.0   *
     27. Brook/Deacon SE2      *      -242.5      -677.1        6.0   *
     28. Brook/Deacon SE3      *      -291.2      -734.2        6.0   *
     29. Brook/Deacon SE4      *      -233.1      -781.7        6.0   *
     30. Brook/Deacon SE5      *      -175.1      -829.1        6.0   *
     31. Brook/Deacon SW1      *      -206.3      -868.2        6.0   *
     32. Brook/Deacon SW2      *      -264.4      -820.7        6.0   *
     33. Brook/Deacon SW3      *      -322.4      -773.2        6.0   *
     34. Brook/Deacon SW4      *      -368.8      -832.1        6.0   *
     35. Brook/Deacon SW5      *      -415.3      -891.0        6.0   *
     36. Brook/Deacon NW1      *      -482.8      -857.2        6.0   *
     37. Brook/Deacon NW2      *      -436.4      -798.3        6.0   *
     38. Brook/Deacon NW3      *      -390.0      -739.4        6.0   *
     39. Brook/Deacon NW4      *      -449.1      -693.2        6.0   *
     40. Brook/Deacon NW5      *      -508.2      -647.0        6.0   *
     41. Brook/Joselin NE1     *      -419.5      -521.3        6.0   *
     42. Brook/Joselin NE2     *      -359.7      -566.6        6.0   *
     43. Brook/Joselin NE3     *      -299.9      -611.8        6.0   *
     44. Brook/Joselin NE4     *      -251.2      -554.8        6.0   *
     45. Brook/Joselin NE5     *      -204.9      -495.8        6.0   *
     46. Brook/Joselin S1      *      -160.7      -581.3        6.0   *
     47. Brook/Joselin S2      *      -209.4      -638.3        6.0   *
     48. Brook/Joselin S3      *      -260.3      -693.4        6.0   *
     49. Brook/Joselin S4      *      -305.6      -753.2        6.0   *
     50. Brook/Joselin S5      *      -352.7      -811.6        6.0   *
♀
                               PAGE  5
      JOB: Winsor School                                         RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    3.    3.    1.    0.    1.    3.
4.    4.    4.    1.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    1.    2.    3.    1.    0.    1.    2.
4.    4.    4.    1.    1.    2.    2.    1.
  20.  *    0.    0.    1.    0.    0.    1.    2.    3.    0.    0.    1.    1.
3.    3.    3.    2.    2.    2.    2.    1.
  30.  *    0.    0.    2.    1.    1.    0.    1.    2.    0.    0.    1.    1.
2.    2.    2.    4.    4.    4.    2.    1.
  40.  *    0.    0.    3.    2.    2.    0.    1.    1.    0.    0.    1.    1.
2.    1.    1.    4.    4.    5.    2.    2.
  50.  *    0.    1.    4.    4.    3.    0.    1.    1.    1.    1.    1.    1.
2.    1.    1.    4.    5.    6.    4.    2.
```

```
  60.  *    1.    2.    5.    4.    4.    1.    1.    1.    1.    1.    1.    1.
2.    1.    1.    4.    4.    5.    4.    3.
  70.  *    1.    2.    4.    4.    4.    1.    1.    0.    0.    0.    1.    1.
2.    1.    1.    3.    4.    4.    4.    3.
  80.  *    2.    2.    3.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    3.    3.    4.    4.    3.
  90.  *    2.    2.    3.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    3.    3.    3.
 100.  *    2.    2.    3.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    3.    3.    3.
 110.  *    3.    3.    4.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    0.    1.    3.    3.    3.    2.    2.
 120.  *    3.    3.    4.    4.    4.    0.    0.    1.    1.    1.    1.    1.
1.    1.    1.    3.    3.    3.    2.    2.
 130.  *    3.    3.    4.    4.    4.    0.    1.    1.    1.    1.    1.    1.
1.    0.    0.    2.    2.    3.    2.    1.
 140.  *    3.    3.    4.    4.    4.    1.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    2.    3.    2.    1.
 150.  *    3.    3.    4.    4.    4.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    2.    3.    1.    1.
 160.  *    2.    3.    4.    4.    4.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    1.    0.
 170.  *    2.    3.    4.    4.    4.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    1.    0.
 180.  *    1.    2.    4.    5.    5.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    0.    0.
 190.  *    1.    2.    4.    5.    5.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    0.    0.
 200.  *    1.    2.    3.    4.    5.    1.    1.    2.    1.    1.    0.    0.
1.    1.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    3.    3.    2.    2.    3.    1.    1.    0.    0.
2.    2.    1.    0.    0.    1.    0.    0.
 220.  *    1.    2.    2.    2.    2.    3.    3.    4.    2.    1.    0.    0.
3.    2.    1.    0.    0.    0.    0.    0.
 230.  *    1.    2.    2.    1.    1.    4.    4.    4.    2.    1.    0.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 240.  *    1.    2.    2.    1.    1.    4.    4.    4.    3.    1.    0.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 250.  *    1.    2.    2.    1.    0.    4.    4.    4.    3.    2.    1.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 260.  *    1.    1.    2.    0.    0.    3.    4.    4.    3.    2.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    3.    3.    4.    4.    2.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 280.  *    0.    0.    1.    0.    0.    3.    3.    4.    4.    2.    1.    2.
3.    3.    2.    0.    0.    1.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    3.    3.    3.    2.    2.    2.
4.    3.    2.    0.    0.    1.    1.    0.
 300.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    2.    2.
4.    3.    2.    0.    0.    2.    1.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    2.    2.
4.    3.    2.    0.    0.    2.    1.    0.
 320.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    2.    2.
3.    4.    3.    0.    0.    2.    1.    0.
 330.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    3.
4.    4.    3.    0.    1.    2.    2.    1.
 340.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    3.
4.    4.    4.    0.    1.    2.    1.    1.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    3.
4.    4.    4.    1.    1.    2.    1.    1.
 360.  *    0.    0.    0.    0.    0.    1.    3.    3.    1.    0.    1.    3.
4.    4.    4.    1.    1.    1.    1.    1.
```

```
------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    5.    5.    5.    4.    4.    4.    4.    2.    2.    3.
4.   4.    4.    4.    5.    6.    4.    3.
 DEGR. *  120   130    60   180   190   230   250   260   280   290   320   350
0   340     0    40    50    50    70    70

♀
                                PAGE  6
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    3.    4.    3.    2.    2.    1.    2.
4.    4.    3.    0.    0.    1.    0.    0.
  10.  *    0.    0.    0.    0.    1.    3.    4.    4.    2.    2.    2.    2.
4.    4.    4.    0.    0.    1.    0.    0.
  20.  *    0.    0.    1.    1.    1.    4.    4.    4.    2.    2.    2.    3.
5.    5.    5.    1.    1.    1.    0.    0.
  30.  *    0.    1.    2.    3.    3.    4.    4.    4.    2.    1.    2.    2.
5.    5.    5.    2.    2.    3.    1.    0.
  40.  *    1.    2.    5.    5.    6.    3.    3.    3.    1.    1.    1.    2.
4.    4.    4.    4.    4.    5.    2.    1.
  50.  *    2.    2.    6.    6.    6.    2.    2.    2.    0.    0.    0.    0.
2.    2.    2.    4.    4.    5.    3.    2.
  60.  *    2.    3.    5.    5.    5.    1.    0.    0.    0.    0.    0.    0.
1.    1.    0.    4.    4.    4.    3.    2.
  70.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    4.    3.    2.    1.
  80.  *    2.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
  90.  *    1.    2.    4.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    1.
 100.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    1.
 110.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 120.  *    1.    1.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    3.    2.    1.
 130.  *    1.    1.    3.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    3.    3.    1.    1.
 140.  *    1.    2.    3.    3.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 150.  *    1.    2.    3.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 160.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    1.
```

```
 170.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 180.  *    0.    1.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 190.  *    0.    1.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    0.    0.
 200.  *    0.    0.    3.    4.    6.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 210.  *    0.    0.    2.    3.    5.    1.    1.    2.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    0.    0.
 220.  *    0.    0.    1.    2.    3.    2.    2.    3.    0.    0.    0.    0.
2.    1.    0.    0.    0.    1.    0.    0.
 230.  *    0.    0.    1.    1.    1.    3.    3.    4.    0.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    1.    0.    0.    3.    3.    4.    1.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    1.    2.    2.
3.    3.    2.    0.    0.    1.    0.    0.
 340.  *    1.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    3.    2.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    4.    3.    0.    0.    1.    0.    0.
 360.  *    0.    0.    0.    0.    0.    3.    4.    3.    2.    2.    1.    2.
4.    4.    3.    0.    0.    1.    0.    0.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    3.    6.    6.    6.    4.    4.    4.    2.    2.    2.    3.
5.    5.    5.    4.    4.    5.    3.    2.
 DEGR. *   60    60    50    50    50    30    20    30    20    20    20    20
30    30    30    50    50    40    50    60

♀
                                 PAGE  7
      JOB: Winsor School                                          RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
10.	0.	0.	0.	1.	1.	4.	3.	4.	5.	4.
20.	0.	0.	1.	1.	1.	4.	4.	4.	5.	5.
30.	0.	1.	3.	3.	3.	5.	4.	5.	6.	5.
40.	1.	2.	5.	6.	6.	4.	3.	4.	4.	4.
50.	2.	3.	6.	6.	7.	2.	2.	2.	2.	2.
60.	2.	3.	5.	5.	7.	1.	1.	0.	2.	1.
70.	2.	2.	5.	4.	6.	0.	0.	0.	1.	0.
80.	1.	2.	4.	4.	6.	0.	0.	0.	1.	0.
90.	1.	2.	4.	3.	5.	0.	0.	0.	1.	0.
100.	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
110.	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
120.	1.	2.	4.	3.	3.	0.	0.	0.	2.	0.
130.	1.	2.	4.	4.	3.	0.	0.	0.	2.	0.
140.	1.	2.	4.	4.	2.	0.	0.	0.	2.	0.
150.	1.	2.	4.	4.	2.	0.	0.	0.	2.	0.
160.	1.	2.	4.	4.	2.	0.	0.	0.	1.	0.
170.	1.	2.	4.	4.	3.	0.	0.	0.	1.	0.
180.	1.	2.	4.	5.	3.	0.	0.	0.	1.	0.
190.	0.	1.	4.	5.	4.	0.	0.	0.	1.	0.
200.	0.	1.	4.	6.	5.	0.	0.	1.	1.	0.
210.	0.	1.	3.	5.	4.	1.	1.	1.	2.	1.
220.	0.	0.	2.	3.	3.	2.	2.	2.	2.	1.
230.	0.	0.	1.	1.	1.	3.	3.	3.	3.	2.
240.	0.	0.	0.	0.	0.	3.	3.	3.	4.	3.
250.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
260.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
270.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
280.	0.	0.	0.	0.	0.	2.	3.	3.	2.	3.
290.	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
300.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
310.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
320.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
330.	1.	0.	0.	0.	0.	1.	3.	3.	3.	3.
340.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
350.	0.	0.	0.	0.	0.	2.	3.	3.	4.	4.
360.	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
MAX	2.	3.	6.	6.	7.	5.	4.	5.	5.	5.
DEGR.	60	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 7. ug/m**3 OCCURRED AT RECEPTOR REC45.

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

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      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:44

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
        U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *       94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *       71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *      255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *      118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *     1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *      567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *       70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *       43.
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120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                              PAGE  2
      JOB: Winsor School                                           RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:44

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   0.0   1.0 82.0
♀
                            PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:44

       1. River/Long EB L     *      90        64        3.0       200        1600
 0.08     1        3
       2. River/Long EB TR    *      90        54        3.0       640        1600
 0.08     1        3
       3. River/Long NB LT    *      90        62        3.0       420        1600
 0.08     1        3
       4. River/Long WB LTR   *      90        54        3.0      1625        1600
 0.08     1        3
       5. River/Long SB LT    *      90        62        3.0       315        1600
 0.08     1        3
       6. River/Long SB R     *      90        64        3.0       195        1600
 0.08     1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       665        1600
 0.08     1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210        1600
 0.08     1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1200        1600
 0.08     1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       135        1600
 0.08     1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70        1600
 0.08     1        3
      12. Brook/Joslin EB T   *     120        70        3.0       695        1600
 0.08     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1240        1600
 0.08     1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
 0.08     1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
 0.08     1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.08     1        3
      17. Binney/Long SB LTR  *     120        49        3.0       525        1600
 0.08     1        3
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      18. River/Short EB TR   *      93         43        3.0        755         1600
0.08      1        3
      19. River/Short NB LR   *      93         73        3.0        215         1600
0.08      1        3
      20. River/Short WB LTR  *      93         43        3.0       1470         1600
0.08      1        3
      21. Brook/Long EB LTR   *     120         78        3.0        760         1600
0.08      1        3
      22. Brook/Long NB LT    *     120         78        3.0        445         1600
0.08      1        3
      23. Brook/Long NB R     *     120         66        3.0        270         1600
0.08      1        3
      24. Brook/Long WB TTR   *     120         66        3.0       1150         1600
0.08      1        3
      25. Brook/Long SB LTR   *     120         78        3.0        480         1600
0.08      1        3
      26. Beth/Brook EB TTR   *     120         72        3.0       1050         1600
0.08      1        3
      27. Beth/Brook NB LR    *     120         83        3.0        370         1600
0.08      1        3
      28. Beth/Brook WB LT    *     120        106        3.0        940         1600
0.08      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
         RECEPTOR             *      X           Y          Z        *
     -------------------------*-------------------------------------*
      1. Brook/Long NE1       *      -189.0     -227.6        6.0   *
      2. Brook/Long NE2       *      -130.2     -274.2        6.0   *
      3. Brook/Long NE3       *       -71.4     -320.7        6.0   *
      4. Brook/Long NE4       *       -24.6     -262.1        6.0   *
      5. Brook/Long NE5       *        22.3     -203.5        6.0   *
      6. Brook/Long SE1       *       107.1     -254.3        6.0   *
      7. Brook/Long SE2       *        60.3     -312.9        6.0   *
      8. Brook/Long SE3       *        13.5     -371.5        6.0   *
      9. Brook/Long SE4       *        72.9     -417.2        6.0   *
     10. Brook/Long SE5       *       132.4     -463.0        6.0   *
     11. Brook/Long SW1       *        72.2     -540.4        6.0   *
     12. Brook/Long SW2       *        12.8     -494.6        6.0   *
     13. Brook/Long SW3       *       -46.6     -448.9        6.0   *
     14. Brook/Long SW4       *       -91.9     -508.7        6.0   *
     15. Brook/Long SW5       *      -137.1     -568.6        6.0   *
     16. Brook/Long NW1       *      -207.2     -498.8        6.0   *
     17. Brook/Long NW2       *      -162.0     -439.0        6.0   *
     18. Brook/Long NW3       *      -116.8     -379.1        6.0   *
     19. Brook/Long NW4       *      -175.6     -332.6        6.0   *
     20. Brook/Long NW5       *      -234.4     -286.1        6.0   *
     21. Binney/Long NE1      *       137.4     -466.5        6.0   *
     22. Binney/Long NE2      *       197.4     -511.4        6.0   *
     23. Binney/Long NE3      *       257.5     -556.3        6.0   *
♀
                                     PAGE  4
      JOB: Winsor School                                            RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:44


       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
```

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   RECEPTOR                *      X          Y           Z        *
-------------------------*------------------------------------*
24. Binney/Long NE4      *       302.7     -496.6        6.0   *
25. Binney/Long NE5      *       348.0     -436.8        6.0   *
26. Binney/Long SE1      *       399.8     -491.0        6.0   *
27. Binney/Long SE2      *       354.5     -550.8        6.0   *
28. Binney/Long SE3      *       309.3     -610.6        6.0   *
29. Binney/Long SE4      *       369.6     -655.0        6.0   *
30. Binney/Long SE5      *       429.3     -698.9        6.0   *
31. Binney/Long SW1      *       394.1     -778.9        6.0   *
32. Binney/Long SW2      *       340.7     -725.6        6.0   *
33. Binney/Long SW3      *       280.3     -681.2        6.0   *
34. Binney/Long SW4      *       234.3     -740.4        6.0   *
35. Binney/Long SW5      *       188.6     -799.2        6.0   *
36. Binney/Long NW1      *       131.4     -771.8        6.0   *
37. Binney/Long NW2      *       177.5     -712.5        6.0   *
38. Binney/Long NW3      *       223.5     -653.3        6.0   *
39. Binney/Long NW4      *       163.4     -608.4        6.0   *
40. Binney/Long NW5      *       103.4     -563.4        6.0   *
41. Beth/Brook SE1       *       463.4      227.5        6.0   *
42. Beth/Brook SE2       *       417.4      168.2        6.0   *
43. Beth/Brook SE3       *       371.4      109.0        6.0   *
44. Beth/Brook SE4       *       433.6       67.0        6.0   *
45. Beth/Brook SE5       *       495.7       25.1        6.0   *
46. Beth/Brook SW1       *       454.8      -29.4        6.0   *
47. Beth/Brook SW2       *       392.6       12.6        6.0   *
48. Beth/Brook SW3       *       330.5       54.6        6.0   *
49. Beth/Brook SW4       *       285.5       -5.5        6.0   *
50. Beth/Brook SW5       *       240.6      -65.5        6.0   *
51. Beth/Brook N1        *       191.3       12.2        6.0   *
52. Beth/Brook N2        *       242.0       79.9        6.0   *
53. Beth/Brook N3        *       287.0      140.0        6.0   *
54. Beth/Brook N4        *       332.7      199.4        6.0   *
55. Beth/Brook N5        *       372.8      251.0        6.0   *
♀
                        PAGE  5
 JOB: Winsor School                                        RUN: 2015NB


  MODEL RESULTS
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  REMARKS : In search of the angle corresponding to
            the maximum concentration, only the first
            angle, of the angles with same maximum
            concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.
  10.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    2.    4.
5.    5.    4.    1.    1.    2.    2.    1.
  20.  *    0.    0.    1.    1.    1.    3.    3.    4.    2.    1.    2.    3.
5.    5.    5.    1.    1.    2.    2.    1.
  30.  *    0.    0.    3.    2.    2.    3.    3.    4.    2.    1.    2.    3.
```

```
5.    5.    5.    3.    3.    4.    2.    1.
  40.  *    1.    1.    5.    4.    4.    2.    2.    2.    1.    0.    1.    2.
4.    4.    3.    6.    6.    6.    3.    2.
  50.  *    1.    2.    6.    6.    5.    1.    1.    1.    0.    0.    1.    2.
2.    2.    1.    7.    7.    7.    4.    2.
  60.  *    1.    2.    6.    6.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    1.    6.    6.    7.    4.    2.
  70.  *    1.    2.    6.    6.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    6.    6.    6.    4.    2.
  80.  *    1.    2.    6.    5.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    5.    6.    6.    4.    3.
  90.  *    2.    2.    5.    5.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    5.    5.    6.    4.    3.
 100.  *    2.    2.    5.    5.    4.    0.    0.    0.    0.    0.    2.    2.
2.    1.    0.    4.    5.    6.    4.    3.
 110.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    2.    2.
2.    0.    0.    3.    5.    6.    4.    3.
 120.  *    2.    3.    5.    5.    4.    0.    0.    1.    1.    1.    1.    1.
1.    0.    0.    3.    5.    6.    4.    3.
 130.  *    3.    3.    6.    5.    4.    0.    0.    1.    1.    1.    1.    1.
1.    0.    0.    2.    4.    5.    3.    3.
 140.  *    3.    4.    6.    5.    5.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    2.
 150.  *    3.    4.    6.    6.    5.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    1.
 160.  *    3.    4.    6.    6.    6.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    1.
 170.  *    3.    4.    6.    6.    6.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.    3.    4.    5.    2.    1.
 180.  *    2.    4.    6.    6.    6.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    3.    4.    5.    2.    1.
 190.  *    2.    3.    6.    7.    7.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    4.    4.    5.    2.    1.
 200.  *    2.    3.    7.    7.    7.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    5.    5.    5.    2.    1.
 210.  *    1.    3.    6.    6.    7.    2.    2.    3.    2.    1.    0.    0.
1.    1.    1.    4.    4.    4.    1.    0.
 220.  *    1.    2.    4.    4.    5.    3.    3.    4.    2.    1.    0.    0.
2.    2.    2.    3.    3.    3.    0.    0.
 230.  *    1.    2.    3.    2.    2.    4.    5.    5.    3.    1.    0.    1.
3.    2.    2.    1.    1.    1.    0.    0.
 240.  *    0.    1.    2.    1.    1.    5.    4.    5.    3.    2.    1.    1.
4.    2.    2.    0.    0.    0.    0.    0.
 250.  *    0.    1.    2.    1.    0.    5.    4.    4.    4.    2.    1.    1.
4.    2.    2.    0.    0.    0.    0.    0.
 260.  *    0.    1.    2.    1.    0.    4.    4.    4.    4.    2.    1.    2.
4.    3.    2.    0.    0.    0.    0.    0.
 270.  *    0.    1.    2.    0.    0.    4.    4.    4.    4.    3.    1.    2.
4.    3.    2.    0.    0.    0.    0.    0.
 280.  *    0.    1.    2.    0.    0.    4.    4.    4.    4.    3.    1.    2.
4.    3.    1.    0.    0.    0.    0.    0.
 290.  *    0.    1.    2.    0.    0.    3.    4.    4.    4.    4.    2.    2.
4.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    1.    2.    0.    0.    3.    4.    4.    4.    3.    2.    3.
4.    4.    1.    0.    0.    1.    0.    0.
 310.  *    1.    1.    1.    0.    0.    3.    4.    4.    3.    3.    3.    3.
5.    4.    2.    0.    0.    1.    1.    1.
 320.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    3.
5.    4.    2.    0.    0.    2.    1.    0.
 330.  *    0.    0.    0.    0.    0.    3.    4.    3.    2.    2.    3.    4.
5.    4.    2.    0.    0.    2.    1.    0.
 340.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    3.
5.    4.    2.    0.    0.    2.    1.    0.
```

```
 350.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    3.    4.
5.    5.    3.    0.    1.    2.    1.    0.
 360.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    7.    7.    7.    5.    5.    5.    4.    4.    3.    4.
5.    5.    5.    7.    7.    7.    4.    3.
 DEGR. *  150   150   200   200   200   240   230   240   260   290   330     0
20    10    30    50    50    50    80   110

♀
                             PAGE  6
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
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       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    1.    1.    1.    2.    2.    2.
  10.  *    1.    1.    1.    1.    1.    0.    1.    1.    0.    0.    0.    2.
2.    2.    2.    1.    1.    2.    2.    2.
  20.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    1.    2.    2.    2.    2.
  30.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    1.    1.    2.    2.    2.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
2.    1.    1.    1.    1.    2.    2.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    1.    1.    2.    2.    1.
  60.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    2.    1.
  70.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    2.    1.
  80.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 100.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 110.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    2.
 120.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 130.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 140.  *    2.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    1.    1.    0.    0.
 150.  *    2.    2.    2.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 160.  *    2.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 170.  *    1.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 180.  *    1.    2.    2.    2.    1.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 190.  *    1.    2.    2.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 200.  *    1.    1.    2.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    2.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    0.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    2.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 260.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    1.
 270.  *    3.    2.    2.    1.    1.    2.    2.    2.    3.    1.    0.    1.
1.    1.    0.    0.    0.    0.    1.    1.
 280.  *    3.    2.    2.    2.    2.    2.    2.    3.    3.    2.    0.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 290.  *    4.    3.    2.    2.    1.    1.    2.    3.    3.    2.    1.    1.
2.    1.    0.    1.    1.    1.    1.    1.
 300.  *    4.    3.    3.    1.    1.    1.    2.    3.    3.    2.    1.    2.
2.    2.    1.    1.    1.    2.    2.    2.
 310.  *    3.    2.    2.    1.    1.    1.    2.    3.    2.    2.    2.    3.
3.    2.    1.    1.    1.    2.    2.    3.
 320.  *    2.    2.    1.    1.    0.    1.    1.    2.    2.    1.    2.    3.
3.    2.    1.    1.    1.    3.    3.    3.
 330.  *    2.    1.    1.    0.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    2.    3.    3.    3.
 340.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    3.
3.    2.    2.    2.    2.    3.    2.    3.
 350.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
 360.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    1.    1.    1.    2.    2.    2.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    3.    3.    2.    2.    2.    2.    3.    3.    2.    2.    3.
3.    3.    2.    2.    2.    3.    3.    3.
 DEGR. *  290   300   300   190   280   270   280   300   290   300   320   320
320   330   350   340    20   320   320   320

♀
                             PAGE  7
      JOB: Winsor School                                           RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
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angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0. *	2.	3.	4.	2.	1.	1.	2.	4.	4.	4.	0.	0.	0.	0.	0.
10. *	2.	3.	4.	1.	1.	1.	2.	4.	5.	4.	0.	0.	0.	0.	0.
20. *	2.	3.	4.	1.	1.	1.	2.	4.	5.	5.	1.	1.	1.	0.	0.
30. *	2.	3.	4.	1.	1.	1.	2.	4.	4.	4.	3.	2.	2.	2.	2.
40. *	1.	2.	2.	1.	0.	1.	1.	3.	3.	3.	5.	4.	4.	4.	3.
50. *	0.	1.	1.	0.	0.	0.	1.	1.	1.	1.	6.	5.	5.	5.	4.
60. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	5.	5.	4.
70. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	5.	5.	4.
80. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	4.	4.	5.	4.
90. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	4.	4.	4.
100. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	3.	4.	4.
110. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	4.	4.	4.
120. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
130. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
140. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
150. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
160. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
170. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	4.	4.	5.	5.
180. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	4.	5.	5.	5.
190. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	5.	5.	5.	5.
200. *	1.	1.	1.	1.	1.	0.	0.	1.	0.	0.	4.	5.	5.	6.	6.
210. *	2.	2.	2.	1.	1.	0.	0.	2.	2.	2.	5.	5.	5.	5.	5.
220. *	4.	4.	4.	2.	1.	0.	1.	4.	4.	3.	3.	3.	3.	4.	4.
230. *	4.	4.	5.	3.	2.	1.	2.	5.	4.	4.	2.	2.	1.	1.	1.
240. *	4.	4.	4.	3.	2.	1.	2.	4.	4.	3.	0.	0.	0.	0.	0.
250. *	4.	4.	4.	3.	2.	1.	2.	4.	4.	3.	0.	0.			

```
0.    0.    0.
 260.  *    4.    4.    4.    3.    2.    1.    2.    4.    4.    2.    0.    0.
0.    0.    0.
 270.  *    4.    4.    3.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 280.  *    3.    3.    3.    2.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 290.  *    3.    3.    3.    2.    2.    1.    2.    3.    3.    3.    0.    0.
0.    0.    0.
 300.  *    3.    3.    3.    2.    2.    2.    2.    3.    4.    3.    0.    0.
0.    0.    0.
 310.  *    3.    4.    3.    2.    2.    2.    2.    4.    3.    4.    0.    0.
0.    0.    0.
 320.  *    2.    3.    3.    2.    1.    2.    2.    4.    3.    4.    0.    0.
0.    0.    0.
 330.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 340.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 350.  *    2.    3.    4.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 360.  *    2.    3.    4.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.

------*-----------------------------------------------------------------------
-------------
 MAX   *    4.    4.    5.    3.    2.    2.    2.    5.    5.    5.    6.    5.
5.    6.    6.
 DEGR. *  230   230   230   240   280   320   350   230    20    20    50    50
50   200   200

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC5 .
```

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♀                             CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                              PAGE  1

      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:38

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *      94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *      71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *     255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *     118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *    1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *     567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *      70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *      89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *      43.
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120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                    RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:38

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   0.0   1.0 82.0
♀
                            PAGE  3
      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:38

       1. River/Long EB L     *      90        64        3.0       200        1600
 0.08      1        3
       2. River/Long EB TR    *      90        54        3.0       640        1600
 0.08      1        3
       3. River/Long NB LT    *      90        62        3.0       420        1600
 0.08      1        3
       4. River/Long WB LTR   *      90        54        3.0      1625        1600
 0.08      1        3
       5. River/Long SB LT    *      90        62        3.0       315        1600
 0.08      1        3
       6. River/Long SB R     *      90        64        3.0       195        1600
 0.08      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       665        1600
 0.08      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210        1600
 0.08      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1200        1600
 0.08      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       135        1600
 0.08      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70        1600
 0.08      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       695        1600
 0.08      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1240        1600
 0.08      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
 0.08      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
 0.08      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.08      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       525        1600
 0.08      1        3
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      18. River/Short EB TR   *      93        43       3.0       755        1600
 0.08      1        3
      19. River/Short NB LR   *      93        73       3.0       215        1600
 0.08      1        3
      20. River/Short WB LTR  *      93        43       3.0      1470        1600
 0.08      1        3
      21. Brook/Long EB LTR   *     120        78       3.0       760        1600
 0.08      1        3
      22. Brook/Long NB LT    *     120        78       3.0       445        1600
 0.08      1        3
      23. Brook/Long NB R     *     120        66       3.0       270        1600
 0.08      1        3
      24. Brook/Long WB TTR   *     120        66       3.0      1150        1600
 0.08      1        3
      25. Brook/Long SB LTR   *     120        78       3.0       480        1600
 0.08      1        3
      26. Beth/Brook EB TTR   *     120        72       3.0      1050        1600
 0.08      1        3
      27. Beth/Brook NB LR    *     120        83       3.0       370        1600
 0.08      1        3
      28. Beth/Brook WB LT    *     120       106       3.0       940        1600
 0.08      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
         RECEPTOR             *      X           Y           Z       *
     -------------------------*--------------------------------------*
      1. Short/River SE1      *        64.2       619.5        6.0   *
      2. Short/River SE2      *         0.6       579.2        6.0   *
      3. Short/River SE3      *       -62.3       538.9        6.0   *
      4. Short/River SE4      *        -2.3       494.0        6.0   *
      5. Short/River SE5      *        57.8       449.1        6.0   *
      6. Short/River SW1      *        -6.6       409.9        6.0   *
      7. Short/River SW2      *       -66.7       454.8        6.0   *
      8. Short/River SW3      *      -126.8       499.6        6.0   *
      9. Short/River SW4      *      -194.5       467.4        6.0   *
     10. Short/River SW5      *      -262.2       435.2        6.0   *
     11. Short/River N1       *      -300.6       529.9        6.0   *
     12. Short/River N2       *      -232.9       562.1        6.0   *
     13. Short/River N3       *      -165.2       594.3        6.0   *
     14. Short/River N4       *      -101.9       634.6        6.0   *
     15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                                   PAGE  4
      JOB: Winsor School                                         RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*---------------------------------------------------------------------------------
-------------
   0.  *    0.    2.    3.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
  10.  *    0.    2.    3.    1.    0.    0.    2.    3.    3.    2.    0.    0.
0.    0.    0.
  20.  *    0.    1.    3.    0.    0.    0.    1.    3.    3.    2.    0.    0.
0.    0.    0.
  30.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  40.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  50.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    1.    1.
1.    1.    0.
  60.  *    0.    0.    1.    0.    0.    0.    1.    2.    2.    3.    2.    2.
2.    2.    0.
  70.  *    0.    0.    1.    0.    0.    0.    1.    1.    1.    2.    3.    3.
3.    2.    1.
  80.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    3.    3.
3.    3.    1.
  90.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    0.    3.    3.
3.    3.    1.
 100.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    0.    3.    3.
3.    3.    1.
 110.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    1.    3.    3.
3.    3.    2.
 120.  *    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    3.    3.
3.    3.    2.
 130.  *    0.    0.    1.    1.    1.    1.    1.    1.    0.    0.    2.    2.
3.    3.    3.
 140.  *    0.    1.    1.    1.    1.    1.    1.    0.    0.    0.    2.    3.
3.    3.    3.
 150.  *    1.    1.    1.    1.    1.    1.    0.    1.    0.    0.    2.    3.
3.    4.    3.
 160.  *    1.    0.    1.    1.    1.    1.    0.    0.    1.    1.    2.    3.
3.    3.    4.
 170.  *    1.    0.    1.    1.    1.    1.    1.    1.    1.    1.    1.    3.
3.    3.    3.
 180.  *    1.    1.    2.    1.    1.    1.    1.    0.    0.    0.    1.    2.
3.    3.    4.
 190.  *    0.    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 200.  *    0.    0.    1.    0.    1.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 210.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 220.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 230.  *    1.    1.    2.    0.    0.    0.    0.    1.    0.    0.    1.    2.
3.    3.    3.
 240.  *    2.    2.    3.    1.    0.    0.    0.    1.    1.    1.    1.    1.
2.    2.    2.
 250.  *    3.    3.    3.    1.    1.    1.    1.    2.    1.    1.    0.    1.
1.    1.    1.
 260.  *    3.    3.    3.    1.    1.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    2.    3.    3.    2.    1.    0.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 280.  *    2.    3.    3.    2.    1.    0.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 290.  *    2.    3.    3.    2.    1.    1.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 300.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
0.    0.    0.
 330.  *    0.    3.    2.    2.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 340.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 350.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    0.    2.    3.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    3.    3.    3.    2.    1.    1.    2.    3.    3.    3.    3.    3.
3.    4.    4.
 DEGR. *  250   250   260   290   290   330     0    40    40    40    90   120
80   150   210

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2015NB

DATE : 1/10/11
TIME : 10: 2:25

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

```
   LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                        *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)
------------------------*------------------------------------------*------------------
----------------------------------------
    1. Brook/River SB LTR  *   -864.7   -1312.6   -1543.4    -118.5 *    1373.
330. AG      0. 100.0   1.0 20.0 1.21  69.8
    2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG      0. 100.0   1.0 30.0 0.54   4.6
    3. Brook/River NB LTR  *   -792.2   -1400.7    -720.9   -1621.2 *     232.
162. AG      0. 100.0   1.0 20.0 0.91  11.8
    4. Brook/River WB LTTR *   -798.5   -1299.5    -698.5   -1177.5 *     158.
39. AG      0. 100.0   1.0 30.0 0.68   8.0
    5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1895.   0.0   1.0 66.0
    6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1950.   0.0   1.0 78.0
    7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2540.   0.0   1.0 66.0
    8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1325.   0.0   1.0 78.0
```

♀ PAGE 2
JOB: Winsor School RUN: 2015NB

DATE : 1/10/11
TIME : 10: 2:25

```
    1. Brook/River SB LTR  *     120       79       3.0      1160       1600
 0.08     1       3
    2. Brook/River EB LTR  *     120       89       3.0       565       1600
 0.08     1       3
    3. Brook/River NB LTR  *     120       79       3.0       875       1600
 0.08     1       3
    4. Brook/River WB LTTR *     120       69       3.0      1255       1600
 0.08     1       3
```

RECEPTOR LOCATIONS

```
                        *         COORDINATES (FT)          *
  RECEPTOR              *      X           Y          Z       *
```

```
     -------------------------*-------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    5.
5.    4.    3.    1.    1.    3.    3.    3.
  10.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    4.    4.
5.    4.    3.    1.    1.    3.    3.    3.
  20.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    0.    4.    4.
5.    4.    4.    1.    2.    2.    3.    3.
  30.  *    0.    0.    1.    0.    0.    1.    2.    2.    0.    0.    3.    4.
5.    4.    4.    2.    2.    3.    2.    2.
  40.  *    0.    0.    2.    1.    0.    1.    1.    1.    0.    0.    3.    3.
4.    3.    2.    3.    3.    3.    2.    2.
  50.  *    0.    0.    3.    2.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    2.    3.    4.    4.    3.    2.
  60.  *    0.    0.    3.    3.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    3.    2.
  70.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  80.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  90.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    1.    3.    3.    4.    4.    3.
```

```
 100.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    0.    3.    3.    4.    4.    4.
 110.  *    1.    2.    2.    3.    2.    0.    0.    0.    0.    0.    0.    3.
3.    1.    0.    2.    3.    4.    4.    4.
 120.  *    1.    2.    2.    3.    2.    0.    0.    0.    0.    0.    0.    3.
3.    1.    0.    2.    3.    4.    4.    4.
 130.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    2.
3.    0.    0.    2.    3.    4.    4.    4.
 140.  *    2.    2.    3.    3.    3.    0.    0.    0.    0.    0.    0.    2.
3.    0.    0.    1.    3.    4.    4.    4.
 150.  *    3.    3.    3.    3.    3.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    3.    3.    3.
 160.  *    4.    4.    5.    3.    3.    0.    0.    1.    1.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 170.  *    4.    4.    5.    4.    3.    0.    0.    3.    2.    1.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 180.  *    4.    4.    5.    5.    4.    0.    1.    4.    3.    2.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 190.  *    3.    4.    5.    5.    5.    1.    2.    4.    3.    2.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 200.  *    3.    3.    4.    4.    5.    1.    2.    4.    4.    2.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 210.  *    2.    3.    4.    4.    4.    2.    2.    4.    3.    3.    0.    0.
1.    0.    0.    1.    1.    1.    0.    0.
 220.  *    2.    2.    3.    2.    3.    3.    3.    4.    3.    3.    0.    0.
1.    1.    0.    0.    0.    1.    0.    0.
 230.  *    2.    2.    2.    2.    2.    3.    4.    4.    3.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    3.    4.    4.    4.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    3.    4.    4.    4.    3.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
3.    1.    1.    0.    0.    0.    0.    0.
 270.  *    2.    2.    2.    1.    1.    4.    3.    4.    4.    4.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 290.  *    2.    3.    3.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 300.  *    2.    3.    3.    1.    0.    3.    4.    4.    5.    4.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 310.  *    2.    3.    3.    1.    0.    3.    3.    5.    5.    5.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 320.  *    2.    2.    3.    0.    0.    2.    3.    4.    5.    5.    1.    2.
2.    2.    1.    0.    0.    1.    1.    0.
 330.  *    1.    1.    2.    0.    0.    2.    2.    4.    4.    5.    2.    2.
3.    3.    1.    0.    0.    2.    2.    1.
 340.  *    0.    0.    1.    0.    0.    2.    2.    3.    3.    4.    3.    3.
4.    3.    2.    0.    1.    3.    2.    2.
 350.  *    0.    0.    0.    0.    0.    2.    3.    2.    2.    2.    4.    4.
4.    4.    2.    0.    1.    3.    3.    2.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    5.
5.    4.    3.    1.    1.    3.    3.    3.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    4.    5.    5.    5.    4.    4.    5.    5.    5.    4.    5.
5.   4.    4.    3.    4.    4.    4.    4.
 DEGR. *  170   170   170   190   200   270   230   310   320   320     0     0
20    10    20    70    50    60   120   130

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC3 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2015 NB

DATE : 1/10/11
TIME : 8:28:24

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Brookline SB Q1	*	24377.6	43850.8	24427.2	43917.2	*	83.	37.	AG	0.	100.0	1.0	30.0	0.43	4.2
2. Boylston WB Q2	*	24434.8	43765.0	24537.8	43801.9	*	109.	70.	AG	1.	100.0	1.0	40.0	0.74	5.6
3. Park Dr NB Q3	*	24314.0	43650.6	24347.8	43603.2	*	58.	145.	AG	0.	100.0	1.0	40.0	0.30	3.0
4. Brookline EB Q4	*	24250.4	43637.9	23456.2	42625.0	*	1287.	218.	AG	1.	100.0	1.0	40.0	1.30	65.4
5. Brookline Q27	*	24079.2	43421.1	23906.5	43182.4	*	295.	216.	AG	0.	100.0	1.0	20.0	0.98	15.0
6. Fenway Q28	*	24063.7	43526.1	23135.0	44630.1	*	1443.	320.	AG	0.	100.0	1.0	20.0	1.14	73.3
7. Brookline Q29	*	24121.4	43515.8	24218.6	43637.1	*	155.	39.	AG	0.	100.0	1.0	20.0	0.79	7.9
8. Brookline Ave west	*	24281.2	43703.6	24102.9	43457.4	*	304.	216.	AG	2880.	0.0	1.0	68.0		
9. Broolkine Ave east	*	24277.0	43684.6	24672.8	44220.7	*	666.	36.	AG	1415.	0.0	1.0	68.0		
10. Park drive north	*	24272.2	43689.5	23956.6	44033.9	*	467.	318.	AG	1120.	0.0	1.0	68.0		
11. Park drive south	*	24274.6	43701.6	24694.6	43148.6	*	694.	143.	AG	1335.	0.0	1.0	68.0		
12. Boylston St L5	*	24272.2	43682.2	25010.2	43953.9	*	786.	70.	AG	2320.	0.0	1.0	****		
13. Brookline L33	*	24106.9	43476.6	23847.1	43141.9	*	424.	218.	AG	2455.	0.0	1.0	68.0		
14. Fenway L34	*	24101.9	43470.8	24241.0	43294.7	*	224.	142.	AG	905.	0.0	1.0	42.0		
15. fenway L35	*	24108.0	43464.6	23938.0	43672.7	*	269.	321.	AG	1635.	0.0	1.0	42.0		

♀
PAGE 2
JOB: Winsor School RUN: 2015 NB

DATE : 1/10/11
TIME : 8:28:24

```
      1. Brookline SB Q1     *      100         53         3.0         860          1600
0.08      1         3
      2. Boylston WB Q2      *      100         73         3.0        1045          1600
0.08      1         3
      3. Park Dr NB Q3       *      100         53         3.0         805          1600
0.08      1         3
      4. Brookline EB Q4     *      100         74         3.0        1750          1600
0.08      1         3
      5. Brookline Q27       *      100         54         3.0        1290          1600
0.08      1         3
      6. Fenway Q28          *      100         46         3.0        1785          1600
0.08      1         3
      7. Brookline Q29       *      100         54         3.0        1030          1600
0.08      1         3

      RECEPTOR LOCATIONS
      ------------------
                             *          COORDINATES (FT)          *
        RECEPTOR             *       X           Y           Z    *
    -------------------------*------------------------------------*
     1. R7                   *      24234.6    43539.7        6.0   *
     2. R8                   *      24198.5    43493.8        6.0   *
     3. R9                   *      24247.7    43485.1        6.0   *
     4. R10                  *      24131.9    43603.0        6.0   *
     5. R11                  *      24100.2    43558.2        6.0   *
     6. R12                  *      24075.1    43588.8        6.0   *
     7. R13                  *      23988.8    43538.6        6.0   *
     8. R14                  *      24019.4    43509.1        6.0   *
     9. R15                  *      23968.0    43510.2        6.0   *
    10. R16                  *      23940.7    43418.5        6.0   *
    11. R17                  *      23992.1    43417.4        6.0   *
    12. R18                  *      23951.7    43364.0        6.0   *
    13. R19                  *      24080.6    43343.2        6.0   *
    14. R20                  *      24111.2    43390.1        6.0   *
    15. R21                  *      24138.5    43348.7        6.0   *
    16. R22                  *      24229.1    43394.5        6.0   *
    17. R23                  *      24198.5    43426.2        6.0   *
    18. R24                  *      24258.6    43409.8        6.0   *
    19. R41                  *      24433.6    43813.3        6.0   *
    20. R42                  *      24498.2    43841.4        6.0   *
    21. R43                  *      24569.1    43866.7        6.0   *
    22. R44                  *      24472.8    43859.6        6.0   *
    23. R45                  *      24517.8    43916.6        6.0   *
    24. R46                  *      24182.0    43865.3        6.0   *
    25. R47                  *      24230.1    43812.3        6.0   *
    26. R48                  *      24268.4    43766.0        6.0   *
    27. R49                  *      24307.2    43819.4        6.0   *
    28. R50                  *      24356.7    43884.0        6.0   *
    29. R51                  *      24367.5    43656.1        6.0   *
    30. R52                  *      24433.5    43678.3        6.0   *
    31. R53                  *      24498.6    43702.8        6.0   *
    32. R54                  *      24409.4    43607.5        6.0   *
    33. R55                  *      24444.6    43559.0        6.0   *
    34. R56                  *      24282.4    43606.2        6.0   *
    35. R57                  *      24328.7    43546.5        6.0   *
    36. R58                  *      24243.6    43550.9        6.0   *
    37. R59                  *      24204.3    43692.2        6.0   *
    38. R60                  *      24150.3    43751.0        6.0   *
    39. R61                  *      24161.0    43638.3        6.0   *
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (ug/m**3)																			
0.	5.	5.	3.	0.	0.	0.	2.	2.	1.	1.	1.	1.	6.	6.	4.	3.	3.	2.	2.	1.
10.	5.	5.	3.	0.	0.	0.	2.	2.	1.	1.	1.	1.	6.	7.	4.	2.	3.	2.	2.	1.
20.	5.	5.	3.	0.	1.	0.	2.	2.	2.	1.	1.	1.	6.	7.	4.	2.	3.	2.	2.	1.
30.	4.	4.	3.	1.	1.	1.	2.	2.	2.	1.	2.	2.	5.	6.	3.	2.	2.	2.	1.	0.
40.	3.	3.	2.	2.	3.	1.	2.	3.	2.	2.	4.	4.	4.	4.	2.	2.	2.	2.	1.	0.
50.	3.	2.	2.	4.	4.	2.	4.	5.	3.	4.	6.	6.	2.	3.	2.	1.	2.	1.	0.	0.
60.	2.	2.	1.	5.	6.	3.	4.	6.	4.	5.	7.	6.	1.	2.	1.	1.	1.	1.	1.	0.
70.	1.	1.	1.	6.	6.	4.	5.	6.	5.	4.	6.	5.	1.	1.	1.	0.	1.	1.	2.	1.
80.	1.	1.	1.	6.	5.	4.	5.	5.	4.	4.	5.	5.	1.	1.	1.	0.	0.	0.	3.	2.
90.	1.	0.	1.	5.	5.	4.	4.	5.	4.	3.	5.	4.	1.	1.	1.	0.	0.	0.	3.	2.
100.	1.	0.	1.	5.	4.	4.	4.	5.	4.	3.	4.	4.	1.	1.	1.	0.	0.	0.	4.	2.
110.	1.	0.	1.	4.	4.	3.	4.	5.	3.	3.	4.	4.	0.	1.	1.	0.	0.	0.	4.	2.
120.	1.	0.	0.	4.	4.	3.	4.	4.	3.	3.	4.	4.	0.	1.	1.	0.	0.	0.	4.	2.
130.	0.	0.	0.	4.	4.	3.	3.	4.	2.	3.	4.	4.	0.	0.	0.	0.	0.	0.	3.	2.
140.	0.	0.	0.	4.	4.	3.	3.	3.	2.	3.	4.	4.	0.	0.	0.	0.	0.	0.	3.	3.
150.	0.	0.	0.	4.	4.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	0.	0.	4.	3.
160.	0.	0.	0.	4.	5.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	0.	0.	4.	3.
170.	0.	0.	0.	5.	5.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	1.	0.	3.	3.
180.	0.	0.	0.	5.	5.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	1.	0.	3.	4.
190.	0.	0.	0.	5.	6.	4.	2.	3.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	3.	4.
200.	1.	1.	0.	5.	6.	4.	2.	3.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	4.	4.
210.	2.	2.	1.	4.	5.	3.	1.	2.	1.	1.	3.	3.	1.	1.	0.	1.	1.	1.	5.	5.

```
 220.  *    4.    4.    2.    3.    3.    2.    0.    1.    0.    0.    2.    2.
3.    3.    1.    1.    2.    1.    6.    6.
 230.  *    6.    6.    3.    2.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    2.    2.    3.    2.    6.    6.
 240.  *    6.    6.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
5.    5.    3.    3.    4.    2.    5.    4.
 250.  *    6.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
5.    5.    3.    3.    4.    3.    3.    3.
 260.  *    5.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    3.    3.    4.    3.    2.    2.
 270.  *    5.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 280.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 290.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 300.  *    5.    5.    4.    0.    2.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    4.    4.    3.    2.    2.
 310.  *    4.    5.    3.    0.    1.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    4.    4.    3.    2.    1.
 320.  *    4.    4.    3.    0.    1.    1.    1.    1.    0.    0.    0.    0.
4.    5.    3.    3.    4.    3.    2.    1.
 330.  *    4.    4.    3.    0.    0.    0.    1.    2.    0.    0.    0.    0.
4.    5.    4.    3.    4.    2.    2.    1.
 340.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    0.    0.
5.    6.    4.    3.    3.    2.    2.    1.
 350.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    1.    0.
6.    6.    4.    3.    3.    2.    2.    1.
 360.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
6.    6.    4.    3.    3.    2.    2.    1.

------*----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    6.    6.    4.    6.    6.    4.    5.    6.    5.    5.    7.    6.
6.    7.    4.    4.    4.    3.    6.    6.
 DEGR. *  240   240   290    70    70   190    70    70    70    60    60    60
20    10    10   310   300   300   230   230

♀
                              PAGE  4
      JOB: Winsor School                                          RUN: 2015 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*----------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    5.    4.    5.    1.    1.    1.
  10.  *    1.    2.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
```

```
2.     5.     4.     5.     1.     1.     1.
  20.   *     0.     2.     1.     0.     0.     0.     0.     0.     3.     4.     3.     2.
2.     5.     4.     4.     1.     1.     1.
  30.   *     0.     1.     1.     0.     0.     1.     0.     0.     3.     4.     3.     2.
1.     5.     3.     4.     2.     1.     1.
  40.   *     0.     0.     0.     0.     0.     1.     1.     1.     4.     3.     3.     2.
1.     5.     3.     4.     2.     1.     2.
  50.   *     0.     0.     0.     0.     1.     2.     2.     2.     4.     3.     3.     2.
1.     5.     2.     3.     4.     2.     4.
  60.   *     0.     0.     0.     0.     1.     2.     2.     2.     3.     3.     3.     1.
0.     4.     2.     2.     5.     2.     5.
  70.   *     1.     1.     0.     1.     1.     3.     2.     2.     2.     2.     2.     0.
0.     3.     1.     2.     6.     2.     6.
  80.   *     2.     1.     1.     1.     2.     4.     3.     3.     1.     1.     1.     0.
0.     2.     1.     1.     6.     3.     6.
  90.   *     2.     2.     1.     2.     2.     4.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     6.     4.     5.
 100.   *     2.     2.     1.     2.     2.     4.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     6.     4.     5.
 110.   *     2.     2.     1.     2.     2.     3.     3.     3.     0.     0.     0.     0.
0.     2.     2.     1.     5.     4.     5.
 120.   *     2.     2.     1.     2.     2.     3.     3.     4.     0.     0.     0.     0.
0.     2.     2.     1.     5.     4.     4.
 130.   *     2.     2.     1.     2.     3.     4.     3.     4.     0.     0.     0.     0.
0.     2.     2.     1.     4.     3.     4.
 140.   *     2.     2.     1.     3.     3.     4.     3.     3.     1.     0.     0.     1.
1.     1.     1.     0.     4.     3.     4.
 150.   *     2.     2.     1.     3.     4.     5.     3.     3.     2.     0.     0.     1.
1.     0.     0.     0.     4.     2.     4.
 160.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     2.     4.
 170.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     3.     5.
 180.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     1.
1.     0.     0.     0.     5.     3.     5.
 190.   *     2.     3.     2.     3.     4.     6.     5.     4.     2.     1.     1.     1.
1.     0.     0.     0.     5.     3.     5.
 200.   *     3.     3.     3.     3.     4.     7.     6.     4.     2.     1.     1.     1.
1.     1.     0.     1.     6.     3.     6.
 210.   *     4.     4.     4.     2.     4.     6.     5.     4.     3.     1.     1.     1.
1.     2.     0.     2.     5.     2.     4.
 220.   *     5.     5.     4.     2.     2.     4.     4.     3.     4.     2.     2.     2.
2.     4.     1.     4.     3.     1.     3.
 230.   *     6.     5.     4.     1.     2.     2.     2.     2.     6.     4.     3.     3.
2.     6.     2.     6.     1.     1.     1.
 240.   *     5.     3.     3.     1.     1.     1.     1.     1.     6.     4.     4.     4.
3.     6.     3.     6.     1.     0.     1.
 250.   *     3.     2.     2.     1.     1.     1.     1.     1.     6.     5.     4.     4.
3.     6.     3.     6.     0.     0.     1.
 260.   *     2.     2.     2.     1.     1.     1.     1.     0.     6.     5.     4.     4.
3.     5.     3.     5.     0.     0.     1.
 270.   *     1.     2.     2.     1.     1.     1.     1.     0.     5.     4.     4.     4.
4.     5.     3.     5.     0.     0.     1.
 280.   *     1.     2.     2.     1.     1.     1.     1.     0.     5.     4.     4.     4.
3.     5.     3.     5.     0.     0.     0.
 290.   *     1.     2.     1.     1.     1.     1.     1.     0.     5.     4.     4.     4.
4.     4.     3.     5.     0.     0.     0.
 300.   *     1.     2.     1.     1.     1.     1.     0.     0.     5.     4.     3.     4.
4.     4.     3.     4.     0.     0.     0.
 310.   *     1.     2.     1.     1.     1.     1.     0.     0.     5.     3.     3.     4.
4.     4.     2.     4.     0.     0.     0.
 320.   *     1.     1.     1.     0.     0.     1.     0.     0.     4.     3.     3.     3.
3.     4.     3.     4.     1.     1.     0.
```

```
 330.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    3.    4.    1.    1.    0.
 340.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    0.
 350.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    1.
 360.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    5.    4.    5.    1.    1.    1.

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *    6.    5.    4.    3.    4.    7.    6.    4.    6.    5.    4.    4.
4.    6.    4.    6.    6.    4.    6.
 DEGR. *  230   220   220   170   190   200   200   200   240   250   270   300
300   240     0   240    80   120    70

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC14.
```

Particulate Matter 2.5 ($PM_{2.5}$)

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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                        PAGE  1

      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:57

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *      94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *      71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *     255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *     118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *    1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *     567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *      70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *      89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *      43.
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120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                              PAGE  2
      JOB: Winsor School                                       RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:57

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:57:57

       1. River/Long EB L     *      90        64       3.0       200        1600
 0.04      1        3
       2. River/Long EB TR    *      90        54       3.0       640        1600
 0.04      1        3
       3. River/Long NB LT    *      90        62       3.0       420        1600
 0.04      1        3
       4. River/Long WB LTR   *      90        54       3.0      1625        1600
 0.04      1        3
       5. River/Long SB LT    *      90        62       3.0       315        1600
 0.04      1        3
       6. River/Long SB R     *      90        64       3.0       195        1600
 0.04      1        3
       7. Brook/Deacon EB TR  *     120        65       3.0       665        1600
 0.04      1        3
       8. Brook/Deacon NB LR  *     120        90       3.0       210        1600
 0.04      1        3
       9. Brook/Deacon WB LT  *     120       110       3.0      1200        1600
 0.04      1        3
      10. Brook/Deacon SB LR  *     120        90       3.0       135        1600
 0.04      1        3
      11. Brook/Joslin EB L   *     120        70       3.0        70        1600
 0.04      1        3
      12. Brook/Joslin EB T   *     120        70       3.0       695        1600
 0.04      1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1240        1600
 0.04      1        3
      14. Binney/Long EB LTR  *     120        90       3.0       185        1600
 0.04      1        3
      15. Binney/Long NB LTR  *     120        49       3.0       615        1600
 0.04      1        3
      16. Binney/Long WB LTR  *     120        90       3.0       220        1600
 0.04      1        3
      17. Binney/Long SB LTR  *     120        49       3.0       525        1600
 0.04      1        3
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     18. River/Short EB TR   *      93        43        3.0        755        1600
0.04      1        3
     19. River/Short NB LR   *      93        73        3.0        215        1600
0.04      1        3
     20. River/Short WB LTR  *      93        43        3.0       1470        1600
0.04      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        760        1600
0.04      1        3
     22. Brook/Long NB LT    *     120        78        3.0        445        1600
0.04      1        3
     23. Brook/Long NB R     *     120        66        3.0        270        1600
0.04      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       1150        1600
0.04      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        480        1600
0.04      1        3
     26. Beth/Brook EB TTR   *     120        72        3.0       1050        1600
0.04      1        3
     27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.04      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        940        1600
0.04      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. River/Long NE1	-978.8	215.4	6.0
2. River/Long NE2	-904.3	201.6	6.0
3. River/Long NE3	-831.3	188.0	6.0
4. River/Long NE4	-788.0	251.3	6.0
5. River/Long NE5	-746.6	311.8	6.0
6. River/Long SE1	-639.8	294.3	6.0
7. River/Long SE2	-682.2	232.4	6.0
8. River/Long SE3	-724.5	170.5	6.0
9. River/Long SE4	-662.6	128.1	6.0
10. River/Long SE5	-600.7	85.8	6.0
11. River/Long SW1	-638.2	21.8	6.0
12. River/Long SW2	-700.1	64.1	6.0
13. River/Long SW3	-762.0	106.5	6.0
14. River/Long SW4	-790.3	37.0	6.0
15. River/Long SW5	-818.6	-32.5	6.0
16. River/Long NW1	-921.8	-26.0	6.0
17. River/Long NW2	-893.5	43.5	6.0
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0

♀

PAGE 4

JOB: Winsor School RUN: 2015NB

DATE : 1/13/11
TIME : 15:57:57

RECEPTOR LOCATIONS

* COORDINATES (FT) *

RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2015NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	*	CONCENTRATION (ug/m**3)																			
0.	*	0.	0.	0.	0.	0.	1.	2.	2.	0.	0.	1.	1.	2.	2.	2.	0.	1.	1.	1.	1.
10.	*	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	0.	1.	2.	2.	2.	0.	0.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
30.	*	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	1.	1.
40.	*	0.	0.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	2.	2.	1.	1.
50.	*	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	2.	2.	3.	2.	1.

```
  60.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    2.    2.    3.    2.    2.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    2.    2.    2.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    2.    2.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    1.    2.    2.    2.    2.
 100.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    1.    1.
 110.  *    1.    2.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 120.  *    2.    2.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    1.    1.
 130.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 140.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 150.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    1.    0.
 160.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 170.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 180.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 190.  *    1.    1.    2.    2.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *    1.    1.    2.    2.    2.    1.    1.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    1.    1.    2.    1.    1.    1.    1.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    2.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 230.  *    0.    1.    1.    1.    0.    2.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    0.    1.    1.    0.    0.    2.    2.    2.    1.    1.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 270.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    1.    1.    2.    2.    1.    1.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    1.    1.    1.
2.    2.    1.    0.    0.    1.    0.    0.
 300.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    0.    0.
 310.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 320.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 330.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 340.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    0.    0.    1.    1.
2.    2.    2.    0.    1.    1.    1.    1.
```

```
------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    2.    2.    3.    2.    2.    2.    2.    1.    1.    2.
2.    2.    2.    2.    2.    3.    2.    2.
 DEGR. *  120   130    60   180   190   240   250   260   270   290   310   340
10   350     0    40    50    60    60    70

♀
                              PAGE  6
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  30.  *    0.    0.    1.    1.    2.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    1.    1.    2.    0.    0.
  40.  *    0.    1.    2.    3.    3.    2.    2.    2.    1.    0.    0.    1.
2.    2.    2.    2.    2.    2.    1.    1.
  50.  *    1.    1.    3.    3.    3.    1.    1.    0.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    1.    1.    1.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    1.    1.    1.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    1.    1.    1.
 100.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
 110.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 120.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 130.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 140.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 150.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 160.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
```

```
 170.  *    0.    1.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 180.  *    0.    1.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 190.  *    0.    1.    1.    2.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *    0.    0.    1.    2.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 210.  *    0.    0.    1.    2.    2.    0.    1.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 220.  *    0.    0.    1.    1.    2.    1.    1.    1.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 230.  *    0.    0.    0.    0.    1.    1.    1.    2.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    0.    0.    0.    2.    1.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    2.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    2.    0.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    1.
1.    2.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
1.    2.    1.    0.    0.    0.    0.    0.
 340.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.

------*---------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    1.    3.    3.    3.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    2.    2.    2.    2.    1.
 DEGR. *   50    70    50    50    50    30    30    30    20    20    30   340
20    30    30    50    50    40    60    50

♀
                         PAGE  7
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	*	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
10.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
20.	*	0.	0.	0.	0.	1.	2.	2.	2.	3.	2.
30.	*	0.	0.	1.	2.	2.	2.	2.	2.	3.	2.
40.	*	0.	1.	3.	3.	3.	2.	1.	2.	2.	2.
50.	*	1.	1.	3.	3.	4.	1.	1.	1.	1.	1.
60.	*	1.	1.	3.	3.	3.	0.	0.	0.	1.	0.
70.	*	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
80.	*	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
90.	*	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
100.	*	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
110.	*	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
120.	*	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
130.	*	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
140.	*	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
150.	*	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
160.	*	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
170.	*	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
180.	*	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
190.	*	0.	1.	2.	3.	2.	0.	0.	0.	0.	0.
200.	*	0.	0.	2.	3.	2.	0.	0.	0.	0.	0.
210.	*	0.	0.	2.	2.	2.	0.	1.	1.	1.	0.
220.	*	0.	0.	1.	2.	2.	1.	1.	1.	1.	1.
230.	*	0.	0.	0.	1.	1.	1.	1.	2.	2.	1.
240.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	1.
250.	*	0.	0.	0.	0.	0.	2.	1.	1.	2.	2.
260.	*	0.	0.	0.	0.	0.	1.	2.	1.	2.	2.
270.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
280.	*	0.	0.	0.	0.	0.	1.	2.	1.	1.	2.
290.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
300.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.
310.	*	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
320.	*	0.	0.	0.	0.	0.	1.	2.	1.	1.	2.
330.	*	0.	0.	0.	0.	0.	1.	2.	1.	2.	2.
340.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
350.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
360.	*	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
MAX	*	1.	1.	3.	3.	3.	2.	2.	2.	3.	2.
DEGR.	*	70	70	50	50	50	30	30	30	30	20

THE HIGHEST CONCENTRATION OF 3. ug/m**3 OCCURRED AT RECEPTOR REC45.

```
♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58: 4

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *       94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *       71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *      255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *      118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *     1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *      567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *       70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *       43.
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120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58: 4

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1         Y1         X2         Y2      *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5     -619.2      358.7     -693.0 *      124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9     -635.0      188.4     -749.0 *      144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8      106.2      433.8      259.6 *      194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8      106.2      430.7       27.9 *      140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4      106.2      188.9      -62.8 *      211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E       *   -139.3      550.3       13.9      647.9 *      182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S       *   -137.4      551.3        6.7      443.6 *      180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W       *   -136.9      551.3     -285.8      480.5 *      165.
245. AG   2340.   0.0   1.0 82.0
♀
                              PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58: 4

       1. River/Long EB L     *      90         64        3.0        200        1600
 0.04      1        3
       2. River/Long EB TR    *      90         54        3.0        640        1600
 0.04      1        3
       3. River/Long NB LT    *      90         62        3.0        420        1600
 0.04      1        3
       4. River/Long WB LTR   *      90         54        3.0       1625        1600
 0.04      1        3
       5. River/Long SB LT    *      90         62        3.0        315        1600
 0.04      1        3
       6. River/Long SB R     *      90         64        3.0        195        1600
 0.04      1        3
       7. Brook/Deacon EB TR  *     120         65        3.0        665        1600
 0.04      1        3
       8. Brook/Deacon NB LR  *     120         90        3.0        210        1600
 0.04      1        3
       9. Brook/Deacon WB LT  *     120        110        3.0       1200        1600
 0.04      1        3
      10. Brook/Deacon SB LR  *     120         90        3.0        135        1600
 0.04      1        3
      11. Brook/Joslin EB L   *     120         70        3.0         70        1600
 0.04      1        3
      12. Brook/Joslin EB T   *     120         70        3.0        695        1600
 0.04      1        3
      13. Brook/Joslin WB TTR *     120         70        3.0       1240        1600
 0.04      1        3
      14. Binney/Long EB LTR  *     120         90        3.0        185        1600
 0.04      1        3
      15. Binney/Long NB LTR  *     120         49        3.0        615        1600
 0.04      1        3
      16. Binney/Long WB LTR  *     120         90        3.0        220        1600
 0.04      1        3
      17. Binney/Long SB LTR  *     120         49        3.0        525        1600
 0.04      1        3
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     18. River/Short EB TR   *      93        43        3.0        755        1600
0.04      1        3
     19. River/Short NB LR   *      93        73        3.0        215        1600
0.04      1        3
     20. River/Short WB LTR  *      93        43        3.0       1470        1600
0.04      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        760        1600
0.04      1        3
     22. Brook/Long NB LT    *     120        78        3.0        445        1600
0.04      1        3
     23. Brook/Long NB R     *     120        66        3.0        270        1600
0.04      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       1150        1600
0.04      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        480        1600
0.04      1        3
     26. Beth/Brook EB TTR   *     120        72        3.0       1050        1600
0.04      1        3
     27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.04      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        940        1600
0.04      1        3
```

RECEPTOR LOCATIONS

```
                         *           COORDINATES (FT)           *
   RECEPTOR              *      X           Y           Z       *
-------------------------*--------------------------------------*
  1. Brook/Long NE1      *      -189.0      -227.6        6.0   *
  2. Brook/Long NE2      *      -130.2      -274.2        6.0   *
  3. Brook/Long NE3      *       -71.4      -320.7        6.0   *
  4. Brook/Long NE4      *       -24.6      -262.1        6.0   *
  5. Brook/Long NE5      *        22.3      -203.5        6.0   *
  6. Brook/Long SE1      *       107.1      -254.3        6.0   *
  7. Brook/Long SE2      *        60.3      -312.9        6.0   *
  8. Brook/Long SE3      *        13.5      -371.5        6.0   *
  9. Brook/Long SE4      *        72.9      -417.2        6.0   *
 10. Brook/Long SE5      *       132.4      -463.0        6.0   *
 11. Brook/Long SW1      *        72.2      -540.4        6.0   *
 12. Brook/Long SW2      *        12.8      -494.6        6.0   *
 13. Brook/Long SW3      *       -46.6      -448.9        6.0   *
 14. Brook/Long SW4      *       -91.9      -508.7        6.0   *
 15. Brook/Long SW5      *      -137.1      -568.6        6.0   *
 16. Brook/Long NW1      *      -207.2      -498.8        6.0   *
 17. Brook/Long NW2      *      -162.0      -439.0        6.0   *
 18. Brook/Long NW3      *      -116.8      -379.1        6.0   *
 19. Brook/Long NW4      *      -175.6      -332.6        6.0   *
 20. Brook/Long NW5      *      -234.4      -286.1        6.0   *
 21. Binney/Long NE1     *       137.4      -466.5        6.0   *
 22. Binney/Long NE2     *       197.4      -511.4        6.0   *
 23. Binney/Long NE3     *       257.5      -556.3        6.0   *
```

♀

PAGE 4

JOB: Winsor School RUN: 2015NB

DATE : 1/13/11
TIME : 15:58: 4

RECEPTOR LOCATIONS

```
                         *           COORDINATES (FT)           *
```

RECEPTOR	*	X	Y	Z	*
24. Binney/Long NE4	*	302.7	-496.6	6.0	*
25. Binney/Long NE5	*	348.0	-436.8	6.0	*
26. Binney/Long SE1	*	399.8	-491.0	6.0	*
27. Binney/Long SE2	*	354.5	-550.8	6.0	*
28. Binney/Long SE3	*	309.3	-610.6	6.0	*
29. Binney/Long SE4	*	369.6	-655.0	6.0	*
30. Binney/Long SE5	*	429.3	-698.9	6.0	*
31. Binney/Long SW1	*	394.1	-778.9	6.0	*
32. Binney/Long SW2	*	340.7	-725.6	6.0	*
33. Binney/Long SW3	*	280.3	-681.2	6.0	*
34. Binney/Long SW4	*	234.3	-740.4	6.0	*
35. Binney/Long SW5	*	188.6	-799.2	6.0	*
36. Binney/Long NW1	*	131.4	-771.8	6.0	*
37. Binney/Long NW2	*	177.5	-712.5	6.0	*
38. Binney/Long NW3	*	223.5	-653.3	6.0	*
39. Binney/Long NW4	*	163.4	-608.4	6.0	*
40. Binney/Long NW5	*	103.4	-563.4	6.0	*
41. Beth/Brook SE1	*	463.4	227.5	6.0	*
42. Beth/Brook SE2	*	417.4	168.2	6.0	*
43. Beth/Brook SE3	*	371.4	109.0	6.0	*
44. Beth/Brook SE4	*	433.6	67.0	6.0	*
45. Beth/Brook SE5	*	495.7	25.1	6.0	*
46. Beth/Brook SW1	*	454.8	-29.4	6.0	*
47. Beth/Brook SW2	*	392.6	12.6	6.0	*
48. Beth/Brook SW3	*	330.5	54.6	6.0	*
49. Beth/Brook SW4	*	285.5	-5.5	6.0	*
50. Beth/Brook SW5	*	240.6	-65.5	6.0	*
51. Beth/Brook N1	*	191.3	12.2	6.0	*
52. Beth/Brook N2	*	242.0	79.9	6.0	*
53. Beth/Brook N3	*	287.0	140.0	6.0	*
54. Beth/Brook N4	*	332.7	199.4	6.0	*
55. Beth/Brook N5	*	372.8	251.0	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2015NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
		CONCENTRATION (ug/m**3)																			
0.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	1.	2.	2.	3.	2.	0.	0.	1.	1.	0.
10.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	1.	2.	3.	2.	2.	0.	0.	1.	1.	0.
20.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	1.	2.	3.	3.	2.	1.	1.	1.	1.	0.
30.	*	0.	0.	1.	1.	1.	2.	2.	2.	1.	1.	1.	2.								

```
3.     2.     2.     2.     2.     2.     1.     0.
  40.  *     0.     1.     3.     2.     2.     1.     1.     1.     0.     0.     1.     1.
2.     2.     2.     3.     3.     3.     2.     1.
  50.  *     1.     1.     3.     3.     2.     0.     0.     0.     0.     0.     0.     1.
1.     1.     1.     3.     3.     4.     2.     1.
  60.  *     1.     1.     3.     3.     2.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     3.     3.     3.     2.     1.
  70.  *     0.     1.     3.     3.     2.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     3.     3.     3.     2.     1.
  80.  *     0.     1.     3.     3.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     3.     3.     3.     2.     1.
  90.  *     1.     1.     2.     3.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     2.     3.     3.     2.     2.
 100.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     2.     3.     3.     2.     2.
 110.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     2.     2.     3.     2.     2.
 120.  *     1.     1.     3.     2.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     1.     2.     3.     2.     2.
 130.  *     2.     2.     3.     2.     2.     0.     0.     1.     0.     0.     0.     0.
0.     0.     0.     1.     2.     2.     2.     1.
 140.  *     2.     2.     3.     3.     2.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 150.  *     2.     2.     3.     3.     3.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 160.  *     2.     2.     3.     3.     3.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 170.  *     1.     2.     3.     3.     3.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     1.     2.     2.     1.     0.
 180.  *     1.     2.     3.     3.     3.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     1.     0.
 190.  *     1.     2.     3.     3.     4.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     1.     0.
 200.  *     1.     2.     3.     4.     4.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     3.     1.     0.
 210.  *     0.     1.     3.     3.     3.     1.     1.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     0.     0.
 220.  *     0.     1.     2.     2.     2.     2.     2.     2.     1.     0.     0.     0.
1.     1.     1.     2.     1.     1.     0.     0.
 230.  *     0.     1.     1.     1.     1.     2.     2.     2.     2.     1.     0.     0.
2.     1.     1.     1.     1.     1.     0.     0.
 240.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 250.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 260.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 270.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 280.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     2.     0.     1.
2.     2.     1.     0.     0.     0.     0.     0.
 290.  *     0.     0.     1.     0.     0.     2.     2.     2.     2.     2.     1.     1.
2.     2.     1.     0.     0.     0.     0.     0.
 300.  *     0.     0.     1.     0.     0.     2.     2.     2.     2.     2.     1.     1.
2.     2.     1.     0.     0.     0.     0.     0.
 310.  *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     1.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 320.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     2.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 330.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     2.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 340.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     2.     2.
2.     2.     1.     0.     0.     1.     1.     0.
```

```
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    2.    2.
2.    2.    1.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.    3.    2.    0.    0.    1.    1.    0.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    4.    4.    2.    2.    2.    2.    2.    2.    2.
3.    3.    2.    3.    3.    4.    2.    2.
 DEGR. *  140   150    50   200   200   230   240   230   270   290   350    10
20    20    20    50    50    50    80   110
```

♀

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                              PAGE   6
      JOB: Winsor School                                         RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  10.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  20.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    0.    1.    1.    1.
  30.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    1.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    1.
 130.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 140.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    0.    0.    0.    0.
 150.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 160.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 170.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 180.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 190.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 200.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 210.  *    0.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    0.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    0.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 280.  *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 300.  *    2.    1.    1.    1.    0.    0.    1.    1.    1.    1.    1.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 310.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    1.    1.    1.
2.    1.    0.    0.    0.    1.    1.    1.
 320.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    1.    1.
2.    1.    0.    0.    1.    1.    1.    1.
 330.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    1.    1.    1.    1.    2.
 340.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    0.    1.    1.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
 360.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.

------*-------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    1.
2.    1.    1.    1.    1.    1.    1.    2.
 DEGR. *  290   290   290   190   290   290   270   290   280   290   310   320
320    10    10   330    10   320   320   330

♀
                              PAGE  7
      JOB: Winsor School                                          RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
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angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0. *	1.	2.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
10. *	1.	2.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
20. *	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
30. *	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
40. *	1.	1.	1.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.	2.
50. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	3.	3.	3.	2.	2.
60. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	3.	2.	2.
70. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
80. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
90. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
100. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
110. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
120. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
130. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
140. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
150. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
160. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
170. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
180. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
190. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	3.
200. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	3.	3.	3.
210. *	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.
220. *	2.	2.	2.	1.	0.	0.	0.	2.	2.	1.	2.	2.	2.	2.	2.
230. *	2.	2.	2.	1.	1.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
240. *	2.	2.	2.	1.	1.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
250. *	2.	2.	2.	1.	1.	1.	1.	2.	2.	1.	0.	0.			

```
0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 280.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 300.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 310.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 320.  *    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 330.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 340.  *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 350.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.

------*---------------------------------------------------------------------------
-------------
 MAX   *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    3.    3.
3.    3.    3.
 DEGR. *  230   230   230   270   280   350     0    20    20    20    50    50
50   200   200

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC18.
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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58:10

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -845.1       4.1 *      94.
201. AG      0. 100.0   1.0 20.0 0.58   4.8
       3. River/Long NB LT    *   -736.1     146.0    -674.4     110.5 *      71.
120. AG      0. 100.0   1.0 20.0 0.51   3.6
       4. River/Long WB LTR   *   -795.7     191.2    -654.1     403.5 *     255.
34. AG      0. 100.0   1.0 30.0 0.98  13.0
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.1    -860.4 *     118.
218. AG      0. 100.0   1.0 20.0 0.50   6.0
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1115.2   -1733.0 *    1349.
219. AG      0. 100.0   1.0 10.0 1.16  68.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4      61.7    -194.2 *     567.
38. AG      0. 100.0   1.0 20.0 1.04  28.8
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     160.3    -559.3 *      70.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.2     505.1 *      89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -55.0     503.8 *      43.
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```
120. AG      0. 100.0   1.0 20.0 0.41   2.2
      20. River/Short WB LTR  *   -103.9     601.6      -5.6     661.7 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -130.4    -502.2 *     108.
220. AG      0. 100.0   1.0 30.0 0.51   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      70.6    -459.4 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      85.2    -448.6 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   5.0
      24. Brook/Long WB TTR   *    -34.0    -333.3      53.7    -226.5 *     138.
39. AG      0. 100.0   1.0 30.0 0.59   7.0
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.2    -285.4 *     102.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     173.7    -122.2 *     253.
215. AG      0. 100.0   1.0 20.0 0.92  12.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2819.5    3216.7 *    3937.
39. AG      0. 100.0   1.0 20.0 3.95 200.0
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   945.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG  2245.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG  1240.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG  1770.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG   135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG  1855.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG   245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG  2045.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG   110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG  1935.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG  1240.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG  2485.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG   670.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG  2340.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG  1235.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG   290.   0.0   1.0 54.0
♀
                            PAGE  2
      JOB: Winsor School                                        RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58:10

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                   *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1160.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2065.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2145.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2325.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    215.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2340.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2015NB


      DATE :  1/13/11
      TIME : 15:58:10

       1. River/Long EB L     *      90        64        3.0       200        1600
 0.04      1        3
       2. River/Long EB TR    *      90        54        3.0       640        1600
 0.04      1        3
       3. River/Long NB LT    *      90        62        3.0       420        1600
 0.04      1        3
       4. River/Long WB LTR   *      90        54        3.0      1625        1600
 0.04      1        3
       5. River/Long SB LT    *      90        62        3.0       315        1600
 0.04      1        3
       6. River/Long SB R     *      90        64        3.0       195        1600
 0.04      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       665        1600
 0.04      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210        1600
 0.04      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1200        1600
 0.04      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       135        1600
 0.04      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70        1600
 0.04      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       695        1600
 0.04      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1240        1600
 0.04      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
 0.04      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
 0.04      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.04      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       525        1600
 0.04      1        3
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      18. River/Short EB TR   *      93        43        3.0        755         1600
 0.04      1        3
      19. River/Short NB LR   *      93        73        3.0        215         1600
 0.04      1        3
      20. River/Short WB LTR  *      93        43        3.0       1470         1600
 0.04      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        760         1600
 0.04      1        3
      22. Brook/Long NB LT    *     120        78        3.0        445         1600
 0.04      1        3
      23. Brook/Long NB R     *     120        66        3.0        270         1600
 0.04      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1150         1600
 0.04      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        480         1600
 0.04      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1050         1600
 0.04      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370         1600
 0.04      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        940         1600
 0.04      1        3

       RECEPTOR LOCATIONS
       ------------------
                               *           COORDINATES (FT)           *
         RECEPTOR              *      X           Y           Z       *
     -------------------------*-----------------------------------*
      1. Short/River SE1      *        64.2       619.5        6.0   *
      2. Short/River SE2      *         0.6       579.2        6.0   *
      3. Short/River SE3      *       -62.3       538.9        6.0   *
      4. Short/River SE4      *        -2.3       494.0        6.0   *
      5. Short/River SE5      *        57.8       449.1        6.0   *
      6. Short/River SW1      *        -6.6       409.9        6.0   *
      7. Short/River SW2      *       -66.7       454.8        6.0   *
      8. Short/River SW3      *      -126.8       499.6        6.0   *
      9. Short/River SW4      *      -194.5       467.4        6.0   *
     10. Short/River SW5      *      -262.2       435.2        6.0   *
     11. Short/River N1       *      -300.6       529.9        6.0   *
     12. Short/River N2       *      -232.9       562.1        6.0   *
     13. Short/River N3       *      -165.2       594.3        6.0   *
     14. Short/River N4       *      -101.9       634.6        6.0   *
     15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                          RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*-------------------------------------------------------------------------------------
-------------
    0.  *     0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
   10.  *     0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
   20.  *     0.    1.    1.    0.    0.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.
   30.  *     0.    0.    1.    0.    0.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.
   40.  *     0.    0.    1.    0.    0.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.
   50.  *     0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    1.
1.    0.    0.
   60.  *     0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
   70.  *     0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
2.    1.    0.
   80.  *     0.    0.    0.    0.    0.    0.    0.    1.    1.    0.    2.    2.
2.    2.    0.
   90.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.
  100.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.
  110.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
1.    2.    1.
  120.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
2.    2.    1.
  130.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    2.
  140.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
2.    2.    2.
  150.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    2.
  160.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
  170.  *     0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
  180.  *     0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
  190.  *     0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
  200.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
  210.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
  220.  *     0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
  230.  *     1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
  240.  *     1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.
  250.  *     1.    2.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
  260.  *     1.    2.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
  270.  *     1.    2.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
  280.  *     1.    1.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
  290.  *     1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
  300.  *     1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    0.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 320.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 330.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 340.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 350.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 360.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    2.    2.
2.    2.    2.
 DEGR. *  250   260   250   280   300   330     0    20    40    50    80   100
80   100   200

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

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♀                     CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                     PAGE  1

      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/10/11
      TIME : 10: 2:31

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1543.4    -118.5 *    1373.
330. AG      0. 100.0   1.0 20.0 1.21  69.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG      0. 100.0   1.0 30.0 0.54   4.6
       3. Brook/River NB LTR  *   -792.2   -1400.7    -720.9   -1621.2 *     232.
162. AG      0. 100.0   1.0 20.0 0.91  11.8
       4. Brook/River WB LTTR *   -798.5   -1299.5    -698.5   -1177.5 *     158.
39. AG      0. 100.0   1.0 30.0 0.68   8.0
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1895.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1950.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2540.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1325.   0.0   1.0 78.0
♀
                         PAGE  2
      JOB: Winsor School                                          RUN: 2015NB


      DATE :  1/10/11
      TIME : 10: 2:31

       1. Brook/River SB LTR  *     120       79       3.0      1160       1600
 0.04      1        3
       2. Brook/River EB LTR  *     120       89       3.0       565       1600
 0.04      1        3
       3. Brook/River NB LTR  *     120       79       3.0       875       1600
 0.04      1        3
       4. Brook/River WB LTTR *     120       69       3.0      1255       1600
 0.04      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *         COORDINATES (FT)          *
         RECEPTOR             *      X           Y          Z        *
```

```
     -------------------------*------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                           PAGE  3
      JOB: Winsor School                                        RUN: 2015NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    1.    2.    2.    1.
  10.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    2.    2.
2.    2.    2.    0.    1.    1.    2.    1.
  20.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    2.    2.
3.    2.    2.    1.    1.    1.    1.    1.
  30.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    2.    2.
3.    2.    2.    1.    1.    1.    1.    1.
  40.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    1.    2.
2.    2.    1.    1.    1.    2.    1.    1.
  50.  *    0.    0.    2.    1.    0.    0.    0.    0.    0.    0.    1.    1.
2.    1.    1.    2.    2.    2.    2.    1.
  60.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    2.    1.
  70.  *    0.    0.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    2.    1.
  80.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    2.    2.    2.    2.    2.
  90.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    2.    2.    2.    2.    2.
```

```
 100.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.   1.    0.    2.    2.    2.    2.    2.
 110.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    2.
2.   1.    0.    1.    2.    2.    2.    2.
 120.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.   0.    0.    1.    2.    2.    2.    2.
 130.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.   0.    0.    1.    2.    2.    2.    2.
 140.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.   0.    0.    1.    2.    2.    2.    2.
 150.  *    1.    2.    2.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   0.    0.    1.    1.    2.    2.    2.
 160.  *    2.    2.    2.    2.    1.    0.    0.    1.    0.    0.    0.    0.
1.   0.    0.    1.    1.    1.    1.    1.
 170.  *    2.    2.    3.    2.    2.    0.    0.    1.    1.    0.    0.    0.
0.   0.    0.    1.    1.    1.    1.    1.
 180.  *    2.    2.    3.    2.    2.    0.    0.    2.    2.    1.    0.    0.
0.   0.    0.    1.    1.    1.    0.    0.
 190.  *    2.    2.    2.    3.    2.    0.    1.    2.    2.    1.    0.    0.
0.   0.    0.    1.    1.    1.    0.    0.
 200.  *    1.    2.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.   0.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.   0.    0.    0.    0.    1.    0.    0.
 220.  *    1.    1.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
1.   0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    2.    2.    2.    2.    2.    0.    0.
1.   1.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    1.    2.    2.    2.    2.    2.    0.    0.
1.   1.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    1.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    1.    0.    0.    0.    0.    0.
 280.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    1.    0.    0.    0.    0.    0.
 290.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 310.  *    1.    1.    2.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 320.  *    1.    1.    1.    0.    0.    1.    2.    2.    3.    3.    1.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 330.  *    0.    1.    1.    0.    0.    1.    1.    2.    2.    2.    1.    1.
2.   1.    1.    0.    0.    1.    1.    1.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    2.
2.   2.    1.    0.    0.    2.    1.    1.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.   2.    1.    0.    0.    2.    2.    1.
 360.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.   2.    1.    0.    1.    2.    2.    1.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    3.    2.    2.    2.    2.    3.    3.    2.    2.
3.   2.    2.    2.    2.    2.    2.    2.
 DEGR. *  170   170   170   190   190   240   230   260   320   320     0    10
20     0    20    70    50   120   100   130

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC4 .
```

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2015 NB


      DATE :  1/10/11
      TIME :  8:28:32

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24427.2   43917.2 *      83.
37. AG      0. 100.0   1.0 30.0 0.43   4.2
       2. Boylston WB Q2      *  24434.8   43765.0   24537.8   43801.9 *     109.
70. AG      0. 100.0   1.0 40.0 0.74   5.6
       3. Park Dr NB Q3       *  24314.0   43650.6   24347.8   43603.2 *      58.
145. AG      0. 100.0   1.0 40.0 0.30   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23456.2   42625.0 *    1287.
218. AG      0. 100.0   1.0 40.0 1.30  65.4
       5. Brookline Q27       *  24079.2   43421.1   23906.5   43182.4 *     295.
216. AG      0. 100.0   1.0 20.0 0.98  15.0
       6. Fenway Q28          *  24063.7   43526.1   23135.0   44630.1 *    1443.
320. AG      0. 100.0   1.0 20.0 1.14  73.3
       7. Brookline Q29       *  24121.4   43515.8   24218.6   43637.1 *     155.
39. AG      0. 100.0   1.0 20.0 0.79   7.9
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2880.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1415.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1120.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1335.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2320.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2455.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    905.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1635.   0.0   1.0 42.0
♀
                             PAGE  2
      JOB: Winsor School                                          RUN: 2015 NB


      DATE :  1/10/11
      TIME :  8:28:32
```

```
      1. Brookline SB Q1     *     100        53        3.0        860        1600
0.04     1        3
      2. Boylston WB Q2      *     100        73        3.0       1045        1600
0.04     1        3
      3. Park Dr NB Q3       *     100        53        3.0        805        1600
0.04     1        3
      4. Brookline EB Q4     *     100        74        3.0       1750        1600
0.04     1        3
      5. Brookline Q27       *     100        54        3.0       1290        1600
0.04     1        3
      6. Fenway Q28          *     100        46        3.0       1785        1600
0.04     1        3
      7. Brookline Q29       *     100        54        3.0       1030        1600
0.04     1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0
39. R61	24161.0	43638.3	6.0

```
       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*---------------------------------------------------------------------------
-------------------------------------------
   0.  *    2.    2.    2.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.
  10.  *    2.    3.    2.    0.    0.    0.    1.    1.    1.    0.    1.    0.
3.    4.    2.    1.    2.    1.    1.    0.
  20.  *    2.    2.    1.    0.    0.    0.    1.    1.    1.    0.    1.    1.
3.    4.    2.    1.    2.    1.    1.    0.
  30.  *    2.    2.    1.    1.    1.    0.    1.    1.    1.    1.    1.    1.
3.    3.    2.    1.    1.    1.    1.    0.
  40.  *    2.    2.    1.    1.    1.    1.    1.    2.    1.    1.    2.    2.
2.    2.    1.    1.    1.    1.    0.    0.
  50.  *    1.    1.    1.    2.    2.    1.    2.    2.    1.    2.    3.    3.
1.    2.    1.    0.    1.    0.    0.    0.
  60.  *    1.    1.    1.    3.    3.    2.    2.    3.    2.    2.    3.    3.
0.    1.    1.    0.    0.    0.    0.    0.
  70.  *    1.    0.    0.    3.    3.    2.    3.    3.    2.    2.    3.    3.
0.    1.    1.    0.    0.    0.    1.    1.
  80.  *    0.    0.    0.    3.    3.    2.    2.    3.    2.    2.    3.    2.
0.    1.    1.    0.    0.    0.    1.    1.
  90.  *    0.    0.    0.    3.    2.    2.    2.    3.    2.    2.    2.    2.
0.    1.    1.    0.    0.    0.    2.    1.
 100.  *    0.    0.    0.    2.    2.    2.    2.    2.    2.    2.    2.    2.
0.    1.    0.    0.    0.    0.    2.    1.
 110.  *    0.    0.    0.    2.    2.    2.    2.    3.    2.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 120.  *    0.    0.    0.    2.    2.    2.    2.    2.    2.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 130.  *    0.    0.    0.    2.    2.    2.    2.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 140.  *    0.    0.    0.    2.    2.    2.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 150.  *    0.    0.    0.    2.    2.    2.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 160.  *    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 170.  *    0.    0.    0.    2.    3.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 180.  *    0.    0.    0.    3.    3.    2.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 190.  *    0.    0.    0.    3.    3.    2.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    1.    2.
 200.  *    0.    0.    0.    3.    3.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 210.  *    1.    1.    0.    2.    2.    2.    0.    1.    0.    1.    2.    2.
0.    1.    0.    0.    1.    0.    2.    2.
```

```
 220.  *    2.    2.    1.    2.    2.    1.    0.    0.    0.    0.    1.    1.
1.    2.    0.    1.    1.    0.    3.    3.
 230.  *    3.    3.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    3.    3.
 240.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    3.    1.    1.    2.    1.    2.    2.
 250.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    3.    2.    2.    2.    1.    2.    1.
 260.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    2.    1.    2.    1.    1.    1.
 270.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    1.    1.
 280.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    1.    1.
 290.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    1.    1.
 300.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    1.    1.
 310.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    2.    1.    1.
 320.  *    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    1.    1.    1.
 330.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    1.    0.
 340.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    1.    0.
 350.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.
 360.  *    2.    2.    2.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    2.    3.    3.    2.    3.    3.    2.    2.    3.    3.
3.    4.    2.    2.    2.    2.    3.    3.
 DEGR. *  250   250   250    70    60    70    70    60    60    60    60    60
10    20    10   300   310   290   230   220

♀
                            PAGE  4
      JOB: Winsor School                                          RUN: 2015 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*------------------------------------------------------------------------------------
-------------------------------------
   0.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.
  10.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
```

```
1.    2.    2.    2.    0.    0.    0.
  20.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    3.    2.    2.    0.    0.    0.
  30.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    0.    1.
  40.  *    0.    0.    0.    0.    0.    1.    1.    0.    2.    2.    1.    1.
0.    2.    2.    2.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    2.    1.
0.    2.    1.    2.    2.    1.    2.
  60.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    0.
0.    2.    1.    1.    2.    1.    3.
  70.  *    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.    0.
0.    2.    1.    1.    3.    2.    3.
  80.  *    1.    1.    0.    1.    1.    2.    2.    1.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    3.
  90.  *    1.    1.    0.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 100.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 110.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 120.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 130.  *    1.    1.    1.    1.    1.    2.    1.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 140.  *    1.    1.    1.    1.    2.    2.    1.    2.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    2.
 150.  *    1.    1.    1.    2.    2.    2.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 160.  *    1.    1.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 170.  *    1.    2.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 180.  *    1.    1.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    2.    2.
 190.  *    1.    2.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    3.    2.    3.
 200.  *    2.    2.    1.    2.    2.    3.    3.    2.    1.    0.    0.    1.
1.    0.    0.    0.    3.    1.    3.
 210.  *    2.    2.    2.    1.    2.    3.    3.    2.    2.    1.    0.    1.
1.    1.    0.    1.    2.    1.    2.
 220.  *    2.    2.    2.    1.    1.    2.    2.    2.    2.    1.    1.    1.
1.    2.    1.    2.    1.    0.    1.
 230.  *    3.    2.    2.    1.    1.    1.    1.    1.    3.    2.    1.    2.
1.    3.    1.    3.    1.    0.    1.
 240.  *    2.    2.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 250.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 260.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 270.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 280.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    2.    3.    0.    0.    0.
 290.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 300.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 310.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 320.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    1.    2.    0.    0.    0.
```

```
 330.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 340.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 350.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 360.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.

------*--------------------------------------------------------------------------------
-------------------------------------
 MAX   *    3.    2.    2.    2.    2.    3.    3.    2.    3.    2.    2.    2.
2.    3.    2.    3.    3.    2.    3.
 DEGR. *  230   220   230   190   200   200   200   200   240   270   260   260
300   230   350   240    80   100    80

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC14.
```

2015 Build Condition

Carbon Monoxide (CO)

```
♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                              RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:19

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG     97. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG    164. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG    188. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG    246. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG     94. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG     97. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG    148. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG    205. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG    251. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG    205. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG     80. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG     80. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG    160. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG    103. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG    112. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    205. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG    112. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG    126. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
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120. AG    215. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG    267. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG    226. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG    178. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG    166. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG     93. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG    242. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:19

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   9.3   1.0 82.0
♀
                              PAGE  3
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:19

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       200        1600
50.98      1        3
       2. River/Long EB TR    *      90       54       3.0       632        1600
50.98      1        3
       3. River/Long NB LTR   *      90       62       3.0       413        1600
50.98      1        3
       4. River/Long WB LTR   *      90       54       3.0      1600        1600
50.98      1        3
       5. River/Long SB LT    *      90       62       3.0       315        1600
50.98      1        3
       6. River/Long SB R     *      90       64       3.0       195        1600
50.98      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       673        1600
50.98      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       210        1600
50.98      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1211        1600
50.98      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0       138        1600
50.98      1        3
      11. Brook/Joslin EB L   *     120       70       3.0        70        1600
50.98      1        3
      12. Brook/Joslin EB T   *     120       70       3.0       703        1600
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50.98      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1251        1600
50.98      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
50.98      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
50.98      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
50.98      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       528        1600
50.98      1        3
      18. River/Short EB TR   *      93        43        3.0       758        1600
50.98      1        3
      19. River/Short NB LR   *      93        73        3.0       160        1600
50.98      1        3
      20. River/Short WB LTR  *      93        43        3.0      1474        1600
50.98      1        3
      21. Brook/Long EB LTR   *     120        78        3.0       768        1600
50.98      1        3
      22. Brook/Long NB LT    *     120        78        3.0       446        1600
50.98      1        3
      23. Brook/Long NB R     *     120        66        3.0       269        1600
50.98      1        3
      24. Brook/Long WB TTR   *     120        66        3.0      1158        1600
50.98      1        3
      25. Brook/Long SB LTR   *     120        78        3.0       513        1600
50.98      1        3
      26. Beth/Brook EB TTR   *     120        73        3.0      1068        1600
50.98      1        3
      27. Beth/Brook NB LR    *     120        82        3.0       370        1600
50.98      1        3
      28. Beth/Brook WB LT    *     120       106        3.0       948        1600
50.98      1        3

       RECEPTOR LOCATIONS
       ------------------
                         *          COORDINATES (FT)         *
     RECEPTOR            *       X          Y          Z     *
    -------------------------*------------------------------------*
      1. River/Long NE1      *      -978.8      215.4       6.0   *
      2. River/Long NE2      *      -904.3      201.6       6.0   *
      3. River/Long NE3      *      -831.3      188.0       6.0   *
      4. River/Long NE4      *      -788.0      251.3       6.0   *
      5. River/Long NE5      *      -746.6      311.8       6.0   *
      6. River/Long SE1      *      -639.8      294.3       6.0   *
      7. River/Long SE2      *      -682.2      232.4       6.0   *
      8. River/Long SE3      *      -724.5      170.5       6.0   *
      9. River/Long SE4      *      -662.6      128.1       6.0   *
     10. River/Long SE5      *      -600.7       85.8       6.0   *
     11. River/Long SW1      *      -638.2       21.8       6.0   *
     12. River/Long SW2      *      -700.1       64.1       6.0   *
     13. River/Long SW3      *      -762.0      106.5       6.0   *
     14. River/Long SW4      *      -790.3       37.0       6.0   *
     15. River/Long SW5      *      -818.6      -32.5       6.0   *
     16. River/Long NW1      *      -921.8      -26.0       6.0   *
     17. River/Long NW2      *      -893.5       43.5       6.0   *
♀
                              PAGE  4
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:19
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RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0
24. Brook/Deacon NE4	-300.6	-612.7	6.0
25. Brook/Deacon NE5	-251.9	-555.6	6.0
26. Brook/Deacon SE1	-193.8	-620.1	6.0
27. Brook/Deacon SE2	-242.5	-677.1	6.0
28. Brook/Deacon SE3	-291.2	-734.2	6.0
29. Brook/Deacon SE4	-233.1	-781.7	6.0
30. Brook/Deacon SE5	-175.1	-829.1	6.0
31. Brook/Deacon SW1	-206.3	-868.2	6.0
32. Brook/Deacon SW2	-264.4	-820.7	6.0
33. Brook/Deacon SW3	-322.4	-773.2	6.0
34. Brook/Deacon SW4	-368.8	-832.1	6.0
35. Brook/Deacon SW5	-415.3	-891.0	6.0
36. Brook/Deacon NW1	-482.8	-857.2	6.0
37. Brook/Deacon NW2	-436.4	-798.3	6.0
38. Brook/Deacon NW3	-390.0	-739.4	6.0
39. Brook/Deacon NW4	-449.1	-693.2	6.0
40. Brook/Deacon NW5	-508.2	-647.0	6.0
41. Brook/Joselin NE1	-419.5	-521.3	6.0
42. Brook/Joselin NE2	-359.7	-566.6	6.0
43. Brook/Joselin NE3	-299.9	-611.8	6.0
44. Brook/Joselin NE4	-251.2	-554.8	6.0
45. Brook/Joselin NE5	-204.9	-495.8	6.0
46. Brook/Joselin S1	-160.7	-581.3	6.0
47. Brook/Joselin S2	-209.4	-638.3	6.0
48. Brook/Joselin S3	-260.3	-693.4	6.0
49. Brook/Joselin S4	-305.6	-753.2	6.0
50. Brook/Joselin S5	-352.7	-811.6	6.0

♀

PAGE 5

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (PPM)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.0	0.3	0.1	0.4	1.0								

```
1.2   1.1   1.4   0.1   0.4   0.5   0.5   0.3
  10.  *   0.0   0.0   0.0   0.0   0.0   0.2   0.7   0.9   0.2   0.0   0.2   0.8
1.3   1.0   1.3   0.2   0.3   0.5   0.5   0.3
  20.  *   0.0   0.0   0.2   0.2   0.1   0.1   0.5   0.8   0.0   0.0   0.2   0.5
1.2   0.9   0.9   0.6   0.6   0.7   0.5   0.3
  30.  *   0.0   0.0   0.6   0.5   0.3   0.1   0.3   0.5   0.0   0.0   0.2   0.3
0.8   0.6   0.7   1.1   0.9   1.1   0.6   0.3
  40.  *   0.0   0.1   1.1   1.0   0.6   0.0   0.1   0.2   0.0   0.1   0.2   0.3
0.6   0.3   0.4   1.3   1.3   1.4   0.9   0.3
  50.  *   0.2   0.4   1.5   1.4   1.1   0.2   0.2   0.3   0.3   0.2   0.4   0.4
0.7   0.4   0.3   1.4   1.4   1.7   1.1   0.7
  60.  *   0.4   0.7   1.6   1.7   1.4   0.4   0.3   0.2   0.2   0.2   0.4   0.4
0.7   0.4   0.3   1.1   1.4   1.4   1.5   1.1
  70.  *   0.6   0.8   1.5   1.6   1.6   0.3   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.2   1.0   1.4   1.3   1.3   1.1
  80.  *   0.6   0.8   1.2   1.6   1.5   0.2   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.1   0.8   1.1   1.3   1.1   1.2
  90.  *   0.6   0.6   1.0   1.4   1.4   0.2   0.1   0.1   0.1   0.1   0.2   0.3
0.5   0.2   0.1   0.7   1.0   1.0   1.0   0.9
 100.  *   0.7   0.8   1.1   1.3   1.3   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.4   0.1   0.1   0.7   1.0   1.1   0.7   0.5
 110.  *   0.9   1.0   1.1   1.3   1.3   0.1   0.1   0.1   0.1   0.1   0.3   0.3
0.3   0.1   0.1   0.7   0.9   1.0   0.7   0.5
 120.  *   0.9   1.0   1.2   1.4   1.4   0.1   0.1   0.3   0.1   0.2   0.1   0.2
0.2   0.1   0.1   0.7   0.9   1.0   0.6   0.4
 130.  *   1.1   0.8   1.2   1.6   1.4   0.1   0.1   0.4   0.2   0.1   0.1   0.1
0.2   0.1   0.1   0.7   0.8   1.0   0.6   0.4
 140.  *   1.0   0.9   1.1   1.5   1.3   0.1   0.1   0.6   0.3   0.2   0.1   0.1
0.1   0.1   0.0   0.5   0.7   0.9   0.4   0.2
 150.  *   0.6   0.9   0.9   1.4   1.3   0.1   0.1   0.6   0.3   0.2   0.1   0.0
0.0   0.0   0.0   0.5   0.6   0.9   0.3   0.2
 160.  *   0.6   1.0   1.1   1.5   1.5   0.0   0.1   0.7   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.4   0.7   1.0   0.3   0.1
 170.  *   0.5   0.9   1.2   1.5   1.6   0.0   0.2   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.3   0.6   0.9   0.2   0.0
 180.  *   0.3   0.7   1.3   1.7   1.7   0.1   0.2   0.6   0.2   0.2   0.0   0.0
0.0   0.0   0.0   0.2   0.6   0.9   0.1   0.0
 190.  *   0.3   0.6   1.2   1.6   1.7   0.2   0.3   0.7   0.2   0.2   0.0   0.0
0.1   0.1   0.0   0.2   0.4   0.6   0.0   0.0
 200.  *   0.3   0.5   0.8   1.4   1.7   0.4   0.4   0.7   0.3   0.2   0.0   0.0
0.3   0.2   0.1   0.1   0.3   0.4   0.0   0.0
 210.  *   0.3   0.5   0.5   0.8   1.0   0.6   0.7   0.9   0.4   0.2   0.0   0.0
0.7   0.4   0.3   0.0   0.1   0.2   0.0   0.0
 220.  *   0.3   0.4   0.6   0.4   0.6   0.7   1.0   1.1   0.6   0.2   0.0   0.1
0.9   0.6   0.4   0.0   0.0   0.1   0.0   0.0
 230.  *   0.3   0.4   0.5   0.3   0.3   1.1   0.9   1.2   0.9   0.3   0.0   0.2
1.1   0.8   0.5   0.0   0.0   0.0   0.0   0.0
 240.  *   0.2   0.5   0.6   0.3   0.1   1.2   0.9   1.1   1.1   0.3   0.1   0.4
1.1   0.9   0.5   0.0   0.0   0.0   0.0   0.0
 250.  *   0.2   0.4   0.7   0.1   0.1   1.1   1.0   1.0   1.1   0.4   0.2   0.4
1.0   1.0   0.6   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.4   0.6   0.1   0.0   1.1   1.0   1.1   1.3   0.5   0.2   0.4
0.9   0.9   0.6   0.0   0.0   0.0   0.0   0.0
 270.  *   0.1   0.2   0.4   0.0   0.0   1.0   1.1   1.3   1.3   0.7   0.3   0.4
0.9   1.0   0.6   0.0   0.0   0.1   0.0   0.0
 280.  *   0.0   0.1   0.2   0.0   0.0   0.9   0.9   0.9   1.3   0.7   0.3   0.5
0.9   1.0   0.6   0.0   0.0   0.2   0.1   0.0
 290.  *   0.0   0.1   0.1   0.0   0.0   0.9   0.9   0.8   0.9   0.7   0.4   0.6
1.1   1.1   0.6   0.0   0.0   0.4   0.2   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.0   0.9   0.8   0.8   0.4   0.6
1.1   1.1   0.6   0.0   0.0   0.6   0.3   0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.0   0.9   0.6   0.5   0.6   0.5
0.9   1.2   0.8   0.0   0.1   0.6   0.3   0.1
```

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 320.  *   0.0   0.0   0.0   0.0   0.0   0.9   0.9   0.9   0.5   0.4   0.7   0.9
0.9   1.3   0.8   0.0   0.1   0.7   0.4   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.9   0.9   0.5   0.4   0.6   0.9
1.0   1.1   0.9   0.1   0.2   0.6   0.4   0.2
 340.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.0   1.0   0.5   0.3   0.7   0.9
1.1   1.1   1.2   0.1   0.3   0.5   0.4   0.2
 350.  *   0.0   0.0   0.0   0.0   0.0   0.5   1.0   1.0   0.5   0.2   0.6   1.0
1.1   1.0   1.3   0.1   0.4   0.5   0.4   0.3
 360.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.9   1.0   0.3   0.1   0.4   1.0
1.2   1.1   1.4   0.1   0.4   0.5   0.5   0.3

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.1   1.0   1.6   1.7   1.7   1.2   1.1   1.3   1.3   0.8   0.7   1.0
1.3   1.3   1.4   1.4   1.4   1.7   1.5   1.2
 DEGR. *  130   110    60    60   180   240   270   270   260   300   320     0
10   320     0    50    50    50    60    80

♀
                              PAGE  6
      JOB: Winsor School                                          RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.4   0.7   0.5   0.4   0.9
1.3   1.5   1.1   0.0   0.0   0.3   0.0   0.0
  10.  *   0.0   0.0   0.0   0.0   0.1   1.3   1.4   1.5   0.7   0.6   0.5   0.9
1.4   1.4   1.4   0.0   0.1   0.2   0.0   0.0
  20.  *   0.0   0.0   0.2   0.2   0.6   1.5   1.5   1.5   0.9   0.7   0.6   1.0
1.8   1.6   1.8   0.1   0.2   0.6   0.0   0.0
  30.  *   0.1   0.2   1.1   1.2   1.5   1.7   1.7   1.9   0.8   0.5   0.4   0.8
2.0   2.0   1.9   0.7   1.0   1.3   0.3   0.1
  40.  *   0.3   0.7   2.0   2.1   2.4   1.3   1.2   1.3   0.4   0.2   0.2   0.3
1.7   1.5   1.4   1.4   1.5   1.8   0.7   0.3
  50.  *   0.6   0.9   2.3   2.6   3.0   0.7   0.6   0.5   0.0   0.0   0.0   0.0
0.8   0.3   0.5   1.4   1.6   1.8   1.2   0.6
  60.  *   0.6   0.9   2.1   2.4   2.5   0.1   0.1   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   1.1   1.1   1.2   1.0   0.6
  70.  *   0.6   0.8   1.7   2.1   2.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.6   0.1   0.0   0.8   1.0   0.9   0.8   0.6
  80.  *   0.6   0.7   1.4   1.8   1.8   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.6   0.0   0.0   0.8   1.0   0.8   0.8   0.4
  90.  *   0.4   0.6   1.3   1.7   1.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.7   1.0   0.8   0.6   0.5
 100.  *   0.4   0.7   1.2   1.7   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.5   0.8   0.8   0.7   0.4
 110.  *   0.5   0.6   1.3   1.6   1.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

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0.3   0.0   0.0   0.3   0.8   0.7   0.5   0.4
 120.  *   0.4   0.4   1.2   1.5   1.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.2   0.8   0.8   0.6   0.3
 130.  *   0.2   0.5   1.3   1.5   1.6   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.3
 140.  *   0.3   0.6   1.2   1.4   1.6   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 150.  *   0.3   0.5   1.1   1.4   1.6   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 160.  *   0.3   0.7   0.9   1.6   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.9   0.4   0.1
 170.  *   0.2   0.6   0.8   1.6   1.8   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.7   1.0   0.4   0.1
 180.  *   0.2   0.5   0.8   1.8   2.0   0.0   0.0   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.6   0.9   0.2   0.1
 190.  *   0.1   0.3   0.9   1.9   2.4   0.0   0.1   0.7   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.5   0.9   0.2   0.1
 200.  *   0.1   0.2   0.7   1.6   2.4   0.1   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.4   0.7   0.1   0.1
 210.  *   0.0   0.1   0.7   1.2   2.1   0.3   0.4   0.8   0.0   0.0   0.0   0.0
0.3   0.1   0.1   0.1   0.3   0.6   0.1   0.0
 220.  *   0.0   0.0   0.4   0.8   1.2   0.7   0.7   1.1   0.1   0.0   0.0   0.1
0.7   0.4   0.2   0.1   0.2   0.3   0.0   0.0
 230.  *   0.0   0.0   0.2   0.4   0.5   0.9   1.0   1.3   0.1   0.1   0.1   0.1
1.1   0.7   0.3   0.0   0.0   0.1   0.0   0.0
 240.  *   0.0   0.0   0.3   0.1   0.1   1.0   0.8   1.3   0.3   0.1   0.1   0.1
1.3   1.0   0.3   0.0   0.0   0.0   0.0   0.0
 250.  *   0.0   0.0   0.2   0.0   0.0   1.0   0.9   1.0   0.6   0.1   0.1   0.3
1.2   1.0   0.2   0.0   0.0   0.0   0.0   0.0
 260.  *   0.0   0.0   0.2   0.0   0.0   1.1   1.1   0.9   0.7   0.3   0.1   0.4
1.2   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.0   0.1   0.0   0.0   1.0   1.1   0.7   0.8   0.3   0.3   0.4
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   0.8   0.9   0.5   0.3   0.5
0.9   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 290.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.7   0.8   0.9   0.3   0.3   0.5
0.8   1.1   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.8   0.9   0.7   0.3   0.3   0.4
0.8   1.1   0.4   0.0   0.0   0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   1.0   0.6   0.3   0.3   0.5
0.8   1.1   0.5   0.0   0.0   0.0   0.0   0.0
 320.  *   0.1   0.1   0.0   0.1   0.0   0.9   0.9   0.9   0.6   0.3   0.4   0.7
0.9   1.1   0.5   0.0   0.0   0.0   0.0   0.0
 330.  *   0.1   0.1   0.0   0.0   0.0   0.8   1.0   1.0   0.6   0.5   0.3   0.9
0.9   1.1   0.7   0.0   0.0   0.1   0.1   0.1
 340.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.2   1.1   0.5   0.4   0.6   0.9
0.9   1.2   0.8   0.0   0.0   0.2   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.6   0.4   0.4   1.1
0.9   1.3   0.9   0.0   0.0   0.3   0.0   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.4   0.7   0.5   0.4   0.9
1.3   1.5   1.1   0.0   0.0   0.3   0.0   0.0

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   0.6   0.9   2.3   2.6   3.0   1.7   1.7   1.9   0.9   0.7   0.6   1.1
2.0   2.0   1.9   1.4   1.6   1.8   1.2   0.6
 DEGR. *   50    50    50    50    50    30    30    30    20    20    20   350
30    30    30    40    50    40    50    50

♀
                      PAGE  7
     JOB: Winsor School                                    RUN: 2015BD
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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.3	1.5	1.2
10.	0.0	0.0	0.0	0.1	0.3	1.5	1.3	1.3	1.8	1.5
20.	0.0	0.0	0.2	0.6	0.6	1.7	1.4	1.7	2.0	1.5
30.	0.1	0.3	1.2	1.5	1.6	1.9	1.5	1.8	2.2	1.9
40.	0.3	0.8	2.1	2.4	2.7	1.4	1.4	1.3	1.7	1.4
50.	0.6	1.0	2.6	3.0	3.0	0.7	0.6	0.7	0.8	0.4
60.	0.7	0.9	2.3	2.5	2.9	0.2	0.1	0.0	0.5	0.2
70.	0.6	1.0	2.1	2.1	2.8	0.1	0.0	0.0	0.5	0.1
80.	0.6	0.9	1.8	1.8	2.4	0.1	0.0	0.0	0.6	0.1
90.	0.5	0.6	1.7	1.5	2.1	0.1	0.0	0.0	0.8	0.0
100.	0.4	0.7	1.7	1.3	1.8	0.0	0.0	0.0	1.0	0.0
110.	0.4	0.7	1.6	1.4	1.6	0.0	0.0	0.0	1.2	0.0
120.	0.4	0.6	1.5	1.5	1.4	0.0	0.0	0.0	1.3	0.0
130.	0.5	0.7	1.5	1.6	1.3	0.0	0.0	0.0	1.2	0.0
140.	0.4	0.6	1.4	1.6	1.3	0.0	0.0	0.0	1.1	0.0
150.	0.2	0.6	1.4	1.6	1.2	0.0	0.0	0.0	0.9	0.0
160.	0.3	0.7	1.6	1.7	1.2	0.0	0.0	0.0	0.6	0.0
170.	0.2	0.6	1.6	1.8	1.4	0.0	0.0	0.1	0.5	0.0
180.	0.2	0.6	1.8	2.0	1.7	0.0	0.0	0.1	0.4	0.0
190.	0.2	0.5	1.9	2.4	1.8	0.0	0.0	0.2	0.3	0.0
200.	0.1	0.3	1.6	2.4	2.2	0.0	0.1	0.2	0.3	0.0
210.	0.0	0.1	1.2	2.1	1.9	0.3	0.3	0.6	0.6	0.2
220.	0.0	0.0	0.8	1.2	1.3	0.5	0.8	0.9	1.0	0.5
230.	0.0	0.0	0.4	0.5	0.6	0.8	0.9	1.1	1.2	0.9
240.	0.0	0.0	0.1	0.1	0.1	0.9	0.8	1.0	1.3	1.1
250.	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.8	1.2	1.2
260.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.1	1.2
270.	0.0	0.0	0.0	0.0	0.0	0.8	1.0	1.1	0.9	1.2
280.	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.2	0.9	1.1
290.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	0.9	1.1
300.	0.0	0.0	0.0	0.0	0.0	0.6	1.0	1.0	0.9	1.1
310.	0.0	0.0	0.0	0.0	0.1	0.5	1.0	1.1	0.9	1.1
320.	0.1	0.1	0.1	0.0	0.0	0.5	1.0	1.2	0.9	1.1
330.	0.1	0.0	0.0	0.0	0.0	0.5	0.9	1.1	1.0	1.2
340.	0.0	0.0	0.0	0.0	0.0	0.6	1.1	1.1	1.2	1.2
350.	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	1.3	1.3
360.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.3	1.5	1.2
MAX	0.7	1.0	2.6	3.0	3.0	1.9	1.5	1.8	2.2	1.9
DEGR.	60	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 3.00 PPM OCCURRED AT RECEPTOR REC25.

```
♀                              CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                              PAGE  1

      JOB: Winsor School                                                RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:26

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG     97. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *      93.
201. AG    164. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *      70.
120. AG    188. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *     239.
34. AG    246. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG     94. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG     97. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *     119.
218. AG    148. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG    205. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *    6033.
38. AG    251. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *      34.
308. AG    205. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG     80. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *    1432.
219. AG     80. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *     619.
38. AG    160. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG    103. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG    112. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG    205. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *      71.
305. AG    112. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *      89.
245. AG    126. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *      32.
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120. AG    215. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG    267. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG    226. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG    178. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG    166. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG     93. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG    242. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:26

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                          *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   9.3   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:26

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*--------------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       200       1600
50.98     1        3
       2. River/Long EB TR    *      90       54       3.0       632       1600
50.98     1        3
       3. River/Long NB LTR   *      90       62       3.0       413       1600
50.98     1        3
       4. River/Long WB LTR   *      90       54       3.0      1600       1600
50.98     1        3
       5. River/Long SB LT    *      90       62       3.0       315       1600
50.98     1        3
       6. River/Long SB R     *      90       64       3.0       195       1600
50.98     1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       673       1600
50.98     1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       210       1600
50.98     1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1211       1600
50.98     1        3
      10. Brook/Deacon SB LR  *     120       90       3.0       138       1600
50.98     1        3
      11. Brook/Joslin EB L   *     120       70       3.0        70       1600
50.98     1        3
      12. Brook/Joslin EB T   *     120       70       3.0       703       1600
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50.98      1        3
      13. Brook/Joslin WB TTR *     120       70        3.0      1251        1600
50.98      1        3
      14. Binney/Long EB LTR  *     120       90        3.0       185        1600
50.98      1        3
      15. Binney/Long NB LTR  *     120       49        3.0       615        1600
50.98      1        3
      16. Binney/Long WB LTR  *     120       90        3.0       220        1600
50.98      1        3
      17. Binney/Long SB LTR  *     120       49        3.0       528        1600
50.98      1        3
      18. River/Short EB TR   *      93       43        3.0       758        1600
50.98      1        3
      19. River/Short NB LR   *      93       73        3.0       160        1600
50.98      1        3
      20. River/Short WB LTR  *      93       43        3.0      1474        1600
50.98      1        3
      21. Brook/Long EB LTR   *     120       78        3.0       768        1600
50.98      1        3
      22. Brook/Long NB LT    *     120       78        3.0       446        1600
50.98      1        3
      23. Brook/Long NB R     *     120       66        3.0       269        1600
50.98      1        3
      24. Brook/Long WB TTR   *     120       66        3.0      1158        1600
50.98      1        3
      25. Brook/Long SB LTR   *     120       78        3.0       513        1600
50.98      1        3
      26. Beth/Brook EB TTR   *     120       73        3.0      1068        1600
50.98      1        3
      27. Beth/Brook NB LR    *     120       82        3.0       370        1600
50.98      1        3
      28. Beth/Brook WB LT    *     120      106        3.0       948        1600
50.98      1        3

       RECEPTOR LOCATIONS
       ------------------
                          *         COORDINATES (FT)         *
         RECEPTOR         *      X          Y          Z     *
     -------------------------*-----------------------------------*
      1. Brook/Long NE1       *      -189.0     -227.6       6.0   *
      2. Brook/Long NE2       *      -130.2     -274.2       6.0   *
      3. Brook/Long NE3       *       -71.4     -320.7       6.0   *
      4. Brook/Long NE4       *       -24.6     -262.1       6.0   *
      5. Brook/Long NE5       *        22.3     -203.5       6.0   *
      6. Brook/Long SE1       *       107.1     -254.3       6.0   *
      7. Brook/Long SE2       *        60.3     -312.9       6.0   *
      8. Brook/Long SE3       *        13.5     -371.5       6.0   *
      9. Brook/Long SE4       *        72.9     -417.2       6.0   *
     10. Brook/Long SE5       *       132.4     -463.0       6.0   *
     11. Brook/Long SW1       *        72.2     -540.4       6.0   *
     12. Brook/Long SW2       *        12.8     -494.6       6.0   *
     13. Brook/Long SW3       *       -46.6     -448.9       6.0   *
     14. Brook/Long SW4       *       -91.9     -508.7       6.0   *
     15. Brook/Long SW5       *      -137.1     -568.6       6.0   *
     16. Brook/Long NW1       *      -207.2     -498.8       6.0   *
     17. Brook/Long NW2       *      -162.0     -439.0       6.0   *
♀
                          PAGE  4
      JOB: Winsor School                                   RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:26
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RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
18. Brook/Long NW3	-116.8	-379.1	6.0
19. Brook/Long NW4	-175.6	-332.6	6.0
20. Brook/Long NW5	-234.4	-286.1	6.0
21. Binney/Long NE1	137.4	-466.5	6.0
22. Binney/Long NE2	197.4	-511.4	6.0
23. Binney/Long NE3	257.5	-556.3	6.0
24. Binney/Long NE4	302.7	-496.6	6.0
25. Binney/Long NE5	348.0	-436.8	6.0
26. Binney/Long SE1	399.8	-491.0	6.0
27. Binney/Long SE2	354.5	-550.8	6.0
28. Binney/Long SE3	309.3	-610.6	6.0
29. Binney/Long SE4	369.6	-655.0	6.0
30. Binney/Long SE5	429.3	-698.9	6.0
31. Binney/Long SW1	394.1	-778.9	6.0
32. Binney/Long SW2	340.7	-725.6	6.0
33. Binney/Long SW3	280.3	-681.2	6.0
34. Binney/Long SW4	234.3	-740.4	6.0
35. Binney/Long SW5	188.6	-799.2	6.0
36. Binney/Long NW1	131.4	-771.8	6.0
37. Binney/Long NW2	177.5	-712.5	6.0
38. Binney/Long NW3	223.5	-653.3	6.0
39. Binney/Long NW4	163.4	-608.4	6.0
40. Binney/Long NW5	103.4	-563.4	6.0
41. Beth/Brook SE1	463.4	227.5	6.0
42. Beth/Brook SE2	417.4	168.2	6.0
43. Beth/Brook SE3	371.4	109.0	6.0
44. Beth/Brook SE4	433.6	67.0	6.0
45. Beth/Brook SE5	495.7	25.1	6.0
46. Beth/Brook SW1	454.8	-29.4	6.0
47. Beth/Brook SW2	392.6	12.6	6.0
48. Beth/Brook SW3	330.5	54.6	6.0
49. Beth/Brook SW4	285.5	-5.5	6.0
50. Beth/Brook SW5	240.6	-65.5	6.0
51. Beth/Brook N1	191.3	12.2	6.0
52. Beth/Brook N2	242.0	79.9	6.0
53. Beth/Brook N3	287.0	140.0	6.0
54. Beth/Brook N4	332.7	199.4	6.0
55. Beth/Brook N5	372.8	251.0	6.0

♀

PAGE 5

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12

```
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.4   1.6   0.6   0.4   1.1   1.3
1.6   2.2   1.6   0.1   0.2   0.7   0.6   0.1
  10.  *   0.0   0.0   0.0   0.0   0.1   0.9   1.2   1.5   0.8   0.4   0.9   1.4
1.7   2.2   1.8   0.3   0.4   0.6   0.6   0.1
  20.  *   0.0   0.0   0.3   0.2   0.2   1.2   1.4   1.8   0.7   0.5   0.8   1.6
1.9   2.1   1.8   0.6   0.4   0.7   0.6   0.2
  30.  *   0.2   0.3   1.2   1.1   0.9   1.3   1.4   1.6   0.7   0.4   0.7   1.4
2.1   1.9   1.9   1.6   1.5   1.6   0.9   0.4
  40.  *   0.4   0.7   2.4   2.1   2.1   1.0   0.9   1.0   0.4   0.2   0.5   0.9
1.5   1.5   1.3   2.6   2.8   2.9   1.3   0.6
  50.  *   0.6   0.8   2.9   2.5   2.5   0.3   0.4   0.3   0.0   0.0   0.2   0.5
0.9   0.6   0.7   3.0   3.1   3.1   1.5   0.8
  60.  *   0.6   0.9   2.8   2.6   2.2   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.2   2.9   2.8   2.8   1.6   0.8
  70.  *   0.5   1.0   2.7   2.5   2.0   0.0   0.0   0.0   0.0   0.0   0.3   0.4
0.6   0.3   0.1   2.8   2.6   2.7   1.8   1.0
  80.  *   0.4   1.0   2.4   2.4   1.8   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.6   0.2   0.2   2.4   2.6   2.4   1.7   1.1
  90.  *   0.6   1.0   2.2   2.3   1.8   0.0   0.0   0.0   0.0   0.0   0.4   0.4
0.5   0.2   0.1   2.1   2.4   2.3   1.5   1.2
 100.  *   0.6   1.0   2.1   2.2   1.7   0.0   0.0   0.0   0.0   0.0   0.4   0.3
0.5   0.2   0.1   1.8   2.2   2.2   1.6   1.2
 110.  *   0.6   1.0   2.1   2.2   1.8   0.0   0.0   0.0   0.0   0.1   0.5   0.4
0.5   0.1   0.0   1.6   2.2   2.3   1.5   1.2
 120.  *   0.8   1.1   1.9   2.2   1.9   0.0   0.0   0.1   0.1   0.2   0.4   0.2
0.3   0.0   0.0   1.4   2.0   2.1   1.5   1.2
 130.  *   1.1   1.3   2.3   2.2   2.0   0.0   0.0   0.5   0.2   0.4   0.1   0.2
0.2   0.0   0.0   1.3   2.0   2.1   1.0   0.8
 140.  *   1.2   1.4   2.3   2.4   2.1   0.0   0.1   0.8   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.2   2.0   1.9   1.0   0.6
 150.  *   1.2   1.5   2.1   2.5   2.2   0.0   0.1   0.9   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.2   1.9   2.0   0.9   0.5
 160.  *   1.1   1.5   2.2   2.5   2.3   0.1   0.2   0.9   0.5   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.8   2.0   0.9   0.5
 170.  *   1.0   1.5   2.5   2.7   2.7   0.1   0.2   0.9   0.5   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.8   2.2   0.8   0.4
 180.  *   0.9   1.4   2.5   2.9   2.9   0.1   0.4   0.8   0.7   0.3   0.0   0.0
0.0   0.0   0.0   1.7   1.8   2.2   0.7   0.4
 190.  *   0.8   1.4   2.8   2.8   3.1   0.2   0.5   0.7   0.8   0.2   0.0   0.0
0.0   0.0   0.0   1.9   2.0   2.3   0.7   0.4
 200.  *   0.3   1.1   2.7   2.9   3.2   0.2   0.4   0.7   0.8   0.3   0.0   0.0
0.0   0.0   0.0   2.2   2.2   2.3   0.7   0.3
 210.  *   0.2   0.9   2.5   2.5   2.8   0.6   0.6   0.7   0.8   0.2   0.0   0.0
0.2   0.0   0.1   1.9   2.1   2.0   0.3   0.0
 220.  *   0.2   0.7   1.7   1.7   1.9   1.0   1.3   1.4   0.9   0.3   0.0   0.1
0.9   0.6   0.4   1.3   1.4   1.3   0.0   0.0
 230.  *   0.2   0.5   0.9   0.9   0.8   1.4   1.4   1.6   1.3   0.3   0.1   0.4
1.4   0.9   0.7   0.6   0.4   0.5   0.0   0.0
 240.  *   0.1   0.5   0.6   0.4   0.3   1.9   1.7   1.8   1.5   0.4   0.1   0.4
1.6   1.0   0.8   0.1   0.1   0.1   0.0   0.0
 250.  *   0.1   0.6   0.6   0.3   0.2   1.9   1.9   1.8   1.6   0.7   0.2   0.5
1.8   0.9   0.9   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.5   0.7   0.2   0.0   1.8   1.7   1.5   1.6   0.9   0.3   0.6
1.9   1.1   0.7   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.4   0.7   0.2   0.0   1.6   1.6   1.5   1.4   1.0   0.5   0.7
1.6   1.1   0.7   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.3   0.6   0.1   0.0   1.3   1.6   1.6   1.6   1.2   0.5   0.8
1.6   1.3   0.6   0.0   0.0   0.0   0.0   0.0
 290.  *   0.1   0.3   0.5   0.0   0.0   1.3   1.4   1.5   1.5   1.4   0.7   0.8
```

```
1.6   1.4   0.5   0.0   0.0   0.0   0.0   0.1
 300.  *   0.1   0.1   0.3   0.0   0.0   1.2   1.4   1.4   1.2   1.3   0.8   0.9
1.6   1.5   0.5   0.0   0.0   0.2   0.1   0.1
 310.  *   0.1   0.1   0.1   0.0   0.0   1.1   1.4   1.4   0.9   1.0   0.9   1.0
1.8   1.5   0.5   0.1   0.0   0.2   0.1   0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.4   1.3   0.8   0.7   1.2   1.1
1.8   1.5   0.6   0.0   0.0   0.4   0.2   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.4   1.3   0.8   0.6   1.1   1.2
1.8   1.8   0.7   0.0   0.0   0.6   0.3   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.3   1.5   0.8   0.6   1.2   1.1
1.7   1.8   0.8   0.0   0.1   0.7   0.4   0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.4   1.5   0.8   0.4   1.2   1.1
1.6   1.9   1.1   0.0   0.2   0.7   0.5   0.1
 360.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.4   1.6   0.6   0.4   1.1   1.3
1.6   2.2   1.6   0.1   0.2   0.7   0.6   0.1

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.2   1.5   2.9   2.9   3.2   1.9   1.9   1.8   1.6   1.4   1.2   1.6
2.1   2.2   1.9   3.0   3.1   3.1   1.8   1.2
 DEGR. *  140   150    50   180   200   240   250    20   250   290   320    20
30     0    30    50    50    50    70    90

♀
                            PAGE  6
      JOB: Winsor School                                    RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*-----------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.4   0.4   0.3   0.3   0.4   0.2   0.3   0.5   0.2   0.2   0.2   0.7
0.8   0.5   0.4   0.3   0.4   0.5   0.5   0.5
  10.  *   0.4   0.5   0.2   0.2   0.2   0.2   0.2   0.5   0.2   0.2   0.2   0.6
0.8   0.7   0.5   0.3   0.5   0.5   1.0   0.7
  20.  *   0.5   0.3   0.3   0.3   0.4   0.2   0.2   0.4   0.2   0.2   0.2   0.5
0.7   0.6   0.5   0.4   0.6   0.6   0.8   0.7
  30.  *   0.4   0.4   0.2   0.2   0.2   0.2   0.2   0.3   0.2   0.2   0.2   0.4
0.6   0.4   0.5   0.3   0.4   0.6   0.8   0.7
  40.  *   0.2   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2
0.5   0.2   0.1   0.6   0.6   0.7   0.7   0.4
  50.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.1   0.3   0.3   0.4   0.5   0.2
  60.  *   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.0   0.3   0.4   0.4   0.6   0.3
  70.  *   0.0   0.0   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.3   0.5   0.4   0.6   0.3
  80.  *   0.0   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.5   0.5   0.5   0.5
```

```
  90.  *   0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.0   0.4   0.5   0.5   0.5
 100.  *   0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.3   0.4   0.4   0.6
 110.  *   0.1   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.3   0.5   0.4   0.5
 120.  *   0.2   0.2   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.0   0.3   0.3   0.2   0.4
 130.  *   0.4   0.3   0.5   0.1   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.3   0.2   0.3   0.1
 140.  *   0.4   0.4   0.6   0.1   0.0   0.0   0.0   0.4   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0
 150.  *   0.4   0.4   0.6   0.2   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.3   0.1   0.0
 160.  *   0.4   0.5   0.5   0.5   0.0   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.3   0.1   0.0
 170.  *   0.3   0.4   0.4   0.6   0.0   0.0   0.0   0.6   0.1   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.0   0.0
 180.  *   0.3   0.4   0.5   0.6   0.2   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 190.  *   0.2   0.5   0.5   0.5   0.3   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 200.  *   0.2   0.4   0.4   0.5   0.3   0.2   0.2   0.5   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 210.  *   0.2   0.4   0.3   0.2   0.3   0.1   0.2   0.6   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 220.  *   0.2   0.4   0.4   0.1   0.2   0.2   0.1   0.6   0.6   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 230.  *   0.3   0.3   0.4   0.3   0.1   0.3   0.4   0.5   0.6   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 240.  *   0.4   0.3   0.4   0.3   0.1   0.3   0.4   0.5   0.6   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 250.  *   0.6   0.3   0.5   0.2   0.3   0.3   0.4   0.3   0.7   0.0   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.1
 260.  *   0.9   0.5   0.5   0.4   0.4   0.3   0.8   0.4   0.8   0.1   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.1   0.3
 270.  *   0.9   0.8   0.6   0.6   0.5   0.4   0.7   0.6   0.8   0.2   0.0   0.1
0.4   0.2   0.0   0.1   0.0   0.1   0.3   0.3
 280.  *   1.2   0.8   0.8   0.6   0.4   0.3   1.0   0.8   0.7   0.4   0.1   0.2
0.3   0.3   0.0   0.1   0.1   0.2   0.2   0.4
 290.  *   1.3   0.8   0.8   0.5   0.4   0.3   0.7   1.1   0.9   0.5   0.1   0.3
0.4   0.4   0.1   0.2   0.2   0.3   0.4   0.4
 300.  *   1.3   0.9   0.8   0.4   0.4   0.4   0.6   1.0   0.7   0.7   0.2   0.4
0.8   0.5   0.2   0.2   0.3   0.6   0.5   0.5
 310.  *   1.0   0.6   0.6   0.4   0.3   0.2   0.6   0.8   0.7   0.7   0.5   0.6
0.9   0.7   0.2   0.2   0.4   0.7   0.8   0.7
 320.  *   0.7   0.5   0.4   0.3   0.2   0.1   0.3   0.8   0.3   0.3   0.5   0.8
0.9   0.7   0.4   0.4   0.5   0.9   0.8   0.9
 330.  *   0.6   0.4   0.4   0.2   0.2   0.1   0.2   0.6   0.3   0.1   0.5   0.7
0.9   0.8   0.4   0.5   0.4   0.9   0.9   0.8
 340.  *   0.6   0.3   0.2   0.2   0.3   0.3   0.2   0.5   0.2   0.1   0.3   0.6
0.7   0.8   0.4   0.4   0.6   0.7   0.7   0.9
 350.  *   0.4   0.2   0.2   0.3   0.3   0.2   0.4   0.6   0.1   0.1   0.3   0.7
0.7   0.7   0.3   0.4   0.4   0.6   0.7   1.0
 360.  *   0.4   0.4   0.3   0.3   0.4   0.2   0.3   0.5   0.2   0.2   0.2   0.7
0.8   0.5   0.4   0.3   0.4   0.5   0.5   0.5

------*-------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.3   0.9   0.8   0.6   0.5   0.4   1.0   1.1   0.9   0.7   0.5   0.8
0.9   0.8   0.5   0.6   0.6   0.9   1.0   1.0
 DEGR. *  290   300   280   170   270   270   280   290   290   310   310   320
310   330    10    40    20   320    10   350
```

♀

PAGE 7

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	0.9	1.4	1.5	0.8	0.4	0.6	0.9	1.3	1.6	1.6	0.0	0.0	0.0	0.0	0.0
10.	1.0	1.4	1.6	0.7	0.4	0.5	1.0	1.5	1.7	1.8	0.1	0.0	0.0	0.0	0.0
20.	1.1	1.4	1.6	0.6	0.4	0.5	0.9	1.7	1.9	2.0	0.4	0.3	0.3	0.3	0.3
30.	1.1	1.3	1.5	0.6	0.4	0.5	0.8	1.6	1.8	1.9	1.2	1.1	1.0	1.0	0.9
40.	0.9	1.0	1.1	0.4	0.2	0.3	0.6	1.1	1.3	1.1	2.2	2.1	2.0	1.9	1.8
50.	0.3	0.3	0.4	0.1	0.0	0.1	0.3	0.6	0.4	0.4	2.5	2.4	2.4	2.3	2.0
60.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	2.1	2.2	2.3	2.3	2.0
70.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	2.0	1.8	2.0	2.0	1.8
80.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	1.8	1.8	1.7	2.1	1.7
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.7	1.7	1.4	1.8	1.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.5	1.7	1.2	1.7	1.6
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.5	1.7	1.4	1.7	1.7
120.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	1.5	1.4	1.4	1.7	1.7
130.	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.5	1.7	1.7
140.	0.0	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.6	1.7	1.7
150.	0.0	0.1	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.7	1.7
160.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.7	1.5	1.7	1.8
170.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.7	1.8	1.6	1.7	2.0
180.	0.1	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.6	1.9	1.9	1.9	2.0
190.	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.7	2.0	1.9	1.9	2.2

CONCENTRATION (PPM)

```
 200.  *   0.0   0.2   0.3   0.3   0.2   0.0   0.0   0.2   0.1   0.0   2.1   2.1
2.0   2.1   2.2
 210.  *   0.4   0.6   0.8   0.3   0.2   0.0   0.0   0.7   0.6   0.5   2.0   2.0
1.9   2.0   2.1
 220.  *   1.2   1.2   1.3   0.6   0.3   0.0   0.3   1.3   1.3   1.2   1.5   1.4
1.3   1.4   1.5
 230.  *   1.7   1.6   1.8   0.9   0.5   0.3   0.6   1.7   1.7   1.4   0.7   0.6
0.5   0.5   0.6
 240.  *   1.6   1.4   1.6   1.2   0.7   0.4   0.7   1.8   1.7   1.3   0.1   0.1
0.1   0.1   0.1
 250.  *   1.4   1.1   1.3   1.0   0.7   0.5   0.7   1.5   1.5   1.3   0.0   0.0
0.0   0.0   0.0
 260.  *   1.5   1.3   1.3   1.0   0.7   0.4   0.6   1.5   1.5   1.1   0.0   0.0
0.0   0.0   0.0
 270.  *   1.3   1.2   1.1   0.9   0.9   0.5   0.7   1.4   1.5   1.2   0.0   0.0
0.0   0.0   0.0
 280.  *   1.3   1.3   1.0   0.9   0.9   0.5   0.7   1.3   1.3   1.2   0.0   0.0
0.0   0.0   0.0
 290.  *   1.1   1.2   0.9   0.7   0.8   0.5   0.7   1.2   1.2   1.2   0.0   0.0
0.0   0.0   0.0
 300.  *   1.1   1.2   0.8   0.7   0.7   0.5   0.6   1.2   1.2   1.2   0.0   0.0
0.0   0.0   0.0
 310.  *   1.1   1.2   0.8   0.6   0.6   0.6   0.7   1.2   1.2   1.2   0.0   0.0
0.0   0.1   0.1
 320.  *   0.9   1.2   0.9   0.6   0.5   0.6   0.6   1.2   1.2   1.3   0.0   0.0
0.1   0.1   0.0
 330.  *   0.9   1.3   1.1   0.7   0.6   0.7   0.7   1.3   1.2   1.3   0.0   0.1
0.0   0.0   0.0
 340.  *   0.9   1.3   1.2   0.7   0.5   0.7   0.7   1.2   1.3   1.5   0.0   0.0
0.0   0.0   0.0
 350.  *   1.0   1.4   1.4   0.6   0.5   0.6   0.9   1.4   1.5   1.5   0.0   0.0
0.0   0.0   0.0
 360.  *   0.9   1.4   1.5   0.8   0.4   0.6   0.9   1.3   1.6   1.6   0.0   0.0
0.0   0.0   0.0

------*--------------------------------------------------------------------------
-------------
 MAX   *   1.7   1.6   1.8   1.2   0.9   0.7   1.0   1.8   1.9   2.0   2.5   2.4
2.4   2.3   2.2
 DEGR. *  230   230   230   240   270   330    10   240    20    20    50    50
50    50   200

 THE HIGHEST CONCENTRATION OF    3.20 PPM OCCURRED AT RECEPTOR REC5 .
```

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♀                                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                PAGE  1

      JOB: Winsor School                                               RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:32

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG     97. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG    164. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG    188. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG    246. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG     94. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG     97. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG    148. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG    205. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG    251. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG    205. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG     80. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG     80. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG    160. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG    103. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG    112. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    205. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG    112. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG    126. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
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120. AG    215. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG    190. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG    267. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG    178. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG     75. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG    226. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG    178. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG    166. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG     93. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG    242. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   9.3   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   9.3   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   9.3   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   9.3   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   9.3   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   9.3   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   9.3   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   9.3   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   9.3   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   9.3   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   9.3   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   9.3   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   9.3   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   9.3   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   9.3   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   9.3   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:32

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                                         *   X1        Y1        X2        Y2     *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   9.3   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   9.3   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   9.3   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   9.3   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   9.3   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   9.3   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   9.3   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   9.3   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:32

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0        200        1600
50.98      1        3
       2. River/Long EB TR    *      90       54       3.0        632        1600
50.98      1        3
       3. River/Long NB LTR   *      90       62       3.0        413        1600
50.98      1        3
       4. River/Long WB LTR   *      90       54       3.0       1600        1600
50.98      1        3
       5. River/Long SB LT    *      90       62       3.0        315        1600
50.98      1        3
       6. River/Long SB R     *      90       64       3.0        195        1600
50.98      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0        673        1600
50.98      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0        210        1600
50.98      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0       1211        1600
50.98      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0        138        1600
50.98      1        3
      11. Brook/Joslin EB L   *     120       70       3.0         70        1600
50.98      1        3
      12. Brook/Joslin EB T   *     120       70       3.0        703        1600
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50.98     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0       1251        1600
50.98     1        3
      14. Binney/Long EB LTR  *     120        90        3.0        185        1600
50.98     1        3
      15. Binney/Long NB LTR  *     120        49        3.0        615        1600
50.98     1        3
      16. Binney/Long WB LTR  *     120        90        3.0        220        1600
50.98     1        3
      17. Binney/Long SB LTR  *     120        49        3.0        528        1600
50.98     1        3
      18. River/Short EB TR   *      93        43        3.0        758        1600
50.98     1        3
      19. River/Short NB LR   *      93        73        3.0        160        1600
50.98     1        3
      20. River/Short WB LTR  *      93        43        3.0       1474        1600
50.98     1        3
      21. Brook/Long EB LTR   *     120        78        3.0        768        1600
50.98     1        3
      22. Brook/Long NB LT    *     120        78        3.0        446        1600
50.98     1        3
      23. Brook/Long NB R     *     120        66        3.0        269        1600
50.98     1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1158        1600
50.98     1        3
      25. Brook/Long SB LTR   *     120        78        3.0        513        1600
50.98     1        3
      26. Beth/Brook EB TTR   *     120        73        3.0       1068        1600
50.98     1        3
      27. Beth/Brook NB LR    *     120        82        3.0        370        1600
50.98     1        3
      28. Beth/Brook WB LT    *     120       106        3.0        948        1600
50.98     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)           *
         RECEPTOR             *      X          Y          Z        *
     -------------------------*-------------------------------------*
      1. Short/River SE1      *        64.2      619.5        6.0   *
      2. Short/River SE2      *         0.6      579.2        6.0   *
      3. Short/River SE3      *       -62.3      538.9        6.0   *
      4. Short/River SE4      *        -2.3      494.0        6.0   *
      5. Short/River SE5      *        57.8      449.1        6.0   *
      6. Short/River SW1      *        -6.6      409.9        6.0   *
      7. Short/River SW2      *       -66.7      454.8        6.0   *
      8. Short/River SW3      *      -126.8      499.6        6.0   *
      9. Short/River SW4      *      -194.5      467.4        6.0   *
     10. Short/River SW5      *      -262.2      435.2        6.0   *
     11. Short/River N1       *      -300.6      529.9        6.0   *
     12. Short/River N2       *      -232.9      562.1        6.0   *
     13. Short/River N3       *      -165.2      594.3        6.0   *
     14. Short/River N4       *      -101.9      634.6        6.0   *
     15. Short/River N5       *       -38.7      674.9        6.0   *
♀
                     PAGE  4
      JOB: Winsor School                                    RUN: 2015BD

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
```

the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
	CONCENTRATION (PPM)														
0.	0.0	0.5	0.8	0.3	0.0	0.3	0.6	0.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.5	0.9	0.2	0.0	0.1	0.5	0.7	0.8	0.5	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.3	0.8	0.1	0.0	0.0	0.4	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.2	0.6	0.0	0.0	0.0	0.1	0.9	1.0	0.8	0.0	0.0	0.0	0.0	0.0
40.	0.1	0.3	0.6	0.1	0.2	0.2	0.2	0.8	0.9	1.0	0.0	0.0	0.1	0.0	0.0
50.	0.2	0.3	0.5	0.2	0.3	0.2	0.2	0.9	0.9	1.1	0.4	0.4	0.4	0.4	0.2
60.	0.2	0.2	0.4	0.2	0.3	0.2	0.2	0.6	0.7	0.8	0.6	0.6	0.7	0.6	0.2
70.	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.6	0.5	0.5	0.8	0.9	1.0	0.9	0.3
80.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3	1.1	1.0	1.1	1.1	0.4
90.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	1.0	1.1	1.0	1.3	0.4
100.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	1.0	1.0	0.9	1.3	0.6
110.	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.9	1.1	0.8	1.3	0.7
120.	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.6	1.0	0.9	1.2	0.9
130.	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.6	0.8	0.7	1.2	1.0
140.	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.6	0.8	0.8	1.1	1.1
150.	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.5	0.8	0.8	1.1	1.1
160.	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.4	0.8	0.8	1.2	1.1
170.	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.7	0.8	1.1	1.1
180.	0.1	0.1	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.7	0.9	1.1	1.1
190.	0.1	0.1	0.4	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.5	0.7	0.9	1.4
200.	0.1	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.9	1.3
210.	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.9	1.2
220.	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.8	1.2
230.	0.2	0.3	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.5	0.7	0.6	1.0
240.	0.4	0.6	0.6	0.0	0.0	0.0	0.1	0.4	0.3	0.3	0.2	0.4	0.5	0.5	0.5

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 250.  *   0.8   0.8   1.0   0.2   0.0   0.0   0.2   0.5   0.4   0.2   0.2   0.3
0.2   0.1   0.2
 260.  *   0.8   0.8   0.8   0.1   0.0   0.2   0.3   0.6   0.5   0.2   0.0   0.0
0.1   0.0   0.0
 270.  *   0.8   0.8   0.9   0.4   0.1   0.0   0.1   0.7   0.3   0.0   0.0   0.0
0.0   0.0   0.0
 280.  *   0.7   0.8   0.8   0.5   0.2   0.1   0.2   0.8   0.4   0.0   0.0   0.0
0.0   0.0   0.0
 290.  *   0.6   0.8   0.6   0.6   0.4   0.2   0.4   0.8   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 300.  *   0.5   0.8   0.6   0.4   0.3   0.3   0.4   0.8   0.5   0.1   0.0   0.0
0.0   0.0   0.0
 310.  *   0.3   0.8   0.5   0.5   0.3   0.3   0.5   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 320.  *   0.1   0.8   0.6   0.4   0.3   0.3   0.4   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.8   0.7   0.4   0.3   0.4   0.4   0.7   0.7   0.3   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.7   0.7   0.5   0.3   0.4   0.6   0.7   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.7   0.8   0.4   0.1   0.3   0.6   0.6   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.5   0.8   0.3   0.0   0.3   0.6   0.7   0.7   0.5   0.0   0.0
0.0   0.0   0.0

------*--------------------------------------------------------------------------
-------------
 MAX   *   0.8   0.8   1.0   0.6   0.4   0.4   0.6   0.9   1.0   1.1   1.1   1.1
1.1   1.3   1.4
 DEGR. *  250   270   250   290   290   330     0    30    30    50    80    90
80    90   190

 THE HIGHEST CONCENTRATION OF    1.40 PPM OCCURRED AT RECEPTOR REC15.
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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:39

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1512.3    -173.2 *    1311.
330. AG    180. 100.0   1.0 20.0 1.20  66.6
       2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG    304. 100.0   1.0 30.0 0.54   4.6
       3. Brook/River NB LTR  *   -792.2   -1400.7    -720.4   -1622.6 *     233.
162. AG    180. 100.0   1.0 20.0 0.91  11.8
       4. Brook/River WB LTTR *   -798.5   -1299.5    -697.3   -1176.0 *     160.
39. AG    236. 100.0   1.0 30.0 0.69   8.1
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1877.   9.3   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1974.   9.3   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2543.   9.3   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1328.   9.3   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:53:39

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*------------------------------------------------------------
---------------------
       1. Brook/River SB LTR  *     120       79       3.0      1148       1600
50.98      1        3
```

```
       2. Brook/River EB LTR  *     120        89       3.0       566       1600
50.98     1        3
       3. Brook/River NB LTR  *     120        79       3.0       877       1600
50.98     1        3
       4. Brook/River WB LTTR *     120        69       3.0      1270       1600
50.98     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y           Z      *
     -------------------------*------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
----------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   1.0   0.5   0.4   1.4   1.4
1.3   1.3   0.9   0.3   0.4   1.0   1.1   1.0
  10.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.8   1.0   0.5   0.3   1.4   1.4
1.3   1.5   1.2   0.4   0.5   0.8   0.9   0.9
  20.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1   1.2   1.2
1.4   1.3   1.3   0.3   0.5   0.8   0.9   0.9
  30.  *   0.0   0.0   0.2   0.1   0.1   0.3   0.4   0.6   0.1   0.0   1.1   1.2
1.4   1.2   1.2   0.6   0.6   0.9   0.9   0.9
  40.  *   0.0   0.0   0.6   0.3   0.1   0.2   0.2   0.3   0.0   0.0   0.9   1.1
```

```
1.1   0.8   0.7   0.7   0.9   1.0   0.8   0.8
  50.  *   0.0   0.0   1.0   0.7   0.3   0.1   0.1   0.1   0.0   0.0   0.8   0.9
0.9   0.6   0.5   0.9   1.1   1.2   1.0   0.8
  60.  *   0.0   0.1   1.3   1.0   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.9
0.8   0.6   0.4   1.1   0.9   1.3   1.3   0.9
  70.  *   0.0   0.3   1.3   1.1   0.4   0.0   0.0   0.0   0.0   0.0   0.6   0.9
0.9   0.6   0.4   1.2   0.8   1.1   1.3   1.0
  80.  *   0.1   0.4   1.2   1.2   0.6   0.0   0.0   0.0   0.0   0.0   0.5   0.9
0.9   0.6   0.3   1.2   1.0   1.0   1.3   1.1
  90.  *   0.2   0.6   1.1   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.6   0.3   1.1   0.9   1.1   1.3   1.3
 100.  *   0.3   0.6   1.0   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.5   0.2   1.0   1.0   1.0   1.2   1.3
 110.  *   0.4   0.6   0.9   1.0   0.7   0.0   0.0   0.0   0.0   0.0   0.2   0.9
1.0   0.5   0.0   0.9   1.2   1.1   1.1   1.2
 120.  *   0.4   0.6   0.8   1.1   1.0   0.0   0.0   0.0   0.0   0.0   0.1   0.9
1.0   0.3   0.0   0.7   1.3   1.2   1.2   1.4
 130.  *   0.4   0.5   0.7   1.1   1.0   0.0   0.0   0.0   0.0   0.0   0.0   0.7
1.0   0.2   0.0   0.4   1.1   1.3   1.2   1.1
 140.  *   0.5   0.7   0.8   1.0   1.0   0.0   0.0   0.0   0.0   0.0   0.0   0.6
1.0   0.0   0.0   0.3   1.0   1.1   0.9   1.1
 150.  *   0.9   0.9   0.9   1.0   1.0   0.0   0.0   0.2   0.2   0.0   0.0   0.4
0.8   0.0   0.0   0.3   0.9   1.0   0.8   0.9
 160.  *   1.1   1.0   1.3   1.3   1.1   0.0   0.0   0.5   0.4   0.2   0.0   0.2
0.5   0.0   0.0   0.3   0.7   0.8   0.8   0.4
 170.  *   1.4   1.4   1.5   1.4   1.4   0.0   0.2   0.9   0.7   0.4   0.0   0.1
0.2   0.0   0.0   0.3   0.7   0.7   0.4   0.2
 180.  *   1.2   1.2   1.5   1.5   1.5   0.2   0.3   1.2   1.0   0.7   0.0   0.0
0.1   0.0   0.0   0.4   0.6   0.8   0.4   0.2
 190.  *   1.0   1.2   1.3   1.7   1.6   0.2   0.5   1.2   1.2   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.5   0.7   0.3   0.1
 200.  *   0.9   1.0   1.3   1.5   1.8   0.3   0.6   1.1   1.2   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.4   0.6   0.1   0.0
 210.  *   0.8   0.9   1.0   1.1   1.2   0.5   0.9   1.2   1.2   1.0   0.0   0.0
0.1   0.1   0.0   0.2   0.3   0.4   0.0   0.0
 220.  *   0.7   0.7   0.9   0.8   0.9   0.8   0.9   1.3   1.1   1.0   0.0   0.0
0.3   0.2   0.1   0.1   0.1   0.2   0.0   0.0
 230.  *   0.7   0.7   0.6   0.5   0.5   0.8   1.1   1.4   1.1   1.0   0.0   0.0
0.7   0.3   0.2   0.0   0.1   0.1   0.0   0.0
 240.  *   0.8   0.8   0.7   0.4   0.3   1.0   1.0   1.3   1.2   1.0   0.0   0.1
0.9   0.3   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.7   0.7   0.7   0.5   0.3   1.1   0.9   1.3   1.4   1.1   0.0   0.1
1.1   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.7   0.7   0.7   0.5   0.3   1.1   0.8   1.3   1.5   1.1   0.1   0.2
1.1   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.7   0.8   0.8   0.5   0.3   1.2   0.9   1.1   1.4   1.2   0.1   0.3
1.0   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 280.  *   0.8   0.8   0.8   0.4   0.2   1.2   1.0   1.2   1.4   1.3   0.1   0.4
1.0   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 290.  *   0.8   0.9   0.9   0.4   0.2   1.0   1.2   1.2   1.4   1.5   0.1   0.5
0.9   0.7   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.8   0.9   1.0   0.4   0.2   1.2   1.2   1.3   1.4   1.5   0.2   0.5
0.8   0.8   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.7   0.9   1.0   0.3   0.2   1.1   1.3   1.5   1.6   1.6   0.3   0.6
0.7   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 320.  *   0.6   0.8   0.9   0.2   0.1   0.9   1.1   1.5   1.6   1.8   0.4   0.6
0.7   1.0   0.3   0.0   0.0   0.3   0.3   0.3
 330.  *   0.4   0.5   0.6   0.1   0.1   0.8   0.9   1.2   1.5   1.4   0.7   0.8
0.9   1.1   0.4   0.1   0.1   0.7   0.6   0.6
 340.  *   0.1   0.2   0.2   0.0   0.0   0.7   0.9   0.9   1.0   1.1   1.0   1.0
1.2   1.3   0.4   0.1   0.3   1.0   0.9   0.8
 350.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.9   0.8   0.6   0.7   1.3   1.1
1.2   1.4   0.8   0.3   0.5   1.1   1.0   0.9
```

```
 360.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   1.0   0.5   0.4   1.4   1.4
1.3   1.3   0.9   0.3   0.4   1.0   1.1   1.0

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.4   1.4   1.5   1.7   1.8   1.2   1.3   1.5   1.6   1.8   1.4   1.4
1.4   1.5   1.3   1.2   1.3   1.3   1.3   1.4
 DEGR. *  170   170   170   190   200   270   310   310   310   320     0    10
20    10    20    70   120    60    60   120

 THE HIGHEST CONCENTRATION OF    1.80 PPM OCCURRED AT RECEPTOR REC5 .
```

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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                        RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:53:46

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24428.6   43919.1 *      85.
37. AG    217. 100.0   1.0 30.0 0.44   4.3
       2. Boylston WB Q2      *  24434.8   43765.0   24541.7   43803.3 *     114.
70. AG    399. 100.0   1.0 40.0 0.76   5.8
       3. Park Dr NB Q3       *  24314.0   43650.6   24348.6   43602.0 *      60.
145. AG    290. 100.0   1.0 40.0 0.31   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23384.9   42534.0 *    1403.
218. AG    405. 100.0   1.0 40.0 1.33  71.3
       5. Brookline Q27       *  24079.2   43421.1   23862.1   43121.2 *     370.
216. AG    148. 100.0   1.0 20.0 1.01  18.8
       6. Fenway Q28          *  24063.7   43526.1   22982.9   44810.9 *    1679.
320. AG    126. 100.0   1.0 20.0 1.17  85.3
       7. Brookline Q29       *  24121.4   43515.8   24223.3   43643.0 *     163.
39. AG    148. 100.0   1.0 20.0 0.80   8.3
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2953.   9.3   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1451.   9.3   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1148.   9.3   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1369.   9.3   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2379.   9.3   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2517.   9.3   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    928.   9.3   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1676.   9.3   1.0 42.0
♀
                            PAGE  2
      JOB: Winsor School                                        RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:53:46
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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Brookline SB Q1	100	53	3.0	882	1600	50.98	1	3
2. Boylston WB Q2	100	73	3.0	1071	1600	50.98	1	3
3. Park Dr NB Q3	100	53	3.0	825	1600	50.98	1	3
4. Brookline EB Q4	100	74	3.0	1794	1600	50.98	1	3
5. Brookline Q27	100	54	3.0	1323	1600	50.98	1	3
6. Fenway Q28	100	46	3.0	1830	1600	50.98	1	3
7. Brookline Q29	100	54	3.0	1056	1600	50.98	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0

RECEPTOR	X	Y	Z
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0

♀
PAGE 3

JOB: Winsor School RUN: 2015 BD

DATE : 1/14/11
TIME : 10:53:46

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
39. R61	24161.0	43638.3	6.0

♀
PAGE 4

JOB: Winsor School RUN: 2015 BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	1.9	2.0	1.2	0.1	0.1	0.1	0.7	0.8	0.4	0.2	0.3	0.2	2.2	2.5	1.6	0.9	1.3	0.8	0.6	0.3
10.	1.6	2.0	1.0	0.1	0.1	0.1	0.7	0.7	0.6	0.2	0.4	0.2	2.4	2.5	1.5	0.8	1.3	0.6	0.5	0.3
20.	1.2	1.8	0.8	0.1	0.1	0.1	0.7	0.7	0.5	0.4	0.4	0.3	2.3	2.5	1.3	0.7	1.0	0.6	0.5	0.2
30.	1.3	1.4	0.9	0.2	0.3	0.1	0.7	0.7	0.4	0.4	0.7	0.7	1.7	2.1	1.1	0.6	0.8	0.6	0.4	0.1
40.	1.2	0.9	0.8	0.6	0.8	0.2	0.8	1.0	0.6	0.7	1.2	1.3	1.3	1.5	1.0	0.4	0.6	0.4	0.2	0.0
50.	1.0	0.7	0.7	1.1	1.5	0.6	1.0	1.6	0.8	1.2	2.1	1.9	0.6	0.9	0.5	0.3	0.4	0.3	0.1	0.0
60.	0.8	0.5	0.4	1.7	2.0	1.2	1.4	2.0	1.3	1.5	2.1	2.3	0.3	0.4	0.4	0.2	0.2	0.2	0.1	0.1
70.	0.4	0.2	0.2	2.0	2.2	1.4	1.8	2.1	1.3	1.4	2.0	2.0	0.2	0.3	0.3	0.1	0.1	0.1	0.5	0.3
80.	0.2	0.1	0.2	1.8	2.0	1.4	1.7	1.9	1.4	1.4	1.9	1.8	0.2	0.3	0.3	0.1	0.1	0.1	0.8	0.5
90.	0.2	0.1	0.2	1.8	1.7	1.4	1.5	1.6	1.2	1.3	1.7	1.8								

```
0.2   0.3   0.3   0.1   0.1   0.1   1.2   0.6
 100.  *   0.2   0.1   0.2   1.9   1.7   1.2   1.4   1.5   1.1   1.2   1.6   1.7
0.2   0.3   0.3   0.1   0.1   0.1   1.3   0.6
 110.  *   0.2   0.1   0.2   1.8   1.7   1.2   1.5   1.5   1.1   1.1   1.5   1.4
0.1   0.3   0.3   0.1   0.1   0.1   1.5   0.7
 120.  *   0.2   0.1   0.1   1.7   1.7   1.2   1.3   1.4   1.0   1.0   1.5   1.4
0.0   0.2   0.1   0.1   0.1   0.1   1.4   0.8
 130.  *   0.1   0.1   0.1   1.7   1.6   1.2   1.0   1.3   0.9   1.0   1.4   1.5
0.0   0.1   0.1   0.0   0.0   0.0   1.4   0.9
 140.  *   0.1   0.0   0.0   1.6   1.6   1.1   1.1   1.2   0.8   1.0   1.4   1.4
0.0   0.1   0.0   0.0   0.0   0.0   1.4   1.1
 150.  *   0.0   0.0   0.0   1.6   1.6   1.3   0.8   1.0   0.8   1.1   1.4   1.4
0.0   0.0   0.0   0.0   0.1   0.0   1.3   1.2
 160.  *   0.0   0.0   0.0   1.7   1.8   1.2   0.8   1.1   0.8   1.1   1.5   1.5
0.0   0.0   0.0   0.1   0.1   0.0   1.4   1.3
 170.  *   0.0   0.1   0.0   1.7   1.9   1.4   0.9   1.2   0.9   1.2   1.6   1.6
0.0   0.0   0.0   0.1   0.2   0.0   1.2   1.4
 180.  *   0.1   0.1   0.1   1.9   1.9   1.5   0.9   1.3   0.9   1.2   1.7   1.7
0.0   0.0   0.0   0.1   0.2   0.0   1.0   1.3
 190.  *   0.1   0.1   0.1   2.1   2.2   1.5   0.9   1.3   0.9   1.1   1.8   1.8
0.0   0.0   0.0   0.2   0.2   0.1   0.8   1.5
 200.  *   0.2   0.2   0.1   2.0   2.2   1.7   0.8   1.2   0.8   1.1   1.9   1.7
0.1   0.1   0.0   0.2   0.2   0.1   0.9   1.4
 210.  *   0.7   0.7   0.3   1.6   1.8   1.4   0.5   0.9   0.5   0.6   1.4   1.3
0.6   0.7   0.2   0.3   0.4   0.2   1.6   1.7
 220.  *   1.6   1.6   0.8   1.1   1.3   0.9   0.2   0.4   0.2   0.2   0.7   0.7
1.3   1.5   0.6   0.5   0.9   0.3   1.9   2.2
 230.  *   2.1   2.2   1.2   0.5   0.6   0.6   0.0   0.1   0.0   0.1   0.2   0.2
2.0   2.2   1.0   0.9   1.3   0.8   2.0   1.8
 240.  *   2.3   2.3   1.5   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
2.1   2.3   1.3   1.1   1.6   0.9   1.3   1.3
 250.  *   2.1   2.3   1.4   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
2.0   2.2   1.3   1.1   1.5   1.0   0.8   0.8
 260.  *   2.1   2.1   1.5   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.9   2.0   1.3   1.1   1.4   1.0   0.7   0.5
 270.  *   2.1   1.8   1.2   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.9   1.2   1.1   1.4   0.9   0.6   0.4
 280.  *   2.0   2.0   1.5   0.4   0.6   0.6   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.8   1.2   1.1   1.3   0.9   0.5   0.6
 290.  *   1.9   1.9   1.4   0.3   0.6   0.6   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.6   1.2   1.0   1.5   1.0   0.6   0.6
 300.  *   1.9   2.1   1.4   0.3   0.6   0.6   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.6   1.2   1.2   1.7   1.1   0.4   0.4
 310.  *   1.8   2.0   1.4   0.2   0.5   0.4   0.1   0.1   0.0   0.0   0.0   0.0
1.7   1.8   1.3   1.4   1.7   1.2   0.5   0.4
 320.  *   1.8   1.8   1.2   0.1   0.3   0.3   0.3   0.3   0.1   0.1   0.1   0.0
1.8   1.9   1.3   1.2   1.5   1.0   0.6   0.3
 330.  *   1.8   1.7   1.2   0.0   0.1   0.1   0.5   0.6   0.2   0.1   0.1   0.1
1.9   2.0   1.5   1.1   1.4   1.0   0.6   0.3
 340.  *   1.9   1.9   1.1   0.1   0.1   0.0   0.6   0.7   0.3   0.1   0.3   0.1
2.0   2.3   1.5   1.0   1.3   0.9   0.7   0.2
 350.  *   1.8   2.0   1.1   0.1   0.1   0.1   0.7   0.7   0.4   0.1   0.2   0.1
2.1   2.3   1.6   1.0   1.3   0.8   0.7   0.3
 360.  *   1.9   2.0   1.2   0.1   0.1   0.1   0.7   0.8   0.4   0.2   0.3   0.2
2.2   2.5   1.6   0.9   1.3   0.8   0.6   0.3

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   2.3   2.3   1.5   2.1   2.2   1.7   1.8   2.1   1.4   1.5   2.1   2.3
2.4   2.5   1.6   1.4   1.7   1.2   2.0   2.2
 DEGR. *  240   240   280   190    70   200    70    70    80    60    50    60
10     0     0   310   300   310   230   220
```

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.3	0.7	0.6	1.3	1.3	1.6	0.3	0.3	0.2
10.	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	0.9	0.6	1.4	1.3	1.5	0.3	0.3	0.2
20.	0.1	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.1	1.3	1.1	0.8	0.6	1.5	1.2	1.3	0.3	0.3	0.2
30.	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.1	1.1	1.2	0.8	0.8	0.4	1.6	1.1	1.3	0.4	0.3	0.3
40.	0.0	0.1	0.1	0.0	0.1	0.4	0.5	0.4	1.2	1.1	0.8	0.6	0.3	1.7	0.9	1.2	0.8	0.4	0.6
50.	0.0	0.0	0.0	0.1	0.3	0.5	0.6	0.6	1.1	1.0	0.8	0.5	0.2	1.7	0.7	1.0	1.1	0.4	1.0
60.	0.1	0.0	0.0	0.1	0.3	0.6	0.7	0.7	1.0	0.8	0.7	0.3	0.1	1.6	0.5	0.8	1.3	0.7	1.4
70.	0.3	0.2	0.1	0.3	0.4	0.8	0.7	0.9	0.7	0.5	0.5	0.1	0.0	1.3	0.4	0.5	1.8	0.9	1.7
80.	0.5	0.3	0.2	0.4	0.6	1.2	0.9	1.1	0.3	0.2	0.2	0.0	0.0	0.9	0.3	0.3	1.7	1.0	1.8
90.	0.6	0.4	0.3	0.5	0.7	1.2	1.0	1.1	0.1	0.1	0.1	0.0	0.0	0.7	0.3	0.2	1.7	1.0	1.7
100.	0.6	0.5	0.3	0.6	0.8	1.1	1.0	1.2	0.1	0.0	0.0	0.0	0.0	0.7	0.4	0.2	1.5	1.1	1.7
110.	0.6	0.6	0.3	0.5	0.6	0.9	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.2	1.6	1.1	1.7
120.	0.5	0.6	0.3	0.4	0.6	0.8	0.9	1.4	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.4	1.1	1.8
130.	0.5	0.8	0.3	0.4	0.6	0.9	0.8	1.4	0.1	0.0	0.0	0.1	0.1	0.4	0.4	0.2	1.3	1.0	1.7
140.	0.5	0.9	0.3	0.8	1.0	1.1	0.8	1.2	0.2	0.0	0.0	0.2	0.2	0.3	0.3	0.1	1.3	1.0	1.7
150.	0.5	1.0	0.4	1.0	1.1	1.5	0.8	1.1	0.4	0.1	0.0	0.4	0.4	0.1	0.1	0.0	1.3	0.9	1.6
160.	0.5	1.1	0.4	0.8	1.1	1.6	0.9	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.4	0.9	1.6
170.	0.6	1.1	0.7	1.0	1.2	1.6	1.0	1.0	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.6	1.0	1.9
180.	0.7	1.1	0.8	1.1	1.2	1.7	1.2	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	2.0	1.0	2.0
190.	0.8	1.0	0.8	1.2	1.4	1.8	1.4	1.0	0.6	0.2	0.1	0.4	0.4	0.0	0.0	0.1	2.2	1.2	2.2
200.	0.9	1.1	0.9	1.1	1.7	2.1	1.9	1.4	0.7	0.2	0.1	0.3							

```
0.3   0.2   0.0   0.2   2.2   1.0   2.1
 210.  *   1.4   1.4   1.4   0.8   1.2   2.1   1.7   1.5   1.1   0.3   0.2   0.4
0.3   0.9   0.2   0.8   2.0   0.9   1.6
 220.  *   2.0   1.7   1.4   0.6   0.9   1.6   1.2   1.0   1.8   0.8   0.5   0.7
0.5   1.7   0.7   1.6   1.2   0.5   1.1
 230.  *   2.1   1.4   1.2   0.5   0.6   0.9   0.7   0.4   2.3   1.5   1.1   1.2
0.7   2.4   1.0   2.2   0.5   0.2   0.5
 240.  *   1.3   0.9   1.0   0.3   0.4   0.5   0.4   0.1   2.5   1.7   1.1   1.3
1.0   2.4   1.1   2.2   0.2   0.2   0.3
 250.  *   0.9   0.7   0.7   0.3   0.3   0.5   0.3   0.2   2.4   1.6   1.4   1.5
1.0   2.3   1.1   2.1   0.2   0.2   0.3
 260.  *   0.5   0.6   0.7   0.4   0.4   0.4   0.3   0.2   2.2   1.6   1.3   1.4
1.1   2.2   1.2   2.1   0.2   0.1   0.3
 270.  *   0.4   0.7   0.6   0.4   0.4   0.4   0.3   0.2   1.8   1.4   1.3   1.5
1.0   2.1   1.1   2.1   0.2   0.1   0.2
 280.  *   0.4   0.8   0.4   0.4   0.4   0.4   0.3   0.2   1.7   1.1   1.0   1.5
1.4   1.9   1.2   1.9   0.1   0.1   0.2
 290.  *   0.3   0.7   0.3   0.4   0.4   0.5   0.3   0.2   1.5   1.2   0.9   1.4
1.1   1.7   1.2   1.9   0.1   0.1   0.1
 300.  *   0.3   0.6   0.3   0.4   0.4   0.5   0.2   0.0   1.4   1.0   1.0   1.3
1.2   1.5   1.0   1.9   0.1   0.1   0.1
 310.  *   0.2   0.6   0.3   0.2   0.2   0.3   0.1   0.0   1.3   0.8   0.9   1.1
1.1   1.5   1.1   1.8   0.2   0.2   0.1
 320.  *   0.2   0.5   0.3   0.1   0.1   0.2   0.0   0.0   1.0   0.7   1.1   0.7
0.8   1.2   0.8   1.9   0.2   0.2   0.1
 330.  *   0.2   0.4   0.3   0.0   0.0   0.1   0.0   0.0   0.8   0.7   1.2   0.5
0.5   1.2   1.0   1.8   0.3   0.3   0.1
 340.  *   0.2   0.4   0.3   0.0   0.0   0.0   0.0   0.0   0.8   0.9   1.4   0.5
0.4   1.2   1.1   1.8   0.4   0.4   0.1
 350.  *   0.2   0.4   0.4   0.0   0.0   0.0   0.0   0.0   0.8   1.0   1.4   0.6
0.6   1.2   1.1   1.8   0.3   0.3   0.2
 360.  *   0.2   0.4   0.4   0.0   0.0   0.0   0.0   0.0   0.9   1.1   1.3   0.7
0.6   1.3   1.3   1.6   0.3   0.3   0.2

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *   2.1   1.7   1.4   1.2   1.7   2.1   1.9   1.5   2.5   1.7   1.4   1.5
1.4   2.4   1.3   2.2   2.2   1.2   2.2
 DEGR. *  230   220   210   190   200   200   200   210   240   240   250   270
280   230     0   230   200   190   190

 THE HIGHEST CONCENTRATION OF    2.50 PPM OCCURRED AT RECEPTOR REC14.
```

Particulate Matter 10 (PM_{10})

```
♀                               CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                               PAGE  1

      JOB: Winsor School                                                RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:22

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG      0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG      0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG      0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG      0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG      0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG      0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
```

```
120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                       RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:22

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                            RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:22

       1. River/Long EB L     *       90        64        3.0       200        1600
 0.08      1        3
       2. River/Long EB TR    *       90        54        3.0       632        1600
 0.08      1        3
       3. River/Long NB LTR   *       90        62        3.0       413        1600
 0.08      1        3
       4. River/Long WB LTR   *       90        54        3.0      1600        1600
 0.08      1        3
       5. River/Long SB LT    *       90        62        3.0       315        1600
 0.08      1        3
       6. River/Long SB R     *       90        64        3.0       195        1600
 0.08      1        3
       7. Brook/Deacon EB TR  *      120        65        3.0       673        1600
 0.08      1        3
       8. Brook/Deacon NB LR  *      120        90        3.0       210        1600
 0.08      1        3
       9. Brook/Deacon WB LT  *      120       110        3.0      1211        1600
 0.08      1        3
      10. Brook/Deacon SB LR  *      120        90        3.0       138        1600
 0.08      1        3
      11. Brook/Joslin EB L   *      120        70        3.0        70        1600
 0.08      1        3
      12. Brook/Joslin EB T   *      120        70        3.0       703        1600
 0.08      1        3
      13. Brook/Joslin WB TTR *      120        70        3.0      1251        1600
 0.08      1        3
      14. Binney/Long EB LTR  *      120        90        3.0       185        1600
 0.08      1        3
      15. Binney/Long NB LTR  *      120        49        3.0       615        1600
 0.08      1        3
      16. Binney/Long WB LTR  *      120        90        3.0       220        1600
 0.08      1        3
      17. Binney/Long SB LTR  *      120        49        3.0       528        1600
 0.08      1        3
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     18. River/Short EB TR   *     93        43       3.0       758       1600
0.08     1        3
     19. River/Short NB LR   *     93        73       3.0       160       1600
0.08     1        3
     20. River/Short WB LTR  *     93        43       3.0      1474       1600
0.08     1        3
     21. Brook/Long EB LTR   *    120        78       3.0       768       1600
0.08     1        3
     22. Brook/Long NB LT    *    120        78       3.0       446       1600
0.08     1        3
     23. Brook/Long NB R     *    120        66       3.0       269       1600
0.08     1        3
     24. Brook/Long WB TTR   *    120        66       3.0      1158       1600
0.08     1        3
     25. Brook/Long SB LTR   *    120        78       3.0       513       1600
0.08     1        3
     26. Beth/Brook EB TTR   *    120        73       3.0      1068       1600
0.08     1        3
     27. Beth/Brook NB LR    *    120        82       3.0       370       1600
0.08     1        3
     28. Beth/Brook WB LT    *    120       106       3.0       948       1600
0.08     1        3

      RECEPTOR LOCATIONS
      ------------------
                             *         COORDINATES (FT)         *
        RECEPTOR             *      X          Y          Z     *
    -------------------------*----------------------------------*
     1. River/Long NE1       *     -978.8      215.4        6.0   *
     2. River/Long NE2       *     -904.3      201.6        6.0   *
     3. River/Long NE3       *     -831.3      188.0        6.0   *
     4. River/Long NE4       *     -788.0      251.3        6.0   *
     5. River/Long NE5       *     -746.6      311.8        6.0   *
     6. River/Long SE1       *     -639.8      294.3        6.0   *
     7. River/Long SE2       *     -682.2      232.4        6.0   *
     8. River/Long SE3       *     -724.5      170.5        6.0   *
     9. River/Long SE4       *     -662.6      128.1        6.0   *
    10. River/Long SE5       *     -600.7       85.8        6.0   *
    11. River/Long SW1       *     -638.2       21.8        6.0   *
    12. River/Long SW2       *     -700.1       64.1        6.0   *
    13. River/Long SW3       *     -762.0      106.5        6.0   *
    14. River/Long SW4       *     -790.3       37.0        6.0   *
    15. River/Long SW5       *     -818.6      -32.5        6.0   *
    16. River/Long NW1       *     -921.8      -26.0        6.0   *
    17. River/Long NW2       *     -893.5       43.5        6.0   *
    18. River/Long NW3       *     -865.2      112.9        6.0   *
    19. River/Long NW4       *     -938.9      126.7        6.0   *
    20. River/Long NW5       *    -1012.7      140.4        6.0   *
    21. Brook/Deacon NE1     *     -468.0     -576.8        6.0   *
    22. Brook/Deacon NE2     *     -408.9     -623.0        6.0   *
    23. Brook/Deacon NE3     *     -349.9     -669.2        6.0   *
♀
                         PAGE  4
     JOB: Winsor School                                        RUN: 2015BD


     DATE :  1/14/11
     TIME : 10:54:22


      RECEPTOR LOCATIONS
      ------------------
                             *         COORDINATES (FT)         *
```

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    RECEPTOR              *      X          Y          Z        *
------------------------*------------------------------------*
24. Brook/Deacon NE4     *      -300.6     -612.7        6.0   *
25. Brook/Deacon NE5     *      -251.9     -555.6        6.0   *
26. Brook/Deacon SE1     *      -193.8     -620.1        6.0   *
27. Brook/Deacon SE2     *      -242.5     -677.1        6.0   *
28. Brook/Deacon SE3     *      -291.2     -734.2        6.0   *
29. Brook/Deacon SE4     *      -233.1     -781.7        6.0   *
30. Brook/Deacon SE5     *      -175.1     -829.1        6.0   *
31. Brook/Deacon SW1     *      -206.3     -868.2        6.0   *
32. Brook/Deacon SW2     *      -264.4     -820.7        6.0   *
33. Brook/Deacon SW3     *      -322.4     -773.2        6.0   *
34. Brook/Deacon SW4     *      -368.8     -832.1        6.0   *
35. Brook/Deacon SW5     *      -415.3     -891.0        6.0   *
36. Brook/Deacon NW1     *      -482.8     -857.2        6.0   *
37. Brook/Deacon NW2     *      -436.4     -798.3        6.0   *
38. Brook/Deacon NW3     *      -390.0     -739.4        6.0   *
39. Brook/Deacon NW4     *      -449.1     -693.2        6.0   *
40. Brook/Deacon NW5     *      -508.2     -647.0        6.0   *
41. Brook/Joselin NE1    *      -419.5     -521.3        6.0   *
42. Brook/Joselin NE2    *      -359.7     -566.6        6.0   *
43. Brook/Joselin NE3    *      -299.9     -611.8        6.0   *
44. Brook/Joselin NE4    *      -251.2     -554.8        6.0   *
45. Brook/Joselin NE5    *      -204.9     -495.8        6.0   *
46. Brook/Joselin S1     *      -160.7     -581.3        6.0   *
47. Brook/Joselin S2     *      -209.4     -638.3        6.0   *
48. Brook/Joselin S3     *      -260.3     -693.4        6.0   *
49. Brook/Joselin S4     *      -305.6     -753.2        6.0   *
50. Brook/Joselin S5     *      -352.7     -811.6        6.0   *
```



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 MODEL RESULTS
 -------------

 REMARKS : In search of the angle corresponding to
           the maximum concentration, only the first
           angle, of the angles with same maximum
           concentrations, is indicated as maximum.

WIND ANGLE RANGE:   0.-360.

WIND  * CONCENTRATION
ANGLE *      (ug/m**3)
(DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*----------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    3.    3.    1.    0.    1.    2.
4.    4.    4.    1.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    1.    2.    3.    1.    0.    1.    2.
4.    4.    4.    1.    1.    2.    2.    1.
  20.  *    0.    0.    0.    0.    0.    0.    2.    3.    0.    0.    1.    1.
3.    3.    3.    2.    2.    2.    2.    1.
  30.  *    0.    0.    2.    1.    1.    0.    1.    2.    0.    0.    1.    1.
2.    2.    2.    4.    4.    4.    2.    1.
  40.  *    0.    0.    3.    2.    2.    0.    0.    1.    0.    0.    1.    1.
2.    1.    1.    4.    4.    5.    2.    2.
  50.  *    0.    1.    4.    4.    3.    0.    1.    1.    1.    1.    1.    1.
2.    1.    1.    4.    5.    5.    4.    2.
```

60.	*	1.	2.	4.	4.	4.	1.	1.	1.	1.	1.	1.	1.
2.	1.	1.	4.	4.	5.	4.	3.						
70.	*	1.	2.	4.	4.	4.	1.	1.	0.	0.	0.	1.	1.
2.	1.	1.	3.	4.	4.	4.	3.						
80.	*	2.	2.	3.	4.	4.	0.	0.	0.	0.	0.	1.	1.
2.	1.	0.	3.	4.	4.	4.	3.						
90.	*	2.	2.	3.	4.	4.	0.	0.	0.	0.	0.	1.	1.
1.	0.	0.	2.	3.	4.	3.	3.						
100.	*	2.	2.	3.	4.	4.	0.	0.	0.	0.	0.	1.	1.
1.	0.	0.	2.	3.	4.	3.	2.						
110.	*	3.	3.	4.	4.	3.	0.	0.	0.	0.	0.	1.	1.
1.	0.	1.	3.	3.	3.	2.	2.						
120.	*	3.	3.	4.	4.	4.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	3.	3.	3.	2.	2.						
130.	*	3.	4.	4.	4.	4.	0.	1.	2.	1.	1.	1.	1.
1.	0.	0.	2.	3.	3.	2.	1.						
140.	*	3.	3.	4.	4.	4.	1.	1.	2.	1.	1.	0.	0.
0.	0.	0.	2.	3.	3.	2.	1.						
150.	*	3.	3.	4.	4.	4.	0.	1.	2.	1.	1.	0.	0.
0.	0.	0.	2.	2.	3.	1.	1.						
160.	*	2.	3.	4.	4.	4.	0.	0.	2.	1.	1.	0.	0.
0.	0.	0.	2.	2.	3.	1.	0.						
170.	*	2.	3.	4.	4.	4.	0.	1.	2.	1.	1.	0.	0.
0.	0.	0.	1.	2.	3.	1.	0.						
180.	*	1.	2.	4.	5.	5.	0.	1.	1.	1.	1.	0.	0.
0.	0.	0.	1.	2.	3.	0.	0.						
190.	*	1.	2.	4.	5.	5.	0.	1.	2.	1.	1.	0.	0.
0.	0.	0.	1.	2.	2.	0.	0.						
200.	*	1.	2.	3.	4.	5.	1.	1.	2.	1.	1.	0.	0.
1.	1.	0.	0.	1.	1.	0.	0.						
210.	*	1.	1.	2.	3.	3.	2.	2.	3.	1.	1.	0.	0.
2.	2.	1.	0.	0.	1.	0.	0.						
220.	*	1.	2.	2.	2.	2.	3.	3.	4.	2.	1.	0.	0.
3.	2.	1.	0.	0.	0.	0.	0.						
230.	*	1.	2.	2.	1.	1.	4.	4.	4.	2.	1.	0.	1.
3.	3.	2.	0.	0.	0.	0.	0.						
240.	*	1.	2.	2.	1.	1.	4.	4.	4.	3.	1.	0.	1.
3.	3.	2.	0.	0.	0.	0.	0.						
250.	*	1.	2.	2.	1.	0.	3.	4.	4.	3.	2.	1.	2.
3.	3.	2.	0.	0.	0.	0.	0.						
260.	*	1.	1.	2.	0.	0.	3.	4.	4.	3.	2.	1.	2.
3.	3.	2.	0.	0.	0.	0.	0.						
270.	*	0.	1.	1.	0.	0.	3.	3.	4.	4.	2.	1.	2.
3.	3.	2.	0.	0.	0.	0.	0.						
280.	*	0.	0.	1.	0.	0.	3.	3.	3.	4.	2.	1.	2.
4.	3.	2.	0.	0.	1.	0.	0.						
290.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	2.	2.	2.
4.	3.	2.	0.	0.	1.	1.	0.						
300.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.
4.	3.	2.	0.	0.	2.	1.	0.						
310.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.
4.	4.	2.	0.	0.	2.	1.	0.						
320.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	2.	3.
3.	4.	3.	0.	0.	2.	1.	0.						
330.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	2.	3.
4.	4.	3.	0.	1.	2.	2.	1.						
340.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	2.	3.
4.	4.	4.	0.	1.	2.	1.	1.						
350.	*	0.	0.	0.	0.	0.	2.	3.	3.	1.	1.	2.	3.
4.	4.	4.	1.	1.	2.	1.	1.						
360.	*	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	1.	2.
4.	4.	4.	1.	1.	1.	1.	1.						

```
------*--------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    4.    5.    5.    4.    4.    4.    4.    2.    2.    3.
4.    4.    4.    4.    5.    5.    4.    3.
 DEGR. *  120   130   130   190   190   240   250   260   280   280   320   350
10     0     0    50    50    50    60    80
```

♀

PAGE 6

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

```
 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    3.    3.    4.    2.    2.    1.    2.
4.    4.    4.    0.    0.    1.    0.    0.
  10.  *    0.    0.    0.    0.    1.    3.    4.    4.    2.    2.    2.    2.
4.    5.    4.    0.    0.    1.    0.    0.
  20.  *    0.    0.    1.    1.    1.    4.    4.    4.    2.    2.    2.    3.
5.    5.    5.    1.    1.    1.    0.    0.
  30.  *    0.    1.    2.    3.    3.    4.    4.    5.    2.    1.    2.    2.
5.    5.    5.    2.    2.    3.    1.    0.
  40.  *    1.    2.    5.    5.    6.    3.    3.    4.    1.    1.    1.    2.
4.    4.    4.    4.    4.    5.    2.    1.
  50.  *    2.    3.    6.    6.    6.    2.    2.    2.    0.    0.    0.    0.
2.    2.    2.    4.    4.    5.    3.    2.
  60.  *    2.    3.    5.    5.    5.    1.    0.    0.    0.    0.    0.    0.
1.    1.    0.    4.    4.    4.    3.    2.
  70.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    4.    3.    3.    1.
  80.  *    2.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
  90.  *    1.    2.    4.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
 100.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    1.
 110.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    3.    2.    1.
 120.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    3.    2.    1.
 130.  *    1.    1.    3.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    3.    3.    1.    1.
 140.  *    1.    2.    3.    4.    4.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 150.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 160.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    1.
```

170.	*	1.	2.	3.	4.	4.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.
180.	*	0.	1.	3.	4.	5.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.
190.	*	0.	1.	3.	5.	5.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	0.	0.
200.	*	0.	0.	3.	4.	6.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.
210.	*	0.	0.	2.	3.	5.	1.	1.	2.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	0.	0.
220.	*	0.	0.	1.	2.	3.	2.	2.	3.	0.	0.	0.	0.	2.	1.	0.	0.	0.	1.	0.	0.
230.	*	0.	0.	1.	1.	1.	3.	3.	4.	0.	0.	0.	0.	3.	2.	0.	0.	0.	0.	0.	0.
240.	*	0.	0.	1.	0.	0.	3.	3.	4.	1.	0.	0.	0.	4.	2.	0.	0.	0.	0.	0.	0.
250.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	0.	0.	1.	3.	3.	0.	0.	0.	0.	0.	0.
260.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	0.	1.	3.	3.	0.	0.	0.	0.	0.	0.
270.	*	0.	0.	0.	0.	0.	3.	3.	2.	2.	1.	1.	1.	3.	3.	0.	0.	0.	0.	0.	0.
280.	*	0.	0.	0.	0.	0.	3.	3.	2.	2.	1.	1.	1.	3.	3.	0.	0.	0.	0.	0.	0.
290.	*	0.	0.	0.	0.	0.	3.	2.	2.	2.	1.	1.	1.	2.	3.	1.	0.	0.	0.	0.	0.
300.	*	0.	0.	0.	0.	0.	3.	2.	2.	2.	1.	1.	1.	2.	3.	1.	0.	0.	0.	0.	0.
310.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	1.	2.	3.	3.	1.	0.	0.	0.	0.	0.
320.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	1.	2.	3.	3.	2.	0.	0.	0.	0.	0.
330.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	2.	2.	3.	3.	2.	0.	0.	1.	0.	0.
340.	*	1.	0.	0.	0.	0.	2.	3.	3.	2.	1.	1.	2.	3.	3.	3.	0.	0.	1.	1.	0.
350.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	1.	2.	3.	4.	3.	0.	0.	1.	0.	0.
360.	*	0.	0.	0.	0.	0.	3.	3.	4.	2.	2.	1.	2.	4.	4.	4.	0.	0.	1.	0.	0.
------	*																				
MAX	*	2.	3.	6.	6.	6.	4.	4.	5.	2.	2.	2.	3.	5.	5.	5.	5.	4.	5.	3.	2.
DEGR.	*	60	60	50	50	50	30	30	30	30	20	20	20	30	30	30	50	40	40	50	60

♀

PAGE 7

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
	CONCENTRATION (ug/m**3)									
0.	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
10.	0.	0.	0.	1.	1.	4.	3.	4.	5.	4.
20.	0.	0.	1.	1.	1.	5.	4.	4.	5.	5.
30.	0.	1.	3.	3.	3.	5.	4.	5.	6.	5.
40.	1.	2.	5.	6.	6.	4.	3.	4.	4.	4.
50.	2.	3.	6.	6.	7.	2.	2.	2.	2.	2.
60.	2.	3.	5.	5.	7.	1.	1.	0.	2.	1.
70.	2.	2.	5.	4.	6.	0.	0.	0.	1.	0.
80.	1.	2.	4.	4.	6.	0.	0.	0.	1.	0.
90.	1.	2.	4.	3.	5.	0.	0.	0.	1.	0.
100.	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
110.	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
120.	1.	2.	4.	3.	3.	0.	0.	0.	2.	0.
130.	1.	2.	4.	4.	3.	0.	0.	0.	2.	0.
140.	1.	2.	4.	4.	2.	0.	0.	0.	2.	0.
150.	1.	2.	4.	4.	2.	0.	0.	0.	2.	0.
160.	1.	2.	4.	4.	2.	0.	0.	0.	1.	0.
170.	1.	2.	4.	4.	3.	0.	0.	0.	1.	0.
180.	1.	2.	4.	5.	3.	0.	0.	0.	1.	0.
190.	0.	1.	4.	5.	4.	0.	0.	0.	1.	0.
200.	0.	1.	4.	6.	5.	0.	0.	1.	1.	0.
210.	0.	1.	4.	5.	4.	1.	1.	1.	2.	1.
220.	0.	0.	2.	3.	3.	2.	2.	2.	2.	1.
230.	0.	0.	1.	1.	1.	3.	3.	3.	3.	2.
240.	0.	0.	0.	0.	0.	3.	3.	3.	4.	3.
250.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
260.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
270.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
280.	0.	0.	0.	0.	0.	2.	3.	3.	2.	3.
290.	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
300.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
310.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
320.	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
330.	1.	1.	0.	0.	0.	1.	3.	3.	3.	3.
340.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
350.	0.	0.	0.	0.	0.	2.	3.	3.	4.	4.
360.	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
MAX	2.	3.	6.	6.	7.	5.	4.	5.	6.	5.
DEGR.	60	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 7. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                            PAGE  1

      JOB: Winsor School                                          RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:14

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG      0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG      0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG      0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG      0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG      0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG      0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
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120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                           RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:14

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                                  *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                                PAGE  3
      JOB: Winsor School                                          RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:14

       1. River/Long EB L     *       90        64       3.0       200        1600
 0.08     1        3
       2. River/Long EB TR    *       90        54       3.0       632        1600
 0.08     1        3
       3. River/Long NB LTR   *       90        62       3.0       413        1600
 0.08     1        3
       4. River/Long WB LTR   *       90        54       3.0      1600        1600
 0.08     1        3
       5. River/Long SB LT    *       90        62       3.0       315        1600
 0.08     1        3
       6. River/Long SB R     *       90        64       3.0       195        1600
 0.08     1        3
       7. Brook/Deacon EB TR  *      120        65       3.0       673        1600
 0.08     1        3
       8. Brook/Deacon NB LR  *      120        90       3.0       210        1600
 0.08     1        3
       9. Brook/Deacon WB LT  *      120       110       3.0      1211        1600
 0.08     1        3
      10. Brook/Deacon SB LR  *      120        90       3.0       138        1600
 0.08     1        3
      11. Brook/Joslin EB L   *      120        70       3.0        70        1600
 0.08     1        3
      12. Brook/Joslin EB T   *      120        70       3.0       703        1600
 0.08     1        3
      13. Brook/Joslin WB TTR *      120        70       3.0      1251        1600
 0.08     1        3
      14. Binney/Long EB LTR  *      120        90       3.0       185        1600
 0.08     1        3
      15. Binney/Long NB LTR  *      120        49       3.0       615        1600
 0.08     1        3
      16. Binney/Long WB LTR  *      120        90       3.0       220        1600
 0.08     1        3
      17. Binney/Long SB LTR  *      120        49       3.0       528        1600
 0.08     1        3
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      18. River/Short EB TR   *      93        43        3.0        758        1600
0.08      1        3
      19. River/Short NB LR   *      93        73        3.0        160        1600
0.08      1        3
      20. River/Short WB LTR  *      93        43        3.0       1474        1600
0.08      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        768        1600
0.08      1        3
      22. Brook/Long NB LT    *     120        78        3.0        446        1600
0.08      1        3
      23. Brook/Long NB R     *     120        66        3.0        269        1600
0.08      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1158        1600
0.08      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        513        1600
0.08      1        3
      26. Beth/Brook EB TTR   *     120        73        3.0       1068        1600
0.08      1        3
      27. Beth/Brook NB LR    *     120        82        3.0        370        1600
0.08      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        948        1600
0.08      1        3
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       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Brook/Long NE1       *      -189.0     -227.6        6.0   *
      2. Brook/Long NE2       *      -130.2     -274.2        6.0   *
      3. Brook/Long NE3       *       -71.4     -320.7        6.0   *
      4. Brook/Long NE4       *       -24.6     -262.1        6.0   *
      5. Brook/Long NE5       *        22.3     -203.5        6.0   *
      6. Brook/Long SE1       *       107.1     -254.3        6.0   *
      7. Brook/Long SE2       *        60.3     -312.9        6.0   *
      8. Brook/Long SE3       *        13.5     -371.5        6.0   *
      9. Brook/Long SE4       *        72.9     -417.2        6.0   *
     10. Brook/Long SE5       *       132.4     -463.0        6.0   *
     11. Brook/Long SW1       *        72.2     -540.4        6.0   *
     12. Brook/Long SW2       *        12.8     -494.6        6.0   *
     13. Brook/Long SW3       *       -46.6     -448.9        6.0   *
     14. Brook/Long SW4       *       -91.9     -508.7        6.0   *
     15. Brook/Long SW5       *      -137.1     -568.6        6.0   *
     16. Brook/Long NW1       *      -207.2     -498.8        6.0   *
     17. Brook/Long NW2       *      -162.0     -439.0        6.0   *
     18. Brook/Long NW3       *      -116.8     -379.1        6.0   *
     19. Brook/Long NW4       *      -175.6     -332.6        6.0   *
     20. Brook/Long NW5       *      -234.4     -286.1        6.0   *
     21. Binney/Long NE1      *       137.4     -466.5        6.0   *
     22. Binney/Long NE2      *       197.4     -511.4        6.0   *
     23. Binney/Long NE3      *       257.5     -556.3        6.0   *
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                           PAGE  4
      JOB: Winsor School                                     RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:14


       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
```

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       RECEPTOR              *       X           Y           Z         *
   -------------------------*------------------------------------*
   24. Binney/Long NE4       *        302.7     -496.6        6.0   *
   25. Binney/Long NE5       *        348.0     -436.8        6.0   *
   26. Binney/Long SE1       *        399.8     -491.0        6.0   *
   27. Binney/Long SE2       *        354.5     -550.8        6.0   *
   28. Binney/Long SE3       *        309.3     -610.6        6.0   *
   29. Binney/Long SE4       *        369.6     -655.0        6.0   *
   30. Binney/Long SE5       *        429.3     -698.9        6.0   *
   31. Binney/Long SW1       *        394.1     -778.9        6.0   *
   32. Binney/Long SW2       *        340.7     -725.6        6.0   *
   33. Binney/Long SW3       *        280.3     -681.2        6.0   *
   34. Binney/Long SW4       *        234.3     -740.4        6.0   *
   35. Binney/Long SW5       *        188.6     -799.2        6.0   *
   36. Binney/Long NW1       *        131.4     -771.8        6.0   *
   37. Binney/Long NW2       *        177.5     -712.5        6.0   *
   38. Binney/Long NW3       *        223.5     -653.3        6.0   *
   39. Binney/Long NW4       *        163.4     -608.4        6.0   *
   40. Binney/Long NW5       *        103.4     -563.4        6.0   *
   41. Beth/Brook SE1        *        463.4      227.5        6.0   *
   42. Beth/Brook SE2        *        417.4      168.2        6.0   *
   43. Beth/Brook SE3        *        371.4      109.0        6.0   *
   44. Beth/Brook SE4        *        433.6       67.0        6.0   *
   45. Beth/Brook SE5        *        495.7       25.1        6.0   *
   46. Beth/Brook SW1        *        454.8      -29.4        6.0   *
   47. Beth/Brook SW2        *        392.6       12.6        6.0   *
   48. Beth/Brook SW3        *        330.5       54.6        6.0   *
   49. Beth/Brook SW4        *        285.5       -5.5        6.0   *
   50. Beth/Brook SW5        *        240.6      -65.5        6.0   *
   51. Beth/Brook N1         *        191.3       12.2        6.0   *
   52. Beth/Brook N2         *        242.0       79.9        6.0   *
   53. Beth/Brook N3         *        287.0      140.0        6.0   *
   54. Beth/Brook N4         *        332.7      199.4        6.0   *
   55. Beth/Brook N5         *        372.8      251.0        6.0   *
♀
                            PAGE  5
    JOB: Winsor School                                        RUN: 2015BD


     MODEL RESULTS
     -------------

     REMARKS : In search of the angle corresponding to
               the maximum concentration, only the first
               angle, of the angles with same maximum
               concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.
  10.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    3.    4.
5.    5.    4.    1.    1.    2.    2.    1.
  20.  *    0.    0.    1.    1.    1.    3.    4.    4.    2.    1.    2.    3.
6.    5.    5.    1.    1.    2.    2.    1.
  30.  *    0.    0.    3.    2.    2.    3.    3.    4.    2.    1.    2.    3.
```

```
5.    5.    5.    3.    4.    4.    2.    1.
  40.  *    1.    1.    5.    5.    4.    2.    2.    2.    1.    0.    1.    2.
4.    4.    3.    6.    6.    6.    3.    2.
  50.  *    1.    2.    6.    6.    5.    1.    1.    1.    0.    0.    1.    2.
2.    2.    1.    7.    7.    7.    4.    2.
  60.  *    1.    2.    6.    6.    5.    0.    0.    0.    0.    0.    1.    1.
2.    1.    1.    6.    6.    7.    4.    2.
  70.  *    1.    2.    6.    6.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    6.    6.    6.    4.    2.
  80.  *    1.    2.    6.    6.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    5.    6.    6.    4.    3.
  90.  *    2.    2.    5.    5.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    5.    6.    6.    4.    3.
 100.  *    2.    2.    5.    5.    4.    0.    0.    0.    0.    0.    2.    2.
2.    1.    0.    4.    5.    6.    4.    3.
 110.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    2.    2.
2.    0.    0.    3.    5.    6.    4.    4.
 120.  *    2.    3.    5.    5.    4.    0.    0.    1.    1.    1.    1.    1.
1.    0.    0.    3.    5.    6.    4.    3.
 130.  *    3.    3.    6.    5.    5.    0.    0.    1.    1.    1.    1.    1.
1.    0.    0.    2.    4.    5.    3.    3.
 140.  *    3.    4.    6.    5.    5.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    2.
 150.  *    3.    4.    6.    6.    5.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    1.
 160.  *    3.    4.    6.    6.    6.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.    2.    4.    4.    2.    1.
 170.  *    3.    4.    6.    6.    6.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.    3.    4.    5.    2.    1.
 180.  *    3.    4.    6.    6.    6.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    3.    4.    5.    2.    1.
 190.  *    2.    3.    6.    7.    7.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    4.    4.    5.    2.    1.
 200.  *    2.    3.    7.    7.    7.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    5.    5.    5.    2.    1.
 210.  *    1.    3.    6.    6.    7.    2.    2.    3.    2.    1.    0.    0.
1.    1.    1.    4.    4.    4.    1.    0.
 220.  *    1.    2.    4.    4.    5.    3.    3.    4.    2.    1.    0.    0.
2.    2.    2.    3.    3.    3.    0.    0.
 230.  *    1.    2.    3.    2.    2.    5.    5.    5.    3.    1.    0.    1.
4.    2.    2.    1.    1.    1.    0.    0.
 240.  *    0.    2.    2.    1.    1.    5.    4.    5.    3.    2.    1.    1.
4.    2.    2.    0.    0.    0.    0.    0.
 250.  *    0.    2.    2.    1.    0.    5.    4.    5.    4.    2.    1.    1.
4.    2.    2.    0.    0.    0.    0.    0.
 260.  *    0.    1.    2.    1.    0.    4.    4.    4.    4.    2.    1.    2.
4.    3.    2.    0.    0.    0.    0.    0.
 270.  *    0.    1.    2.    1.    0.    4.    4.    4.    4.    3.    1.    2.
4.    3.    2.    0.    0.    0.    0.    0.
 280.  *    0.    1.    2.    0.    0.    4.    4.    4.    4.    3.    1.    2.
4.    3.    1.    0.    0.    0.    0.    0.
 290.  *    0.    1.    2.    0.    0.    4.    4.    5.    4.    4.    2.    2.
4.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    1.    2.    0.    0.    3.    4.    5.    4.    3.    2.    2.
4.    4.    1.    0.    0.    1.    0.    1.
 310.  *    1.    1.    1.    0.    0.    3.    4.    4.    3.    3.    3.    3.
5.    4.    2.    0.    0.    1.    1.    1.
 320.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    3.
5.    4.    2.    0.    0.    2.    1.    0.
 330.  *    0.    0.    0.    0.    0.    3.    4.    3.    2.    2.    3.    4.
5.    4.    2.    0.    0.    2.    1.    0.
 340.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    3.
5.    4.    2.    0.    0.    2.    1.    0.
```

```
 350.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    1.    3.    4.
5.    5.    3.    0.    1.    2.    2.    0.
 360.  *    0.    0.    0.    0.    0.    2.    4.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.

------*----------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    7.    7.    7.    5.    5.    5.    4.    4.    3.    4.
6.    5.    5.    7.    7.    7.    4.    4.
 DEGR. *  150   150   200   200   200   240   230   240   280   290   330     0
20    10    20    50    50    50    70   110

♀
                            PAGE  6
      JOB: Winsor School                                           RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*----------------------------------------------------------------------------
-------------------------------------------
   0.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    1.    1.    2.    2.    2.
  10.  *    1.    1.    1.    1.    1.    0.    1.    1.    0.    0.    0.    2.
2.    2.    2.    1.    1.    2.    2.    2.
  20.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    1.    2.    2.    2.    2.
  30.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    1.    1.    2.    2.    2.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
2.    1.    1.    1.    1.    2.    2.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    1.    1.    2.    2.    1.
  60.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    2.    1.
  70.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    2.    1.
  80.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 100.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 110.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    2.
 120.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 130.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 140.  *    2.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    1.    1.    0.    0.
 150.  *    2.    2.    2.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 160.  *    2.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 170.  *    1.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 180.  *    1.    2.    2.    2.    1.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 190.  *    1.    2.    2.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 200.  *    1.    1.    2.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    2.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    2.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 260.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    1.
 270.  *    3.    2.    2.    1.    1.    2.    2.    2.    3.    1.    0.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 280.  *    3.    2.    2.    2.    2.    2.    2.    3.    3.    2.    0.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 290.  *    4.    3.    2.    2.    1.    1.    2.    3.    3.    2.    1.    1.
2.    1.    0.    1.    1.    1.    1.    1.
 300.  *    4.    3.    3.    1.    1.    1.    2.    3.    3.    2.    1.    2.
2.    2.    1.    1.    1.    2.    2.    2.
 310.  *    3.    2.    2.    1.    1.    1.    2.    3.    2.    2.    2.    3.
3.    2.    1.    1.    1.    2.    2.    3.
 320.  *    2.    2.    1.    1.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    1.    3.    3.    3.
 330.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    2.    3.    3.    3.
 340.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    3.
3.    2.    2.    2.    2.    3.    2.    3.
 350.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
 360.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    1.    1.    2.    2.    2.

------*----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    3.    3.    2.    2.    2.    2.    3.    3.    2.    2.    3.
3.    3.    2.    2.    2.    3.    3.    3.
 DEGR. *  290   300   300   290   280   270   280   300   290   300   320   320
320   330   340   340    20   320   320   340

♀
                           PAGE  7
      JOB: Winsor School                                         RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
```

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                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC41 REC42 REC43 REC44 REC45 REC46 REC47 REC48 REC49 REC50 REC51 REC52
REC53 REC54 REC55

------*--------------------------------------------------------------------------
-------------
   0.  *    2.    3.    4.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.
  10.  *    2.    3.    4.    1.    1.    1.    2.    4.    5.    4.    0.    0.
0.    0.    0.
  20.  *    2.    3.    4.    1.    1.    1.    2.    4.    5.    5.    1.    1.
1.    0.    0.
  30.  *    2.    3.    4.    1.    1.    1.    2.    4.    4.    5.    3.    2.
2.    2.    2.
  40.  *    1.    2.    2.    1.    0.    1.    1.    3.    3.    3.    5.    4.
4.    4.    3.
  50.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    6.    5.
5.    5.    4.
  60.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    6.    5.
5.    5.    4.
  70.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    5.    5.
5.    5.    4.
  80.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    5.    4.
4.    5.    4.
  90.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    4.    4.
4.    4.    4.
 100.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    4.    4.
3.    4.    4.
 110.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    4.    4.
4.    4.    4.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    4.    4.
4.    4.    4.
 130.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    4.    4.
4.    4.    4.
 140.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    4.    4.
4.    4.    4.
 150.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    4.    4.
4.    4.    4.
 160.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    4.    4.
4.    4.    4.
 170.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    4.    4.
4.    5.    5.
 180.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    4.    4.
5.    5.    5.
 190.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    4.    5.
5.    5.    6.
 200.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    1.    5.    5.
5.    6.    6.
 210.  *    2.    2.    2.    1.    1.    0.    0.    2.    2.    2.    5.    5.
5.    5.    5.
 220.  *    4.    4.    4.    2.    1.    1.    1.    4.    4.    4.    4.    4.
4.    4.    4.
 230.  *    5.    4.    5.    3.    2.    1.    2.    5.    4.    4.    2.    2.
1.    1.    1.
 240.  *    4.    4.    5.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 250.  *    4.    4.    4.    3.    2.    1.    2.    4.    4.    3.    0.    0.
```

```
0.    0.    0.
 260.  *    4.    4.    4.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 270.  *    4.    4.    4.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 280.  *    3.    3.    3.    2.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 290.  *    3.    3.    3.    2.    2.    1.    2.    3.    3.    3.    0.    0.
0.    0.    0.
 300.  *    3.    3.    3.    2.    2.    2.    2.    3.    3.    4.    0.    0.
0.    0.    0.
 310.  *    3.    4.    3.    2.    2.    2.    2.    4.    3.    4.    0.    0.
0.    0.    0.
 320.  *    2.    3.    3.    2.    1.    2.    2.    4.    3.    4.    0.    0.
0.    0.    0.
 330.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 340.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 350.  *    2.    4.    4.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 360.  *    2.    3.    4.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    5.    4.    5.    3.    2.    2.    2.    5.    5.    5.    6.    5.
5.    6.    6.
 DEGR. *  230   230   230   240   280   320   350   230    20    20    50    50
50   200   200

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC5 .
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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                                RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54: 8

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *      70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *      93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *      70.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *     239.
34. AG      0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *     115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *      68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *     119.
218. AG      0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *      52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *    6033.
38. AG      0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *      34.
308. AG      0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *      27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *    1432.
219. AG      0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *     619.
38. AG      0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *      91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *      82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *      71.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *      89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *      32.
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120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                    RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54: 8

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                 *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54: 8

       1. River/Long EB L     *      90        64        3.0       200        1600
 0.08     1        3
       2. River/Long EB TR    *      90        54        3.0       632        1600
 0.08     1        3
       3. River/Long NB LTR   *      90        62        3.0       413        1600
 0.08     1        3
       4. River/Long WB LTR   *      90        54        3.0      1600        1600
 0.08     1        3
       5. River/Long SB LT    *      90        62        3.0       315        1600
 0.08     1        3
       6. River/Long SB R     *      90        64        3.0       195        1600
 0.08     1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       673        1600
 0.08     1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210        1600
 0.08     1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1211        1600
 0.08     1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       138        1600
 0.08     1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70        1600
 0.08     1        3
      12. Brook/Joslin EB T   *     120        70        3.0       703        1600
 0.08     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1251        1600
 0.08     1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
 0.08     1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
 0.08     1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.08     1        3
      17. Binney/Long SB LTR  *     120        49        3.0       528        1600
 0.08     1        3
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     18. River/Short EB TR   *      93        43        3.0        758        1600
0.08      1        3
     19. River/Short NB LR   *      93        73        3.0        160        1600
0.08      1        3
     20. River/Short WB LTR  *      93        43        3.0       1474        1600
0.08      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        768        1600
0.08      1        3
     22. Brook/Long NB LT    *     120        78        3.0        446        1600
0.08      1        3
     23. Brook/Long NB R     *     120        66        3.0        269        1600
0.08      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       1158        1600
0.08      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        513        1600
0.08      1        3
     26. Beth/Brook EB TTR   *     120        73        3.0       1068        1600
0.08      1        3
     27. Beth/Brook NB LR    *     120        82        3.0        370        1600
0.08      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        948        1600
0.08      1        3

      RECEPTOR LOCATIONS
      ------------------
                         *          COORDINATES (FT)          *
        RECEPTOR         *      X           Y           Z     *
    -------------------------*------------------------------------*
     1. Short/River SE1      *        64.2       619.5        6.0   *
     2. Short/River SE2      *         0.6       579.2        6.0   *
     3. Short/River SE3      *       -62.3       538.9        6.0   *
     4. Short/River SE4      *        -2.3       494.0        6.0   *
     5. Short/River SE5      *        57.8       449.1        6.0   *
     6. Short/River SW1      *        -6.6       409.9        6.0   *
     7. Short/River SW2      *       -66.7       454.8        6.0   *
     8. Short/River SW3      *      -126.8       499.6        6.0   *
     9. Short/River SW4      *      -194.5       467.4        6.0   *
    10. Short/River SW5      *      -262.2       435.2        6.0   *
    11. Short/River N1       *      -300.6       529.9        6.0   *
    12. Short/River N2       *      -232.9       562.1        6.0   *
    13. Short/River N3       *      -165.2       594.3        6.0   *
    14. Short/River N4       *      -101.9       634.6        6.0   *
    15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                              PAGE  4
     JOB: Winsor School                                          RUN: 2015BD


      MODEL RESULTS
      -------------

      REMARKS : In search of the angle corresponding to
                the maximum concentration, only the first
                angle, of the angles with same maximum
                concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*------------------------------------------------------------------------
-------------
   0.  *    0.    2.    3.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
  10.  *    0.    2.    3.    1.    0.    0.    2.    3.    3.    2.    0.    0.
0.    0.    0.
  20.  *    0.    1.    3.    0.    0.    0.    1.    3.    3.    2.    0.    0.
0.    0.    0.
  30.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  40.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  50.  *    0.    1.    2.    0.    0.    0.    0.    2.    3.    3.    1.    1.
1.    1.    0.
  60.  *    0.    0.    1.    0.    0.    0.    0.    2.    2.    3.    2.    2.
2.    2.    0.
  70.  *    0.    0.    1.    0.    0.    0.    1.    1.    1.    2.    3.    3.
3.    2.    1.
  80.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    3.    3.
3.    3.    1.
  90.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    3.    3.
3.    3.    1.
 100.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    3.    3.
3.    3.    1.
 110.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    1.    3.    3.
3.    3.    2.
 120.  *    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    3.    3.
3.    3.    2.
 130.  *    0.    0.    1.    1.    1.    1.    1.    1.    0.    0.    2.    2.
3.    3.    3.
 140.  *    0.    1.    1.    1.    1.    1.    1.    0.    0.    0.    2.    3.
3.    3.    3.
 150.  *    1.    1.    1.    1.    1.    1.    0.    1.    0.    0.    2.    3.
3.    4.    3.
 160.  *    1.    0.    1.    1.    1.    1.    0.    0.    1.    1.    2.    3.
3.    3.    3.
 170.  *    1.    0.    1.    1.    1.    1.    1.    1.    1.    1.    1.    3.
3.    3.    3.
 180.  *    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.    1.    2.
3.    3.    4.
 190.  *    0.    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 200.  *    0.    0.    1.    0.    1.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 210.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 220.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 230.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    1.    2.
3.    3.    3.
 240.  *    2.    3.    3.    1.    0.    0.    0.    1.    1.    1.    1.    1.
2.    2.    2.
 250.  *    3.    3.    3.    1.    0.    1.    1.    2.    1.    1.    0.    1.
1.    1.    1.
 260.  *    3.    3.    3.    1.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.
 270.  *    2.    3.    3.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.
 280.  *    2.    3.    3.    2.    1.    0.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 290.  *    2.    3.    3.    2.    1.    1.    1.    3.    2.    0.    0.    0.
0.    0.    0.
 300.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
0.    0.    0.
 330.  *    0.    3.    2.    2.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 340.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 350.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    0.    2.    3.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    3.    3.    3.    2.    1.    1.    2.    3.    3.    3.    3.    3.
3.    4.    4.
 DEGR. *  250   250   260   290   290   330     0    30    40    40    90   100
80   150   190

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

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♀                      CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                       PAGE  1

      JOB: Winsor School                                          RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54: 2

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1512.3    -173.2 *    1311.
330. AG      0. 100.0   1.0 20.0 1.20  66.6
       2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG      0. 100.0   1.0 30.0 0.54   4.6
       3. Brook/River NB LTR  *   -792.2   -1400.7    -720.4   -1622.6 *     233.
162. AG      0. 100.0   1.0 20.0 0.91  11.8
       4. Brook/River WB LTTR *   -798.5   -1299.5    -697.3   -1176.0 *     160.
39. AG      0. 100.0   1.0 30.0 0.69   8.1
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1877.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1974.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2543.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1328.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                          RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54: 2

       1. Brook/River SB LTR  *     120       79       3.0      1148       1600
 0.08      1       3
       2. Brook/River EB LTR  *     120       89       3.0       566       1600
 0.08      1       3
       3. Brook/River NB LTR  *     120       79       3.0       877       1600
 0.08      1       3
       4. Brook/River WB LTTR *     120       69       3.0      1270       1600
 0.08      1       3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)         *
         RECEPTOR             *      X          Y          Z        *
```

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     -------------------------*-------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                              PAGE  3
      JOB: Winsor School                                        RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    5.
5.    4.    3.    1.    1.    3.    3.    3.
  10.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    4.    5.
5.    4.    3.    1.    1.    3.    3.    3.
  20.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    0.    4.    4.
5.    4.    4.    1.    2.    2.    3.    3.
  30.  *    0.    0.    1.    0.    0.    1.    2.    2.    0.    0.    3.    4.
5.    4.    4.    2.    2.    3.    2.    2.
  40.  *    0.    0.    2.    1.    1.    1.    1.    1.    0.    0.    3.    3.
4.    3.    2.    3.    3.    3.    2.    2.
  50.  *    0.    0.    3.    2.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    2.    3.    4.    4.    3.    2.
  60.  *    0.    0.    3.    3.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    3.    2.
  70.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  80.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  90.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    1.    3.    3.    4.    4.    3.
```

```
 100.  *     1.     2.     3.     3.     2.     0.     0.     0.     0.     0.     1.     3.
3.    2.     0.     3.     3.     4.     4.     4.
 110.  *     1.     2.     3.     3.     2.     0.     0.     0.     0.     0.     0.     3.
3.    1.     0.     2.     3.     4.     4.     4.
 120.  *     1.     2.     2.     3.     2.     0.     0.     0.     0.     0.     0.     3.
3.    1.     0.     2.     4.     4.     4.     4.
 130.  *     1.     2.     2.     3.     3.     0.     0.     0.     0.     0.     0.     2.
3.    0.     0.     2.     3.     4.     4.     4.
 140.  *     2.     2.     3.     3.     3.     0.     0.     0.     0.     0.     0.     2.
3.    0.     0.     1.     3.     4.     4.     4.
 150.  *     3.     3.     3.     3.     3.     0.     0.     0.     0.     0.     0.     1.
2.    0.     0.     1.     2.     3.     3.     3.
 160.  *     4.     4.     5.     3.     3.     0.     0.     1.     1.     0.     0.     1.
2.    0.     0.     1.     2.     2.     2.     2.
 170.  *     4.     4.     5.     4.     3.     0.     0.     3.     2.     1.     0.     0.
1.    0.     0.     1.     2.     2.     1.     1.
 180.  *     4.     4.     5.     5.     4.     0.     1.     4.     3.     2.     0.     0.
0.    0.     0.     1.     2.     2.     1.     1.
 190.  *     3.     4.     5.     5.     5.     1.     2.     4.     3.     2.     0.     0.
0.    0.     0.     1.     2.     2.     1.     0.
 200.  *     3.     3.     4.     4.     5.     1.     2.     4.     4.     2.     0.     0.
0.    0.     0.     1.     1.     2.     0.     0.
 210.  *     2.     3.     4.     4.     4.     2.     2.     4.     3.     3.     0.     0.
1.    0.     0.     1.     1.     1.     0.     0.
 220.  *     2.     2.     3.     2.     3.     3.     3.     4.     3.     3.     0.     0.
1.    1.     0.     0.     0.     1.     0.     0.
 230.  *     2.     2.     2.     2.     2.     4.     4.     4.     3.     3.     0.     0.
2.    1.     1.     0.     0.     0.     0.     0.
 240.  *     2.     2.     2.     1.     1.     3.     4.     4.     4.     3.     0.     0.
2.    1.     1.     0.     0.     0.     0.     0.
 250.  *     2.     2.     2.     1.     1.     3.     4.     4.     4.     3.     0.     1.
2.    1.     1.     0.     0.     0.     0.     0.
 260.  *     2.     2.     2.     1.     1.     3.     3.     4.     4.     4.     0.     1.
3.    1.     1.     0.     0.     0.     0.     0.
 270.  *     2.     2.     2.     1.     1.     4.     3.     4.     4.     4.     0.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 280.  *     2.     2.     2.     1.     1.     3.     3.     4.     4.     4.     0.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 290.  *     2.     3.     3.     1.     1.     3.     3.     4.     4.     4.     0.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 300.  *     2.     3.     3.     1.     0.     3.     4.     5.     4.     4.     1.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 310.  *     2.     3.     3.     1.     0.     3.     3.     5.     5.     5.     1.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 320.  *     2.     2.     3.     0.     0.     2.     3.     4.     5.     5.     1.     2.
2.    2.     1.     0.     0.     1.     1.     0.
 330.  *     1.     1.     2.     0.     0.     2.     3.     4.     4.     5.     2.     2.
3.    3.     1.     0.     0.     2.     2.     1.
 340.  *     0.     0.     1.     0.     0.     2.     2.     3.     3.     4.     3.     3.
4.    3.     2.     0.     1.     3.     2.     2.
 350.  *     0.     0.     0.     0.     0.     2.     3.     2.     2.     2.     4.     4.
4.    4.     2.     0.     1.     3.     3.     2.
 360.  *     0.     0.     0.     0.     0.     2.     3.     3.     2.     1.     4.     5.
5.    4.     3.     1.     1.     3.     3.     3.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *     4.     4.     5.     5.     5.     4.     4.     5.     5.     5.     4.     5.
5.    4.     4.     3.     4.     4.     4.     4.
 DEGR. *   170    170    180    190    190    230    230    310    320    320      0      0
20    10     20     70    120     60    120    130

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC13.
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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                      RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:53:56

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
---------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24428.6   43919.1 *      85.
37. AG      0. 100.0   1.0 30.0 0.44   4.3
       2. Boylston WB Q2      *  24434.8   43765.0   24541.7   43803.3 *     114.
70. AG      1. 100.0   1.0 40.0 0.76   5.8
       3. Park Dr NB Q3       *  24314.0   43650.6   24348.6   43602.0 *      60.
145. AG      0. 100.0   1.0 40.0 0.31   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23384.9   42534.0 *    1403.
218. AG      1. 100.0   1.0 40.0 1.33  71.3
       5. Brookline Q27       *  24079.2   43421.1   23862.1   43121.2 *     370.
216. AG      0. 100.0   1.0 20.0 1.01  18.8
       6. Fenway Q28          *  24063.7   43526.1   22982.9   44810.9 *    1679.
320. AG      0. 100.0   1.0 20.0 1.17  85.3
       7. Brookline Q29       *  24121.4   43515.8   24223.3   43643.0 *     163.
39. AG      0. 100.0   1.0 20.0 0.80   8.3
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2953.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1451.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1148.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1369.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2379.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2517.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    928.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1676.   0.0   1.0 42.0
♀
                             PAGE  2
      JOB: Winsor School                                      RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:53:56
```

```
        1. Brookline SB Q1     *      100         53         3.0         882         1600
0.08      1        3
        2. Boylston WB Q2      *      100         73         3.0        1071         1600
0.08      1        3
        3. Park Dr NB Q3       *      100         53         3.0         825         1600
0.08      1        3
        4. Brookline EB Q4     *      100         74         3.0        1794         1600
0.08      1        3
        5. Brookline Q27       *      100         54         3.0        1323         1600
0.08      1        3
        6. Fenway Q28          *      100         46         3.0        1830         1600
0.08      1        3
        7. Brookline Q29       *      100         54         3.0        1056         1600
0.08      1        3

        RECEPTOR LOCATIONS
        ------------------
                               *          COORDINATES (FT)          *
          RECEPTOR             *      X          Y          Z       *
      -------------------------*------------------------------------*
       1. R7                   *     24234.6    43539.7        6.0   *
       2. R8                   *     24198.5    43493.8        6.0   *
       3. R9                   *     24247.7    43485.1        6.0   *
       4. R10                  *     24131.9    43603.0        6.0   *
       5. R11                  *     24100.2    43558.2        6.0   *
       6. R12                  *     24075.1    43588.8        6.0   *
       7. R13                  *     23988.8    43538.6        6.0   *
       8. R14                  *     24019.4    43509.1        6.0   *
       9. R15                  *     23968.0    43510.2        6.0   *
      10. R16                  *     23940.7    43418.5        6.0   *
      11. R17                  *     23992.1    43417.4        6.0   *
      12. R18                  *     23951.7    43364.0        6.0   *
      13. R19                  *     24080.6    43343.2        6.0   *
      14. R20                  *     24111.2    43390.1        6.0   *
      15. R21                  *     24138.5    43348.7        6.0   *
      16. R22                  *     24229.1    43394.5        6.0   *
      17. R23                  *     24198.5    43426.2        6.0   *
      18. R24                  *     24258.6    43409.8        6.0   *
      19. R41                  *     24433.6    43813.3        6.0   *
      20. R42                  *     24498.2    43841.4        6.0   *
      21. R43                  *     24569.1    43866.7        6.0   *
      22. R44                  *     24472.8    43859.6        6.0   *
      23. R45                  *     24517.8    43916.6        6.0   *
      24. R46                  *     24182.0    43865.3        6.0   *
      25. R47                  *     24230.1    43812.3        6.0   *
      26. R48                  *     24268.4    43766.0        6.0   *
      27. R49                  *     24307.2    43819.4        6.0   *
      28. R50                  *     24356.7    43884.0        6.0   *
      29. R51                  *     24367.5    43656.1        6.0   *
      30. R52                  *     24433.5    43678.3        6.0   *
      31. R53                  *     24498.6    43702.8        6.0   *
      32. R54                  *     24409.4    43607.5        6.0   *
      33. R55                  *     24444.6    43559.0        6.0   *
      34. R56                  *     24282.4    43606.2        6.0   *
      35. R57                  *     24328.7    43546.5        6.0   *
      36. R58                  *     24243.6    43550.9        6.0   *
      37. R59                  *     24204.3    43692.2        6.0   *
      38. R60                  *     24150.3    43751.0        6.0   *
      39. R61                  *     24161.0    43638.3        6.0   *
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       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-----------------------------------------------------------------------
------------------------------------------
   0.  *   5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
6.    7.    4.    3.    4.    2.    2.    1.
  10.  *   5.    5.    3.    0.    0.    0.    2.    2.    2.    1.    1.    1.
6.    7.    4.    3.    3.    2.    2.    1.
  20.  *   5.    5.    3.    1.    1.    0.    2.    2.    2.    1.    1.    1.
6.    7.    4.    2.    3.    2.    2.    1.
  30.  *   4.    4.    3.    1.    1.    1.    2.    2.    2.    1.    2.    2.
5.    6.    4.    2.    3.    2.    1.    0.
  40.  *   4.    3.    2.    2.    3.    1.    2.    3.    2.    2.    4.    4.
4.    4.    2.    2.    2.    2.    1.    0.
  50.  *   3.    2.    2.    4.    5.    2.    4.    5.    3.    4.    6.    6.
2.    3.    2.    1.    2.    1.    0.    0.
  60.  *   2.    2.    1.    5.    6.    4.    5.    6.    4.    5.    7.    6.
1.    2.    1.    1.    1.    1.    1.    0.
  70.  *   1.    1.    1.    6.    6.    4.    5.    6.    5.    5.    6.    6.
1.    1.    1.    0.    1.    1.    2.    1.
  80.  *   1.    1.    1.    6.    5.    4.    5.    5.    4.    4.    5.    5.
1.    1.    1.    0.    0.    0.    3.    2.
  90.  *   1.    0.    1.    5.    5.    4.    4.    5.    4.    3.    5.    4.
1.    1.    1.    0.    0.    0.    3.    2.
 100.  *   1.    0.    1.    5.    4.    4.    4.    5.    4.    3.    4.    4.
1.    1.    1.    0.    0.    0.    4.    2.
 110.  *   1.    0.    1.    4.    4.    3.    4.    5.    3.    3.    4.    4.
0.    1.    1.    0.    0.    0.    4.    2.
 120.  *   1.    0.    0.    4.    4.    3.    4.    4.    3.    3.    4.    4.
0.    1.    1.    0.    0.    0.    4.    2.
 130.  *   0.    0.    0.    4.    4.    3.    3.    4.    2.    3.    4.    4.
0.    0.    0.    0.    0.    0.    4.    2.
 140.  *   0.    0.    0.    4.    4.    3.    3.    3.    2.    3.    4.    4.
0.    0.    0.    0.    0.    0.    3.    3.
 150.  *   0.    0.    0.    4.    4.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    0.    0.    0.    4.    3.
 160.  *   0.    0.    0.    4.    5.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    0.    0.    0.    4.    3.
 170.  *   0.    0.    0.    5.    5.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    0.    1.    0.    3.    3.
 180.  *   0.    0.    0.    5.    6.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    1.    1.    0.    3.    4.
 190.  *   0.    0.    0.    5.    6.    5.    2.    3.    2.    3.    4.    4.
0.    0.    0.    1.    1.    0.    3.    4.
 200.  *   1.    1.    0.    5.    6.    4.    2.    3.    2.    2.    4.    4.
0.    0.    0.    1.    1.    0.    4.    4.
 210.  *   2.    2.    1.    4.    5.    4.    1.    2.    1.    1.    3.    3.
1.    2.    0.    1.    1.    1.    5.    5.
```

```
 220.  *    4.    4.    2.    3.    3.    2.    0.    1.    0.    0.    2.    2.
3.    3.    1.    1.    2.    1.    6.    6.
 230.  *    6.    6.    3.    2.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    2.    2.    3.    2.    6.    6.
 240.  *    6.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
5.    5.    3.    3.    4.    2.    5.    4.
 250.  *    6.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
5.    5.    3.    3.    4.    3.    3.    3.
 260.  *    5.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    3.    3.    4.    3.    2.    2.
 270.  *    5.    6.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 280.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 290.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    2.
 300.  *    5.    5.    4.    0.    2.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    4.    5.    3.    2.    2.
 310.  *    4.    5.    3.    0.    1.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    4.    4.    3.    2.    1.
 320.  *    4.    5.    3.    0.    1.    1.    1.    1.    0.    0.    0.    0.
4.    5.    4.    3.    4.    3.    2.    1.
 330.  *    4.    4.    3.    0.    0.    0.    1.    2.    0.    0.    0.    0.
4.    6.    4.    3.    4.    2.    2.    1.
 340.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    1.    0.
5.    6.    4.    3.    3.    2.    2.    1.
 350.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    1.    0.
6.    6.    5.    3.    3.    2.    2.    1.
 360.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
6.    7.    4.    3.    4.    2.    2.    1.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    6.    6.    4.    6.    6.    5.    5.    6.    5.    5.    7.    6.
6.    7.    5.    4.    5.    3.    6.    6.
 DEGR. *  240   240   280    70    70   190    70    70    70    60    60    60
20    10   350   310   300   300   230   230

♀
                             PAGE  4
      JOB: Winsor School                                          RUN: 2015 BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*------------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    2.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    5.    4.    5.    1.    1.    1.
  10.  *    1.    2.    2.    0.    0.    0.    0.    0.    3.    4.    3.    3.
```

```
2.     5.     4.     5.     1.     1.     1.
  20.   *     0.     2.     1.     0.     0.     0.     0.     0.     4.     4.     3.     2.
2.     5.     4.     4.     1.     1.     1.
  30.   *     0.     1.     1.     0.     0.     1.     1.     0.     4.     4.     3.     2.
1.     5.     3.     4.     2.     1.     1.
  40.   *     0.     0.     0.     0.     0.     1.     1.     1.     4.     3.     3.     2.
1.     5.     3.     4.     2.     1.     2.
  50.   *     0.     0.     0.     0.     1.     2.     2.     2.     4.     3.     3.     2.
1.     5.     3.     3.     4.     2.     4.
  60.   *     0.     0.     0.     0.     1.     2.     2.     2.     3.     3.     3.     1.
0.     4.     2.     2.     5.     2.     5.
  70.   *     1.     1.     0.     1.     2.     3.     2.     2.     2.     2.     2.     0.
0.     3.     1.     2.     6.     3.     6.
  80.   *     2.     1.     1.     1.     2.     4.     3.     3.     1.     1.     1.     0.
0.     2.     1.     1.     7.     3.     6.
  90.   *     2.     2.     1.     2.     2.     4.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     6.     4.     5.
 100.   *     2.     2.     1.     2.     2.     4.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     6.     4.     5.
 110.   *     2.     2.     1.     2.     2.     3.     3.     4.     0.     0.     0.     0.
0.     2.     2.     1.     5.     4.     5.
 120.   *     2.     2.     1.     2.     2.     3.     3.     4.     0.     0.     0.     0.
0.     2.     2.     1.     5.     4.     5.
 130.   *     2.     2.     1.     2.     3.     4.     3.     4.     0.     0.     0.     0.
0.     2.     2.     1.     4.     4.     4.
 140.   *     2.     2.     1.     3.     3.     4.     3.     3.     1.     0.     0.     1.
1.     1.     1.     0.     4.     3.     4.
 150.   *     2.     3.     1.     3.     4.     5.     3.     3.     2.     0.     0.     1.
1.     0.     0.     0.     4.     2.     4.
 160.   *     2.     3.     2.     3.     4.     6.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     2.     4.
 170.   *     2.     3.     2.     3.     4.     6.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     3.     5.
 180.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     1.     1.
2.     0.     0.     0.     5.     3.     5.
 190.   *     2.     3.     2.     3.     4.     6.     5.     4.     2.     1.     1.     1.
1.     0.     0.     0.     6.     3.     5.
 200.   *     3.     3.     3.     3.     4.     7.     6.     4.     2.     1.     1.     1.
1.     1.     0.     1.     6.     3.     6.
 210.   *     4.     4.     4.     2.     4.     6.     5.     5.     3.     1.     1.     1.
1.     2.     0.     2.     5.     2.     4.
 220.   *     6.     5.     5.     2.     2.     4.     4.     3.     4.     2.     2.     2.
2.     4.     1.     4.     3.     1.     3.
 230.   *     6.     5.     4.     1.     2.     2.     2.     2.     6.     4.     3.     3.
2.     6.     2.     6.     1.     1.     1.
 240.   *     5.     3.     3.     1.     1.     2.     1.     1.     6.     5.     4.     4.
3.     6.     3.     6.     1.     0.     1.
 250.   *     3.     3.     2.     1.     1.     1.     1.     1.     6.     5.     4.     4.
3.     6.     3.     6.     0.     0.     1.
 260.   *     2.     2.     2.     1.     1.     1.     1.     0.     6.     5.     4.     4.
3.     6.     3.     5.     0.     0.     1.
 270.   *     1.     2.     2.     1.     1.     1.     1.     0.     6.     5.     4.     4.
4.     5.     3.     5.     0.     0.     1.
 280.   *     1.     2.     2.     1.     1.     1.     1.     0.     5.     4.     4.     4.
3.     5.     3.     5.     0.     0.     0.
 290.   *     1.     2.     1.     1.     1.     1.     1.     0.     5.     4.     4.     4.
4.     4.     3.     5.     0.     0.     0.
 300.   *     1.     2.     1.     1.     1.     2.     0.     0.     5.     4.     3.     4.
4.     4.     3.     4.     0.     0.     0.
 310.   *     1.     2.     1.     1.     1.     1.     0.     0.     5.     3.     3.     4.
4.     4.     3.     4.     0.     0.     0.
 320.   *     1.     2.     1.     0.     0.     1.     0.     0.     4.     3.     3.     3.
3.     4.     3.     4.     1.     1.     0.
```

```
 330.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    3.    5.    1.    1.    0.
 340.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    1.
 350.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    5.    4.    5.    1.    1.    1.
 360.  *    1.    2.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    5.    4.    5.    1.    1.    1.

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *    6.    5.    5.    3.    4.    7.    6.    5.    6.    5.    4.    4.
4.    6.    4.    6.    7.    4.    6.
 DEGR. *  230   220   220   190   200   200   200   210   240   260   260   260
300   240     0   240    80   100    70

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC14.
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Particulate Matter 2.5 ($PM_{2.5}$)

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♀                       CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                        PAGE  1

      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:30

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
-----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG      0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG      0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG      0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG      0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG      0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG      0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
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120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG  2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG  1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG  1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG   138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG  2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG   245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG  2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG   110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG  1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG  1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG  2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG   703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG  2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG  1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG   290.   0.0   1.0 54.0
♀
                            PAGE  2
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:30

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                            RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:30

       1. River/Long EB L     *      90        64        3.0       200        1600
 0.04      1        3
       2. River/Long EB TR    *      90        54        3.0       632        1600
 0.04      1        3
       3. River/Long NB LTR   *      90        62        3.0       413        1600
 0.04      1        3
       4. River/Long WB LTR   *      90        54        3.0      1600        1600
 0.04      1        3
       5. River/Long SB LT    *      90        62        3.0       315        1600
 0.04      1        3
       6. River/Long SB R     *      90        64        3.0       195        1600
 0.04      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       673        1600
 0.04      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210        1600
 0.04      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1211        1600
 0.04      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       138        1600
 0.04      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70        1600
 0.04      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       703        1600
 0.04      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1251        1600
 0.04      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185        1600
 0.04      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615        1600
 0.04      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.04      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       528        1600
 0.04      1        3
```

```
    18. River/Short EB TR   *     93       43       3.0       758       1600
0.04     1        3
    19. River/Short NB LR   *     93       73       3.0       160       1600
0.04     1        3
    20. River/Short WB LTR  *     93       43       3.0      1474       1600
0.04     1        3
    21. Brook/Long EB LTR   *    120       78       3.0       768       1600
0.04     1        3
    22. Brook/Long NB LT    *    120       78       3.0       446       1600
0.04     1        3
    23. Brook/Long NB R     *    120       66       3.0       269       1600
0.04     1        3
    24. Brook/Long WB TTR   *    120       66       3.0      1158       1600
0.04     1        3
    25. Brook/Long SB LTR   *    120       78       3.0       513       1600
0.04     1        3
    26. Beth/Brook EB TTR   *    120       73       3.0      1068       1600
0.04     1        3
    27. Beth/Brook NB LR    *    120       82       3.0       370       1600
0.04     1        3
    28. Beth/Brook WB LT    *    120      106       3.0       948       1600
0.04     1        3
```

RECEPTOR LOCATIONS

```
     ------------------
                        *          COORDINATES (FT)          *
     RECEPTOR           *       X          Y          Z      *
   ---------------------*------------------------------------*
    1. River/Long NE1   *     -978.8     215.4        6.0    *
    2. River/Long NE2   *     -904.3     201.6        6.0    *
    3. River/Long NE3   *     -831.3     188.0        6.0    *
    4. River/Long NE4   *     -788.0     251.3        6.0    *
    5. River/Long NE5   *     -746.6     311.8        6.0    *
    6. River/Long SE1   *     -639.8     294.3        6.0    *
    7. River/Long SE2   *     -682.2     232.4        6.0    *
    8. River/Long SE3   *     -724.5     170.5        6.0    *
    9. River/Long SE4   *     -662.6     128.1        6.0    *
   10. River/Long SE5   *     -600.7      85.8        6.0    *
   11. River/Long SW1   *     -638.2      21.8        6.0    *
   12. River/Long SW2   *     -700.1      64.1        6.0    *
   13. River/Long SW3   *     -762.0     106.5        6.0    *
   14. River/Long SW4   *     -790.3      37.0        6.0    *
   15. River/Long SW5   *     -818.6     -32.5        6.0    *
   16. River/Long NW1   *     -921.8     -26.0        6.0    *
   17. River/Long NW2   *     -893.5      43.5        6.0    *
   18. River/Long NW3   *     -865.2     112.9        6.0    *
   19. River/Long NW4   *     -938.9     126.7        6.0    *
   20. River/Long NW5   *    -1012.7     140.4        6.0    *
   21. Brook/Deacon NE1 *     -468.0    -576.8        6.0    *
   22. Brook/Deacon NE2 *     -408.9    -623.0        6.0    *
   23. Brook/Deacon NE3 *     -349.9    -669.2        6.0    *
```

♀

PAGE 4

JOB: Winsor School RUN: 2015BD

DATE : 1/14/11
TIME : 10:54:30

RECEPTOR LOCATIONS

```
     ------------------
                        *          COORDINATES (FT)          *
```

```
   RECEPTOR                *       X           Y           Z         *
-------------------------*-----------------------------------*
24. Brook/Deacon NE4     *     -300.6     -612.7        6.0   *
25. Brook/Deacon NE5     *     -251.9     -555.6        6.0   *
26. Brook/Deacon SE1     *     -193.8     -620.1        6.0   *
27. Brook/Deacon SE2     *     -242.5     -677.1        6.0   *
28. Brook/Deacon SE3     *     -291.2     -734.2        6.0   *
29. Brook/Deacon SE4     *     -233.1     -781.7        6.0   *
30. Brook/Deacon SE5     *     -175.1     -829.1        6.0   *
31. Brook/Deacon SW1     *     -206.3     -868.2        6.0   *
32. Brook/Deacon SW2     *     -264.4     -820.7        6.0   *
33. Brook/Deacon SW3     *     -322.4     -773.2        6.0   *
34. Brook/Deacon SW4     *     -368.8     -832.1        6.0   *
35. Brook/Deacon SW5     *     -415.3     -891.0        6.0   *
36. Brook/Deacon NW1     *     -482.8     -857.2        6.0   *
37. Brook/Deacon NW2     *     -436.4     -798.3        6.0   *
38. Brook/Deacon NW3     *     -390.0     -739.4        6.0   *
39. Brook/Deacon NW4     *     -449.1     -693.2        6.0   *
40. Brook/Deacon NW5     *     -508.2     -647.0        6.0   *
41. Brook/Joselin NE1    *     -419.5     -521.3        6.0   *
42. Brook/Joselin NE2    *     -359.7     -566.6        6.0   *
43. Brook/Joselin NE3    *     -299.9     -611.8        6.0   *
44. Brook/Joselin NE4    *     -251.2     -554.8        6.0   *
45. Brook/Joselin NE5    *     -204.9     -495.8        6.0   *
46. Brook/Joselin S1     *     -160.7     -581.3        6.0   *
47. Brook/Joselin S2     *     -209.4     -638.3        6.0   *
48. Brook/Joselin S3     *     -260.3     -693.4        6.0   *
49. Brook/Joselin S4     *     -305.6     -753.2        6.0   *
50. Brook/Joselin S5     *     -352.7     -811.6        6.0   *
```

♀

PAGE 5

JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

```
 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    1.    1.
2.    2.    2.    0.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    0.    1.    2.    0.    0.    0.    1.
2.    2.    2.    0.    1.    1.    1.    1.
  20.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    0.    1.
2.    2.    2.    1.    1.    1.    1.    1.
  30.  *    0.    0.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    1.
  40.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    2.    2.    2.    1.    1.
  50.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    3.    2.    1.
```

```
  60.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    2.    2.    3.    2.    2.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    2.    2.    2.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    2.    2.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    1.    2.    2.    2.    2.
 100.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 110.  *    1.    2.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 120.  *    2.    2.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    1.    1.
 130.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    1.    0.
 140.  *    2.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 150.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    1.    0.
 160.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 170.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 180.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 190.  *    1.    1.    2.    2.    3.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *    1.    1.    2.    2.    2.    1.    1.    1.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    1.    1.    2.    1.    1.    2.    1.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    2.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 230.  *    0.    1.    1.    1.    0.    2.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    0.    1.    1.    0.    0.    2.    2.    2.    1.    1.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 270.  *    0.    0.    1.    0.    0.    1.    2.    2.    2.    1.    1.    1.
1.    2.    1.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    1.    1.    2.    2.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    1.    1.    1.
2.    2.    1.    0.    0.    1.    0.    0.
 300.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    0.    0.
 310.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 320.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 330.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 340.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    1.    1.
2.    2.    2.    0.    1.    1.    1.    1.
```

```
------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    2.    2.    3.    2.    2.    2.    2.    1.    1.    1.
2.    2.    2.    2.    2.    3.    2.    2.
 DEGR. *  120   120   180   180   190   240   250   260   260   280   310   330
290   350     0    40    50    50    60    70

♀
                                    PAGE  6
      JOB: Winsor School                                        RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  30.  *    0.    0.    1.    1.    2.    2.    2.    2.    1.    1.    1.    1.
3.    2.    3.    1.    2.    2.    0.    0.
  40.  *    0.    1.    2.    3.    3.    2.    2.    2.    1.    0.    0.    1.
2.    2.    2.    2.    2.    3.    1.    1.
  50.  *    1.    1.    3.    3.    3.    1.    1.    0.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    1.    1.    1.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    1.    1.    1.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    1.    1.    1.
 100.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
 110.  *    1.    1.    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 120.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 130.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 140.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 150.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 160.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
```

```
 170.  *     0.     1.     1.     2.     2.     0.     0.     1.     0.     0.     0.     0.
0.    0.     0.     0.     1.     1.     1.     0.
 180.  *     0.     1.     1.     2.     2.     0.     0.     1.     0.     0.     0.     0.
0.    0.     0.     0.     1.     2.     0.     0.
 190.  *     0.     1.     1.     2.     3.     0.     0.     1.     0.     0.     0.     0.
0.    0.     0.     0.     1.     2.     0.     0.
 200.  *     0.     0.     1.     2.     3.     0.     0.     1.     0.     0.     0.     0.
0.    0.     0.     0.     1.     1.     0.     0.
 210.  *     0.     0.     1.     2.     2.     0.     1.     1.     0.     0.     0.     0.
0.    0.     0.     0.     0.     1.     0.     0.
 220.  *     0.     0.     1.     1.     2.     1.     1.     1.     0.     0.     0.     0.
1.    1.     0.     0.     0.     0.     0.     0.
 230.  *     0.     0.     0.     0.     1.     1.     1.     2.     0.     0.     0.     0.
1.    1.     0.     0.     0.     0.     0.     0.
 240.  *     0.     0.     0.     0.     0.     2.     1.     2.     0.     0.     0.     0.
2.    1.     0.     0.     0.     0.     0.     0.
 250.  *     0.     0.     0.     0.     0.     2.     2.     2.     1.     0.     0.     0.
2.    1.     0.     0.     0.     0.     0.     0.
 260.  *     0.     0.     0.     0.     0.     2.     2.     1.     1.     0.     0.     1.
2.    2.     0.     0.     0.     0.     0.     0.
 270.  *     0.     0.     0.     0.     0.     2.     1.     1.     1.     0.     0.     1.
2.    2.     0.     0.     0.     0.     0.     0.
 280.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     0.     1.
1.    2.     0.     0.     0.     0.     0.     0.
 290.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     0.     1.
1.    2.     0.     0.     0.     0.     0.     0.
 300.  *     0.     0.     0.     0.     0.     1.     1.     2.     1.     1.     0.     1.
1.    2.     0.     0.     0.     0.     0.     0.
 310.  *     0.     0.     0.     0.     0.     2.     1.     1.     1.     0.     0.     1.
1.    2.     1.     0.     0.     0.     0.     0.
 320.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     1.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 330.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     1.     1.
1.    2.     1.     0.     0.     0.     0.     0.
 340.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     1.     1.
2.    2.     1.     0.     0.     0.     0.     0.
 350.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     1.     1.
2.    2.     2.     0.     0.     0.     0.     0.
 360.  *     0.     0.     0.     0.     0.     1.     2.     2.     1.     1.     1.     1.
2.    2.     2.     0.     0.     0.     0.     0.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *     1.     1.     3.     3.     3.     2.     2.     2.     1.     1.     1.     1.
3.    2.     3.     2.     2.     3.     2.     1.
 DEGR. *    50     70     50     50     50     30     30     30     20     10     10    340
30    20     30     50     50     40     60     50

♀
                                PAGE  7
      JOB: Winsor School                                          RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
10.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
20.	0.	0.	0.	0.	1.	2.	2.	2.	3.	2.
30.	0.	0.	1.	2.	2.	2.	2.	2.	3.	2.
40.	0.	1.	3.	3.	3.	2.	1.	2.	2.	2.
50.	1.	1.	3.	3.	4.	1.	1.	1.	1.	1.
60.	1.	1.	3.	3.	3.	0.	0.	0.	1.	0.
70.	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
80.	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
90.	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
100.	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
110.	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
120.	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
130.	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
140.	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
150.	1.	1.	2.	2.	1.	0.	0.	0.	1.	0.
160.	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
170.	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
180.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
190.	0.	1.	2.	3.	2.	0.	0.	0.	0.	0.
200.	0.	0.	2.	3.	2.	0.	0.	0.	0.	0.
210.	0.	0.	2.	2.	2.	0.	1.	1.	1.	0.
220.	0.	0.	1.	2.	2.	1.	1.	1.	1.	1.
230.	0.	0.	0.	1.	1.	1.	1.	2.	2.	1.
240.	0.	0.	0.	0.	0.	1.	2.	2.	2.	1.
250.	0.	0.	0.	0.	0.	2.	1.	1.	2.	2.
260.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
270.	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
280.	0.	0.	0.	0.	0.	1.	2.	2.	1.	2.
290.	0.	0.	0.	0.	0.	1.	1.	2.	1.	2.
300.	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
310.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
320.	0.	0.	0.	0.	0.	1.	2.	1.	2.	2.
330.	0.	0.	0.	0.	0.	1.	2.	1.	2.	2.
340.	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
350.	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
360.	0.	0.	0.	0.	0.	1.	2.	2.	2.	2.
MAX	1.	1.	3.	3.	3.	2.	2.	2.	3.	2.
DEGR.	70	70	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 3. ug/m**3 OCCURRED AT RECEPTOR REC45.

```
♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                           PAGE  1

      JOB: Winsor School                                                RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:38

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG       0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG       0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG       0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG       0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG       0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG       0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG       0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG       0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG       0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG       0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG       0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG       0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG       0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG       0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG       0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG       0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG       0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG       0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
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120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                     RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:38

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                 *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:38

       1. River/Long EB L     *      90        64       3.0       200        1600
 0.04     1        3
       2. River/Long EB TR    *      90        54       3.0       632        1600
 0.04     1        3
       3. River/Long NB LTR   *      90        62       3.0       413        1600
 0.04     1        3
       4. River/Long WB LTR   *      90        54       3.0      1600        1600
 0.04     1        3
       5. River/Long SB LT    *      90        62       3.0       315        1600
 0.04     1        3
       6. River/Long SB R     *      90        64       3.0       195        1600
 0.04     1        3
       7. Brook/Deacon EB TR  *     120        65       3.0       673        1600
 0.04     1        3
       8. Brook/Deacon NB LR  *     120        90       3.0       210        1600
 0.04     1        3
       9. Brook/Deacon WB LT  *     120       110       3.0      1211        1600
 0.04     1        3
      10. Brook/Deacon SB LR  *     120        90       3.0       138        1600
 0.04     1        3
      11. Brook/Joslin EB L   *     120        70       3.0        70        1600
 0.04     1        3
      12. Brook/Joslin EB T   *     120        70       3.0       703        1600
 0.04     1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1251        1600
 0.04     1        3
      14. Binney/Long EB LTR  *     120        90       3.0       185        1600
 0.04     1        3
      15. Binney/Long NB LTR  *     120        49       3.0       615        1600
 0.04     1        3
      16. Binney/Long WB LTR  *     120        90       3.0       220        1600
 0.04     1        3
      17. Binney/Long SB LTR  *     120        49       3.0       528        1600
 0.04     1        3
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     18. River/Short EB TR   *      93        43        3.0        758        1600
0.04      1        3
     19. River/Short NB LR   *      93        73        3.0        160        1600
0.04      1        3
     20. River/Short WB LTR  *      93        43        3.0       1474        1600
0.04      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        768        1600
0.04      1        3
     22. Brook/Long NB LT    *     120        78        3.0        446        1600
0.04      1        3
     23. Brook/Long NB R     *     120        66        3.0        269        1600
0.04      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       1158        1600
0.04      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        513        1600
0.04      1        3
     26. Beth/Brook EB TTR   *     120        73        3.0       1068        1600
0.04      1        3
     27. Beth/Brook NB LR    *     120        82        3.0        370        1600
0.04      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        948        1600
0.04      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. Brook/Long NE1	-189.0	-227.6	6.0
2. Brook/Long NE2	-130.2	-274.2	6.0
3. Brook/Long NE3	-71.4	-320.7	6.0
4. Brook/Long NE4	-24.6	-262.1	6.0
5. Brook/Long NE5	22.3	-203.5	6.0
6. Brook/Long SE1	107.1	-254.3	6.0
7. Brook/Long SE2	60.3	-312.9	6.0
8. Brook/Long SE3	13.5	-371.5	6.0
9. Brook/Long SE4	72.9	-417.2	6.0
10. Brook/Long SE5	132.4	-463.0	6.0
11. Brook/Long SW1	72.2	-540.4	6.0
12. Brook/Long SW2	12.8	-494.6	6.0
13. Brook/Long SW3	-46.6	-448.9	6.0
14. Brook/Long SW4	-91.9	-508.7	6.0
15. Brook/Long SW5	-137.1	-568.6	6.0
16. Brook/Long NW1	-207.2	-498.8	6.0
17. Brook/Long NW2	-162.0	-439.0	6.0
18. Brook/Long NW3	-116.8	-379.1	6.0
19. Brook/Long NW4	-175.6	-332.6	6.0
20. Brook/Long NW5	-234.4	-286.1	6.0
21. Binney/Long NE1	137.4	-466.5	6.0
22. Binney/Long NE2	197.4	-511.4	6.0
23. Binney/Long NE3	257.5	-556.3	6.0

♀

PAGE 4

JOB: Winsor School RUN: 2015BD

DATE : 1/14/11
TIME : 10:54:38

RECEPTOR LOCATIONS

* COORDINATES (FT) *

```
   RECEPTOR               *      X           Y           Z         *
 -------------------------*------------------------------------*
 24. Binney/Long NE4      *       302.7     -496.6        6.0   *
 25. Binney/Long NE5      *       348.0     -436.8        6.0   *
 26. Binney/Long SE1      *       399.8     -491.0        6.0   *
 27. Binney/Long SE2      *       354.5     -550.8        6.0   *
 28. Binney/Long SE3      *       309.3     -610.6        6.0   *
 29. Binney/Long SE4      *       369.6     -655.0        6.0   *
 30. Binney/Long SE5      *       429.3     -698.9        6.0   *
 31. Binney/Long SW1      *       394.1     -778.9        6.0   *
 32. Binney/Long SW2      *       340.7     -725.6        6.0   *
 33. Binney/Long SW3      *       280.3     -681.2        6.0   *
 34. Binney/Long SW4      *       234.3     -740.4        6.0   *
 35. Binney/Long SW5      *       188.6     -799.2        6.0   *
 36. Binney/Long NW1      *       131.4     -771.8        6.0   *
 37. Binney/Long NW2      *       177.5     -712.5        6.0   *
 38. Binney/Long NW3      *       223.5     -653.3        6.0   *
 39. Binney/Long NW4      *       163.4     -608.4        6.0   *
 40. Binney/Long NW5      *       103.4     -563.4        6.0   *
 41. Beth/Brook SE1       *       463.4      227.5        6.0   *
 42. Beth/Brook SE2       *       417.4      168.2        6.0   *
 43. Beth/Brook SE3       *       371.4      109.0        6.0   *
 44. Beth/Brook SE4       *       433.6       67.0        6.0   *
 45. Beth/Brook SE5       *       495.7       25.1        6.0   *
 46. Beth/Brook SW1       *       454.8      -29.4        6.0   *
 47. Beth/Brook SW2       *       392.6       12.6        6.0   *
 48. Beth/Brook SW3       *       330.5       54.6        6.0   *
 49. Beth/Brook SW4       *       285.5       -5.5        6.0   *
 50. Beth/Brook SW5       *       240.6      -65.5        6.0   *
 51. Beth/Brook N1        *       191.3       12.2        6.0   *
 52. Beth/Brook N2        *       242.0       79.9        6.0   *
 53. Beth/Brook N3        *       287.0      140.0        6.0   *
 54. Beth/Brook N4        *       332.7      199.4        6.0   *
 55. Beth/Brook N5        *       372.8      251.0        6.0   *
♀
                              PAGE  5
   JOB: Winsor School                                         RUN: 2015BD


    MODEL RESULTS
    -------------

    REMARKS : In search of the angle corresponding to
              the maximum concentration, only the first
              angle, of the angles with same maximum
              concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.    3.    2.    0.    0.    1.    1.    0.
  10.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
3.    2.    2.    0.    0.    1.    1.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
3.    3.    2.    1.    1.    1.    1.    0.
  30.  *    0.    0.    1.    1.    1.    2.    2.    2.    1.    1.    1.    2.
```

```
3.    2.    2.    2.    2.    2.    1.    0.
  40.  *    0.    1.    3.    2.    2.    1.    1.    1.    0.    0.    1.    1.
2.    2.    2.    3.    3.    3.    2.    1.
  50.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    3.    4.    4.    2.    1.
  60.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    3.    3.    3.    2.    1.
  70.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    3.    3.    3.    2.    1.
  80.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    3.    3.    3.    2.    1.
  90.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    3.    2.    2.
 100.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    3.    3.    2.    2.
 110.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    2.    3.    2.    2.
 120.  *    1.    1.    3.    2.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    1.    2.    3.    2.    2.
 130.  *    2.    2.    3.    3.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 140.  *    2.    2.    3.    3.    2.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 150.  *    2.    2.    3.    3.    3.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 160.  *    2.    2.    3.    3.    3.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 170.  *    1.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 180.  *    1.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    0.
 190.  *    1.    2.    3.    3.    4.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    0.
 200.  *    1.    2.    3.    4.    4.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    3.    1.    0.
 210.  *    1.    1.    3.    3.    3.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    0.    0.
 220.  *    0.    1.    2.    2.    2.    2.    2.    2.    1.    0.    0.    0.
1.    1.    1.    2.    1.    1.    0.    0.
 230.  *    0.    1.    1.    1.    1.    2.    2.    2.    2.    1.    0.    0.
2.    1.    1.    1.    1.    1.    0.    0.
 240.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 280.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    2.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    2.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
2.    2.    1.    0.    0.    1.    0.    0.
 320.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    2.    1.    0.    0.    1.    0.    0.
 330.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    2.    1.    0.    0.    1.    1.    0.
 340.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    2.    1.    0.    0.    1.    1.    0.
```

```
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    2.    2.
2.    2.    2.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.    3.    2.    0.    0.    1.    1.    0.

------*----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    4.    4.    2.    2.    2.    2.    2.    2.    2.
3.    3.    2.    3.    4.    4.    2.    2.
 DEGR. *  140   170    50   200   200   230   240   230   270   290   320    10
20    20    20    50    50    50    80   110

♀
                                PAGE  6
      JOB: Winsor School                                                RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*----------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  10.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  20.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    0.    1.    1.    1.
  30.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    1.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    1.
 130.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 140.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    0.    0.    0.    0.
 150.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 160.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 170.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 180.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 190.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 200.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 210.  *    0.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    0.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    0.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 280.  *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 300.  *    2.    1.    1.    1.    0.    0.    1.    2.    1.    1.    1.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 310.  *    1.    1.    1.    0.    0.    0.    1.    1.    1.    1.    1.    1.
2.    1.    0.    0.    1.    1.    1.    1.
 320.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    1.    1.
2.    1.    0.    0.    1.    1.    1.    1.
 330.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    1.    1.    1.    1.    2.
 340.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    1.    1.    1.    1.    1.    1.
 350.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
 360.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.

------*------------------------------------------------------------------------
------------------------------------------
 MAX   *    2.    2.    1.    1.    1.    1.    1.    2.    1.    1.    1.    1.
2.    1.    1.    1.    1.    1.    1.    2.
 DEGR. *  290   290   290   190   290   290   270   300   280   290   310   320
320    10    10   330   330   320   320   330
```

♀

PAGE 7

JOB: Winsor School   RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
          the maximum concentration, only the first

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
		CONCENTRATION (ug/m**3)														
0.	*	1.	2.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
10.	*	1.	2.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
20.	*	1.	2.	2.	1.	0.	0.	1.	2.	2.	3.	0.	0.	0.	0.	0.
30.	*	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
40.	*	1.	1.	1.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.	2.
50.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	3.	3.	3.	2.	2.
60.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	3.	2.	2.
70.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
80.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
90.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
100.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
110.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
130.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
140.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
150.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
160.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
170.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
180.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
190.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	3.
200.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
210.	*	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	3.	3.
220.	*	2.	2.	2.	1.	0.	0.	0.	2.	2.	1.	2.	2.	2.	2.	2.
230.	*	2.	2.	2.	1.	1.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
240.	*	2.	2.	2.	1.	1.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
250.	*	2.	2.	2.	1.	1.	1.	1.	2.	2.	1.	0.	0.			

```
0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 280.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 300.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 310.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 320.  *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 330.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 340.  *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 350.  *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    2.    2.    2.    2.    1.    1.    1.    2.    2.    3.    3.    3.
3.    3.    3.
 DEGR. *  230   230   230   270   270   350   340    20    20    20    50   200
50   200   200

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC18.
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♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                            PAGE  1

      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:44

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
-----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -853.0      36.1 *       70.
202. AG      0. 100.0   1.0 10.0 0.54   3.6
       2. River/Long EB TR    *   -811.5      92.4    -844.7       5.2 *       93.
201. AG      0. 100.0   1.0 20.0 0.57   4.7
       3. River/Long NB LTR   *   -736.1     146.0    -675.6     111.1 *       70.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -662.8     390.5 *      239.
34. AG      0. 100.0   1.0 30.0 0.97  12.2
       5. River/Long SB LT    *   -860.9     156.1    -973.8     176.9 *      115.
280. AG      0. 100.0   1.0 10.0 0.77   5.8
       6. River/Long SB R     *   -867.3     144.3    -934.5     156.3 *       68.
280. AG      0. 100.0   1.0 10.0 0.52   3.5
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -422.9    -861.5 *      119.
218. AG      0. 100.0   1.0 20.0 0.50   6.1
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -265.3    -781.5 *       52.
128. AG      0. 100.0   1.0 20.0 0.32   2.6
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3377.1    4062.5 *     6033.
38. AG      0. 100.0   1.0 20.0 9.17 306.5
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.9    -681.6 *       34.
308. AG      0. 100.0   1.0 20.0 0.21   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -298.5    -693.8 *       27.
220. AG      0. 100.0   1.0 10.0 0.12   1.4
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1167.4   -1798.1 *     1432.
219. AG      0. 100.0   1.0 10.0 1.17  72.8
      13. Brook/Joslin WB TTR *   -284.6    -643.4      93.5    -152.9 *      619.
38. AG      0. 100.0   1.0 20.0 1.04  31.5
      14. Binney/Long EB LTR  *    253.1    -669.4     192.4    -737.2 *       91.
222. AG      0. 100.0   1.0 10.0 0.56   4.6
      15. Binney/Long NB LTR  *    297.7    -636.1     364.8    -683.7 *       82.
125. AG      0. 100.0   1.0 20.0 0.35   4.2
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     159.9    -559.0 *       71.
305. AG      0. 100.0   1.0 20.0 0.30   3.6
      18. River/Short EB TR   *   -145.9     542.6    -226.6     504.9 *       89.
245. AG      0. 100.0   1.0 20.0 0.49   4.5
      19. River/Short NB LR   *    -92.0     525.1     -64.3     509.2 *       32.
```

```
120. AG      0. 100.0   1.0 20.0 0.31   1.6
      20. River/Short WB LTR  *   -103.9     601.6      -5.4     661.8 *     115.
59. AG      0. 100.0   1.0 30.0 0.63   5.9
      21. Brook/Long EB LTR   *    -61.3    -419.3    -131.2    -503.2 *     109.
220. AG      0. 100.0   1.0 30.0 0.52   5.5
      22. Brook/Long NB LT    *     -4.2    -401.4      71.0    -459.7 *      95.
128. AG      0. 100.0   1.0 20.0 0.45   4.8
      23. Brook/Long NB R     *      7.7    -389.5      84.9    -448.4 *      97.
127. AG      0. 100.0   1.0 10.0 0.41   4.9
      24. Brook/Long WB TTR   *    -34.0    -333.3      54.4    -225.6 *     139.
39. AG      0. 100.0   1.0 30.0 0.59   7.1
      25. Brook/Long SB LTR   *    -99.3    -348.1    -185.6    -281.2 *     109.
308. AG      0. 100.0   1.0 20.0 0.52   5.5
      26. Beth/Brook EB TTR   *    319.8      83.8     155.1    -148.6 *     285.
215. AG      0. 100.0   1.0 20.0 0.96  14.5
      27. Beth/Brook NB LR    *    367.5      87.0     521.5     -14.7 *     185.
123. AG      0. 100.0   1.0 10.0 0.84   9.4
      28. Beth/Brook WB LT    *    344.4     154.4    2846.9    3250.5 *    3981.
39. AG      0. 100.0   1.0 20.0 3.98 202.2
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    995.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2271.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1243.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1799.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    138.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   2014.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    245.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2067.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    110.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   1954.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1242.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2333.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    703.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2508.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1238.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                        RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:44

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1163.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    405.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2091.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2171.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2306.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    160.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2318.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                          RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:44

       1. River/Long EB L     *      90        64        3.0       200         1600
 0.04      1        3
       2. River/Long EB TR    *      90        54        3.0       632         1600
 0.04      1        3
       3. River/Long NB LTR   *      90        62        3.0       413         1600
 0.04      1        3
       4. River/Long WB LTR   *      90        54        3.0      1600         1600
 0.04      1        3
       5. River/Long SB LT    *      90        62        3.0       315         1600
 0.04      1        3
       6. River/Long SB R     *      90        64        3.0       195         1600
 0.04      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       673         1600
 0.04      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       210         1600
 0.04      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1211         1600
 0.04      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       138         1600
 0.04      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        70         1600
 0.04      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       703         1600
 0.04      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1251         1600
 0.04      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       185         1600
 0.04      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       615         1600
 0.04      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220         1600
 0.04      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       528         1600
 0.04      1        3
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      18. River/Short EB TR   *      93        43       3.0        758         1600
 0.04      1        3
      19. River/Short NB LR   *      93        73       3.0        160         1600
 0.04      1        3
      20. River/Short WB LTR  *      93        43       3.0       1474         1600
 0.04      1        3
      21. Brook/Long EB LTR   *     120        78       3.0        768         1600
 0.04      1        3
      22. Brook/Long NB LT    *     120        78       3.0        446         1600
 0.04      1        3
      23. Brook/Long NB R     *     120        66       3.0        269         1600
 0.04      1        3
      24. Brook/Long WB TTR   *     120        66       3.0       1158         1600
 0.04      1        3
      25. Brook/Long SB LTR   *     120        78       3.0        513         1600
 0.04      1        3
      26. Beth/Brook EB TTR   *     120        73       3.0       1068         1600
 0.04      1        3
      27. Beth/Brook NB LR    *     120        82       3.0        370         1600
 0.04      1        3
      28. Beth/Brook WB LT    *     120       106       3.0        948         1600
 0.04      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z        *
     -------------------------*-------------------------------------*
      1. Short/River SE1      *        64.2       619.5        6.0   *
      2. Short/River SE2      *         0.6       579.2        6.0   *
      3. Short/River SE3      *       -62.3       538.9        6.0   *
      4. Short/River SE4      *        -2.3       494.0        6.0   *
      5. Short/River SE5      *        57.8       449.1        6.0   *
      6. Short/River SW1      *        -6.6       409.9        6.0   *
      7. Short/River SW2      *       -66.7       454.8        6.0   *
      8. Short/River SW3      *      -126.8       499.6        6.0   *
      9. Short/River SW4      *      -194.5       467.4        6.0   *
     10. Short/River SW5      *      -262.2       435.2        6.0   *
     11. Short/River N1       *      -300.6       529.9        6.0   *
     12. Short/River N2       *      -232.9       562.1        6.0   *
     13. Short/River N3       *      -165.2       594.3        6.0   *
     14. Short/River N4       *      -101.9       634.6        6.0   *
     15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                         PAGE  4
      JOB: Winsor School                                         RUN: 2015BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*---------------------------------------------------------------------------------
-------------
   0.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  10.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  20.  *    0.    1.    1.    0.    0.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.
  30.  *    0.    0.    1.    0.    0.    0.    0.    2.    2.    2.    0.    0.
0.    0.    0.
  40.  *    0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    0.
0.    0.    0.
  50.  *    0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    1.
1.    0.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
2.    1.    0.
  80.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    2.    2.
2.    2.    0.
  90.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
1.    2.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
2.    2.    1.
 130.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    2.
 140.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
2.    2.    2.
 150.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    2.
 160.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 170.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 180.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 190.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 200.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 210.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 220.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 230.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 240.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.
 250.  *    1.    2.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 260.  *    1.    2.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 270.  *    1.    2.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 280.  *    1.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 290.  *    1.    1.    1.    1.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 300.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    0.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 320.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 330.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 340.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 350.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 360.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    1.    2.    2.    1.    1.    1.    1.    2.    2.    2.    2.    2.
2.    2.    2.
 DEGR. *  250   250   260   280   300   330   340    20    30    50    80    80
80   100   210

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

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♀                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:51

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1512.3    -173.2 *    1311.
330. AG      0. 100.0   1.0 20.0 1.20  66.6
       2. Brook/River EB LTR  *   -862.4   -1425.5    -918.1   -1498.1 *      91.
217. AG      0. 100.0   1.0 30.0 0.54   4.6
       3. Brook/River NB LTR  *   -792.2   -1400.7    -720.4   -1622.6 *     233.
162. AG      0. 100.0   1.0 20.0 0.91  11.8
       4. Brook/River WB LTTR *   -798.5   -1299.5    -697.3   -1176.0 *     160.
39. AG      0. 100.0   1.0 30.0 0.69   8.1
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1877.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   1974.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2543.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1328.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2015BD


      DATE :  1/14/11
      TIME : 10:54:51

       1. Brook/River SB LTR  *     120       79       3.0      1148       1600
 0.04      1        3
       2. Brook/River EB LTR  *     120       89       3.0       566       1600
 0.04      1        3
       3. Brook/River NB LTR  *     120       79       3.0       877       1600
 0.04      1        3
       4. Brook/River WB LTTR *     120       69       3.0      1270       1600
 0.04      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
```

1.	Brook/River NE1	*	-898.9	-1152.8	6.0 *
2.	Brook/River NE2	*	-861.9	-1218.1	6.0 *
3.	Brook/River NE3	*	-825.0	-1283.3	6.0 *
4.	Brook/River NE4	*	-777.9	-1224.9	6.0 *
5.	Brook/River NE5	*	-730.9	-1166.5	6.0 *
6.	Brook/River SE1	*	-674.0	-1252.1	6.0 *
7.	Brook/River SE2	*	-721.0	-1310.5	6.0 *
8.	Brook/River SE3	*	-768.0	-1368.9	6.0 *
9.	Brook/River SE4	*	-747.5	-1441.0	6.0 *
10.	Brook/River SE5	*	-726.9	-1513.2	6.0 *
11.	Brook/River SW1	*	-793.3	-1594.1	6.0 *
12.	Brook/River SW2	*	-813.8	-1521.9	6.0 *
13.	Brook/River SW3	*	-834.4	-1449.8	6.0 *
14.	Brook/River SW4	*	-878.9	-1510.2	6.0 *
15.	Brook/River SW5	*	-923.5	-1570.5	6.0 *
16.	Brook/River NW1	*	-973.6	-1473.4	6.0 *
17.	Brook/River NW2	*	-929.0	-1413.0	6.0 *
18.	Brook/River NW3	*	-884.5	-1352.7	6.0 *
19.	Brook/River NW4	*	-921.5	-1287.4	6.0 *
20.	Brook/River NW5	*	-958.5	-1222.2	6.0 *

♀
PAGE 3
JOB: Winsor School RUN: 2015BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	0.	1.	2.	2.	1.
10. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	2.	2.	2.	2.	2.	0.	1.	1.	1.	1.
20. *	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	2.	2.	3.	2.	2.	1.	1.	1.	1.	1.
30. *	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	2.	2.	3.	2.	2.	1.	1.	1.	1.	1.
40. *	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.	1.	2.	2.	2.	2.	1.	1.	2.	1.	1.
50. *	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.
60. *	0.	0.	2.	1.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.
70. *	0.	0.	2.	2.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.
80. *	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	2.	2.	2.	2.	2.
90. *	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	2.	2.	2.	2.	2.

```
 100.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.    1.    0.    2.    2.    2.    2.    2.
 110.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    2.
2.    1.    0.    1.    2.    2.    2.    2.
 120.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 130.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 140.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 150.  *    1.    2.    2.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    1.    1.    2.    2.    2.
 160.  *    2.    2.    2.    2.    1.    0.    0.    1.    0.    0.    0.    0.
1.    0.    0.    1.    1.    1.    1.    1.
 170.  *    2.    2.    3.    2.    2.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
 180.  *    2.    2.    3.    2.    2.    0.    0.    2.    2.    1.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 190.  *    2.    2.    2.    3.    2.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 200.  *    1.    2.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 220.  *    1.    1.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    1.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    1.    0.    0.    0.    0.    0.
 280.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    1.    0.    0.    0.    0.    0.
 290.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 310.  *    1.    1.    2.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 320.  *    1.    1.    1.    0.    0.    1.    2.    2.    3.    3.    1.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 330.  *    0.    1.    1.    0.    0.    1.    1.    2.    2.    2.    1.    1.
2.    1.    1.    0.    0.    1.    1.    1.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    2.
2.    2.    1.    0.    0.    2.    1.    1.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    0.    2.    2.    1.
 360.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    1.    2.    2.    1.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    3.    2.    2.    2.    2.    3.    3.    2.    2.
3.    2.    2.    2.    2.    2.    2.    2.
 DEGR. *  170   170   170   190   190   250   230   260   320   320     0    10
20    10    20    70    50    50   100   130

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC4 .
```

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:54:56

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24428.6   43919.1 *      85.
37. AG      0. 100.0   1.0 30.0 0.44   4.3
       2. Boylston WB Q2      *  24434.8   43765.0   24541.7   43803.3 *     114.
70. AG      0. 100.0   1.0 40.0 0.76   5.8
       3. Park Dr NB Q3       *  24314.0   43650.6   24348.6   43602.0 *      60.
145. AG      0. 100.0   1.0 40.0 0.31   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23384.9   42534.0 *    1403.
218. AG      0. 100.0   1.0 40.0 1.33  71.3
       5. Brookline Q27       *  24079.2   43421.1   23862.1   43121.2 *     370.
216. AG      0. 100.0   1.0 20.0 1.01  18.8
       6. Fenway Q28          *  24063.7   43526.1   22982.9   44810.9 *    1679.
320. AG      0. 100.0   1.0 20.0 1.17  85.3
       7. Brookline Q29       *  24121.4   43515.8   24223.3   43643.0 *     163.
39. AG      0. 100.0   1.0 20.0 0.80   8.3
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2953.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1451.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1148.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1369.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2379.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2517.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    928.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1676.   0.0   1.0 42.0
♀
                            PAGE  2
      JOB: Winsor School                                          RUN: 2015 BD


      DATE :  1/14/11
      TIME : 10:54:56
```

```
      1. Brookline SB Q1     *     100        53        3.0        882        1600
0.04     1        3
      2. Boylston WB Q2      *     100        73        3.0       1071        1600
0.04     1        3
      3. Park Dr NB Q3       *     100        53        3.0        825        1600
0.04     1        3
      4. Brookline EB Q4     *     100        74        3.0       1794        1600
0.04     1        3
      5. Brookline Q27       *     100        54        3.0       1323        1600
0.04     1        3
      6. Fenway Q28          *     100        46        3.0       1830        1600
0.04     1        3
      7. Brookline Q29       *     100        54        3.0       1056        1600
0.04     1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0
39. R61	24161.0	43638.3	6.0

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (ug/m**3)

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	3.	2.	2.	0.	0.	0.	1.	1.	1.	0.	0.	0.	3.	3.	2.	1.	2.	1.	1.	0.
10.	2.	3.	2.	0.	0.	0.	1.	1.	1.	0.	1.	0.	3.	4.	2.	1.	2.	1.	1.	0.
20.	2.	3.	2.	0.	0.	0.	1.	1.	1.	0.	1.	1.	3.	4.	2.	1.	2.	1.	1.	0.
30.	2.	2.	1.	1.	1.	0.	1.	1.	1.	1.	1.	1.	3.	3.	2.	1.	1.	1.	1.	0.
40.	2.	2.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	1.	1.	0.	0.
50.	2.	1.	1.	2.	2.	1.	2.	2.	1.	2.	3.	3.	1.	2.	1.	0.	1.	0.	0.	0.
60.	1.	1.	1.	3.	3.	2.	2.	3.	2.	2.	3.	3.	1.	1.	1.	0.	0.	0.	0.	0.
70.	1.	0.	0.	3.	3.	2.	3.	3.	2.	2.	3.	3.	0.	1.	1.	0.	0.	0.	1.	1.
80.	0.	0.	0.	3.	3.	2.	2.	3.	2.	2.	3.	2.	0.	1.	1.	0.	0.	0.	1.	1.
90.	0.	0.	0.	3.	2.	2.	2.	3.	2.	2.	2.	2.	0.	1.	1.	0.	0.	0.	2.	1.
100.	0.	0.	0.	2.	2.	2.	2.	3.	2.	2.	2.	2.	0.	1.	1.	0.	0.	0.	2.	1.
110.	0.	0.	0.	2.	2.	2.	2.	3.	2.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
120.	0.	0.	0.	2.	2.	2.	2.	2.	2.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
130.	0.	0.	0.	2.	2.	2.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
140.	0.	0.	0.	2.	2.	2.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
150.	0.	0.	0.	2.	2.	2.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
160.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
170.	0.	0.	0.	2.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
180.	0.	0.	0.	3.	3.	2.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
190.	0.	0.	0.	3.	3.	2.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
200.	0.	0.	0.	3.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
210.	1.	1.	0.	2.	2.	2.	0.	1.	0.	1.	2.	2.	1.	1.	0.	0.	1.	0.	2.	2.

```
 220.  *    2.    2.    1.    2.    2.    1.    0.    0.    0.    0.    1.    1.
1.    2.    0.    1.    1.    1.    3.    3.
 230.  *    3.    3.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    3.    3.
 240.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    2.    2.
 250.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    3.    2.    2.    2.    1.    2.    1.
 260.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    1.    1.    1.
 270.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    1.    1.
 280.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    1.    1.
 290.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    1.    1.
 300.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    1.    1.
 310.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    2.    1.    1.
 320.  *    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    1.    1.    1.
 330.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    2.    2.    1.    1.    1.
 340.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    1.    0.
 350.  *    2.    3.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.
 360.  *    3.    2.    2.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.

------*------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    2.    3.    3.    2.    3.    3.    2.    2.    3.    3.
3.    4.    2.    2.    2.    2.    3.    3.
 DEGR. *  250   250   250    70    70    70    70    60    60    60    60    50
10    20    10   310   310   290   230   230
```

♀
PAGE 4
JOB: Winsor School RUN: 2015 BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

```
 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*------------------------------------------------------------------------------
-------------------------------------
   0.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.
  10.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
```

```
1.    3.    2.    2.    1.    1.    0.
  20.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    3.    2.    2.    0.    0.    0.
  30.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    3.    2.    2.    1.    0.    1.
  40.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    1.
1.    2.    2.    2.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    2.    1.
0.    2.    1.    2.    2.    1.    2.
  60.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    0.
0.    2.    1.    1.    2.    1.    3.
  70.  *    1.    0.    0.    0.    1.    2.    1.    1.    1.    1.    1.    0.
0.    2.    1.    1.    3.    2.    3.
  80.  *    1.    1.    0.    1.    1.    2.    2.    1.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    3.
  90.  *    1.    1.    0.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    3.
 100.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 110.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 120.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 130.  *    1.    1.    1.    1.    1.    2.    1.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 140.  *    1.    1.    1.    1.    2.    2.    1.    2.    0.    0.    0.    0.
0.    1.    0.    0.    2.    2.    2.
 150.  *    1.    1.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 160.  *    1.    2.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 170.  *    1.    2.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 180.  *    1.    1.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    2.    2.
 190.  *    1.    2.    1.    2.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    3.    2.    3.
 200.  *    2.    2.    1.    2.    2.    3.    3.    2.    1.    0.    0.    1.
1.    0.    0.    0.    3.    1.    3.
 210.  *    2.    2.    2.    1.    2.    3.    3.    2.    2.    1.    0.    1.
1.    1.    0.    1.    2.    1.    2.
 220.  *    2.    3.    2.    1.    1.    2.    2.    2.    2.    1.    1.    1.
1.    2.    1.    2.    2.    1.    1.
 230.  *    3.    2.    2.    1.    1.    1.    1.    1.    3.    2.    1.    2.
1.    3.    1.    3.    1.    0.    1.
 240.  *    2.    2.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 250.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 260.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 270.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    3.    2.    3.    0.    0.    0.
 280.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    2.    3.    0.    0.    0.
 290.  *    1.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 300.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 310.  *    0.    1.    1.    0.    0.    1.    0.    0.    2.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 320.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    1.    2.    0.    0.    0.
```

```
 330.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 340.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 350.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 360.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    1.    1.    0.

------*-------------------------------------------------------------------------------
-------------------------------------
 MAX   *    3.    3.    2.    2.    2.    3.    3.    2.    3.    2.    2.    2.
2.    3.    2.    3.    3.    2.    3.
 DEGR. *  230   220   220   190   200   200   210   200   240   250   260   280
290   230     0   240    80   100    80

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC14.
```

2020 No-Build Condition

Carbon Monoxide (CO)

```
♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 9

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG     89. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *      99.
201. AG    150. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *      69.
120. AG    173. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *     319.
34. AG    225. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *     122.
280. AG     86. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG     89. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *     125.
218. AG    136. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG    188. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG    230. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG    188. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *      29.
220. AG     73. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *    1818.
219. AG     73. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *     776.
38. AG    146. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG     94. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *      84.
125. AG    102. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG    188. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *      72.
305. AG    102. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *      93.
245. AG    116. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *      45.
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120. AG    197. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    163. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG    207. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG    163. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG    150. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG    221. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                            PAGE  2
      JOB: Winsor School                                    RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 9

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                           *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   8.6   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 9

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*---------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       210       1600
46.71      1        3
       2. River/Long EB TR    *      90       54       3.0       670       1600
46.71      1        3
       3. River/Long NB LT    *      90       62       3.0       410       1600
46.71      1        3
       4. River/Long WB LTR   *      90       54       3.0      1665       1600
46.71      1        3
       5. River/Long SB LT    *      90       62       3.0       325       1600
46.71      1        3
       6. River/Long SB R     *      90       64       3.0       200       1600
46.71      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       705       1600
46.71      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       215       1600
46.71      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1200       1600
46.71      1        3
      10. Brook/Deacon SB LR  *     120       90       3.0       135       1600
46.71      1        3
      11. Brook/Joslin EB L   *     120       70       3.0        75       1600
46.71      1        3
      12. Brook/Joslin EB T   *     120       70       3.0       740       1600
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46.71      1        3
      13. Brook/Joslin WB TTR *     120       70       3.0      1280       1600
46.71      1        3
      14. Binney/Long EB LTR  *     120       90       3.0       205       1600
46.71      1        3
      15. Binney/Long NB LTR  *     120       49       3.0       630       1600
46.71      1        3
      16. Binney/Long WB LTR  *     120       90       3.0       220       1600
46.71      1        3
      17. Binney/Long SB LTR  *     120       49       3.0       540       1600
46.71      1        3
      18. River/Short EB TR   *      93       43       3.0       790       1600
46.71      1        3
      19. River/Short NB LR   *      93       73       3.0       225       1600
46.71      1        3
      20. River/Short WB LTR  *      93       43       3.0      1505       1600
46.71      1        3
      21. Brook/Long EB LTR   *     120       78       3.0       800       1600
46.71      1        3
      22. Brook/Long NB LT    *     120       78       3.0       460       1600
46.71      1        3
      23. Brook/Long NB R     *     120       66       3.0       285       1600
46.71      1        3
      24. Brook/Long WB TTR   *     120       66       3.0      1190       1600
46.71      1        3
      25. Brook/Long SB LTR   *     120       78       3.0       485       1600
46.71      1        3
      26. Beth/Brook EB TTR   *     120       72       3.0      1100       1600
46.71      1        3
      27. Beth/Brook NB LR    *     120       83       3.0       370       1600
46.71      1        3
      28. Beth/Brook WB LT    *     120      106       3.0       975       1600
46.71      1        3

       RECEPTOR LOCATIONS
       ------------------
                           *          COORDINATES (FT)          *
         RECEPTOR          *       X          Y          Z      *
     ------------------------*----------------------------------*
      1. River/Long NE1      *      -978.8      215.4       6.0   *
      2. River/Long NE2      *      -904.3      201.6       6.0   *
      3. River/Long NE3      *      -831.3      188.0       6.0   *
      4. River/Long NE4      *      -788.0      251.3       6.0   *
      5. River/Long NE5      *      -746.6      311.8       6.0   *
      6. River/Long SE1      *      -639.8      294.3       6.0   *
      7. River/Long SE2      *      -682.2      232.4       6.0   *
      8. River/Long SE3      *      -724.5      170.5       6.0   *
      9. River/Long SE4      *      -662.6      128.1       6.0   *
     10. River/Long SE5      *      -600.7       85.8       6.0   *
     11. River/Long SW1      *      -638.2       21.8       6.0   *
     12. River/Long SW2      *      -700.1       64.1       6.0   *
     13. River/Long SW3      *      -762.0      106.5       6.0   *
     14. River/Long SW4      *      -790.3       37.0       6.0   *
     15. River/Long SW5      *      -818.6      -32.5       6.0   *
     16. River/Long NW1      *      -921.8      -26.0       6.0   *
     17. River/Long NW2      *      -893.5       43.5       6.0   *
♀
                             PAGE  4
      JOB: Winsor School                                 RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 9
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0
24. Brook/Deacon NE4	-300.6	-612.7	6.0
25. Brook/Deacon NE5	-251.9	-555.6	6.0
26. Brook/Deacon SE1	-193.8	-620.1	6.0
27. Brook/Deacon SE2	-242.5	-677.1	6.0
28. Brook/Deacon SE3	-291.2	-734.2	6.0
29. Brook/Deacon SE4	-233.1	-781.7	6.0
30. Brook/Deacon SE5	-175.1	-829.1	6.0
31. Brook/Deacon SW1	-206.3	-868.2	6.0
32. Brook/Deacon SW2	-264.4	-820.7	6.0
33. Brook/Deacon SW3	-322.4	-773.2	6.0
34. Brook/Deacon SW4	-368.8	-832.1	6.0
35. Brook/Deacon SW5	-415.3	-891.0	6.0
36. Brook/Deacon NW1	-482.8	-857.2	6.0
37. Brook/Deacon NW2	-436.4	-798.3	6.0
38. Brook/Deacon NW3	-390.0	-739.4	6.0
39. Brook/Deacon NW4	-449.1	-693.2	6.0
40. Brook/Deacon NW5	-508.2	-647.0	6.0
41. Brook/Joselin NE1	-419.5	-521.3	6.0
42. Brook/Joselin NE2	-359.7	-566.6	6.0
43. Brook/Joselin NE3	-299.9	-611.8	6.0
44. Brook/Joselin NE4	-251.2	-554.8	6.0
45. Brook/Joselin NE5	-204.9	-495.8	6.0
46. Brook/Joselin S1	-160.7	-581.3	6.0
47. Brook/Joselin S2	-209.4	-638.3	6.0
48. Brook/Joselin S3	-260.3	-693.4	6.0
49. Brook/Joselin S4	-305.6	-753.2	6.0
50. Brook/Joselin S5	-352.7	-811.6	6.0

(COORDINATES (FT))

♀
PAGE 5
JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

0. * 0.0 0.0 0.0 0.0 0.0 0.5 1.0 1.0 0.4 0.2 0.4 1.0

```
1.2   1.0   1.2   0.1   0.4   0.5   0.5   0.3
  10.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.8   1.0   0.2   0.0   0.3   0.8
1.2   1.0   1.2   0.2   0.3   0.4   0.5   0.3
  20.  *   0.0   0.0   0.2   0.2   0.1   0.2   0.6   0.9   0.0   0.0   0.2   0.6
1.1   0.9   0.8   0.6   0.6   0.7   0.5   0.3
  30.  *   0.0   0.0   0.6   0.6   0.4   0.1   0.4   0.5   0.0   0.0   0.2   0.3
0.8   0.6   0.5   1.1   0.9   1.1   0.6   0.3
  40.  *   0.0   0.1   1.2   1.0   0.8   0.0   0.1   0.2   0.0   0.1   0.2   0.3
0.6   0.3   0.4   1.3   1.1   1.4   0.9   0.5
  50.  *   0.1   0.4   1.5   1.4   1.2   0.2   0.2   0.3   0.3   0.2   0.4   0.4
0.6   0.4   0.3   1.4   1.4   1.5   1.2   0.7
  60.  *   0.5   0.7   1.6   1.6   1.4   0.3   0.3   0.2   0.2   0.2   0.3   0.4
0.7   0.4   0.3   1.1   1.4   1.4   1.4   1.1
  70.  *   0.6   0.8   1.3   1.6   1.6   0.3   0.2   0.2   0.2   0.2   0.3   0.4
0.7   0.3   0.2   0.9   1.3   1.3   1.1   1.1
  80.  *   0.6   0.8   1.2   1.5   1.4   0.2   0.2   0.2   0.2   0.2   0.2   0.4
0.6   0.2   0.1   0.8   1.1   1.2   1.1   1.1
  90.  *   0.5   0.6   0.9   1.4   1.3   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.5   0.2   0.1   0.6   0.9   0.9   1.0   0.9
 100.  *   0.7   0.6   1.0   1.2   1.2   0.1   0.1   0.1   0.1   0.1   0.2   0.3
0.4   0.1   0.1   0.6   0.9   1.0   0.6   0.5
 110.  *   0.7   0.9   1.0   1.2   1.2   0.1   0.1   0.1   0.1   0.1   0.1   0.2
0.3   0.1   0.1   0.7   1.0   1.0   0.6   0.5
 120.  *   0.9   1.0   1.1   1.2   1.2   0.1   0.1   0.3   0.1   0.2   0.1   0.2
0.2   0.1   0.1   0.7   0.9   1.0   0.6   0.4
 130.  *   0.9   0.8   1.2   1.4   1.2   0.1   0.1   0.4   0.2   0.1   0.1   0.1
0.2   0.1   0.1   0.5   0.7   0.9   0.5   0.3
 140.  *   0.9   0.8   0.9   1.4   1.2   0.1   0.1   0.6   0.3   0.2   0.1   0.1
0.1   0.0   0.0   0.5   0.7   0.9   0.4   0.2
 150.  *   0.6   0.9   0.8   1.3   1.1   0.1   0.1   0.6   0.3   0.2   0.1   0.0
0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.2
 160.  *   0.6   0.9   1.1   1.5   1.5   0.0   0.1   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.4   0.6   1.0   0.3   0.1
 170.  *   0.5   0.9   1.2   1.4   1.5   0.0   0.2   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.3   0.6   0.9   0.2   0.0
 180.  *   0.4   0.7   1.2   1.6   1.7   0.1   0.2   0.6   0.2   0.1   0.0   0.0
0.0   0.0   0.0   0.2   0.5   0.9   0.1   0.0
 190.  *   0.3   0.6   1.2   1.5   1.7   0.2   0.2   0.6   0.2   0.2   0.0   0.0
0.1   0.1   0.0   0.2   0.4   0.6   0.0   0.0
 200.  *   0.3   0.5   0.8   1.2   1.6   0.4   0.4   0.7   0.3   0.2   0.0   0.0
0.3   0.2   0.1   0.1   0.3   0.4   0.0   0.0
 210.  *   0.3   0.5   0.5   0.8   1.0   0.5   0.7   0.9   0.4   0.2   0.0   0.0
0.6   0.4   0.2   0.0   0.1   0.2   0.0   0.0
 220.  *   0.3   0.4   0.6   0.4   0.5   0.7   0.9   1.0   0.6   0.2   0.0   0.1
0.9   0.7   0.4   0.0   0.0   0.1   0.0   0.0
 230.  *   0.3   0.4   0.5   0.3   0.3   1.1   0.8   1.0   0.8   0.3   0.0   0.2
1.1   0.7   0.4   0.0   0.0   0.0   0.0   0.0
 240.  *   0.2   0.4   0.6   0.3   0.1   1.1   0.9   1.0   1.0   0.3   0.1   0.4
1.0   0.9   0.5   0.0   0.0   0.0   0.0   0.0
 250.  *   0.2   0.4   0.6   0.1   0.1   1.0   1.0   1.0   1.1   0.4   0.2   0.4
0.9   0.9   0.6   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.4   0.6   0.1   0.0   1.1   1.0   1.0   1.2   0.5   0.2   0.4
0.9   0.9   0.6   0.0   0.0   0.0   0.0   0.0
 270.  *   0.1   0.2   0.4   0.0   0.0   1.0   0.9   1.1   1.3   0.7   0.3   0.4
0.8   0.9   0.5   0.0   0.0   0.1   0.0   0.0
 280.  *   0.0   0.1   0.2   0.0   0.0   0.8   0.8   0.9   1.1   0.7   0.3   0.5
0.8   0.9   0.5   0.0   0.0   0.2   0.1   0.0
 290.  *   0.0   0.0   0.1   0.0   0.0   0.8   0.8   0.8   0.9   0.7   0.4   0.6
1.1   1.1   0.6   0.0   0.0   0.4   0.2   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.8   0.8   0.7   0.7   0.4   0.5
1.0   1.1   0.6   0.0   0.0   0.6   0.3   0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.8   0.8   0.5   0.5   0.5   0.5
0.9   1.1   0.7   0.0   0.1   0.6   0.3   0.1
```

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 320.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.8   0.8   0.5   0.4   0.7   0.7
0.8   1.2   0.9   0.0   0.1   0.7   0.4   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.7   0.9   0.9   0.5   0.4   0.6   0.7
1.0   1.1   1.0   0.1   0.1   0.6   0.4   0.2
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.0   1.0   0.5   0.4   0.7   0.9
1.1   1.0   1.2   0.1   0.3   0.5   0.4   0.2
 350.  *   0.0   0.0   0.0   0.0   0.0   0.6   1.0   1.0   0.5   0.2   0.7   0.9
1.1   1.0   1.2   0.1   0.4   0.5   0.4   0.3
 360.  *   0.0   0.0   0.0   0.0   0.0   0.5   1.0   1.0   0.4   0.2   0.4   1.0
1.2   1.0   1.2   0.1   0.4   0.5   0.5   0.3

------*----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   0.9   1.0   1.6   1.6   1.7   1.1   1.0   1.1   1.3   0.7   0.7   1.0
1.2   1.2   1.2   1.4   1.4   1.5   1.4   1.1
 DEGR. *  120   120    60   180   180   230     0   270   270   290   320     0
0   320     0    50    50    50    60    60

♀
                                  PAGE  6
      JOB: Winsor School                                          RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*----------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.5   0.5   0.4   0.8
1.1   1.3   1.1   0.0   0.0   0.3   0.0   0.0
  10.  *   0.0   0.0   0.0   0.0   0.1   1.2   1.3   1.4   0.7   0.6   0.5   0.9
1.3   1.4   1.3   0.0   0.1   0.2   0.0   0.0
  20.  *   0.0   0.0   0.1   0.2   0.6   1.4   1.5   1.5   0.9   0.6   0.6   1.0
1.8   1.6   1.7   0.1   0.2   0.4   0.0   0.0
  30.  *   0.1   0.2   0.9   1.1   1.4   1.4   1.7   1.6   0.8   0.5   0.5   0.8
1.9   1.9   1.7   0.6   1.0   1.2   0.3   0.1
  40.  *   0.3   0.6   1.8   2.0   2.2   1.2   1.0   1.3   0.4   0.2   0.2   0.3
1.7   1.2   1.3   1.2   1.4   1.7   0.7   0.3
  50.  *   0.6   0.9   2.1   2.3   2.7   0.6   0.5   0.4   0.0   0.0   0.0   0.0
0.7   0.3   0.5   1.4   1.4   1.8   1.1   0.6
  60.  *   0.5   0.8   2.0   2.1   2.3   0.1   0.1   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   1.0   1.1   1.0   1.0   0.6
  70.  *   0.6   0.8   1.5   2.0   1.9   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.8   0.9   0.8   0.7   0.6
  80.  *   0.5   0.7   1.3   1.7   1.7   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.8   1.0   0.6   0.7   0.4
  90.  *   0.4   0.6   1.2   1.5   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.7   0.9   0.7   0.6   0.5
 100.  *   0.4   0.6   1.1   1.5   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.5   0.8   0.7   0.6   0.4
 110.  *   0.5   0.4   1.1   1.4   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

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0.3   0.0   0.0   0.4   0.8   0.7   0.5   0.4
 120.  *   0.3   0.4   1.1   1.4   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.2   0.8   0.8   0.4   0.3
 130.  *   0.2   0.5   1.1   1.5   1.4   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.7   0.4   0.2
 140.  *   0.3   0.5   1.1   1.3   1.4   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.3
 150.  *   0.2   0.4   1.0   1.3   1.4   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.2
 160.  *   0.2   0.5   0.8   1.4   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.1
 170.  *   0.2   0.6   0.8   1.6   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.7   0.8   0.4   0.1
 180.  *   0.1   0.5   0.8   1.5   1.9   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.6   0.9   0.2   0.0
 190.  *   0.1   0.3   0.8   1.5   2.2   0.0   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.4   0.9   0.2   0.1
 200.  *   0.1   0.2   0.7   1.5   2.2   0.0   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.4   0.7   0.1   0.1
 210.  *   0.0   0.1   0.7   1.1   1.8   0.3   0.4   0.8   0.0   0.0   0.0   0.0
0.3   0.1   0.1   0.1   0.3   0.6   0.1   0.0
 220.  *   0.0   0.0   0.3   0.7   1.1   0.6   0.7   1.1   0.1   0.0   0.0   0.1
0.7   0.4   0.2   0.1   0.2   0.3   0.0   0.0
 230.  *   0.0   0.0   0.2   0.3   0.4   0.9   0.9   1.2   0.1   0.1   0.1   0.1
1.1   0.8   0.3   0.0   0.0   0.1   0.0   0.0
 240.  *   0.0   0.0   0.2   0.1   0.1   0.9   0.8   1.2   0.3   0.1   0.1   0.1
1.2   0.9   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.0   0.0   0.2   0.0   0.0   0.9   0.8   0.9   0.6   0.1   0.1   0.3
1.2   0.9   0.2   0.0   0.0   0.0   0.0   0.0
 260.  *   0.0   0.0   0.2   0.0   0.0   1.1   1.1   0.7   0.7   0.3   0.1   0.4
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.0   0.1   0.0   0.0   1.0   0.8   0.7   0.8   0.2   0.2   0.4
1.0   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.7   0.8   0.9   0.3   0.2   0.4
0.9   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 290.  *   0.0   0.0   0.0   0.0   0.0   0.9   0.7   0.7   0.9   0.2   0.3   0.4
0.8   1.0   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.9   0.8   0.8   0.6   0.3   0.3   0.4
0.8   1.0   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   0.7   0.6   0.3   0.2   0.5
0.8   1.0   0.4   0.0   0.0   0.0   0.0   0.0
 320.  *   0.1   0.0   0.0   0.1   0.0   0.9   0.9   0.8   0.5   0.3   0.4   0.6
0.8   1.0   0.6   0.0   0.0   0.0   0.0   0.0
 330.  *   0.1   0.1   0.0   0.0   0.0   0.8   0.9   0.9   0.5   0.4   0.3   0.9
0.8   1.0   0.7   0.0   0.0   0.1   0.1   0.1
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.0   0.9   0.5   0.4   0.4   0.9
0.8   1.1   0.9   0.0   0.0   0.2   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.2   1.3   0.5   0.4   0.4   0.9
0.9   1.2   1.0   0.0   0.0   0.2   0.0   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.5   0.5   0.4   0.8
1.1   1.3   1.1   0.0   0.0   0.3   0.0   0.0

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   0.6   0.9   2.1   2.3   2.7   1.4   1.7   1.6   0.9   0.6   0.6   1.0
1.9   1.9   1.7   1.4   1.4   1.8   1.1   0.6
 DEGR. *   50    50    50    50    50    20    30    30    20    10    20    20
30    30    20    50    40    50    50    50

♀
                              PAGE  7
     JOB: Winsor School                                        RUN: 2020NB
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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
	CONCENTRATION (PPM)									
0.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.2	1.4	1.2
10.	0.0	0.0	0.0	0.1	0.3	1.5	1.0	1.2	1.6	1.5
20.	0.0	0.0	0.2	0.6	0.6	1.6	1.4	1.5	1.7	1.4
30.	0.1	0.2	1.1	1.4	1.5	1.8	1.5	1.5	2.1	1.9
40.	0.3	0.6	2.0	2.2	2.3	1.2	1.2	1.3	1.6	1.4
50.	0.6	1.0	2.3	2.7	2.8	0.7	0.6	0.6	0.8	0.4
60.	0.4	0.9	2.1	2.4	2.7	0.2	0.1	0.0	0.5	0.2
70.	0.6	0.8	2.0	1.9	2.5	0.1	0.0	0.0	0.5	0.1
80.	0.6	0.8	1.7	1.7	2.3	0.0	0.0	0.0	0.6	0.1
90.	0.5	0.6	1.5	1.4	2.0	0.1	0.0	0.0	0.7	0.0
100.	0.4	0.7	1.5	1.3	1.7	0.0	0.0	0.0	0.9	0.0
110.	0.4	0.6	1.4	1.3	1.5	0.0	0.0	0.0	1.1	0.0
120.	0.4	0.6	1.4	1.3	1.3	0.0	0.0	0.0	1.2	0.0
130.	0.5	0.6	1.5	1.4	1.1	0.0	0.0	0.0	1.1	0.0
140.	0.4	0.5	1.4	1.4	1.2	0.0	0.0	0.0	1.0	0.0
150.	0.2	0.5	1.3	1.4	1.1	0.0	0.0	0.0	0.8	0.0
160.	0.3	0.5	1.3	1.6	1.2	0.0	0.0	0.0	0.6	0.0
170.	0.1	0.4	1.6	1.7	1.4	0.0	0.0	0.1	0.4	0.0
180.	0.1	0.6	1.6	1.9	1.5	0.0	0.0	0.1	0.4	0.0
190.	0.2	0.5	1.5	2.2	1.6	0.0	0.0	0.2	0.3	0.0
200.	0.1	0.3	1.5	2.2	2.1	0.0	0.1	0.2	0.2	0.0
210.	0.0	0.1	1.1	1.8	1.8	0.3	0.3	0.5	0.6	0.2
220.	0.0	0.0	0.7	1.2	1.2	0.5	0.7	0.7	0.9	0.5
230.	0.0	0.0	0.3	0.4	0.4	0.8	0.9	1.0	1.2	0.8
240.	0.0	0.0	0.1	0.1	0.1	0.9	0.8	1.0	1.2	1.0
250.	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.8	1.2	1.1
260.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	1.0	1.1
270.	0.0	0.0	0.0	0.0	0.0	0.8	0.9	1.0	0.9	1.1
280.	0.0	0.0	0.0	0.0	0.0	0.7	0.9	1.0	0.7	1.1
290.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	0.8	1.0
300.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.9	1.0
310.	0.0	0.0	0.0	0.0	0.1	0.5	1.0	0.9	0.8	1.0
320.	0.1	0.1	0.1	0.0	0.0	0.5	1.0	0.8	0.9	1.0
330.	0.1	0.0	0.0	0.0	0.0	0.5	0.9	0.8	1.0	1.1
340.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	1.0	1.1
350.	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.1	1.2	1.2
360.	0.0	0.0	0.0	0.0	0.1	1.3	1.1	1.2	1.4	1.2
MAX	0.6	1.0	2.3	2.7	2.8	1.8	1.5	1.5	2.1	1.9
DEGR.	50	50	50	50	50	30	30	20	30	30

THE HIGHEST CONCENTRATION OF 2.80 PPM OCCURRED AT RECEPTOR REC45.

```
♀                                 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                 PAGE  1

      JOB: Winsor School                                                RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:18

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG     89. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *       99.
201. AG    150. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *       69.
120. AG    173. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *      319.
34. AG    225. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *      122.
280. AG     86. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG     89. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *      125.
218. AG    136. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG    188. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG    230. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG    188. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *       29.
220. AG     73. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *     1818.
219. AG     73. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *      776.
38. AG    146. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG     94. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *       84.
125. AG    102. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    188. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *       72.
305. AG    102. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *       93.
245. AG    116. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *       45.
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120. AG    197. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    163. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG    207. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG    163. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG    150. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG    221. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                        PAGE  2
      JOB: Winsor School                                    RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:18

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                    *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   8.6   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:18

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*------------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64        3.0       210        1600
46.71      1        3
       2. River/Long EB TR    *      90       54        3.0       670        1600
46.71      1        3
       3. River/Long NB LT    *      90       62        3.0       410        1600
46.71      1        3
       4. River/Long WB LTR   *      90       54        3.0      1665        1600
46.71      1        3
       5. River/Long SB LT    *      90       62        3.0       325        1600
46.71      1        3
       6. River/Long SB R     *      90       64        3.0       200        1600
46.71      1        3
       7. Brook/Deacon EB TR  *     120       65        3.0       705        1600
46.71      1        3
       8. Brook/Deacon NB LR  *     120       90        3.0       215        1600
46.71      1        3
       9. Brook/Deacon WB LT  *     120      110        3.0      1200        1600
46.71      1        3
      10. Brook/Deacon SB LR  *     120       90        3.0       135        1600
46.71      1        3
      11. Brook/Joslin EB L   *     120       70        3.0        75        1600
46.71      1        3
      12. Brook/Joslin EB T   *     120       70        3.0       740        1600
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46.71      1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1280        1600
46.71      1        3
      14. Binney/Long EB LTR  *     120        90       3.0       205        1600
46.71      1        3
      15. Binney/Long NB LTR  *     120        49       3.0       630        1600
46.71      1        3
      16. Binney/Long WB LTR  *     120        90       3.0       220        1600
46.71      1        3
      17. Binney/Long SB LTR  *     120        49       3.0       540        1600
46.71      1        3
      18. River/Short EB TR   *      93        43       3.0       790        1600
46.71      1        3
      19. River/Short NB LR   *      93        73       3.0       225        1600
46.71      1        3
      20. River/Short WB LTR  *      93        43       3.0      1505        1600
46.71      1        3
      21. Brook/Long EB LTR   *     120        78       3.0       800        1600
46.71      1        3
      22. Brook/Long NB LT    *     120        78       3.0       460        1600
46.71      1        3
      23. Brook/Long NB R     *     120        66       3.0       285        1600
46.71      1        3
      24. Brook/Long WB TTR   *     120        66       3.0      1190        1600
46.71      1        3
      25. Brook/Long SB LTR   *     120        78       3.0       485        1600
46.71      1        3
      26. Beth/Brook EB TTR   *     120        72       3.0      1100        1600
46.71      1        3
      27. Beth/Brook NB LR    *     120        83       3.0       370        1600
46.71      1        3
      28. Beth/Brook WB LT    *     120       106       3.0       975        1600
46.71      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)          *
         RECEPTOR             *      X           Y          Z       *
     -------------------------*-------------------------------------*
      1. Brook/Long NE1       *      -189.0      -227.6       6.0   *
      2. Brook/Long NE2       *      -130.2      -274.2       6.0   *
      3. Brook/Long NE3       *       -71.4      -320.7       6.0   *
      4. Brook/Long NE4       *       -24.6      -262.1       6.0   *
      5. Brook/Long NE5       *        22.3      -203.5       6.0   *
      6. Brook/Long SE1       *       107.1      -254.3       6.0   *
      7. Brook/Long SE2       *        60.3      -312.9       6.0   *
      8. Brook/Long SE3       *        13.5      -371.5       6.0   *
      9. Brook/Long SE4       *        72.9      -417.2       6.0   *
     10. Brook/Long SE5       *       132.4      -463.0       6.0   *
     11. Brook/Long SW1       *        72.2      -540.4       6.0   *
     12. Brook/Long SW2       *        12.8      -494.6       6.0   *
     13. Brook/Long SW3       *       -46.6      -448.9       6.0   *
     14. Brook/Long SW4       *       -91.9      -508.7       6.0   *
     15. Brook/Long SW5       *      -137.1      -568.6       6.0   *
     16. Brook/Long NW1       *      -207.2      -498.8       6.0   *
     17. Brook/Long NW2       *      -162.0      -439.0       6.0   *
♀
                  PAGE  4
      JOB: Winsor School                                 RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:18
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RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
18. Brook/Long NW3	-116.8	-379.1	6.0
19. Brook/Long NW4	-175.6	-332.6	6.0
20. Brook/Long NW5	-234.4	-286.1	6.0
21. Binney/Long NE1	137.4	-466.5	6.0
22. Binney/Long NE2	197.4	-511.4	6.0
23. Binney/Long NE3	257.5	-556.3	6.0
24. Binney/Long NE4	302.7	-496.6	6.0
25. Binney/Long NE5	348.0	-436.8	6.0
26. Binney/Long SE1	399.8	-491.0	6.0
27. Binney/Long SE2	354.5	-550.8	6.0
28. Binney/Long SE3	309.3	-610.6	6.0
29. Binney/Long SE4	369.6	-655.0	6.0
30. Binney/Long SE5	429.3	-698.9	6.0
31. Binney/Long SW1	394.1	-778.9	6.0
32. Binney/Long SW2	340.7	-725.6	6.0
33. Binney/Long SW3	280.3	-681.2	6.0
34. Binney/Long SW4	234.3	-740.4	6.0
35. Binney/Long SW5	188.6	-799.2	6.0
36. Binney/Long NW1	131.4	-771.8	6.0
37. Binney/Long NW2	177.5	-712.5	6.0
38. Binney/Long NW3	223.5	-653.3	6.0
39. Binney/Long NW4	163.4	-608.4	6.0
40. Binney/Long NW5	103.4	-563.4	6.0
41. Beth/Brook SE1	463.4	227.5	6.0
42. Beth/Brook SE2	417.4	168.2	6.0
43. Beth/Brook SE3	371.4	109.0	6.0
44. Beth/Brook SE4	433.6	67.0	6.0
45. Beth/Brook SE5	495.7	25.1	6.0
46. Beth/Brook SW1	454.8	-29.4	6.0
47. Beth/Brook SW2	392.6	12.6	6.0
48. Beth/Brook SW3	330.5	54.6	6.0
49. Beth/Brook SW4	285.5	-5.5	6.0
50. Beth/Brook SW5	240.6	-65.5	6.0
51. Beth/Brook N1	191.3	12.2	6.0
52. Beth/Brook N2	242.0	79.9	6.0
53. Beth/Brook N3	287.0	140.0	6.0
54. Beth/Brook N4	332.7	199.4	6.0
55. Beth/Brook N5	372.8	251.0	6.0

COORDINATES (FT)

♀

PAGE 5

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)
(DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12

```
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-------------------------------------------------------------------------------------
------------------------------------------
    0.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.3   1.5   0.6   0.4   1.1   1.3
1.4   1.8   1.4   0.1   0.2   0.6   0.4   0.1
   10.  *   0.0   0.0   0.0   0.0   0.0   1.1   1.2   1.5   0.7   0.4   0.9   1.2
1.7   2.1   1.7   0.3   0.2   0.5   0.5   0.1
   20.  *   0.0   0.0   0.2   0.2   0.2   1.1   1.4   1.7   0.8   0.5   0.8   1.6
1.7   1.8   1.8   0.6   0.5   0.6   0.5   0.1
   30.  *   0.1   0.2   1.1   1.1   1.0   1.3   1.3   1.5   0.7   0.4   0.7   1.4
2.0   1.8   1.7   1.5   1.5   1.6   0.7   0.3
   40.  *   0.3   0.5   2.3   2.2   2.0   1.0   0.9   1.1   0.3   0.2   0.5   0.9
1.6   1.3   1.3   2.3   2.7   2.6   1.1   0.5
   50.  *   0.6   0.8   2.7   2.4   2.5   0.3   0.4   0.3   0.0   0.0   0.2   0.6
0.8   0.6   0.7   2.8   3.0   3.1   1.4   0.7
   60.  *   0.6   0.9   2.8   2.6   2.2   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.2   2.7   2.7   2.6   1.5   0.8
   70.  *   0.6   0.9   2.4   2.4   1.9   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.1   2.4   2.2   2.4   1.5   0.8
   80.  *   0.4   1.0   2.3   2.4   1.8   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.6   0.2   0.1   2.2   2.3   2.2   1.6   1.0
   90.  *   0.6   1.0   2.1   2.2   1.7   0.0   0.0   0.0   0.0   0.0   0.3   0.4
0.5   0.2   0.1   2.0   2.2   2.1   1.4   1.1
  100.  *   0.6   1.0   1.9   2.1   1.7   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.4   0.2   0.0   1.7   2.1   2.0   1.5   1.2
  110.  *   0.6   1.0   1.8   2.1   1.7   0.0   0.0   0.0   0.0   0.0   0.4   0.3
0.5   0.1   0.0   1.4   2.1   2.1   1.4   1.2
  120.  *   0.8   1.0   1.8   2.1   1.8   0.0   0.0   0.1   0.1   0.2   0.4   0.2
0.3   0.0   0.0   1.3   1.8   2.0   1.5   1.1
  130.  *   0.8   1.2   2.0   2.0   1.9   0.0   0.0   0.5   0.2   0.3   0.1   0.2
0.2   0.0   0.0   1.1   1.8   1.8   1.0   0.8
  140.  *   1.1   1.4   2.1   2.3   2.0   0.0   0.1   0.8   0.3   0.3   0.0   0.0
0.0   0.0   0.0   1.1   1.8   1.8   1.0   0.5
  150.  *   1.1   1.2   2.0   2.4   2.1   0.0   0.1   0.9   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.1   1.8   1.8   0.9   0.5
  160.  *   1.0   1.4   2.0   2.4   2.3   0.1   0.2   0.8   0.6   0.3   0.0   0.0
0.0   0.0   0.0   1.2   1.8   1.9   0.9   0.5
  170.  *   1.0   1.5   2.4   2.5   2.5   0.1   0.2   0.9   0.6   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.6   2.0   0.8   0.4
  180.  *   0.7   1.4   2.3   2.6   2.6   0.1   0.3   0.7   0.7   0.3   0.0   0.0
0.0   0.0   0.0   1.5   1.6   2.1   0.7   0.4
  190.  *   0.6   1.3   2.6   2.7   2.9   0.2   0.4   0.7   0.8   0.2   0.0   0.0
0.0   0.0   0.0   1.6   1.7   2.0   0.7   0.3
  200.  *   0.3   1.1   2.5   2.8   3.0   0.2   0.4   0.6   0.8   0.3   0.0   0.0
0.0   0.0   0.0   2.1   1.8   2.1   0.5   0.1
  210.  *   0.2   0.9   2.4   2.2   2.4   0.6   0.6   0.7   0.8   0.2   0.0   0.0
0.2   0.0   0.1   1.8   1.8   2.0   0.3   0.0
  220.  *   0.2   0.6   1.5   1.5   1.8   0.9   1.0   1.3   0.8   0.3   0.0   0.1
0.9   0.5   0.4   1.2   1.3   1.2   0.0   0.0
  230.  *   0.2   0.5   0.9   0.8   0.8   1.4   1.4   1.6   1.0   0.3   0.1   0.2
1.3   0.9   0.6   0.4   0.4   0.4   0.0   0.0
  240.  *   0.1   0.5   0.6   0.3   0.3   1.6   1.5   1.6   1.4   0.4   0.1   0.3
1.6   0.9   0.8   0.1   0.1   0.1   0.0   0.0
  250.  *   0.1   0.4   0.5   0.2   0.2   1.6   1.4   1.4   1.5   0.7   0.2   0.5
1.6   0.9   0.9   0.0   0.0   0.0   0.0   0.0
  260.  *   0.1   0.5   0.6   0.2   0.0   1.7   1.5   1.4   1.5   0.9   0.3   0.5
1.6   1.1   0.7   0.0   0.0   0.0   0.0   0.0
  270.  *   0.0   0.4   0.6   0.2   0.0   1.5   1.5   1.5   1.4   1.0   0.4   0.7
1.6   1.1   0.7   0.0   0.0   0.0   0.0   0.0
  280.  *   0.0   0.2   0.6   0.1   0.0   1.3   1.5   1.4   1.4   1.0   0.4   0.8
1.6   1.3   0.6   0.0   0.0   0.0   0.0   0.0
  290.  *   0.1   0.3   0.5   0.0   0.0   1.3   1.4   1.4   1.2   1.2   0.5   0.8
```

```
1.5   1.4   0.5   0.0   0.0   0.0   0.0   0.1
 300.  *   0.1   0.1   0.3   0.0   0.0   1.2   1.4   1.4   1.2   1.1   0.7   0.8
1.5   1.5   0.5   0.0   0.0   0.1   0.1   0.1
 310.  *   0.1   0.1   0.1   0.0   0.0   1.1   1.4   1.3   0.9   0.8   0.7   1.0
1.8   1.5   0.5   0.1   0.0   0.2   0.1   0.0
 320.  *   0.1   0.0   0.0   0.0   0.0   1.0   1.4   1.3   0.8   0.5   1.1   1.1
1.8   1.5   0.6   0.0   0.0   0.4   0.1   0.2
 330.  *   0.0   0.0   0.0   0.0   0.0   1.0   1.3   1.3   0.8   0.5   0.8   1.0
1.8   1.6   0.7   0.0   0.0   0.6   0.2   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.3   1.3   0.8   0.6   1.1   1.1
1.5   1.7   0.9   0.0   0.1   0.6   0.3   0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.4   1.5   0.7   0.4   1.2   1.1
1.6   1.7   1.1   0.0   0.2   0.7   0.5   0.1
 360.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.3   1.5   0.6   0.4   1.1   1.3
1.4   1.8   1.4   0.1   0.2   0.6   0.4   0.1

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.1   1.5   2.8   2.8   3.0   1.7   1.5   1.7   1.5   1.2   1.2   1.6
2.0   2.1   1.8   2.8   3.0   3.1   1.6   1.2
 DEGR. *  140   170    60   200   200   260   240    20   250   290   350    20
30    10    20    50    50    50    80   100

♀
                               PAGE  6
      JOB: Winsor School                                        RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*-----------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.5   0.3   0.3   0.2   0.3   0.2   0.3   0.4   0.2   0.2   0.2   0.6
0.7   0.4   0.4   0.3   0.3   0.5   0.5   0.6
  10.  *   0.4   0.5   0.2   0.2   0.2   0.2   0.2   0.5   0.2   0.2   0.2   0.6
0.7   0.6   0.5   0.2   0.5   0.5   0.8   0.8
  20.  *   0.5   0.3   0.2   0.2   0.2   0.2   0.2   0.4   0.2   0.2   0.2   0.5
0.7   0.6   0.5   0.3   0.3   0.5   0.8   0.6
  30.  *   0.4   0.3   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.4
0.6   0.4   0.5   0.3   0.4   0.6   0.7   0.6
  40.  *   0.2   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2
0.5   0.2   0.1   0.4   0.5   0.5   0.7   0.4
  50.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.1   0.3   0.3   0.4   0.5   0.2
  60.  *   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.0   0.3   0.3   0.4   0.6   0.2
  70.  *   0.0   0.0   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.3   0.5   0.4   0.6   0.3
  80.  *   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.5   0.4   0.5   0.5
```

```
  90.  *   0.0   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.0   0.4   0.4   0.4   0.5
 100.  *   0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.3   0.0   0.0   0.0   0.3   0.4   0.4   0.5
 110.  *   0.1   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.3   0.4   0.4   0.5
 120.  *   0.2   0.1   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.0   0.3   0.3   0.2   0.4
 130.  *   0.3   0.3   0.5   0.1   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.3   0.2   0.1   0.1
 140.  *   0.3   0.3   0.6   0.1   0.0   0.0   0.0   0.4   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.3   0.2   0.1   0.0
 150.  *   0.4   0.3   0.6   0.2   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0
 160.  *   0.4   0.5   0.5   0.4   0.0   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.2   0.3   0.1   0.0
 170.  *   0.3   0.4   0.4   0.6   0.0   0.0   0.0   0.6   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.1   0.3   0.0   0.0
 180.  *   0.3   0.4   0.5   0.6   0.2   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 190.  *   0.2   0.4   0.5   0.5   0.3   0.0   0.2   0.5   0.2   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0
 200.  *   0.2   0.4   0.3   0.5   0.3   0.1   0.2   0.4   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 210.  *   0.2   0.4   0.3   0.2   0.3   0.1   0.2   0.6   0.4   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
 220.  *   0.2   0.4   0.4   0.1   0.2   0.2   0.1   0.5   0.5   0.0   0.0   0.0
0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 230.  *   0.3   0.3   0.4   0.3   0.1   0.3   0.3   0.5   0.6   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 240.  *   0.4   0.3   0.4   0.3   0.1   0.3   0.4   0.4   0.6   0.0   0.0   0.0
0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0
 250.  *   0.5   0.3   0.4   0.1   0.3   0.3   0.4   0.3   0.7   0.0   0.0   0.0
0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.1
 260.  *   0.8   0.5   0.5   0.3   0.4   0.3   0.7   0.4   0.8   0.1   0.0   0.0
0.3   0.2   0.0   0.0   0.0   0.0   0.1   0.3
 270.  *   0.8   0.7   0.6   0.6   0.5   0.3   0.6   0.6   0.7   0.2   0.0   0.1
0.4   0.2   0.0   0.0   0.0   0.1   0.2   0.3
 280.  *   1.0   0.8   0.8   0.6   0.4   0.3   0.9   0.7   0.7   0.4   0.0   0.2
0.3   0.3   0.0   0.1   0.1   0.2   0.2   0.4
 290.  *   1.2   0.8   0.8   0.5   0.4   0.3   0.6   1.1   0.6   0.5   0.1   0.2
0.4   0.3   0.1   0.1   0.2   0.3   0.4   0.4
 300.  *   1.0   0.8   0.7   0.4   0.4   0.4   0.6   0.6   0.7   0.5   0.1   0.4
0.8   0.4   0.1   0.2   0.3   0.6   0.5   0.5
 310.  *   0.8   0.6   0.6   0.4   0.3   0.3   0.5   0.8   0.7   0.6   0.4   0.6
0.8   0.7   0.2   0.2   0.4   0.7   0.6   0.7
 320.  *   0.5   0.4   0.4   0.3   0.3   0.2   0.4   0.8   0.4   0.3   0.5   0.7
0.9   0.6   0.4   0.4   0.5   0.8   0.7   0.9
 330.  *   0.5   0.4   0.3   0.3   0.2   0.1   0.3   0.6   0.3   0.1   0.4   0.8
0.9   0.7   0.4   0.5   0.4   0.9   0.9   0.8
 340.  *   0.5   0.3   0.3   0.1   0.3   0.3   0.2   0.5   0.2   0.1   0.3   0.6
0.8   0.8   0.4   0.4   0.6   0.7   0.7   0.9
 350.  *   0.4   0.3   0.1   0.3   0.3   0.2   0.3   0.5   0.1   0.1   0.3   0.7
0.6   0.5   0.5   0.4   0.5   0.6   0.8   0.9
 360.  *   0.5   0.3   0.3   0.2   0.3   0.2   0.3   0.4   0.2   0.2   0.2   0.6
0.7   0.4   0.4   0.3   0.3   0.5   0.5   0.6

------*-------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.2   0.8   0.8   0.6   0.5   0.4   0.9   1.1   0.8   0.6   0.5   0.8
0.9   0.8   0.5   0.5   0.6   0.9   0.9   0.9
 DEGR. *  290   280   280   170   270   300   280   290   260   310   320   330
320   340    10   330   340   330   330   320
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♀

PAGE 7

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	0.9	1.3	1.4	0.6	0.4	0.6	0.8	1.3	1.4	1.5	0.0	0.0	0.0	0.0	0.0
10.	0.9	1.3	1.5	0.7	0.4	0.5	1.0	1.4	1.6	1.7	0.1	0.0	0.0	0.0	0.0
20.	1.1	1.4	1.5	0.6	0.4	0.5	0.9	1.6	1.8	2.0	0.3	0.3	0.3	0.3	0.3
30.	1.1	1.3	1.5	0.6	0.4	0.5	0.8	1.5	1.8	1.7	1.1	1.0	1.0	1.0	0.9
40.	0.7	0.8	0.9	0.4	0.2	0.3	0.6	1.0	1.1	1.1	2.1	2.0	1.9	1.8	1.7
50.	0.3	0.3	0.4	0.1	0.0	0.1	0.3	0.6	0.4	0.4	2.4	2.3	2.3	2.1	1.9
60.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	2.0	1.9	2.1	2.0	1.8
70.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	1.9	1.7	1.9	2.0	1.6
80.	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	1.7	1.5	1.6	1.8	1.6
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.5	1.7	1.3	1.7	1.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.4	1.6	1.2	1.6	1.5
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.4	1.5	1.3	1.6	1.6
120.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	1.4	1.4	1.4	1.5	1.5
130.	0.0	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.5	1.5
140.	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.5	1.7	1.5
150.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.7	1.6
160.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.4	1.4	1.7	1.7
170.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.5	1.6	1.6	1.6	1.8
180.	0.0	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.7	1.8	1.7	1.7	1.8
190.	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.8	1.8	2.1

200.	*	0.0	0.2	0.3	0.3	0.2	0.0	0.0	0.2	0.1	0.0	2.3	2.1	2.0	1.9	2.1
210.	*	0.5	0.7	0.8	0.3	0.2	0.0	0.0	0.6	0.6	0.5	2.2	2.1	1.8	1.9	2.0
220.	*	1.2	1.2	1.2	0.6	0.2	0.0	0.3	1.3	1.3	1.1	1.6	1.4	1.2	1.3	1.4
230.	*	1.5	1.4	1.8	0.9	0.5	0.3	0.6	1.7	1.8	1.5	0.7	0.6	0.5	0.5	0.6
240.	*	1.4	1.4	1.5	1.2	0.7	0.4	0.6	1.6	1.7	1.5	0.1	0.1	0.1	0.1	0.1
250.	*	1.4	1.1	1.3	1.0	0.7	0.5	0.7	1.6	1.6	1.5	0.0	0.0	0.0	0.0	0.0
260.	*	1.4	1.2	1.2	1.0	0.7	0.5	0.7	1.4	1.5	1.3	0.0	0.0	0.0	0.0	0.0
270.	*	1.2	1.1	0.9	0.8	0.8	0.5	0.7	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0
280.	*	1.2	1.1	0.9	0.9	0.8	0.5	0.7	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0
290.	*	1.1	1.2	0.8	0.6	0.7	0.4	0.7	1.2	1.2	1.3	0.0	0.0	0.0	0.0	0.0
300.	*	1.1	1.2	0.8	0.7	0.6	0.5	0.5	1.2	1.2	1.3	0.0	0.0	0.0	0.0	0.0
310.	*	1.0	1.2	0.8	0.5	0.6	0.6	0.7	1.2	1.2	1.3	0.0	0.0	0.0	0.1	0.1
320.	*	0.9	1.2	0.9	0.6	0.5	0.6	0.6	1.1	1.2	1.2	0.0	0.0	0.1	0.1	0.0
330.	*	0.8	1.2	1.0	0.7	0.5	0.7	0.6	1.2	1.2	1.2	0.0	0.1	0.0	0.0	0.0
340.	*	0.8	1.2	1.1	0.7	0.5	0.7	0.7	1.1	1.2	1.2	0.0	0.0	0.0	0.0	0.0
350.	*	0.9	1.3	1.3	0.6	0.5	0.6	0.9	1.2	1.3	1.4	0.0	0.0	0.0	0.0	0.0
360.	*	0.9	1.3	1.4	0.6	0.4	0.6	0.8	1.3	1.4	1.5	0.0	0.0	0.0	0.0	0.0
MAX	*	1.5	1.4	1.8	1.2	0.8	0.7	1.0	1.7	1.8	2.0	2.4	2.3	2.3	2.1	2.1
DEGR.	*	230	20	230	240	270	330	10	230	30	20	50	50	50	50	200

THE HIGHEST CONCENTRATION OF 3.10 PPM OCCURRED AT RECEPTOR REC18.

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2020NB

DATE : 1/13/11
TIME : 15:59:24

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. River/Long EB L	*	-827.1	101.1	-854.3	32.9	*	73.	202.	AG	89.	100.0	1.0	10.0	0.56	3.7
2. River/Long EB TR	*	-811.5	92.4	-846.7	0.0	*	99.	201.	AG	150.	100.0	1.0	20.0	0.61	5.0
3. River/Long NB LT	*	-736.1	146.0	-675.8	111.3	*	69.	120.	AG	173.	100.0	1.0	20.0	0.50	3.5
4. River/Long WB LTR	*	-795.7	191.2	-618.9	456.3	*	319.	34.	AG	225.	100.0	1.0	30.0	1.01	16.2
5. River/Long SB LT	*	-860.9	156.1	-980.5	178.2	*	122.	280.	AG	86.	100.0	1.0	10.0	0.80	6.2
6. River/Long SB R	*	-867.3	144.3	-936.2	156.6	*	70.	280.	AG	89.	100.0	1.0	10.0	0.54	3.6
7. Brook/Deacon EB TR	*	-349.1	-767.6	-426.4	-866.0	*	125.	218.	AG	136.	100.0	1.0	20.0	0.53	6.4
8. Brook/Deacon NB LR	*	-306.2	-749.9	-264.6	-782.1	*	53.	128.	AG	188.	100.0	1.0	20.0	0.32	2.7
9. Brook/Deacon WB LT	*	-338.4	-690.9	3343.1	4019.0	*	5978.	38.	AG	230.	100.0	1.0	20.0	9.09	303.7
10. Brook/Deacon SB LR	*	-380.1	-702.5	-406.1	-682.2	*	33.	308.	AG	188.	100.0	1.0	20.0	0.20	1.7
11. Brook/Joslin EB L	*	-281.4	-673.2	-299.7	-695.3	*	29.	220.	AG	73.	100.0	1.0	10.0	0.13	1.5
12. Brook/Joslin EB T	*	-272.0	-680.1	-1408.5	-2099.2	*	1818.	219.	AG	73.	100.0	1.0	10.0	1.24	92.4
13. Brook/Joslin WB TTR	*	-284.6	-643.4	188.9	-29.1	*	776.	38.	AG	146.	100.0	1.0	20.0	1.07	39.4
14. Binney/Long EB LTR	*	253.1	-669.4	185.8	-744.6	*	101.	222.	AG	94.	100.0	1.0	10.0	0.62	5.1
15. Binney/Long NB LTR	*	297.7	-636.1	366.5	-684.9	*	84.	125.	AG	102.	100.0	1.0	20.0	0.36	4.3
16. Binney/Long WB LTR	*	281.5	-577.5	314.2	-534.3	*	54.	37.	AG	188.	100.0	1.0	20.0	0.33	2.8
17. Binney/Long SB LTR	*	217.5	-600.0	158.5	-558.1	*	72.	305.	AG	102.	100.0	1.0	20.0	0.31	3.7
18. River/Short EB TR	*	-145.9	542.6	-230.0	503.4	*	93.	245.	AG	116.	100.0	1.0	20.0	0.51	4.7
19. River/Short NB LR	*	-92.0	525.1	-53.2	502.8	*	45.								

```
120. AG    197. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG    163. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG    207. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG    163. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG    150. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG    221. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                    RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:24

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                  *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   8.6   1.0 82.0
♀
                                    PAGE  3
      JOB: Winsor School                                        RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59:24

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90      64       3.0        210       1600
46.71      1        3
       2. River/Long EB TR    *      90      54       3.0        670       1600
46.71      1        3
       3. River/Long NB LT    *      90      62       3.0        410       1600
46.71      1        3
       4. River/Long WB LTR   *      90      54       3.0       1665       1600
46.71      1        3
       5. River/Long SB LT    *      90      62       3.0        325       1600
46.71      1        3
       6. River/Long SB R     *      90      64       3.0        200       1600
46.71      1        3
       7. Brook/Deacon EB TR  *     120      65       3.0        705       1600
46.71      1        3
       8. Brook/Deacon NB LR  *     120      90       3.0        215       1600
46.71      1        3
       9. Brook/Deacon WB LT  *     120     110       3.0       1200       1600
46.71      1        3
      10. Brook/Deacon SB LR  *     120      90       3.0        135       1600
46.71      1        3
      11. Brook/Joslin EB L   *     120      70       3.0         75       1600
46.71      1        3
      12. Brook/Joslin EB T   *     120      70       3.0        740       1600
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46.71      1        3
      13. Brook/Joslin WB TTR *     120       70       3.0      1280        1600
46.71      1        3
      14. Binney/Long EB LTR  *     120       90       3.0       205        1600
46.71      1        3
      15. Binney/Long NB LTR  *     120       49       3.0       630        1600
46.71      1        3
      16. Binney/Long WB LTR  *     120       90       3.0       220        1600
46.71      1        3
      17. Binney/Long SB LTR  *     120       49       3.0       540        1600
46.71      1        3
      18. River/Short EB TR   *      93       43       3.0       790        1600
46.71      1        3
      19. River/Short NB LR   *      93       73       3.0       225        1600
46.71      1        3
      20. River/Short WB LTR  *      93       43       3.0      1505        1600
46.71      1        3
      21. Brook/Long EB LTR   *     120       78       3.0       800        1600
46.71      1        3
      22. Brook/Long NB LT    *     120       78       3.0       460        1600
46.71      1        3
      23. Brook/Long NB R     *     120       66       3.0       285        1600
46.71      1        3
      24. Brook/Long WB TTR   *     120       66       3.0      1190        1600
46.71      1        3
      25. Brook/Long SB LTR   *     120       78       3.0       485        1600
46.71      1        3
      26. Beth/Brook EB TTR   *     120       72       3.0      1100        1600
46.71      1        3
      27. Beth/Brook NB LR    *     120       83       3.0       370        1600
46.71      1        3
      28. Beth/Brook WB LT    *     120      106       3.0       975        1600
46.71      1        3

       RECEPTOR LOCATIONS
       ------------------
                               *        COORDINATES (FT)          *
         RECEPTOR              *      X          Y          Z     *
     -------------------------*-----------------------------------*
      1. Short/River SE1       *        64.2      619.5       6.0   *
      2. Short/River SE2       *         0.6      579.2       6.0   *
      3. Short/River SE3       *       -62.3      538.9       6.0   *
      4. Short/River SE4       *        -2.3      494.0       6.0   *
      5. Short/River SE5       *        57.8      449.1       6.0   *
      6. Short/River SW1       *        -6.6      409.9       6.0   *
      7. Short/River SW2       *       -66.7      454.8       6.0   *
      8. Short/River SW3       *      -126.8      499.6       6.0   *
      9. Short/River SW4       *      -194.5      467.4       6.0   *
     10. Short/River SW5       *      -262.2      435.2       6.0   *
     11. Short/River N1        *      -300.6      529.9       6.0   *
     12. Short/River N2        *      -232.9      562.1       6.0   *
     13. Short/River N3        *      -165.2      594.3       6.0   *
     14. Short/River N4        *      -101.9      634.6       6.0   *
     15. Short/River N5        *       -38.7      674.9       6.0   *
♀
                     PAGE  4
      JOB: Winsor School                                 RUN: 2020NB

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
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                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15

------*----------------------------------------------------------------------------------
-------------
   0.  *  0.0   0.5   0.8   0.3   0.0   0.2   0.7   0.7   0.7   0.5   0.0   0.0
0.0   0.0   0.0
  10.  *  0.0   0.4   0.8   0.1   0.0   0.1   0.7   0.7   0.8   0.5   0.0   0.0
0.0   0.0   0.0
  20.  *  0.0   0.3   0.8   0.1   0.0   0.0   0.5   0.9   0.8   0.7   0.0   0.0
0.0   0.0   0.0
  30.  *  0.0   0.2   0.6   0.0   0.0   0.0   0.3   0.9   0.8   0.8   0.0   0.0
0.0   0.0   0.0
  40.  *  0.1   0.3   0.5   0.1   0.2   0.2   0.3   0.8   0.9   1.0   0.0   0.0
0.1   0.0   0.0
  50.  *  0.2   0.3   0.5   0.2   0.2   0.2   0.3   1.0   0.9   1.1   0.4   0.4
0.4   0.4   0.2
  60.  *  0.2   0.2   0.3   0.2   0.2   0.2   0.3   0.7   0.7   0.8   0.6   0.6
0.7   0.6   0.2
  70.  *  0.2   0.2   0.3   0.2   0.2   0.2   0.3   0.7   0.5   0.4   0.8   0.8
1.0   0.8   0.3
  80.  *  0.2   0.2   0.2   0.2   0.2   0.2   0.3   0.6   0.3   0.3   1.1   0.9
1.1   1.1   0.4
  90.  *  0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.5   0.2   0.2   1.0   1.0
1.0   1.2   0.4
 100.  *  0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.4   0.2   0.2   1.0   1.0
0.9   1.2   0.6
 110.  *  0.2   0.2   0.2   0.2   0.2   0.3   0.2   0.3   0.2   0.1   0.9   1.0
0.8   1.2   0.7
 120.  *  0.2   0.2   0.2   0.2   0.3   0.3   0.3   0.2   0.1   0.1   0.7   0.8
0.9   1.2   0.9
 130.  *  0.2   0.2   0.2   0.3   0.3   0.2   0.1   0.1   0.1   0.1   0.6   0.8
0.7   1.2   1.0
 140.  *  0.3   0.2   0.2   0.1   0.2   0.2   0.2   0.2   0.1   0.1   0.5   0.8
0.8   1.1   1.0
 150.  *  0.2   0.1   0.4   0.2   0.2   0.3   0.2   0.1   0.1   0.1   0.5   0.8
0.7   1.2   1.1
 160.  *  0.2   0.2   0.4   0.2   0.3   0.1   0.1   0.1   0.1   0.1   0.4   0.8
0.8   1.1   1.1
 170.  *  0.1   0.1   0.6   0.2   0.1   0.2   0.3   0.2   0.1   0.1   0.3   0.7
0.7   1.1   1.1
 180.  *  0.2   0.2   0.7   0.2   0.3   0.3   0.2   0.1   0.1   0.1   0.1   0.7
0.9   1.0   1.1
 190.  *  0.1   0.1   0.6   0.1   0.2   0.2   0.1   0.1   0.0   0.0   0.1   0.5
0.7   0.8   1.3
 200.  *  0.0   0.0   0.6   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.5
0.8   0.8   1.3
 210.  *  0.0   0.1   0.6   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.4
0.7   0.8   1.2
 220.  *  0.0   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.4
0.7   0.7   1.2
 230.  *  0.3   0.3   0.6   0.1   0.0   0.0   0.0   0.1   0.1   0.1   0.3   0.6
0.6   0.6   0.9
 240.  *  0.5   0.5   0.7   0.1   0.0   0.0   0.0   0.4   0.3   0.3   0.2   0.4
0.5   0.5   0.5
```

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 250.  *   0.8   0.9   1.1   0.4   0.0   0.0   0.2   0.5   0.4   0.2   0.2   0.3
0.2   0.2   0.3
 260.  *   0.7   0.8   1.0   0.4   0.1   0.2   0.3   0.7   0.5   0.2   0.1   0.1
0.1   0.0   0.0
 270.  *   0.8   0.8   1.0   0.5   0.1   0.1   0.2   0.7   0.4   0.1   0.0   0.0
0.0   0.0   0.0
 280.  *   0.6   0.8   0.8   0.7   0.1   0.1   0.2   0.8   0.4   0.0   0.0   0.0
0.0   0.0   0.0
 290.  *   0.5   0.7   0.6   0.8   0.4   0.2   0.4   0.8   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 300.  *   0.5   0.7   0.6   0.5   0.3   0.3   0.4   0.7   0.5   0.1   0.0   0.0
0.0   0.0   0.0
 310.  *   0.2   0.8   0.5   0.5   0.4   0.3   0.5   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 320.  *   0.1   0.8   0.6   0.4   0.3   0.4   0.4   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.8   0.7   0.4   0.3   0.5   0.5   0.7   0.7   0.2   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.7   0.7   0.4   0.3   0.5   0.7   0.7   0.7   0.3   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.7   0.7   0.4   0.1   0.4   0.7   0.6   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.5   0.8   0.3   0.0   0.2   0.7   0.7   0.7   0.5   0.0   0.0
0.0   0.0   0.0

------*--------------------------------------------------------------------------
-------------
 MAX   *   0.8   0.9   1.1   0.8   0.4   0.5   0.7   1.0   0.9   1.1   1.1   1.0
1.1   1.2   1.3
 DEGR. *  250   250   250   290   290   330     0    50    50    50    80    90
80    90   200

 THE HIGHEST CONCENTRATION OF    1.30 PPM OCCURRED AT RECEPTOR REC15.
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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/10/11
      TIME : 10: 2:52

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1621.2      18.4 *    1531.
330. AG    165. 100.0   1.0 20.0 1.24  77.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -920.1   -1500.8 *      95.
217. AG    279. 100.0   1.0 30.0 0.56   4.8
       3. Brook/River NB LTR  *   -792.2   -1400.7    -713.5   -1643.9 *     256.
162. AG    165. 100.0   1.0 20.0 0.94  13.0
       4. Brook/River WB LTTR *   -798.5   -1299.5    -693.3   -1171.1 *     166.
39. AG    216. 100.0   1.0 30.0 0.72   8.4
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1940.   8.6   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2045.   8.6   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2620.   8.6   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1395.   8.6   1.0 78.0
♀
                            PAGE  2
      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/10/11
      TIME : 10: 2:52

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
--------------------
       1. Brook/River SB LTR  *     120       79       3.0      1190       1600
46.71      1        3
```

```
       2. Brook/River EB LTR  *     120       89       3.0       585       1600
46.71     1        3
       3. Brook/River NB LTR  *     120       79       3.0       905       1600
46.71     1        3
       4. Brook/River WB LTTR *     120       69       3.0      1320       1600
46.71     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                            PAGE  3
      JOB: Winsor School                                     RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.8   0.5   0.4   1.3   1.3
1.3   1.3   0.9   0.3   0.4   1.0   0.9   0.9
  10.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.7   0.9   0.4   0.3   1.3   1.3
1.3   1.3   1.2   0.3   0.5   0.8   0.9   0.9
  20.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.6   0.8   0.3   0.1   1.2   1.2
1.4   1.2   1.2   0.3   0.5   0.7   0.9   0.9
  30.  *   0.0   0.0   0.2   0.1   0.1   0.3   0.4   0.6   0.1   0.0   1.0   1.2
1.4   1.1   1.2   0.6   0.5   0.8   0.7   0.7
  40.  *   0.0   0.0   0.6   0.3   0.1   0.2   0.2   0.3   0.0   0.0   0.9   0.9
```

```
1.1   0.8   0.7   0.6   0.9   1.0   0.7   0.7
  50.  *   0.0   0.0   1.0   0.7   0.2   0.1   0.1   0.1   0.0   0.0   0.7   0.9
0.9   0.6   0.4   0.9   1.0   1.2   0.9   0.7
  60.  *   0.0   0.2   1.2   1.0   0.3   0.0   0.0   0.0   0.0   0.0   0.6   0.8
0.8   0.5   0.4   1.1   0.9   1.1   1.0   0.7
  70.  *   0.0   0.3   1.3   1.1   0.5   0.0   0.0   0.0   0.0   0.0   0.5   0.8
0.8   0.5   0.3   1.2   0.8   1.0   1.1   0.9
  80.  *   0.1   0.4   1.1   1.1   0.5   0.0   0.0   0.0   0.0   0.0   0.4   0.8
0.9   0.5   0.3   1.0   0.9   1.0   1.2   0.9
  90.  *   0.2   0.6   1.1   1.1   0.7   0.0   0.0   0.0   0.0   0.0   0.3   0.8
0.8   0.5   0.3   1.0   0.8   1.1   1.2   1.1
 100.  *   0.3   0.6   0.9   1.0   0.7   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.5   0.2   1.0   0.9   1.0   1.2   1.2
 110.  *   0.4   0.6   0.8   0.9   0.8   0.0   0.0   0.0   0.0   0.0   0.2   0.9
0.9   0.5   0.1   0.9   1.0   1.1   1.0   1.2
 120.  *   0.4   0.5   0.7   0.9   0.9   0.0   0.0   0.0   0.0   0.0   0.2   0.9
1.0   0.3   0.0   0.7   1.2   1.1   1.1   1.2
 130.  *   0.4   0.5   0.7   1.0   1.0   0.0   0.0   0.0   0.0   0.0   0.1   0.7
1.0   0.2   0.0   0.4   1.1   1.2   1.2   1.1
 140.  *   0.5   0.6   0.6   0.9   0.9   0.0   0.0   0.0   0.0   0.0   0.0   0.6
1.0   0.0   0.0   0.3   1.0   1.1   0.9   1.1
 150.  *   0.9   0.8   0.9   0.9   0.9   0.0   0.0   0.2   0.2   0.0   0.0   0.4
0.8   0.0   0.0   0.3   0.8   1.0   0.8   0.9
 160.  *   1.0   1.0   1.3   1.3   1.1   0.0   0.0   0.4   0.4   0.2   0.0   0.2
0.5   0.0   0.0   0.3   0.7   0.8   0.7   0.4
 170.  *   1.3   1.3   1.5   1.4   1.3   0.0   0.2   0.8   0.7   0.5   0.0   0.1
0.2   0.0   0.0   0.3   0.6   0.7   0.4   0.2
 180.  *   1.2   1.1   1.4   1.5   1.3   0.1   0.3   1.1   0.9   0.7   0.0   0.0
0.1   0.0   0.0   0.3   0.6   0.8   0.4   0.2
 190.  *   1.0   1.0   1.2   1.7   1.4   0.2   0.5   1.1   1.1   0.7   0.0   0.0
0.0   0.0   0.0   0.3   0.5   0.7   0.3   0.1
 200.  *   0.9   1.0   1.3   1.3   1.7   0.3   0.5   1.0   1.1   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.3   0.6   0.1   0.0
 210.  *   0.7   0.8   0.9   1.1   1.2   0.5   0.8   1.2   1.1   0.9   0.0   0.0
0.1   0.1   0.0   0.2   0.3   0.4   0.0   0.0
 220.  *   0.7   0.7   0.9   0.8   0.9   0.8   0.9   1.2   1.0   0.9   0.0   0.0
0.3   0.2   0.1   0.1   0.1   0.2   0.0   0.0
 230.  *   0.7   0.7   0.6   0.4   0.5   0.8   1.0   1.3   1.1   1.0   0.0   0.0
0.6   0.3   0.2   0.0   0.0   0.1   0.0   0.0
 240.  *   0.7   0.7   0.6   0.3   0.3   1.0   1.0   1.2   1.2   1.0   0.0   0.1
0.9   0.3   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.7   0.7   0.6   0.4   0.3   1.0   0.9   1.2   1.4   1.1   0.0   0.1
1.0   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.7   0.7   0.7   0.4   0.3   1.1   0.8   1.2   1.4   1.1   0.1   0.2
1.0   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.7   0.7   0.7   0.4   0.3   1.1   0.9   1.1   1.4   1.2   0.1   0.3
1.0   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 280.  *   0.7   0.8   0.8   0.4   0.2   1.0   0.9   1.2   1.4   1.3   0.1   0.4
0.9   0.6   0.3   0.0   0.0   0.0   0.0   0.0
 290.  *   0.7   0.8   0.8   0.4   0.2   0.9   1.1   1.2   1.4   1.3   0.1   0.5
0.9   0.7   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.8   0.9   1.0   0.4   0.1   1.0   1.1   1.2   1.2   1.3   0.2   0.5
0.8   0.8   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.7   0.9   1.0   0.3   0.2   0.9   1.1   1.4   1.4   1.6   0.2   0.5
0.6   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 320.  *   0.6   0.8   0.9   0.2   0.1   0.8   1.0   1.3   1.5   1.7   0.4   0.6
0.7   0.9   0.3   0.0   0.0   0.2   0.2   0.2
 330.  *   0.4   0.5   0.6   0.1   0.1   0.8   0.8   1.1   1.5   1.4   0.6   0.8
0.9   1.0   0.4   0.1   0.1   0.7   0.5   0.4
 340.  *   0.1   0.2   0.2   0.0   0.0   0.6   0.8   0.9   1.0   1.1   1.0   1.0
1.2   1.3   0.5   0.1   0.3   1.0   0.9   0.8
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   0.9   0.8   0.6   0.7   1.2   0.9
1.1   1.3   0.8   0.3   0.4   1.1   1.0   0.9
```

```
 360.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.8   0.5   0.4   1.3   1.3
1.3   1.3   0.9   0.3   0.4   1.0   0.9   0.9

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.3   1.3   1.5   1.7   1.7   1.1   1.1   1.4   1.5   1.7   1.3   1.3
1.4   1.3   1.2   1.2   1.2   1.2   1.2   1.2
 DEGR. *  170   170   170   190   200   260   290   310   320   320     0     0
20     0    10    70   120    50    80   100

 THE HIGHEST CONCENTRATION OF    1.70 PPM OCCURRED AT RECEPTOR REC5 .
```

```
♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                             PAGE  1

      JOB: Winsor School                                          RUN: 2020 NB


      DATE :  1/10/11
      TIME :  9:22:24

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *  X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24428.6   43919.1 *      85.
37. AG    199. 100.0   1.0 30.0 0.44   4.3
       2. Boylston WB Q2      *  24434.8   43765.0   24541.7   43803.3 *     114.
70. AG    366. 100.0   1.0 40.0 0.76   5.8
       3. Park Dr NB Q3       *  24314.0   43650.6   24348.6   43602.0 *      60.
145. AG    266. 100.0   1.0 40.0 0.31   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23384.9   42534.0 *    1403.
218. AG    371. 100.0   1.0 40.0 1.33  71.3
       5. Brookline Q27       *  24079.2   43421.1   23862.1   43121.2 *     370.
216. AG    135. 100.0   1.0 20.0 1.01  18.8
       6. Fenway Q28          *  24063.7   43526.1   22982.9   44810.9 *    1679.
320. AG    115. 100.0   1.0 20.0 1.17  85.3
       7. Brookline Q29       *  24121.4   43515.8   24223.3   43643.0 *     163.
39. AG    135. 100.0   1.0 20.0 0.80   8.3
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2953.   8.6   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1451.   8.6   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1148.   8.6   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1369.   8.6   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2379.   8.6   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2517.   8.6   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    928.   8.6   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1676.   8.6   1.0 42.0
♀
                            PAGE  2
      JOB: Winsor School                                          RUN: 2020 NB


      DATE :  1/10/11
      TIME :  9:22:24
```

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Brookline SB Q1	100	53	3.0	882	1600	46.71	1	3
2. Boylston WB Q2	100	73	3.0	1071	1600	46.71	1	3
3. Park Dr NB Q3	100	53	3.0	825	1600	46.71	1	3
4. Brookline EB Q4	100	74	3.0	1794	1600	46.71	1	3
5. Brookline Q27	100	54	3.0	1323	1600	46.71	1	3
6. Fenway Q28	100	46	3.0	1830	1600	46.71	1	3
7. Brookline Q29	100	54	3.0	1056	1600	46.71	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0

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     32. R54                   *     24409.4    43607.5        6.0   *
     33. R55                   *     24444.6    43559.0        6.0   *
     34. R56                   *     24282.4    43606.2        6.0   *
     35. R57                   *     24328.7    43546.5        6.0   *
     36. R58                   *     24243.6    43550.9        6.0   *
     37. R59                   *     24204.3    43692.2        6.0   *
     38. R60                   *     24150.3    43751.0        6.0   *
♀
                         PAGE  3
      JOB: Winsor School                                    RUN: 2020 NB


      DATE :  1/10/11
      TIME :  9:22:24


       RECEPTOR LOCATIONS
       ------------------
                               *           COORDINATES (FT)          *
         RECEPTOR              *      X          Y          Z        *
     -------------------------*-----------------------------------*
     39. R61                   *     24161.0    43638.3        6.0   *
♀
                         PAGE  4
      JOB: Winsor School                                    RUN: 2020 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-------------------------------------------------------------------------
-----------------------------------------
   0.  *   1.7   1.9   1.1   0.1   0.1   0.1   0.6   0.7   0.4   0.2   0.3   0.2
2.1   2.3   1.6   0.8   1.1   0.8   0.6   0.3
  10.  *   1.4   1.9   0.9   0.1   0.1   0.1   0.7   0.7   0.4   0.2   0.4   0.2
2.2   2.4   1.4   0.7   1.2   0.6   0.5   0.3
  20.  *   1.2   1.7   0.8   0.1   0.1   0.1   0.6   0.7   0.4   0.3   0.4   0.3
2.0   2.4   1.2   0.7   0.8   0.6   0.4   0.2
  30.  *   1.1   1.2   0.7   0.2   0.3   0.1   0.6   0.7   0.4   0.3   0.7   0.6
1.6   1.7   0.9   0.6   0.8   0.6   0.3   0.1
  40.  *   1.1   0.9   0.7   0.5   0.8   0.2   0.7   0.9   0.5   0.6   1.2   1.1
1.2   1.5   0.9   0.4   0.6   0.4   0.2   0.0
  50.  *   1.0   0.6   0.6   0.9   1.4   0.5   0.9   1.3   0.8   0.9   1.8   1.8
0.6   0.8   0.5   0.3   0.4   0.3   0.1   0.0
  60.  *   0.8   0.4   0.3   1.7   1.9   1.2   1.3   1.7   1.2   1.3   2.0   1.9
0.3   0.4   0.4   0.2   0.2   0.2   0.1   0.1
  70.  *   0.4   0.2   0.2   1.9   2.1   1.4   1.7   1.9   1.3   1.3   2.0   1.9
0.2   0.3   0.3   0.1   0.1   0.1   0.5   0.3
  80.  *   0.2   0.1   0.1   1.7   1.9   1.3   1.5   1.7   1.3   1.3   1.7   1.7
0.2   0.3   0.3   0.1   0.1   0.1   0.8   0.5
  90.  *   0.2   0.1   0.1   1.7   1.6   1.4   1.4   1.5   1.2   1.3   1.6   1.7
```

```
0.2   0.3   0.3   0.1   0.1   0.1   1.0   0.6
 100.  *   0.2   0.1   0.2   1.6   1.6   1.2   1.4   1.5   1.0   1.2   1.5   1.6
0.2   0.3   0.3   0.1   0.1   0.1   1.3   0.6
 110.  *   0.2   0.1   0.2   1.4   1.4   1.2   1.3   1.5   1.1   1.1   1.5   1.4
0.1   0.3   0.2   0.1   0.1   0.1   1.3   0.6
 120.  *   0.2   0.1   0.1   1.4   1.4   1.2   1.2   1.3   1.0   1.0   1.5   1.4
0.0   0.2   0.1   0.1   0.1   0.1   1.4   0.7
 130.  *   0.1   0.1   0.1   1.4   1.4   1.1   1.0   1.1   0.9   1.0   1.4   1.4
0.0   0.1   0.1   0.0   0.0   0.0   1.4   0.8
 140.  *   0.1   0.0   0.0   1.3   1.5   1.1   1.0   1.1   0.8   1.0   1.4   1.4
0.0   0.1   0.0   0.0   0.0   0.0   1.2   0.9
 150.  *   0.0   0.0   0.0   1.3   1.3   1.3   0.8   1.0   0.8   1.0   1.4   1.4
0.0   0.0   0.0   0.0   0.1   0.0   1.2   1.1
 160.  *   0.0   0.0   0.0   1.5   1.6   1.2   0.8   1.0   0.8   1.0   1.4   1.4
0.0   0.0   0.0   0.1   0.1   0.0   1.3   1.1
 170.  *   0.0   0.1   0.0   1.7   1.7   1.2   0.8   1.1   0.8   1.0   1.5   1.5
0.0   0.0   0.0   0.1   0.2   0.0   1.1   1.3
 180.  *   0.1   0.1   0.0   1.7   1.8   1.5   0.9   1.2   0.9   1.1   1.6   1.6
0.0   0.0   0.0   0.1   0.2   0.0   0.9   1.3
 190.  *   0.1   0.1   0.1   1.9   1.9   1.5   0.9   1.2   0.9   1.0   1.6   1.6
0.0   0.0   0.0   0.2   0.2   0.1   0.8   1.3
 200.  *   0.2   0.2   0.1   2.0   2.0   1.5   0.8   1.0   0.8   0.9   1.7   1.6
0.1   0.1   0.0   0.2   0.2   0.1   0.9   1.4
 210.  *   0.7   0.7   0.3   1.5   1.7   1.3   0.4   0.8   0.4   0.6   1.3   1.3
0.6   0.6   0.1   0.3   0.4   0.2   1.3   1.7
 220.  *   1.5   1.4   0.7   1.0   1.2   0.9   0.1   0.4   0.1   0.2   0.6   0.6
1.2   1.4   0.5   0.5   0.8   0.3   1.8   2.0
 230.  *   2.0   2.1   1.2   0.5   0.6   0.6   0.0   0.1   0.0   0.0   0.2   0.2
1.7   2.0   0.9   0.9   1.2   0.7   1.7   1.7
 240.  *   2.1   2.1   1.3   0.3   0.4   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.9   2.1   1.2   1.0   1.4   0.9   1.3   1.0
 250.  *   2.0   2.1   1.2   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.9   2.0   1.3   1.1   1.5   1.0   0.8   0.7
 260.  *   1.8   1.8   1.2   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.7   1.9   1.2   1.1   1.3   0.9   0.6   0.4
 270.  *   2.0   1.8   1.1   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.6   1.7   1.1   1.0   1.3   0.8   0.4   0.4
 280.  *   1.9   1.9   1.4   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   1.0   0.9   1.2   0.9   0.5   0.5
 290.  *   1.7   1.8   1.3   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   1.0   1.0   1.2   0.9   0.6   0.4
 300.  *   1.8   1.9   1.2   0.3   0.6   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   0.9   1.2   1.4   1.0   0.4   0.4
 310.  *   1.7   1.9   1.2   0.2   0.5   0.4   0.1   0.1   0.0   0.0   0.0   0.0
1.5   1.7   1.0   1.3   1.5   1.1   0.5   0.4
 320.  *   1.6   1.7   1.1   0.1   0.3   0.3   0.3   0.3   0.1   0.1   0.1   0.0
1.6   1.9   1.2   1.1   1.4   1.0   0.6   0.3
 330.  *   1.7   1.6   1.1   0.0   0.1   0.1   0.4   0.5   0.2   0.1   0.1   0.1
1.8   2.0   1.4   1.0   1.2   0.8   0.6   0.3
 340.  *   1.7   1.7   1.1   0.1   0.0   0.0   0.6   0.7   0.3   0.1   0.2   0.1
1.8   2.0   1.4   0.9   1.1   0.9   0.6   0.2
 350.  *   1.6   1.9   1.1   0.1   0.1   0.1   0.5   0.7   0.4   0.1   0.2   0.1
2.0   2.3   1.6   0.9   1.2   0.8   0.5   0.2
 360.  *   1.7   1.9   1.1   0.1   0.1   0.1   0.6   0.7   0.4   0.2   0.3   0.2
2.1   2.3   1.6   0.8   1.1   0.8   0.6   0.3

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   2.1   2.1   1.4   2.0   2.1   1.5   1.7   1.9   1.3   1.3   2.0   1.9
2.2   2.4   1.6   1.3   1.5   1.1   1.8   2.0
 DEGR. *  240   230   280   200    70   180    70    70    70    60    60    60
10    10     0   310   250   310   220   220
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	*	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.8	1.1	1.3	0.7	0.5	1.2	1.2	1.5	0.3	0.3	0.2
10.	*	0.1	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	0.7	0.5	1.2	1.1	1.3	0.3	0.3	0.1
20.	*	0.1	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.0	0.7	0.6	1.4	1.2	1.1	0.3	0.2	0.1
30.	*	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.1	1.0	1.2	0.8	0.7	0.4	1.6	1.1	1.2	0.3	0.2	0.2
40.	*	0.0	0.1	0.1	0.0	0.1	0.4	0.3	0.3	1.1	1.0	0.7	0.6	0.3	1.4	0.8	1.2	0.6	0.3	0.5
50.	*	0.0	0.0	0.0	0.1	0.3	0.5	0.6	0.5	1.0	0.9	0.7	0.5	0.2	1.7	0.7	1.0	0.9	0.3	1.0
60.	*	0.1	0.0	0.0	0.1	0.3	0.6	0.6	0.7	0.9	0.8	0.7	0.3	0.1	1.4	0.5	0.8	1.2	0.6	1.3
70.	*	0.3	0.1	0.1	0.2	0.4	0.8	0.7	0.8	0.6	0.5	0.5	0.1	0.0	1.2	0.4	0.5	1.7	0.8	1.5
80.	*	0.5	0.3	0.1	0.3	0.6	1.0	0.8	0.9	0.2	0.2	0.2	0.0	0.0	0.9	0.3	0.2	1.7	0.9	1.7
90.	*	0.6	0.4	0.3	0.5	0.7	1.1	0.9	1.0	0.1	0.1	0.1	0.0	0.0	0.7	0.3	0.2	1.6	1.0	1.7
100.	*	0.6	0.4	0.3	0.5	0.7	1.0	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	1.4	1.0	1.7
110.	*	0.5	0.5	0.3	0.4	0.6	0.9	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.5	1.0	1.6
120.	*	0.5	0.6	0.3	0.4	0.5	0.7	0.8	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.4	1.1	1.6
130.	*	0.5	0.7	0.3	0.4	0.6	0.8	0.7	1.3	0.1	0.0	0.0	0.1	0.1	0.4	0.4	0.1	1.3	0.9	1.5
140.	*	0.4	0.9	0.3	0.8	1.0	1.1	0.7	1.2	0.2	0.0	0.0	0.2	0.2	0.3	0.3	0.1	1.2	0.9	1.4
150.	*	0.4	0.9	0.3	0.9	0.9	1.5	0.8	1.1	0.4	0.1	0.0	0.3	0.3	0.1	0.1	0.0	1.3	0.8	1.4
160.	*	0.5	1.1	0.4	0.8	1.1	1.5	0.9	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.3	0.8	1.4
170.	*	0.4	1.1	0.6	0.9	1.0	1.4	1.0	0.8	0.4	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.6	0.8	1.7
180.	*	0.6	1.1	0.7	1.0	1.1	1.5	1.2	0.8	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.6	0.9	1.8
190.	*	0.8	1.0	0.8	1.1	1.4	1.7	1.3	0.9	0.5	0.2	0.1	0.3	0.3	0.0	0.0	0.1	2.0	1.2	2.0
200.	*	0.9	1.0	0.9	1.0	1.4	2.0	1.6	1.3	0.6	0.2	0.1	0.3							

Concentrations in (PPM).

```
0.3   0.2   0.0   0.2   2.1   1.0   1.9
 210.  *   1.2   1.4   1.1   0.7   1.1   2.0   1.6   1.4   0.9   0.3   0.2   0.4
0.3   0.7   0.2   0.7   1.7   0.8   1.6
 220.  *   1.7   1.7   1.4   0.5   0.6   1.3   1.0   1.0   1.6   0.7   0.4   0.7
0.5   1.6   0.5   1.6   1.2   0.5   0.9
 230.  *   2.0   1.4   1.2   0.4   0.5   0.7   0.4   0.4   2.1   1.2   0.9   1.1
0.7   2.3   0.9   1.9   0.4   0.2   0.4
 240.  *   1.2   0.8   0.9   0.3   0.4   0.4   0.3   0.1   2.3   1.5   1.0   1.2
0.9   2.2   1.1   2.1   0.2   0.2   0.2
 250.  *   0.9   0.6   0.7   0.3   0.3   0.4   0.2   0.1   2.1   1.6   1.3   1.4
0.9   2.2   1.0   2.0   0.2   0.2   0.2
 260.  *   0.5   0.5   0.6   0.3   0.3   0.4   0.2   0.1   1.9   1.4   1.3   1.4
1.1   2.0   1.1   1.8   0.2   0.1   0.2
 270.  *   0.4   0.6   0.6   0.4   0.4   0.4   0.3   0.2   1.7   1.2   1.2   1.5
1.0   1.9   1.1   1.9   0.1   0.1   0.2
 280.  *   0.4   0.7   0.4   0.4   0.4   0.4   0.3   0.2   1.5   1.0   1.0   1.5
1.2   1.9   1.1   1.8   0.1   0.1   0.2
 290.  *   0.3   0.6   0.3   0.4   0.4   0.4   0.2   0.2   1.4   1.0   0.9   1.3
1.1   1.6   1.0   1.7   0.1   0.1   0.1
 300.  *   0.2   0.6   0.3   0.4   0.4   0.4   0.2   0.0   1.3   0.9   0.8   1.3
1.1   1.5   0.9   1.7   0.1   0.1   0.1
 310.  *   0.2   0.5   0.3   0.2   0.2   0.3   0.1   0.0   1.2   0.8   0.8   1.0
1.1   1.4   0.9   1.7   0.2   0.2   0.1
 320.  *   0.2   0.5   0.3   0.1   0.1   0.1   0.0   0.0   0.9   0.7   1.1   0.7
0.8   1.0   0.7   1.7   0.2   0.2   0.1
 330.  *   0.2   0.4   0.3   0.0   0.0   0.0   0.0   0.0   0.8   0.7   1.2   0.4
0.4   1.1   1.0   1.7   0.3   0.3   0.1
 340.  *   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.8   1.3   0.5
0.3   1.1   1.1   1.6   0.3   0.3   0.1
 350.  *   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.9   1.2   0.6
0.5   1.1   1.1   1.6   0.3   0.3   0.2
 360.  *   0.2   0.4   0.3   0.0   0.0   0.0   0.0   0.0   0.8   1.1   1.3   0.7
0.5   1.2   1.2   1.5   0.3   0.3   0.2

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *   2.0   1.7   1.4   1.1   1.4   2.0   1.6   1.4   2.3   1.6   1.3   1.5
1.2   2.3   1.2   2.1   2.1   1.2   2.0
 DEGR. *  230   220   220   190   200   200   200   210   240   250   250   270
280   230     0   240   200   190   190

 THE HIGHEST CONCENTRATION OF    2.40 PPM OCCURRED AT RECEPTOR REC14.
```

Particulate Matter 10 (PM_{10})

```
♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                              RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 0

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *      99.
201. AG      0. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *      69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *     319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *     125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *      29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *    1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *     776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *      84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *      72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *      93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *      45.
```

```
120. AG      0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG      0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG      0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG      0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                            PAGE  2
      JOB: Winsor School                                        RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 0

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                                  *   X1        Y1        X2        Y2     *     (FT)
(DEG)           (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S        *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W        *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E         *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S         *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W         *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E        *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S        *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W        *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                                PAGE  3
      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 0

       1. River/Long EB L      *       90        64       3.0       210        1600
 0.07      1        3
       2. River/Long EB TR     *       90        54       3.0       670        1600
 0.07      1        3
       3. River/Long NB LT     *       90        62       3.0       410        1600
 0.07      1        3
       4. River/Long WB LTR    *       90        54       3.0      1665        1600
 0.07      1        3
       5. River/Long SB LT     *       90        62       3.0       325        1600
 0.07      1        3
       6. River/Long SB R      *       90        64       3.0       200        1600
 0.07      1        3
       7. Brook/Deacon EB TR   *      120        65       3.0       705        1600
 0.07      1        3
       8. Brook/Deacon NB LR   *      120        90       3.0       215        1600
 0.07      1        3
       9. Brook/Deacon WB LT   *      120       110       3.0      1200        1600
 0.07      1        3
      10. Brook/Deacon SB LR   *      120        90       3.0       135        1600
 0.07      1        3
      11. Brook/Joslin EB L    *      120        70       3.0        75        1600
 0.07      1        3
      12. Brook/Joslin EB T    *      120        70       3.0       740        1600
 0.07      1        3
      13. Brook/Joslin WB TTR  *      120        70       3.0      1280        1600
 0.07      1        3
      14. Binney/Long EB LTR   *      120        90       3.0       205        1600
 0.07      1        3
      15. Binney/Long NB LTR   *      120        49       3.0       630        1600
 0.07      1        3
      16. Binney/Long WB LTR   *      120        90       3.0       220        1600
 0.07      1        3
      17. Binney/Long SB LTR   *      120        49       3.0       540        1600
 0.07      1        3
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      18. River/Short EB TR   *      93        43        3.0        790        1600
0.07      1        3
      19. River/Short NB LR   *      93        73        3.0        225        1600
0.07      1        3
      20. River/Short WB LTR  *      93        43        3.0       1505        1600
0.07      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        800        1600
0.07      1        3
      22. Brook/Long NB LT    *     120        78        3.0        460        1600
0.07      1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
0.07      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1190        1600
0.07      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        485        1600
0.07      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1100        1600
0.07      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.07      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        975        1600
0.07      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X           Y          Z      *
     -------------------------*------------------------------------*
      1. River/Long NE1       *      -978.8      215.4        6.0   *
      2. River/Long NE2       *      -904.3      201.6        6.0   *
      3. River/Long NE3       *      -831.3      188.0        6.0   *
      4. River/Long NE4       *      -788.0      251.3        6.0   *
      5. River/Long NE5       *      -746.6      311.8        6.0   *
      6. River/Long SE1       *      -639.8      294.3        6.0   *
      7. River/Long SE2       *      -682.2      232.4        6.0   *
      8. River/Long SE3       *      -724.5      170.5        6.0   *
      9. River/Long SE4       *      -662.6      128.1        6.0   *
     10. River/Long SE5       *      -600.7       85.8        6.0   *
     11. River/Long SW1       *      -638.2       21.8        6.0   *
     12. River/Long SW2       *      -700.1       64.1        6.0   *
     13. River/Long SW3       *      -762.0      106.5        6.0   *
     14. River/Long SW4       *      -790.3       37.0        6.0   *
     15. River/Long SW5       *      -818.6      -32.5        6.0   *
     16. River/Long NW1       *      -921.8      -26.0        6.0   *
     17. River/Long NW2       *      -893.5       43.5        6.0   *
     18. River/Long NW3       *      -865.2      112.9        6.0   *
     19. River/Long NW4       *      -938.9      126.7        6.0   *
     20. River/Long NW5       *     -1012.7      140.4        6.0   *
     21. Brook/Deacon NE1     *      -468.0     -576.8        6.0   *
     22. Brook/Deacon NE2     *      -408.9     -623.0        6.0   *
     23. Brook/Deacon NE3     *      -349.9     -669.2        6.0   *
♀
                         PAGE  4
      JOB: Winsor School                                   RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:59: 0


       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
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RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
		CONCENTRATION (ug/m**3)																			
0.	*	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	1.	2.	4.	4.	4.	1.	1.	1.	1.	1.
10.	*	0.	0.	0.	0.	0.	1.	2.	3.	1.	0.	1.	2.	4.	4.	4.	1.	1.	2.	2.	1.
20.	*	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	1.	3.	3.	3.	2.	2.	2.	2.	1.
30.	*	0.	0.	2.	1.	1.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.	4.	3.	4.	2.	1.
40.	*	0.	0.	3.	2.	2.	0.	0.	1.	0.	0.	1.	1.	2.	1.	1.	4.	4.	5.	2.	2.
50.	*	0.	1.	4.	4.	3.	0.	1.	1.	0.	0.	1.	1.	2.	1.	1.	4.	5.	5.	3.	2.

```
   60.  *     1.     2.     4.     4.     4.     1.     1.     1.     0.     1.     1.     1.
 2.     1.     1.     4.     4.     5.     4.     3.
   70.  *     1.     2.     4.     4.     4.     1.     0.     0.     0.     0.     1.     1.
 2.     1.     0.     3.     4.     4.     4.     3.
   80.  *     2.     2.     3.     4.     4.     0.     0.     0.     0.     0.     1.     1.
 1.     1.     0.     3.     3.     4.     3.     3.
   90.  *     2.     2.     3.     4.     4.     0.     0.     0.     0.     0.     1.     1.
 1.     0.     0.     2.     3.     4.     3.     3.
  100.  *     2.     2.     3.     3.     3.     0.     0.     0.     0.     0.     1.     1.
 1.     0.     0.     2.     3.     3.     3.     2.
  110.  *     3.     3.     4.     3.     3.     0.     0.     0.     0.     0.     1.     1.
 1.     0.     1.     3.     3.     3.     2.     2.
  120.  *     3.     3.     4.     4.     3.     0.     0.     1.     1.     1.     1.     1.
 1.     1.     1.     3.     3.     3.     2.     2.
  130.  *     3.     3.     4.     4.     4.     0.     1.     1.     1.     1.     1.     1.
 1.     0.     0.     2.     2.     3.     2.     1.
  140.  *     3.     3.     4.     4.     4.     1.     1.     2.     1.     1.     0.     0.
 0.     0.     0.     2.     2.     3.     2.     1.
  150.  *     3.     3.     4.     4.     3.     0.     0.     2.     1.     1.     0.     0.
 0.     0.     0.     2.     2.     3.     1.     1.
  160.  *     2.     3.     4.     4.     4.     0.     0.     2.     1.     1.     0.     0.
 0.     0.     0.     1.     2.     3.     1.     0.
  170.  *     2.     3.     4.     4.     4.     0.     1.     2.     1.     1.     0.     0.
 0.     0.     0.     1.     2.     3.     1.     0.
  180.  *     1.     2.     4.     4.     4.     0.     1.     1.     1.     0.     0.     0.
 0.     0.     0.     1.     2.     3.     0.     0.
  190.  *     1.     2.     4.     5.     5.     0.     1.     1.     1.     1.     0.     0.
 0.     0.     0.     1.     2.     2.     0.     0.
  200.  *     1.     2.     3.     4.     5.     1.     1.     2.     1.     1.     0.     0.
 1.     1.     0.     0.     1.     1.     0.     0.
  210.  *     1.     1.     2.     3.     3.     2.     2.     3.     1.     1.     0.     0.
 2.     2.     1.     0.     0.     1.     0.     0.
  220.  *     1.     1.     2.     2.     2.     3.     3.     4.     2.     1.     0.     0.
 3.     2.     1.     0.     0.     0.     0.     0.
  230.  *     1.     1.     2.     1.     1.     4.     3.     4.     2.     1.     0.     1.
 3.     3.     2.     0.     0.     0.     0.     0.
  240.  *     1.     2.     2.     1.     0.     4.     4.     4.     2.     1.     0.     1.
 3.     3.     2.     0.     0.     0.     0.     0.
  250.  *     1.     2.     2.     1.     0.     3.     4.     4.     3.     2.     1.     1.
 3.     3.     2.     0.     0.     0.     0.     0.
  260.  *     0.     1.     2.     0.     0.     3.     3.     4.     3.     2.     1.     2.
 3.     3.     2.     0.     0.     0.     0.     0.
  270.  *     0.     1.     1.     0.     0.     3.     3.     4.     4.     2.     1.     2.
 3.     3.     2.     0.     0.     0.     0.     0.
  280.  *     0.     0.     1.     0.     0.     3.     3.     3.     3.     2.     1.     2.
 3.     3.     2.     0.     0.     1.     0.     0.
  290.  *     0.     0.     0.     0.     0.     2.     2.     3.     3.     2.     1.     2.
 4.     3.     2.     0.     0.     1.     1.     0.
  300.  *     0.     0.     0.     0.     0.     3.     3.     3.     2.     2.     2.     2.
 4.     3.     2.     0.     0.     2.     1.     0.
  310.  *     0.     0.     0.     0.     0.     3.     3.     3.     2.     2.     2.     2.
 3.     4.     2.     0.     0.     2.     1.     0.
  320.  *     0.     0.     0.     0.     0.     2.     2.     2.     2.     1.     2.     2.
 3.     4.     3.     0.     0.     2.     1.     0.
  330.  *     0.     0.     0.     0.     0.     2.     2.     3.     2.     1.     2.     2.
 3.     4.     3.     0.     1.     2.     1.     1.
  340.  *     0.     0.     0.     0.     0.     2.     3.     3.     2.     1.     2.     2.
 3.     4.     4.     0.     1.     2.     1.     1.
  350.  *     0.     0.     0.     0.     0.     2.     3.     3.     1.     1.     2.     3.
 4.     4.     4.     1.     1.     2.     1.     1.
  360.  *     0.     0.     0.     0.     0.     1.     3.     3.     1.     0.     1.     2.
 4.     4.     4.     1.     1.     1.     1.     1.
```

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------*--------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    4.    5.    5.    4.    4.    4.    4.    2.    2.    3.
4.    4.    4.    4.    5.    5.    4.    3.
 DEGR. *  120   130   130   190   190   230   250   230   270   290   320   350
290     0     0    50    50    50    60    70

♀
                                PAGE  6
      JOB: Winsor School                                        RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    4.    3.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    1.    3.    4.    4.    2.    2.    1.    2.
4.    4.    4.    0.    0.    1.    0.    0.
  20.  *    0.    0.    1.    1.    1.    4.    4.    4.    2.    2.    2.    2.
4.    4.    4.    0.    1.    1.    0.    0.
  30.  *    0.    1.    2.    3.    3.    4.    4.    4.    2.    1.    1.    2.
5.    5.    5.    2.    2.    3.    1.    0.
  40.  *    1.    2.    4.    5.    5.    3.    3.    3.    1.    1.    1.    2.
4.    4.    4.    4.    4.    5.    2.    1.
  50.  *    2.    2.    5.    6.    6.    2.    2.    1.    0.    0.    0.    0.
2.    2.    2.    4.    4.    4.    3.    2.
  60.  *    2.    2.    5.    5.    5.    1.    0.    0.    0.    0.    0.    0.
1.    1.    0.    3.    4.    4.    2.    2.
  70.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    3.    3.    2.    1.
  80.  *    2.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    1.
  90.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    2.    2.    1.
 100.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
 110.  *    1.    1.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 120.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    2.    1.
 130.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 140.  *    1.    2.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 150.  *    1.    2.    3.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 160.  *    1.    1.    3.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
```

```
 170.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 180.  *    0.    1.    2.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 190.  *    0.    1.    2.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    0.    0.
 200.  *    0.    0.    2.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 210.  *    0.    0.    2.    3.    4.    1.    1.    2.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    0.    0.
 220.  *    0.    0.    1.    2.    3.    2.    2.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    1.    0.    0.
 230.  *    0.    0.    1.    1.    1.    3.    3.    3.    0.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    0.    0.    0.    3.    3.    3.    1.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    3.    3.    3.    1.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    2.
2.    3.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    3.    3.    3.    1.    1.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    3.    2.    0.    0.    1.    0.    0.
 340.  *    1.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    3.    3.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    1.    1.    1.    2.
3.    3.    3.    0.    0.    1.    0.    0.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    4.    3.    0.    0.    0.    0.    0.

------*------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    5.    6.    6.    4.    4.    4.    2.    2.    2.    2.
5.    5.    5.    4.    4.    5.    3.    2.
 DEGR. *   60    60    50    50    50    30    30    30    20    20    20    20
30    30    30    50    40    40    50    60

♀
                               PAGE  7
      JOB: Winsor School                                         RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
		CONCENTRATION (ug/m**3)									
0.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
10.	*	0.	0.	0.	1.	1.	3.	3.	4.	4.	4.
20.	*	0.	0.	1.	1.	1.	4.	4.	4.	5.	4.
30.	*	0.	1.	3.	3.	3.	5.	4.	4.	5.	5.
40.	*	1.	2.	5.	5.	6.	4.	3.	4.	4.	4.
50.	*	2.	3.	6.	6.	7.	2.	2.	2.	2.	2.
60.	*	2.	2.	5.	5.	6.	1.	0.	0.	1.	1.
70.	*	2.	2.	5.	4.	6.	0.	0.	0.	1.	0.
80.	*	1.	2.	4.	3.	5.	0.	0.	0.	1.	0.
90.	*	1.	2.	4.	3.	4.	0.	0.	0.	1.	0.
100.	*	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
110.	*	1.	2.	4.	3.	3.	0.	0.	0.	2.	0.
120.	*	1.	2.	4.	3.	3.	0.	0.	0.	2.	0.
130.	*	1.	2.	3.	3.	2.	0.	0.	0.	2.	0.
140.	*	1.	2.	3.	3.	2.	0.	0.	0.	2.	0.
150.	*	1.	2.	3.	4.	2.	0.	0.	0.	2.	0.
160.	*	1.	2.	3.	4.	2.	0.	0.	0.	1.	0.
170.	*	1.	2.	4.	4.	3.	0.	0.	0.	1.	0.
180.	*	1.	1.	4.	4.	3.	0.	0.	0.	1.	0.
190.	*	0.	1.	4.	5.	4.	0.	0.	0.	1.	0.
200.	*	0.	1.	4.	5.	5.	0.	0.	1.	1.	0.
210.	*	0.	1.	3.	4.	4.	1.	1.	1.	1.	1.
220.	*	0.	0.	2.	3.	3.	2.	2.	2.	2.	1.
230.	*	0.	0.	1.	1.	1.	2.	3.	3.	3.	2.
240.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
250.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
260.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
270.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
280.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	3.
290.	*	0.	0.	0.	0.	0.	1.	2.	3.	2.	3.
300.	*	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
310.	*	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
320.	*	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
330.	*	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
340.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
350.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
360.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
MAX	*	2.	3.	6.	6.	7.	5.	4.	4.	5.	5.
DEGR.	*	50	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 7. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                                   CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                   PAGE  1

      JOB: Winsor School                                                       RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:55

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -844.1       6.9 *       92.
201. AG      0. 100.0   1.0 20.0 0.56   4.7
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *       69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *      319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *      122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *      125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *       29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *     1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *      776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *       84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *       72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *       93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *       45.
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120. AG      0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG      0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG      0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG      0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG  2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG  1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG  1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG   135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG  1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG   255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG  2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG   115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG  2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG  1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG  2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG   700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG  2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG  1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG   290.   0.0   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                   RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:55

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                                 *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                          RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:55

       1. River/Long EB L     *      90         64        3.0        210        1600
 0.07      1        3
       2. River/Long EB TR    *      90         54        3.0        620        1600
 0.07      1        3
       3. River/Long NB LT    *      90         62        3.0        410        1600
 0.07      1        3
       4. River/Long WB LTR   *      90         54        3.0       1665        1600
 0.07      1        3
       5. River/Long SB LT    *      90         62        3.0        325        1600
 0.07      1        3
       6. River/Long SB R     *      90         64        3.0        200        1600
 0.07      1        3
       7. Brook/Deacon EB TR  *     120         65        3.0        705        1600
 0.07      1        3
       8. Brook/Deacon NB LR  *     120         90        3.0        215        1600
 0.07      1        3
       9. Brook/Deacon WB LT  *     120        110        3.0       1200        1600
 0.07      1        3
      10. Brook/Deacon SB LR  *     120         90        3.0        135        1600
 0.07      1        3
      11. Brook/Joslin EB L   *     120         70        3.0         75        1600
 0.07      1        3
      12. Brook/Joslin EB T   *     120         70        3.0        740        1600
 0.07      1        3
      13. Brook/Joslin WB TTR *     120         70        3.0       1280        1600
 0.07      1        3
      14. Binney/Long EB LTR  *     120         90        3.0        205        1600
 0.07      1        3
      15. Binney/Long NB LTR  *     120         49        3.0        630        1600
 0.07      1        3
      16. Binney/Long WB LTR  *     120         90        3.0        220        1600
 0.07      1        3
      17. Binney/Long SB LTR  *     120         49        3.0        540        1600
 0.07      1        3
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      18. River/Short EB TR   *      93       43       3.0       790        1600
0.07      1        3
      19. River/Short NB LR   *      93       73       3.0       225        1600
0.07      1        3
      20. River/Short WB LTR  *      93       43       3.0      1505        1600
0.07      1        3
      21. Brook/Long EB LTR   *     120       78       3.0       800        1600
0.07      1        3
      22. Brook/Long NB LT    *     120       78       3.0       460        1600
0.07      1        3
      23. Brook/Long NB R     *     120       66       3.0       285        1600
0.07      1        3
      24. Brook/Long WB TTR   *     120       66       3.0      1190        1600
0.07      1        3
      25. Brook/Long SB LTR   *     120       78       3.0       485        1600
0.07      1        3
      26. Beth/Brook EB TTR   *     120       72       3.0      1100        1600
0.07      1        3
      27. Beth/Brook NB LR    *     120       83       3.0       370        1600
0.07      1        3
      28. Beth/Brook WB LT    *     120      106       3.0       975        1600
0.07      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Brook/Long NE1       *     -189.0     -227.6        6.0   *
      2. Brook/Long NE2       *     -130.2     -274.2        6.0   *
      3. Brook/Long NE3       *      -71.4     -320.7        6.0   *
      4. Brook/Long NE4       *      -24.6     -262.1        6.0   *
      5. Brook/Long NE5       *       22.3     -203.5        6.0   *
      6. Brook/Long SE1       *      107.1     -254.3        6.0   *
      7. Brook/Long SE2       *       60.3     -312.9        6.0   *
      8. Brook/Long SE3       *       13.5     -371.5        6.0   *
      9. Brook/Long SE4       *       72.9     -417.2        6.0   *
     10. Brook/Long SE5       *      132.4     -463.0        6.0   *
     11. Brook/Long SW1       *       72.2     -540.4        6.0   *
     12. Brook/Long SW2       *       12.8     -494.6        6.0   *
     13. Brook/Long SW3       *      -46.6     -448.9        6.0   *
     14. Brook/Long SW4       *      -91.9     -508.7        6.0   *
     15. Brook/Long SW5       *     -137.1     -568.6        6.0   *
     16. Brook/Long NW1       *     -207.2     -498.8        6.0   *
     17. Brook/Long NW2       *     -162.0     -439.0        6.0   *
     18. Brook/Long NW3       *     -116.8     -379.1        6.0   *
     19. Brook/Long NW4       *     -175.6     -332.6        6.0   *
     20. Brook/Long NW5       *     -234.4     -286.1        6.0   *
     21. Binney/Long NE1      *      137.4     -466.5        6.0   *
     22. Binney/Long NE2      *      197.4     -511.4        6.0   *
     23. Binney/Long NE3      *      257.5     -556.3        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                        RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:55


       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
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   RECEPTOR                 *       X          Y          Z         *
-------------------------*------------------------------------*
24. Binney/Long NE4      *       302.7     -496.6        6.0   *
25. Binney/Long NE5      *       348.0     -436.8        6.0   *
26. Binney/Long SE1      *       399.8     -491.0        6.0   *
27. Binney/Long SE2      *       354.5     -550.8        6.0   *
28. Binney/Long SE3      *       309.3     -610.6        6.0   *
29. Binney/Long SE4      *       369.6     -655.0        6.0   *
30. Binney/Long SE5      *       429.3     -698.9        6.0   *
31. Binney/Long SW1      *       394.1     -778.9        6.0   *
32. Binney/Long SW2      *       340.7     -725.6        6.0   *
33. Binney/Long SW3      *       280.3     -681.2        6.0   *
34. Binney/Long SW4      *       234.3     -740.4        6.0   *
35. Binney/Long SW5      *       188.6     -799.2        6.0   *
36. Binney/Long NW1      *       131.4     -771.8        6.0   *
37. Binney/Long NW2      *       177.5     -712.5        6.0   *
38. Binney/Long NW3      *       223.5     -653.3        6.0   *
39. Binney/Long NW4      *       163.4     -608.4        6.0   *
40. Binney/Long NW5      *       103.4     -563.4        6.0   *
41. Beth/Brook SE1       *       463.4      227.5        6.0   *
42. Beth/Brook SE2       *       417.4      168.2        6.0   *
43. Beth/Brook SE3       *       371.4      109.0        6.0   *
44. Beth/Brook SE4       *       433.6       67.0        6.0   *
45. Beth/Brook SE5       *       495.7       25.1        6.0   *
46. Beth/Brook SW1       *       454.8      -29.4        6.0   *
47. Beth/Brook SW2       *       392.6       12.6        6.0   *
48. Beth/Brook SW3       *       330.5       54.6        6.0   *
49. Beth/Brook SW4       *       285.5       -5.5        6.0   *
50. Beth/Brook SW5       *       240.6      -65.5        6.0   *
51. Beth/Brook N1        *       191.3       12.2        6.0   *
52. Beth/Brook N2        *       242.0       79.9        6.0   *
53. Beth/Brook N3        *       287.0      140.0        6.0   *
54. Beth/Brook N4        *       332.7      199.4        6.0   *
55. Beth/Brook N5        *       372.8      251.0        6.0   *
♀
                          PAGE  5
  JOB: Winsor School                                         RUN: 2020NB


   MODEL RESULTS
   -------------

   REMARKS : In search of the angle corresponding to
             the maximum concentration, only the first
             angle, of the angles with same maximum
             concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    3.    3.    4.    2.    1.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.
  10.  *    0.    0.    0.    0.    0.    2.    3.    4.    2.    1.    2.    3.
5.    5.    4.    1.    1.    2.    2.    1.
  20.  *    0.    0.    1.    1.    1.    3.    4.    4.    2.    1.    2.    3.
5.    5.    4.    1.    1.    2.    2.    1.
  30.  *    0.    0.    3.    2.    2.    3.    3.    4.    2.    1.    2.    3.
```

```
5.     5.     5.     3.     3.     4.     2.     1.
  40.  *      1.     1.     5.     5.     4.     2.     2.     2.     1.     0.     1.     2.
4.     3.     3.     6.     6.     6.     3.     2.
  50.  *      1.     2.     6.     6.     5.     1.     1.     1.     0.     0.     1.     2.
2.     2.     1.     6.     7.     7.     3.     2.
  60.  *      1.     2.     6.     6.     5.     0.     0.     0.     0.     0.     1.     1.
2.     1.     1.     6.     6.     6.     4.     2.
  70.  *      1.     2.     6.     5.     4.     0.     0.     0.     0.     0.     1.     1.
2.     1.     0.     6.     6.     6.     4.     2.
  80.  *      1.     2.     5.     5.     4.     0.     0.     0.     0.     0.     1.     1.
2.     1.     0.     5.     5.     6.     4.     3.
  90.  *      1.     2.     5.     5.     4.     0.     0.     0.     0.     0.     1.     1.
2.     1.     0.     4.     5.     5.     4.     3.
 100.  *      1.     2.     4.     5.     4.     0.     0.     0.     0.     0.     1.     2.
2.     1.     0.     4.     5.     5.     4.     3.
 110.  *      2.     2.     4.     4.     4.     0.     0.     0.     0.     0.     1.     2.
2.     0.     0.     3.     4.     5.     4.     3.
 120.  *      2.     2.     5.     4.     4.     0.     0.     1.     1.     1.     1.     1.
1.     0.     0.     3.     4.     5.     3.     3.
 130.  *      3.     3.     5.     5.     4.     0.     0.     1.     1.     1.     1.     1.
1.     0.     0.     2.     4.     5.     3.     2.
 140.  *      3.     3.     6.     5.     4.     0.     0.     2.     2.     1.     0.     0.
0.     0.     0.     2.     4.     4.     2.     2.
 150.  *      3.     4.     5.     5.     5.     0.     0.     2.     2.     2.     0.     0.
0.     0.     0.     2.     4.     4.     2.     1.
 160.  *      3.     4.     5.     6.     5.     0.     1.     2.     2.     1.     0.     0.
0.     0.     0.     2.     4.     4.     2.     1.
 170.  *      2.     4.     6.     6.     6.     0.     1.     2.     2.     1.     0.     0.
0.     0.     0.     3.     4.     4.     2.     1.
 180.  *      2.     3.     6.     6.     6.     1.     1.     2.     2.     1.     0.     0.
0.     0.     0.     3.     4.     4.     2.     1.
 190.  *      2.     3.     6.     6.     6.     1.     1.     2.     2.     1.     0.     0.
0.     0.     0.     4.     4.     5.     2.     1.
 200.  *      2.     3.     6.     6.     7.     1.     1.     2.     2.     1.     0.     0.
0.     0.     0.     5.     4.     5.     2.     1.
 210.  *      1.     2.     6.     6.     6.     2.     2.     3.     2.     1.     0.     0.
1.     0.     1.     4.     4.     4.     1.     0.
 220.  *      1.     2.     4.     4.     4.     3.     3.     4.     2.     1.     0.     0.
2.     2.     1.     3.     3.     3.     0.     0.
 230.  *      1.     1.     2.     2.     2.     4.     4.     4.     3.     1.     0.     1.
3.     2.     2.     1.     1.     1.     0.     0.
 240.  *      0.     1.     2.     1.     1.     5.     4.     5.     3.     2.     1.     1.
4.     3.     2.     0.     0.     0.     0.     0.
 250.  *      0.     1.     1.     1.     0.     4.     4.     4.     4.     2.     1.     1.
4.     2.     2.     0.     0.     0.     0.     0.
 260.  *      0.     1.     2.     1.     0.     4.     4.     4.     4.     3.     1.     1.
4.     2.     2.     0.     0.     0.     0.     0.
 270.  *      0.     1.     2.     0.     0.     4.     4.     4.     4.     3.     1.     2.
4.     3.     1.     0.     0.     0.     0.     0.
 280.  *      0.     1.     2.     0.     0.     4.     4.     4.     4.     3.     1.     2.
4.     3.     1.     0.     0.     0.     0.     0.
 290.  *      0.     1.     2.     0.     0.     3.     4.     4.     3.     3.     1.     2.
3.     3.     1.     0.     0.     0.     0.     0.
 300.  *      0.     1.     1.     0.     0.     3.     4.     4.     3.     3.     2.     2.
4.     3.     1.     0.     0.     1.     0.     0.
 310.  *      1.     1.     1.     0.     0.     3.     4.     4.     3.     3.     2.     3.
4.     4.     1.     0.     0.     1.     1.     1.
 320.  *      0.     0.     0.     0.     0.     3.     3.     3.     2.     2.     3.     3.
5.     4.     2.     0.     0.     1.     1.     0.
 330.  *      0.     0.     0.     0.     0.     3.     3.     3.     2.     2.     3.     3.
4.     4.     2.     0.     0.     2.     1.     0.
 340.  *      0.     0.     0.     0.     0.     3.     4.     4.     2.     2.     3.     3.
4.     4.     2.     0.     0.     2.     1.     0.
```

```
 350.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    1.    3.    4.
5.   4.    3.    0.    1.    2.    1.    0.
 360.  *    0.    0.    0.    0.    0.    3.    3.    4.    2.    1.    3.    4.
5.   5.    4.    0.    1.    2.    2.    0.

------*------------------------------------------------------------------------------------
------------------------------------------
 MAX   *    3.    4.    6.    6.    7.    5.    4.    5.    4.    3.    3.    4.
5.   5.    5.    6.    7.    7.    4.    3.
 DEGR. *  150   150    50   200   200   240   240   240   260   290   340   350
20    20    30    50    50    50    70   110

♀
                                    PAGE  6
      JOB: Winsor School                                            RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
------------------------------------------
   0.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    1.    2.
2.   2.    2.    1.    1.    2.    2.    2.
  10.  *    1.    1.    1.    1.    1.    0.    1.    1.    0.    0.    0.    2.
2.   2.    1.    1.    1.    2.    2.    2.
  20.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    1.
2.   2.    2.    1.    1.    2.    2.    2.
  30.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
2.   2.    1.    1.    1.    2.    2.    2.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
2.   1.    1.    1.    1.    2.    2.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   1.    0.    1.    1.    1.    2.    1.
  60.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    1.    1.    1.    2.    1.
  70.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    1.    1.    2.    2.    1.
  80.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    2.    2.    2.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    2.    2.    2.
 100.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    1.    2.    2.
 110.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    1.    1.    2.
 120.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.   0.    0.    0.    1.    1.    1.    1.
 130.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.   0.    0.    0.    1.    1.    1.    1.
 140.  *    2.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    1.    1.    0.    0.
 150.  *    2.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 160.  *    2.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 170.  *    1.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 180.  *    1.    2.    2.    2.    1.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 190.  *    1.    1.    2.    1.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 200.  *    1.    1.    1.    1.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    2.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 260.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 270.  *    3.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    1.
1.    1.    0.    0.    0.    0.    1.    1.
 280.  *    3.    2.    2.    2.    2.    2.    2.    2.    3.    2.    1.    1.
1.    1.    0.    0.    1.    0.    1.    1.
 290.  *    3.    3.    2.    2.    1.    1.    2.    3.    3.    2.    1.    1.
2.    1.    0.    0.    0.    1.    1.    1.
 300.  *    3.    3.    2.    1.    1.    1.    2.    3.    3.    2.    1.    2.
2.    2.    0.    1.    1.    2.    2.    2.
 310.  *    3.    2.    2.    1.    1.    1.    2.    3.    2.    2.    2.    3.
3.    2.    1.    1.    1.    2.    2.    2.
 320.  *    2.    2.    1.    1.    1.    0.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    1.    3.    3.    3.
 330.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    2.    2.    3.    3.
 340.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
 350.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
 360.  *    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    1.    2.
2.    2.    2.    1.    1.    2.    2.    2.

------*----------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    2.    2.    2.    2.    2.    3.    3.    2.    2.    3.
3.    2.    2.    1.    2.    3.    3.    3.
 DEGR. *  290   290   290   290   280   280   280   300   300   300   320   320
320   330    20   350   340   320   330   320
```

♀

PAGE 7

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) *	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
	CONCENTRATION (ug/m**3)														
0. *	2.	3.	4.	1.	1.	1.	2.	4.	4.	4.	0.	0.	0.	0.	0.
10. *	2.	3.	4.	1.	1.	1.	2.	4.	4.	4.	0.	0.	0.	0.	0.
20. *	2.	3.	4.	1.	1.	1.	2.	4.	4.	5.	1.	1.	1.	0.	0.
30. *	2.	3.	3.	1.	1.	1.	2.	4.	4.	4.	2.	2.	2.	2.	2.
40. *	1.	2.	2.	1.	0.	1.	1.	3.	3.	3.	4.	4.	4.	3.	3.
50. *	0.	1.	1.	0.	0.	0.	1.	1.	1.	1.	5.	5.	5.	4.	4.
60. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	5.	4.	4.
70. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	4.	4.	4.	3.
80. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	4.	4.	4.
90. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	4.	4.	3.
100. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	4.	4.	3.	4.	4.
110. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	3.	4.	3.	4.	4.
120. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
130. *	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
140. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	3.	3.	4.	4.	4.
150. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	3.	3.	4.	4.	4.
160. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
170. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	4.
180. *	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	4.	4.	4.	4.	5.
190. *	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	4.	5.	5.	5.	5.
200. *	1.	1.	1.	1.	0.	0.	0.	1.	0.	0.	5.	5.	5.	5.	6.
210. *	2.	2.	2.	1.	0.	0.	0.	2.	2.	2.	5.	5.	5.	5.	5.
220. *	3.	4.	4.	2.	1.	0.	1.	4.	4.	3.	4.	4.	4.	3.	4.
230. *	5.	4.	5.	3.	1.	1.	2.	4.	4.	4.	2.	2.	1.	1.	1.
240. *	4.	4.	4.	3.	2.	1.	2.	4.	4.	3.	1.	0.	0.	0.	0.
250. *	4.	4.	4.	3.	2.	1.	2.	4.	4.	3.	0.	0.			

```
0.    0.    0.
 260.  *    4.    3.    4.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 270.  *    3.    3.    3.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 280.  *    3.    3.    3.    3.    2.    1.    2.    4.    4.    3.    0.    0.
0.    0.    0.
 290.  *    3.    3.    3.    2.    2.    1.    2.    3.    3.    3.    0.    0.
0.    0.    0.
 300.  *    3.    3.    3.    2.    2.    2.    2.    3.    3.    4.    0.    0.
0.    0.    0.
 310.  *    3.    4.    3.    2.    2.    2.    2.    3.    3.    3.    0.    0.
0.    0.    0.
 320.  *    2.    3.    3.    2.    1.    2.    2.    4.    3.    3.    0.    0.
0.    0.    0.
 330.  *    2.    3.    3.    2.    1.    2.    2.    4.    3.    3.    0.    0.
0.    0.    0.
 340.  *    2.    3.    3.    2.    1.    2.    2.    3.    3.    3.    0.    0.
0.    0.    0.
 350.  *    2.    3.    3.    2.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 360.  *    2.    3.    4.    1.    1.    1.    2.    4.    4.    4.    0.    0.
0.    0.    0.

------*-----------------------------------------------------------------------------
-------------
 MAX   *    5.    4.    5.    3.    2.    2.    2.    4.    4.    5.    5.    5.
5.    5.    6.
 DEGR. *  230   230   230   240   270   310     0   230    20    20    50    50
200   200   200

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC5 .
```

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:49

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *       99.
201. AG      0. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *       69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *      319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *      122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *      125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *       29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *     1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *      776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *       84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *       72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *       93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *       45.
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120. AG       0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG       0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG       0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG       0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG       0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG       0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG       0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG       0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG       0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG       0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                              PAGE  2
      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:49

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                  *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:49

       1. River/Long EB L     *      90        64        3.0       210        1600
 0.07      1        3
       2. River/Long EB TR    *      90        54        3.0       670        1600
 0.07      1        3
       3. River/Long NB LT    *      90        62        3.0       410        1600
 0.07      1        3
       4. River/Long WB LTR   *      90        54        3.0      1665        1600
 0.07      1        3
       5. River/Long SB LT    *      90        62        3.0       325        1600
 0.07      1        3
       6. River/Long SB R     *      90        64        3.0       200        1600
 0.07      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       705        1600
 0.07      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       215        1600
 0.07      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1200        1600
 0.07      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       135        1600
 0.07      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        75        1600
 0.07      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       740        1600
 0.07      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1280        1600
 0.07      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       205        1600
 0.07      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       630        1600
 0.07      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.07      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       540        1600
 0.07      1        3
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     18. River/Short EB TR   *      93        43       3.0       790        1600
0.07      1        3
     19. River/Short NB LR   *      93        73       3.0       225        1600
0.07      1        3
     20. River/Short WB LTR  *      93        43       3.0      1505        1600
0.07      1        3
     21. Brook/Long EB LTR   *     120        78       3.0       800        1600
0.07      1        3
     22. Brook/Long NB LT    *     120        78       3.0       460        1600
0.07      1        3
     23. Brook/Long NB R     *     120        66       3.0       285        1600
0.07      1        3
     24. Brook/Long WB TTR   *     120        66       3.0      1190        1600
0.07      1        3
     25. Brook/Long SB LTR   *     120        78       3.0       485        1600
0.07      1        3
     26. Beth/Brook EB TTR   *     120        72       3.0      1100        1600
0.07      1        3
     27. Beth/Brook NB LR    *     120        83       3.0       370        1600
0.07      1        3
     28. Beth/Brook WB LT    *     120       106       3.0       975        1600
0.07      1        3

      RECEPTOR LOCATIONS
      ------------------
                         *          COORDINATES (FT)         *
        RECEPTOR         *      X           Y          Z     *
    ---------------------*-----------------------------------*
     1. Short/River SE1  *        64.2      619.5       6.0   *
     2. Short/River SE2  *         0.6      579.2       6.0   *
     3. Short/River SE3  *       -62.3      538.9       6.0   *
     4. Short/River SE4  *        -2.3      494.0       6.0   *
     5. Short/River SE5  *        57.8      449.1       6.0   *
     6. Short/River SW1  *        -6.6      409.9       6.0   *
     7. Short/River SW2  *       -66.7      454.8       6.0   *
     8. Short/River SW3  *      -126.8      499.6       6.0   *
     9. Short/River SW4  *      -194.5      467.4       6.0   *
    10. Short/River SW5  *      -262.2      435.2       6.0   *
    11. Short/River N1   *      -300.6      529.9       6.0   *
    12. Short/River N2   *      -232.9      562.1       6.0   *
    13. Short/River N3   *      -165.2      594.3       6.0   *
    14. Short/River N4   *      -101.9      634.6       6.0   *
    15. Short/River N5   *       -38.7      674.9       6.0   *
♀
                                 PAGE  4
     JOB: Winsor School                                       RUN: 2020NB


      MODEL RESULTS
      -------------

      REMARKS : In search of the angle corresponding to
                the maximum concentration, only the first
                angle, of the angles with same maximum
                concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*--------------------------------------------------------------------------------------
-------------
   0.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
  10.  *    0.    1.    2.    1.    0.    0.    2.    3.    2.    2.    0.    0.
0.    0.    0.
  20.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    2.    0.    0.
0.    0.    0.
  30.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  40.  *    0.    1.    2.    0.    0.    0.    1.    3.    3.    3.    0.    0.
0.    0.    0.
  50.  *    0.    1.    1.    0.    0.    0.    1.    2.    3.    3.    1.    1.
1.    1.    0.
  60.  *    0.    0.    1.    0.    0.    0.    1.    2.    2.    3.    2.    2.
2.    1.    0.
  70.  *    0.    0.    1.    0.    0.    0.    1.    1.    1.    2.    2.    2.
3.    2.    1.
  80.  *    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    3.    3.
3.    3.    1.
  90.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    3.    3.
3.    3.    1.
 100.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    3.    3.
3.    3.    1.
 110.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    3.    3.
3.    3.    2.
 120.  *    0.    0.    0.    0.    1.    1.    1.    0.    0.    0.    2.    3.
2.    3.    2.
 130.  *    0.    0.    1.    1.    1.    1.    1.    0.    0.    0.    2.    2.
3.    3.    2.
 140.  *    0.    0.    1.    1.    1.    1.    1.    0.    0.    0.    2.    3.
3.    3.    3.
 150.  *    1.    1.    1.    1.    1.    1.    0.    0.    0.    0.    2.    3.
3.    4.    3.
 160.  *    1.    0.    1.    1.    1.    1.    1.    0.    0.    1.    2.    3.
3.    3.    3.
 170.  *    1.    0.    1.    1.    1.    1.    1.    1.    1.    1.    1.    2.
3.    3.    3.
 180.  *    1.    1.    2.    1.    1.    1.    1.    0.    0.    0.    0.    2.
3.    3.    4.
 190.  *    0.    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    2.
3.    3.    4.
 200.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
2.    3.    4.
 210.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
2.    3.    4.
 220.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    2.
2.    3.    3.
 230.  *    1.    1.    2.    0.    0.    0.    0.    1.    0.    0.    1.    2.
2.    3.    3.
 240.  *    2.    2.    3.    0.    0.    0.    0.    1.    1.    1.    1.    1.
2.    2.    2.
 250.  *    3.    3.    3.    1.    1.    1.    1.    2.    1.    1.    0.    1.
1.    1.    1.
 260.  *    3.    3.    3.    1.    1.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    2.    3.    3.    2.    1.    0.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 280.  *    2.    2.    3.    2.    1.    0.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 290.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 300.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
0.    0.    0.
 330.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 340.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 350.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    3.    3.    3.    2.    1.    1.    2.    3.    3.    3.    3.    3.
3.    4.    4.
 DEGR. *  250   250   260   290   290   330     0    40    40    50    90    90
80   150   210

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

```
♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/10/11
      TIME : 10: 2:45

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1621.2      18.4 *    1531.
330. AG      0. 100.0   1.0 20.0 1.24  77.8
       2. Brook/River EB LTR  *   -862.4   -1425.5    -920.1   -1500.8 *      95.
217. AG      0. 100.0   1.0 30.0 0.56   4.8
       3. Brook/River NB LTR  *   -792.2   -1400.7    -713.5   -1643.9 *     256.
162. AG      0. 100.0   1.0 20.0 0.94  13.0
       4. Brook/River WB LTTR *   -798.5   -1299.5    -693.3   -1171.1 *     166.
39. AG      0. 100.0   1.0 30.0 0.72   8.4
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1940.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2045.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2620.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1395.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/10/11
      TIME : 10: 2:45

       1. Brook/River SB LTR  *     120       79       3.0      1190       1600
 0.07      1        3
       2. Brook/River EB LTR  *     120       89       3.0       585       1600
 0.07      1        3
       3. Brook/River NB LTR  *     120       79       3.0       905       1600
 0.07      1        3
       4. Brook/River WB LTTR *     120       69       3.0      1320       1600
 0.07      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *         COORDINATES (FT)         *
         RECEPTOR             *      X          Y          Z        *
```

1. Brook/River NE1	*	-898.9	-1152.8	6.0	*
2. Brook/River NE2	*	-861.9	-1218.1	6.0	*
3. Brook/River NE3	*	-825.0	-1283.3	6.0	*
4. Brook/River NE4	*	-777.9	-1224.9	6.0	*
5. Brook/River NE5	*	-730.9	-1166.5	6.0	*
6. Brook/River SE1	*	-674.0	-1252.1	6.0	*
7. Brook/River SE2	*	-721.0	-1310.5	6.0	*
8. Brook/River SE3	*	-768.0	-1368.9	6.0	*
9. Brook/River SE4	*	-747.5	-1441.0	6.0	*
10. Brook/River SE5	*	-726.9	-1513.2	6.0	*
11. Brook/River SW1	*	-793.3	-1594.1	6.0	*
12. Brook/River SW2	*	-813.8	-1521.9	6.0	*
13. Brook/River SW3	*	-834.4	-1449.8	6.0	*
14. Brook/River SW4	*	-878.9	-1510.2	6.0	*
15. Brook/River SW5	*	-923.5	-1570.5	6.0	*
16. Brook/River NW1	*	-973.6	-1473.4	6.0	*
17. Brook/River NW2	*	-929.0	-1413.0	6.0	*
18. Brook/River NW3	*	-884.5	-1352.7	6.0	*
19. Brook/River NW4	*	-921.5	-1287.4	6.0	*
20. Brook/River NW5	*	-958.5	-1222.2	6.0	*

♀

PAGE 3

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR) * CONCENTRATION (ug/m**3)

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	4.	4.	4.	4.	3.	1.	1.	3.	3.	2.
10.	*	0.	0.	0.	0.	0.	2.	2.	3.	1.	1.	4.	4.	4.	4.	3.	1.	1.	2.	3.	2.
20.	*	0.	0.	0.	0.	0.	2.	2.	3.	1.	0.	4.	4.	5.	4.	4.	1.	2.	2.	2.	2.
30.	*	0.	0.	1.	0.	0.	1.	2.	2.	0.	0.	3.	4.	5.	3.	3.	2.	2.	3.	2.	2.
40.	*	0.	0.	2.	1.	0.	1.	1.	1.	0.	0.	2.	3.	4.	3.	2.	3.	3.	3.	2.	2.
50.	*	0.	0.	3.	2.	1.	0.	0.	0.	0.	0.	2.	3.	3.	2.	2.	3.	3.	4.	3.	2.
60.	*	0.	0.	3.	3.	1.	0.	0.	0.	0.	0.	2.	2.	3.	2.	1.	3.	3.	4.	3.	2.
70.	*	0.	1.	3.	3.	2.	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	4.	4.	3.
80.	*	0.	1.	3.	3.	2.	0.	0.	0.	0.	0.	1.	3.	3.	2.	1.	3.	3.	4.	4.	3.
90.	*	1.	1.	3.	3.	2.	0.	0.	0.	0.	0.	1.	2.	2.	2.	1.	3.	3.	4.	4.	3.

```
 100.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    2.
3.   2.    0.    3.    3.    4.    4.    3.
 110.  *    1.    1.    2.    3.    2.    0.    0.    0.    0.    0.    0.    3.
3.   1.    0.    2.    3.    4.    4.    4.
 120.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    3.
3.   1.    0.    2.    3.    4.    4.    4.
 130.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    2.
3.   1.    0.    2.    3.    4.    4.    4.
 140.  *    2.    2.    2.    2.    2.    0.    0.    0.    0.    0.    0.    2.
3.   0.    0.    1.    2.    4.    3.    4.
 150.  *    3.    3.    3.    3.    3.    0.    0.    0.    0.    0.    0.    1.
2.   0.    0.    1.    2.    3.    3.    3.
 160.  *    4.    4.    4.    3.    3.    0.    0.    1.    1.    0.    0.    1.
1.   0.    0.    1.    2.    2.    2.    2.
 170.  *    4.    4.    5.    4.    3.    0.    0.    2.    2.    1.    0.    0.
1.   0.    0.    1.    2.    2.    1.    1.
 180.  *    3.    4.    5.    4.    4.    0.    1.    3.    3.    2.    0.    0.
0.   0.    0.    1.    2.    2.    1.    1.
 190.  *    3.    3.    5.    5.    4.    1.    1.    4.    3.    2.    0.    0.
0.   0.    0.    1.    2.    2.    1.    0.
 200.  *    2.    3.    4.    4.    4.    1.    2.    3.    3.    2.    0.    0.
0.   0.    0.    1.    1.    2.    0.    0.
 210.  *    2.    2.    4.    3.    4.    2.    2.    3.    3.    3.    0.    0.
1.   0.    0.    1.    1.    1.    0.    0.
 220.  *    2.    2.    3.    2.    2.    2.    3.    4.    3.    3.    0.    0.
1.   1.    0.    0.    0.    1.    0.    0.
 230.  *    2.    2.    2.    2.    1.    3.    3.    4.    3.    3.    0.    0.
2.   1.    1.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    3.    4.    4.    4.    3.    0.    0.
2.   1.    1.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    3.    0.    0.
2.   1.    1.    0.    0.    0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    3.    0.    1.
2.   1.    1.    0.    0.    0.    0.    0.
 270.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.   2.    1.    0.    0.    0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.   2.    1.    0.    0.    0.    0.    0.
 290.  *    2.    2.    3.    1.    0.    3.    3.    4.    4.    4.    1.    1.
2.   2.    1.    0.    0.    0.    0.    0.
 300.  *    2.    2.    3.    1.    0.    3.    3.    4.    4.    4.    1.    1.
2.   2.    1.    0.    0.    0.    0.    0.
 310.  *    2.    2.    3.    1.    0.    3.    3.    4.    5.    5.    1.    1.
2.   2.    1.    0.    0.    0.    0.    0.
 320.  *    2.    2.    2.    0.    0.    2.    3.    4.    5.    5.    1.    2.
2.   2.    1.    0.    0.    1.    1.    0.
 330.  *    1.    1.    2.    0.    0.    2.    2.    3.    4.    5.    2.    2.
3.   2.    1.    0.    0.    2.    2.    1.
 340.  *    0.    0.    1.    0.    0.    2.    2.    3.    3.    3.    3.    3.
4.   3.    2.    0.    1.    3.    2.    2.
 350.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    4.    4.
4.   4.    2.    0.    1.    3.    3.    2.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    4.
4.   4.    3.    1.    1.    3.    3.    2.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    4.    5.    5.    4.    3.    4.    4.    5.    5.    4.    4.
5.   4.    4.    3.    3.    4.    4.    4.
 DEGR. *  170   170   170   190   190   240   240   310   320   320     0    10
20    10    20    60    60    60   120   130

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC3 .
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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                          RUN: 2020 NB


      DATE :  1/10/11
      TIME :  9:22:10

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24428.6   43919.1 *      85.
37. AG      0. 100.0   1.0 30.0 0.44   4.3
       2. Boylston WB Q2      *  24434.8   43765.0   24541.7   43803.3 *     114.
70. AG      1. 100.0   1.0 40.0 0.76   5.8
       3. Park Dr NB Q3       *  24314.0   43650.6   24348.6   43602.0 *      60.
145. AG      0. 100.0   1.0 40.0 0.31   3.0
       4. Brookline EB Q4     *  24250.4   43637.9   23384.9   42534.0 *    1403.
218. AG      1. 100.0   1.0 40.0 1.33  71.3
       5. Brookline Q27       *  24079.2   43421.1   23862.1   43121.2 *     370.
216. AG      0. 100.0   1.0 20.0 1.01  18.8
       6. Fenway Q28          *  24063.7   43526.1   22982.9   44810.9 *    1679.
320. AG      0. 100.0   1.0 20.0 1.17  85.3
       7. Brookline Q29       *  24121.4   43515.8   24223.3   43643.0 *     163.
39. AG      0. 100.0   1.0 20.0 0.80   8.3
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   2953.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1451.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1148.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1369.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2379.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2517.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    928.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1676.   0.0   1.0 42.0
♀
                         PAGE  2
      JOB: Winsor School                                          RUN: 2020 NB


      DATE :  1/10/11
      TIME :  9:22:10
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```
      1. Brookline SB Q1     *      100        53        3.0        882        1600
0.07     1        3
      2. Boylston WB Q2      *      100        73        3.0       1071        1600
0.07     1        3
      3. Park Dr NB Q3       *      100        53        3.0        825        1600
0.07     1        3
      4. Brookline EB Q4     *      100        74        3.0       1794        1600
0.07     1        3
      5. Brookline Q27       *      100        54        3.0       1323        1600
0.07     1        3
      6. Fenway Q28          *      100        46        3.0       1830        1600
0.07     1        3
      7. Brookline Q29       *      100        54        3.0       1056        1600
0.07     1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0
39. R61	24161.0	43638.3	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	CONCENTRATION (ug/m**3)																			
0.	4.	5.	3.	0.	0.	0.	2.	2.	1.	1.	1.	1.	5.	6.	4.	2.	3.	2.	2.	1.
10.	5.	5.	3.	0.	0.	0.	2.	2.	1.	1.	1.	1.	6.	6.	4.	2.	3.	2.	2.	1.
20.	4.	5.	3.	0.	1.	0.	2.	2.	1.	1.	1.	1.	6.	6.	4.	2.	3.	2.	2.	1.
30.	4.	4.	2.	1.	1.	0.	2.	2.	1.	1.	2.	2.	5.	6.	3.	2.	2.	2.	1.	0.
40.	3.	3.	2.	2.	2.	1.	2.	3.	2.	2.	4.	4.	3.	4.	2.	2.	2.	1.	1.	0.
50.	3.	2.	2.	4.	4.	2.	3.	4.	3.	3.	6.	6.	2.	3.	2.	1.	2.	1.	0.	0.
60.	2.	2.	1.	5.	6.	3.	4.	5.	4.	4.	6.	6.	1.	2.	1.	1.	1.	1.	1.	0.
70.	1.	1.	1.	6.	6.	4.	5.	6.	4.	4.	6.	5.	1.	1.	1.	0.	0.	0.	1.	1.
80.	1.	1.	0.	5.	5.	4.	5.	5.	4.	3.	5.	5.	1.	1.	1.	0.	0.	0.	3.	2.
90.	1.	0.	0.	5.	4.	3.	4.	5.	3.	3.	4.	4.	1.	1.	1.	0.	0.	0.	3.	2.
100.	1.	0.	1.	4.	4.	3.	4.	5.	3.	3.	4.	4.	0.	1.	1.	0.	0.	0.	3.	2.
110.	1.	0.	1.	4.	4.	3.	4.	4.	3.	3.	4.	4.	0.	1.	1.	0.	0.	0.	3.	2.
120.	1.	0.	0.	4.	4.	3.	4.	4.	3.	2.	4.	3.	0.	1.	0.	0.	0.	0.	3.	2.
130.	0.	0.	0.	4.	4.	3.	3.	4.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	3.	2.
140.	0.	0.	0.	4.	4.	3.	3.	3.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	3.	3.
150.	0.	0.	0.	4.	4.	3.	2.	3.	2.	2.	3.	3.	0.	0.	0.	0.	0.	0.	3.	3.
160.	0.	0.	0.	4.	5.	4.	2.	3.	2.	2.	4.	4.	0.	0.	0.	0.	0.	0.	3.	3.
170.	0.	0.	0.	4.	5.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	1.	0.	3.	3.
180.	0.	0.	0.	5.	5.	4.	2.	3.	2.	3.	4.	4.	0.	0.	0.	0.	1.	0.	3.	3.
190.	0.	0.	0.	5.	5.	4.	2.	3.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	3.	4.
200.	0.	1.	0.	5.	6.	4.	2.	3.	2.	2.	4.	4.	0.	0.	0.	1.	1.	0.	3.	4.
210.	2.	2.	1.	4.	4.	3.	1.	2.	1.	1.	3.	3.	1.	1.	0.	1.	1.	0.	5.	4.

```
 220.  *    4.    4.    2.    3.    3.    2.    0.    1.    0.    0.    2.    1.
2.    3.    1.    1.    2.    1.    6.    5.
 230.  *    5.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    2.    2.    3.    2.    6.    6.
 240.  *    5.    6.    3.    1.    2.    1.    0.    0.    0.    0.    0.    0.
4.    5.    3.    2.    4.    2.    4.    4.
 250.  *    5.    5.    3.    1.    1.    1.    0.    0.    0.    0.    0.    0.
4.    5.    3.    3.    4.    2.    3.    3.
 260.  *    5.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    2.    2.    2.
 270.  *    5.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    3.    2.    2.    2.
 280.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    3.    3.    2.    2.
 290.  *    4.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    4.    3.    2.    2.
 300.  *    4.    5.    3.    0.    2.    1.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    4.    3.    2.    1.
 310.  *    4.    5.    3.    0.    1.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    1.
 320.  *    4.    4.    3.    0.    1.    0.    0.    1.    0.    0.    0.    0.
4.    4.    3.    3.    4.    2.    2.    1.
 330.  *    4.    4.    3.    0.    0.    0.    1.    1.    0.    0.    0.    0.
4.    5.    4.    2.    3.    2.    2.    1.
 340.  *    4.    4.    3.    0.    0.    0.    2.    2.    1.    0.    0.    0.
5.    6.    4.    2.    3.    2.    2.    1.
 350.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    1.    0.
5.    6.    4.    3.    3.    2.    2.    1.
 360.  *    4.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
5.    6.    4.    2.    3.    2.    2.    1.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    5.    6.    4.    6.    6.    4.    5.    6.    4.    4.    6.    6.
6.    6.    4.    3.    4.    3.    6.    6.
 DEGR. *  240   240   280    70    70   190    70    70    70    60    60    60
20    20   350   310   310   300   230   230
```

♀

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                              PAGE  4
      JOB: Winsor School                                          RUN: 2020 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*--------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    4.    4.    4.    1.    1.    1.
  10.  *    1.    2.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
```

```
2.      5.      4.      4.      1.      1.      0.
  20.    *      0.      1.      1.      0.      0.      0.      0.      0.      3.      3.      3.      2.
2.      5.      4.      4.      1.      1.      1.
  30.    *      0.      1.      1.      0.      0.      1.      0.      0.      3.      3.      3.      2.
1.      5.      3.      4.      1.      1.      1.
  40.    *      0.      0.      0.      0.      0.      1.      1.      1.      3.      3.      3.      2.
1.      4.      3.      3.      2.      1.      2.
  50.    *      0.      0.      0.      0.      1.      2.      2.      2.      3.      3.      3.      2.
1.      5.      2.      3.      3.      2.      4.
  60.    *      0.      0.      0.      0.      1.      2.      2.      2.      3.      3.      3.      1.
0.      4.      2.      2.      5.      2.      5.
  70.    *      1.      0.      0.      1.      1.      3.      2.      2.      2.      2.      2.      0.
0.      3.      1.      1.      6.      2.      6.
  80.    *      2.      1.      0.      1.      2.      4.      3.      3.      1.      1.      1.      0.
0.      2.      1.      1.      6.      3.      6.
  90.    *      2.      2.      1.      2.      2.      4.      3.      3.      0.      0.      0.      0.
0.      2.      1.      1.      6.      4.      5.
 100.    *      2.      2.      1.      2.      2.      3.      3.      3.      0.      0.      0.      0.
0.      2.      1.      1.      5.      3.      4.
 110.    *      2.      2.      1.      2.      2.      3.      3.      3.      0.      0.      0.      0.
0.      2.      1.      1.      5.      3.      4.
 120.    *      2.      2.      1.      2.      2.      3.      3.      3.      0.      0.      0.      0.
0.      2.      2.      1.      5.      4.      4.
 130.    *      2.      2.      1.      2.      2.      3.      3.      3.      0.      0.      0.      0.
0.      2.      1.      0.      4.      3.      4.
 140.    *      2.      2.      1.      3.      3.      4.      2.      3.      1.      0.      0.      1.
1.      1.      1.      0.      4.      3.      4.
 150.    *      2.      2.      1.      3.      4.      5.      3.      3.      1.      0.      0.      1.
1.      0.      0.      0.      4.      2.      4.
 160.    *      2.      3.      1.      3.      4.      5.      3.      3.      2.      1.      0.      2.
2.      0.      0.      0.      4.      2.      4.
 170.    *      2.      3.      2.      3.      4.      5.      4.      3.      2.      1.      0.      2.
2.      0.      0.      0.      4.      2.      4.
 180.    *      2.      3.      2.      3.      4.      5.      4.      3.      2.      1.      0.      1.
1.      0.      0.      0.      5.      3.      5.
 190.    *      2.      3.      2.      3.      4.      5.      4.      4.      2.      1.      1.      1.
1.      0.      0.      0.      5.      3.      5.
 200.    *      3.      3.      2.      3.      4.      6.      5.      4.      2.      1.      1.      1.
1.      1.      0.      0.      5.      3.      5.
 210.    *      4.      4.      3.      2.      3.      6.      5.      4.      3.      1.      1.      1.
1.      2.      0.      2.      4.      2.      4.
 220.    *      5.      5.      4.      2.      2.      4.      3.      3.      4.      2.      2.      2.
2.      4.      1.      4.      3.      1.      3.
 230.    *      6.      4.      4.      1.      2.      2.      2.      1.      6.      3.      3.      3.
2.      5.      2.      5.      1.      1.      1.
 240.    *      4.      3.      3.      1.      1.      1.      1.      1.      6.      4.      3.      4.
3.      6.      3.      6.      0.      0.      1.
 250.    *      3.      2.      2.      1.      1.      1.      1.      1.      6.      4.      4.      4.
3.      5.      3.      5.      0.      0.      1.
 260.    *      2.      2.      2.      1.      1.      1.      1.      0.      5.      4.      4.      4.
3.      5.      3.      5.      0.      0.      1.
 270.    *      1.      2.      2.      1.      1.      1.      1.      0.      5.      4.      4.      4.
3.      5.      3.      5.      0.      0.      1.
 280.    *      1.      2.      2.      1.      1.      1.      1.      0.      5.      4.      4.      4.
3.      4.      3.      4.      0.      0.      0.
 290.    *      1.      2.      1.      1.      1.      1.      1.      0.      5.      4.      3.      4.
3.      4.      3.      4.      0.      0.      0.
 300.    *      1.      2.      1.      1.      1.      1.      0.      0.      5.      3.      3.      4.
3.      4.      3.      4.      0.      0.      0.
 310.    *      1.      2.      1.      1.      1.      1.      0.      0.      4.      3.      3.      4.
3.      4.      2.      4.      0.      0.      0.
 320.    *      1.      1.      1.      0.      0.      0.      0.      0.      4.      2.      3.      3.
3.      4.      3.      4.      1.      1.      0.
```

```
 330.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    2.    3.    2.
2.    4.    3.    4.    1.    1.    0.
 340.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    4.    1.    1.    0.
 350.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    1.
 360.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    4.    4.    4.    1.    1.    1.

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *    6.    5.    4.    3.    4.    6.    5.    4.    6.    4.    4.    4.
3.    6.    4.    6.    6.    4.    6.
 DEGR. *  230   220   220   190   190   200   200   210   240   250   260   300
300   240     0   240    80   120    70

 THE HIGHEST CONCENTRATION OF      6. ug/m**3 OCCURRED AT RECEPTOR REC14.
```

Particulate Matter 2.5 ($PM_{2.5}$)

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                            RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:29

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *       99.
201. AG      0. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *       69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *      319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *      122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *      125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *       29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *     1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *      776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *       84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *       72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *       93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *       45.
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120. AG      0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG      0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG      0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG      0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                        RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:29

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                       RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:29

       1. River/Long EB L     *      90        64        3.0       210        1600
 0.03     1        3
       2. River/Long EB TR    *      90        54        3.0       670        1600
 0.03     1        3
       3. River/Long NB LT    *      90        62        3.0       410        1600
 0.03     1        3
       4. River/Long WB LTR   *      90        54        3.0      1665        1600
 0.03     1        3
       5. River/Long SB LT    *      90        62        3.0       325        1600
 0.03     1        3
       6. River/Long SB R     *      90        64        3.0       200        1600
 0.03     1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       705        1600
 0.03     1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       215        1600
 0.03     1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1200        1600
 0.03     1        3
      10. Brook/Deacon SB LR  *     120        90        3.0       135        1600
 0.03     1        3
      11. Brook/Joslin EB L   *     120        70        3.0        75        1600
 0.03     1        3
      12. Brook/Joslin EB T   *     120        70        3.0       740        1600
 0.03     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1280        1600
 0.03     1        3
      14. Binney/Long EB LTR  *     120        90        3.0       205        1600
 0.03     1        3
      15. Binney/Long NB LTR  *     120        49        3.0       630        1600
 0.03     1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.03     1        3
      17. Binney/Long SB LTR  *     120        49        3.0       540        1600
 0.03     1        3
```

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      18. River/Short EB TR   *      93        43        3.0        790        1600
0.03      1        3
      19. River/Short NB LR   *      93        73        3.0        225        1600
0.03      1        3
      20. River/Short WB LTR  *      93        43        3.0       1505        1600
0.03      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        800        1600
0.03      1        3
      22. Brook/Long NB LT    *     120        78        3.0        460        1600
0.03      1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
0.03      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1190        1600
0.03      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        485        1600
0.03      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1100        1600
0.03      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.03      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        975        1600
0.03      1        3

       RECEPTOR LOCATIONS
       ------------------
                             *           COORDINATES (FT)          *
         RECEPTOR            *      X           Y           Z      *
     -------------------------*------------------------------------*
      1. River/Long NE1      *      -978.8      215.4        6.0   *
      2. River/Long NE2      *      -904.3      201.6        6.0   *
      3. River/Long NE3      *      -831.3      188.0        6.0   *
      4. River/Long NE4      *      -788.0      251.3        6.0   *
      5. River/Long NE5      *      -746.6      311.8        6.0   *
      6. River/Long SE1      *      -639.8      294.3        6.0   *
      7. River/Long SE2      *      -682.2      232.4        6.0   *
      8. River/Long SE3      *      -724.5      170.5        6.0   *
      9. River/Long SE4      *      -662.6      128.1        6.0   *
     10. River/Long SE5      *      -600.7       85.8        6.0   *
     11. River/Long SW1      *      -638.2       21.8        6.0   *
     12. River/Long SW2      *      -700.1       64.1        6.0   *
     13. River/Long SW3      *      -762.0      106.5        6.0   *
     14. River/Long SW4      *      -790.3       37.0        6.0   *
     15. River/Long SW5      *      -818.6      -32.5        6.0   *
     16. River/Long NW1      *      -921.8      -26.0        6.0   *
     17. River/Long NW2      *      -893.5       43.5        6.0   *
     18. River/Long NW3      *      -865.2      112.9        6.0   *
     19. River/Long NW4      *      -938.9      126.7        6.0   *
     20. River/Long NW5      *     -1012.7      140.4        6.0   *
     21. Brook/Deacon NE1    *      -468.0     -576.8        6.0   *
     22. Brook/Deacon NE2    *      -408.9     -623.0        6.0   *
     23. Brook/Deacon NE3    *      -349.9     -669.2        6.0   *
♀
                          PAGE  4
      JOB: Winsor School                                    RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:29


       RECEPTOR LOCATIONS
       ------------------
                             *           COORDINATES (FT)          *
```

RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2020NB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.
10.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.	0.	0.	1.	1.	0.
20.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	1.	1.	1.	1.	1.	1.	0.
30.	*	0.	0.	1.	1.	0.	0.	1.	1.	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	1.	0.
40.	*	0.	0.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	2.	2.	1.	1.
50.	*	0.	0.	2.	2.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	2.	2.	2.	1.	1.

```
  60.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    1.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    2.    2.    2.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    2.    2.
  90.  *    1.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 100.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    1.    1.    1.
 110.  *    1.    1.    2.    1.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 120.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 130.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 140.  *    1.    1.    2.    2.    1.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 150.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 160.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    1.    2.    0.    0.
 170.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 180.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 190.  *    1.    1.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *    0.    1.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    0.    1.    1.    1.    2.    1.    1.    1.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 220.  *    0.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 230.  *    0.    1.    1.    0.    0.    2.    2.    2.    1.    0.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    0.    1.    1.    0.    0.    2.    2.    2.    1.    1.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 270.  *    0.    0.    1.    0.    0.    1.    1.    2.    2.    1.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    1.    1.    2.    2.    1.    1.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    0.    0.
 310.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 320.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    1.    0.    0.    1.    1.    0.
 330.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
```

```
------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    2.    2.    2.    2.    2.    2.    2.    2.    1.    1.    1.
2.    2.    2.    2.    2.    2.    2.    2.
 DEGR. *  120   150    60   190   190   240   250   220   280   280   320   340
0   350     0    40    50    60    60    80

♀
                                    PAGE  6
      JOB: Winsor School                                        RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    0.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  30.  *    0.    0.    1.    1.    1.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    1.    1.    2.    0.    0.
  40.  *    0.    1.    2.    2.    2.    1.    2.    2.    1.    0.    0.    1.
2.    2.    2.    2.    2.    2.    1.    0.
  50.  *    1.    1.    2.    3.    3.    1.    1.    0.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    1.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    1.    1.    1.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 100.  *    0.    1.    1.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 110.  *    0.    1.    1.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 120.  *    0.    1.    1.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 130.  *    0.    0.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 140.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 150.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 160.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
```

```
 170.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 180.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 190.  *    0.    0.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *    0.    0.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 210.  *    0.    0.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 220.  *    0.    0.    0.    1.    1.    1.    1.    1.    0.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 230.  *    0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    1.    2.    1.    1.    0.    1.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    2.    1.    0.    0.    0.    0.    0.
 360.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    0.    1.
2.    2.    2.    0.    0.    0.    0.    0.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    1.    2.    3.    3.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    2.    2.    2.    1.    1.
 DEGR. *   50    60    50    50    50    30    30    30    30    10    10    30
20    20    30    50    50    50    60    70

♀
                                 PAGE  7
      JOB: Winsor School                                          RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
10.	*	0.	0.	0.	0.	0.	2.	1.	2.	2.	2.
20.	*	0.	0.	0.	0.	1.	2.	2.	2.	2.	2.
30.	*	0.	0.	1.	1.	2.	2.	2.	2.	2.	2.
40.	*	0.	1.	2.	2.	3.	2.	1.	2.	2.	2.
50.	*	1.	1.	3.	3.	3.	1.	0.	1.	1.	1.
60.	*	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
70.	*	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
80.	*	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
90.	*	1.	1.	2.	2.	2.	0.	0.	0.	1.	0.
100.	*	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
110.	*	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
120.	*	0.	1.	2.	1.	1.	0.	0.	0.	1.	0.
130.	*	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
140.	*	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
150.	*	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
160.	*	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
170.	*	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
180.	*	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
190.	*	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
200.	*	0.	0.	2.	2.	2.	0.	0.	0.	0.	0.
210.	*	0.	0.	2.	2.	2.	0.	0.	1.	1.	0.
220.	*	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
230.	*	0.	0.	0.	0.	1.	1.	1.	1.	2.	1.
240.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	1.
250.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
260.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
270.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
280.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
290.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
300.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
310.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
320.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
330.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
340.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.
350.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
360.	*	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
MAX	*	1.	1.	3.	3.	3.	2.	2.	2.	2.	2.
DEGR.	*	70	60	50	50	50	30	30	30	20	20

THE HIGHEST CONCENTRATION OF 3. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                            RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:35

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -846.7       0.0 *      99.
201. AG      0. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT    *   -736.1     146.0    -675.8     111.3 *      69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR   *   -795.7     191.2    -618.9     456.3 *     319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT    *   -860.9     156.1    -980.5     178.2 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *     125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *    5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *      33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *      29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *    1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *     776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *      84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *      72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *      93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *      45.
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120. AG      0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG      0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG      0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG      0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                    RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:35

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                           *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:35

       1. River/Long EB L     *      90        64        3.0        210        1600
 0.03      1        3
       2. River/Long EB TR    *      90        54        3.0        670        1600
 0.03      1        3
       3. River/Long NB LT    *      90        62        3.0        410        1600
 0.03      1        3
       4. River/Long WB LTR   *      90        54        3.0       1665        1600
 0.03      1        3
       5. River/Long SB LT    *      90        62        3.0        325        1600
 0.03      1        3
       6. River/Long SB R     *      90        64        3.0        200        1600
 0.03      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0        705        1600
 0.03      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0        215        1600
 0.03      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0       1200        1600
 0.03      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0        135        1600
 0.03      1        3
      11. Brook/Joslin EB L   *     120        70        3.0         75        1600
 0.03      1        3
      12. Brook/Joslin EB T   *     120        70        3.0        740        1600
 0.03      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0       1280        1600
 0.03      1        3
      14. Binney/Long EB LTR  *     120        90        3.0        205        1600
 0.03      1        3
      15. Binney/Long NB LTR  *     120        49        3.0        630        1600
 0.03      1        3
      16. Binney/Long WB LTR  *     120        90        3.0        220        1600
 0.03      1        3
      17. Binney/Long SB LTR  *     120        49        3.0        540        1600
 0.03      1        3
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     18. River/Short EB TR   *      93        43        3.0        790        1600
0.03      1        3
     19. River/Short NB LR   *      93        73        3.0        225        1600
0.03      1        3
     20. River/Short WB LTR  *      93        43        3.0       1505        1600
0.03      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        800        1600
0.03      1        3
     22. Brook/Long NB LT    *     120        78        3.0        460        1600
0.03      1        3
     23. Brook/Long NB R     *     120        66        3.0        285        1600
0.03      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       1190        1600
0.03      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        485        1600
0.03      1        3
     26. Beth/Brook EB TTR   *     120        72        3.0       1100        1600
0.03      1        3
     27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.03      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        975        1600
0.03      1        3

      RECEPTOR LOCATIONS
      ------------------
                         *           COORDINATES (FT)           *
        RECEPTOR         *      X          Y           Z        *
    ---------------------*----------------------------------------*
     1. Brook/Long NE1       *      -189.0     -227.6         6.0   *
     2. Brook/Long NE2       *      -130.2     -274.2         6.0   *
     3. Brook/Long NE3       *       -71.4     -320.7         6.0   *
     4. Brook/Long NE4       *       -24.6     -262.1         6.0   *
     5. Brook/Long NE5       *        22.3     -203.5         6.0   *
     6. Brook/Long SE1       *       107.1     -254.3         6.0   *
     7. Brook/Long SE2       *        60.3     -312.9         6.0   *
     8. Brook/Long SE3       *        13.5     -371.5         6.0   *
     9. Brook/Long SE4       *        72.9     -417.2         6.0   *
    10. Brook/Long SE5       *       132.4     -463.0         6.0   *
    11. Brook/Long SW1       *        72.2     -540.4         6.0   *
    12. Brook/Long SW2       *        12.8     -494.6         6.0   *
    13. Brook/Long SW3       *       -46.6     -448.9         6.0   *
    14. Brook/Long SW4       *       -91.9     -508.7         6.0   *
    15. Brook/Long SW5       *      -137.1     -568.6         6.0   *
    16. Brook/Long NW1       *      -207.2     -498.8         6.0   *
    17. Brook/Long NW2       *      -162.0     -439.0         6.0   *
    18. Brook/Long NW3       *      -116.8     -379.1         6.0   *
    19. Brook/Long NW4       *      -175.6     -332.6         6.0   *
    20. Brook/Long NW5       *      -234.4     -286.1         6.0   *
    21. Binney/Long NE1      *       137.4     -466.5         6.0   *
    22. Binney/Long NE2      *       197.4     -511.4         6.0   *
    23. Binney/Long NE3      *       257.5     -556.3         6.0   *
♀
                           PAGE  4
     JOB: Winsor School                                      RUN: 2020NB


     DATE :  1/13/11
     TIME : 15:58:35


      RECEPTOR LOCATIONS
      ------------------
                         *           COORDINATES (FT)           *
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       RECEPTOR              *      X          Y          Z        *
   -------------------------*------------------------------------*
   24. Binney/Long NE4       *       302.7     -496.6        6.0   *
   25. Binney/Long NE5       *       348.0     -436.8        6.0   *
   26. Binney/Long SE1       *       399.8     -491.0        6.0   *
   27. Binney/Long SE2       *       354.5     -550.8        6.0   *
   28. Binney/Long SE3       *       309.3     -610.6        6.0   *
   29. Binney/Long SE4       *       369.6     -655.0        6.0   *
   30. Binney/Long SE5       *       429.3     -698.9        6.0   *
   31. Binney/Long SW1       *       394.1     -778.9        6.0   *
   32. Binney/Long SW2       *       340.7     -725.6        6.0   *
   33. Binney/Long SW3       *       280.3     -681.2        6.0   *
   34. Binney/Long SW4       *       234.3     -740.4        6.0   *
   35. Binney/Long SW5       *       188.6     -799.2        6.0   *
   36. Binney/Long NW1       *       131.4     -771.8        6.0   *
   37. Binney/Long NW2       *       177.5     -712.5        6.0   *
   38. Binney/Long NW3       *       223.5     -653.3        6.0   *
   39. Binney/Long NW4       *       163.4     -608.4        6.0   *
   40. Binney/Long NW5       *       103.4     -563.4        6.0   *
   41. Beth/Brook SE1        *       463.4      227.5        6.0   *
   42. Beth/Brook SE2        *       417.4      168.2        6.0   *
   43. Beth/Brook SE3        *       371.4      109.0        6.0   *
   44. Beth/Brook SE4        *       433.6       67.0        6.0   *
   45. Beth/Brook SE5        *       495.7       25.1        6.0   *
   46. Beth/Brook SW1        *       454.8      -29.4        6.0   *
   47. Beth/Brook SW2        *       392.6       12.6        6.0   *
   48. Beth/Brook SW3        *       330.5       54.6        6.0   *
   49. Beth/Brook SW4        *       285.5       -5.5        6.0   *
   50. Beth/Brook SW5        *       240.6      -65.5        6.0   *
   51. Beth/Brook N1         *       191.3       12.2        6.0   *
   52. Beth/Brook N2         *       242.0       79.9        6.0   *
   53. Beth/Brook N3         *       287.0      140.0        6.0   *
   54. Beth/Brook N4         *       332.7      199.4        6.0   *
   55. Beth/Brook N5         *       372.8      251.0        6.0   *
♀
                             PAGE  5
     JOB: Winsor School                                         RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-----------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.
  10.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
2.    2.    2.    1.    1.    1.    1.    0.
  30.  *    0.    0.    1.    1.    1.    2.    2.    2.    1.    0.    1.    2.
```

```
2.    2.    2.    2.    2.    2.    1.    0.
  40.  *    0.    1.    3.    2.    2.    1.    1.    1.    0.    0.    1.    1.
2.    2.    1.    3.    3.    3.    1.    1.
  50.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    3.    3.    3.    2.    1.
  60.  *    1.    1.    3.    3.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    3.    3.    3.    2.    1.
  70.  *    1.    1.    3.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    3.    3.    3.    2.    1.
  80.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    2.    3.    2.    1.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    2.    2.    3.    2.    2.
 100.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    2.    2.    2.    2.
 110.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    1.    1.
1.    0.    0.    2.    2.    2.    2.    2.
 120.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    2.    2.    2.
 130.  *    1.    2.    2.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 140.  *    2.    2.    3.    2.    2.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 150.  *    2.    2.    3.    3.    2.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 160.  *    1.    2.    2.    3.    2.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 170.  *    1.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 180.  *    1.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 190.  *    1.    2.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    0.
 200.  *    1.    1.    3.    3.    3.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    0.
 210.  *    0.    1.    2.    3.    3.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.    2.    2.    2.    0.    0.
 220.  *    0.    1.    2.    2.    2.    2.    2.    2.    1.    0.    0.    0.
1.    1.    1.    1.    1.    1.    0.    0.
 230.  *    0.    1.    1.    1.    1.    2.    2.    2.    1.    1.    0.    0.
2.    1.    1.    1.    0.    1.    0.    0.
 240.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 260.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    2.    2.    2.    2.    1.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 280.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    2.    0.    1.
2.    1.    1.    0.    0.    0.    0.    0.
 290.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    2.    1.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 300.  *    0.    0.    1.    0.    0.    2.    2.    2.    2.    1.    1.    1.
2.    2.    0.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
2.    2.    1.    0.    0.    1.    0.    0.
 330.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    2.    2.
2.    2.    1.    0.    0.    1.    0.    0.
 340.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
2.    2.    1.    0.    0.    1.    0.    0.
```

```
 350.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.   2.    1.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    0.    1.    2.
2.   2.    2.    0.    0.    1.    1.    0.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    3.    3.    2.    2.    2.    2.    2.    2.    2.
2.   2.    2.    3.    3.    3.    2.    2.
 DEGR. *  140   140    50   180   190   240   240   230   270   290   330    20
30     0    30    50    50    50    70   110

♀
                                    PAGE  6
      JOB: Winsor School                                                       RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.   1.    1.    0.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.   1.    1.    0.    1.    1.    1.    1.
  20.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.   1.    1.    0.    0.    1.    1.    1.
  30.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    1.    0.    0.    1.    1.    1.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    0.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    1.    1.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    0.    1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    1.    1.    0.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    1.    1.    1.    1.
  90.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.   0.    0.    0.    0.    1.    1.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.   0.    0.    0.    0.    1.    1.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.   0.    0.    0.    0.    1.    1.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.   0.    0.    0.    0.    0.    0.    0.
 130.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.   0.    0.    0.    0.    0.    0.    0.
 140.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    0.    0.    0.    0.
 150.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 160.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 170.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 180.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 190.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 200.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 210.  *    0.    1.    0.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    0.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    0.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 280.  *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 290.  *    2.    1.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    1.    0.    0.    1.    1.    1.    1.    1.    1.
1.    0.    0.    0.    0.    1.    1.    1.
 310.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 320.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 330.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    1.    1.    1.    1.    1.
 340.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    1.    0.    1.    1.    1.
 360.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.

------*----------------------------------------------------------------------------
----------------------------------------
 MAX   *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    1.    1.
1.    1.    1.    1.    1.    1.    1.    1.
 DEGR. *  290   290   290   190   270   280   290   280   280   300   330   340
310    20     0   330     0   320   320   330

♀
                              PAGE  7
      JOB: Winsor School                                          RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
```

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
	CONCENTRATION (ug/m**3)														
0.	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
10.	1.	1.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
20.	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
30.	1.	1.	2.	0.	0.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
40.	1.	1.	1.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.	1.
50.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	3.	2.	2.	2.	2.
60.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
70.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
80.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
90.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
100.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
110.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
120.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
130.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
140.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
150.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
160.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
170.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
180.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
190.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
200.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	3.
210.	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.
220.	2.	2.	2.	1.	0.	0.	0.	2.	2.	1.	2.	2.	1.	2.	2.
230.	2.	2.	2.	1.	1.	0.	1.	2.	2.	2.	1.	1.	1.	1.	0.
240.	2.	2.	2.	1.	1.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
250.	2.	2.	2.	1.	1.	1.	1.	2.	2.	1.	0.	0.			

```
0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.
 270.  *    2.    2.    2.    1.    1.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 300.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 310.  *    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 320.  *    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 330.  *    1.    1.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 340.  *    1.    2.    1.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 350.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    1.    2.    2.    1.    0.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    3.    2.
2.    2.    3.
 DEGR. *  230   230   230   270   250   320     0    20    20    20    50    50
200   200   200

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC18.
```

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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                            RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:41

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION      *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2      *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
---------------------------------------
       1. River/Long EB L      *   -827.1     101.1    -854.3      32.9 *       73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR     *   -811.5      92.4    -846.7       0.0 *       99.
201. AG      0. 100.0   1.0 20.0 0.61   5.0
       3. River/Long NB LT     *   -736.1     146.0    -675.8     111.3 *       69.
120. AG      0. 100.0   1.0 20.0 0.50   3.5
       4. River/Long WB LTR    *   -795.7     191.2    -618.9     456.3 *      319.
34. AG      0. 100.0   1.0 30.0 1.01  16.2
       5. River/Long SB LT     *   -860.9     156.1    -980.5     178.2 *      122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R      *   -867.3     144.3    -936.2     156.6 *       70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -426.4    -866.0 *      125.
218. AG      0. 100.0   1.0 20.0 0.53   6.4
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3343.1    4019.0 *     5978.
38. AG      0. 100.0   1.0 20.0 9.09 303.7
      10. Brook/Deacon SB LR  *   -380.1    -702.5    -406.1    -682.2 *       33.
308. AG      0. 100.0   1.0 20.0 0.20   1.7
      11. Brook/Joslin EB L   *   -281.4    -673.2    -299.7    -695.3 *       29.
220. AG      0. 100.0   1.0 10.0 0.13   1.5
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1408.5   -2099.2 *     1818.
219. AG      0. 100.0   1.0 10.0 1.24  92.4
      13. Brook/Joslin WB TTR *   -284.6    -643.4     188.9     -29.1 *      776.
38. AG      0. 100.0   1.0 20.0 1.07  39.4
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     366.5    -684.9 *       84.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     158.5    -558.1 *       72.
305. AG      0. 100.0   1.0 20.0 0.31   3.7
      18. River/Short EB TR   *   -145.9     542.6    -230.0     503.4 *       93.
245. AG      0. 100.0   1.0 20.0 0.51   4.7
      19. River/Short NB LR   *    -92.0     525.1     -53.2     502.8 *       45.
```

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120. AG      0. 100.0   1.0 20.0 0.43   2.3
      20. River/Short WB LTR  *   -103.9     601.6      -3.4     663.1 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -133.9    -506.5 *     113.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      73.3    -461.5 *      98.
128. AG      0. 100.0   1.0 20.0 0.47   5.0
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3      56.7    -222.8 *     143.
39. AG      0. 100.0   1.0 30.0 0.61   7.3
      25. Brook/Long SB LTR   *    -99.3    -348.1    -180.9    -284.9 *     103.
308. AG      0. 100.0   1.0 20.0 0.49   5.2
      26. Beth/Brook EB TTR   *    319.8      83.8     150.6    -154.8 *     292.
215. AG      0. 100.0   1.0 20.0 0.96  14.9
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2935.7    3360.4 *    4122.
39. AG      0. 100.0   1.0 20.0 4.09 209.4
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG    980.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2320.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1290.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1850.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    135.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1890.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2085.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    115.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2020.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1290.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2430.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    700.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2600.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1270.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                            PAGE  2
      JOB: Winsor School                                           RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:41

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1195.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2150.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2230.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2400.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    225.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2415.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2020NB


      DATE :  1/13/11
      TIME : 15:58:41

       1. River/Long EB L     *      90        64        3.0        210        1600
 0.03      1        3
       2. River/Long EB TR    *      90        54        3.0        670        1600
 0.03      1        3
       3. River/Long NB LT    *      90        62        3.0        410        1600
 0.03      1        3
       4. River/Long WB LTR   *      90        54        3.0       1665        1600
 0.03      1        3
       5. River/Long SB LT    *      90        62        3.0        325        1600
 0.03      1        3
       6. River/Long SB R     *      90        64        3.0        200        1600
 0.03      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0        705        1600
 0.03      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0        215        1600
 0.03      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0       1200        1600
 0.03      1        3
      10. Brook/Deacon SB LR  *     120        90        3.0        135        1600
 0.03      1        3
      11. Brook/Joslin EB L   *     120        70        3.0         75        1600
 0.03      1        3
      12. Brook/Joslin EB T   *     120        70        3.0        740        1600
 0.03      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0       1280        1600
 0.03      1        3
      14. Binney/Long EB LTR  *     120        90        3.0        205        1600
 0.03      1        3
      15. Binney/Long NB LTR  *     120        49        3.0        630        1600
 0.03      1        3
      16. Binney/Long WB LTR  *     120        90        3.0        220        1600
 0.03      1        3
      17. Binney/Long SB LTR  *     120        49        3.0        540        1600
 0.03      1        3
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      18. River/Short EB TR   *      93        43        3.0        790        1600
 0.03     1        3
      19. River/Short NB LR   *      93        73        3.0        225        1600
 0.03     1        3
      20. River/Short WB LTR  *      93        43        3.0       1505        1600
 0.03     1        3
      21. Brook/Long EB LTR   *     120        78        3.0        800        1600
 0.03     1        3
      22. Brook/Long NB LT    *     120        78        3.0        460        1600
 0.03     1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
 0.03     1        3
      24. Brook/Long WB TTR   *     120        66        3.0       1190        1600
 0.03     1        3
      25. Brook/Long SB LTR   *     120        78        3.0        485        1600
 0.03     1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1100        1600
 0.03     1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
 0.03     1        3
      28. Beth/Brook WB LT    *     120       106        3.0        975        1600
 0.03     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X           Y           Z     *
     -------------------------*------------------------------------*
      1. Short/River SE1      *       64.2      619.5        6.0   *
      2. Short/River SE2      *        0.6      579.2        6.0   *
      3. Short/River SE3      *      -62.3      538.9        6.0   *
      4. Short/River SE4      *       -2.3      494.0        6.0   *
      5. Short/River SE5      *       57.8      449.1        6.0   *
      6. Short/River SW1      *       -6.6      409.9        6.0   *
      7. Short/River SW2      *      -66.7      454.8        6.0   *
      8. Short/River SW3      *     -126.8      499.6        6.0   *
      9. Short/River SW4      *     -194.5      467.4        6.0   *
     10. Short/River SW5      *     -262.2      435.2        6.0   *
     11. Short/River N1       *     -300.6      529.9        6.0   *
     12. Short/River N2       *     -232.9      562.1        6.0   *
     13. Short/River N3       *     -165.2      594.3        6.0   *
     14. Short/River N4       *     -101.9      634.6        6.0   *
     15. Short/River N5       *      -38.7      674.9        6.0   *
♀
                         PAGE  4
      JOB: Winsor School                                          RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*---------------------------------------------------------------------------------
-------------
   0.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  10.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  20.  *    0.    0.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  30.  *    0.    0.    1.    0.    0.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.
  40.  *    0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    0.
0.    0.    0.
  50.  *    0.    0.    1.    0.    0.    0.    0.    1.    1.    2.    0.    0.
0.    0.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    1.    0.    2.    1.
1.    1.    0.
  90.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    1.
2.    2.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
1.    2.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    1.
 130.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    1.
 140.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 150.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 160.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 170.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 180.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 190.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 200.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 210.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 220.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 230.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.
 240.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.
 250.  *    1.    1.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 260.  *    1.    1.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 270.  *    1.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 280.  *    1.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 290.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 300.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    0.    1.    1.    1.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 320.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 330.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 340.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 350.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 360.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    1.    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    2.
2.    2.    2.
 DEGR. *  250   270   250   280   290   340     0    30    40    50    80   100
90   100   150

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC10.
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2020NB

DATE : 1/10/11
TIME : 10: 2:40

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

```
  LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                      *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
  1. Brook/River SB LTR  *   -864.7   -1312.6   -1621.2      18.4 *    1531.
330. AG      0. 100.0   1.0 20.0 1.24  77.8
  2. Brook/River EB LTR  *   -862.4   -1425.5    -920.1   -1500.8 *      95.
217. AG      0. 100.0   1.0 30.0 0.56   4.8
  3. Brook/River NB LTR  *   -792.2   -1400.7    -713.5   -1643.9 *     256.
162. AG      0. 100.0   1.0 20.0 0.94  13.0
  4. Brook/River WB LTTR *   -798.5   -1299.5    -693.3   -1171.1 *     166.
39. AG      0. 100.0   1.0 30.0 0.72   8.4
  5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1940.   0.0   1.0 66.0
  6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2045.   0.0   1.0 78.0
  7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2620.   0.0   1.0 66.0
  8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1395.   0.0   1.0 78.0
```

♀
PAGE 2
JOB: Winsor School RUN: 2020NB

DATE : 1/10/11
TIME : 10: 2:40

```
  1. Brook/River SB LTR  *     120       79       3.0      1190       1600
 0.03     1       3
  2. Brook/River EB LTR  *     120       89       3.0       585       1600
 0.03     1       3
  3. Brook/River NB LTR  *     120       79       3.0       905       1600
 0.03     1       3
  4. Brook/River WB LTTR *     120       69       3.0      1320       1600
 0.03     1       3
```

RECEPTOR LOCATIONS

```
                     *         COORDINATES (FT)          *
  RECEPTOR           *      X          Y          Z      *
```

```
     -------------------------*-----------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8       6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1       6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3       6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9       6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5       6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1       6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5       6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9       6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0       6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2       6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1       6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9       6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8       6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2       6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5       6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4       6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0       6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7       6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4       6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2       6.0   *
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2020NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-----------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    2.    2.
2.    2.    2.    0.    1.    1.    1.    1.
  20.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    2.    2.
2.    2.    2.    1.    1.    1.    1.    1.
  30.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    1.    2.
2.    2.    2.    1.    1.    1.    1.    1.
  40.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    1.    1.
2.    1.    1.    1.    1.    2.    1.    1.
  50.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    2.    1.
  70.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    2.    2.    2.    2.    1.
  80.  *    0.    1.    2.    1.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    2.    1.    2.    2.    2.
  90.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    2.    1.    2.    2.    2.
```

```
 100.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    1.    1.    2.    2.    2.
 110.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    1.    1.    2.    2.    2.
 120.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    1.    2.    2.    2.    2.
 130.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 140.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    0.    1.    2.    2.    2.
 150.  *    1.    1.    2.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    0.    0.    0.    1.    2.    1.    2.
 160.  *    2.    2.    2.    2.    1.    0.    0.    1.    0.    0.    0.    0.
1.    0.    0.    1.    1.    1.    1.    1.
 170.  *    2.    2.    2.    2.    2.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 180.  *    2.    2.    2.    2.    2.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 190.  *    2.    2.    2.    2.    2.    0.    1.    2.    2.    1.    0.    0.
0.    0.    0.    1.    1.    1.    0.    0.
 200.  *    1.    1.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    2.    1.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    2.    2.    2.    1.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    1.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    1.    0.    0.    0.    0.    0.
 280.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 290.  *    1.    1.    1.    1.    0.    1.    2.    2.    2.    2.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 310.  *    1.    1.    1.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 320.  *    1.    1.    1.    0.    0.    1.    1.    2.    2.    2.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 330.  *    0.    1.    1.    0.    0.    1.    1.    2.    2.    2.    1.    1.
1.    1.    1.    0.    0.    1.    1.    1.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    2.
2.    2.    1.    0.    0.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    0.    2.    1.    1.
 360.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    1.    1.    1.    1.

------*----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.
2.    2.    2.    2.    2.    2.    2.    2.
 DEGR. *  170   170   180   190   200   250   240   300   320   310     0     0
20    10    20    50    60    60   130   120

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC13.
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2020 NB

DATE : 1/10/11
TIME : 9:22:16

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Brookline SB Q1	*	24377.6	43850.8	24428.6	43919.1	*	85.	37.	AG	0.	100.0	1.0	30.0	0.44	4.3
2. Boylston WB Q2	*	24434.8	43765.0	24541.7	43803.3	*	114.	70.	AG	0.	100.0	1.0	40.0	0.76	5.8
3. Park Dr NB Q3	*	24314.0	43650.6	24348.6	43602.0	*	60.	145.	AG	0.	100.0	1.0	40.0	0.31	3.0
4. Brookline EB Q4	*	24250.4	43637.9	23384.9	42534.0	*	1403.	218.	AG	0.	100.0	1.0	40.0	1.33	71.3
5. Brookline Q27	*	24079.2	43421.1	23862.1	43121.2	*	370.	216.	AG	0.	100.0	1.0	20.0	1.01	18.8
6. Fenway Q28	*	24063.7	43526.1	22982.9	44810.9	*	1679.	320.	AG	0.	100.0	1.0	20.0	1.17	85.3
7. Brookline Q29	*	24121.4	43515.8	24223.3	43643.0	*	163.	39.	AG	0.	100.0	1.0	20.0	0.80	8.3
8. Brookline Ave west	*	24281.2	43703.6	24102.9	43457.4	*	304.	216.	AG	2953.	0.0	1.0	68.0		
9. Broolkine Ave east	*	24277.0	43684.6	24672.8	44220.7	*	666.	36.	AG	1451.	0.0	1.0	68.0		
10. Park drive north	*	24272.2	43689.5	23956.6	44033.9	*	467.	318.	AG	1148.	0.0	1.0	68.0		
11. Park drive south	*	24274.6	43701.6	24694.6	43148.6	*	694.	143.	AG	1369.	0.0	1.0	68.0		
12. Boylston St L5	*	24272.2	43682.2	25010.2	43953.9	*	786.	70.	AG	2379.	0.0	1.0	****		
13. Brookline L33	*	24106.9	43476.6	23847.1	43141.9	*	424.	218.	AG	2517.	0.0	1.0	68.0		
14. Fenway L34	*	24101.9	43470.8	24241.0	43294.7	*	224.	142.	AG	928.	0.0	1.0	42.0		
15. fenway L35	*	24108.0	43464.6	23938.0	43672.7	*	269.	321.	AG	1676.	0.0	1.0	42.0		

♀ PAGE 2
JOB: Winsor School RUN: 2020 NB

DATE : 1/10/11
TIME : 9:22:16

```
      1. Brookline SB Q1     *     100        53        3.0        882        1600
0.03      1        3
      2. Boylston WB Q2      *     100        73        3.0       1071        1600
0.03      1        3
      3. Park Dr NB Q3       *     100        53        3.0        825        1600
0.03      1        3
      4. Brookline EB Q4     *     100        74        3.0       1794        1600
0.03      1        3
      5. Brookline Q27       *     100        54        3.0       1323        1600
0.03      1        3
      6. Fenway Q28          *     100        46        3.0       1830        1600
0.03      1        3
      7. Brookline Q29       *     100        54        3.0       1056        1600
0.03      1        3

      RECEPTOR LOCATIONS
      ------------------
                             *         COORDINATES (FT)         *
        RECEPTOR             *      X          Y          Z     *
    -------------------------*----------------------------------*
     1. R7                   *     24234.6    43539.7        6.0   *
     2. R8                   *     24198.5    43493.8        6.0   *
     3. R9                   *     24247.7    43485.1        6.0   *
     4. R10                  *     24131.9    43603.0        6.0   *
     5. R11                  *     24100.2    43558.2        6.0   *
     6. R12                  *     24075.1    43588.8        6.0   *
     7. R13                  *     23988.8    43538.6        6.0   *
     8. R14                  *     24019.4    43509.1        6.0   *
     9. R15                  *     23968.0    43510.2        6.0   *
    10. R16                  *     23940.7    43418.5        6.0   *
    11. R17                  *     23992.1    43417.4        6.0   *
    12. R18                  *     23951.7    43364.0        6.0   *
    13. R19                  *     24080.6    43343.2        6.0   *
    14. R20                  *     24111.2    43390.1        6.0   *
    15. R21                  *     24138.5    43348.7        6.0   *
    16. R22                  *     24229.1    43394.5        6.0   *
    17. R23                  *     24198.5    43426.2        6.0   *
    18. R24                  *     24258.6    43409.8        6.0   *
    19. R41                  *     24433.6    43813.3        6.0   *
    20. R42                  *     24498.2    43841.4        6.0   *
    21. R43                  *     24569.1    43866.7        6.0   *
    22. R44                  *     24472.8    43859.6        6.0   *
    23. R45                  *     24517.8    43916.6        6.0   *
    24. R46                  *     24182.0    43865.3        6.0   *
    25. R47                  *     24230.1    43812.3        6.0   *
    26. R48                  *     24268.4    43766.0        6.0   *
    27. R49                  *     24307.2    43819.4        6.0   *
    28. R50                  *     24356.7    43884.0        6.0   *
    29. R51                  *     24367.5    43656.1        6.0   *
    30. R52                  *     24433.5    43678.3        6.0   *
    31. R53                  *     24498.6    43702.8        6.0   *
    32. R54                  *     24409.4    43607.5        6.0   *
    33. R55                  *     24444.6    43559.0        6.0   *
    34. R56                  *     24282.4    43606.2        6.0   *
    35. R57                  *     24328.7    43546.5        6.0   *
    36. R58                  *     24243.6    43550.9        6.0   *
    37. R59                  *     24204.3    43692.2        6.0   *
    38. R60                  *     24150.3    43751.0        6.0   *
    39. R61                  *     24161.0    43638.3        6.0   *
♀
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	2.	2.	1.	0.	0.	0.	1.	1.	1.	0.	0.	0.	2.	3.	2.	1.	1.	1.	1.	0.
10. *	2.	2.	1.	0.	0.	0.	1.	1.	1.	0.	0.	0.	3.	3.	2.	1.	2.	1.	1.	0.
20. *	2.	2.	1.	0.	0.	0.	1.	1.	1.	0.	0.	0.	3.	3.	2.	1.	1.	1.	1.	0.
30. *	2.	2.	1.	0.	0.	0.	1.	1.	1.	1.	1.	1.	2.	3.	1.	1.	1.	1.	1.	0.
40. *	2.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	1.	0.	0.
50. *	1.	1.	1.	2.	2.	1.	2.	2.	1.	2.	3.	3.	1.	1.	1.	0.	1.	0.	0.	0.
60. *	1.	1.	1.	2.	3.	2.	2.	2.	2.	2.	3.	3.	0.	1.	1.	0.	0.	0.	0.	0.
70. *	1.	0.	0.	3.	3.	2.	2.	3.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	1.	0.
80. *	0.	0.	0.	2.	2.	2.	2.	2.	2.	2.	2.	2.	0.	1.	0.	0.	0.	0.	1.	1.
90. *	0.	0.	0.	2.	2.	2.	2.	2.	2.	1.	2.	2.	0.	1.	0.	0.	0.	0.	2.	1.
100. *	0.	0.	0.	2.	2.	1.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
110. *	0.	0.	0.	2.	2.	1.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
120. *	0.	0.	0.	2.	2.	1.	2.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
130. *	0.	0.	0.	2.	2.	1.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
140. *	0.	0.	0.	2.	2.	1.	1.	2.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
150. *	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	1.
160. *	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
170. *	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
180. *	0.	0.	0.	2.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	1.	2.
190. *	0.	0.	0.	2.	3.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	1.	2.
200. *	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.	2.	2.
210. *	1.	1.	0.	2.	2.	2.	0.	1.	0.	1.	2.	1.	0.	1.	0.	0.	0.	0.	2.	2.

```
 220.  *    2.    2.    1.    1.    2.    1.    0.    0.    0.    0.    1.    1.
1.   2.    0.    1.    1.    0.    3.    3.
 230.  *    2.    2.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    1.    1.    3.    2.
 240.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    2.    1.    2.    2.
 250.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    2.    1.    2.    1.
 260.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    2.    1.    1.    1.
 270.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    2.    1.    1.    1.
 280.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    2.    2.    1.    1.    1.
 290.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    1.    2.    1.    1.    1.
 300.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.   2.    1.    2.    2.    1.    1.    1.
 310.  *    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.   2.    1.    2.    2.    1.    1.    0.
 320.  *    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.   2.    2.    2.    2.    1.    1.    0.
 330.  *    2.    2.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
2.   2.    2.    1.    2.    1.    1.    0.
 340.  *    2.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.   3.    2.    1.    2.    1.    1.    0.
 350.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.   3.    2.    1.    2.    1.    1.    0.
 360.  *    2.    2.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
2.   3.    2.    1.    1.    1.    1.    0.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    2.    3.    3.    2.    2.    3.    2.    2.    3.    3.
3.   3.    2.    2.    2.    1.    3.    3.
 DEGR. *  240   240   250    70    70   190    70    70    70    60    60    60
10     0    10   310   300   300   220   220

♀
                             PAGE  4
      JOB: Winsor School                                        RUN: 2020 NB


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*--------------------------------------------------------------------------
-------------------------------------
   0.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.   2.    2.    2.    0.    0.    0.
  10.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
```

```
1.     2.     2.     2.     0.     0.     0.
  20.   *     0.     1.     1.     0.     0.     0.     0.     0.     2.     2.     2.     1.
1.     2.     2.     2.     0.     0.     0.
  30.   *     0.     0.     0.     0.     0.     0.     0.     0.     2.     2.     1.     1.
1.     2.     2.     2.     1.     0.     1.
  40.   *     0.     0.     0.     0.     0.     1.     0.     0.     2.     2.     1.     1.
0.     2.     1.     2.     1.     0.     1.
  50.   *     0.     0.     0.     0.     0.     1.     1.     1.     2.     2.     1.     1.
0.     2.     1.     1.     2.     1.     2.
  60.   *     0.     0.     0.     0.     0.     1.     1.     1.     1.     1.     1.     0.
0.     2.     1.     1.     2.     1.     2.
  70.   *     0.     0.     0.     0.     1.     1.     1.     1.     1.     1.     1.     0.
0.     2.     1.     1.     3.     1.     3.
  80.   *     1.     0.     0.     1.     1.     2.     1.     1.     0.     0.     0.     0.
0.     1.     0.     0.     3.     2.     3.
  90.   *     1.     1.     0.     1.     1.     2.     2.     1.     0.     0.     0.     0.
0.     1.     1.     0.     3.     2.     2.
 100.   *     1.     1.     1.     1.     1.     2.     2.     2.     0.     0.     0.     0.
0.     1.     1.     0.     2.     2.     2.
 110.   *     1.     1.     1.     1.     1.     2.     1.     2.     0.     0.     0.     0.
0.     1.     1.     0.     2.     2.     2.
 120.   *     1.     1.     0.     1.     1.     1.     1.     2.     0.     0.     0.     0.
0.     1.     1.     0.     2.     2.     2.
 130.   *     1.     1.     0.     1.     1.     2.     1.     2.     0.     0.     0.     0.
0.     1.     1.     0.     2.     2.     2.
 140.   *     1.     1.     0.     1.     2.     2.     1.     2.     0.     0.     0.     0.
0.     0.     0.     0.     2.     1.     2.
 150.   *     1.     1.     0.     1.     2.     2.     1.     1.     1.     0.     0.     1.
1.     0.     0.     0.     2.     1.     2.
 160.   *     1.     1.     1.     1.     2.     2.     2.     2.     1.     0.     0.     1.
1.     0.     0.     0.     2.     1.     2.
 170.   *     1.     1.     1.     1.     2.     2.     2.     2.     1.     0.     0.     1.
1.     0.     0.     0.     2.     1.     2.
 180.   *     1.     1.     1.     2.     2.     2.     2.     2.     1.     0.     0.     1.
1.     0.     0.     0.     2.     1.     2.
 190.   *     1.     1.     1.     1.     2.     3.     2.     2.     1.     0.     0.     1.
1.     0.     0.     0.     2.     1.     2.
 200.   *     1.     1.     1.     1.     2.     3.     2.     2.     1.     0.     0.     1.
1.     0.     0.     0.     3.     1.     2.
 210.   *     2.     2.     1.     1.     1.     3.     2.     2.     1.     0.     0.     1.
0.     1.     0.     1.     2.     1.     2.
 220.   *     2.     2.     2.     1.     1.     2.     2.     1.     2.     1.     1.     1.
1.     2.     1.     2.     1.     0.     1.
 230.   *     3.     2.     2.     1.     0.     1.     1.     1.     3.     2.     1.     2.
1.     3.     1.     2.     0.     0.     1.
 240.   *     2.     1.     1.     0.     0.     0.     0.     0.     3.     2.     2.     2.
1.     3.     1.     3.     0.     0.     0.
 250.   *     1.     1.     1.     0.     1.     1.     0.     0.     3.     2.     2.     2.
2.     2.     1.     2.     0.     0.     0.
 260.   *     1.     1.     1.     1.     1.     1.     0.     0.     2.     2.     2.     2.
1.     2.     2.     2.     0.     0.     0.
 270.   *     0.     1.     1.     1.     1.     1.     0.     0.     3.     2.     2.     2.
2.     2.     1.     2.     0.     0.     0.
 280.   *     0.     1.     1.     1.     1.     1.     0.     0.     2.     2.     2.     2.
2.     2.     1.     2.     0.     0.     0.
 290.   *     0.     1.     0.     1.     1.     1.     0.     0.     2.     2.     1.     2.
2.     2.     1.     2.     0.     0.     0.
 300.   *     0.     1.     0.     1.     1.     1.     0.     0.     2.     2.     2.     2.
2.     2.     1.     2.     0.     0.     0.
 310.   *     0.     1.     0.     0.     0.     0.     0.     0.     2.     1.     2.     2.
1.     2.     1.     2.     0.     0.     0.
 320.   *     0.     1.     0.     0.     0.     0.     0.     0.     2.     1.     2.     1.
1.     2.     1.     2.     0.     0.     0.
```

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 330.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    1.    0.    0.
 340.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 350.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 360.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.    2.    2.    2.    0.    0.    0.

------*--------------------------------------------------------------------------
-------------------------------------
 MAX   *    3.    2.    2.    2.    2.    3.    2.    2.    3.    2.    2.    2.
2.    3.    2.    3.    3.    2.    3.
 DEGR. *  230   220   230   180   160   200   200   210   240   250   260   290
300   240     0   240    80   120    80

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC14.
```

2020 Build Condition

Carbon Monoxide (CO)

```
♀                              CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                              PAGE  1

      JOB: Winsor School                                                   RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:39

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG     89. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG    150. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG    173. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG    225. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG     86. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG     89. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG    136. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG    188. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG    230. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG    188. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG     73. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG     73. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG    146. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG     94. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG    102. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG    188. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG    102. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG    116. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG    197. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG    163. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG    207. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG    163. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG    150. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG    221. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:39

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                *   X1        Y1        X2        Y2     *     (FT)
(DEG)             (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   8.6   1.0 82.0
♀
                                     PAGE  3
      JOB: Winsor School                                         RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:39

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0        210        1600
46.71      1        3
       2. River/Long EB TR    *      90       54       3.0        677        1600
46.71      1        3
       3. River/Long NB LT    *      90       62       3.0        424        1600
46.71      1        3
       4. River/Long WB LTR   *      90       54       3.0       1675        1600
46.71      1        3
       5. River/Long SB LT    *      90       62       3.0        326        1600
46.71      1        3
       6. River/Long SB R     *      90       64       3.0        200        1600
46.71      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0        717        1600
46.71      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0        215        1600
46.71      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0       1278        1600
46.71      1        3
      10. Brook/Deacon SB LTR *     120       90       3.0        164        1600
46.71      1        3
      11. Brook/Joslin EB L   *     120       70       3.0         81        1600
46.71      1        3
      12. Brook/Joslin EB T   *     120       70       3.0        746        1600
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46.71      1        3
      13. Brook/Joslin WB TTR *     120       70        3.0      1318        1600
46.71      1        3
      14. Binney/Long EB LTR  *     120       90        3.0       205        1600
46.71      1        3
      15. Binney/Long NB LTR  *     120       49        3.0       639        1600
46.71      1        3
      16. Binney/Long WB LTR  *     120       90        3.0       220        1600
46.71      1        3
      17. Binney/Long SB LTR  *     120       49        3.0       576        1600
46.71      1        3
      18. River/Short EB T    *      93       43        3.0       836        1600
46.71      1        3
      19. River/Short NB LR   *      93       73        3.0       239        1600
46.71      1        3
      20. River/Short WB LTR  *      93       43        3.0      1507        1600
46.71      1        3
      21. Brook/Long EB LTR   *     120       78        3.0       806        1600
46.71      1        3
      22. Brook/Long NB LT    *     120       78        3.0       469        1600
46.71      1        3
      23. Brook/Long NB R     *     120       66        3.0       285        1600
46.71      1        3
      24. Brook/Long WB TTR   *     120       66        3.0      2004        1600
46.71      1        3
      25. Brook/Long SB LTR   *     120       78        3.0       577        1600
46.71      1        3
      26. Beth/Brook EB TTR   *     120       72        3.0      1118        1600
46.71      1        3
      27. Beth/Brook NB LR    *     120       83        3.0       370        1600
46.71      1        3
      28. Beth/Brook WB LT    *     120      106        3.0       989        1600
46.71      1        3

       RECEPTOR LOCATIONS
       ------------------
                               *          COORDINATES (FT)          *
         RECEPTOR              *      X           Y           Z     *
     -------------------------*-----------------------------------*
      1. River/Long NE1        *      -978.8      215.4        6.0   *
      2. River/Long NE2        *      -904.3      201.6        6.0   *
      3. River/Long NE3        *      -831.3      188.0        6.0   *
      4. River/Long NE4        *      -788.0      251.3        6.0   *
      5. River/Long NE5        *      -746.6      311.8        6.0   *
      6. River/Long SE1        *      -639.8      294.3        6.0   *
      7. River/Long SE2        *      -682.2      232.4        6.0   *
      8. River/Long SE3        *      -724.5      170.5        6.0   *
      9. River/Long SE4        *      -662.6      128.1        6.0   *
     10. River/Long SE5        *      -600.7       85.8        6.0   *
     11. River/Long SW1        *      -638.2       21.8        6.0   *
     12. River/Long SW2        *      -700.1       64.1        6.0   *
     13. River/Long SW3        *      -762.0      106.5        6.0   *
     14. River/Long SW4        *      -790.3       37.0        6.0   *
     15. River/Long SW5        *      -818.6      -32.5        6.0   *
     16. River/Long NW1        *      -921.8      -26.0        6.0   *
     17. River/Long NW2        *      -893.5       43.5        6.0   *
♀
                          PAGE  4
      JOB: Winsor School                                    RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:39
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RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
18. River/Long NW3	-865.2	112.9	6.0
19. River/Long NW4	-938.9	126.7	6.0
20. River/Long NW5	-1012.7	140.4	6.0
21. Brook/Deacon NE1	-468.0	-576.8	6.0
22. Brook/Deacon NE2	-408.9	-623.0	6.0
23. Brook/Deacon NE3	-349.9	-669.2	6.0
24. Brook/Deacon NE4	-300.6	-612.7	6.0
25. Brook/Deacon NE5	-251.9	-555.6	6.0
26. Brook/Deacon SE1	-193.8	-620.1	6.0
27. Brook/Deacon SE2	-242.5	-677.1	6.0
28. Brook/Deacon SE3	-291.2	-734.2	6.0
29. Brook/Deacon SE4	-233.1	-781.7	6.0
30. Brook/Deacon SE5	-175.1	-829.1	6.0
31. Brook/Deacon SW1	-206.3	-868.2	6.0
32. Brook/Deacon SW2	-264.4	-820.7	6.0
33. Brook/Deacon SW3	-322.4	-773.2	6.0
34. Brook/Deacon SW4	-368.8	-832.1	6.0
35. Brook/Deacon SW5	-415.3	-891.0	6.0
36. Brook/Deacon NW1	-482.8	-857.2	6.0
37. Brook/Deacon NW2	-436.4	-798.3	6.0
38. Brook/Deacon NW3	-390.0	-739.4	6.0
39. Brook/Deacon NW4	-449.1	-693.2	6.0
40. Brook/Deacon NW5	-508.2	-647.0	6.0
41. Brook/Joselin NE1	-419.5	-521.3	6.0
42. Brook/Joselin NE2	-359.7	-566.6	6.0
43. Brook/Joselin NE3	-299.9	-611.8	6.0
44. Brook/Joselin NE4	-251.2	-554.8	6.0
45. Brook/Joselin NE5	-204.9	-495.8	6.0
46. Brook/Joselin S1	-160.7	-581.3	6.0
47. Brook/Joselin S2	-209.4	-638.3	6.0
48. Brook/Joselin S3	-260.3	-693.4	6.0
49. Brook/Joselin S4	-305.6	-753.2	6.0
50. Brook/Joselin S5	-352.7	-811.6	6.0

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.0	0.0	0.0	0.0	0.0	0.6	1.0	1.0	0.4	0.2	0.4	1.0								

CONCENTRATION (PPM)

1.2	1.0	1.3	0.1	0.4	0.5	0.5	0.3						
10.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.8	1.0	0.2	0.0	0.3	0.8
1.3	1.0	1.2	0.2	0.3	0.4	0.5	0.3						
20.	*	0.0	0.0	0.2	0.2	0.1	0.2	0.6	0.9	0.1	0.0	0.2	0.6
1.1	0.9	0.8	0.6	0.7	0.7	0.5	0.3						
30.	*	0.0	0.0	0.6	0.6	0.4	0.1	0.4	0.5	0.0	0.0	0.2	0.3
0.9	0.6	0.5	1.1	1.0	1.2	0.6	0.3						
40.	*	0.0	0.1	1.2	1.1	0.8	0.0	0.1	0.2	0.0	0.1	0.2	0.3
0.7	0.3	0.4	1.3	1.1	1.4	0.9	0.5						
50.	*	0.2	0.4	1.5	1.4	1.2	0.2	0.2	0.3	0.3	0.2	0.4	0.4
0.6	0.4	0.3	1.4	1.4	1.6	1.2	0.7						
60.	*	0.5	0.7	1.6	1.6	1.4	0.4	0.3	0.2	0.2	0.2	0.4	0.4
0.7	0.4	0.3	1.1	1.4	1.4	1.4	1.1						
70.	*	0.6	0.8	1.4	1.6	1.6	0.3	0.2	0.2	0.2	0.2	0.3	0.4
0.7	0.3	0.2	0.9	1.3	1.3	1.1	1.1						
80.	*	0.6	0.8	1.2	1.5	1.4	0.2	0.2	0.2	0.2	0.2	0.2	0.4
0.6	0.2	0.1	0.8	1.1	1.2	1.1	1.1						
90.	*	0.5	0.6	1.0	1.4	1.3	0.1	0.1	0.1	0.1	0.1	0.2	0.3
0.5	0.2	0.1	0.7	0.9	0.9	1.0	0.9						
100.	*	0.7	0.8	1.0	1.2	1.2	0.1	0.1	0.1	0.1	0.2	0.3	0.4
0.4	0.2	0.2	0.7	1.0	1.1	0.6	0.5						
110.	*	0.8	0.9	1.1	1.2	1.2	0.1	0.1	0.2	0.2	0.2	0.3	0.4
0.3	0.1	0.1	0.7	1.0	1.0	0.6	0.5						
120.	*	0.9	1.0	1.2	1.2	1.2	0.2	0.1	0.3	0.1	0.2	0.1	0.2
0.2	0.1	0.1	0.7	0.9	1.0	0.6	0.4						
130.	*	0.9	0.8	1.2	1.4	1.2	0.1	0.1	0.5	0.2	0.1	0.1	0.1
0.2	0.1	0.1	0.5	0.7	0.9	0.5	0.3						
140.	*	0.9	0.8	0.9	1.4	1.2	0.1	0.1	0.6	0.3	0.2	0.1	0.1
0.1	0.0	0.0	0.5	0.7	0.9	0.4	0.2						
150.	*	0.6	0.9	0.8	1.3	1.1	0.1	0.1	0.6	0.3	0.2	0.1	0.0
0.0	0.0	0.0	0.5	0.6	0.9	0.3	0.2						
160.	*	0.6	0.9	1.1	1.5	1.5	0.0	0.1	0.6	0.2	0.1	0.0	0.0
0.0	0.0	0.0	0.4	0.6	1.0	0.3	0.1						
170.	*	0.5	0.9	1.2	1.4	1.5	0.0	0.2	0.6	0.2	0.1	0.0	0.0
0.0	0.0	0.0	0.3	0.6	1.0	0.2	0.0						
180.	*	0.4	0.7	1.2	1.6	1.7	0.1	0.2	0.6	0.2	0.2	0.0	0.0
0.0	0.0	0.0	0.2	0.5	0.9	0.1	0.0						
190.	*	0.3	0.6	1.2	1.5	1.7	0.2	0.2	0.6	0.3	0.2	0.0	0.0
0.1	0.1	0.0	0.2	0.4	0.6	0.0	0.0						
200.	*	0.3	0.5	0.8	1.2	1.6	0.4	0.4	0.7	0.3	0.2	0.0	0.0
0.3	0.2	0.1	0.1	0.3	0.4	0.0	0.0						
210.	*	0.3	0.5	0.5	0.8	1.0	0.6	0.7	0.9	0.4	0.2	0.0	0.0
0.6	0.4	0.3	0.0	0.1	0.2	0.0	0.0						
220.	*	0.3	0.4	0.6	0.4	0.5	0.7	1.0	1.0	0.6	0.2	0.0	0.1
0.9	0.7	0.4	0.0	0.0	0.1	0.0	0.0						
230.	*	0.3	0.4	0.5	0.3	0.3	1.1	0.8	1.1	0.9	0.3	0.0	0.2
1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0						
240.	*	0.2	0.4	0.6	0.3	0.1	1.1	0.9	1.1	1.1	0.3	0.1	0.4
1.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0						
250.	*	0.2	0.4	0.6	0.1	0.1	1.0	1.0	1.0	1.1	0.4	0.2	0.4
0.9	0.9	0.6	0.0	0.0	0.0	0.0	0.0						
260.	*	0.1	0.4	0.6	0.1	0.0	1.1	1.0	1.0	1.2	0.5	0.2	0.4
0.9	0.9	0.6	0.0	0.0	0.0	0.0	0.0						
270.	*	0.1	0.2	0.4	0.0	0.0	1.0	1.0	1.1	1.3	0.7	0.3	0.4
0.9	0.9	0.5	0.0	0.0	0.1	0.0	0.0						
280.	*	0.0	0.1	0.2	0.0	0.0	0.8	0.8	0.9	1.1	0.7	0.3	0.5
0.9	1.0	0.5	0.0	0.0	0.2	0.1	0.0						
290.	*	0.0	0.0	0.1	0.0	0.0	0.8	0.8	0.8	0.9	0.7	0.4	0.6
1.1	1.1	0.6	0.0	0.0	0.4	0.2	0.0						
300.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.8	0.4	0.6
1.1	1.1	0.6	0.0	0.0	0.6	0.3	0.1						
310.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.8	0.8	0.5	0.5	0.5	0.5
0.9	1.1	0.7	0.0	0.1	0.6	0.3	0.1						

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 320.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.8   0.8   0.5   0.4   0.7   0.8
0.8   1.3   0.9   0.0   0.1   0.7   0.4   0.1
 330.  *   0.0   0.0   0.0   0.0   0.0   0.8   0.9   0.9   0.5   0.4   0.6   0.8
1.0   1.1   1.0   0.1   0.1   0.6   0.4   0.2
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.0   1.0   0.5   0.4   0.7   0.9
1.1   1.1   1.2   0.1   0.3   0.5   0.4   0.2
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.0   1.0   0.5   0.2   0.7   0.9
1.1   1.0   1.3   0.1   0.4   0.5   0.4   0.3
 360.  *   0.0   0.0   0.0   0.0   0.0   0.6   1.0   1.0   0.4   0.2   0.4   1.0
1.2   1.0   1.3   0.1   0.4   0.5   0.5   0.3

------*---------------------------------------------------------------------------
-----------------------------------------
 MAX   *   0.9   1.0   1.6   1.6   1.7   1.1   1.0   1.1   1.3   0.8   0.7   1.0
1.3   1.3   1.3   1.4   1.4   1.6   1.4   1.1
 DEGR. *  120   120    60   180   180   230     0   230   270   300   320     0
10   320     0    50    50    50    60    60

♀
                                    PAGE  6
      JOB: Winsor School                                            RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*---------------------------------------------------------------------------
-----------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.5   0.5   0.4   0.8
1.2   1.5   1.2   0.0   0.0   0.3   0.0   0.0
  10.  *   0.0   0.0   0.0   0.0   0.1   1.3   1.3   1.4   0.7   0.7   0.5   0.9
1.3   1.4   1.3   0.0   0.1   0.2   0.0   0.0
  20.  *   0.0   0.0   0.1   0.3   0.6   1.5   1.6   1.5   1.0   0.7   0.7   1.1
1.8   1.6   1.7   0.1   0.2   0.5   0.0   0.0
  30.  *   0.1   0.2   1.0   1.3   1.5   1.7   1.7   1.8   0.9   0.7   0.6   0.9
2.1   2.0   1.9   0.6   1.1   1.3   0.3   0.1
  40.  *   0.3   0.7   2.0   2.0   2.3   1.2   1.3   1.4   0.6   0.2   0.2   0.5
1.8   1.5   1.4   1.3   1.5   1.9   0.8   0.4
  50.  *   0.7   1.0   2.3   2.5   2.7   0.7   0.6   0.4   0.0   0.0   0.0   0.0
0.7   0.3   0.5   1.4   1.6   1.9   1.3   0.7
  60.  *   0.6   0.9   2.0   2.1   2.5   0.1   0.1   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   1.1   1.1   1.0   1.0   0.7
  70.  *   0.6   0.8   1.5   2.0   1.9   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.8   1.0   0.8   0.8   0.6
  80.  *   0.6   0.7   1.3   1.7   1.7   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.8   1.0   0.6   0.8   0.4
  90.  *   0.4   0.6   1.3   1.5   1.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.7   1.0   0.8   0.7   0.5
 100.  *   0.4   0.7   1.2   1.5   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.4   0.0   0.0   0.5   0.8   0.7   0.6   0.4
 110.  *   0.5   0.4   1.2   1.4   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
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0.3   0.0   0.0   0.4   0.8   0.7   0.5   0.4
 120.  *   0.3   0.4   1.1   1.5   1.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1   0.0   0.0   0.2   0.8   0.8   0.5   0.3
 130.  *   0.2   0.5   1.2   1.5   1.4   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.7   0.4   0.3
 140.  *   0.3   0.5   1.1   1.3   1.4   0.0   0.0   0.2   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 150.  *   0.2   0.4   1.0   1.3   1.4   0.0   0.0   0.5   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.5   0.3
 160.  *   0.4   0.6   0.9   1.4   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.8   0.8   0.4   0.1
 170.  *   0.2   0.6   0.8   1.6   1.7   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.7   0.9   0.4   0.1
 180.  *   0.1   0.6   0.8   1.6   1.9   0.0   0.0   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.6   0.9   0.2   0.0
 190.  *   0.1   0.3   0.8   1.7   2.2   0.0   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.5   0.9   0.2   0.1
 200.  *   0.1   0.3   0.7   1.5   2.2   0.0   0.1   0.6   0.0   0.0   0.0   0.0
0.0   0.0   0.0   0.1   0.4   0.7   0.1   0.1
 210.  *   0.0   0.1   0.7   1.1   2.0   0.3   0.4   0.8   0.0   0.0   0.0   0.0
0.3   0.1   0.1   0.1   0.3   0.6   0.1   0.0
 220.  *   0.0   0.0   0.3   0.7   1.2   0.6   0.7   1.1   0.1   0.0   0.0   0.1
0.7   0.4   0.2   0.1   0.2   0.3   0.0   0.0
 230.  *   0.0   0.0   0.2   0.4   0.4   0.9   0.9   1.3   0.1   0.1   0.1   0.1
1.1   0.8   0.3   0.0   0.0   0.1   0.0   0.0
 240.  *   0.0   0.0   0.3   0.1   0.1   0.9   0.8   1.2   0.3   0.1   0.1   0.1
1.2   0.9   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.0   0.0   0.3   0.0   0.0   0.9   0.9   1.0   0.6   0.1   0.1   0.3
1.2   1.0   0.2   0.0   0.0   0.0   0.0   0.0
 260.  *   0.0   0.0   0.2   0.0   0.0   1.1   1.1   0.7   0.7   0.3   0.1   0.4
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 270.  *   0.0   0.0   0.1   0.0   0.0   1.0   1.0   0.7   0.8   0.2   0.2   0.4
1.1   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.0   0.1   0.0   0.0   1.0   0.7   0.8   0.9   0.3   0.2   0.5
0.9   1.1   0.2   0.0   0.0   0.0   0.0   0.0
 290.  *   0.0   0.0   0.0   0.0   0.0   0.9   0.7   0.7   0.9   0.2   0.3   0.5
0.8   1.0   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.8   0.8   0.6   0.3   0.3   0.4
0.9   1.0   0.4   0.0   0.0   0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   1.0   0.9   0.8   0.6   0.3   0.3   0.5
0.8   1.0   0.5   0.0   0.0   0.0   0.0   0.0
 320.  *   0.1   0.0   0.0   0.1   0.0   0.9   0.9   0.8   0.5   0.3   0.4   0.6
0.9   1.0   0.6   0.0   0.0   0.1   0.0   0.0
 330.  *   0.1   0.1   0.0   0.0   0.0   0.8   0.9   0.9   0.5   0.4   0.3   0.9
0.8   1.0   0.8   0.0   0.0   0.1   0.1   0.1
 340.  *   0.0   0.0   0.0   0.0   0.0   0.8   1.0   0.9   0.5   0.4   0.4   0.9
0.8   1.2   0.9   0.0   0.0   0.2   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   1.2   1.3   0.6   0.4   0.4   0.9
0.9   1.3   1.0   0.0   0.0   0.3   0.0   0.0
 360.  *   0.0   0.0   0.0   0.0   0.0   0.9   1.2   1.3   0.5   0.5   0.4   0.8
1.2   1.5   1.2   0.0   0.0   0.3   0.0   0.0

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-------------------------------------------
 MAX   *   0.7   1.0   2.3   2.5   2.7   1.7   1.7   1.8   1.0   0.7   0.7   1.1
2.1   2.0   1.9   1.4   1.6   1.9   1.3   0.7
 DEGR. *   50    50    50    50    50    30    30    30    20    10    20    20
30    30    30    50    50    40    50    50
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MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.0	0.0	0.0	0.0	0.2	1.3	1.1	1.2	1.4	1.2
10.	0.0	0.0	0.0	0.2	0.3	1.5	1.2	1.2	1.6	1.5
20.	0.0	0.0	0.3	0.6	0.6	1.6	1.5	1.6	1.8	1.5
30.	0.1	0.2	1.3	1.5	1.5	1.9	1.6	1.7	2.2	2.0
40.	0.3	0.8	2.0	2.4	2.5	1.2	1.4	1.4	1.7	1.6
50.	0.7	1.0	2.5	2.7	2.9	0.8	0.7	0.6	0.8	0.4
60.	0.5	1.0	2.1	2.5	2.8	0.2	0.1	0.0	0.5	0.2
70.	0.7	0.8	2.0	1.9	2.6	0.1	0.0	0.0	0.5	0.1
80.	0.6	0.9	1.7	1.7	2.3	0.0	0.0	0.0	0.6	0.1
90.	0.5	0.6	1.5	1.4	2.0	0.1	0.0	0.0	0.7	0.0
100.	0.4	0.7	1.5	1.3	1.8	0.0	0.0	0.0	0.9	0.0
110.	0.4	0.6	1.4	1.3	1.5	0.0	0.0	0.0	1.1	0.0
120.	0.4	0.6	1.5	1.3	1.3	0.0	0.0	0.0	1.2	0.0
130.	0.5	0.6	1.5	1.4	1.1	0.0	0.0	0.0	1.1	0.0
140.	0.4	0.5	1.4	1.4	1.2	0.0	0.0	0.0	1.0	0.0
150.	0.2	0.5	1.4	1.4	1.1	0.0	0.0	0.0	0.8	0.0
160.	0.3	0.6	1.3	1.7	1.2	0.0	0.0	0.0	0.6	0.0
170.	0.2	0.4	1.6	1.7	1.4	0.0	0.0	0.1	0.4	0.0
180.	0.1	0.6	1.6	1.9	1.5	0.0	0.0	0.1	0.4	0.0
190.	0.2	0.5	1.5	2.2	1.6	0.0	0.0	0.2	0.3	0.0
200.	0.1	0.3	1.5	2.2	2.1	0.0	0.1	0.2	0.2	0.0
210.	0.0	0.2	1.1	2.0	1.8	0.3	0.3	0.5	0.6	0.2
220.	0.0	0.0	0.7	1.2	1.2	0.5	0.8	0.8	0.9	0.5
230.	0.0	0.0	0.4	0.4	0.4	0.8	0.9	1.0	1.2	0.9
240.	0.0	0.0	0.1	0.1	0.1	0.9	0.8	1.0	1.2	1.0
250.	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.8	1.2	1.2
260.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	1.1	1.2
270.	0.0	0.0	0.0	0.0	0.0	0.8	0.9	1.0	0.9	1.2
280.	0.0	0.0	0.0	0.0	0.0	0.7	0.9	1.0	0.7	1.1
290.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	0.9	1.0
300.	0.0	0.0	0.0	0.0	0.0	0.6	1.0	0.9	0.9	1.0
310.	0.0	0.0	0.0	0.0	0.1	0.5	1.0	0.9	0.9	1.0
320.	0.1	0.1	0.1	0.0	0.0	0.5	1.0	0.8	0.9	1.0
330.	0.1	0.0	0.0	0.0	0.0	0.5	0.9	0.9	1.0	1.1
340.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	1.0	1.1
350.	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.1	1.2	1.2
360.	0.0	0.0	0.0	0.0	0.2	1.3	1.1	1.2	1.4	1.2
MAX	0.7	1.0	2.5	2.7	2.9	1.9	1.6	1.7	2.2	2.0
DEGR.	50	50	50	50	50	30	30	30	30	30

Column header: CONCENTRATION (PPM)

THE HIGHEST CONCENTRATION OF 2.90 PPM OCCURRED AT RECEPTOR REC45.

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♀                            CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                            PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:46

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG     89. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG    150. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG    173. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG    225. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG     86. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG     89. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG    136. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG    188. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG    230. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG    188. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG     73. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG     73. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG    146. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG     94. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG    102. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG    188. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG    102. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG    116. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG    197. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG    163. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG    207. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG    163. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG    150. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG    221. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                           PAGE  2
      JOB: Winsor School                                           RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:46

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   8.6   1.0 82.0
♀
                              PAGE  3
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:46

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       210       1600
46.71     1        3
       2. River/Long EB TR    *      90       54       3.0       677       1600
46.71     1        3
       3. River/Long NB LT    *      90       62       3.0       424       1600
46.71     1        3
       4. River/Long WB LTR   *      90       54       3.0      1675       1600
46.71     1        3
       5. River/Long SB LT    *      90       62       3.0       326       1600
46.71     1        3
       6. River/Long SB R     *      90       64       3.0       200       1600
46.71     1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       717       1600
46.71     1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       215       1600
46.71     1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1278       1600
46.71     1        3
      10. Brook/Deacon SB LTR *     120       90       3.0       164       1600
46.71     1        3
      11. Brook/Joslin EB L   *     120       70       3.0        81       1600
46.71     1        3
      12. Brook/Joslin EB T   *     120       70       3.0       746       1600
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46.71      1        3
      13. Brook/Joslin WB TTR *     120       70       3.0      1318       1600
46.71      1        3
      14. Binney/Long EB LTR  *     120       90       3.0       205       1600
46.71      1        3
      15. Binney/Long NB LTR  *     120       49       3.0       639       1600
46.71      1        3
      16. Binney/Long WB LTR  *     120       90       3.0       220       1600
46.71      1        3
      17. Binney/Long SB LTR  *     120       49       3.0       576       1600
46.71      1        3
      18. River/Short EB T    *      93       43       3.0       836       1600
46.71      1        3
      19. River/Short NB LR   *      93       73       3.0       239       1600
46.71      1        3
      20. River/Short WB LTR  *      93       43       3.0      1507       1600
46.71      1        3
      21. Brook/Long EB LTR   *     120       78       3.0       806       1600
46.71      1        3
      22. Brook/Long NB LT    *     120       78       3.0       469       1600
46.71      1        3
      23. Brook/Long NB R     *     120       66       3.0       285       1600
46.71      1        3
      24. Brook/Long WB TTR   *     120       66       3.0      2004       1600
46.71      1        3
      25. Brook/Long SB LTR   *     120       78       3.0       577       1600
46.71      1        3
      26. Beth/Brook EB TTR   *     120       72       3.0      1118       1600
46.71      1        3
      27. Beth/Brook NB LR    *     120       83       3.0       370       1600
46.71      1        3
      28. Beth/Brook WB LT    *     120      106       3.0       989       1600
46.71      1        3

       RECEPTOR LOCATIONS
       ------------------
                               *          COORDINATES (FT)          *
         RECEPTOR              *      X          Y          Z       *
     --------------------------*------------------------------------*
      1. Brook/Long NE1        *     -189.0     -227.6       6.0    *
      2. Brook/Long NE2        *     -130.2     -274.2       6.0    *
      3. Brook/Long NE3        *      -71.4     -320.7       6.0    *
      4. Brook/Long NE4        *      -24.6     -262.1       6.0    *
      5. Brook/Long NE5        *       22.3     -203.5       6.0    *
      6. Brook/Long SE1        *      107.1     -254.3       6.0    *
      7. Brook/Long SE2        *       60.3     -312.9       6.0    *
      8. Brook/Long SE3        *       13.5     -371.5       6.0    *
      9. Brook/Long SE4        *       72.9     -417.2       6.0    *
     10. Brook/Long SE5        *      132.4     -463.0       6.0    *
     11. Brook/Long SW1        *       72.2     -540.4       6.0    *
     12. Brook/Long SW2        *       12.8     -494.6       6.0    *
     13. Brook/Long SW3        *      -46.6     -448.9       6.0    *
     14. Brook/Long SW4        *      -91.9     -508.7       6.0    *
     15. Brook/Long SW5        *     -137.1     -568.6       6.0    *
     16. Brook/Long NW1        *     -207.2     -498.8       6.0    *
     17. Brook/Long NW2        *     -162.0     -439.0       6.0    *
♀
                          PAGE  4
      JOB: Winsor School                                     RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:46
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 RECEPTOR LOCATIONS
 ------------------
                           *          COORDINATES (FT)          *
   RECEPTOR                *      X          Y           Z      *
 --------------------------*------------------------------------*
18. Brook/Long NW3         *      -116.8     -379.1        6.0   *
19. Brook/Long NW4         *      -175.6     -332.6        6.0   *
20. Brook/Long NW5         *      -234.4     -286.1        6.0   *
21. Binney/Long NE1        *       137.4     -466.5        6.0   *
22. Binney/Long NE2        *       197.4     -511.4        6.0   *
23. Binney/Long NE3        *       257.5     -556.3        6.0   *
24. Binney/Long NE4        *       302.7     -496.6        6.0   *
25. Binney/Long NE5        *       348.0     -436.8        6.0   *
26. Binney/Long SE1        *       399.8     -491.0        6.0   *
27. Binney/Long SE2        *       354.5     -550.8        6.0   *
28. Binney/Long SE3        *       309.3     -610.6        6.0   *
29. Binney/Long SE4        *       369.6     -655.0        6.0   *
30. Binney/Long SE5        *       429.3     -698.9        6.0   *
31. Binney/Long SW1        *       394.1     -778.9        6.0   *
32. Binney/Long SW2        *       340.7     -725.6        6.0   *
33. Binney/Long SW3        *       280.3     -681.2        6.0   *
34. Binney/Long SW4        *       234.3     -740.4        6.0   *
35. Binney/Long SW5        *       188.6     -799.2        6.0   *
36. Binney/Long NW1        *       131.4     -771.8        6.0   *
37. Binney/Long NW2        *       177.5     -712.5        6.0   *
38. Binney/Long NW3        *       223.5     -653.3        6.0   *
39. Binney/Long NW4        *       163.4     -608.4        6.0   *
40. Binney/Long NW5        *       103.4     -563.4        6.0   *
41. Beth/Brook SE1         *       463.4      227.5        6.0   *
42. Beth/Brook SE2         *       417.4      168.2        6.0   *
43. Beth/Brook SE3         *       371.4      109.0        6.0   *
44. Beth/Brook SE4         *       433.6       67.0        6.0   *
45. Beth/Brook SE5         *       495.7       25.1        6.0   *
46. Beth/Brook SW1         *       454.8      -29.4        6.0   *
47. Beth/Brook SW2         *       392.6       12.6        6.0   *
48. Beth/Brook SW3         *       330.5       54.6        6.0   *
49. Beth/Brook SW4         *       285.5       -5.5        6.0   *
50. Beth/Brook SW5         *       240.6      -65.5        6.0   *
51. Beth/Brook N1          *       191.3       12.2        6.0   *
52. Beth/Brook N2          *       242.0       79.9        6.0   *
53. Beth/Brook N3          *       287.0      140.0        6.0   *
54. Beth/Brook N4          *       332.7      199.4        6.0   *
55. Beth/Brook N5          *       372.8      251.0        6.0   *
♀
                      PAGE  5
 JOB: Winsor School                                    RUN: 2020BD


 MODEL RESULTS
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 REMARKS : In search of the angle corresponding to
           the maximum concentration, only the first
           angle, of the angles with same maximum
           concentrations, is indicated as maximum.

WIND ANGLE RANGE:   0.-360.

WIND  * CONCENTRATION
ANGLE *      (PPM)
(DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
```

```
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*---------------------------------------------------------------------------------
------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   1.2   1.5   1.5   0.7   0.7   1.2   1.3
1.5   1.9   1.4   0.2   0.2   0.6   0.6   0.1
  10.  *   0.0   0.0   0.0   0.0   0.0   1.5   1.5   1.6   0.9   0.6   1.2   1.3
1.9   2.2   1.8   0.3   0.3   0.6   0.6   0.1
  20.  *   0.0   0.0   0.3   0.3   0.3   1.6   1.8   1.9   1.0   0.7   1.0   1.7
2.0   2.0   1.9   0.6   0.5   0.7   0.5   0.2
  30.  *   0.1   0.2   1.2   1.3   1.2   1.7   1.8   1.8   0.9   0.4   0.7   1.6
2.1   2.0   1.8   1.5   1.5   1.8   0.8   0.3
  40.  *   0.3   0.8   2.6   2.6   2.5   1.2   1.2   1.3   0.3   0.2   0.5   0.9
1.7   1.5   1.3   2.5   2.9   3.0   1.3   0.5
  50.  *   0.8   1.0   3.1   3.0   3.1   0.3   0.4   0.4   0.0   0.0   0.2   0.6
0.9   0.7   0.7   2.9   3.1   3.3   1.7   0.9
  60.  *   0.7   1.2   2.9   2.9   2.8   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.2   2.7   2.8   2.7   1.8   1.1
  70.  *   0.8   1.1   2.5   2.7   2.6   0.0   0.0   0.0   0.0   0.0   0.2   0.4
0.6   0.3   0.1   2.4   2.3   2.4   1.7   1.2
  80.  *   0.6   1.1   2.3   2.5   2.3   0.0   0.0   0.0   0.0   0.0   0.3   0.3
0.6   0.2   0.2   2.3   2.3   2.2   1.6   1.3
  90.  *   0.7   1.0   2.2   2.3   2.2   0.0   0.0   0.0   0.0   0.0   0.4   0.4
0.5   0.2   0.1   2.0   2.2   2.2   1.5   1.3
 100.  *   0.7   1.0   1.9   2.1   2.1   0.0   0.0   0.0   0.0   0.0   0.4   0.3
0.5   0.2   0.1   1.8   2.1   2.0   1.5   1.3
 110.  *   0.6   1.0   1.8   2.1   2.1   0.0   0.0   0.0   0.0   0.0   0.4   0.4
0.5   0.1   0.0   1.4   2.1   2.1   1.4   1.2
 120.  *   0.8   1.0   1.8   2.1   2.1   0.0   0.0   0.1   0.1   0.2   0.4   0.2
0.3   0.0   0.0   1.3   1.8   2.0   1.5   1.1
 130.  *   1.1   1.2   2.0   2.0   2.1   0.0   0.0   0.5   0.2   0.3   0.1   0.2
0.2   0.0   0.0   1.1   1.8   1.8   1.0   0.8
 140.  *   1.2   1.4   2.1   2.3   2.1   0.0   0.1   0.8   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.1   1.9   1.8   1.0   0.7
 150.  *   1.2   1.3   2.0   2.4   2.1   0.0   0.1   0.9   0.4   0.4   0.0   0.0
0.0   0.0   0.0   1.1   1.8   1.8   0.9   0.5
 160.  *   1.1   1.4   2.0   2.4   2.3   0.1   0.2   0.8   0.6   0.4   0.0   0.0
0.0   0.0   0.0   1.3   1.8   1.9   0.9   0.5
 170.  *   1.1   1.5   2.4   2.5   2.5   0.1   0.2   0.9   0.6   0.4   0.0   0.0
0.0   0.0   0.0   1.4   1.7   2.1   0.8   0.4
 180.  *   0.9   1.4   2.3   2.6   2.6   0.1   0.4   0.7   0.7   0.3   0.0   0.0
0.0   0.0   0.0   1.5   1.6   2.1   0.7   0.4
 190.  *   0.8   1.4   2.6   2.7   3.0   0.2   0.4   0.7   0.8   0.2   0.0   0.0
0.0   0.0   0.0   1.7   1.7   2.0   0.7   0.3
 200.  *   0.4   1.1   2.6   2.8   3.0   0.2   0.4   0.6   0.8   0.3   0.0   0.0
0.0   0.0   0.0   2.1   1.8   2.1   0.5   0.2
 210.  *   0.2   1.0   2.5   2.3   2.5   0.6   0.6   0.7   0.8   0.2   0.0   0.0
0.2   0.0   0.1   1.8   1.9   2.0   0.3   0.0
 220.  *   0.2   0.7   1.7   1.6   1.8   0.9   1.1   1.3   0.8   0.3   0.0   0.1
0.9   0.5   0.4   1.2   1.4   1.3   0.0   0.0
 230.  *   0.2   0.5   0.9   0.9   0.8   1.4   1.4   1.6   1.0   0.3   0.1   0.2
1.3   0.9   0.6   0.4   0.4   0.5   0.0   0.0
 240.  *   0.1   0.5   0.7   0.3   0.3   1.6   1.5   1.6   1.4   0.4   0.1   0.4
1.6   1.0   0.8   0.1   0.1   0.1   0.0   0.0
 250.  *   0.1   0.6   0.6   0.2   0.2   1.6   1.4   1.5   1.5   0.7   0.2   0.5
1.6   0.9   0.9   0.0   0.0   0.0   0.0   0.0
 260.  *   0.1   0.6   0.6   0.2   0.1   1.7   1.5   1.4   1.5   0.9   0.3   0.5
1.7   1.1   0.7   0.0   0.0   0.0   0.0   0.0
 270.  *   0.1   0.5   0.6   0.2   0.0   1.6   1.5   1.5   1.4   1.0   0.4   0.7
1.6   1.1   0.7   0.0   0.0   0.0   0.0   0.0
 280.  *   0.0   0.4   0.6   0.1   0.0   1.4   1.5   1.5   1.4   1.0   0.4   0.8
1.6   1.3   0.6   0.0   0.0   0.0   0.0   0.0
 290.  *   0.1   0.4   0.5   0.0   0.0   1.4   1.4   1.4   1.3   1.2   0.5   0.8
```

```
1.5   1.4   0.5   0.0   0.0   0.0   0.0   0.1
 300.  *   0.1   0.1   0.3   0.0   0.0   1.4   1.4   1.5   1.2   1.2   0.7   0.8
1.5   1.5   0.5   0.0   0.0   0.2   0.1   0.1
 310.  *   0.1   0.1   0.2   0.0   0.0   1.4   1.4   1.4   0.9   0.9   0.8   1.0
1.8   1.5   0.5   0.1   0.0   0.3   0.1   0.0
 320.  *   0.1   0.0   0.0   0.0   0.0   1.4   1.4   1.3   0.8   0.6   1.1   1.1
1.8   1.5   0.6   0.0   0.0   0.5   0.2   0.2
 330.  *   0.0   0.0   0.0   0.0   0.0   1.4   1.4   1.3   0.8   0.6   0.8   1.0
1.8   1.7   0.7   0.0   0.0   0.6   0.3   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   1.4   1.4   1.4   0.8   0.7   1.1   1.1
1.6   1.7   0.9   0.0   0.2   0.7   0.5   0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   1.3   1.5   1.5   0.8   0.6   1.3   1.1
1.6   1.7   1.1   0.0   0.2   0.7   0.6   0.1
 360.  *   0.0   0.0   0.0   0.0   0.0   1.2   1.5   1.5   0.7   0.7   1.2   1.3
1.5   1.9   1.4   0.2   0.2   0.6   0.6   0.1

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.2   1.5   3.1   3.0   3.1   1.7   1.8   1.9   1.5   1.2   1.3   1.7
2.1   2.2   1.9   2.9   3.1   3.3   1.8   1.3
 DEGR. *  140   170    50    50    50    30    30    20   250   290   350    20
30    10    20    50    50    50    60    80

♀
                                    PAGE  6
      JOB: Winsor School                                          RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*-----------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.7   0.5   0.5   0.3   0.3   0.2   0.3   0.4   0.2   0.2   0.2   0.6
0.8   0.5   0.6   0.5   0.5   0.7   0.8   0.7
  10.  *   0.6   0.6   0.2   0.2   0.2   0.2   0.2   0.5   0.2   0.2   0.2   0.6
0.7   0.6   0.5   0.3   0.6   0.5   1.1   0.9
  20.  *   0.6   0.3   0.2   0.2   0.2   0.2   0.2   0.4   0.2   0.2   0.2   0.5
0.7   0.6   0.5   0.3   0.3   0.5   0.8   0.8
  30.  *   0.4   0.3   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.2   0.4
0.6   0.4   0.5   0.3   0.4   0.6   0.7   0.6
  40.  *   0.2   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2
0.5   0.2   0.1   0.5   0.6   0.7   0.7   0.4
  50.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.1   0.3   0.3   0.4   0.5   0.2
  60.  *   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.2   0.0   0.3   0.3   0.4   0.6   0.3
  70.  *   0.0   0.0   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.1   0.0   0.3   0.5   0.4   0.6   0.4
  80.  *   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.5   0.0   0.0   0.0   0.5   0.5   0.5   0.5
```

90.	*	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.5	0.4	0.5
100.	*	0.0	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.4	0.4	0.6
110.	*	0.1	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.4	0.4	0.5
120.	*	0.2	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.3	0.2	0.4
130.	*	0.3	0.3	0.5	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.1
140.	*	0.3	0.4	0.6	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.0
150.	*	0.4	0.4	0.6	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0
160.	*	0.4	0.5	0.5	0.4	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.0
170.	*	0.3	0.4	0.4	0.6	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0
180.	*	0.3	0.4	0.5	0.6	0.2	0.0	0.2	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
190.	*	0.2	0.4	0.5	0.5	0.3	0.0	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
200.	*	0.2	0.4	0.4	0.5	0.3	0.2	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
210.	*	0.2	0.4	0.3	0.2	0.3	0.1	0.2	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
220.	*	0.2	0.4	0.4	0.1	0.2	0.2	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.3	0.4	0.4	0.3	0.1	0.3	0.3	0.5	0.6	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.4	0.3	0.4	0.3	0.1	0.3	0.4	0.5	0.6	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.6	0.3	0.4	0.1	0.3	0.3	0.4	0.3	0.7	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1
260.	*	0.8	0.5	0.5	0.3	0.4	0.3	0.8	0.4	0.8	0.1	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.3
270.	*	0.9	0.8	0.6	0.6	0.5	0.3	0.6	0.6	0.7	0.2	0.0	0.1	0.4	0.2	0.0	0.1	0.0	0.1	0.3	0.3
280.	*	1.1	0.8	0.9	0.6	0.4	0.3	0.9	0.8	0.7	0.4	0.0	0.2	0.3	0.3	0.0	0.1	0.1	0.2	0.2	0.4
290.	*	1.2	0.8	0.8	0.5	0.4	0.3	0.6	1.1	0.8	0.5	0.1	0.2	0.4	0.3	0.1	0.1	0.2	0.3	0.4	0.4
300.	*	1.2	0.9	0.8	0.4	0.4	0.4	0.6	0.8	0.7	0.6	0.1	0.4	0.8	0.4	0.1	0.2	0.3	0.6	0.5	0.5
310.	*	0.9	0.6	0.6	0.4	0.4	0.4	0.5	0.9	0.7	0.6	0.4	0.6	0.8	0.7	0.2	0.2	0.4	0.7	0.7	0.7
320.	*	0.6	0.5	0.4	0.4	0.4	0.3	0.5	0.8	0.5	0.4	0.5	0.9	1.0	0.6	0.4	0.4	0.5	0.9	0.8	0.9
330.	*	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.5	0.2	0.6	0.9	1.0	0.8	0.4	0.5	0.4	0.9	0.9	0.8
340.	*	0.6	0.4	0.4	0.4	0.5	0.5	0.5	0.7	0.4	0.2	0.4	0.8	0.9	0.9	0.5	0.5	0.6	0.8	0.8	0.9
350.	*	0.6	0.4	0.4	0.5	0.5	0.2	0.5	0.7	0.2	0.1	0.4	0.8	0.8	0.8	0.6	0.5	0.6	0.7	0.9	0.9
360.	*	0.7	0.5	0.5	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.2	0.6	0.8	0.5	0.6	0.5	0.5	0.7	0.8	0.7
MAX	*	1.2	0.9	0.9	0.6	0.5	0.5	0.9	1.1	0.8	0.6	0.6	0.9	1.0	0.9	0.6	0.5	0.6	0.9	1.1	0.9
DEGR.	*	290	300	280	170	270	340	280	290	260	300	330	320	320	340	0	0	10	320	10	10

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PAGE 7

JOB: Winsor School RUN: 2020BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	0.9	1.3	1.4	0.6	0.4	0.6	0.8	1.3	2.1	2.2	0.0	0.0	0.0	0.0	0.0
10.	0.9	1.3	1.5	0.7	0.4	0.5	1.0	1.4	2.0	2.3	0.1	0.0	0.0	0.0	0.0
20.	1.1	1.4	1.5	0.6	0.4	0.5	0.9	1.6	2.0	2.4	0.3	0.3	0.3	0.3	0.3
30.	1.1	1.3	1.5	0.6	0.4	0.5	0.8	1.5	1.9	2.0	1.2	1.0	1.0	1.0	0.9
40.	0.7	0.8	0.9	0.4	0.2	0.3	0.6	1.0	1.1	1.2	2.4	2.1	1.9	1.8	1.7
50.	0.3	0.3	0.4	0.1	0.0	0.1	0.3	0.6	0.4	0.4	2.9	2.5	2.3	2.1	1.9
60.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	2.8	2.3	2.1	2.1	1.8
70.	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	2.8	2.1	1.9	2.0	1.6
80.	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	2.5	2.0	1.6	1.8	1.6
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	2.4	2.2	1.3	1.7	1.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	2.2	2.2	1.3	1.6	1.5
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	2.2	2.1	1.4	1.6	1.6
120.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	2.2	2.1	1.6	1.5	1.5
130.	0.0	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	2.2	2.2	1.7	1.5	1.5
140.	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	2.2	2.2	1.8	1.7	1.5
150.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	2.2	2.2	1.8	1.7	1.6
160.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	2.3	2.2	1.9	1.7	1.7
170.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	2.3	2.4	2.2	1.6	1.8
180.	0.0	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	2.5	2.8	2.5	1.9	1.8
190.	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	2.6	2.8	2.7	2.2	2.3

```
 200.  *   0.0   0.2   0.3   0.3   0.2   0.0   0.0   0.2   0.1   0.0   2.8   2.9
2.9   2.6   2.4
 210.  *   0.6   0.9   1.0   0.3   0.2   0.0   0.0   0.8   0.7   0.7   2.5   2.6
2.5   2.5   2.4
 220.  *   1.5   1.6   1.7   0.7   0.2   0.0   0.4   1.7   1.6   1.3   1.7   1.7
1.6   1.7   1.7
 230.  *   1.8   2.0   2.4   1.1   0.6   0.4   0.7   2.4   2.2   1.9   0.8   0.7
0.6   0.6   0.7
 240.  *   1.6   1.7   2.0   1.6   0.8   0.5   1.0   2.5   2.4   2.0   0.1   0.1
0.1   0.1   0.1
 250.  *   1.4   1.3   1.8   1.4   0.9   0.7   1.1   2.4   2.3   2.0   0.0   0.0
0.0   0.0   0.0
 260.  *   1.4   1.3   1.5   1.3   0.9   0.7   1.0   2.1   2.1   1.8   0.0   0.0
0.0   0.0   0.0
 270.  *   1.2   1.1   1.1   1.0   1.0   0.7   1.0   1.9   1.9   1.7   0.0   0.0
0.0   0.0   0.0
 280.  *   1.2   1.1   1.0   1.1   1.0   0.8   1.0   1.7   1.9   1.7   0.0   0.0
0.0   0.0   0.0
 290.  *   1.1   1.2   0.9   0.7   0.8   0.6   1.0   1.6   1.9   1.7   0.0   0.0
0.0   0.0   0.0
 300.  *   1.1   1.2   0.8   0.8   0.6   0.7   0.8   1.5   1.9   1.8   0.0   0.0
0.0   0.0   0.0
 310.  *   1.0   1.2   0.8   0.5   0.6   0.7   0.8   1.4   1.9   1.8   0.0   0.0
0.0   0.1   0.1
 320.  *   0.9   1.2   0.9   0.6   0.5   0.6   0.7   1.3   1.9   1.8   0.0   0.0
0.1   0.1   0.0
 330.  *   0.8   1.2   1.0   0.7   0.5   0.7   0.6   1.4   1.9   1.8   0.0   0.1
0.0   0.0   0.0
 340.  *   0.8   1.2   1.1   0.7   0.5   0.7   0.7   1.2   1.9   1.9   0.0   0.0
0.0   0.0   0.0
 350.  *   0.9   1.3   1.3   0.6   0.5   0.6   0.9   1.3   1.9   2.1   0.0   0.0
0.0   0.0   0.0
 360.  *   0.9   1.3   1.4   0.6   0.4   0.6   0.8   1.3   2.1   2.2   0.0   0.0
0.0   0.0   0.0

------*-----------------------------------------------------------------------------
-------------
 MAX   *   1.8   2.0   2.4   1.6   1.0   0.8   1.1   2.5   2.4   2.4   2.9   2.9
2.9   2.6   2.4
 DEGR. *  230   230   230   240   270   280   250   240   240    20    50   200
200   200   200

 THE HIGHEST CONCENTRATION OF    3.30 PPM OCCURRED AT RECEPTOR REC18.
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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:52

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG     89. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *      100.
201. AG    150. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *       72.
120. AG    173. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *      350.
34. AG    225. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *      122.
280. AG     86. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG     89. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *      127.
218. AG    136. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG    188. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *     6409.
38. AG    230. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *       40.
308. AG    188. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *       31.
220. AG     73. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *     1881.
219. AG     73. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *      974.
38. AG    146. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG     94. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *       85.
125. AG    102. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG    188. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *       77.
305. AG    102. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *       98.
245. AG    116. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *       48.
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120. AG    197. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG    174. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG    244. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG    163. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG     69. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG    207. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG    163. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG    150. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG     87. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG    221. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   8.6   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   8.6   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   8.6   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   8.6   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   8.6   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   8.6   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   8.6   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   8.6   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   8.6   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   8.6   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   8.6   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   8.6   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   8.6   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   8.6   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   8.6   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   8.6   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                    RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:52

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                             *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   8.6   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   8.6   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   8.6   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   8.6   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   8.6   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   8.6   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   8.6   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   8.6   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                       RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:52

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-------------------------------------------------------------
---------------------
       1. River/Long EB L     *      90       64       3.0       210        1600
46.71      1        3
       2. River/Long EB TR    *      90       54       3.0       677        1600
46.71      1        3
       3. River/Long NB LT    *      90       62       3.0       424        1600
46.71      1        3
       4. River/Long WB LTR   *      90       54       3.0      1675        1600
46.71      1        3
       5. River/Long SB LT    *      90       62       3.0       326        1600
46.71      1        3
       6. River/Long SB R     *      90       64       3.0       200        1600
46.71      1        3
       7. Brook/Deacon EB TR  *     120       65       3.0       717        1600
46.71      1        3
       8. Brook/Deacon NB LR  *     120       90       3.0       215        1600
46.71      1        3
       9. Brook/Deacon WB LT  *     120      110       3.0      1278        1600
46.71      1        3
      10. Brook/Deacon SB LTR *     120       90       3.0       164        1600
46.71      1        3
      11. Brook/Joslin EB L   *     120       70       3.0        81        1600
46.71      1        3
      12. Brook/Joslin EB T   *     120       70       3.0       746        1600
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46.71       1        3
      13. Brook/Joslin WB TTR *      120        70        3.0       1318        1600
46.71       1        3
      14. Binney/Long EB LTR  *      120        90        3.0        205        1600
46.71       1        3
      15. Binney/Long NB LTR  *      120        49        3.0        639        1600
46.71       1        3
      16. Binney/Long WB LTR  *      120        90        3.0        220        1600
46.71       1        3
      17. Binney/Long SB LTR  *      120        49        3.0        576        1600
46.71       1        3
      18. River/Short EB T    *       93        43        3.0        836        1600
46.71       1        3
      19. River/Short NB LR   *       93        73        3.0        239        1600
46.71       1        3
      20. River/Short WB LTR  *       93        43        3.0       1507        1600
46.71       1        3
      21. Brook/Long EB LTR   *      120        78        3.0        806        1600
46.71       1        3
      22. Brook/Long NB LT    *      120        78        3.0        469        1600
46.71       1        3
      23. Brook/Long NB R     *      120        66        3.0        285        1600
46.71       1        3
      24. Brook/Long WB TTR   *      120        66        3.0       2004        1600
46.71       1        3
      25. Brook/Long SB LTR   *      120        78        3.0        577        1600
46.71       1        3
      26. Beth/Brook EB TTR   *      120        72        3.0       1118        1600
46.71       1        3
      27. Beth/Brook NB LR    *      120        83        3.0        370        1600
46.71       1        3
      28. Beth/Brook WB LT    *      120       106        3.0        989        1600
46.71       1        3

       RECEPTOR LOCATIONS
       ------------------
                              *        COORDINATES (FT)        *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*-----------------------------------*
      1. Short/River SE1      *         64.2      619.5       6.0   *
      2. Short/River SE2      *          0.6      579.2       6.0   *
      3. Short/River SE3      *        -62.3      538.9       6.0   *
      4. Short/River SE4      *         -2.3      494.0       6.0   *
      5. Short/River SE5      *         57.8      449.1       6.0   *
      6. Short/River SW1      *         -6.6      409.9       6.0   *
      7. Short/River SW2      *        -66.7      454.8       6.0   *
      8. Short/River SW3      *       -126.8      499.6       6.0   *
      9. Short/River SW4      *       -194.5      467.4       6.0   *
     10. Short/River SW5      *       -262.2      435.2       6.0   *
     11. Short/River N1       *       -300.6      529.9       6.0   *
     12. Short/River N2       *       -232.9      562.1       6.0   *
     13. Short/River N3       *       -165.2      594.3       6.0   *
     14. Short/River N4       *       -101.9      634.6       6.0   *
     15. Short/River N5       *        -38.7      674.9       6.0   *
♀
                                PAGE  4
      JOB: Winsor School                                         RUN: 2020BD

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
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the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
	*	CONCENTRATION (PPM)														
0.	*	0.0	0.5	0.8	0.3	0.0	0.3	0.8	0.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.5	0.8	0.1	0.0	0.1	0.7	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.3	0.8	0.1	0.0	0.0	0.6	0.9	0.8	0.7	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.2	0.6	0.0	0.0	0.0	0.3	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0
40.	*	0.1	0.3	0.6	0.1	0.2	0.2	0.3	0.8	0.9	1.0	0.0	0.0	0.1	0.0	0.0
50.	*	0.2	0.3	0.5	0.2	0.2	0.2	0.3	1.0	0.9	1.1	0.4	0.4	0.4	0.4	0.2
60.	*	0.2	0.2	0.4	0.2	0.2	0.2	0.3	0.7	0.7	0.8	0.6	0.6	0.7	0.6	0.2
70.	*	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.7	0.5	0.5	0.8	0.8	1.0	0.8	0.3
80.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.3	0.3	1.1	1.0	1.1	1.1	0.4
90.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.2	0.2	1.0	1.0	1.0	1.2	0.4
100.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	1.0	1.0	0.9	1.2	0.6
110.	*	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.9	1.0	0.8	1.2	0.7
120.	*	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.7	0.9	0.9	1.2	0.9
130.	*	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.2	0.6	0.8	0.8	1.2	1.0
140.	*	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.8	0.9	1.1	1.0
150.	*	0.2	0.1	0.6	0.3	0.3	0.5	0.4	0.2	0.2	0.2	0.6	0.9	0.9	1.2	1.1
160.	*	0.3	0.4	0.7	0.4	0.5	0.3	0.3	0.3	0.3	0.1	0.4	0.9	0.9	1.2	1.2
170.	*	0.3	0.3	0.8	0.3	0.3	0.3	0.4	0.3	0.1	0.1	0.3	0.7	0.7	1.3	1.3
180.	*	0.3	0.3	0.7	0.3	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.7	0.9	1.0	1.2
190.	*	0.2	0.1	0.7	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.6	0.7	0.8	1.3
200.	*	0.0	0.0	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.8	1.3
210.	*	0.0	0.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.9	1.2
220.	*	0.0	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.7	1.2
230.	*	0.3	0.3	0.6	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.6	0.7	0.6	0.9
240.	*	0.5	0.5	0.7	0.1	0.0	0.0	0.0	0.4	0.3	0.3	0.2	0.4	0.5	0.5	0.5

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 250.  *   0.8   0.9   1.1   0.4   0.0   0.0   0.2   0.5   0.4   0.2   0.2   0.3
0.2   0.2   0.3
 260.  *   0.7   0.9   1.0   0.4   0.1   0.2   0.3   0.7   0.5   0.2   0.1   0.1
0.2   0.0   0.0
 270.  *   0.8   0.8   1.0   0.6   0.2   0.1   0.2   0.7   0.4   0.1   0.0   0.0
0.0   0.0   0.0
 280.  *   0.6   0.8   0.8   0.7   0.1   0.1   0.2   0.8   0.4   0.1   0.0   0.0
0.0   0.0   0.0
 290.  *   0.6   0.8   0.6   0.8   0.5   0.2   0.4   0.8   0.5   0.0   0.0   0.0
0.0   0.0   0.0
 300.  *   0.5   0.7   0.6   0.5   0.3   0.3   0.4   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 310.  *   0.3   0.8   0.5   0.5   0.4   0.4   0.5   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 320.  *   0.1   0.8   0.6   0.4   0.3   0.4   0.4   0.7   0.6   0.1   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.8   0.7   0.4   0.3   0.5   0.5   0.7   0.7   0.2   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.7   0.7   0.4   0.3   0.5   0.7   0.7   0.7   0.3   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.7   0.7   0.4   0.1   0.4   0.7   0.6   0.7   0.4   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.5   0.8   0.3   0.0   0.3   0.8   0.7   0.7   0.5   0.0   0.0
0.0   0.0   0.0

------*--------------------------------------------------------------------------
-------------
 MAX   *   0.8   0.9   1.1   0.8   0.5   0.5   0.8   1.0   0.9   1.1   1.1   1.0
1.1   1.3   1.3
 DEGR. *  250   250   250   290   160   150     0    30    50    50    80    80
80   170   200

 THE HIGHEST CONCENTRATION OF    1.30 PPM OCCURRED AT RECEPTOR REC14.
```

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♀                         CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                              RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:59

         The MODE flag has been set to C for calculating CO averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 PPM

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1657.5      82.3 *    1604.
330. AG    165. 100.0   1.0 20.0 1.26  81.5
       2. Brook/River EB LTR  *   -862.4   -1425.5    -921.6   -1502.8 *      97.
217. AG    279. 100.0   1.0 30.0 0.58   4.9
       3. Brook/River NB LTR  *   -792.2   -1400.7    -711.9   -1649.1 *     261.
162. AG    165. 100.0   1.0 20.0 0.95  13.3
       4. Brook/River WB LTTR *   -798.5   -1299.5    -688.0   -1164.7 *     174.
39. AG    216. 100.0   1.0 30.0 0.75   8.9
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1964.   8.6   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2124.   8.6   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2652.   8.6   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1466.   8.6   1.0 78.0
♀
                            PAGE  2
      JOB: Winsor School                                              RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:50:59

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                              *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                              *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

------------------------*-----------------------------------------------------------
---------------------
       1. Brook/River SB LTR  *     120       79       3.0      1205       1600
46.71      1        3
```

```
       2. Brook/River EB LTR  *     120       89       3.0       600       1600
46.71     1        3
       3. Brook/River NB LTR  *     120       79       3.0       911       1600
46.71     1        3
       4. Brook/River WB LTTR *     120       69       3.0      1387       1600
46.71     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                          PAGE  3
      JOB: Winsor School                                      RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *     (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.9   0.5   0.4   1.3   1.3
1.3   1.4   0.9   0.3   0.4   1.0   0.9   0.9
  10.  *   0.0   0.0   0.0   0.0   0.0   0.5   0.9   0.9   0.5   0.3   1.3   1.4
1.3   1.4   1.2   0.3   0.5   0.8   0.9   0.9
  20.  *   0.0   0.0   0.0   0.0   0.0   0.4   0.6   0.9   0.3   0.1   1.2   1.2
1.4   1.3   1.3   0.3   0.5   0.7   0.9   0.9
  30.  *   0.0   0.0   0.2   0.1   0.1   0.3   0.5   0.6   0.1   0.0   1.0   1.2
1.4   1.1   1.2   0.6   0.5   0.8   0.8   0.7
  40.  *   0.0   0.0   0.6   0.4   0.1   0.2   0.2   0.3   0.0   0.0   0.9   1.0
```

```
1.1   0.8   0.7   0.6   0.9   1.0   0.7   0.7
  50.  *   0.0   0.0   1.0   0.7   0.3   0.1   0.1   0.1   0.0   0.0   0.7   0.9
0.9   0.6   0.5   0.9   1.1   1.2   0.9   0.7
  60.  *   0.0   0.2   1.2   1.0   0.4   0.0   0.0   0.0   0.0   0.0   0.6   0.8
0.8   0.6   0.4   1.1   0.9   1.2   1.2   0.8
  70.  *   0.0   0.3   1.3   1.1   0.6   0.0   0.0   0.0   0.0   0.0   0.5   0.8
0.8   0.6   0.3   1.2   0.8   1.0   1.1   0.9
  80.  *   0.1   0.4   1.1   1.1   0.8   0.0   0.0   0.0   0.0   0.0   0.4   0.8
0.9   0.6   0.3   1.1   0.9   1.0   1.2   1.0
  90.  *   0.2   0.6   1.1   1.1   0.8   0.0   0.0   0.0   0.0   0.0   0.3   0.8
0.8   0.5   0.3   1.1   0.8   1.1   1.2   1.2
 100.  *   0.3   0.6   1.0   1.1   0.8   0.0   0.0   0.0   0.0   0.0   0.3   0.9
0.9   0.5   0.2   1.0   0.9   1.0   1.2   1.2
 110.  *   0.4   0.6   0.8   1.0   0.9   0.0   0.0   0.0   0.0   0.0   0.2   0.9
0.9   0.5   0.1   0.9   1.0   1.1   1.1   1.2
 120.  *   0.4   0.5   0.8   1.0   1.0   0.0   0.0   0.0   0.0   0.0   0.2   0.9
1.0   0.3   0.0   0.7   1.2   1.1   1.1   1.2
 130.  *   0.4   0.5   0.7   1.0   1.0   0.0   0.0   0.0   0.0   0.0   0.1   0.7
1.0   0.2   0.0   0.4   1.1   1.3   1.2   1.1
 140.  *   0.5   0.6   0.6   0.9   0.9   0.0   0.0   0.0   0.0   0.0   0.0   0.6
1.0   0.0   0.0   0.3   1.0   1.1   0.9   1.1
 150.  *   0.9   0.9   0.9   0.9   0.9   0.0   0.0   0.2   0.2   0.0   0.0   0.4
0.8   0.0   0.0   0.3   0.8   1.0   0.9   0.9
 160.  *   1.1   1.0   1.3   1.3   1.1   0.0   0.0   0.5   0.4   0.2   0.0   0.2
0.5   0.0   0.0   0.3   0.7   0.8   0.7   0.5
 170.  *   1.3   1.4   1.5   1.4   1.3   0.0   0.2   0.8   0.7   0.5   0.0   0.1
0.2   0.0   0.0   0.4   0.7   0.8   0.4   0.2
 180.  *   1.2   1.1   1.5   1.5   1.3   0.1   0.3   1.1   0.9   0.7   0.0   0.0
0.1   0.0   0.0   0.4   0.6   0.8   0.4   0.2
 190.  *   1.0   1.0   1.2   1.7   1.5   0.2   0.5   1.1   1.2   0.8   0.0   0.0
0.0   0.0   0.0   0.3   0.5   0.7   0.3   0.1
 200.  *   0.9   1.0   1.3   1.5   1.8   0.3   0.5   1.0   1.1   0.9   0.0   0.0
0.0   0.0   0.0   0.3   0.4   0.6   0.1   0.0
 210.  *   0.8   0.9   1.0   1.1   1.2   0.5   0.8   1.2   1.1   0.9   0.0   0.0
0.1   0.1   0.0   0.2   0.3   0.4   0.0   0.0
 220.  *   0.7   0.7   0.9   0.8   0.9   0.8   0.9   1.2   1.0   1.0   0.0   0.0
0.3   0.2   0.1   0.1   0.1   0.2   0.0   0.0
 230.  *   0.7   0.7   0.6   0.5   0.5   0.8   1.0   1.4   1.1   1.0   0.0   0.0
0.7   0.3   0.2   0.0   0.1   0.1   0.0   0.0
 240.  *   0.8   0.8   0.7   0.3   0.3   1.0   1.0   1.3   1.3   1.0   0.0   0.1
0.9   0.4   0.2   0.0   0.0   0.0   0.0   0.0
 250.  *   0.7   0.7   0.6   0.4   0.3   1.0   0.9   1.3   1.4   1.1   0.0   0.2
1.0   0.4   0.3   0.0   0.0   0.0   0.0   0.0
 260.  *   0.7   0.7   0.7   0.4   0.3   1.1   0.8   1.3   1.4   1.1   0.1   0.2
1.1   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 270.  *   0.7   0.7   0.8   0.4   0.3   1.1   0.9   1.1   1.4   1.2   0.1   0.3
1.0   0.5   0.3   0.0   0.0   0.0   0.0   0.0
 280.  *   0.7   0.8   0.8   0.4   0.2   1.1   1.0   1.2   1.4   1.3   0.1   0.4
0.9   0.6   0.3   0.0   0.0   0.0   0.0   0.0
 290.  *   0.7   0.8   0.8   0.4   0.2   0.9   1.1   1.2   1.4   1.3   0.1   0.5
0.9   0.8   0.3   0.0   0.0   0.0   0.0   0.0
 300.  *   0.8   0.9   1.0   0.4   0.1   1.1   1.2   1.3   1.2   1.3   0.2   0.5
0.8   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 310.  *   0.7   0.9   1.0   0.3   0.2   0.9   1.2   1.4   1.6   1.6   0.3   0.5
0.6   0.9   0.3   0.0   0.0   0.0   0.0   0.0
 320.  *   0.6   0.8   0.9   0.2   0.1   0.8   1.0   1.3   1.5   1.7   0.4   0.6
0.7   0.9   0.3   0.0   0.0   0.3   0.2   0.2
 330.  *   0.4   0.5   0.6   0.1   0.1   0.8   0.8   1.1   1.5   1.4   0.7   0.8
0.9   1.0   0.4   0.1   0.1   0.7   0.6   0.4
 340.  *   0.1   0.2   0.2   0.0   0.0   0.8   0.8   0.9   1.0   1.1   1.0   1.0
1.2   1.3   0.5   0.1   0.3   1.0   0.9   0.8
 350.  *   0.0   0.0   0.0   0.0   0.0   0.7   0.9   0.8   0.6   0.7   1.2   0.9
1.2   1.4   0.9   0.3   0.4   1.1   1.0   0.9
```

```
 360.  *   0.0   0.0   0.0   0.0   0.0   0.6   0.8   0.9   0.5   0.4   1.3   1.3
1.3   1.4   0.9   0.3   0.4   1.0   0.9   0.9

------*-------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *   1.3   1.4   1.5   1.7   1.8   1.1   1.2   1.4   1.6   1.7   1.3   1.4
1.4   1.4   1.3   1.2   1.2   1.3   1.2   1.2
 DEGR. *  170   170   170   190   200   260   300   230   310   320     0    10
20    10    20    70   120   130    60    90

 THE HIGHEST CONCENTRATION OF    1.80 PPM OCCURRED AT RECEPTOR REC5 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Winsor School RUN: 2020 BD

DATE : 1/26/11
TIME : 16:51: 6

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. Brookline SB Q1	24377.6	43850.8	24429.8	43920.7	87.	37.	AG	199.	100.0	1.0	30.0	0.45	4.4
2. Boylston WB Q2	24434.8	43765.0	24546.6	43805.0	119.	70.	AG	366.	100.0	1.0	40.0	0.78	6.0
3. Park Dr NB Q3	24314.0	43650.6	24349.5	43600.8	61.	145.	AG	266.	100.0	1.0	40.0	0.31	3.1
4. Brookline EB Q4	24250.4	43637.9	23313.5	42443.0	1518.	218.	AG	371.	100.0	1.0	40.0	1.37	77.1
5. Brookline Q27	24079.2	43421.1	23759.2	42979.0	546.	216.	AG	135.	100.0	1.0	20.0	1.03	27.7
6. Fenway Q28	24063.7	43526.1	22830.9	44991.6	1915.	320.	AG	115.	100.0	1.0	20.0	1.20	97.3
7. Brookline Q29	24121.4	43515.8	24228.5	43649.5	171.	39.	AG	135.	100.0	1.0	20.0	0.82	8.7
8. Brookline Ave west	24281.2	43703.6	24102.9	43457.4	304.	216.	AG	3028.	8.6	1.0	68.0		
9. Broolkine Ave east	24277.0	43684.6	24672.8	44220.7	666.	36.	AG	1488.	8.6	1.0	68.0		
10. Park drive north	24272.2	43689.5	23956.6	44033.9	467.	318.	AG	1177.	8.6	1.0	68.0		
11. Park drive south	24274.6	43701.6	24694.6	43148.6	694.	143.	AG	1404.	8.6	1.0	68.0		
12. Boylston St L5	24272.2	43682.2	25010.2	43953.9	786.	70.	AG	2439.	8.6	1.0	****		
13. Brookline L33	24106.9	43476.6	23847.1	43141.9	424.	218.	AG	2581.	8.6	1.0	68.0		
14. Fenway L34	24101.9	43470.8	24241.0	43294.7	224.	142.	AG	951.	8.6	1.0	42.0		
15. fenway L35	24108.0	43464.6	23938.0	43672.7	269.	321.	AG	1718.	8.6	1.0	42.0		

♀ PAGE 2

JOB: Winsor School RUN: 2020 BD

DATE : 1/26/11
TIME : 16:51: 6

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Brookline SB Q1	*	100	53	3.0	904	1600	46.71	1	3
2. Boylston WB Q2	*	100	73	3.0	1098	1600	46.71	1	3
3. Park Dr NB Q3	*	100	53	3.0	846	1600	46.71	1	3
4. Brookline EB Q4	*	100	74	3.0	1839	1600	46.71	1	3
5. Brookline Q27	*	100	54	3.0	1356	1600	46.71	1	3
6. Fenway Q28	*	100	46	3.0	1876	1600	46.71	1	3
7. Brookline Q29	*	100	54	3.0	1083	1600	46.71	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	X (FT)	Y (FT)	Z (FT)	*
1. R7	*	24234.6	43539.7	6.0	*
2. R8	*	24198.5	43493.8	6.0	*
3. R9	*	24247.7	43485.1	6.0	*
4. R10	*	24131.9	43603.0	6.0	*
5. R11	*	24100.2	43558.2	6.0	*
6. R12	*	24075.1	43588.8	6.0	*
7. R13	*	23988.8	43538.6	6.0	*
8. R14	*	24019.4	43509.1	6.0	*
9. R15	*	23968.0	43510.2	6.0	*
10. R16	*	23940.7	43418.5	6.0	*
11. R17	*	23992.1	43417.4	6.0	*
12. R18	*	23951.7	43364.0	6.0	*
13. R19	*	24080.6	43343.2	6.0	*
14. R20	*	24111.2	43390.1	6.0	*
15. R21	*	24138.5	43348.7	6.0	*
16. R22	*	24229.1	43394.5	6.0	*
17. R23	*	24198.5	43426.2	6.0	*
18. R24	*	24258.6	43409.8	6.0	*
19. R41	*	24433.6	43813.3	6.0	*
20. R42	*	24498.2	43841.4	6.0	*
21. R43	*	24569.1	43866.7	6.0	*
22. R44	*	24472.8	43859.6	6.0	*
23. R45	*	24517.8	43916.6	6.0	*
24. R46	*	24182.0	43865.3	6.0	*
25. R47	*	24230.1	43812.3	6.0	*
26. R48	*	24268.4	43766.0	6.0	*
27. R49	*	24307.2	43819.4	6.0	*
28. R50	*	24356.7	43884.0	6.0	*
29. R51	*	24367.5	43656.1	6.0	*
30. R52	*	24433.5	43678.3	6.0	*
31. R53	*	24498.6	43702.8	6.0	*

```
     32. R54                 *     24409.4    43607.5        6.0   *
     33. R55                 *     24444.6    43559.0        6.0   *
     34. R56                 *     24282.4    43606.2        6.0   *
     35. R57                 *     24328.7    43546.5        6.0   *
     36. R58                 *     24243.6    43550.9        6.0   *
     37. R59                 *     24204.3    43692.2        6.0   *
     38. R60                 *     24150.3    43751.0        6.0   *
♀
                           PAGE  3
      JOB: Winsor School                                  RUN: 2020 BD


      DATE :  1/26/11
      TIME : 16:51: 6


       RECEPTOR LOCATIONS
       ------------------
                             *           COORDINATES (FT)          *
         RECEPTOR            *      X          Y          Z        *
     -------------------------*-----------------------------------*
     39. R61                 *     24161.0    43638.3        6.0   *
♀
                           PAGE  4
      JOB: Winsor School                                  RUN: 2020 BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-----------------------------------------
   0.  *   1.7   1.9   1.1   0.1   0.1   0.1   0.7   0.7   0.4   0.2   0.3   0.2
2.1   2.3   1.6   0.8   1.1   0.8   0.6   0.3
  10.  *   1.5   1.9   1.0   0.1   0.1   0.1   0.7   0.7   0.4   0.2   0.4   0.2
2.2   2.4   1.4   0.7   1.2   0.6   0.5   0.3
  20.  *   1.2   1.8   0.8   0.1   0.1   0.1   0.7   0.7   0.4   0.3   0.4   0.3
2.0   2.4   1.3   0.7   0.8   0.6   0.4   0.2
  30.  *   1.1   1.3   0.8   0.2   0.3   0.1   0.6   0.7   0.4   0.3   0.7   0.6
1.6   1.8   0.9   0.6   0.8   0.6   0.3   0.1
  40.  *   1.1   0.9   0.7   0.6   0.8   0.2   0.7   1.0   0.5   0.6   1.2   1.2
1.2   1.5   0.9   0.4   0.6   0.4   0.2   0.0
  50.  *   1.0   0.6   0.6   1.0   1.4   0.5   0.9   1.3   0.8   0.9   1.8   1.8
0.6   0.8   0.5   0.3   0.4   0.3   0.1   0.0
  60.  *   0.8   0.4   0.3   1.7   1.9   1.2   1.3   1.8   1.2   1.3   2.0   2.0
0.3   0.4   0.4   0.2   0.2   0.2   0.1   0.1
  70.  *   0.4   0.2   0.2   1.9   2.2   1.4   1.7   2.0   1.3   1.3   2.0   1.9
0.2   0.3   0.3   0.1   0.1   0.1   0.5   0.3
  80.  *   0.2   0.1   0.1   1.7   1.9   1.4   1.5   1.8   1.3   1.3   1.8   1.7
0.2   0.3   0.3   0.1   0.1   0.1   0.8   0.5
  90.  *   0.2   0.1   0.1   1.7   1.6   1.4   1.5   1.5   1.2   1.3   1.7   1.7
```

```
0.2   0.3   0.3   0.1   0.1   0.1   1.2   0.6
 100.  *   0.2   0.1   0.2   1.6   1.6   1.2   1.4   1.5   1.0   1.2   1.5   1.6
0.2   0.3   0.3   0.1   0.1   0.1   1.3   0.7
 110.  *   0.2   0.1   0.2   1.4   1.5   1.2   1.3   1.5   1.1   1.1   1.5   1.4
0.1   0.3   0.2   0.1   0.1   0.1   1.4   0.7
 120.  *   0.2   0.1   0.1   1.5   1.5   1.2   1.2   1.3   1.0   1.0   1.5   1.4
0.0   0.2   0.1   0.1   0.1   0.1   1.4   0.8
 130.  *   0.1   0.1   0.1   1.5   1.4   1.1   1.0   1.1   0.9   1.0   1.4   1.4
0.0   0.1   0.1   0.0   0.0   0.0   1.4   1.0
 140.  *   0.1   0.0   0.0   1.3   1.5   1.1   1.1   1.2   0.8   1.0   1.4   1.4
0.0   0.1   0.0   0.0   0.0   0.0   1.2   1.0
 150.  *   0.0   0.0   0.0   1.4   1.3   1.3   0.8   1.0   0.8   1.0   1.4   1.4
0.0   0.0   0.0   0.0   0.1   0.0   1.3   1.1
 160.  *   0.0   0.0   0.0   1.5   1.7   1.2   0.8   1.0   0.8   1.0   1.4   1.5
0.0   0.0   0.0   0.1   0.1   0.0   1.3   1.3
 170.  *   0.0   0.1   0.0   1.7   1.7   1.3   0.8   1.1   0.8   1.1   1.5   1.5
0.0   0.0   0.0   0.1   0.2   0.0   1.2   1.3
 180.  *   0.1   0.1   0.1   1.8   1.8   1.5   0.9   1.2   0.9   1.2   1.6   1.6
0.0   0.0   0.0   0.1   0.2   0.0   0.9   1.3
 190.  *   0.1   0.1   0.1   2.0   2.0   1.5   0.9   1.2   0.9   1.1   1.7   1.6
0.0   0.0   0.0   0.2   0.2   0.1   0.8   1.4
 200.  *   0.2   0.2   0.1   2.0   2.1   1.6   0.8   1.2   0.8   0.9   1.7   1.7
0.1   0.1   0.0   0.2   0.2   0.1   0.9   1.4
 210.  *   0.7   0.7   0.3   1.6   1.8   1.3   0.5   0.8   0.5   0.7   1.3   1.3
0.6   0.6   0.2   0.3   0.4   0.2   1.3   1.7
 220.  *   1.5   1.6   0.7   1.0   1.3   0.9   0.2   0.4   0.2   0.2   0.8   0.7
1.2   1.4   0.6   0.5   0.8   0.3   1.9   2.0
 230.  *   2.0   2.1   1.2   0.5   0.6   0.6   0.0   0.1   0.0   0.1   0.2   0.2
1.8   2.0   1.1   0.9   1.3   0.7   1.8   1.7
 240.  *   2.1   2.1   1.3   0.3   0.4   0.5   0.0   0.0   0.0   0.0   0.0   0.0
2.0   2.1   1.2   1.0   1.5   0.9   1.3   1.1
 250.  *   2.0   2.2   1.2   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.9   2.0   1.3   1.1   1.5   1.0   0.8   0.7
 260.  *   1.9   1.9   1.3   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.8   1.9   1.2   1.1   1.3   0.9   0.6   0.4
 270.  *   2.0   1.8   1.1   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.6   1.8   1.2   1.0   1.3   0.9   0.4   0.4
 280.  *   1.9   1.9   1.4   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   1.0   1.0   1.2   0.9   0.5   0.5
 290.  *   1.8   1.8   1.3   0.3   0.5   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   1.0   1.0   1.3   0.9   0.6   0.4
 300.  *   1.8   1.9   1.2   0.3   0.6   0.5   0.0   0.0   0.0   0.0   0.0   0.0
1.5   1.6   0.9   1.2   1.4   1.1   0.4   0.4
 310.  *   1.7   1.9   1.2   0.2   0.5   0.4   0.1   0.1   0.0   0.0   0.0   0.0
1.5   1.7   1.0   1.3   1.5   1.1   0.5   0.4
 320.  *   1.7   1.7   1.1   0.1   0.3   0.3   0.3   0.3   0.1   0.1   0.1   0.0
1.6   1.9   1.2   1.1   1.4   1.0   0.6   0.3
 330.  *   1.7   1.6   1.1   0.0   0.1   0.1   0.5   0.6   0.2   0.1   0.1   0.1
1.8   2.0   1.4   1.0   1.2   0.8   0.6   0.3
 340.  *   1.7   1.7   1.1   0.1   0.0   0.0   0.6   0.7   0.3   0.1   0.2   0.1
1.8   2.1   1.4   0.9   1.1   0.9   0.6   0.2
 350.  *   1.6   1.9   1.1   0.1   0.1   0.1   0.5   0.7   0.4   0.1   0.2   0.1
2.0   2.3   1.6   0.9   1.3   0.8   0.7   0.2
 360.  *   1.7   1.9   1.1   0.1   0.1   0.1   0.7   0.7   0.4   0.2   0.3   0.2
2.1   2.3   1.6   0.8   1.1   0.8   0.6   0.3

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *   2.1   2.2   1.4   2.0   2.2   1.6   1.7   2.0   1.3   1.3   2.0   2.0
2.2   2.4   1.6   1.3   1.5   1.1   1.9   2.0
 DEGR. *  240   250   280   190    70   200    70    70    70    60    60    60
10    10     0   310   240   300   220   220
```

JOB: Winsor School RUN: 2020 BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
	CONCENTRATION (PPM)																		
0.	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.3	0.7	0.6	1.2	1.3	1.6	0.3	0.3	0.2
10.	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.9	1.1	1.1	0.7	0.5	1.3	1.2	1.3	0.3	0.3	0.1
20.	0.1	0.4	0.3	0.0	0.0	0.0	0.0	0.0	1.0	1.2	1.0	0.8	0.6	1.5	1.2	1.2	0.3	0.3	0.1
30.	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.1	1.0	1.2	0.9	0.8	0.4	1.6	1.1	1.3	0.3	0.2	0.2
40.	0.0	0.1	0.1	0.0	0.1	0.4	0.4	0.3	1.1	1.1	0.8	0.6	0.3	1.4	0.9	1.2	0.6	0.3	0.5
50.	0.0	0.0	0.0	0.1	0.3	0.5	0.6	0.5	1.1	0.9	0.7	0.5	0.2	1.7	0.7	1.0	1.0	0.4	1.0
60.	0.1	0.0	0.0	0.1	0.3	0.6	0.6	0.7	1.0	0.8	0.7	0.3	0.1	1.4	0.5	0.8	1.2	0.6	1.3
70.	0.3	0.1	0.1	0.2	0.4	0.8	0.7	0.9	0.6	0.5	0.5	0.1	0.0	1.2	0.4	0.5	1.7	0.8	1.7
80.	0.5	0.3	0.1	0.3	0.6	1.0	0.8	0.9	0.2	0.2	0.2	0.0	0.0	0.9	0.3	0.2	1.7	0.9	1.7
90.	0.6	0.4	0.3	0.5	0.7	1.2	0.9	1.1	0.1	0.1	0.1	0.0	0.0	0.7	0.3	0.2	1.7	1.0	1.7
100.	0.6	0.4	0.3	0.5	0.7	1.0	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	1.4	1.0	1.7
110.	0.5	0.5	0.3	0.4	0.6	0.9	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.5	1.1	1.7
120.	0.5	0.6	0.3	0.4	0.5	0.8	0.8	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	1.4	1.1	1.6
130.	0.5	0.8	0.3	0.4	0.6	0.8	0.7	1.3	0.1	0.0	0.0	0.1	0.1	0.4	0.4	0.1	1.3	0.9	1.5
140.	0.4	0.9	0.3	0.8	1.0	1.1	0.7	1.2	0.2	0.0	0.0	0.2	0.2	0.3	0.3	0.1	1.3	1.0	1.5
150.	0.4	1.0	0.4	0.9	0.9	1.5	0.8	1.1	0.4	0.1	0.0	0.3	0.3	0.1	0.1	0.0	1.3	0.8	1.4
160.	0.5	1.1	0.5	0.8	1.1	1.6	0.9	0.9	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.4	0.8	1.4
170.	0.5	1.1	0.7	0.9	1.0	1.4	1.0	0.8	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.6	0.8	1.7
180.	0.6	1.1	0.8	1.0	1.1	1.5	1.2	0.8	0.5	0.2	0.1	0.4	0.4	0.0	0.0	0.0	1.7	0.9	1.8
190.	0.8	1.0	0.8	1.1	1.4	1.7	1.3	0.9	0.5	0.2	0.1	0.3	0.3	0.0	0.0	0.1	2.0	1.2	2.1
200.	1.0	1.0	0.9	1.0	1.5	2.1	1.7	1.3	0.7	0.2	0.1	0.3							

```
0.3   0.2   0.0   0.2   2.1   1.0   1.9
 210.  *   1.3   1.4   1.1   0.7   1.2   2.1   1.6   1.5   1.1   0.3   0.2   0.4
0.3   0.8   0.2   0.8   1.7   0.8   1.6
 220.  *   1.9   1.8   1.4   0.5   0.6   1.4   1.3   1.0   1.6   0.9   0.5   0.7
0.5   1.6   0.6   1.6   1.2   0.5   1.0
 230.  *   2.1   1.4   1.2   0.4   0.5   0.8   0.5   0.4   2.3   1.2   1.0   1.1
0.8   2.3   0.9   2.0   0.4   0.2   0.5
 240.  *   1.2   0.8   0.9   0.3   0.4   0.4   0.3   0.1   2.3   1.5   1.0   1.2
1.0   2.3   1.1   2.1   0.2   0.2   0.3
 250.  *   0.9   0.6   0.7   0.3   0.3   0.4   0.2   0.1   2.2   1.6   1.3   1.4
0.9   2.2   1.0   2.0   0.2   0.2   0.2
 260.  *   0.5   0.5   0.6   0.4   0.4   0.4   0.2   0.1   1.9   1.4   1.3   1.4
1.1   2.1   1.1   1.8   0.2   0.1   0.2
 270.  *   0.4   0.6   0.6   0.4   0.4   0.4   0.3   0.2   1.7   1.3   1.2   1.5
1.0   1.9   1.1   1.9   0.1   0.1   0.2
 280.  *   0.4   0.7   0.4   0.4   0.4   0.4   0.3   0.2   1.6   1.0   1.0   1.5
1.2   1.9   1.1   1.8   0.1   0.1   0.2
 290.  *   0.3   0.6   0.3   0.4   0.4   0.4   0.3   0.2   1.5   1.0   0.9   1.4
1.1   1.7   1.0   1.8   0.1   0.1   0.1
 300.  *   0.3   0.6   0.3   0.4   0.4   0.4   0.2   0.0   1.4   0.9   0.9   1.3
1.2   1.5   0.9   1.7   0.1   0.1   0.1
 310.  *   0.2   0.6   0.3   0.2   0.2   0.4   0.1   0.0   1.3   0.8   0.8   1.1
1.1   1.4   0.9   1.7   0.2   0.2   0.1
 320.  *   0.2   0.5   0.3   0.1   0.1   0.1   0.0   0.0   0.9   0.7   1.1   0.7
0.8   1.1   0.7   1.8   0.2   0.2   0.1
 330.  *   0.2   0.4   0.3   0.0   0.0   0.1   0.0   0.0   0.8   0.7   1.2   0.4
0.4   1.2   1.0   1.7   0.3   0.3   0.1
 340.  *   0.2   0.4   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.8   1.3   0.5
0.3   1.2   1.1   1.7   0.3   0.3   0.1
 350.  *   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.7   0.9   1.3   0.6
0.5   1.2   1.1   1.7   0.3   0.3   0.2
 360.  *   0.2   0.4   0.4   0.0   0.0   0.0   0.0   0.0   0.9   1.1   1.3   0.7
0.6   1.2   1.3   1.6   0.3   0.3   0.2

------*------------------------------------------------------------------------
-------------------------------------
 MAX   *   2.1   1.8   1.4   1.1   1.5   2.1   1.7   1.5   2.3   1.6   1.3   1.5
1.2   2.3   1.3   2.1   2.1   1.2   2.1
 DEGR. *  230   220   220   190   200   200   200   210   230   250   250   270
280   230     0   240   200   190   190

 THE HIGHEST CONCENTRATION OF    2.40 PPM OCCURRED AT RECEPTOR REC14.
```

Particulate Matter 10 (PM_{10})

```
♀                           CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                            PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:44

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG      0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG      0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG      0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG      0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG      0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG      0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG      0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG      0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG      0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG      0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG      0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                        PAGE  2
      JOB: Winsor School                                       RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:44

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
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                              *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                           RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:44

       1. River/Long EB L     *      90        64        3.0       210        1600
 0.07      1        3
       2. River/Long EB TR    *      90        54        3.0       677        1600
 0.07      1        3
       3. River/Long NB LT    *      90        62        3.0       424        1600
 0.07      1        3
       4. River/Long WB LTR   *      90        54        3.0      1675        1600
 0.07      1        3
       5. River/Long SB LT    *      90        62        3.0       326        1600
 0.07      1        3
       6. River/Long SB R     *      90        64        3.0       200        1600
 0.07      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       717        1600
 0.07      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       215        1600
 0.07      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1278        1600
 0.07      1        3
      10. Brook/Deacon SB LTR *     120        90        3.0       164        1600
 0.07      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        81        1600
 0.07      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       746        1600
 0.07      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1318        1600
 0.07      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       205        1600
 0.07      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       639        1600
 0.07      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.07      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       576        1600
 0.07      1        3
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18. River/Short EB T	*	93	43	3.0	836	1600		
0.07	1	3						
19. River/Short NB LR	*	93	73	3.0	239	1600		
0.07	1	3						
20. River/Short WB LTR	*	93	43	3.0	1507	1600		
0.07	1	3						
21. Brook/Long EB LTR	*	120	78	3.0	806	1600		
0.07	1	3						
22. Brook/Long NB LT	*	120	78	3.0	469	1600		
0.07	1	3						
23. Brook/Long NB R	*	120	66	3.0	285	1600		
0.07	1	3						
24. Brook/Long WB TTR	*	120	66	3.0	2004	1600		
0.07	1	3						
25. Brook/Long SB LTR	*	120	78	3.0	577	1600		
0.07	1	3						
26. Beth/Brook EB TTR	*	120	72	3.0	1118	1600		
0.07	1	3						
27. Beth/Brook NB LR	*	120	83	3.0	370	1600		
0.07	1	3						
28. Beth/Brook WB LT	*	120	106	3.0	989	1600		
0.07	1	3						

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. River/Long NE1	*	-978.8	215.4	6.0	*
2. River/Long NE2	*	-904.3	201.6	6.0	*
3. River/Long NE3	*	-831.3	188.0	6.0	*
4. River/Long NE4	*	-788.0	251.3	6.0	*
5. River/Long NE5	*	-746.6	311.8	6.0	*
6. River/Long SE1	*	-639.8	294.3	6.0	*
7. River/Long SE2	*	-682.2	232.4	6.0	*
8. River/Long SE3	*	-724.5	170.5	6.0	*
9. River/Long SE4	*	-662.6	128.1	6.0	*
10. River/Long SE5	*	-600.7	85.8	6.0	*
11. River/Long SW1	*	-638.2	21.8	6.0	*
12. River/Long SW2	*	-700.1	64.1	6.0	*
13. River/Long SW3	*	-762.0	106.5	6.0	*
14. River/Long SW4	*	-790.3	37.0	6.0	*
15. River/Long SW5	*	-818.6	-32.5	6.0	*
16. River/Long NW1	*	-921.8	-26.0	6.0	*
17. River/Long NW2	*	-893.5	43.5	6.0	*
18. River/Long NW3	*	-865.2	112.9	6.0	*
19. River/Long NW4	*	-938.9	126.7	6.0	*
20. River/Long NW5	*	-1012.7	140.4	6.0	*
21. Brook/Deacon NE1	*	-468.0	-576.8	6.0	*
22. Brook/Deacon NE2	*	-408.9	-623.0	6.0	*
23. Brook/Deacon NE3	*	-349.9	-669.2	6.0	*

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PAGE 4

JOB: Winsor School RUN: 2020BD

DATE : 1/26/11
TIME : 16:51:44

RECEPTOR LOCATIONS
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* COORDINATES (FT) *

RECEPTOR	*	X	Y	Z	*
24. Brook/Deacon NE4	*	-300.6	-612.7	6.0	*
25. Brook/Deacon NE5	*	-251.9	-555.6	6.0	*
26. Brook/Deacon SE1	*	-193.8	-620.1	6.0	*
27. Brook/Deacon SE2	*	-242.5	-677.1	6.0	*
28. Brook/Deacon SE3	*	-291.2	-734.2	6.0	*
29. Brook/Deacon SE4	*	-233.1	-781.7	6.0	*
30. Brook/Deacon SE5	*	-175.1	-829.1	6.0	*
31. Brook/Deacon SW1	*	-206.3	-868.2	6.0	*
32. Brook/Deacon SW2	*	-264.4	-820.7	6.0	*
33. Brook/Deacon SW3	*	-322.4	-773.2	6.0	*
34. Brook/Deacon SW4	*	-368.8	-832.1	6.0	*
35. Brook/Deacon SW5	*	-415.3	-891.0	6.0	*
36. Brook/Deacon NW1	*	-482.8	-857.2	6.0	*
37. Brook/Deacon NW2	*	-436.4	-798.3	6.0	*
38. Brook/Deacon NW3	*	-390.0	-739.4	6.0	*
39. Brook/Deacon NW4	*	-449.1	-693.2	6.0	*
40. Brook/Deacon NW5	*	-508.2	-647.0	6.0	*
41. Brook/Joselin NE1	*	-419.5	-521.3	6.0	*
42. Brook/Joselin NE2	*	-359.7	-566.6	6.0	*
43. Brook/Joselin NE3	*	-299.9	-611.8	6.0	*
44. Brook/Joselin NE4	*	-251.2	-554.8	6.0	*
45. Brook/Joselin NE5	*	-204.9	-495.8	6.0	*
46. Brook/Joselin S1	*	-160.7	-581.3	6.0	*
47. Brook/Joselin S2	*	-209.4	-638.3	6.0	*
48. Brook/Joselin S3	*	-260.3	-693.4	6.0	*
49. Brook/Joselin S4	*	-305.6	-753.2	6.0	*
50. Brook/Joselin S5	*	-352.7	-811.6	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2020BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first
angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0. *	0.	0.	0.	0.	0.	2.	3.	3.	1.	0.	1.	3.	4.	4.	4.	1.	1.	1.	1.	1.
10. *	0.	0.	0.	0.	0.	1.	2.	3.	1.	0.	1.	2.	4.	4.	4.	1.	1.	2.	2.	1.
20. *	0.	0.	1.	0.	0.	1.	2.	3.	0.	0.	1.	1.	3.	3.	3.	2.	2.	2.	2.	1.
30. *	0.	0.	2.	1.	1.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.	4.	3.	4.	2.	1.
40. *	0.	0.	3.	2.	2.	0.	0.	1.	0.	0.	1.	1.	2.	1.	1.	4.	4.	5.	2.	2.
50. *	0.	1.	4.	4.	3.	0.	1.	1.	1.	1.	1.	1.	2.	1.	1.	4.	5.	5.	3.	2.

```
  60.  *    1.    2.    4.    4.    4.    1.    1.    1.    0.    1.    1.    1.
2.    1.    1.    4.    4.    5.    4.    3.
  70.  *    1.    2.    4.    4.    4.    1.    1.    0.    0.    0.    1.    1.
2.    1.    0.    3.    4.    4.    4.    3.
  80.  *    2.    2.    3.    4.    4.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    3.    3.    4.    3.    3.
  90.  *    2.    2.    3.    4.    4.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    3.    3.    4.    3.    3.
 100.  *    2.    2.    3.    4.    3.    0.    0.    0.    0.    0.    1.    1.
2.    1.    0.    2.    3.    4.    3.    3.
 110.  *    3.    3.    4.    4.    3.    0.    0.    1.    1.    0.    1.    1.
1.    1.    1.    3.    3.    3.    2.    2.
 120.  *    3.    4.    4.    4.    4.    0.    0.    1.    1.    1.    1.    1.
1.    1.    1.    3.    3.    3.    2.    2.
 130.  *    3.    4.    4.    4.    4.    0.    1.    2.    1.    1.    1.    1.
1.    0.    0.    2.    2.    3.    2.    1.
 140.  *    3.    3.    4.    4.    4.    1.    1.    2.    1.    1.    0.    0.
0.    0.    0.    2.    2.    3.    2.    1.
 150.  *    3.    3.    4.    4.    4.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    2.    2.    3.    1.    1.
 160.  *    2.    3.    4.    4.    4.    0.    0.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    1.    0.
 170.  *    2.    3.    4.    4.    4.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    1.    0.
 180.  *    1.    2.    4.    4.    5.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.    1.    2.    3.    0.    0.
 190.  *    1.    2.    4.    5.    5.    0.    1.    2.    1.    1.    0.    0.
0.    0.    0.    1.    2.    2.    0.    0.
 200.  *    1.    2.    3.    4.    5.    1.    1.    2.    1.    1.    0.    0.
1.    1.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    3.    3.    2.    2.    3.    1.    1.    0.    0.
2.    2.    1.    0.    0.    1.    0.    0.
 220.  *    1.    1.    2.    2.    2.    3.    3.    4.    2.    1.    0.    0.
3.    2.    1.    0.    0.    0.    0.    0.
 230.  *    1.    1.    2.    1.    1.    4.    4.    4.    2.    1.    0.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 240.  *    1.    2.    2.    1.    0.    4.    4.    4.    3.    1.    0.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 250.  *    1.    2.    2.    1.    0.    3.    4.    4.    3.    2.    1.    1.
3.    3.    2.    0.    0.    0.    0.    0.
 260.  *    0.    1.    2.    0.    0.    3.    4.    4.    3.    2.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 270.  *    0.    1.    1.    0.    0.    3.    3.    4.    4.    2.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 280.  *    0.    0.    1.    0.    0.    3.    3.    3.    4.    2.    1.    2.
3.    3.    2.    0.    0.    1.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    2.    3.    3.    2.    1.    2.
4.    3.    2.    0.    0.    1.    1.    0.
 300.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    2.    2.
4.    3.    2.    0.    0.    2.    1.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    2.    2.    2.
4.    4.    2.    0.    0.    2.    1.    0.
 320.  *    0.    0.    0.    0.    0.    2.    2.    3.    2.    1.    2.    3.
3.    4.    3.    0.    0.    2.    1.    0.
 330.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    2.
3.    4.    3.    0.    1.    2.    1.    1.
 340.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    2.
4.    4.    4.    0.    1.    2.    1.    1.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    1.    1.    2.    3.
4.    4.    4.    1.    1.    2.    1.    1.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    1.    0.    1.    3.
4.    4.    4.    1.    1.    1.    1.    1.
```

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------*---------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    4.    5.    5.    4.    4.    4.    4.    2.    2.    3.
4.    4.    4.    4.    5.    5.    4.    3.
 DEGR. *  120   120   120   190   190   230   250   240   270   290   320   350
10    10     0    40    50    50    60    70

♀
                                    PAGE  6
      JOB: Winsor School                                        RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*---------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    2.    1.    2.
3.    4.    3.    0.    0.    1.    0.    0.
  10.  *    0.    0.    0.    0.    1.    3.    4.    4.    2.    2.    2.    2.
4.    4.    4.    0.    0.    1.    0.    0.
  20.  *    0.    0.    1.    1.    1.    4.    4.    4.    2.    2.    2.    2.
5.    5.    5.    1.    1.    1.    0.    0.
  30.  *    0.    1.    3.    3.    3.    4.    5.    5.    2.    2.    2.    2.
5.    5.    5.    2.    2.    3.    1.    0.
  40.  *    1.    2.    5.    5.    5.    4.    4.    4.    2.    1.    1.    2.
4.    4.    4.    4.    4.    5.    2.    1.
  50.  *    2.    3.    6.    6.    6.    2.    2.    2.    0.    0.    0.    0.
2.    2.    2.    4.    4.    5.    3.    2.
  60.  *    2.    2.    5.    5.    5.    1.    0.    0.    0.    0.    0.    0.
1.    1.    0.    4.    4.    4.    3.    2.
  70.  *    2.    2.    4.    5.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    3.    3.    3.    2.    1.
  80.  *    2.    2.    4.    4.    4.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    2.
  90.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    3.    2.    1.
 100.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    2.    3.    2.    2.    1.
 110.  *    1.    2.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 120.  *    1.    1.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    2.    2.    1.
 130.  *    1.    1.    3.    4.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    3.    2.    1.    1.
 140.  *    1.    2.    3.    3.    3.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 150.  *    1.    2.    3.    3.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    2.    1.    1.
 160.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    1.
```

```
 170.  *    1.    2.    3.    4.    4.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 180.  *    0.    2.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    1.    0.
 190.  *    0.    1.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    2.    3.    0.    0.
 200.  *    0.    0.    3.    4.    5.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    2.    0.    0.
 210.  *    0.    0.    2.    3.    4.    1.    1.    2.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    0.    0.
 220.  *    0.    0.    1.    2.    3.    2.    2.    3.    0.    0.    0.    0.
2.    1.    0.    0.    0.    1.    0.    0.
 230.  *    0.    0.    1.    1.    1.    3.    3.    3.    0.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 240.  *    0.    0.    1.    0.    0.    3.    3.    3.    1.    0.    0.    0.
3.    2.    0.    0.    0.    0.    0.    0.
 250.  *    0.    0.    0.    0.    0.    3.    3.    3.    1.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 260.  *    0.    0.    0.    0.    0.    3.    3.    3.    2.    0.    0.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 270.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 280.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    1.
3.    3.    0.    0.    0.    0.    0.    0.
 290.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 300.  *    0.    0.    0.    0.    0.    3.    2.    2.    2.    1.    1.    1.
2.    3.    1.    0.    0.    0.    0.    0.
 310.  *    0.    0.    0.    0.    0.    3.    3.    2.    2.    1.    1.    2.
3.    3.    1.    0.    0.    0.    0.    0.
 320.  *    0.    0.    0.    0.    0.    3.    3.    3.    1.    1.    1.    2.
3.    3.    2.    0.    0.    0.    0.    0.
 330.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    2.    2.
3.    3.    2.    0.    0.    1.    0.    0.
 340.  *    1.    0.    0.    0.    0.    2.    3.    3.    2.    1.    1.    2.
3.    3.    3.    0.    0.    1.    1.    0.
 350.  *    0.    0.    0.    0.    0.    2.    3.    3.    1.    1.    1.    2.
3.    3.    3.    0.    0.    1.    0.    0.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    2.    1.    2.
3.    4.    3.    0.    0.    1.    0.    0.

------*-----------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    3.    6.    6.    6.    4.    5.    5.    2.    2.    2.    2.
5.    5.    5.    4.    4.    5.    3.    2.
 DEGR. *   50    50    50    50    50    30    30    30    30    20    20    20
30    30    30    40    50    40    50    50

♀
                                 PAGE  7
      JOB: Winsor School                                          RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
		CONCENTRATION (ug/m**3)									
0.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
10.	*	0.	0.	0.	1.	1.	4.	3.	4.	4.	4.
20.	*	0.	0.	1.	1.	1.	5.	4.	4.	5.	5.
30.	*	0.	1.	3.	3.	4.	5.	4.	5.	6.	5.
40.	*	1.	2.	5.	5.	6.	4.	4.	4.	4.	4.
50.	*	2.	3.	6.	6.	7.	2.	2.	2.	2.	2.
60.	*	2.	2.	5.	5.	6.	1.	1.	0.	1.	1.
70.	*	2.	2.	5.	4.	6.	0.	0.	0.	1.	0.
80.	*	1.	2.	4.	3.	5.	0.	0.	0.	1.	0.
90.	*	1.	2.	4.	3.	4.	0.	0.	0.	1.	0.
100.	*	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
110.	*	1.	2.	4.	3.	4.	0.	0.	0.	2.	0.
120.	*	1.	2.	4.	3.	3.	0.	0.	0.	2.	0.
130.	*	1.	2.	4.	3.	2.	0.	0.	0.	2.	0.
140.	*	1.	2.	3.	4.	2.	0.	0.	0.	2.	0.
150.	*	1.	2.	3.	4.	2.	0.	0.	0.	2.	0.
160.	*	1.	2.	3.	4.	2.	0.	0.	0.	1.	0.
170.	*	1.	2.	4.	4.	3.	0.	0.	0.	1.	0.
180.	*	1.	1.	4.	5.	3.	0.	0.	0.	1.	0.
190.	*	0.	1.	4.	5.	4.	0.	0.	0.	1.	0.
200.	*	0.	1.	4.	5.	5.	0.	0.	1.	1.	0.
210.	*	0.	1.	3.	4.	4.	1.	1.	1.	1.	1.
220.	*	0.	0.	2.	3.	3.	2.	2.	2.	2.	1.
230.	*	0.	0.	1.	1.	1.	3.	3.	3.	3.	2.
240.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	3.
250.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
260.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
270.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	3.
280.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	3.
290.	*	0.	0.	0.	0.	0.	1.	3.	3.	2.	3.
300.	*	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
310.	*	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
320.	*	0.	0.	0.	0.	0.	1.	3.	3.	3.	3.
330.	*	1.	1.	0.	0.	0.	1.	3.	3.	3.	3.
340.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	4.
350.	*	0.	0.	0.	0.	0.	2.	3.	3.	3.	4.
360.	*	0.	0.	0.	0.	0.	3.	3.	3.	4.	4.
MAX	*	2.	3.	6.	6.	7.	5.	4.	5.	6.	5.
DEGR.	*	50	50	50	50	50	30	30	30	30	30

THE HIGHEST CONCENTRATION OF 7. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:37

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)           *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *       73.
202. AG       0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *      100.
201. AG       0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *       72.
120. AG       0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *      350.
34. AG       0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *      122.
280. AG       0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *       70.
280. AG       0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *      127.
218. AG       0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *       53.
128. AG       0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *     6409.
38. AG       0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *       40.
308. AG       0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *       31.
220. AG       0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *     1881.
219. AG       0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *      974.
38. AG       0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *      101.
222. AG       0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *       85.
125. AG       0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *       54.
37. AG       0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *       77.
305. AG       0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *       98.
245. AG       0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *       48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                     RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:37

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *   258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *   276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *   314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *   314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *   315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *  -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *  -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *  -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                         RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:37

       1. River/Long EB L     *      90        64        3.0       210        1600
 0.07      1        3
       2. River/Long EB TR    *      90        54        3.0       677        1600
 0.07      1        3
       3. River/Long NB LT    *      90        62        3.0       424        1600
 0.07      1        3
       4. River/Long WB LTR   *      90        54        3.0      1675        1600
 0.07      1        3
       5. River/Long SB LT    *      90        62        3.0       326        1600
 0.07      1        3
       6. River/Long SB R     *      90        64        3.0       200        1600
 0.07      1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       717        1600
 0.07      1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       215        1600
 0.07      1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1278        1600
 0.07      1        3
      10. Brook/Deacon SB LTR *     120        90        3.0       164        1600
 0.07      1        3
      11. Brook/Joslin EB L   *     120        70        3.0        81        1600
 0.07      1        3
      12. Brook/Joslin EB T   *     120        70        3.0       746        1600
 0.07      1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1318        1600
 0.07      1        3
      14. Binney/Long EB LTR  *     120        90        3.0       205        1600
 0.07      1        3
      15. Binney/Long NB LTR  *     120        49        3.0       639        1600
 0.07      1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.07      1        3
      17. Binney/Long SB LTR  *     120        49        3.0       576        1600
 0.07      1        3
```

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     18. River/Short EB T    *      93        43        3.0        836        1600
0.07      1        3
     19. River/Short NB LR   *      93        73        3.0        239        1600
0.07      1        3
     20. River/Short WB LTR  *      93        43        3.0       1507        1600
0.07      1        3
     21. Brook/Long EB LTR   *     120        78        3.0        806        1600
0.07      1        3
     22. Brook/Long NB LT    *     120        78        3.0        469        1600
0.07      1        3
     23. Brook/Long NB R     *     120        66        3.0        285        1600
0.07      1        3
     24. Brook/Long WB TTR   *     120        66        3.0       2004        1600
0.07      1        3
     25. Brook/Long SB LTR   *     120        78        3.0        577        1600
0.07      1        3
     26. Beth/Brook EB TTR   *     120        72        3.0       1118        1600
0.07      1        3
     27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.07      1        3
     28. Beth/Brook WB LT    *     120       106        3.0        989        1600
0.07      1        3

      RECEPTOR LOCATIONS
      ------------------
                           *           COORDINATES (FT)           *
      RECEPTOR             *      X          Y          Z         *
    -----------------------*--------------------------------------*
     1. Brook/Long NE1     *      -189.0     -227.6       6.0   *
     2. Brook/Long NE2     *      -130.2     -274.2       6.0   *
     3. Brook/Long NE3     *       -71.4     -320.7       6.0   *
     4. Brook/Long NE4     *       -24.6     -262.1       6.0   *
     5. Brook/Long NE5     *        22.3     -203.5       6.0   *
     6. Brook/Long SE1     *       107.1     -254.3       6.0   *
     7. Brook/Long SE2     *        60.3     -312.9       6.0   *
     8. Brook/Long SE3     *        13.5     -371.5       6.0   *
     9. Brook/Long SE4     *        72.9     -417.2       6.0   *
    10. Brook/Long SE5     *       132.4     -463.0       6.0   *
    11. Brook/Long SW1     *        72.2     -540.4       6.0   *
    12. Brook/Long SW2     *        12.8     -494.6       6.0   *
    13. Brook/Long SW3     *       -46.6     -448.9       6.0   *
    14. Brook/Long SW4     *       -91.9     -508.7       6.0   *
    15. Brook/Long SW5     *      -137.1     -568.6       6.0   *
    16. Brook/Long NW1     *      -207.2     -498.8       6.0   *
    17. Brook/Long NW2     *      -162.0     -439.0       6.0   *
    18. Brook/Long NW3     *      -116.8     -379.1       6.0   *
    19. Brook/Long NW4     *      -175.6     -332.6       6.0   *
    20. Brook/Long NW5     *      -234.4     -286.1       6.0   *
    21. Binney/Long NE1    *       137.4     -466.5       6.0   *
    22. Binney/Long NE2    *       197.4     -511.4       6.0   *
    23. Binney/Long NE3    *       257.5     -556.3       6.0   *
♀
                        PAGE  4
     JOB: Winsor School                                      RUN: 2020BD


     DATE :  1/26/11
     TIME : 16:51:37


      RECEPTOR LOCATIONS
      ------------------
                           *           COORDINATES (FT)           *
```

RECEPTOR	*	X	Y	Z	*
24. Binney/Long NE4	*	302.7	-496.6	6.0	*
25. Binney/Long NE5	*	348.0	-436.8	6.0	*
26. Binney/Long SE1	*	399.8	-491.0	6.0	*
27. Binney/Long SE2	*	354.5	-550.8	6.0	*
28. Binney/Long SE3	*	309.3	-610.6	6.0	*
29. Binney/Long SE4	*	369.6	-655.0	6.0	*
30. Binney/Long SE5	*	429.3	-698.9	6.0	*
31. Binney/Long SW1	*	394.1	-778.9	6.0	*
32. Binney/Long SW2	*	340.7	-725.6	6.0	*
33. Binney/Long SW3	*	280.3	-681.2	6.0	*
34. Binney/Long SW4	*	234.3	-740.4	6.0	*
35. Binney/Long SW5	*	188.6	-799.2	6.0	*
36. Binney/Long NW1	*	131.4	-771.8	6.0	*
37. Binney/Long NW2	*	177.5	-712.5	6.0	*
38. Binney/Long NW3	*	223.5	-653.3	6.0	*
39. Binney/Long NW4	*	163.4	-608.4	6.0	*
40. Binney/Long NW5	*	103.4	-563.4	6.0	*
41. Beth/Brook SE1	*	463.4	227.5	6.0	*
42. Beth/Brook SE2	*	417.4	168.2	6.0	*
43. Beth/Brook SE3	*	371.4	109.0	6.0	*
44. Beth/Brook SE4	*	433.6	67.0	6.0	*
45. Beth/Brook SE5	*	495.7	25.1	6.0	*
46. Beth/Brook SW1	*	454.8	-29.4	6.0	*
47. Beth/Brook SW2	*	392.6	12.6	6.0	*
48. Beth/Brook SW3	*	330.5	54.6	6.0	*
49. Beth/Brook SW4	*	285.5	-5.5	6.0	*
50. Beth/Brook SW5	*	240.6	-65.5	6.0	*
51. Beth/Brook N1	*	191.3	12.2	6.0	*
52. Beth/Brook N2	*	242.0	79.9	6.0	*
53. Beth/Brook N3	*	287.0	140.0	6.0	*
54. Beth/Brook N4	*	332.7	199.4	6.0	*
55. Beth/Brook N5	*	372.8	251.0	6.0	*

♀

PAGE 5

JOB: Winsor School RUN: 2020BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
		CONCENTRATION (ug/m**3)																			
0.	*	0.	0.	0.	0.	0.	3.	4.	4.	2.	2.	3.	4.	5.	5.	4.	0.	1.	2.	2.	0.
10.	*	0.	0.	0.	0.	0.	3.	4.	4.	2.	1.	3.	4.	5.	5.	4.	1.	1.	2.	2.	1.
20.	*	0.	0.	1.	1.	1.	4.	4.	5.	2.	1.	2.	4.	5.	5.	5.	1.	2.	2.	2.	1.
30.	*	0.	0.	3.	3.	3.	4.	4.	4.	2.	1.	2.	3.								

6.	5.	5.	4.	4.	4.	2.	1.						
40.	*	1.	1.	5.	5.	5.	2.	3.	3.	1.	0.	1.	3.
4.	4.	3.	6.	6.	6.	3.	2.						
50.	*	1.	2.	7.	6.	6.	1.	1.	1.	0.	0.	1.	2.
2.	2.	1.	7.	7.	7.	4.	2.						
60.	*	2.	2.	6.	6.	6.	0.	0.	0.	0.	0.	1.	1.
2.	1.	1.	6.	6.	7.	4.	3.						
70.	*	2.	2.	6.	6.	5.	0.	0.	0.	0.	0.	1.	1.
2.	1.	0.	6.	6.	6.	4.	3.						
80.	*	2.	2.	5.	5.	5.	0.	0.	0.	0.	0.	1.	1.
2.	1.	0.	5.	5.	6.	4.	3.						
90.	*	1.	2.	5.	5.	5.	0.	0.	0.	0.	0.	1.	1.
2.	1.	0.	4.	5.	5.	4.	3.						
100.	*	2.	2.	4.	5.	4.	0.	0.	0.	0.	0.	2.	2.
2.	1.	0.	4.	5.	5.	4.	3.						
110.	*	2.	2.	4.	4.	4.	0.	0.	0.	0.	0.	1.	2.
2.	0.	0.	3.	5.	6.	4.	4.						
120.	*	2.	3.	5.	4.	4.	0.	0.	1.	1.	1.	1.	1.
1.	0.	0.	3.	4.	5.	4.	3.						
130.	*	3.	3.	5.	5.	5.	0.	0.	1.	1.	1.	1.	1.
1.	0.	0.	2.	4.	5.	3.	3.						
140.	*	3.	4.	6.	5.	5.	0.	0.	2.	2.	2.	0.	0.
0.	0.	0.	2.	4.	4.	2.	2.						
150.	*	3.	4.	6.	5.	5.	0.	0.	2.	2.	2.	0.	0.
0.	0.	0.	2.	4.	4.	2.	1.						
160.	*	3.	4.	5.	6.	5.	0.	1.	2.	2.	1.	0.	0.
0.	0.	0.	2.	4.	4.	2.	1.						
170.	*	3.	4.	6.	6.	6.	0.	1.	2.	2.	1.	0.	0.
0.	0.	0.	3.	4.	4.	2.	1.						
180.	*	3.	3.	6.	6.	6.	1.	1.	2.	2.	1.	0.	0.
0.	0.	0.	3.	4.	5.	2.	1.						
190.	*	2.	3.	6.	6.	7.	1.	1.	2.	2.	1.	0.	0.
0.	0.	0.	4.	4.	5.	2.	1.						
200.	*	2.	3.	6.	7.	7.	1.	1.	2.	2.	1.	0.	0.
0.	0.	0.	5.	4.	5.	2.	1.						
210.	*	1.	3.	6.	6.	6.	2.	2.	3.	2.	1.	0.	0.
1.	1.	1.	4.	4.	4.	1.	0.						
220.	*	1.	2.	4.	4.	4.	3.	3.	4.	2.	1.	0.	0.
2.	2.	1.	3.	3.	3.	0.	0.						
230.	*	1.	1.	2.	2.	2.	4.	4.	5.	3.	1.	0.	1.
3.	2.	2.	1.	1.	1.	0.	0.						
240.	*	0.	1.	2.	1.	1.	5.	4.	5.	3.	2.	1.	1.
4.	3.	2.	0.	0.	0.	0.	0.						
250.	*	0.	2.	2.	1.	0.	5.	4.	4.	4.	2.	1.	1.
4.	2.	2.	0.	0.	0.	0.	0.						
260.	*	0.	2.	2.	1.	0.	4.	4.	4.	4.	3.	1.	1.
4.	3.	2.	0.	0.	0.	0.	0.						
270.	*	0.	1.	2.	1.	0.	4.	4.	4.	4.	3.	1.	2.
4.	3.	2.	0.	0.	0.	0.	0.						
280.	*	0.	1.	2.	0.	0.	4.	4.	4.	4.	3.	1.	2.
4.	3.	1.	0.	0.	0.	0.	0.						
290.	*	0.	1.	2.	0.	0.	3.	4.	4.	4.	4.	2.	2.
4.	3.	1.	0.	0.	0.	0.	0.						
300.	*	0.	1.	2.	0.	0.	4.	4.	4.	3.	3.	2.	2.
4.	4.	1.	0.	0.	1.	0.	0.						
310.	*	1.	1.	1.	0.	0.	4.	4.	4.	3.	3.	3.	3.
4.	4.	1.	0.	0.	1.	1.	1.						
320.	*	0.	0.	0.	0.	0.	3.	4.	4.	2.	2.	3.	3.
5.	4.	2.	0.	0.	2.	1.	0.						
330.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	3.
4.	4.	2.	0.	0.	2.	1.	0.						
340.	*	0.	0.	0.	0.	0.	3.	4.	4.	2.	2.	3.	3.
5.	4.	2.	0.	0.	2.	1.	0.						

```
 350.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    4.
5.    5.    3.    0.    1.    2.    2.    0.
 360.  *    0.    0.    0.    0.    0.    3.    4.    4.    2.    2.    3.    4.
5.    5.    4.    0.    1.    2.    2.    0.

------*--------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    4.    7.    7.    7.    5.    4.    5.    4.    4.    3.    4.
6.    5.    5.    7.    7.    7.    4.    4.
 DEGR. *  150   150    50   200   200   240   240   240   260   290   340     0
30    20    20    50    50    50    70   110

♀
                              PAGE  6
      JOB: Winsor School                                        RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
  10.  *    1.    1.    1.    1.    1.    0.    1.    1.    0.    0.    0.    2.
2.    2.    2.    2.    2.    2.    2.    2.
  20.  *    1.    1.    1.    1.    1.    0.    0.    1.    0.    0.    0.    1.
2.    2.    2.    1.    1.    2.    2.    2.
  30.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
2.    2.    1.    1.    1.    2.    2.    2.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
2.    1.    1.    1.    1.    2.    2.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    1.    1.    1.    2.    1.
  60.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    1.    2.    1.
  70.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    1.    2.    2.    1.
  80.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
  90.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 100.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    2.    2.    2.
 110.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    2.
 120.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 130.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    1.
 140.  *    2.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    1.    1.    0.    0.
 150.  *    2.    2.    2.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 160.  *    2.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 170.  *    1.    2.    2.    1.    0.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 180.  *    1.    2.    2.    2.    1.    0.    0.    2.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 190.  *    1.    1.    2.    2.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 200.  *    1.    1.    2.    1.    1.    0.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 210.  *    1.    1.    2.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    2.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 260.  *    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
1.    0.    0.    0.    0.    0.    0.    1.
 270.  *    3.    2.    2.    1.    1.    2.    2.    2.    2.    1.    0.    1.
1.    1.    0.    0.    0.    0.    1.    1.
 280.  *    3.    2.    2.    2.    2.    2.    2.    2.    3.    2.    1.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 290.  *    4.    3.    2.    2.    1.    1.    2.    3.    3.    2.    1.    1.
2.    1.    0.    0.    1.    1.    1.    1.
 300.  *    3.    3.    3.    1.    1.    1.    2.    3.    3.    2.    1.    2.
2.    2.    0.    1.    1.    2.    2.    2.
 310.  *    3.    2.    2.    1.    1.    1.    2.    3.    2.    2.    2.    3.
3.    2.    1.    1.    1.    2.    2.    2.
 320.  *    2.    2.    1.    1.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    1.    3.    3.    3.
 330.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    2.    3.
3.    2.    1.    1.    2.    3.    3.    3.
 340.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    3.
3.    2.    2.    1.    2.    3.    3.    3.
 350.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    1.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.
 360.  *    2.    1.    1.    1.    1.    1.    1.    2.    1.    0.    1.    2.
3.    2.    2.    1.    2.    2.    2.    3.

------*----------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    3.    3.    2.    2.    2.    2.    3.    3.    2.    2.    3.
3.    3.    2.    2.    2.    3.    3.    3.
 DEGR. *  290   290   300   290   280   270   280   300   290   300   320   320
320     0     0    10     0   320   320   320

♀
                              PAGE  7
      JOB: Winsor School                                          RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
```

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
0.	*	2.	3.	4.	1.	1.	1.	2.	4.	5.	5.	0.	0.	0.	0.	0.
10.	*	2.	3.	4.	1.	1.	1.	2.	4.	5.	6.	0.	0.	0.	0.	0.
20.	*	2.	3.	4.	1.	1.	1.	2.	4.	5.	6.	1.	1.	1.	0.	0.
30.	*	2.	3.	3.	1.	1.	1.	2.	4.	4.	5.	3.	2.	2.	2.	2.
40.	*	1.	2.	2.	1.	0.	1.	1.	3.	3.	3.	5.	4.	4.	4.	3.
50.	*	0.	1.	1.	0.	0.	0.	1.	1.	1.	1.	6.	6.	5.	4.	4.
60.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	5.	4.	4.
70.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	4.	4.	3.
80.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	4.	4.	4.
90.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	6.	5.	4.	4.	3.
100.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	3.	4.	4.
110.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	5.	5.	4.	4.	4.
120.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	4.	4.	4.
130.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	4.	4.	4.
140.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	5.	5.	4.	4.	4.
150.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	5.	5.	4.	4.	4.
160.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	5.	5.	4.	4.	4.
170.	*	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	5.	6.	5.	4.	4.
180.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	6.	6.	6.	5.	5.
190.	*	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	6.	6.	6.	6.	5.
200.	*	1.	1.	1.	1.	0.	0.	0.	1.	1.	1.	6.	7.	7.	6.	6.
210.	*	2.	2.	2.	1.	0.	0.	0.	2.	2.	2.	6.	6.	6.	6.	6.
220.	*	4.	4.	5.	2.	1.	0.	1.	5.	4.	4.	4.	4.	4.	4.	4.
230.	*	5.	5.	6.	3.	1.	1.	2.	6.	5.	5.	2.	2.	2.	2.	2.
240.	*	4.	5.	5.	3.	2.	2.	2.	6.	5.	4.	1.	0.	0.	0.	0.
250.	*	4.	4.	4.	3.	2.	1.	2.	5.	5.	4.	0.	0.			

```
0.    0.    0.
 260.  *    4.    4.    4.    3.    2.    2.    2.    5.    5.    4.    0.    0.
0.    0.    0.
 270.  *    4.    3.    4.    3.    2.    2.    2.    5.    5.    4.    0.    0.
0.    0.    0.
 280.  *    3.    3.    3.    3.    2.    2.    2.    4.    5.    4.    0.    0.
0.    0.    0.
 290.  *    3.    3.    3.    2.    2.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 300.  *    3.    3.    3.    2.    2.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 310.  *    3.    4.    3.    2.    2.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 320.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 330.  *    2.    3.    3.    2.    1.    2.    2.    4.    4.    4.    0.    0.
0.    0.    0.
 340.  *    2.    3.    3.    2.    1.    2.    2.    4.    5.    5.    0.    0.
0.    0.    0.
 350.  *    2.    3.    3.    2.    1.    1.    2.    4.    5.    5.    0.    0.
0.    0.    0.
 360.  *    2.    3.    4.    1.    1.    1.    2.    4.    5.    5.    0.    0.
0.    0.    0.

------*---------------------------------------------------------------------------
-------------
 MAX   *    5.    5.    6.    3.    2.    2.    2.    6.    5.    6.    6.    7.
7.    6.    6.
 DEGR. *  230   230   230   260   270   310   250   230   240    20    50   200
200   200   200

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC18.
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      JOB: Winsor School                                         RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:30

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION      *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG      0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG      0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG      0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG      0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG      0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG      0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG      0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG      0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG      0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG      0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG      0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                         RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:30

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

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                          *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                         PAGE  3
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:30

       1. River/Long EB L     *      90         64        3.0        210        1600
 0.07      1        3
       2. River/Long EB TR    *      90         54        3.0        677        1600
 0.07      1        3
       3. River/Long NB LT    *      90         62        3.0        424        1600
 0.07      1        3
       4. River/Long WB LTR   *      90         54        3.0       1675        1600
 0.07      1        3
       5. River/Long SB LT    *      90         62        3.0        326        1600
 0.07      1        3
       6. River/Long SB R     *      90         64        3.0        200        1600
 0.07      1        3
       7. Brook/Deacon EB TR  *     120         65        3.0        717        1600
 0.07      1        3
       8. Brook/Deacon NB LR  *     120         90        3.0        215        1600
 0.07      1        3
       9. Brook/Deacon WB LT  *     120        110        3.0       1278        1600
 0.07      1        3
      10. Brook/Deacon SB LTR *     120         90        3.0        164        1600
 0.07      1        3
      11. Brook/Joslin EB L   *     120         70        3.0         81        1600
 0.07      1        3
      12. Brook/Joslin EB T   *     120         70        3.0        746        1600
 0.07      1        3
      13. Brook/Joslin WB TTR *     120         70        3.0       1318        1600
 0.07      1        3
      14. Binney/Long EB LTR  *     120         90        3.0        205        1600
 0.07      1        3
      15. Binney/Long NB LTR  *     120         49        3.0        639        1600
 0.07      1        3
      16. Binney/Long WB LTR  *     120         90        3.0        220        1600
 0.07      1        3
      17. Binney/Long SB LTR  *     120         49        3.0        576        1600
 0.07      1        3
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      18. River/Short EB T    *      93        43        3.0        836        1600
 0.07      1        3
      19. River/Short NB LR   *      93        73        3.0        239        1600
 0.07      1        3
      20. River/Short WB LTR  *      93        43        3.0       1507        1600
 0.07      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        806        1600
 0.07      1        3
      22. Brook/Long NB LT    *     120        78        3.0        469        1600
 0.07      1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
 0.07      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       2004        1600
 0.07      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        577        1600
 0.07      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1118        1600
 0.07      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
 0.07      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        989        1600
 0.07      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z       *
     -------------------------*------------------------------------*
      1. Short/River SE1      *        64.2      619.5       6.0   *
      2. Short/River SE2      *         0.6      579.2       6.0   *
      3. Short/River SE3      *       -62.3      538.9       6.0   *
      4. Short/River SE4      *        -2.3      494.0       6.0   *
      5. Short/River SE5      *        57.8      449.1       6.0   *
      6. Short/River SW1      *        -6.6      409.9       6.0   *
      7. Short/River SW2      *       -66.7      454.8       6.0   *
      8. Short/River SW3      *      -126.8      499.6       6.0   *
      9. Short/River SW4      *      -194.5      467.4       6.0   *
     10. Short/River SW5      *      -262.2      435.2       6.0   *
     11. Short/River N1       *      -300.6      529.9       6.0   *
     12. Short/River N2       *      -232.9      562.1       6.0   *
     13. Short/River N3       *      -165.2      594.3       6.0   *
     14. Short/River N4       *      -101.9      634.6       6.0   *
     15. Short/River N5       *       -38.7      674.9       6.0   *
♀
                          PAGE  4
      JOB: Winsor School                                       RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
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0.	*	0.	2.	2.	1.	0.	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.
10.	*	0.	1.	2.	1.	0.	1.	2.	3.	2.	2.	0.	0.	0.	0.	0.
20.	*	0.	1.	2.	0.	0.	0.	1.	3.	3.	2.	0.	0.	0.	0.	0.
30.	*	0.	1.	2.	0.	0.	0.	1.	3.	3.	3.	0.	0.	0.	0.	0.
40.	*	0.	1.	2.	0.	0.	0.	1.	3.	3.	3.	0.	0.	0.	0.	0.
50.	*	0.	1.	2.	0.	0.	0.	1.	3.	3.	3.	1.	1.	1.	1.	0.
60.	*	0.	0.	1.	0.	0.	0.	1.	2.	2.	3.	2.	2.	2.	2.	0.
70.	*	0.	0.	1.	0.	0.	0.	1.	1.	1.	2.	3.	2.	3.	2.	1.
80.	*	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	3.	3.	3.	3.	1.
90.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	3.	3.	3.	3.	1.
100.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	3.	3.	3.	3.	1.
110.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	3.	3.	3.	3.	2.
120.	*	0.	0.	0.	0.	1.	1.	1.	1.	0.	0.	2.	3.	3.	3.	2.
130.	*	0.	0.	1.	1.	1.	1.	1.	0.	1.	1.	2.	3.	3.	3.	2.
140.	*	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	2.	3.	3.	3.	3.
150.	*	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	2.	3.	3.	4.	3.
160.	*	1.	1.	1.	1.	1.	1.	1.	0.	1.	1.	2.	3.	3.	4.	3.
170.	*	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.	1.	3.	3.	3.	3.
180.	*	1.	1.	2.	1.	1.	1.	1.	0.	0.	0.	1.	2.	3.	3.	4.
190.	*	0.	1.	2.	1.	1.	1.	0.	0.	0.	0.	0.	2.	3.	3.	4.
200.	*	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.	2.	3.	3.	4.
210.	*	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	4.
220.	*	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	3.	4.
230.	*	1.	1.	2.	0.	0.	0.	0.	1.	0.	0.	1.	2.	3.	3.	3.
240.	*	2.	2.	3.	0.	0.	0.	0.	1.	1.	1.	1.	1.	2.	2.	2.
250.	*	3.	3.	3.	1.	1.	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
260.	*	3.	3.	3.	1.	1.	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
270.	*	2.	3.	3.	2.	1.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280.	*	2.	3.	3.	2.	1.	0.	1.	3.	2.	0.	0.	0.	0.	0.	0.
290.	*	2.	2.	3.	2.	1.	1.	1.	3.	2.	0.	0.	0.	0.	0.	0.
300.	*	1.	2.	2.	2.	1.	1.	1.	2.	2.	0.	0.	0.			

```
0.    0.    0.
 310.  *    1.    2.    2.    2.    1.    1.    1.    2.    2.    0.    0.    0.
0.    0.    0.
 320.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.    0.
0.    0.    0.
 330.  *    0.    2.    2.    1.    1.    2.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 340.  *    0.    2.    2.    1.    1.    1.    2.    2.    2.    1.    0.    0.
0.    0.    0.
 350.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    0.    2.    2.    1.    0.    1.    2.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    3.    3.    3.    2.    1.    2.    2.    3.    3.    3.    3.    3.
3.    4.    4.
 DEGR. *  250   250   250   280   290   330     0    20    40    40    90    90
140   150   210

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC15.
```

```
♀                       CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                       PAGE  1

      JOB: Winsor School                                           RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:23

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1657.5      82.3 *    1604.
330. AG      0. 100.0   1.0 20.0 1.26  81.5
       2. Brook/River EB LTR  *   -862.4   -1425.5    -921.6   -1502.8 *      97.
217. AG      0. 100.0   1.0 30.0 0.58   4.9
       3. Brook/River NB LTR  *   -792.2   -1400.7    -711.9   -1649.1 *     261.
162. AG      0. 100.0   1.0 20.0 0.95  13.3
       4. Brook/River WB LTTR *   -798.5   -1299.5    -688.0   -1164.7 *     174.
39. AG      0. 100.0   1.0 30.0 0.75   8.9
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1964.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2124.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2652.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1466.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                           RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:23

       1. Brook/River SB LTR  *     120       79       3.0      1205       1600
 0.07     1        3
       2. Brook/River EB LTR  *     120       89       3.0       600       1600
 0.07     1        3
       3. Brook/River NB LTR  *     120       79       3.0       911       1600
 0.07     1        3
       4. Brook/River WB LTTR *     120       69       3.0      1387       1600
 0.07     1        3

       RECEPTOR LOCATIONS
       ------------------
                              *         COORDINATES (FT)         *
         RECEPTOR             *      X          Y          Z        *
```

```
    -------------------------*--------------------------------------*
     1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
     2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
     3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
     4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
     5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
     6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
     7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
     8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
     9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
    10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
    11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
    12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
    13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
    14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
    15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
    16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
    17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
    18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
    19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
    20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                              PAGE  3
     JOB: Winsor School                                        RUN: 2020BD


      MODEL RESULTS
      -------------

      REMARKS : In search of the angle corresponding to
                the maximum concentration, only the first
                angle, of the angles with same maximum
                concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    4.
4.    4.    3.    1.    1.    3.    3.    2.
  10.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    1.    4.    4.
5.    4.    3.    1.    1.    2.    3.    3.
  20.  *    0.    0.    0.    0.    0.    2.    2.    3.    1.    0.    4.    4.
5.    4.    4.    1.    2.    2.    2.    2.
  30.  *    0.    0.    1.    0.    0.    1.    2.    2.    0.    0.    3.    4.
5.    4.    4.    2.    2.    3.    2.    2.
  40.  *    0.    0.    2.    1.    0.    1.    1.    1.    0.    0.    3.    3.
4.    3.    2.    3.    3.    3.    2.    2.
  50.  *    0.    0.    3.    2.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    2.    3.    3.    4.    3.    2.
  60.  *    0.    0.    3.    3.    1.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    3.    2.
  70.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    2.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  80.  *    0.    1.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    1.    3.    3.    4.    4.    3.
  90.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    2.
2.    2.    1.    3.    3.    4.    4.    3.
```

```
 100.  *    1.    2.    3.    3.    2.    0.    0.    0.    0.    0.    1.    3.
3.    2.    0.    3.    3.    4.    4.    3.
 110.  *    1.    2.    2.    3.    2.    0.    0.    0.    0.    0.    0.    3.
3.    1.    0.    2.    3.    4.    4.    4.
 120.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    3.
3.    1.    0.    2.    3.    4.    4.    4.
 130.  *    1.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    2.
3.    1.    0.    2.    3.    4.    4.    4.
 140.  *    2.    2.    2.    3.    3.    0.    0.    0.    0.    0.    0.    2.
3.    0.    0.    1.    2.    4.    3.    4.
 150.  *    3.    3.    3.    3.    3.    0.    0.    0.    0.    0.    0.    1.
2.    0.    0.    1.    2.    3.    3.    3.
 160.  *    4.    4.    5.    3.    3.    0.    0.    1.    1.    0.    0.    1.
2.    0.    0.    1.    2.    2.    2.    2.
 170.  *    4.    4.    5.    4.    3.    0.    0.    2.    2.    1.    0.    0.
1.    0.    0.    1.    2.    2.    1.    1.
 180.  *    4.    4.    5.    4.    4.    0.    1.    3.    3.    2.    0.    0.
0.    0.    0.    1.    2.    2.    1.    1.
 190.  *    3.    3.    5.    5.    4.    1.    1.    4.    3.    2.    0.    0.
0.    0.    0.    1.    2.    2.    1.    0.
 200.  *    3.    3.    4.    4.    4.    1.    2.    3.    3.    2.    0.    0.
0.    0.    0.    1.    2.    2.    0.    0.
 210.  *    2.    2.    4.    4.    4.    2.    2.    3.    3.    3.    0.    0.
1.    0.    0.    1.    1.    1.    0.    0.
 220.  *    2.    2.    3.    2.    3.    3.    3.    4.    3.    3.    0.    0.
1.    1.    0.    0.    0.    1.    0.    0.
 230.  *    2.    2.    2.    2.    1.    3.    4.    4.    3.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 240.  *    2.    2.    2.    1.    1.    3.    4.    4.    4.    3.    0.    0.
2.    1.    1.    0.    0.    0.    0.    0.
 250.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    3.    0.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 260.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
3.    2.    1.    0.    0.    0.    0.    0.
 270.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    3.    3.    4.    4.    4.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 290.  *    2.    2.    3.    1.    0.    3.    3.    4.    4.    4.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 300.  *    2.    3.    3.    1.    0.    3.    3.    4.    4.    4.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 310.  *    2.    2.    3.    1.    0.    3.    3.    5.    5.    5.    1.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 320.  *    2.    2.    2.    0.    0.    2.    3.    4.    5.    5.    1.    2.
2.    2.    1.    0.    0.    1.    1.    0.
 330.  *    1.    1.    2.    0.    0.    2.    3.    3.    4.    5.    2.    2.
3.    2.    1.    0.    0.    2.    2.    1.
 340.  *    0.    0.    1.    0.    0.    2.    2.    3.    3.    3.    3.    3.
4.    3.    2.    0.    1.    3.    2.    2.
 350.  *    0.    0.    0.    0.    0.    2.    2.    2.    2.    2.    4.    4.
4.    4.    2.    0.    1.    3.    3.    2.
 360.  *    0.    0.    0.    0.    0.    2.    3.    3.    2.    1.    4.    4.
4.    4.    3.    1.    1.    3.    3.    2.

------*-------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    4.    4.    5.    5.    4.    3.    4.    5.    5.    5.    4.    4.
5.    4.    4.    3.    3.    4.    4.    4.
 DEGR. *  170   170   170   190   200   240   230   310   320   320    10     0
20    10    20    80    50    60   120   130

 THE HIGHEST CONCENTRATION OF      5. ug/m**3 OCCURRED AT RECEPTOR REC13.
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♀                          CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                          PAGE  1

      JOB: Winsor School                                         RUN: 2020 BD


      DATE :  1/26/11
      TIME : 16:51:14

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
----------------------------------------
       1. Brookline SB Q1     *  24377.6   43850.8   24429.8   43920.7 *      87.
37. AG      0. 100.0   1.0 30.0 0.45   4.4
       2. Boylston WB Q2      *  24434.8   43765.0   24546.6   43805.0 *     119.
70. AG      1. 100.0   1.0 40.0 0.78   6.0
       3. Park Dr NB Q3       *  24314.0   43650.6   24349.5   43600.8 *      61.
145. AG      0. 100.0   1.0 40.0 0.31   3.1
       4. Brookline EB Q4     *  24250.4   43637.9   23313.5   42443.0 *    1518.
218. AG      1. 100.0   1.0 40.0 1.37  77.1
       5. Brookline Q27       *  24079.2   43421.1   23759.2   42979.0 *     546.
216. AG      0. 100.0   1.0 20.0 1.03  27.7
       6. Fenway Q28          *  24063.7   43526.1   22830.9   44991.6 *    1915.
320. AG      0. 100.0   1.0 20.0 1.20  97.3
       7. Brookline Q29       *  24121.4   43515.8   24228.5   43649.5 *     171.
39. AG      0. 100.0   1.0 20.0 0.82   8.7
       8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   3028.   0.0   1.0 68.0
       9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1488.   0.0   1.0 68.0
      10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1177.   0.0   1.0 68.0
      11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1404.   0.0   1.0 68.0
      12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2439.   0.0   1.0 ****
      13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2581.   0.0   1.0 68.0
      14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    951.   0.0   1.0 42.0
      15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1718.   0.0   1.0 42.0
♀
                             PAGE  2
      JOB: Winsor School                                         RUN: 2020 BD


      DATE :  1/26/11
      TIME : 16:51:14
```

1. Brookline SB Q1	*	100	53	3.0	904	1600		
0.07	1	3						
2. Boylston WB Q2	*	100	73	3.0	1098	1600		
0.07	1	3						
3. Park Dr NB Q3	*	100	53	3.0	846	1600		
0.07	1	3						
4. Brookline EB Q4	*	100	74	3.0	1839	1600		
0.07	1	3						
5. Brookline Q27	*	100	54	3.0	1356	1600		
0.07	1	3						
6. Fenway Q28	*	100	46	3.0	1876	1600		
0.07	1	3						
7. Brookline Q29	*	100	54	3.0	1083	1600		
0.07	1	3						

RECEPTOR LOCATIONS

RECEPTOR	*	X	Y	Z	*
1. R7	*	24234.6	43539.7	6.0	*
2. R8	*	24198.5	43493.8	6.0	*
3. R9	*	24247.7	43485.1	6.0	*
4. R10	*	24131.9	43603.0	6.0	*
5. R11	*	24100.2	43558.2	6.0	*
6. R12	*	24075.1	43588.8	6.0	*
7. R13	*	23988.8	43538.6	6.0	*
8. R14	*	24019.4	43509.1	6.0	*
9. R15	*	23968.0	43510.2	6.0	*
10. R16	*	23940.7	43418.5	6.0	*
11. R17	*	23992.1	43417.4	6.0	*
12. R18	*	23951.7	43364.0	6.0	*
13. R19	*	24080.6	43343.2	6.0	*
14. R20	*	24111.2	43390.1	6.0	*
15. R21	*	24138.5	43348.7	6.0	*
16. R22	*	24229.1	43394.5	6.0	*
17. R23	*	24198.5	43426.2	6.0	*
18. R24	*	24258.6	43409.8	6.0	*
19. R41	*	24433.6	43813.3	6.0	*
20. R42	*	24498.2	43841.4	6.0	*
21. R43	*	24569.1	43866.7	6.0	*
22. R44	*	24472.8	43859.6	6.0	*
23. R45	*	24517.8	43916.6	6.0	*
24. R46	*	24182.0	43865.3	6.0	*
25. R47	*	24230.1	43812.3	6.0	*
26. R48	*	24268.4	43766.0	6.0	*
27. R49	*	24307.2	43819.4	6.0	*
28. R50	*	24356.7	43884.0	6.0	*
29. R51	*	24367.5	43656.1	6.0	*
30. R52	*	24433.5	43678.3	6.0	*
31. R53	*	24498.6	43702.8	6.0	*
32. R54	*	24409.4	43607.5	6.0	*
33. R55	*	24444.6	43559.0	6.0	*
34. R56	*	24282.4	43606.2	6.0	*
35. R57	*	24328.7	43546.5	6.0	*
36. R58	*	24243.6	43550.9	6.0	*
37. R59	*	24204.3	43692.2	6.0	*
38. R60	*	24150.3	43751.0	6.0	*
39. R61	*	24161.0	43638.3	6.0	*

Table header row above the columns: * COORDINATES (FT) *

♀

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        MODEL RESULTS
        -------------

        REMARKS : In search of the angle corresponding to
                  the maximum concentration, only the first
                  angle, of the angles with same maximum
                  concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*-------------------------------------------------------------------------------
------------------------------------------
   0.  *   5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
5.    6.    4.    2.    3.    2.    2.    1.
  10.  *   5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
6.    6.    4.    2.    3.    2.    2.    1.
  20.  *   4.    5.    3.    0.    1.    0.    2.    2.    2.    1.    1.    1.
6.    7.    4.    2.    3.    2.    2.    1.
  30.  *   4.    4.    3.    1.    1.    0.    2.    2.    1.    1.    2.    2.
5.    6.    3.    2.    2.    2.    1.    0.
  40.  *   3.    3.    2.    2.    3.    1.    2.    3.    2.    2.    4.    4.
3.    4.    2.    2.    2.    2.    1.    0.
  50.  *   3.    2.    2.    4.    4.    2.    3.    4.    3.    4.    6.    6.
2.    3.    2.    1.    2.    1.    0.    0.
  60.  *   2.    2.    1.    5.    6.    3.    4.    5.    4.    4.    6.    6.
1.    2.    1.    1.    1.    1.    1.    0.
  70.  *   1.    1.    1.    6.    6.    4.    5.    6.    4.    4.    6.    5.
1.    1.    1.    0.    0.    0.    2.    1.
  80.  *   1.    1.    0.    5.    5.    4.    5.    5.    4.    4.    5.    5.
1.    1.    1.    0.    0.    0.    3.    2.
  90.  *   1.    0.    1.    5.    4.    4.    4.    5.    3.    3.    4.    4.
1.    1.    1.    0.    0.    0.    3.    2.
 100.  *   1.    0.    1.    4.    4.    3.    4.    5.    3.    3.    4.    4.
0.    1.    1.    0.    0.    0.    4.    2.
 110.  *   1.    0.    1.    4.    4.    3.    4.    4.    3.    3.    4.    4.
0.    1.    1.    0.    0.    0.    4.    2.
 120.  *   1.    0.    0.    4.    4.    3.    4.    4.    3.    3.    4.    3.
0.    1.    1.    0.    0.    0.    3.    2.
 130.  *   0.    0.    0.    4.    4.    3.    3.    4.    2.    2.    4.    3.
0.    0.    0.    0.    0.    0.    3.    2.
 140.  *   0.    0.    0.    4.    4.    3.    3.    3.    2.    2.    3.    3.
0.    0.    0.    0.    0.    0.    3.    3.
 150.  *   0.    0.    0.    4.    4.    3.    2.    3.    2.    2.    3.    3.
0.    0.    0.    0.    0.    0.    3.    3.
 160.  *   0.    0.    0.    4.    5.    4.    2.    3.    2.    2.    4.    4.
0.    0.    0.    0.    0.    0.    3.    3.
 170.  *   0.    0.    0.    5.    5.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    0.    1.    0.    3.    3.
 180.  *   0.    0.    0.    5.    5.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    0.    1.    0.    3.    3.
 190.  *   0.    0.    0.    5.    6.    4.    2.    3.    2.    3.    4.    4.
0.    0.    0.    1.    1.    0.    3.    4.
 200.  *   1.    1.    0.    5.    6.    4.    2.    3.    2.    2.    4.    4.
0.    0.    0.    1.    1.    0.    3.    4.
 210.  *   2.    2.    1.    4.    5.    4.    1.    2.    1.    1.    3.    3.
1.    2.    0.    1.    1.    1.    5.    5.
```

```
 220.  *    4.    4.    2.    3.    3.    2.    0.    1.    0.    0.    2.    2.
3.    3.    1.    1.    2.    1.    6.    6.
 230.  *    5.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    2.    2.    3.    2.    6.    6.
 240.  *    6.    6.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    3.    2.    4.    2.    5.    4.
 250.  *    5.    6.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    5.    3.    3.    4.    2.    3.    3.
 260.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    2.    2.    2.
 270.  *    5.    5.    3.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    3.    2.    2.    2.
 280.  *    5.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    4.    3.    2.    2.
 290.  *    4.    5.    4.    1.    2.    2.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    4.    3.    2.    2.
 300.  *    4.    5.    3.    0.    2.    1.    0.    0.    0.    0.    0.    0.
4.    4.    2.    3.    4.    3.    2.    2.
 310.  *    4.    5.    3.    0.    1.    1.    0.    0.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    1.
 320.  *    4.    4.    3.    0.    1.    1.    1.    1.    0.    0.    0.    0.
4.    4.    3.    3.    4.    3.    2.    1.
 330.  *    4.    4.    3.    0.    0.    0.    1.    2.    0.    0.    0.    0.
4.    5.    4.    2.    3.    2.    2.    1.
 340.  *    4.    4.    3.    0.    0.    0.    2.    2.    1.    0.    0.    0.
5.    6.    4.    2.    3.    2.    2.    1.
 350.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    0.    1.    0.
5.    6.    4.    3.    3.    2.    2.    1.
 360.  *    5.    5.    3.    0.    0.    0.    2.    2.    1.    1.    1.    1.
5.    6.    4.    2.    3.    2.    2.    1.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    6.    6.    4.    6.    6.    4.    5.    6.    4.    4.    6.    6.
6.    7.    4.    3.    4.    3.    6.    6.
 DEGR. *  240   240   290    70    70   190    70    70    70    60    60    60
20    20    10   310   300   300   230   230

♀
                            PAGE  4
      JOB: Winsor School                                          RUN: 2020 BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*------------------------------------------------------------------------------------
-------------------------------------
   0.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    4.    4.    5.    1.    1.    1.
  10.  *    1.    2.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
```

```
2.     5.     4.     4.     1.     1.     1.
  20.   *     0.     2.     1.     0.     0.     0.     0.     0.     3.     4.     3.     2.
2.     5.     4.     4.     1.     1.     1.
  30.   *     0.     1.     1.     0.     0.     1.     0.     0.     3.     4.     3.     2.
1.     5.     3.     4.     1.     1.     1.
  40.   *     0.     0.     0.     0.     0.     1.     1.     1.     3.     3.     3.     2.
1.     5.     3.     3.     2.     1.     2.
  50.   *     0.     0.     0.     0.     1.     2.     2.     2.     4.     3.     3.     2.
1.     5.     2.     3.     4.     2.     4.
  60.   *     0.     0.     0.     0.     1.     2.     2.     2.     3.     3.     3.     1.
0.     4.     2.     2.     5.     2.     5.
  70.   *     1.     1.     0.     1.     1.     3.     2.     2.     2.     2.     2.     0.
0.     3.     1.     2.     6.     2.     6.
  80.   *     2.     1.     1.     1.     2.     4.     3.     3.     1.     1.     1.     0.
0.     2.     1.     1.     6.     3.     6.
  90.   *     2.     2.     1.     2.     2.     4.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     6.     4.     5.
 100.   *     2.     2.     1.     2.     2.     3.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     5.     4.     5.
 110.   *     2.     2.     1.     2.     2.     3.     3.     3.     0.     0.     0.     0.
0.     2.     1.     1.     5.     4.     4.
 120.   *     2.     2.     1.     2.     2.     3.     3.     3.     0.     0.     0.     0.
0.     2.     2.     1.     5.     4.     4.
 130.   *     2.     2.     1.     2.     2.     3.     3.     3.     0.     0.     0.     0.
0.     2.     2.     0.     4.     3.     4.
 140.   *     2.     2.     1.     3.     3.     4.     3.     3.     1.     0.     0.     1.
1.     1.     1.     0.     4.     3.     4.
 150.   *     2.     2.     1.     3.     4.     5.     3.     3.     2.     0.     0.     1.
1.     0.     0.     0.     4.     2.     4.
 160.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     2.     4.
 170.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     2.
2.     0.     0.     0.     4.     2.     4.
 180.   *     2.     3.     2.     3.     4.     5.     4.     3.     2.     1.     0.     1.
1.     0.     0.     0.     5.     3.     5.
 190.   *     2.     3.     2.     3.     4.     6.     4.     4.     2.     1.     1.     1.
1.     0.     0.     0.     5.     3.     5.
 200.   *     3.     3.     2.     3.     4.     6.     5.     5.     2.     1.     1.     1.
1.     1.     0.     1.     5.     3.     5.
 210.   *     4.     4.     3.     2.     3.     6.     5.     4.     3.     1.     1.     1.
1.     2.     0.     2.     4.     2.     4.
 220.   *     5.     5.     4.     2.     2.     4.     3.     3.     4.     2.     2.     2.
2.     4.     1.     4.     3.     1.     3.
 230.   *     6.     5.     4.     1.     2.     2.     2.     2.     6.     4.     3.     3.
2.     6.     2.     5.     1.     1.     1.
 240.   *     4.     3.     3.     1.     1.     1.     1.     1.     6.     4.     4.     4.
3.     6.     3.     6.     0.     0.     1.
 250.   *     3.     2.     2.     1.     1.     1.     1.     1.     6.     5.     4.     4.
3.     6.     3.     5.     0.     0.     1.
 260.   *     2.     2.     2.     1.     1.     1.     1.     0.     6.     4.     4.     4.
3.     5.     3.     5.     0.     0.     1.
 270.   *     1.     2.     2.     1.     1.     1.     1.     0.     5.     4.     4.     4.
3.     5.     3.     5.     0.     0.     1.
 280.   *     1.     2.     2.     1.     1.     1.     1.     0.     5.     4.     4.     4.
3.     4.     3.     5.     0.     0.     0.
 290.   *     1.     2.     1.     1.     1.     1.     1.     0.     5.     4.     3.     4.
3.     4.     3.     4.     0.     0.     0.
 300.   *     1.     2.     1.     1.     1.     1.     0.     0.     5.     3.     3.     4.
4.     4.     3.     4.     0.     0.     0.
 310.   *     1.     2.     1.     1.     1.     1.     0.     0.     4.     3.     3.     4.
3.     4.     2.     4.     0.     0.     0.
 320.   *     1.     1.     1.     0.     0.     0.     0.     0.     4.     2.     3.     3.
3.     4.     3.     4.     1.     1.     0.
```

```
 330.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    2.    3.    2.
2.    4.    3.    4.    1.    1.    0.
 340.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    0.
 350.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    4.    2.
2.    4.    4.    5.    1.    1.    1.
 360.  *    1.    1.    1.    0.    0.    0.    0.    0.    3.    3.    3.    2.
2.    4.    4.    5.    1.    1.    1.

------*-----------------------------------------------------------------------------
-------------------------------------
 MAX   *    6.    5.    4.    3.    4.    6.    5.    5.    6.    5.    4.    4.
4.    6.    4.    6.    6.    4.    6.
 DEGR. *  230   220   220   190   200   200   200   200   240   250   260   280
300   240     0   240    80   120    70

 THE HIGHEST CONCENTRATION OF      7. ug/m**3 OCCURRED AT RECEPTOR REC14.
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Particulate Matter 2.5 ($PM_{2.5}$)

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♀                               CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                               PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:51

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG      0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG      0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG      0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG      0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG      0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG      0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG      0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG      0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG      0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG      0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG      0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                          PAGE  2
      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:51

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                                 *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                   RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:51

       1. River/Long EB L     *      90        64       3.0       210        1600
 0.03      1        3
       2. River/Long EB TR    *      90        54       3.0       677        1600
 0.03      1        3
       3. River/Long NB LT    *      90        62       3.0       424        1600
 0.03      1        3
       4. River/Long WB LTR   *      90        54       3.0      1675        1600
 0.03      1        3
       5. River/Long SB LT    *      90        62       3.0       326        1600
 0.03      1        3
       6. River/Long SB R     *      90        64       3.0       200        1600
 0.03      1        3
       7. Brook/Deacon EB TR  *     120        65       3.0       717        1600
 0.03      1        3
       8. Brook/Deacon NB LR  *     120        90       3.0       215        1600
 0.03      1        3
       9. Brook/Deacon WB LT  *     120       110       3.0      1278        1600
 0.03      1        3
      10. Brook/Deacon SB LTR *     120        90       3.0       164        1600
 0.03      1        3
      11. Brook/Joslin EB L   *     120        70       3.0        81        1600
 0.03      1        3
      12. Brook/Joslin EB T   *     120        70       3.0       746        1600
 0.03      1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1318        1600
 0.03      1        3
      14. Binney/Long EB LTR  *     120        90       3.0       205        1600
 0.03      1        3
      15. Binney/Long NB LTR  *     120        49       3.0       639        1600
 0.03      1        3
      16. Binney/Long WB LTR  *     120        90       3.0       220        1600
 0.03      1        3
      17. Binney/Long SB LTR  *     120        49       3.0       576        1600
 0.03      1        3
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      18. River/Short EB T    *      93        43        3.0        836        1600
0.03      1        3
      19. River/Short NB LR   *      93        73        3.0        239        1600
0.03      1        3
      20. River/Short WB LTR  *      93        43        3.0       1507        1600
0.03      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        806        1600
0.03      1        3
      22. Brook/Long NB LT    *     120        78        3.0        469        1600
0.03      1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
0.03      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       2004        1600
0.03      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        577        1600
0.03      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1118        1600
0.03      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
0.03      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        989        1600
0.03      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
         RECEPTOR             *      X          Y          Z         *
     -------------------------*--------------------------------------*
      1. River/Long NE1       *      -978.8      215.4        6.0    *
      2. River/Long NE2       *      -904.3      201.6        6.0    *
      3. River/Long NE3       *      -831.3      188.0        6.0    *
      4. River/Long NE4       *      -788.0      251.3        6.0    *
      5. River/Long NE5       *      -746.6      311.8        6.0    *
      6. River/Long SE1       *      -639.8      294.3        6.0    *
      7. River/Long SE2       *      -682.2      232.4        6.0    *
      8. River/Long SE3       *      -724.5      170.5        6.0    *
      9. River/Long SE4       *      -662.6      128.1        6.0    *
     10. River/Long SE5       *      -600.7       85.8        6.0    *
     11. River/Long SW1       *      -638.2       21.8        6.0    *
     12. River/Long SW2       *      -700.1       64.1        6.0    *
     13. River/Long SW3       *      -762.0      106.5        6.0    *
     14. River/Long SW4       *      -790.3       37.0        6.0    *
     15. River/Long SW5       *      -818.6      -32.5        6.0    *
     16. River/Long NW1       *      -921.8      -26.0        6.0    *
     17. River/Long NW2       *      -893.5       43.5        6.0    *
     18. River/Long NW3       *      -865.2      112.9        6.0    *
     19. River/Long NW4       *      -938.9      126.7        6.0    *
     20. River/Long NW5       *     -1012.7      140.4        6.0    *
     21. Brook/Deacon NE1     *      -468.0     -576.8        6.0    *
     22. Brook/Deacon NE2     *      -408.9     -623.0        6.0    *
     23. Brook/Deacon NE3     *      -349.9     -669.2        6.0    *
♀
                       PAGE  4
      JOB: Winsor School                                  RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:51


       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
```

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         RECEPTOR               *       X           Y           Z         *
     -------------------------*------------------------------------*
     24. Brook/Deacon NE4      *       -300.6     -612.7         6.0   *
     25. Brook/Deacon NE5      *       -251.9     -555.6         6.0   *
     26. Brook/Deacon SE1      *       -193.8     -620.1         6.0   *
     27. Brook/Deacon SE2      *       -242.5     -677.1         6.0   *
     28. Brook/Deacon SE3      *       -291.2     -734.2         6.0   *
     29. Brook/Deacon SE4      *       -233.1     -781.7         6.0   *
     30. Brook/Deacon SE5      *       -175.1     -829.1         6.0   *
     31. Brook/Deacon SW1      *       -206.3     -868.2         6.0   *
     32. Brook/Deacon SW2      *       -264.4     -820.7         6.0   *
     33. Brook/Deacon SW3      *       -322.4     -773.2         6.0   *
     34. Brook/Deacon SW4      *       -368.8     -832.1         6.0   *
     35. Brook/Deacon SW5      *       -415.3     -891.0         6.0   *
     36. Brook/Deacon NW1      *       -482.8     -857.2         6.0   *
     37. Brook/Deacon NW2      *       -436.4     -798.3         6.0   *
     38. Brook/Deacon NW3      *       -390.0     -739.4         6.0   *
     39. Brook/Deacon NW4      *       -449.1     -693.2         6.0   *
     40. Brook/Deacon NW5      *       -508.2     -647.0         6.0   *
     41. Brook/Joselin NE1     *       -419.5     -521.3         6.0   *
     42. Brook/Joselin NE2     *       -359.7     -566.6         6.0   *
     43. Brook/Joselin NE3     *       -299.9     -611.8         6.0   *
     44. Brook/Joselin NE4     *       -251.2     -554.8         6.0   *
     45. Brook/Joselin NE5     *       -204.9     -495.8         6.0   *
     46. Brook/Joselin S1      *       -160.7     -581.3         6.0   *
     47. Brook/Joselin S2      *       -209.4     -638.3         6.0   *
     48. Brook/Joselin S3      *       -260.3     -693.4         6.0   *
     49. Brook/Joselin S4      *       -305.6     -753.2         6.0   *
     50. Brook/Joselin S5      *       -352.7     -811.6         6.0   *
♀
                              PAGE  5
      JOB: Winsor School                                            RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    1.    1.
2.    2.    2.    0.    0.    1.    1.    0.
  10.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    0.    1.
2.    2.    2.    0.    0.    1.    1.    1.
  20.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    0.    1.
2.    1.    1.    1.    1.    1.    1.    0.
  30.  *    0.    0.    1.    1.    0.    0.    1.    1.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    0.
  40.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    0.    0.
1.    1.    0.    2.    2.    2.    1.    1.
  50.  *    0.    0.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    2.    2.    2.    1.    1.
```

```
   60.  *     0.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
 1.     0.    0.     2.     2.     2.     2.     1.
   70.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
 1.     0.    0.     2.     2.     2.     2.     2.
   80.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
 1.     0.    0.     1.     2.     2.     2.     2.
   90.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     1.
 1.     0.    0.     1.     2.     2.     1.     1.
  100.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
 1.     0.    0.     1.     1.     1.     1.     1.
  110.  *     1.     1.     2.     1.     1.     0.     0.     0.     0.     0.     0.     0.
 1.     0.    0.     1.     2.     2.     1.     1.
  120.  *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     1.     1.     0.
  130.  *     1.     1.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     1.     1.     0.
  140.  *     1.     1.     2.     2.     1.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     1.     1.     0.
  150.  *     1.     2.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     1.     1.     0.
  160.  *     1.     2.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     2.     0.     0.
  170.  *     1.     1.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     1.     1.     1.     0.     0.
  180.  *     1.     1.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     0.     1.     1.     0.     0.
  190.  *     1.     1.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
 0.     0.    0.     0.     1.     1.     0.     0.
  200.  *     0.     1.     1.     2.     2.     0.     1.     1.     0.     0.     0.     0.
 0.     0.    0.     0.     0.     1.     0.     0.
  210.  *     0.     1.     1.     1.     2.     1.     1.     1.     1.     0.     0.     0.
 1.     1.    0.     0.     0.     0.     0.     0.
  220.  *     0.     1.     1.     1.     1.     1.     1.     2.     1.     0.     0.     0.
 2.     1.    1.     0.     0.     0.     0.     0.
  230.  *     0.     1.     1.     0.     0.     2.     2.     2.     1.     0.     0.     0.
 2.     1.    1.     0.     0.     0.     0.     0.
  240.  *     0.     1.     1.     0.     0.     2.     2.     2.     1.     1.     0.     0.
 2.     1.    1.     0.     0.     0.     0.     0.
  250.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
 2.     1.    1.     0.     0.     0.     0.     0.
  260.  *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
 1.     1.    1.     0.     0.     0.     0.     0.
  270.  *     0.     0.     1.     0.     0.     1.     1.     2.     2.     1.     0.     1.
 1.     1.    1.     0.     0.     0.     0.     0.
  280.  *     0.     0.     0.     0.     0.     1.     1.     2.     2.     1.     1.     1.
 2.     1.    1.     0.     0.     0.     0.     0.
  290.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     1.     1.     1.
 2.     2.    1.     0.     0.     0.     0.     0.
  300.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     1.     1.     1.
 2.     2.    1.     0.     0.     1.     0.     0.
  310.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     1.     1.     1.
 2.     2.    1.     0.     0.     1.     1.     0.
  320.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     1.     1.
 2.     2.    1.     0.     0.     1.     1.     0.
  330.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     1.     1.
 2.     2.    2.     0.     0.     1.     1.     0.
  340.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     1.     1.
 2.     2.    2.     0.     0.     1.     1.     0.
  350.  *     0.     0.     0.     0.     0.     1.     1.     1.     1.     0.     1.     1.
 2.     2.    2.     0.     0.     1.     1.     0.
  360.  *     0.     0.     0.     0.     0.     1.     1.     2.     1.     0.     1.     1.
 2.     2.    2.     0.     0.     1.     1.     0.
```

```
------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    2.    2.    2.    2.    2.    2.    2.    2.    1.    1.    1.
2.    2.    2.    2.    2.    2.    2.    2.
 DEGR. *  120   150    60   190   190   240   250   260   270   280   320   340
290   350     0    40    60    60    60    80

♀
                                     PAGE  6
      JOB: Winsor School                                            RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    0.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  10.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    0.    0.    0.    0.    0.
  30.  *    0.    0.    1.    1.    1.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    1.    1.    2.    0.    0.
  40.  *    0.    1.    2.    2.    2.    1.    2.    2.    1.    0.    0.    1.
2.    2.    2.    2.    2.    2.    1.    1.
  50.  *    1.    1.    3.    3.    3.    1.    1.    1.    0.    0.    0.    0.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    2.    2.    2.    1.    1.
  70.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    1.    2.    1.    1.    1.
  80.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    2.    1.    1.    1.
  90.  *    1.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    0.
 100.  *    0.    1.    1.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
 110.  *    0.    1.    1.    2.    1.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    1.    1.    1.    1.    1.
 120.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 130.  *    0.    1.    2.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 140.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 150.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    1.    0.
 160.  *    0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
```

```
 170.  *     0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 180.  *     0.    1.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 190.  *     0.    0.    1.    2.    2.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 200.  *     0.    0.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    1.    1.    0.    0.
 210.  *     0.    0.    1.    2.    2.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    0.    0.
 220.  *     0.    0.    1.    1.    1.    1.    1.    1.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 230.  *     0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    0.    0.
1.    1.    0.    0.    0.    0.    0.    0.
 240.  *     0.    0.    0.    0.    0.    1.    1.    2.    0.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 250.  *     0.    0.    0.    0.    0.    2.    1.    2.    1.    0.    0.    0.
2.    1.    0.    0.    0.    0.    0.    0.
 260.  *     0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    0.
2.    2.    0.    0.    0.    0.    0.    0.
 270.  *     0.    0.    0.    0.    0.    2.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 280.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 290.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 300.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    0.    0.    0.    0.    0.    0.
 310.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 320.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    1.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 330.  *     0.    0.    0.    0.    0.    1.    2.    1.    1.    0.    1.    1.
1.    1.    1.    0.    0.    0.    0.    0.
 340.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
1.    2.    1.    0.    0.    0.    0.    0.
 350.  *     0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    0.    1.
2.    2.    1.    0.    0.    0.    0.    0.
 360.  *     0.    0.    0.    0.    0.    1.    1.    2.    1.    0.    0.    1.
2.    2.    2.    0.    0.    0.    0.    0.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    1.    1.    3.    3.    3.    2.    2.    2.    1.    1.    1.    1.
2.    2.    2.    2.    2.    2.    1.    1.
 DEGR. *   50    60    50    50    50    30    30    30    30    30    30    30
30    30    30    50    50    40    50    50

♀
                           PAGE  7
     JOB: Winsor School                                          RUN: 2020BD


      MODEL RESULTS
      -------------

      REMARKS : In search of the angle corresponding to
                the maximum concentration, only the first
                angle, of the angles with same maximum
                concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.
```

WIND ANGLE (DEGR)	CONCENTRATION (ug/m**3) REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50
0.	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
10.	0.	0.	0.	0.	0.	2.	1.	2.	2.	2.
20.	0.	0.	0.	0.	1.	2.	2.	2.	2.	2.
30.	0.	0.	1.	2.	2.	2.	2.	2.	2.	2.
40.	0.	1.	2.	2.	3.	2.	2.	2.	2.	2.
50.	1.	1.	3.	3.	3.	1.	0.	1.	1.	1.
60.	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
70.	1.	1.	2.	2.	3.	0.	0.	0.	1.	0.
80.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
90.	1.	1.	2.	2.	2.	0.	0.	0.	1.	0.
100.	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
110.	0.	1.	2.	1.	2.	0.	0.	0.	1.	0.
120.	0.	1.	2.	1.	1.	0.	0.	0.	1.	0.
130.	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
140.	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
150.	0.	1.	2.	2.	1.	0.	0.	0.	1.	0.
160.	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
170.	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
180.	0.	1.	2.	2.	1.	0.	0.	0.	0.	0.
190.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
200.	0.	0.	2.	2.	2.	0.	0.	0.	0.	0.
210.	0.	0.	2.	2.	2.	0.	0.	1.	1.	0.
220.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
230.	0.	0.	0.	0.	1.	1.	1.	1.	2.	1.
240.	0.	0.	0.	0.	0.	1.	1.	1.	2.	1.
250.	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
260.	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
270.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
280.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
290.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
300.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
310.	0.	0.	0.	0.	0.	1.	2.	1.	1.	1.
320.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
330.	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.
340.	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.
350.	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
360.	0.	0.	0.	0.	0.	1.	1.	2.	2.	2.
MAX	1.	1.	3.	3.	3.	2.	2.	2.	3.	2.
DEGR.	70	60	50	50	50	30	30	30	30	20

THE HIGHEST CONCENTRATION OF 3. ug/m**3 OCCURRED AT RECEPTOR REC45.

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♀                                   CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                   PAGE  1

      JOB: Winsor School                                                 RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:57

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG      0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG      0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG      0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG      0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG      0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG      0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG      0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG      0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG      0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG      0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG      0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                             PAGE  2
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:57

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *   258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *   276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *   314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *   314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *   315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *  -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *  -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *  -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:51:57

       1. River/Long EB L     *      90        64        3.0       210        1600
 0.03     1        3
       2. River/Long EB TR    *      90        54        3.0       677        1600
 0.03     1        3
       3. River/Long NB LT    *      90        62        3.0       424        1600
 0.03     1        3
       4. River/Long WB LTR   *      90        54        3.0      1675        1600
 0.03     1        3
       5. River/Long SB LT    *      90        62        3.0       326        1600
 0.03     1        3
       6. River/Long SB R     *      90        64        3.0       200        1600
 0.03     1        3
       7. Brook/Deacon EB TR  *     120        65        3.0       717        1600
 0.03     1        3
       8. Brook/Deacon NB LR  *     120        90        3.0       215        1600
 0.03     1        3
       9. Brook/Deacon WB LT  *     120       110        3.0      1278        1600
 0.03     1        3
      10. Brook/Deacon SB LTR *     120        90        3.0       164        1600
 0.03     1        3
      11. Brook/Joslin EB L   *     120        70        3.0        81        1600
 0.03     1        3
      12. Brook/Joslin EB T   *     120        70        3.0       746        1600
 0.03     1        3
      13. Brook/Joslin WB TTR *     120        70        3.0      1318        1600
 0.03     1        3
      14. Binney/Long EB LTR  *     120        90        3.0       205        1600
 0.03     1        3
      15. Binney/Long NB LTR  *     120        49        3.0       639        1600
 0.03     1        3
      16. Binney/Long WB LTR  *     120        90        3.0       220        1600
 0.03     1        3
      17. Binney/Long SB LTR  *     120        49        3.0       576        1600
 0.03     1        3
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     18. River/Short EB T    *     93        43        3.0        836        1600
0.03      1        3
     19. River/Short NB LR   *     93        73        3.0        239        1600
0.03      1        3
     20. River/Short WB LTR  *     93        43        3.0       1507        1600
0.03      1        3
     21. Brook/Long EB LTR   *    120        78        3.0        806        1600
0.03      1        3
     22. Brook/Long NB LT    *    120        78        3.0        469        1600
0.03      1        3
     23. Brook/Long NB R     *    120        66        3.0        285        1600
0.03      1        3
     24. Brook/Long WB TTR   *    120        66        3.0       2004        1600
0.03      1        3
     25. Brook/Long SB LTR   *    120        78        3.0        577        1600
0.03      1        3
     26. Beth/Brook EB TTR   *    120        72        3.0       1118        1600
0.03      1        3
     27. Beth/Brook NB LR    *    120        83        3.0        370        1600
0.03      1        3
     28. Beth/Brook WB LT    *    120       106        3.0        989        1600
0.03      1        3

      RECEPTOR LOCATIONS
      ------------------
                         *          COORDINATES (FT)          *
        RECEPTOR         *      X          Y          Z       *
    ---------------------*------------------------------------*
     1. Brook/Long NE1   *      -189.0     -227.6       6.0   *
     2. Brook/Long NE2   *      -130.2     -274.2       6.0   *
     3. Brook/Long NE3   *       -71.4     -320.7       6.0   *
     4. Brook/Long NE4   *       -24.6     -262.1       6.0   *
     5. Brook/Long NE5   *        22.3     -203.5       6.0   *
     6. Brook/Long SE1   *       107.1     -254.3       6.0   *
     7. Brook/Long SE2   *        60.3     -312.9       6.0   *
     8. Brook/Long SE3   *        13.5     -371.5       6.0   *
     9. Brook/Long SE4   *        72.9     -417.2       6.0   *
    10. Brook/Long SE5   *       132.4     -463.0       6.0   *
    11. Brook/Long SW1   *        72.2     -540.4       6.0   *
    12. Brook/Long SW2   *        12.8     -494.6       6.0   *
    13. Brook/Long SW3   *       -46.6     -448.9       6.0   *
    14. Brook/Long SW4   *       -91.9     -508.7       6.0   *
    15. Brook/Long SW5   *      -137.1     -568.6       6.0   *
    16. Brook/Long NW1   *      -207.2     -498.8       6.0   *
    17. Brook/Long NW2   *      -162.0     -439.0       6.0   *
    18. Brook/Long NW3   *      -116.8     -379.1       6.0   *
    19. Brook/Long NW4   *      -175.6     -332.6       6.0   *
    20. Brook/Long NW5   *      -234.4     -286.1       6.0   *
    21. Binney/Long NE1  *       137.4     -466.5       6.0   *
    22. Binney/Long NE2  *       197.4     -511.4       6.0   *
    23. Binney/Long NE3  *       257.5     -556.3       6.0   *
♀
                    PAGE  4
     JOB: Winsor School                                  RUN: 2020BD


     DATE :  1/26/11
     TIME : 16:51:57


      RECEPTOR LOCATIONS
      ------------------
                         *          COORDINATES (FT)          *
```

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   RECEPTOR               *      X           Y           Z         *
 -------------------------*------------------------------------*
 24. Binney/Long NE4      *        302.7     -496.6        6.0   *
 25. Binney/Long NE5      *        348.0     -436.8        6.0   *
 26. Binney/Long SE1      *        399.8     -491.0        6.0   *
 27. Binney/Long SE2      *        354.5     -550.8        6.0   *
 28. Binney/Long SE3      *        309.3     -610.6        6.0   *
 29. Binney/Long SE4      *        369.6     -655.0        6.0   *
 30. Binney/Long SE5      *        429.3     -698.9        6.0   *
 31. Binney/Long SW1      *        394.1     -778.9        6.0   *
 32. Binney/Long SW2      *        340.7     -725.6        6.0   *
 33. Binney/Long SW3      *        280.3     -681.2        6.0   *
 34. Binney/Long SW4      *        234.3     -740.4        6.0   *
 35. Binney/Long SW5      *        188.6     -799.2        6.0   *
 36. Binney/Long NW1      *        131.4     -771.8        6.0   *
 37. Binney/Long NW2      *        177.5     -712.5        6.0   *
 38. Binney/Long NW3      *        223.5     -653.3        6.0   *
 39. Binney/Long NW4      *        163.4     -608.4        6.0   *
 40. Binney/Long NW5      *        103.4     -563.4        6.0   *
 41. Beth/Brook SE1       *        463.4      227.5        6.0   *
 42. Beth/Brook SE2       *        417.4      168.2        6.0   *
 43. Beth/Brook SE3       *        371.4      109.0        6.0   *
 44. Beth/Brook SE4       *        433.6       67.0        6.0   *
 45. Beth/Brook SE5       *        495.7       25.1        6.0   *
 46. Beth/Brook SW1       *        454.8      -29.4        6.0   *
 47. Beth/Brook SW2       *        392.6       12.6        6.0   *
 48. Beth/Brook SW3       *        330.5       54.6        6.0   *
 49. Beth/Brook SW4       *        285.5       -5.5        6.0   *
 50. Beth/Brook SW5       *        240.6      -65.5        6.0   *
 51. Beth/Brook N1        *        191.3       12.2        6.0   *
 52. Beth/Brook N2        *        242.0       79.9        6.0   *
 53. Beth/Brook N3        *        287.0      140.0        6.0   *
 54. Beth/Brook N4        *        332.7      199.4        6.0   *
 55. Beth/Brook N5        *        372.8      251.0        6.0   *
♀
                          PAGE  5
  JOB: Winsor School                                          RUN: 2020BD


   MODEL RESULTS
   -------------

   REMARKS : In search of the angle corresponding to
             the maximum concentration, only the first
             angle, of the angles with same maximum
             concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.
  10.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.
  20.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    1.    2.
3.    2.    2.    1.    1.    1.    1.    0.
  30.  *    0.    0.    1.    1.    1.    2.    2.    2.    1.    0.    1.    2.
```

```
3.     2.     2.     2.     2.     2.     1.     0.
  40.   *     0.     1.     3.     2.     2.     1.     1.     1.     0.     0.     1.     1.
2.     2.     2.     3.     3.     3.     2.     1.
  50.   *     0.     1.     3.     3.     3.     0.     0.     0.     0.     0.     0.     1.
1.     1.     1.     3.     3.     4.     2.     1.
  60.   *     1.     1.     3.     3.     3.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     3.     3.     3.     2.     1.
  70.   *     1.     1.     3.     3.     2.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     3.     3.     3.     2.     1.
  80.   *     1.     1.     2.     3.     2.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     2.     2.     3.     2.     2.
  90.   *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     1.
1.     0.     0.     2.     2.     3.     2.     2.
 100.   *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     2.     2.     3.     2.     2.
 110.   *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     1.     1.
1.     0.     0.     2.     2.     3.     2.     2.
 120.   *     1.     1.     2.     2.     2.     0.     0.     0.     0.     0.     0.     0.
1.     0.     0.     1.     2.     2.     2.     2.
 130.   *     1.     2.     2.     2.     2.     0.     0.     1.     0.     0.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 140.   *     2.     2.     3.     2.     2.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 150.   *     2.     2.     3.     3.     2.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 160.   *     2.     2.     2.     3.     2.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     1.
 170.   *     1.     2.     3.     3.     3.     0.     0.     1.     1.     1.     0.     0.
0.     0.     0.     1.     2.     2.     1.     0.
 180.   *     1.     2.     3.     3.     3.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     1.     2.     2.     1.     0.
 190.   *     1.     2.     3.     3.     3.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     1.     0.
 200.   *     1.     1.     3.     3.     3.     0.     0.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     1.     0.
 210.   *     0.     1.     3.     3.     3.     1.     1.     1.     1.     0.     0.     0.
0.     0.     0.     2.     2.     2.     0.     0.
 220.   *     0.     1.     2.     2.     2.     2.     2.     2.     1.     0.     0.     0.
1.     1.     1.     1.     1.     1.     0.     0.
 230.   *     0.     1.     1.     1.     1.     2.     2.     2.     1.     1.     0.     0.
2.     1.     1.     1.     1.     1.     0.     0.
 240.   *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 250.   *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     0.
2.     1.     1.     0.     0.     0.     0.     0.
 260.   *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 270.   *     0.     1.     1.     0.     0.     2.     2.     2.     2.     1.     0.     1.
2.     1.     1.     0.     0.     0.     0.     0.
 280.   *     0.     1.     1.     0.     0.     2.     2.     2.     2.     2.     0.     1.
2.     2.     1.     0.     0.     0.     0.     0.
 290.   *     0.     0.     1.     0.     0.     2.     2.     2.     2.     2.     1.     1.
2.     2.     0.     0.     0.     0.     0.     0.
 300.   *     0.     0.     1.     0.     0.     2.     2.     2.     2.     2.     1.     1.
2.     2.     0.     0.     0.     0.     0.     0.
 310.   *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     1.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 320.   *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     1.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 330.   *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     2.     2.
2.     2.     1.     0.     0.     1.     0.     0.
 340.   *     0.     0.     0.     0.     0.     2.     2.     2.     1.     1.     1.     2.
2.     2.     1.     0.     0.     1.     1.     0.
```

```
 350.  *    0.    0.    0.    0.    0.    2.    2.    2.    1.    1.    2.    2.
2.    2.    1.    0.    0.    1.    1.    0.
 360.  *    0.    0.    0.    0.    0.    1.    2.    2.    1.    1.    1.    2.
2.    2.    2.    0.    0.    1.    1.    0.

------*--------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    3.    3.    3.    2.    2.    2.    2.    2.    2.    2.
3.    2.    2.    3.    3.    4.    2.    2.
 DEGR. *  140   140    50    50   200   240    20    20   270   290   330    20
30    20    30    50    50    50    50   110

♀
                              PAGE  6
      JOB: Winsor School                                          RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39 REC40

------*--------------------------------------------------------------------------------
-------------------------------------------
   0.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    1.    1.    1.    1.    1.
  10.  *    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    1.    1.    1.    1.
  20.  *    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.    0.    0.    1.    1.    1.
  30.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    1.    0.    0.    1.    1.    1.
  40.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    0.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    1.    1.    1.    1.
  90.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
1.    0.    0.    0.    0.    1.    1.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    1.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    1.    1.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    1.
 130.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 140.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
```

```
0.    0.    0.    0.    0.    0.    0.    0.
 150.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 160.  *    1.    1.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 170.  *    1.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 180.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 190.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 200.  *    0.    1.    1.    1.    0.    0.    0.    1.    0.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 210.  *    0.    1.    0.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 220.  *    0.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    0.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 280.  *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.    0.    0.    0.    0.    0.
 290.  *    2.    1.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.
1.    0.    0.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    1.    0.    0.    1.    1.    1.    1.    1.    1.
1.    0.    0.    0.    0.    1.    1.    1.
 310.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.    0.    0.    1.    1.    1.
 320.  *    1.    1.    1.    0.    0.    0.    0.    1.    1.    0.    1.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 330.  *    1.    1.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    1.    1.    1.    1.    2.
 340.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    1.    1.
1.    1.    0.    0.    1.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    1.    1.    1.    1.    1.
 360.  *    1.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.    1.
1.    1.    1.    1.    1.    1.    1.    1.

------*--------------------------------------------------------------------------------
--------------------------------------------
 MAX   *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    1.    1.
1.    1.    1.    1.    1.    1.    1.    2.
 DEGR. *  290   290   300   190   270   280   290   300   280   300   320   330
330    20     0     0     0   320   320   330
```

♀

PAGE 7

JOB: Winsor School RUN: 2020BD

MODEL RESULTS

REMARKS : In search of the angle corresponding to
the maximum concentration, only the first

angle, of the angles with same maximum
concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	REC41	REC42	REC43	REC44	REC45	REC46	REC47	REC48	REC49	REC50	REC51	REC52	REC53	REC54	REC55
		CONCENTRATION (ug/m**3)														
0.	*	1.	2.	2.	1.	0.	0.	1.	2.	2.	2.	0.	0.	0.	0.	0.
10.	*	1.	1.	2.	1.	0.	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.
20.	*	1.	2.	2.	1.	0.	0.	1.	2.	2.	3.	0.	0.	0.	0.	0.
30.	*	1.	1.	2.	0.	0.	0.	1.	2.	2.	2.	1.	1.	1.	1.	1.
40.	*	1.	1.	1.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.	1.
50.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	3.	3.	2.	2.	2.
60.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	2.	2.	2.
70.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
80.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
90.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	2.	2.	2.
100.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
110.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
130.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
140.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
150.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
160.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.
170.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	2.	2.	2.
180.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.
190.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	2.	3.
200.	*	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.
210.	*	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.	3.	3.	3.	3.	3.
220.	*	2.	2.	2.	1.	0.	0.	1.	2.	2.	1.	2.	2.	2.	2.	2.
230.	*	2.	2.	3.	1.	1.	0.	1.	3.	3.	2.	1.	1.	1.	1.	1.
240.	*	2.	2.	3.	1.	1.	1.	1.	3.	2.	2.	0.	0.	0.	0.	0.
250.	*	2.	2.	2.	1.	1.	1.	1.	2.	2.	2.	0.	0.			

```
0.    0.    0.
 260.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 270.  *    2.    2.    2.    2.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 280.  *    2.    2.    2.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 290.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 300.  *    2.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 310.  *    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 320.  *    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 330.  *    1.    1.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 340.  *    1.    2.    1.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 350.  *    1.    2.    2.    1.    0.    1.    1.    2.    2.    2.    0.    0.
0.    0.    0.
 360.  *    1.    2.    2.    1.    0.    0.    1.    2.    2.    2.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    2.    2.    3.    2.    1.    1.    1.    3.    3.    3.    3.    3.
3.    3.    3.
 DEGR. *  230   230   230   270   280   320   270   230   230    20    50   200
200   200   200

 THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC18.
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♀                                CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                                PAGE  1

      JOB: Winsor School                                                RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:52: 4

         The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)      ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
       1. River/Long EB L     *   -827.1     101.1    -854.3      32.9 *      73.
202. AG      0. 100.0   1.0 10.0 0.56   3.7
       2. River/Long EB TR    *   -811.5      92.4    -847.0      -0.8 *     100.
201. AG      0. 100.0   1.0 20.0 0.61   5.1
       3. River/Long NB LT    *   -736.1     146.0    -673.8     110.1 *      72.
120. AG      0. 100.0   1.0 20.0 0.52   3.7
       4. River/Long WB LTR   *   -795.7     191.2    -601.7     482.1 *     350.
34. AG      0. 100.0   1.0 30.0 1.01  17.8
       5. River/Long SB LT    *   -860.9     156.1    -981.3     178.3 *     122.
280. AG      0. 100.0   1.0 10.0 0.80   6.2
       6. River/Long SB R     *   -867.3     144.3    -936.2     156.6 *      70.
280. AG      0. 100.0   1.0 10.0 0.54   3.6
       7. Brook/Deacon EB TR  *   -349.1    -767.6    -427.8    -867.7 *     127.
218. AG      0. 100.0   1.0 20.0 0.54   6.5
       8. Brook/Deacon NB LR  *   -306.2    -749.9    -264.6    -782.1 *      53.
128. AG      0. 100.0   1.0 20.0 0.32   2.7
       9. Brook/Deacon WB LT  *   -338.4    -690.9    3608.4    4358.4 *    6409.
38. AG      0. 100.0   1.0 20.0 9.68 325.6
      10. Brook/Deacon SB LTR *   -380.1    -702.5    -411.9    -677.7 *      40.
308. AG      0. 100.0   1.0 20.0 0.25   2.0
      11. Brook/Joslin EB L   *   -281.4    -673.2    -301.2    -697.0 *      31.
220. AG      0. 100.0   1.0 10.0 0.14   1.6
      12. Brook/Joslin EB T   *   -272.0    -680.1   -1447.6   -2148.0 *    1881.
219. AG      0. 100.0   1.0 10.0 1.25  95.5
      13. Brook/Joslin WB TTR *   -284.6    -643.4     309.9     127.8 *     974.
38. AG      0. 100.0   1.0 20.0 1.10  49.5
      14. Binney/Long EB LTR  *    253.1    -669.4     185.8    -744.6 *     101.
222. AG      0. 100.0   1.0 10.0 0.62   5.1
      15. Binney/Long NB LTR  *    297.7    -636.1     367.4    -685.6 *      85.
125. AG      0. 100.0   1.0 20.0 0.36   4.3
      16. Binney/Long WB LTR  *    281.5    -577.5     314.2    -534.3 *      54.
37. AG      0. 100.0   1.0 20.0 0.33   2.8
      17. Binney/Long SB LTR  *    217.5    -600.0     154.6    -555.3 *      77.
305. AG      0. 100.0   1.0 20.0 0.33   3.9
      18. River/Short EB T    *   -145.9     542.6    -234.9     501.1 *      98.
245. AG      0. 100.0   1.0 20.0 0.54   5.0
      19. River/Short NB LR   *    -92.0     525.1     -50.8     501.4 *      48.
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120. AG      0. 100.0   1.0 20.0 0.46   2.4
      20. River/Short WB LTR  *   -103.9     601.6      -3.2     663.2 *     118.
59. AG      0. 100.0   1.0 30.0 0.65   6.0
      21. Brook/Long EB LTR   *    -61.3    -419.3    -134.5    -507.1 *     114.
220. AG      0. 100.0   1.0 30.0 0.54   5.8
      22. Brook/Long NB LT    *     -4.2    -401.4      74.7    -462.5 *     100.
128. AG      0. 100.0   1.0 20.0 0.47   5.1
      23. Brook/Long NB R     *      7.7    -389.5      89.5    -451.9 *     103.
127. AG      0. 100.0   1.0 10.0 0.44   5.2
      24. Brook/Long WB TTR   *    -34.0    -333.3     293.4      65.4 *     516.
39. AG      0. 100.0   1.0 30.0 1.02  26.2
      25. Brook/Long SB LTR   *    -99.3    -348.1    -196.4    -272.9 *     123.
308. AG      0. 100.0   1.0 20.0 0.58   6.2
      26. Beth/Brook EB TTR   *    319.8      83.8     140.4    -169.3 *     310.
215. AG      0. 100.0   1.0 20.0 0.98  15.8
      27. Beth/Brook NB LR    *    367.5      87.0     529.3     -19.8 *     194.
123. AG      0. 100.0   1.0 10.0 0.87   9.8
      28. Beth/Brook WB LT    *    344.4     154.4    2983.5    3419.6 *    4198.
39. AG      0. 100.0   1.0 20.0 4.15 213.3
      29. Brook/Long N        *    -62.5    -374.9    -224.8    -246.5 *     207.
308. AG   1098.   0.0   1.0 54.0
      30. Brook/Long E        *    -55.5    -379.3     104.0    -179.6 *     256.
39. AG   2352.   0.0   1.0 78.0
      31. Brook/Long S        *    -62.5    -374.9     117.1    -513.1 *     227.
128. AG   1335.   0.0   1.0 78.0
      32. Brook/Long W        *    -55.5    -379.3    -163.0    -521.6 *     178.
217. AG   1894.   0.0   1.0 78.0
      33. Brook/Deacon N      *   -356.9    -714.5    -490.5    -610.0 *     170.
308. AG    164.   0.0   1.0 60.0
      34. Brook/Deacon E      *   -340.0    -727.4    -288.2    -659.0 *      86.
37. AG   1980.   0.0   1.0 66.0
      35. Brook/Deacon S      *   -328.5    -736.0    -252.6    -798.0 *      98.
129. AG    255.   0.0   1.0 30.0
      36. Brook/Deacon W      *   -337.2    -732.1    -443.4    -867.0 *     172.
218. AG   2204.   0.0   1.0 54.0
      37. Joslin/Brook N      *   -299.2    -651.2    -415.3    -563.3 *     146.
307. AG    121.   0.0   1.0 42.0
      38. Joslin/Brook E      *   -284.3    -659.8    -210.7    -573.7 *     113.
40. AG   2064.   0.0   1.0 66.0
      39. River/Long N        *   -789.5     139.5   -1037.0     185.6 *     252.
281. AG   1297.   0.0   1.0 60.0
      40. River/Long E        *   -795.2     154.1    -655.2     358.5 *     248.
34. AG   2486.   0.0   1.0 78.0
      41. River/Long S        *   -768.5     155.7    -584.0      29.6 *     223.
124. AG    766.   0.0   1.0 54.0
      42. River/Long W        *   -791.9     163.0    -896.3     -93.2 *     277.
202. AG   2625.   0.0   1.0 78.0
      43. Binney/Long N       *    258.3    -618.2     127.0    -519.9 *     164.
307. AG   1315.   0.0   1.0 78.0
      44. Binney/Long E       *    256.1    -619.5     358.4    -484.3 *     170.
37. AG    290.   0.0   1.0 54.0
♀
                         PAGE  2
      JOB: Winsor School                                         RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:52: 4

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
```

```
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. Binney/Long S       *    258.5    -619.2     358.7    -693.0 *     124.
126. AG   1240.   0.0   1.0 54.0
      46. Binney/Long W       *    276.9    -635.0     188.4    -749.0 *     144.
218. AG    435.   0.0   1.0 42.0
      47. Beth/Brook E        *    314.8     106.2     433.8     259.6 *     194.
38. AG   2182.   0.0   1.0 66.0
      48. Beth/Brook S        *    314.8     106.2     430.7      27.9 *     140.
124. AG    510.   0.0   1.0 48.0
      49. Beth/Brook W        *    315.4     106.2     188.9     -62.8 *     211.
217. AG   2262.   0.0   1.0 66.0
      50. River/Short E       *   -139.3     550.3      13.9     647.9 *     182.
58. AG   2455.   0.0   1.0 82.0
      51. River/Short S       *   -137.4     551.3       6.7     443.6 *     180.
127. AG    239.   0.0   1.0 50.0
      52. River/Short W       *   -136.9     551.3    -285.8     480.5 *     165.
245. AG   2470.   0.0   1.0 82.0
♀
                             PAGE  3
      JOB: Winsor School                                        RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:52: 4

       1. River/Long EB L     *      90        64       3.0       210        1600
 0.03      1        3
       2. River/Long EB TR    *      90        54       3.0       677        1600
 0.03      1        3
       3. River/Long NB LT    *      90        62       3.0       424        1600
 0.03      1        3
       4. River/Long WB LTR   *      90        54       3.0      1675        1600
 0.03      1        3
       5. River/Long SB LT    *      90        62       3.0       326        1600
 0.03      1        3
       6. River/Long SB R     *      90        64       3.0       200        1600
 0.03      1        3
       7. Brook/Deacon EB TR  *     120        65       3.0       717        1600
 0.03      1        3
       8. Brook/Deacon NB LR  *     120        90       3.0       215        1600
 0.03      1        3
       9. Brook/Deacon WB LT  *     120       110       3.0      1278        1600
 0.03      1        3
      10. Brook/Deacon SB LTR *     120        90       3.0       164        1600
 0.03      1        3
      11. Brook/Joslin EB L   *     120        70       3.0        81        1600
 0.03      1        3
      12. Brook/Joslin EB T   *     120        70       3.0       746        1600
 0.03      1        3
      13. Brook/Joslin WB TTR *     120        70       3.0      1318        1600
 0.03      1        3
      14. Binney/Long EB LTR  *     120        90       3.0       205        1600
 0.03      1        3
      15. Binney/Long NB LTR  *     120        49       3.0       639        1600
 0.03      1        3
      16. Binney/Long WB LTR  *     120        90       3.0       220        1600
 0.03      1        3
      17. Binney/Long SB LTR  *     120        49       3.0       576        1600
 0.03      1        3
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      18. River/Short EB T    *      93        43        3.0        836        1600
 0.03      1        3
      19. River/Short NB LR   *      93        73        3.0        239        1600
 0.03      1        3
      20. River/Short WB LTR  *      93        43        3.0       1507        1600
 0.03      1        3
      21. Brook/Long EB LTR   *     120        78        3.0        806        1600
 0.03      1        3
      22. Brook/Long NB LT    *     120        78        3.0        469        1600
 0.03      1        3
      23. Brook/Long NB R     *     120        66        3.0        285        1600
 0.03      1        3
      24. Brook/Long WB TTR   *     120        66        3.0       2004        1600
 0.03      1        3
      25. Brook/Long SB LTR   *     120        78        3.0        577        1600
 0.03      1        3
      26. Beth/Brook EB TTR   *     120        72        3.0       1118        1600
 0.03      1        3
      27. Beth/Brook NB LR    *     120        83        3.0        370        1600
 0.03      1        3
      28. Beth/Brook WB LT    *     120       106        3.0        989        1600
 0.03      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)           *
         RECEPTOR             *      X           Y           Z        *
     -------------------------*------------------------------------*
      1. Short/River SE1      *        64.2       619.5        6.0   *
      2. Short/River SE2      *         0.6       579.2        6.0   *
      3. Short/River SE3      *       -62.3       538.9        6.0   *
      4. Short/River SE4      *        -2.3       494.0        6.0   *
      5. Short/River SE5      *        57.8       449.1        6.0   *
      6. Short/River SW1      *        -6.6       409.9        6.0   *
      7. Short/River SW2      *       -66.7       454.8        6.0   *
      8. Short/River SW3      *      -126.8       499.6        6.0   *
      9. Short/River SW4      *      -194.5       467.4        6.0   *
     10. Short/River SW5      *      -262.2       435.2        6.0   *
     11. Short/River N1       *      -300.6       529.9        6.0   *
     12. Short/River N2       *      -232.9       562.1        6.0   *
     13. Short/River N3       *      -165.2       594.3        6.0   *
     14. Short/River N4       *      -101.9       634.6        6.0   *
     15. Short/River N5       *       -38.7       674.9        6.0   *
♀
                             PAGE  4
      JOB: Winsor School                                           RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15
```

```
------*-------------------------------------------------------------------------------------
-------------
   0.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  10.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  20.  *    0.    0.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.
  30.  *    0.    0.    1.    0.    0.    0.    0.    1.    1.    1.    0.    0.
0.    0.    0.
  40.  *    0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    0.
0.    0.    0.
  50.  *    0.    0.    1.    0.    0.    0.    0.    1.    2.    2.    0.    0.
0.    0.    0.
  60.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
  70.  *    0.    0.    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.
1.    1.    0.
  80.  *    0.    0.    0.    0.    0.    0.    0.    0.    1.    0.    2.    1.
2.    1.    0.
  90.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    1.
2.    2.    1.
 100.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.
2.    2.    1.
 110.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    2.
1.    2.    1.
 120.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    1.
 130.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    1.
 140.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
2.    2.    2.
 150.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 160.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    1.    1.
1.    2.    2.
 170.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 180.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    2.    2.
 190.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 200.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 210.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 220.  *    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 230.  *    0.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    2.
 240.  *    1.    1.    1.    0.    0.    0.    0.    0.    0.    0.    0.    1.
1.    1.    1.
 250.  *    1.    1.    2.    0.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 260.  *    1.    1.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 270.  *    1.    1.    2.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 280.  *    1.    1.    1.    1.    0.    0.    0.    1.    1.    0.    0.    0.
0.    0.    0.
 290.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 300.  *    1.    1.    1.    1.    1.    0.    1.    1.    1.    0.    0.    0.
```

```
0.    0.    0.
 310.  *    0.    1.    1.    1.    0.    0.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 320.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 330.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    0.    0.    0.
0.    0.    0.
 340.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 350.  *    0.    1.    1.    1.    0.    1.    1.    1.    1.    1.    0.    0.
0.    0.    0.
 360.  *    0.    1.    1.    0.    0.    0.    1.    1.    1.    1.    0.    0.
0.    0.    0.

------*--------------------------------------------------------------------------
-------------
 MAX   *    1.    1.    2.    1.    1.    1.    1.    1.    2.    2.    2.    2.
2.    2.    2.
 DEGR. *  250   270   260   280   290   340     0    20    40    50    90   100
100   160   150

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC14.
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♀                        CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated
95221                         PAGE  1

      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:52: 9

        The MODE flag has been set to P for calculating PM averages.

       SITE & METEOROLOGICAL VARIABLES
       -------------------------------
       VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
        U =  1.0 M/S         CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                              *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
       1. Brook/River SB LTR  *   -864.7   -1312.6   -1657.5      82.3 *    1604.
330. AG      0. 100.0   1.0 20.0 1.26  81.5
       2. Brook/River EB LTR  *   -862.4   -1425.5    -921.6   -1502.8 *      97.
217. AG      0. 100.0   1.0 30.0 0.58   4.9
       3. Brook/River NB LTR  *   -792.2   -1400.7    -711.9   -1649.1 *     261.
162. AG      0. 100.0   1.0 20.0 0.95  13.3
       4. Brook/River WB LTTR *   -798.5   -1299.5    -688.0   -1164.7 *     174.
39. AG      0. 100.0   1.0 30.0 0.75   8.9
       5. Brook/River N       *   -825.5   -1369.5    -975.8   -1104.4 *     305.
330. AG   1964.   0.0   1.0 66.0
       6. Brook/River E       *   -833.6   -1372.3    -633.2   -1123.3 *     320.
39. AG   2124.   0.0   1.0 78.0
       7. Brook/River S       *   -816.0   -1357.4    -752.4   -1580.6 *     232.
164. AG   2652.   0.0   1.0 66.0
       8. Brook/River W       *   -839.1   -1373.6   -1017.8   -1615.8 *     301.
216. AG   1466.   0.0   1.0 78.0
♀
                             PAGE  2
      JOB: Winsor School                                          RUN: 2020BD


      DATE :  1/26/11
      TIME : 16:52: 9

       1. Brook/River SB LTR  *     120       79       3.0      1205       1600
 0.03      1       3
       2. Brook/River EB LTR  *     120       89       3.0       600       1600
 0.03      1       3
       3. Brook/River NB LTR  *     120       79       3.0       911       1600
 0.03      1       3
       4. Brook/River WB LTTR *     120       69       3.0      1387       1600
 0.03      1       3

       RECEPTOR LOCATIONS
       ------------------
                              *          COORDINATES (FT)         *
         RECEPTOR             *      X           Y          Z        *
```

```
     -------------------------*-------------------------------------*
      1. Brook/River NE1      *      -898.9    -1152.8        6.0   *
      2. Brook/River NE2      *      -861.9    -1218.1        6.0   *
      3. Brook/River NE3      *      -825.0    -1283.3        6.0   *
      4. Brook/River NE4      *      -777.9    -1224.9        6.0   *
      5. Brook/River NE5      *      -730.9    -1166.5        6.0   *
      6. Brook/River SE1      *      -674.0    -1252.1        6.0   *
      7. Brook/River SE2      *      -721.0    -1310.5        6.0   *
      8. Brook/River SE3      *      -768.0    -1368.9        6.0   *
      9. Brook/River SE4      *      -747.5    -1441.0        6.0   *
     10. Brook/River SE5      *      -726.9    -1513.2        6.0   *
     11. Brook/River SW1      *      -793.3    -1594.1        6.0   *
     12. Brook/River SW2      *      -813.8    -1521.9        6.0   *
     13. Brook/River SW3      *      -834.4    -1449.8        6.0   *
     14. Brook/River SW4      *      -878.9    -1510.2        6.0   *
     15. Brook/River SW5      *      -923.5    -1570.5        6.0   *
     16. Brook/River NW1      *      -973.6    -1473.4        6.0   *
     17. Brook/River NW2      *      -929.0    -1413.0        6.0   *
     18. Brook/River NW3      *      -884.5    -1352.7        6.0   *
     19. Brook/River NW4      *      -921.5    -1287.4        6.0   *
     20. Brook/River NW5      *      -958.5    -1222.2        6.0   *
♀
                         PAGE  3
      JOB: Winsor School                                         RUN: 2020BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*--------------------------------------------------------------------------
-------------------------------------------
   0.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    0.    1.    1.    1.    1.
  10.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    0.    2.    2.
2.    2.    2.    0.    1.    1.    1.    1.
  20.  *    0.    0.    0.    0.    0.    1.    1.    1.    0.    0.    2.    2.
2.    2.    2.    1.    1.    1.    1.    1.
  30.  *    0.    0.    0.    0.    0.    0.    1.    1.    0.    0.    2.    2.
2.    2.    2.    1.    1.    1.    1.    1.
  40.  *    0.    0.    1.    0.    0.    0.    0.    0.    0.    0.    1.    2.
2.    1.    1.    1.    1.    2.    1.    1.
  50.  *    0.    0.    1.    1.    0.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    1.    1.
  60.  *    0.    0.    2.    1.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    2.    1.
  70.  *    0.    0.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    1.    2.    2.    2.    2.    1.
  80.  *    0.    1.    2.    2.    1.    0.    0.    0.    0.    0.    1.    1.
1.    1.    0.    2.    1.    2.    2.    2.
  90.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.    1.    0.    2.    2.    2.    2.    2.
```

```
 100.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   1.    0.    1.    2.    2.    2.    2.
 110.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   1.    0.    1.    1.    2.    2.    2.
 120.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   0.    0.    1.    2.    2.    2.    2.
 130.  *    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
2.   0.    0.    1.    2.    2.    2.    2.
 140.  *    1.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   0.    0.    1.    1.    2.    2.    2.
 150.  *    1.    2.    2.    1.    1.    0.    0.    0.    0.    0.    0.    1.
1.   0.    0.    1.    1.    2.    1.    2.
 160.  *    2.    2.    2.    2.    1.    0.    0.    1.    0.    0.    0.    0.
1.   0.    0.    1.    1.    1.    1.    1.
 170.  *    2.    2.    2.    2.    2.    0.    0.    1.    1.    0.    0.    0.
0.   0.    0.    1.    1.    1.    1.    0.
 180.  *    2.    2.    2.    2.    2.    0.    0.    2.    1.    1.    0.    0.
0.   0.    0.    1.    1.    1.    0.    0.
 190.  *    2.    2.    2.    2.    2.    0.    1.    2.    2.    1.    0.    0.
0.   0.    0.    1.    1.    1.    0.    0.
 200.  *    1.    2.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.   0.    0.    0.    1.    1.    0.    0.
 210.  *    1.    1.    2.    2.    2.    1.    1.    2.    2.    1.    0.    0.
0.   0.    0.    0.    0.    1.    0.    0.
 220.  *    1.    1.    1.    1.    1.    1.    1.    2.    2.    1.    0.    0.
1.   0.    0.    0.    0.    0.    0.    0.
 230.  *    1.    1.    1.    1.    1.    2.    2.    2.    2.    1.    0.    0.
1.   0.    0.    0.    0.    0.    0.    0.
 240.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    0.    0.    0.    0.    0.    0.
 250.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    0.    0.    0.    0.    0.    0.
 260.  *    1.    1.    1.    1.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    1.    0.    0.    0.    0.    0.
 270.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    0.
1.   1.    1.    0.    0.    0.    0.    0.
 280.  *    1.    1.    1.    0.    0.    2.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 290.  *    1.    1.    1.    1.    0.    1.    2.    2.    2.    2.    0.    1.
1.   1.    0.    0.    0.    0.    0.    0.
 300.  *    1.    1.    1.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 310.  *    1.    1.    1.    0.    0.    1.    2.    2.    2.    2.    0.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 320.  *    1.    1.    1.    0.    0.    1.    1.    2.    2.    2.    1.    1.
1.   1.    1.    0.    0.    0.    0.    0.
 330.  *    0.    1.    1.    0.    0.    1.    1.    2.    2.    2.    1.    1.
1.   1.    1.    0.    0.    1.    1.    1.
 340.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    2.
2.   2.    1.    0.    0.    1.    1.    1.
 350.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.   2.    1.    0.    0.    2.    1.    1.
 360.  *    0.    0.    0.    0.    0.    1.    1.    1.    1.    1.    2.    2.
2.   2.    1.    0.    1.    1.    1.    1.

------*------------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.    2.
2.   2.    2.    2.    2.    2.    2.    2.
 DEGR. *  170   170   170   180   200   250   240   250   320   310     0     0
20   10    20    70    50    50   130   120

 THE HIGHEST CONCENTRATION OF      2. ug/m**3 OCCURRED AT RECEPTOR REC3 .
```

JOB: Winsor School RUN: 2020 BD

DATE : 1/26/11
TIME : 16:52:16

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

```
VS =   0.0 CM/S       VD =   0.0 CM/S       Z0 = 175. CM
 U =  1.0 M/S         CLAS =   4  (D)      ATIM =  60. MINUTES     MIXH =
1000. M   AMB =  0.0 ug/m**3
```

LINK VARIABLES

```
   LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                        *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
    1. Brookline SB Q1     *  24377.6   43850.8   24429.8   43920.7 *      87.
37. AG      0. 100.0   1.0 30.0 0.45   4.4
    2. Boylston WB Q2      *  24434.8   43765.0   24546.6   43805.0 *     119.
70. AG      0. 100.0   1.0 40.0 0.78   6.0
    3. Park Dr NB Q3       *  24314.0   43650.6   24349.5   43600.8 *      61.
145. AG      0. 100.0   1.0 40.0 0.31   3.1
    4. Brookline EB Q4     *  24250.4   43637.9   23313.5   42443.0 *    1518.
218. AG      0. 100.0   1.0 40.0 1.37  77.1
    5. Brookline Q27       *  24079.2   43421.1   23759.2   42979.0 *     546.
216. AG      0. 100.0   1.0 20.0 1.03  27.7
    6. Fenway Q28          *  24063.7   43526.1   22830.9   44991.6 *    1915.
320. AG      0. 100.0   1.0 20.0 1.20  97.3
    7. Brookline Q29       *  24121.4   43515.8   24228.5   43649.5 *     171.
39. AG      0. 100.0   1.0 20.0 0.82   8.7
    8. Brookline Ave west  *  24281.2   43703.6   24102.9   43457.4 *     304.
216. AG   3028.   0.0   1.0 68.0
    9. Broolkine Ave east  *  24277.0   43684.6   24672.8   44220.7 *     666.
36. AG   1488.   0.0   1.0 68.0
   10. Park drive north    *  24272.2   43689.5   23956.6   44033.9 *     467.
318. AG   1177.   0.0   1.0 68.0
   11. Park drive south    *  24274.6   43701.6   24694.6   43148.6 *     694.
143. AG   1404.   0.0   1.0 68.0
   12. Boylston St L5      *  24272.2   43682.2   25010.2   43953.9 *     786.
70. AG   2439.   0.0   1.0 ****
   13. Brookline L33       *  24106.9   43476.6   23847.1   43141.9 *     424.
218. AG   2581.   0.0   1.0 68.0
   14. Fenway L34          *  24101.9   43470.8   24241.0   43294.7 *     224.
142. AG    951.   0.0   1.0 42.0
   15. fenway L35          *  24108.0   43464.6   23938.0   43672.7 *     269.
321. AG   1718.   0.0   1.0 42.0
```


JOB: Winsor School RUN: 2020 BD

DATE : 1/26/11
TIME : 16:52:16

```
      1. Brookline SB Q1     *     100        53        3.0        904         1600
0.03     1        3
      2. Boylston WB Q2      *     100        73        3.0       1098         1600
0.03     1        3
      3. Park Dr NB Q3       *     100        53        3.0        846         1600
0.03     1        3
      4. Brookline EB Q4     *     100        74        3.0       1839         1600
0.03     1        3
      5. Brookline Q27       *     100        54        3.0       1356         1600
0.03     1        3
      6. Fenway Q28          *     100        46        3.0       1876         1600
0.03     1        3
      7. Brookline Q29       *     100        54        3.0       1083         1600
0.03     1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. R7	24234.6	43539.7	6.0
2. R8	24198.5	43493.8	6.0
3. R9	24247.7	43485.1	6.0
4. R10	24131.9	43603.0	6.0
5. R11	24100.2	43558.2	6.0
6. R12	24075.1	43588.8	6.0
7. R13	23988.8	43538.6	6.0
8. R14	24019.4	43509.1	6.0
9. R15	23968.0	43510.2	6.0
10. R16	23940.7	43418.5	6.0
11. R17	23992.1	43417.4	6.0
12. R18	23951.7	43364.0	6.0
13. R19	24080.6	43343.2	6.0
14. R20	24111.2	43390.1	6.0
15. R21	24138.5	43348.7	6.0
16. R22	24229.1	43394.5	6.0
17. R23	24198.5	43426.2	6.0
18. R24	24258.6	43409.8	6.0
19. R41	24433.6	43813.3	6.0
20. R42	24498.2	43841.4	6.0
21. R43	24569.1	43866.7	6.0
22. R44	24472.8	43859.6	6.0
23. R45	24517.8	43916.6	6.0
24. R46	24182.0	43865.3	6.0
25. R47	24230.1	43812.3	6.0
26. R48	24268.4	43766.0	6.0
27. R49	24307.2	43819.4	6.0
28. R50	24356.7	43884.0	6.0
29. R51	24367.5	43656.1	6.0
30. R52	24433.5	43678.3	6.0
31. R53	24498.6	43702.8	6.0
32. R54	24409.4	43607.5	6.0
33. R55	24444.6	43559.0	6.0
34. R56	24282.4	43606.2	6.0
35. R57	24328.7	43546.5	6.0
36. R58	24243.6	43550.9	6.0
37. R59	24204.3	43692.2	6.0
38. R60	24150.3	43751.0	6.0
39. R61	24161.0	43638.3	6.0

Column heading over X, Y, Z: COORDINATES (FT)

```
        MODEL RESULTS
        -------------

        REMARKS : In search of the angle corresponding to
                  the maximum concentration, only the first
                  angle, of the angles with same maximum
                  concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

------*------------------------------------------------------------------------------------
-------------------------------------------
   0.  *    2.    2.    2.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.
  10.  *    2.    2.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.
  20.  *    2.    2.    1.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    1.    1.    1.    0.
  30.  *    2.    2.    1.    0.    1.    0.    1.    1.    1.    1.    1.    1.
3.    3.    1.    1.    1.    1.    1.    0.
  40.  *    2.    1.    1.    1.    1.    1.    1.    1.    1.    1.    2.    2.
2.    2.    1.    1.    1.    1.    0.    0.
  50.  *    1.    1.    1.    2.    2.    1.    2.    2.    1.    2.    3.    3.
1.    1.    1.    0.    1.    0.    0.    0.
  60.  *    1.    1.    1.    2.    3.    2.    2.    3.    2.    2.    3.    3.
0.    1.    1.    0.    0.    0.    0.    0.
  70.  *    1.    0.    0.    3.    3.    2.    2.    3.    2.    2.    2.    2.
0.    1.    0.    0.    0.    0.    1.    0.
  80.  *    0.    0.    0.    3.    3.    2.    2.    2.    2.    2.    2.    2.
0.    1.    0.    0.    0.    0.    1.    1.
  90.  *    0.    0.    0.    2.    2.    2.    2.    2.    2.    2.    2.    2.
0.    1.    1.    0.    0.    0.    2.    1.
 100.  *    0.    0.    0.    2.    2.    2.    2.    2.    2.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 110.  *    0.    0.    0.    2.    2.    2.    2.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 120.  *    0.    0.    0.    2.    2.    2.    2.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 130.  *    0.    0.    0.    2.    2.    1.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 140.  *    0.    0.    0.    2.    2.    1.    1.    2.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 150.  *    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    1.
 160.  *    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 170.  *    0.    0.    0.    2.    2.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 180.  *    0.    0.    0.    2.    3.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    1.    2.
 190.  *    0.    0.    0.    2.    3.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    1.    2.
 200.  *    0.    0.    0.    2.    3.    2.    1.    1.    1.    1.    2.    2.
0.    0.    0.    0.    0.    0.    2.    2.
 210.  *    1.    1.    0.    2.    2.    2.    0.    1.    0.    1.    2.    2.
0.    1.    0.    0.    0.    0.    2.    2.
```

```
 220.  *    2.    2.    1.    1.    2.    1.    0.    0.    0.    0.    1.    1.
1.    2.    1.    1.    1.    0.    3.    3.
 230.  *    2.    3.    1.    1.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    1.    1.    3.    2.
 240.  *    3.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    2.    2.
 250.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    2.    1.
 260.  *    2.    3.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    1.    1.
 270.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    1.    1.
 280.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    1.    1.
 290.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    1.    2.    1.    1.    1.
 300.  *    2.    2.    2.    0.    1.    1.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    2.    1.    1.
 310.  *    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    2.    1.    2.    2.    1.    1.    0.
 320.  *    2.    2.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.
2.    2.    2.    2.    2.    1.    1.    0.
 330.  *    2.    2.    1.    0.    0.    0.    0.    1.    0.    0.    0.    0.
2.    2.    2.    1.    2.    1.    1.    0.
 340.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    1.    0.
 350.  *    2.    2.    2.    0.    0.    0.    1.    1.    0.    0.    0.    0.
2.    3.    2.    1.    2.    1.    1.    0.
 360.  *    2.    2.    2.    0.    0.    0.    1.    1.    1.    0.    0.    0.
3.    3.    2.    1.    2.    1.    1.    0.

------*------------------------------------------------------------------------------
-------------------------------------------
 MAX   *    3.    3.    2.    3.    3.    2.    2.    3.    2.    2.    3.    3.
3.    3.    2.    2.    2.    2.    3.    3.
 DEGR. *  240   240   250    70    70   180    60    70    70    60    60    60
20     0    10   300   300   300   230   220

♀
                              PAGE  4
      JOB: Winsor School                                          RUN: 2020 BD


       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-360.

 WIND  * CONCENTRATION
 ANGLE *      (ug/m**3)
 (DEGR)* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32
REC33 REC34 REC35 REC36 REC37 REC38 REC39

------*------------------------------------------------------------------------------
-------------------------------------
   0.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    0.    0.    0.
  10.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
```

```
1.    2.    2.    2.    0.    0.    0.
  20.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    2.    2.    1.
1.    2.    2.    2.    0.    0.    0.
  30.  *    0.    0.    0.    0.    0.    0.    0.    0.    2.    2.    1.    1.
1.    2.    2.    2.    1.    0.    1.
  40.  *    0.    0.    0.    0.    0.    1.    1.    0.    2.    2.    1.    1.
0.    2.    1.    2.    1.    1.    1.
  50.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    2.    1.    1.
0.    2.    1.    1.    2.    1.    2.
  60.  *    0.    0.    0.    0.    0.    1.    1.    1.    2.    1.    1.    0.
0.    2.    1.    1.    2.    1.    2.
  70.  *    0.    0.    0.    0.    1.    1.    1.    1.    1.    1.    1.    0.
0.    2.    1.    1.    3.    1.    3.
  80.  *    1.    1.    0.    1.    1.    2.    1.    1.    0.    0.    0.    0.
0.    1.    0.    0.    3.    2.    3.
  90.  *    1.    1.    0.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 100.  *    1.    1.    1.    1.    1.    2.    2.    2.    0.    0.    0.    0.
0.    1.    1.    0.    3.    2.    2.
 110.  *    1.    1.    1.    1.    1.    2.    1.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 120.  *    1.    1.    1.    1.    1.    1.    1.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 130.  *    1.    1.    1.    1.    1.    2.    1.    2.    0.    0.    0.    0.
0.    1.    1.    0.    2.    2.    2.
 140.  *    1.    1.    1.    1.    2.    2.    1.    2.    0.    0.    0.    0.
0.    0.    0.    0.    2.    1.    2.
 150.  *    1.    1.    1.    2.    2.    2.    1.    1.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 160.  *    1.    1.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 170.  *    1.    1.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 180.  *    1.    1.    1.    2.    2.    2.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    1.    2.
 190.  *    1.    1.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    2.    2.    2.
 200.  *    1.    1.    1.    1.    2.    3.    2.    2.    1.    0.    0.    1.
1.    0.    0.    0.    3.    1.    2.
 210.  *    2.    2.    2.    1.    2.    3.    3.    2.    1.    0.    0.    1.
0.    1.    0.    1.    2.    1.    2.
 220.  *    2.    2.    2.    1.    1.    2.    2.    1.    2.    1.    1.    1.
1.    2.    1.    2.    1.    0.    1.
 230.  *    3.    2.    2.    1.    0.    1.    1.    1.    3.    2.    1.    2.
1.    3.    1.    2.    0.    0.    1.
 240.  *    2.    2.    1.    0.    0.    0.    0.    0.    3.    2.    2.    2.
1.    3.    1.    3.    0.    0.    0.
 250.  *    1.    1.    1.    0.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 260.  *    1.    1.    1.    1.    1.    1.    0.    0.    2.    2.    2.    2.
1.    2.    2.    2.    0.    0.    0.
 270.  *    0.    1.    1.    1.    1.    1.    0.    0.    3.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 280.  *    0.    1.    1.    1.    1.    1.    0.    0.    2.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 290.  *    0.    1.    0.    1.    1.    1.    0.    0.    2.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 300.  *    0.    1.    0.    1.    1.    1.    0.    0.    2.    2.    2.    2.
2.    2.    1.    2.    0.    0.    0.
 310.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    1.    2.    2.
1.    2.    1.    2.    0.    0.    0.
 320.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    1.    2.    0.    0.    0.
```

```
 330.  *    0.    1.    0.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 340.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 350.  *    0.    1.    1.    0.    0.    0.    0.    0.    1.    1.    2.    1.
1.    2.    2.    2.    1.    1.    0.
 360.  *    0.    1.    1.    0.    0.    0.    0.    0.    2.    1.    2.    1.
1.    2.    2.    2.    0.    0.    0.

------*----------------------------------------------------------------------------
-------------------------------------
 MAX   *    3.    2.    2.    2.    2.    3.    3.    2.    3.    2.    2.    2.
2.    3.    2.    3.    3.    2.    3.
 DEGR. *  230   220   230   180   200   200   210   210   230   260   260   290
300   240   350   240    80   100    70

 THE HIGHEST CONCENTRATION OF      3. ug/m**3 OCCURRED AT RECEPTOR REC14.
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Microscale Results

Carbon Monoxide

Pollutant: Carbon Monoxide (CO) Garage 0.015 ppm
Concentrations: 1-Hour Final
Background (ppm) 3
Persistence Factor -

Intersection	Receptor		2010 Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Riverway at Longwood Ave	NE	1	4.2	4.1	4.1	3.9	3.9
	NE	2	4.3	4	4	4	4.0
	NE	3	4.9	4.6	4.6	4.6	4.6
	NE	4	5	4.8	4.7	4.6	4.6
	NE	5	5.2	4.8	4.7	4.7	4.7
	SE	1	4.3	4.2	4.2	4.1	4.1
	SE	2	4.3	4.1	4.1	4	4.0
	SE	3	4.4	4.3	4.3	4.1	4.1
	SE	4	4.4	4.3	4.3	4.3	4.3
	SE	5	3.8	3.8	3.8	3.7	3.8
	SW	1	3.8	3.7	3.7	3.7	3.7
	SW	2	4.1	4	4	4	4.0
	SW	3	4.4	4.3	4.3	4.2	4.3
	SW	4	4.6	4.2	4.3	4.2	4.3
	SW	5	4.5	4.3	4.4	4.2	4.3
	NW	1	4.6	4.4	4.4	4.4	4.4
	NW	2	4.7	4.4	4.4	4.4	4.4
	NW	3	4.7	4.7	4.7	4.5	4.6
	NW	4	4.6	4.5	4.5	4.4	4.4
	NW	5	4.2	4.2	4.2	4.1	4.1
Brookline Ave at Deaconess Road	NE	1	3.7	3.6	3.6	3.6	3.7
	NE	2	4	3.9	3.9	3.9	4.0
	NE	3	5.7	5.3	5.3	5.1	5.3
	NE	4	5.9	5.6	5.6	5.3	5.5
	NE	5	6.1	5.9	6	5.7	5.7
	SE	1	4.6	4.6	4.7	4.4	4.7
	SE	2	4.8	4.7	4.7	4.7	4.7
	SE	3	4.8	4.8	4.9	4.6	4.8
	SE	4	3.9	3.9	3.9	3.9	4.0
	SE	5	3.8	3.7	3.7	3.6	3.7
	SW	1	3.7	3.6	3.6	3.6	3.7
	SW	2	3.9	4	4.1	4	4.1
	SW	3	5.2	5	5	4.9	5.1
	SW	4	5.2	4.9	5	4.9	5.0
	SW	5	5	4.9	4.9	4.7	4.9
	NW	1	4.6	4.4	4.4	4.4	4.4
	NW	2	4.7	4.6	4.6	4.4	4.6
	NW	3	5.1	4.8	4.8	4.8	4.9
	NW	4	4.2	4.2	4.2	4.1	4.3
	NW	5	3.7	3.6	3.6	3.6	3.7

Brookline Ave at Joslin Place	NE	1	3.7	3.7	3.7	3.6	3.7
	NE	2	4	3.9	4	4	4.0
	NE	3	5.9	5.6	5.6	5.3	5.5
	NE	4	6.1	6	6	5.7	5.7
	NE	5	6.1	6	6	5.8	5.9
	S	1	4.9	4.8	4.9	4.8	4.9
	S	2	4.6	4.5	4.5	4.5	4.6
	S	3	4.8	4.8	4.8	4.5	4.7
	S	4	5.3	5.2	5.2	5.1	5.2
	S	5	5.2	4.9	4.9	4.9	5.0
	NW	1	3.7	3.7	3.7	3.6	3.7
	NW	2	4	3.9	4	4	4.0
	NW	3	5.7	5.6	5.6	5.3	5.5
	NW	4	5.9	6	6	5.7	5.7
	NW	5	6.1	6	6	5.8	5.9
Brookline Ave at Longwood Ave	NE	1	4	4.2	4.2	4.1	4.2
	NE	2	4.5	4.5	4.5	4.5	4.5
	NE	3	5.7	5.9	5.9	5.8	6.1
	NE	4	5.8	5.9	5.9	5.8	6.0
	NE	5	5.9	6.2	6.2	6	6.1
	SE	1	4.7	4.9	4.9	4.7	4.7
	SE	2	4.7	4.8	4.9	4.5	4.8
	SE	3	4.9	4.8	4.8	4.7	4.9
	SE	4	5	4.6	4.6	4.5	4.5
	SE	5	4.4	4.4	4.4	4.2	4.2
	SW	1	4.3	4.2	4.2	4.2	4.3
	SW	2	4.6	4.5	4.6	4.6	4.7
	SW	3	5.1	5	5.1	5	5.1
	SW	4	5.2	5.2	5.2	5.1	5.2
	SW	5	4.9	4.8	4.9	4.8	4.9
	NW	1	6.2	6	6	5.8	5.9
	NW	2	5.8	6	6.1	6	6.1
	NW	3	6	6.1	6.1	6.1	6.3
	NW	4	4.5	4.7	4.8	4.6	4.8
	NW	5	4.2	4.2	4.2	4.2	4.3
Binney Street at Longwood Ave	NE	1	4.3	4.3	4.3	4.2	4.2
	NE	2	3.9	3.8	3.9	3.8	3.9
	NE	3	3.9	3.8	3.8	3.8	3.9
	NE	4	3.8	3.6	3.6	3.6	3.6
	NE	5	3.5	3.5	3.5	3.5	3.5
	SE	1	3.6	3.4	3.4	3.4	3.5
	SE	2	4.1	4	4	3.9	3.9
	SE	3	4.1	4.1	4.1	4.1	4.1
	SE	4	4.2	3.9	3.9	3.8	3.8
	SE	5	3.7	3.7	3.7	3.6	3.6
	SW	1	3.7	3.5	3.5	3.5	3.6
	SW	2	3.9	3.7	3.8	3.8	3.9
	SW	3	4	3.9	3.9	3.9	4.0
	SW	4	3.9	3.8	3.8	3.8	3.9
	SW	5	3.8	3.5	3.5	3.5	3.6
	NW	1	3.7	3.5	3.6	3.5	3.5
	NW	2	3.6	3.6	3.6	3.6	3.6
	NW	3	4.1	3.9	3.9	3.9	3.9
	NW	4	4	3.9	4	3.9	4.1
	NW	5	4.2	4	4	3.9	3.9

Beth Israel Driveway at Brookline Ave	SE	1	4.7	4.6	4.7	4.5	4.8
	SE	2	4.7	4.6	4.6	4.4	5.0
	SE	3	4.8	4.8	4.8	4.8	5.4
	SE	4	4.2	4.2	4.2	4.2	4.6
	SE	5	3.8	3.9	3.9	3.8	4.0
	SW	1	3.7	3.7	3.7	3.7	3.8
	SW	2	4.2	4	4	4	4.1
	SW	3	4.9	4.7	4.8	4.7	5.5
	SW	4	5.1	4.8	4.9	4.8	5.4
	SW	5	5	5	5	5	5.4
	N	1	6	5.5	5.5	5.4	5.9
	N	2	5.8	5.4	5.4	5.3	5.9
	N	3	5.9	5.4	5.4	5.3	5.9
	N	4	5.7	5.3	5.3	5.1	5.6
	N	5	5.5	5.2	5.2	5.1	5.4
Short Street at Riverway	SE	1	4	3.8	3.8	3.8	3.8
	SE	2	4.1	4	3.8	3.9	3.9
	SE	3	4.3	4.1	4	4.1	4.1
	SE	4	3.9	3.8	3.6	3.8	3.8
	SE	5	3.6	3.5	3.4	3.4	3.5
	SW	1	3.5	3.5	3.4	3.5	3.5
	SW	2	4	3.8	3.6	3.7	3.8
	SW	3	4.1	4	3.9	4	4.0
	SW	4	4.1	4	4	3.9	3.9
	SW	5	4.2	4.1	4.1	4.1	4.1
	N	1	4.4	4.1	4.1	4.1	4.1
	N	2	4.2	4.1	4.1	4	4.0
	N	3	4.3	4.1	4.1	4.1	4.1
	N	4	4.5	4.4	4.3	4.2	4.3
	N	5	4.6	4.4	4.4	4.3	4.3
Riverway at Brookline Ave	NE	1	4.6	4.4	4.4	4.3	4.3
	NE	2	4.5	4.4	4.4	4.3	4.4
	NE	3	4.6	4.5	4.5	4.5	4.5
	NE	4	4.8	4.7	4.7	4.7	4.7
	NE	5	4.8	4.8	4.8	4.7	4.8
	SE	1	4.4	4.2	4.2	4.1	4.1
	SE	2	4.5	4.3	4.3	4.1	4.2
	SE	3	4.7	4.5	4.5	4.4	4.4
	SE	4	4.8	4.6	4.6	4.5	4.6
	SE	5	5	4.8	4.8	4.7	4.7
	SW	1	4.5	4.4	4.4	4.3	4.3
	SW	2	4.15	4.4	4.4	4.3	4.4
	SW	3	4.6	4.4	4.4	4.4	4.4
	SW	4	4.8	4.5	4.5	4.3	4.4
	SW	5	4.4	4.3	4.3	4.2	4.3
	NW	1	4.3	4.2	4.2	4.2	4.2
	NW	2	4.4	4.3	4.3	4.2	4.2
	NW	3	4.5	4.3	4.3	4.2	4.3
	NW	4	4.6	4.3	4.3	4.2	4.2
	NW	5	4.6	4.4	4.4	4.2	4.2

Fenway at Brookline Ave	E	1	5.2	5.3	5.3	5.1	5.1
	E	2	5.2	5.3	5.3	5.1	5.2
	E	3	4.5	4.5	4.5	4.4	4.4
	NE	1	5.5	5.1	5.1	5	5.0
	NE	2	5.6	5.2	5.2	5.1	5.2
	NE	3	4.9	4.7	4.7	4.5	4.6
	N	1	5.2	4.7	4.8	4.7	4.7
	N	2	5.5	5.1	5.1	4.9	5.0
	N	3	4.7	4.3	4.4	4.3	4.3
	NW	1	4.4	4.5	4.5	4.3	4.3
	NW	2	5	5.1	5.1	5	5.0
	NW	3	4.8	5.1	5.3	4.9	5.0
	SW	1	4.9	5.3	5.4	5.2	5.2
	SW	2	4.9	5.5	5.5	5.4	5.4
	SW	3	4.4	4.6	4.6	4.6	4.6
	S	1	4.2	4.4	4.4	4.3	4.3
	S	2	4.5	4.7	4.7	4.5	4.5
	S	3	4.2	4.1	4.2	4.1	4.1
Park Drive at Brookline Ave	NE	1	5.3	5	5	4.8	4.9
	NE	2	5.4	5	5.2	5	5.0
	NE	3	5.1	5.1	5.1	5	5.1
	NE	4	4.9	4.7	4.7	4.7	4.8
	NE	5	4.8	4.4	4.4	4.4	4.4
	E	1	4.3	4.2	4.2	4.1	4.1
	E	2	4.6	4.7	4.7	4.4	4.5
	E	3	5.4	5.2	5.1	5	5.1
	E	4	5	4.9	4.9	4.6	4.7
	E	5	5	4.4	4.5	4.4	4.5
	SE	1	5.7	5.5	5.5	5.3	5.3
	SE	2	4.9	4.6	4.7	4.6	4.6
	SE	3	4.7	4.4	4.4	4.3	4.3
	SE	4	5.2	4.5	4.5	4.5	4.5
	SE	5	4.7	4.3	4.4	4.2	4.2
	SW	1	5.3	5.4	5.4	5.3	5.3
	SW	2	5.2	4.3	4.3	4.2	4.3
	SW	3	5.1	5.2	5.2	5.1	5.1
	NW	1	5.5	5.1	5.2	5.1	5.1
	NW	2	4.5	4.2	4.2	4.2	4.2
	NW	3	5.4	5.2	5.2	5	5.1

Pollutant: Carbon Monoxide (CO) Garage 0.015 ppm

Concentrations: 8-Hour Final

Background (ppm) 2.1

Persistence Factor 0.7

Intersection	Receptor		2010 Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Riverway at	NE	1	2.9	2.9	2.9	2.7	2.7
Longwood Ave	NE	2	3.0	2.8	2.8	2.8	2.8
	NE	3	3.4	3.2	3.2	3.2	3.2
	NE	4	3.5	3.4	3.3	3.2	3.2
	NE	5	3.6	3.4	3.3	3.3	3.3
	SE	1	3.0	2.9	2.9	2.9	2.9
	SE	2	3.0	2.9	2.9	2.8	2.8
	SE	3	3.1	3.0	3.0	2.9	2.9
	SE	4	3.1	3.0	3.0	3.0	3.0
	SE	5	2.7	2.7	2.7	2.6	2.7
	SW	1	2.7	2.6	2.6	2.6	2.6
	SW	2	2.9	2.8	2.8	2.8	2.8
	SW	3	3.1	3.0	3.0	2.9	3.0
	SW	4	3.2	2.9	3.0	2.9	3.0
	SW	5	3.2	3.0	3.1	2.9	3.0
	NW	1	3.2	3.1	3.1	3.1	3.1
	NW	2	3.3	3.1	3.1	3.1	3.1
	NW	3	3.3	3.3	3.3	3.2	3.2
	NW	4	3.2	3.2	3.2	3.1	3.1
	NW	5	2.9	2.9	2.9	2.9	2.9
Brookline Ave at	NE	1	2.6	2.5	2.5	2.5	2.6
Deaconess Road	NE	2	2.8	2.7	2.7	2.7	2.8
	NE	3	4.0	3.7	3.7	3.6	3.7
	NE	4	4.1	3.9	3.9	3.7	3.9
	NE	5	4.3	4.1	4.2	4.0	4.0
	SE	1	3.2	3.2	3.3	3.1	3.3
	SE	2	3.4	3.3	3.3	3.3	3.3
	SE	3	3.4	3.4	3.4	3.2	3.4
	SE	4	2.7	2.7	2.7	2.7	2.8
	SE	5	2.7	2.6	2.6	2.5	2.6
	SW	1	2.6	2.5	2.5	2.5	2.6
	SW	2	2.7	2.8	2.9	2.8	2.9
	SW	3	3.6	3.5	3.5	3.4	3.6
	SW	4	3.6	3.4	3.5	3.4	3.5
	SW	5	3.5	3.4	3.4	3.3	3.4
	NW	1	3.2	3.1	3.1	3.1	3.1
	NW	2	3.3	3.2	3.2	3.1	3.2
	NW	3	3.6	3.4	3.4	3.4	3.4
	NW	4	2.9	2.9	2.9	2.9	3.0
	NW	5	2.6	2.5	2.5	2.5	2.6

Brookline Ave at Joslin Place	NE	1	2.6	2.6	2.6	2.5	2.6
	NE	2	2.8	2.7	2.8	2.8	2.8
	NE	3	4.1	3.9	3.9	3.7	3.9
	NE	4	4.3	4.2	4.2	4.0	4.0
	NE	5	4.3	4.2	4.2	4.1	4.1
	S	1	3.4	3.4	3.4	3.4	3.4
	S	2	3.2	3.2	3.2	3.2	3.2
	S	3	3.4	3.4	3.4	3.2	3.3
	S	4	3.7	3.6	3.6	3.6	3.7
	S	5	3.6	3.4	3.4	3.4	3.5
	NW	1	2.6	2.6	2.6	2.5	2.6
	NW	2	2.8	2.7	2.8	2.8	2.8
	NW	3	4.0	3.9	3.9	3.7	3.9
	NW	4	4.1	4.2	4.2	4.0	4.0
	NW	5	4.3	4.2	4.2	4.1	4.1
Brookline Ave at Longwood Ave	NE	1	2.8	2.9	2.9	2.9	3.0
	NE	2	3.2	3.2	3.2	3.2	3.2
	NE	3	4.0	4.1	4.1	4.1	4.3
	NE	4	4.1	4.1	4.1	4.1	4.2
	NE	5	4.1	4.3	4.3	4.2	4.3
	SE	1	3.3	3.4	3.4	3.3	3.3
	SE	2	3.3	3.4	3.4	3.2	3.4
	SE	3	3.4	3.4	3.4	3.3	3.4
	SE	4	3.5	3.2	3.2	3.2	3.2
	SE	5	3.1	3.1	3.1	2.9	3.0
	SW	1	3.0	2.9	2.9	2.9	3.0
	SW	2	3.2	3.2	3.2	3.2	3.3
	SW	3	3.6	3.5	3.6	3.5	3.6
	SW	4	3.6	3.6	3.6	3.6	3.7
	SW	5	3.4	3.4	3.4	3.4	3.4
	NW	1	4.3	4.2	4.2	4.1	4.1
	NW	2	4.1	4.2	4.3	4.2	4.3
	NW	3	4.2	4.3	4.3	4.3	4.4
	NW	4	3.2	3.3	3.4	3.2	3.4
	NW	5	2.9	2.9	2.9	2.9	3.0
Binney Street at Longwood Ave	NE	1	3.0	3.0	3.0	2.9	3.0
	NE	2	2.7	2.7	2.7	2.7	2.7
	NE	3	2.7	2.7	2.7	2.7	2.7
	NE	4	2.7	2.5	2.5	2.5	2.5
	NE	5	2.5	2.5	2.5	2.5	2.5
	SE	1	2.5	2.4	2.4	2.4	2.5
	SE	2	2.9	2.8	2.8	2.7	2.7
	SE	3	2.9	2.9	2.9	2.9	2.9
	SE	4	2.9	2.7	2.7	2.7	2.7
	SE	5	2.6	2.6	2.6	2.5	2.5
	SW	1	2.6	2.5	2.5	2.5	2.5
	SW	2	2.7	2.6	2.7	2.7	2.7
	SW	3	2.8	2.7	2.7	2.7	2.8
	SW	4	2.7	2.7	2.7	2.7	2.7
	SW	5	2.7	2.5	2.5	2.5	2.5
	NW	1	2.6	2.5	2.5	2.5	2.5
	NW	2	2.5	2.5	2.5	2.5	2.5
	NW	3	2.9	2.7	2.7	2.7	2.7
	NW	4	2.8	2.7	2.8	2.7	2.9
	NW	5	2.9	2.8	2.8	2.7	2.7

Beth Israel Driveway at Brookline Ave	SE	1	3.3	3.2	3.3	3.2	3.4
	SE	2	3.3	3.2	3.2	3.1	3.5
	SE	3	3.4	3.4	3.4	3.4	3.8
	SE	4	2.9	2.9	2.9	2.9	3.2
	SE	5	2.7	2.7	2.7	2.7	2.8
	SW	1	2.6	2.6	2.6	2.6	2.7
	SW	2	2.9	2.8	2.8	2.8	2.9
	SW	3	3.4	3.3	3.4	3.3	3.9
	SW	4	3.6	3.4	3.4	3.4	3.8
	SW	5	3.5	3.5	3.5	3.5	3.8
	N	1	4.2	3.9	3.9	3.8	4.1
	N	2	4.1	3.8	3.8	3.7	4.1
	N	3	4.1	3.8	3.8	3.7	4.1
	N	4	4.0	3.7	3.7	3.6	3.9
	N	5	3.9	3.6	3.6	3.6	3.8
Short Street at Riverway	SE	1	2.8	2.7	2.7	2.7	2.7
	SE	2	2.9	2.8	2.7	2.7	2.7
	SE	3	3.0	2.9	2.8	2.9	2.9
	SE	4	2.7	2.7	2.5	2.7	2.7
	SE	5	2.5	2.5	2.4	2.4	2.5
	SW	1	2.5	2.5	2.4	2.5	2.5
	SW	2	2.8	2.7	2.5	2.6	2.7
	SW	3	2.9	2.8	2.7	2.8	2.8
	SW	4	2.9	2.8	2.8	2.7	2.7
	SW	5	2.9	2.9	2.9	2.9	2.9
	N	1	3.1	2.9	2.9	2.9	2.9
	N	2	2.9	2.9	2.9	2.8	2.8
	N	3	3.0	2.9	2.9	2.9	2.9
	N	4	3.2	3.1	3.0	2.9	3.0
	N	5	3.2	3.1	3.1	3.0	3.0
Riverway at Brookline Ave	NE	1	3.2	3.1	3.1	3.0	3.0
	NE	2	3.2	3.1	3.1	3.0	3.1
	NE	3	3.2	3.2	3.2	3.2	3.2
	NE	4	3.4	3.3	3.3	3.3	3.3
	NE	5	3.4	3.4	3.4	3.3	3.4
	SE	1	3.1	2.9	2.9	2.9	2.9
	SE	2	3.2	3.0	3.0	2.9	3.0
	SE	3	3.3	3.2	3.2	3.1	3.1
	SE	4	3.4	3.2	3.2	3.2	3.2
	SE	5	3.5	3.4	3.4	3.3	3.3
	SW	1	3.2	3.1	3.1	3.0	3.0
	SW	2	2.9	3.1	3.1	3.0	3.1
	SW	3	3.2	3.1	3.1	3.1	3.1
	SW	4	3.4	3.2	3.2	3.0	3.1
	SW	5	3.1	3.0	3.0	2.9	3.0
	NW	1	3.0	2.9	2.9	2.9	3.0
	NW	2	3.1	3.0	3.0	2.9	3.0
	NW	3	3.2	3.0	3.0	2.9	3.0
	NW	4	3.2	3.0	3.0	2.9	3.0
	NW	5	3.2	3.1	3.1	2.9	3.0

Fenway at Brookline Ave	E	1	3.6	3.7	3.7	3.6	3.6
	E	2	3.6	3.7	3.7	3.6	3.7
	E	3	3.2	3.2	3.2	3.1	3.1
	NE	1	3.9	3.6	3.6	3.5	3.5
	NE	2	3.9	3.6	3.6	3.6	3.7
	NE	3	3.4	3.3	3.3	3.2	3.2
	N	1	3.6	3.3	3.4	3.3	3.3
	N	2	3.9	3.6	3.6	3.4	3.5
	N	3	3.3	3.0	3.1	3.0	3.0
	NW	1	3.1	3.2	3.2	3.0	3.0
	NW	2	3.5	3.6	3.6	3.5	3.5
	NW	3	3.4	3.6	3.7	3.4	3.5
	SW	1	3.4	3.7	3.8	3.6	3.7
	SW	2	3.4	3.9	3.9	3.8	3.8
	SW	3	3.1	3.2	3.2	3.2	3.2
	S	1	2.9	3.1	3.1	3.0	3.0
	S	2	3.2	3.3	3.3	3.2	3.2
	S	3	2.9	2.9	2.9	2.9	2.9
Park Drive at Brookline Ave	NE	1	3.7	3.5	3.5	3.4	3.4
	NE	2	3.8	3.5	3.6	3.5	3.5
	NE	3	3.6	3.6	3.6	3.5	3.6
	NE	4	3.4	3.3	3.3	3.3	3.4
	NE	5	3.4	3.1	3.1	3.1	3.1
	E	1	3.0	2.9	2.9	2.9	2.9
	E	2	3.2	3.3	3.3	3.1	3.2
	E	3	3.8	3.6	3.6	3.5	3.6
	E	4	3.5	3.4	3.4	3.2	3.3
	E	5	3.5	3.1	3.2	3.1	3.2
	SE	1	4.0	3.9	3.9	3.7	3.7
	SE	2	3.4	3.2	3.3	3.2	3.2
	SE	3	3.3	3.1	3.1	3.0	3.0
	SE	4	3.6	3.2	3.2	3.2	3.2
	SE	5	3.3	3.0	3.1	2.9	3.0
	SW	1	3.7	3.8	3.8	3.7	3.7
	SW	2	3.6	3.0	3.0	2.9	3.0
	SW	3	3.6	3.6	3.6	3.6	3.6
	NW	1	3.9	3.6	3.6	3.6	3.6
	NW	2	3.2	2.9	2.9	2.9	3.0
	NW	3	3.8	3.6	3.6	3.5	3.6

Particulate Matter 10 (PM_{10})

Pollutant: Particulate Matter 10 (PM10) Garage 0.042 ug/m3
Concentrations: 24-Hour Final
Background (ug/m3) 40
Persistence Factor 0.4

Intersection	Receptor		2010 Existing	2015 No Build	2015 No Build	2020 Build	2020 Build
Riverway at	NE	1	41.6	41.2	41.2	41.2	41.2
Longwood Ave	NE	2	41.6	41.2	41.6	41.2	41.6
	NE	3	42.4	42.0	41.6	41.6	41.6
	NE	4	42.4	42.0	42.0	42.0	42.0
	NE	5	42.4	42.0	42.0	42.0	42.0
	SE	1	42.0	41.6	41.6	41.6	41.6
	SE	2	42.0	41.6	41.6	41.6	41.6
	SE	3	42.0	41.6	41.6	41.6	41.6
	SE	4	41.6	41.6	41.6	41.6	41.6
	SE	5	41.2	40.8	40.8	40.8	40.8
	SW	1	41.2	40.8	40.8	40.8	40.8
	SW	2	41.2	41.2	41.2	41.2	41.2
	SW	3	42.0	41.6	41.6	41.6	41.6
	SW	4	42.0	41.6	41.6	41.6	41.6
	SW	5	42.0	41.6	41.6	41.6	41.6
	NW	1	42.0	41.6	41.6	41.6	41.6
	NW	2	42.4	42.0	42.0	42.0	42.0
	NW	3	42.4	42.4	42.0	42.0	42.0
	NW	4	42.0	41.6	41.6	41.6	41.6
	NW	5	41.6	41.2	41.2	41.2	41.2
Brookline Ave at	NE	1	40.8	40.8	40.8	40.8	40.8
Deaconess Road	NE	2	41.2	41.2	41.2	40.8	41.2
	NE	3	42.4	42.4	42.4	42.0	42.4
	NE	4	42.8	42.4	42.4	42.4	42.4
	NE	5	42.8	42.4	42.4	42.4	42.4
	SE	1	41.6	41.6	41.6	41.6	41.6
	SE	2	42.0	41.6	41.6	41.6	42.0
	SE	3	42.0	41.6	42.0	41.6	42.0
	SE	4	41.2	40.8	40.8	40.8	40.8
	SE	5	40.8	40.8	40.8	40.8	40.8
	SW	1	40.8	40.8	40.8	40.8	40.8
	SW	2	41.2	41.2	41.2	40.8	40.8
	SW	3	42.4	42.0	42.0	42.0	42.0
	SW	4	42.4	42.0	42.0	42.0	42.0
	SW	5	42.4	42.0	42.0	42.0	42.0
	NW	1	42.0	41.6	42.0	41.6	41.6
	NW	2	42.0	41.6	41.6	41.6	41.6
	NW	3	42.4	42.0	42.0	42.0	42.0
	NW	4	41.2	41.2	41.2	41.2	41.2
	NW	5	40.8	40.8	40.8	40.8	40.8

Brookline Ave at Joslin Place	NE	1	40.8	40.8	40.8	40.8	40.8
	NE	2	41.2	41.2	41.2	41.2	41.2
	NE	3	42.8	42.4	42.4	42.4	42.4
	NE	4	42.8	42.4	42.4	42.4	42.4
	NE	5	43.2	42.8	42.8	42.8	42.8
	S	1	42.0	42.0	42.0	42.0	42.0
	S	2	41.6	41.6	41.6	41.6	41.6
	S	3	42.0	42.0	42.0	41.6	42.0
	S	4	42.4	42.0	42.4	42.0	42.4
	S	5	42.4	42.0	42.0	42.0	42.0
	NW	1	40.8	40.8	40.8	40.8	40.8
	NW	2	41.2	41.2	41.2	41.2	41.2
	NW	3	42.4	42.4	42.4	42.4	42.4
	NW	4	42.8	42.4	42.4	42.4	42.4
	NW	5	42.8	42.8	42.8	42.8	42.8
Brookline Ave at Longwood Ave	NE	1	41.2	41.2	41.2	41.2	41.2
	NE	2	41.6	41.6	41.6	41.6	41.6
	NE	3	42.8	42.8	42.8	42.4	42.8
	NE	4	42.8	42.8	42.8	42.4	42.8
	NE	5	42.8	42.8	42.8	42.8	42.8
	SE	1	42.0	42.0	42.0	42.0	42.0
	SE	2	42.0	42.0	42.0	41.6	41.6
	SE	3	42.4	42.0	42.0	42.0	42.0
	SE	4	42.0	41.6	41.6	41.6	41.6
	SE	5	41.6	41.6	41.6	41.2	41.6
	SW	1	41.6	41.2	41.2	41.2	41.2
	SW	2	41.6	41.6	41.6	41.6	41.6
	SW	3	42.4	42.0	42.4	42.0	42.4
	SW	4	42.4	42.0	42.0	42.0	42.0
	SW	5	42.0	42.0	42.0	42.0	42.0
	NW	1	42.8	42.8	42.8	42.4	42.8
	NW	2	42.8	42.8	42.8	42.8	42.8
	NW	3	42.8	42.8	42.8	42.8	42.8
	NW	4	41.6	41.6	41.6	41.6	41.6
	NW	5	41.2	41.2	41.6	41.2	41.6
Binney Street at Longwood Ave	NE	1	41.6	41.6	41.6	41.2	41.6
	NE	2	41.2	41.2	41.2	41.2	41.2
	NE	3	41.2	41.2	41.2	40.8	41.2
	NE	4	40.8	40.8	40.8	40.8	40.8
	NE	5	40.8	40.8	40.8	40.8	40.8
	SE	1	40.8	40.8	40.8	40.8	40.8
	SE	2	41.2	40.8	40.8	40.8	40.8
	SE	3	41.6	41.2	41.2	41.2	41.2
	SE	4	41.6	41.2	41.2	41.2	41.2
	SE	5	41.2	40.8	40.8	40.8	40.8
	SW	1	41.2	40.8	40.8	40.8	40.8
	SW	2	41.2	41.2	41.2	41.2	41.2
	SW	3	41.6	41.2	41.2	41.2	41.2
	SW	4	41.2	41.2	41.2	40.8	41.2
	SW	5	40.8	40.8	40.8	40.8	40.8
	NW	1	40.8	40.8	40.8	40.4	40.8
	NW	2	40.8	40.8	40.8	40.8	40.8
	NW	3	41.2	41.2	41.2	41.2	41.2
	NW	4	41.2	41.2	41.2	41.2	41.2
	NW	5	41.2	41.2	41.2	41.2	41.2

Beth Israel Driveway at Brookline Ave	SE	1	42.0	41.6	42.0	42.0	42.0
	SE	2	41.6	41.6	41.6	41.6	42.0
	SE	3	42.0	42.0	42.0	42.0	42.4
	SE	4	41.2	41.2	41.2	41.2	41.2
	SE	5	40.8	40.8	40.8	40.8	40.8
	SW	1	40.8	40.8	40.8	40.8	40.8
	SW	2	41.2	40.8	40.8	40.8	40.8
	SW	3	42.0	42.0	42.0	41.6	42.4
	SW	4	42.0	42.0	42.0	41.6	42.0
	SW	5	42.0	42.0	42.0	42.0	42.4
	N	1	42.8	42.4	42.4	42.0	42.4
	N	2	42.4	42.0	42.0	42.0	42.8
	N	3	42.4	42.0	42.0	42.0	42.8
	N	4	42.4	42.4	42.4	42.0	42.4
	N	5	42.8	42.4	42.4	42.4	42.4
Short Street at Riverway	SE	1	41.6	41.2	41.2	41.2	41.2
	SE	2	41.6	41.2	41.2	41.2	41.2
	SE	3	41.6	41.2	41.2	41.2	41.2
	SE	4	40.8	40.8	40.8	40.8	40.8
	SE	5	40.8	40.4	40.4	40.4	40.4
	SW	1	40.8	40.4	40.4	40.4	40.8
	SW	2	41.2	40.8	40.8	40.8	40.8
	SW	3	41.6	41.2	41.2	41.2	41.2
	SW	4	41.6	41.2	41.2	41.2	41.2
	SW	5	41.6	41.2	41.2	41.2	41.2
	N	1	41.6	41.2	41.2	41.2	41.2
	N	2	41.6	41.2	41.2	41.2	41.2
	N	3	41.6	41.2	41.2	41.2	41.2
	N	4	41.6	41.6	41.6	41.6	41.6
	N	5	42.0	41.6	41.6	41.6	41.6
Riverway at Brookline Ave	NE	1	42.0	41.6	41.6	41.6	41.6
	NE	2	42.0	41.6	41.6	41.6	41.6
	NE	3	42.4	42.0	42.0	42.0	42.0
	NE	4	42.4	42.0	42.0	42.0	42.0
	NE	5	42.0	42.0	42.0	41.6	41.6
	SE	1	41.6	41.6	41.6	41.2	41.2
	SE	2	41.6	41.6	41.6	41.6	41.6
	SE	3	42.4	42.0	42.0	41.6	42.0
	SE	4	42.4	42.0	42.0	42.0	42.0
	SE	5	42.4	42.0	42.0	42.0	42.0
	SW	1	42.0	41.6	41.6	41.6	41.6
	SW	2	42.0	42.0	42.0	41.6	41.6
	SW	3	42.4	42.0	42.0	42.0	42.0
	SW	4	42.0	41.6	41.6	41.6	41.6
	SW	5	41.6	41.6	41.6	41.6	41.6
	NW	1	41.6	41.2	41.2	41.2	41.2
	NW	2	41.6	41.6	41.6	41.2	41.2
	NW	3	42.0	41.6	41.6	41.6	41.6
	NW	4	42.0	41.6	41.6	41.6	41.6
	NW	5	42.0	41.6	41.6	41.6	41.6

Fenway at Brookline Ave	E	1	42.4	42.4	42.4	42.0	42.4
	E	2	42.4	42.4	42.4	42.4	42.4
	E	3	41.6	41.6	41.6	41.6	41.6
	NE	1	42.8	42.4	42.4	42.4	42.4
	NE	2	42.8	42.4	42.4	42.4	42.4
	NE	3	42.0	41.6	42.0	41.6	41.6
	N	1	42.4	42.0	42.0	42.0	42.0
	N	2	42.8	42.4	42.4	42.4	42.4
	N	3	42.4	42.0	42.0	41.6	41.6
	NW	1	42.0	42.0	42.0	41.6	41.6
	NW	2	42.8	42.8	42.8	42.4	42.4
	NW	3	42.4	42.4	42.4	42.4	42.4
	SW	1	42.4	42.4	42.4	42.4	42.4
	SW	2	42.8	42.8	42.8	42.4	42.8
	SW	3	42.0	41.6	42.0	41.6	41.6
	S	1	41.6	41.6	41.6	41.2	41.2
	S	2	41.6	41.6	42.0	41.6	41.6
	S	3	41.2	41.2	41.2	41.2	41.2
Park Drive at Brookline Ave	NE	1	42.8	42.4	42.4	42.4	42.4
	NE	2	42.4	42.4	42.4	42.4	42.4
	NE	3	42.8	42.4	42.4	42.4	42.4
	NE	4	42.4	42.0	42.0	42.0	42.0
	NE	5	42.0	41.6	42.0	41.6	41.6
	E	1	41.6	41.2	41.2	41.2	41.2
	E	2	42.0	41.6	41.6	41.6	41.6
	E	3	43.2	42.8	42.8	42.4	42.4
	E	4	42.4	42.4	42.4	42.0	42.0
	E	5	42.4	41.6	42.0	41.6	42.0
	SE	1	42.8	42.4	42.4	42.4	42.4
	SE	2	42.4	42.0	42.0	41.6	42.0
	SE	3	42.0	41.6	41.6	41.6	41.6
	SE	4	42.4	41.6	41.6	41.6	41.6
	SE	5	42.0	41.6	41.6	41.2	41.6
	SW	1	42.4	42.4	42.4	42.4	42.4
	SW	2	42.4	41.6	41.6	41.6	41.6
	SW	3	42.4	42.4	42.4	42.4	42.4
	NW	1	43.2	42.4	42.8	42.4	42.4
	NW	2	42.0	41.6	41.6	41.6	41.6
	NW	3	43.2	42.4	42.4	42.4	42.4

Particulate Matter 2.5 ($PM_{2.5}$)

Pollutant: Particulate Matter 25 (PM25) Garage 0.022 ug/m3
Concentrations: 24-Hour Final
Background (ppm) 25.6
Persistence Factor 0.4

Intersection	Receptor		2010 Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Riverway at	NE	1	26.4	26.4	26.4	26.0	26.0
Longwood Ave	NE	2	26.4	26.4	26.4	26.4	26.4
	NE	3	26.8	26.4	26.4	26.4	26.4
	NE	4	26.8	26.4	26.4	26.4	26.4
	NE	5	27.2	26.8	26.8	26.4	26.4
	SE	1	26.8	26.4	26.4	26.4	26.4
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	26.4	26.4	26.4	26.4	26.4
	SE	5	26.4	26.0	26.0	26.0	26.0
	SW	1	26.4	26.0	26.0	26.0	26.0
	SW	2	26.4	26.4	26.0	26.0	26.0
	SW	3	26.8	26.4	26.4	26.4	26.4
	SW	4	26.8	26.4	26.4	26.4	26.4
	SW	5	26.8	26.4	26.4	26.4	26.4
	NW	1	26.8	26.4	26.4	26.4	26.4
	NW	2	26.8	26.4	26.4	26.4	26.4
	NW	3	27.2	26.8	26.8	26.4	26.4
	NW	4	26.8	26.4	26.4	26.4	26.4
	NW	5	26.4	26.4	26.4	26.4	26.4
Brookline Ave at	NE	1	26.0	26.0	26.0	26.0	26.0
Deaconess Road	NE	2	26.4	26.0	26.0	26.0	26.0
	NE	3	27.2	26.8	26.8	26.4	26.8
	NE	4	27.2	26.8	26.8	26.8	26.8
	NE	5	27.2	26.8	26.8	26.8	26.8
	SE	1	26.8	26.4	26.4	26.4	26.4
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	26.4	26.0	26.0	26.0	26.0
	SE	5	26.0	26.0	26.0	26.0	26.0
	SW	1	26.0	26.0	26.0	26.0	26.0
	SW	2	26.4	26.0	26.0	26.0	26.0
	SW	3	27.2	26.4	26.8	26.4	26.4
	SW	4	27.2	26.4	26.4	26.4	26.4
	SW	5	26.8	26.4	26.8	26.4	26.4
	NW	1	26.8	26.4	26.4	26.4	26.4
	NW	2	26.8	26.4	26.4	26.4	26.4
	NW	3	26.8	26.4	26.8	26.4	26.4
	NW	4	26.4	26.4	26.4	26.0	26.0
	NW	5	26.0	26.0	26.0	26.0	26.0

Brookline Ave at Joslin Place	NE	1	26.0	26.0	26.0	26.0	26.0
	NE	2	26.4	26.0	26.0	26.0	26.0
	NE	3	27.2	26.8	26.8	26.8	26.8
	NE	4	27.2	26.8	26.8	26.8	26.8
	NE	5	27.2	26.8	26.8	26.8	26.8
	S	1	26.8	26.4	26.4	26.4	26.4
	S	2	26.8	26.4	26.4	26.4	26.4
	S	3	26.8	26.4	26.4	26.4	26.4
	S	4	27.2	26.8	26.8	26.4	26.8
	S	5	27.2	26.4	26.4	26.4	26.4
	NW	1	26.0	26.0	26.0	26.0	26.0
	NW	2	26.4	26.0	26.0	26.0	26.0
	NW	3	27.2	26.8	26.8	26.8	26.8
	NW	4	27.2	26.8	26.8	26.8	26.8
	NW	5	27.2	26.8	26.8	26.8	26.8
Brookline Ave at Longwood Ave	NE	1	26.4	26.4	26.4	26.4	26.4
	NE	2	26.4	26.4	26.4	26.4	26.4
	NE	3	27.2	26.8	26.8	26.8	26.8
	NE	4	27.2	27.2	27.2	26.8	26.8
	NE	5	27.2	27.2	27.2	26.8	26.8
	SE	1	26.8	26.4	26.4	26.4	26.4
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	26.8	26.4	26.4	26.4	26.4
	SE	5	26.4	26.4	26.4	26.4	26.4
	SW	1	26.4	26.4	26.4	26.4	26.4
	SW	2	26.8	26.4	26.4	26.4	26.4
	SW	3	26.8	26.8	26.8	26.4	26.8
	SW	4	27.2	26.8	26.8	26.4	26.4
	SW	5	26.8	26.4	26.4	26.4	26.4
	NW	1	27.2	26.8	26.8	26.8	26.8
	NW	2	27.2	26.8	27.2	26.8	26.8
	NW	3	27.2	27.2	27.2	26.8	27.2
	NW	4	26.4	26.4	26.4	26.4	26.4
	NW	5	26.4	26.4	26.4	26.4	26.4
Binney Street at Longwood Ave	NE	1	26.4	26.4	26.4	26.4	26.4
	NE	2	26.4	26.4	26.4	26.0	26.0
	NE	3	26.4	26.0	26.0	26.0	26.0
	NE	4	26.0	26.0	26.0	26.0	26.0
	NE	5	26.0	26.0	26.0	26.0	26.0
	SE	1	26.0	26.0	26.0	26.0	26.0
	SE	2	26.4	26.0	26.0	26.0	26.0
	SE	3	26.4	26.0	26.4	26.0	26.0
	SE	4	26.4	26.0	26.0	26.0	26.0
	SE	5	26.4	26.0	26.0	26.0	26.0
	SW	1	26.0	26.0	26.0	26.0	26.0
	SW	2	26.4	26.0	26.0	26.0	26.0
	SW	3	26.4	26.4	26.4	26.0	26.0
	SW	4	26.4	26.0	26.0	26.0	26.0
	SW	5	26.0	26.0	26.0	26.0	26.0
	NW	1	26.0	26.0	26.0	26.0	26.0
	NW	2	26.0	26.0	26.0	26.0	26.0
	NW	3	26.4	26.0	26.0	26.0	26.0
	NW	4	26.4	26.0	26.0	26.0	26.0
	NW	5	26.4	26.4	26.4	26.0	26.4

Beth Israel Driveway at Brookline Ave	SE	1	26.8	26.4	26.4	26.4	26.4
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.8
	SE	4	26.4	26.4	26.4	26.0	26.4
	SE	5	26.0	26.0	26.0	26.0	26.0
	SW	1	26.0	26.0	26.0	26.0	26.0
	SW	2	26.4	26.0	26.0	26.0	26.0
	SW	3	26.8	26.4	26.4	26.4	26.8
	SW	4	26.8	26.4	26.4	26.4	26.8
	SW	5	26.8	26.4	26.8	26.4	26.8
	N	1	27.2	26.8	26.8	26.8	26.8
	N	2	27.2	26.8	26.8	26.4	26.8
	N	3	27.2	26.8	26.8	26.4	26.8
	N	4	27.2	26.8	26.8	26.4	26.8
	N	5	27.2	26.8	26.8	26.8	26.8
Short Street at Riverway	SE	1	26.4	26.0	26.0	26.0	26.0
	SE	2	26.4	26.4	26.4	26.0	26.0
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	26.4	26.0	26.0	26.0	26.0
	SE	5	26.0	26.0	26.0	26.0	26.0
	SW	1	26.0	26.0	26.0	26.0	26.0
	SW	2	26.4	26.0	26.0	26.0	26.0
	SW	3	26.4	26.4	26.4	26.0	26.0
	SW	4	26.4	26.4	26.4	26.4	26.4
	SW	5	26.4	26.4	26.4	26.4	26.4
	N	1	26.8	26.4	26.4	26.4	26.4
	N	2	26.4	26.4	26.4	26.4	26.4
	N	3	26.4	26.4	26.4	26.4	26.4
	N	4	26.8	26.4	26.4	26.4	26.4
	N	5	26.8	26.4	26.4	26.4	26.4
Riverway at Brookline Ave	NE	1	26.8	26.4	26.4	26.4	26.4
	NE	2	26.8	26.4	26.4	26.4	26.4
	NE	3	27.2	26.8	26.8	26.4	26.4
	NE	4	26.8	26.8	26.8	26.4	26.4
	NE	5	26.8	26.4	26.4	26.4	26.4
	SE	1	26.4	26.4	26.4	26.4	26.4
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	27.2	26.8	26.8	26.4	26.4
	SE	5	27.2	26.8	26.8	26.4	26.4
	SW	1	26.8	26.4	26.4	26.4	26.4
	SW	2	26.8	26.4	26.4	26.4	26.4
	SW	3	27.2	26.8	26.8	26.4	26.4
	SW	4	26.8	26.4	26.4	26.4	26.4
	SW	5	26.8	26.4	26.4	26.4	26.4
	NW	1	26.4	26.4	26.4	26.4	26.4
	NW	2	26.4	26.4	26.4	26.4	26.4
	NW	3	26.8	26.4	26.4	26.4	26.4
	NW	4	26.8	26.4	26.4	26.4	26.4
	NW	5	26.8	26.4	26.4	26.4	26.4

Fenway at Brookline Ave	E	1	27.2	26.8	26.8	26.8	26.8
	E	2	27.2	26.8	26.8	26.8	26.8
	E	3	26.4	26.4	26.4	26.4	26.4
	NE	1	27.2	26.8	26.8	26.8	26.8
	NE	2	27.2	26.8	26.8	26.8	26.8
	NE	3	26.8	26.4	26.4	26.4	26.4
	N	1	27.2	26.8	26.8	26.4	26.4
	N	2	27.2	26.8	26.8	26.8	26.8
	N	3	26.8	26.4	26.4	26.4	26.4
	NW	1	26.8	26.4	26.4	26.4	26.4
	NW	2	27.2	26.8	26.8	26.8	26.8
	NW	3	27.2	26.8	26.8	26.8	26.8
	SW	1	26.8	26.8	26.8	26.8	26.8
	SW	2	27.2	27.2	27.2	26.8	26.8
	SW	3	26.8	26.4	26.4	26.4	26.4
	S	1	26.4	26.4	26.4	26.4	26.4
	S	2	26.8	26.4	26.4	26.4	26.4
	S	3	26.4	26.4	26.4	26.0	26.4
Park Drive at Brookline Ave	NE	1	27.2	26.8	26.8	26.8	26.8
	NE	2	27.2	26.8	26.8	26.8	26.8
	NE	3	27.2	26.8	26.8	26.8	26.8
	NE	4	26.8	26.4	26.8	26.4	26.4
	NE	5	26.8	26.4	26.4	26.4	26.4
	E	1	26.8	26.4	26.4	26.4	26.4
	E	2	26.8	26.4	26.4	26.4	26.4
	E	3	27.2	26.8	26.8	26.8	26.8
	E	4	27.2	26.8	26.8	26.4	26.8
	E	5	26.8	26.4	26.4	26.4	26.4
	SE	1	27.2	26.8	26.8	26.8	26.8
	SE	2	26.8	26.4	26.4	26.4	26.4
	SE	3	26.8	26.4	26.4	26.4	26.4
	SE	4	26.8	26.4	26.4	26.4	26.4
	SE	5	26.8	26.4	26.4	26.4	26.4
	SW	1	27.2	26.8	26.8	26.8	26.8
	SW	2	27.2	26.4	26.4	26.4	26.4
	SW	3	27.2	26.8	26.8	26.8	26.8
	NW	1	27.6	26.8	26.8	26.8	26.8
	NW	2	26.8	26.4	26.4	26.4	26.4
	NW	3	27.6	26.8	26.8	26.8	26.8

Pollutant: Particulate Matter 25 (PM25) Garage 0.004 ug/m3
Concentrations: Annual Final
Background (ppm) 10.6
Persistence Factor 0.08

Intersection	Receptor		2010 Existing	2015 No Build	2015 Build	2020 No Build	2020 Build
Riverway at	NE	1	10.8	10.8	10.8	10.7	10.7
Longwood Ave	NE	2	10.8	10.8	10.8	10.8	10.8
	NE	3	10.8	10.8	10.8	10.8	10.8
	NE	4	10.8	10.8	10.8	10.8	10.8
	NE	5	10.9	10.8	10.8	10.8	10.8
	SE	1	10.8	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.8	10.8	10.8	10.8
	SE	5	10.8	10.7	10.7	10.7	10.7
	SW	1	10.8	10.7	10.7	10.7	10.7
	SW	2	10.8	10.8	10.7	10.7	10.7
	SW	3	10.8	10.8	10.8	10.8	10.8
	SW	4	10.8	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	NW	1	10.8	10.8	10.8	10.8	10.8
	NW	2	10.8	10.8	10.8	10.8	10.8
	NW	3	10.9	10.8	10.8	10.8	10.8
	NW	4	10.8	10.8	10.8	10.8	10.8
	NW	5	10.8	10.8	10.8	10.8	10.8
Brookline Ave at	NE	1	10.7	10.7	10.7	10.7	10.7
Deaconess Road	NE	2	10.8	10.7	10.7	10.7	10.7
	NE	3	10.9	10.8	10.8	10.8	10.8
	NE	4	10.9	10.8	10.8	10.8	10.8
	NE	5	10.9	10.8	10.8	10.8	10.8
	SE	1	10.8	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.7	10.7	10.7	10.7
	SE	5	10.7	10.7	10.7	10.7	10.7
	SW	1	10.7	10.7	10.7	10.7	10.7
	SW	2	10.8	10.7	10.7	10.7	10.7
	SW	3	10.9	10.8	10.8	10.8	10.8
	SW	4	10.9	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	NW	1	10.8	10.8	10.8	10.8	10.8
	NW	2	10.8	10.8	10.8	10.8	10.8
	NW	3	10.8	10.8	10.8	10.8	10.8
	NW	4	10.8	10.8	10.8	10.7	10.7
	NW	5	10.7	10.7	10.7	10.7	10.7

Brookline Ave at Joslin Place	NE	1	10.7	10.7	10.7	10.7	10.7
	NE	2	10.8	10.7	10.7	10.7	10.7
	NE	3	10.9	10.8	10.8	10.8	10.8
	NE	4	10.9	10.8	10.8	10.8	10.8
	NE	5	10.9	10.8	10.8	10.8	10.8
	S	1	10.8	10.8	10.8	10.8	10.8
	S	2	10.8	10.8	10.8	10.8	10.8
	S	3	10.8	10.8	10.8	10.8	10.8
	S	4	10.9	10.8	10.8	10.8	10.8
	S	5	10.9	10.8	10.8	10.8	10.8
	NW	1	10.7	10.7	10.7	10.7	10.7
	NW	2	10.8	10.7	10.7	10.7	10.7
	NW	3	10.9	10.8	10.8	10.8	10.8
	NW	4	10.9	10.8	10.8	10.8	10.8
	NW	5	10.9	10.8	10.8	10.8	10.8
Brookline Ave at Longwood Ave	NE	1	10.8	10.8	10.8	10.8	10.8
	NE	2	10.8	10.8	10.8	10.8	10.8
	NE	3	10.9	10.8	10.8	10.8	10.8
	NE	4	10.9	10.9	10.9	10.8	10.8
	NE	5	10.9	10.9	10.9	10.8	10.8
	SE	1	10.8	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.8	10.8	10.8	10.8
	SE	5	10.8	10.8	10.8	10.8	10.8
	SW	1	10.8	10.8	10.8	10.8	10.8
	SW	2	10.8	10.8	10.8	10.8	10.8
	SW	3	10.8	10.8	10.8	10.8	10.8
	SW	4	10.9	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	NW	1	10.9	10.8	10.8	10.8	10.8
	NW	2	10.9	10.8	10.9	10.8	10.8
	NW	3	10.9	10.9	10.9	10.8	10.9
	NW	4	10.8	10.8	10.8	10.8	10.8
	NW	5	10.8	10.8	10.8	10.8	10.8
Binney Street at Longwood Ave	NE	1	10.8	10.8	10.8	10.8	10.8
	NE	2	10.8	10.8	10.8	10.7	10.7
	NE	3	10.8	10.7	10.7	10.7	10.7
	NE	4	10.7	10.7	10.7	10.7	10.7
	NE	5	10.7	10.7	10.7	10.7	10.7
	SE	1	10.7	10.7	10.7	10.7	10.7
	SE	2	10.8	10.7	10.7	10.7	10.7
	SE	3	10.8	10.7	10.8	10.7	10.7
	SE	4	10.8	10.7	10.7	10.7	10.7
	SE	5	10.8	10.7	10.7	10.7	10.7
	SW	1	10.7	10.7	10.7	10.7	10.7
	SW	2	10.8	10.7	10.7	10.7	10.7
	SW	3	10.8	10.8	10.8	10.7	10.7
	SW	4	10.8	10.7	10.7	10.7	10.7
	SW	5	10.7	10.7	10.7	10.7	10.7
	NW	1	10.7	10.7	10.7	10.7	10.7
	NW	2	10.7	10.7	10.7	10.7	10.7
	NW	3	10.8	10.7	10.7	10.7	10.7
	NW	4	10.8	10.7	10.7	10.7	10.7
	NW	5	10.8	10.8	10.8	10.7	10.8

Beth Israel Driveway at Brookline Ave	SE	1	10.8	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.8	10.8	10.7	10.8
	SE	5	10.7	10.7	10.7	10.7	10.7
	SW	1	10.7	10.7	10.7	10.7	10.7
	SW	2	10.8	10.7	10.7	10.7	10.7
	SW	3	10.8	10.8	10.8	10.8	10.8
	SW	4	10.8	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	N	1	10.9	10.8	10.8	10.8	10.8
	N	2	10.9	10.8	10.8	10.8	10.8
	N	3	10.9	10.8	10.8	10.8	10.8
	N	4	10.9	10.8	10.8	10.8	10.8
	N	5	10.9	10.8	10.8	10.8	10.8
Short Street at Riverway	SE	1	10.8	10.7	10.7	10.7	10.7
	SE	2	10.8	10.8	10.8	10.7	10.7
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.7	10.7	10.7	10.7
	SE	5	10.7	10.7	10.7	10.7	10.7
	SW	1	10.7	10.7	10.7	10.7	10.7
	SW	2	10.8	10.7	10.7	10.7	10.7
	SW	3	10.8	10.8	10.8	10.7	10.7
	SW	4	10.8	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	N	1	10.8	10.8	10.8	10.8	10.8
	N	2	10.8	10.8	10.8	10.8	10.8
	N	3	10.8	10.8	10.8	10.8	10.8
	N	4	10.8	10.8	10.8	10.8	10.8
	N	5	10.8	10.8	10.8	10.8	10.8
Riverway at Brookline Ave	NE	1	10.8	10.8	10.8	10.8	10.8
	NE	2	10.8	10.8	10.8	10.8	10.8
	NE	3	10.9	10.8	10.8	10.8	10.8
	NE	4	10.8	10.8	10.8	10.8	10.8
	NE	5	10.8	10.8	10.8	10.8	10.8
	SE	1	10.8	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.9	10.8	10.8	10.8	10.8
	SE	5	10.9	10.8	10.8	10.8	10.8
	SW	1	10.8	10.8	10.8	10.8	10.8
	SW	2	10.8	10.8	10.8	10.8	10.8
	SW	3	10.9	10.8	10.8	10.8	10.8
	SW	4	10.8	10.8	10.8	10.8	10.8
	SW	5	10.8	10.8	10.8	10.8	10.8
	NW	1	10.8	10.8	10.8	10.8	10.8
	NW	2	10.8	10.8	10.8	10.8	10.8
	NW	3	10.8	10.8	10.8	10.8	10.8
	NW	4	10.8	10.8	10.8	10.8	10.8
	NW	5	10.8	10.8	10.8	10.8	10.8

Fenway at Brookline Ave	E	1	10.9	10.8	10.8	10.8	10.8
	E	2	10.9	10.8	10.8	10.8	10.8
	E	3	10.8	10.8	10.8	10.8	10.8
	NE	1	10.9	10.8	10.8	10.8	10.8
	NE	2	10.9	10.8	10.8	10.8	10.8
	NE	3	10.8	10.8	10.8	10.8	10.8
	N	1	10.9	10.8	10.8	10.8	10.8
	N	2	10.9	10.8	10.8	10.8	10.8
	N	3	10.8	10.8	10.8	10.8	10.8
	NW	1	10.8	10.8	10.8	10.8	10.8
	NW	2	10.9	10.8	10.8	10.8	10.8
	NW	3	10.9	10.8	10.8	10.8	10.8
	SW	1	10.8	10.8	10.8	10.8	10.8
	SW	2	10.9	10.9	10.9	10.8	10.8
	SW	3	10.8	10.8	10.8	10.8	10.8
	S	1	10.8	10.8	10.8	10.8	10.8
	S	2	10.8	10.8	10.8	10.8	10.8
	S	3	10.8	10.8	10.8	10.7	10.8
Park Drive at Brookline Ave	NE	1	10.9	10.8	10.8	10.8	10.8
	NE	2	10.9	10.8	10.8	10.8	10.8
	NE	3	10.9	10.8	10.8	10.8	10.8
	NE	4	10.8	10.8	10.8	10.8	10.8
	NE	5	10.8	10.8	10.8	10.8	10.8
	E	1	10.8	10.8	10.8	10.8	10.8
	E	2	10.8	10.8	10.8	10.8	10.8
	E	3	10.9	10.8	10.8	10.8	10.8
	E	4	10.9	10.8	10.8	10.8	10.8
	E	5	10.8	10.8	10.8	10.8	10.8
	SE	1	10.9	10.8	10.8	10.8	10.8
	SE	2	10.8	10.8	10.8	10.8	10.8
	SE	3	10.8	10.8	10.8	10.8	10.8
	SE	4	10.8	10.8	10.8	10.8	10.8
	SE	5	10.8	10.8	10.8	10.8	10.8
	SW	1	10.9	10.8	10.8	10.8	10.8
	SW	2	10.9	10.8	10.8	10.8	10.8
	SW	3	10.9	10.8	10.8	10.8	10.8
	NW	1	11.0	10.8	10.8	10.8	10.8
	NW	2	10.8	10.8	10.8	10.8	10.8
	NW	3	11.0	10.8	10.8	10.8	10.8

Noise Analysis

- **Noise Monitoring Data Summary**
- **Sound Level Calculations**

Noise Monitoring Data Summary

Vanasse Hangen Brustlin, Inc.
Transportation | Land Development | Environmental Services

101 Walnut Street
Post Office Box 9151
Watertown, Massachusetts 02471
Phone (617) 924-1770
Fax (617) 924-2286

Noise Monitoring Data Sheet

Notes Taken By: T. Wholley

Date: January 18, 2011

Weather:

Project Number: 11167.00

Location: Riverway - Wheelock College Residence Hall
Boston, MA

Start Time: 1:30 AM

Noise Monitor: Larson Davis 824

Duration: 6 min.

What is the name of the data run? Run 1

Measured Leq **58.7** **dBA**

Sketch

Traffic Data	Volume	Speed
Automobiles		
Medium Trucks		
Heavy Trucks		

Notes:

What was the angle of exposure to the highway? ____________

Were there any objects blocking the highway noise sources? (Such as buildings or hills) ____________

Were there other roadway or highway noise sources nearby? ____________

Riverway

Were there significant other non-highway noise sources? ____________

Surrounding building mechanical equipment

Vanasse Hangen Brustlin, Inc.
Transportation | Land Development | Environmental Services

101 Walnut Street
Post Office Box 9151
Watertown, Massachusetts 02471
Phone (617) 924-1770
Fax (617) 924-2286

Noise Monitoring Data Sheet

Notes Taken By: T. Wholley

Date: January 18, 2011

Weather:

Project Number: 11167.00

Location: Longwood Avenue at Brookline Avenue
Boston, MA

Start Time: 1:40 AM

Noise Monitor: Larson Davis 824

Duration: 6 min.

What is the name of the data run? Run 2

Measured Leq **62.5** **dBA**

Traffic Data	Volume	Speed
Automobiles		
Medium Trucks		
Heavy Trucks		

Sketch

Notes:

What was the angle of exposure to the highway?

Were there any objects blocking the highway noise sources? (Such as buildings or hills)

Were there other roadway or highway noise sources nearby?
Brookline Avenue

Were there significant other non-highway noise sources?
Mechanical equipment from surrounding buildings

Vanasse Hangen Brustlin, Inc.
Transportation | Land Development | Environmental Services

101 Walnut Street
Post Office Box 9151
Watertown, Massachusetts 02471
Phone (617) 924-1770
Fax (617) 924-2286

Noise Monitoring Data Sheet

Notes Taken By: T. Wholley

Date: January 18, 2011

Weather:

Project Number: 11167.00

Location: Brookline Avenue - Simmons College Residences
Boston, MA

Start Time: 1:50 AM

Noise Monitor: Larson Davis 824

Duration: 6 min.

What is the name of the data run? Run 3

Measured Leq **69.7** **dBA**

Sketch

Traffic Data	Volume	Speed
Automobiles		
Medium Trucks		
Heavy Trucks		

Notes:

What was the angle of exposure to the highway?

Were there any objects blocking the highway noise sources? (Such as buildings or hills)

Were there other roadway or highway noise sources nearby?

Brookline Avenue

Were there significant other non-highway noise sources?

Surrounding building mechanical equipment

Sound Level Calculations

Monitoring Data - Ambient Sound Levels (dBA)				
Station		MD1	MD2	MD3
Description		Riveray	Longwood Avenue	Brookline Avenue
Existing Sound Levels	L90	44.1	59.9	58.9

Receptor Descriptions

	REC1	REC2	REC3	REC4	REC5
Description	Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
Nearest Reference [#]	2	1	3	2	2

Noise Source Descriptions

		NS1	NS2
	Noise Source Descriptions	Center for the Perfomring Arts	R&D Laboratory
Noise Sources			
Unit 1	Source Description		
	Noise Level [dBA]	66	73
	Reference distance [ft]	50	50
	# units [#]	1	1
	Noise Source Level Attenuation [-dBA]		
		66	73
	Total Noise Source Sound Level [dBA]	**66**	**73**
	Reference distance [ft]	**50**	**50**

Ground Type Between Receptors and Noise Sources

		REC1	REC2	REC3	REC4	REC5
		Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
NS1	Center for the Perfomring	H	H	H	H	H
NS2	R&D Laboratory	H	H	H	H	H

Distances from RECEPTOR TO NOISE SOURCE (in feet)

		REC1	REC2	REC3	REC4	REC5
		Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
NS1	Center for the Perfomring	675	275	550	350	625
NS2	R&D Laboratory	300	725	1050	400	125

Receptor Level Attenuation

		REC1	REC2	REC3	REC4	REC5
		Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
NS1	Center for the Perfomring	-10	-10	-10	-30	-30
NS2	R&D Laboratory	-10	-10	-10	-30	-30

Noise Propogation Calculator

		REC1	REC2	REC3	REC4	REC5
		Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
NS1	Center for the Perfomring	33	41	35	19	14
NS2	R&D Laboratory	47	40	37	25	35
	TOTAL	**48**	**44**	**39**	**26**	**35**

Resultant Noise Levels at Receptor Locations [dBA]					
	REC1	REC2	REC3	REC4	REC5
Description	Longwood Galleria Apartments	Wheelock College Residence Hall	Simmons College Residence Campus	Beth Israel Deaconess Medical Center - East Campus	Longwood Center
Noise Monitoring Data [dBA]	59.9	44.1	58.9	59.9	59.9
Noise Source [dBA]	47.6	43.6	38.9	26.2	35.1
Calculated Noise Level [dBA]	60.1	46.8	58.9	59.9	59.9
Difference	0.2	2.7	0.0	0.0	0.0

Vanasse Hangen Brustlin, Inc.