FORT POINT ASSOCIATES, INC.
33 Union Street, 3rd floor . Boston, MA 02108

New Street Development

East Boston, Massachusetts

DRAFT ENVIRONMENTAL IMPACT REPORT
DRAFT PROJECT IMPACT REPORT

June 16, 2008



submitted to:
Boston Redevelopment Authority

Executive Office of Energy and Environmental Affairs
MEPA Office

submitted by:
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June 16, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn. MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: ***Notice of Project Change***
New Street Development
EEA #14102

Dear Secretary Bowles:

On behalf of New Street Realty Trust ("the proponent") and pursuant to 301 CMR 11.10(1), I am submitting this Notice of Project Change (NPC) in conjunction with a Draft Environmental Impact Report for the New Street Development Project. The proponent is proposing to redevelop the approximately 3.93 acre property located at 6-26 New Street along the East Boston waterfront on Boston Inner Harbor.

The proponent filed an Expanded Environmental Notification Form (EENF) on September 17, 2007. At that time, the project included the redevelopment of the existing 9-story building for residential uses with three added residential floors and a 2-level parking garage to the north side of the 9-story building, and the demolition of the 1, 3, and 5-story buildings. It also included the construction of a new 6-story building for either residential use or for a hotel or extended stay use with a 2-level parking facility below the new building. Other site features included ground-floor facilities of public accommodation, on-site parking, a marina, and substantial public access and open space to and along Boston Inner Harbor including a new, permanent Harborwalk and a water taxi landing and waiting area. A Phase One waiver was granted for the redevelopment of portions of the site.

Based upon a review of the project under the City of Boston's Article 80 process, it was recommended that consideration be given to alternative building massing, including a modest increase in height of the main building. As a result, the proponent has reexamined the building massing and now proposes several changes to the plans.

The proposed project change includes an additional three stories above the main building (for a total of fifteen stories), an additional parking level in the same footprint of the proposed parking garage for a total of three parking levels, and a reduction in one floor of underground parking

under the 6-story building. The added residential floors are entirely outside of Chapter 91 jurisdiction, while the changes in parking configurations are partially within jurisdiction and compliant with Chapter 91.

These project changes will result in dimensional changes, including an increase in height from 12 to 15 stories on the main building (16% increase), an increase in the number of units from 210 to 238 (13.3% increase), and an increase from 225,919 gross square feet (gsf) to 264,298 gsf, (17% increase). The range of parking spaces will change from 149 to 225 in the EENF to a range of 174 to 203 in the current plan.

However, impacts to the environment from this project change will be quite modest. The main building height increase occurs entirely outside of Chapter 91 jurisdiction. A portion of the additional parking deck will be in Chapter 91 jurisdiction, but remains well below the allowable height and within allowable setback limits.. Sewer discharge from the project will increase to 36,610 gallons per day, an increase of only 13.3% to a system with more than adequate capacity to handle the increased flows. Traffic impacts are expected to result in an increase in vehicle trips of less than 8%, with no change in the projected level of service at existing intersections. A summary of unadjusted average daily vehicle trips is found below.

Development Alternative	**ENF**	**DEIR**	**% Change**
All Residential	2,225	2,390	7.4%
Residential/Hotel	2,698	2,907	7.7%

Note: Original ENF numbers did not include the marina trips. These trips (479) have been added into the ENF trips.

The proposed changes, the associated impacts and proposed mitigation are addressed in detail within the Draft Environmental Impact Report. There are no new areas of impact or new permits required as a result of the change. Based on the above, I request that the Secretary determine that the proposed project changes are insignificant in terms of environmental consequences and that the Phase One waiver approval may remain in effect as is.

We look forward to continuing to work with your office on this exciting project that contributes to revitalizing the area of East Boston along Boston Inner Harbor. If you have any questions or need additional information, please do not hesitate to contact me at 617-357-7044.

Sincerely,

Jamie M. Fay
President

Cc: B. Ohanian, New Street Realty Trust
E. Nardi, Cresset Development LLC
Jamy Madeja, Esq.

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Chapter 1

Project Description

1.0 PROJECT DESCRIPTION

1.1 PROJECT CONTEXT

New Street Realty Trust ("the proponent") is proposing to redevelop the approximately 3.93-acre property ("the site") located along the East Boston waterfront on Boston Inner Harbor. The project is bound by New Street and the newly redeveloped Maverick Landing residential area to the east, the city-owned LoPresti Park to the south (formerly part of the New Street project site), Boston Inner Harbor to the west, and the Boston Towing and Transportation property to the north (see Figure 1-1, Locus Plan). The project is located near East Boston's Maverick Square and the MBTA Blue Line's Maverick Transit Station.

1.1.1 PROJECT SETTING

The project site occupies a prime location on Boston Harbor directly adjacent to LoPresti Park, with panoramic views of the downtown Boston skyline and Charlestown. Yet the site has remained underutilized for over four decades as the surrounding neighborhoods have changed from commercial and industrial uses to mainly residential uses, portions of the site were taken in eminent domain, and portions of the remainder were use-restricted by the state. Recent revitalization efforts in this section of East Boston have focused on improving the Maverick Landing housing development and expanding public open spaces and public access to and along the waterfront with such projects as the Massport-owned Piers Park, Carlton's Wharf, and the East Boston Greenway. Maverick Landing to the east has been rebuilt with 430 units of affordable and market-rate housing. In the neighborhood to the east, three sites are currently planned for mainly residential development with some mixed-use components including Clippership Wharf, Portside at Pier One, and Hodge Boiler Works.

The site is comprised of flowed tidelands, filled tidelands, and upland. The site currently includes a complex of four abutting buildings that include 1, 3, 5, and 9-story brick and concrete buildings. The wharves and piers on the site are dilapidated and not accessible to the public from the land or from the water. Security concerns of the local neighborhood and police force led the owners to honor requests to install a fence to prevent access to the site in general and to the dilapidated wharfs and piers in particular.

On the waterside of the site, there are two solid-fill wharves. Each of them has a mix of granite and concrete seawalls. On the south side of the southern wharf is a small, timber and concrete pier supported by timber piles. Approximately 27,000 square feet (sf) of remaining rundown timber pile areas extend over 170 feet beyond the

existing wharves, with the remaining pile fields all within a larger area of piers that were originally authorized by the legislature (see Figure 1-2, Existing Conditions Plan).

Historically, the site has been used for multiple commercial and industrial purposes. From the early 1900s to the 1950s, the site was used for cold storage, among other uses. After that, confectionary companies occupied the site until the 1980s. The buildings are currently used intermittently for commercial purposes, primarily as storage space (see Figures 1-3, 1-4, and 1-5, Existing Conditions Photos).

While the three main buildings are included in the Boston Landmark Commission's 1989 industrial waterfront survey, none have been designated as landmarks or listed in the State or National Register. The 3 and 5-story buildings were erected in 1908, followed by the 9-story building in 1912. These buildings are thought to have been built for cold storage purposes.

1.1.2 PLANNING CONTEXT

Over the past decade, the Boston Redevelopment Authority (BRA) has undertaken several planning studies, which recommended the development of housing and other uses to activate and reconnect the East Boston waterfront to adjacent neighborhoods. In response to the planning focus in this area, several residential development proposals for waterfront sites are currently under local and state review. These proposals include various site amenities for residents and the public at large including significant public access to and along the waterfront.

The proposed New Street Development along this portion of the East Boston waterfront will invigorate the community with a vibrant and inviting place to live and visit. The redevelopment of this project site will add to the exciting transformation of the East Boston community.

The following initiatives and planning exercises provide a basis for the development of projects, in particular, along the East Boston waterfront.

EXECUTIVE ORDER 385 (PLANNING FOR GROWTH)

Massachusetts Executive Order 385, the Growth Management Act, is intended to promote sustainable economic development throughout the Commonwealth. Executive Order 385 notes that proactive and coordinated planning can help minimize potential conflicts between environmental preservation and sustainable economic development activity. It also states that the Commonwealth will promote economic activity and growth that is supported by adequate infrastructure and will not result in or contribute to the avoidable loss of environmental quality and resources.

The project is consistent with the principles outlined in Executive Order 385. The project will have minimal negative environmental impacts, as it is located in a previously developed urban area. The project will revitalize a deteriorated and mostly vacant industrial site. The project will minimize impacts on the environment by utilizing adequate water supply, wastewater and utility infrastructure, reducing the amount and improving the quality of stormwater discharges to the Boston Harbor through the implementation of Best Management Practices and I/I mitigation. The project will also incorporate significant public open space and pedestrian access improvements, which include pedestrian pathways, public sidewalks, landscaping, and public waterfront amenities.

The project is a transit-oriented development with access to the MBTA Blue Line only a few blocks away.

EAST BOSTON MUNICIPAL HARBOR PLAN

The East Boston Municipal Harbor Plan (EBMHP) is a land use plan prepared by the City under the Commonwealth's statewide licensing regulations for waterfront projects. This document details a harbor plan tailored to the characteristics of the East Boston waterfront and reflects the planning goals of the community. To assist in preparing the plan, the BRA convened an Advisory Committee that included a broad range of individuals with interest in and knowledge about waterfront issues in East Boston and the City as a whole. The BRA also coordinated the planning process with state agencies, property owners, developers and interested community residents. The BRA submitted the EBMHP for the East Boston waterfront to the Executive Office of Environmental Affairs' (EOEA) Office of Coastal Zone Management on March 12, 2002. On July 15, 2002, the Secretary of EOEA issued a Decision approving the EBMHP.

As part of the Secretary's Decision, it was recognized that an amendment to the EBMHP would be needed for the New Street site, due to the unresolved pending state review of the Designated Port Area formerly dividing the site. Once the DPA boundary review was resolved, the amendment could address substitutions, offsets, and amplifications in a site-specific manner that achieves the goals of the EBMHP.

AMENDMENT TO THE EAST BOSTON MUNICIPAL HARBOR PLAN

The EBMHP Amendment planning process began in August 2007 and has involved widespread public support. The BRA recently voted to approve the Amendment and has forwarded it to the Secretary for his approval.

The Amendment contains several site-specific substitutions and offsets. These provisions separately and specifically address conditions associated with each of the three subject project sites: 6-26 New Street, Boston East, and 125 Sumner Street. The Amendment provides an approved framework of General Policies that directs the site-

specific substitutions and offsets. All of the provisions contained in this MHP Amendment are consistent with the established General Policies, which also help serve to implement related planning policies and actions to enhance the East Boston waterfront.

The New Street Development will comply with the substitutions and offsets contained in the Amendment. The project will provide critical public realm improvements including expansive open space and a Harborwalk that would connect to the existing Harborwalk along LoPresti Park on the south side of the site. The open space will provide a direct visual and physical link to the proposed portions of the Harborwalk along the East Boston waterfront. Interpretive displays and elements will be placed along the Harborwalk and waterfront areas to activate and create a more inviting place for residents and visitors. Additional waterfront amenities, watersheet activation, and programming opportunities will be discussed as part of the Chapter 91 licensing process. Further site-specific zoning modifications may be required to establish conformance with the Amendment and to provide additional zoning relief for the project.

EAST BOSTON MASTER PLAN

In 2000, the Boston Redevelopment Authority (BRA) completed the East Boston Master Plan (EBMP). The EBMP provides a framework for new growth and development in the community's commercial districts and waterfront area, while preserving and enhancing the quality of life in the community's residential neighborhoods. The intensive one-year planning process involved widespread community participation. In addition to citizen involvement, the planning process included extensive coordination among departments (such as the Department of Neighborhood Development, Department of Parks and Recreation, the Boston Transportation Department, and the Boston Housing Authority). The EBMP is organized around four focus areas:

1. Reviving the East Boston Waterfront;
2. Enhancing the Neighborhood's Commercial Centers;
3. Strengthening the Residential Neighborhoods; and,
4. Shoring up the Airport Edge.

For each focus area, the plan provides recommendations regarding land use, open space, public environment, historic resources, heritage, transportation, and parking. The plan also provides development guidance and addressed regulatory issues for each focus area.

Issued in conjunction with an Implementation Strategy, the plan established a set of goals and objectives that reflect the community's desire to maintain East Boston's identity and culture, while looking into its future development. The project complies

with the provisions of the plan by providing much needed housing, critical open space connections, public access, and views through and from the site.

1.2 PROJECT OVERVIEW AND DEVELOPMENT PROGRAM

1.2.1 PROJECT SUMMARY

The New Street project includes the redevelopment of an existing 9-story building and the construction of a new, mid- rise residential building or a building for a hotel or extended stay use in the place of an existing 5-story building, and a small parking garage in the place of an existing 3-story building. The project will also include a small marina, a water taxi landing and waiting area, public open space, dredging, and substantial public access to and along Boston Harbor (see Figure 1-6, Project Site Plan – Full Build). Each of these components is described below. Refer to Chapter 2 for additional discussion of the project and site in terms of urban design.

The total gross floor area for the project is 289,597 sf with a total floor-area-ratio (FAR) of approximately 3.3 (see Table 1-1, Building Program). The combined building footprint is 41,515 sf, which occupies 48% of the upland lot area. There will be approximately 174 to 203 parking spaces on the site, depending on the use of stackers within the 6-story building.

Table 1-1: Building Program

Building	Bldg Footprint (sf)	Gross Square Footage	Lot Area (sf)	FAR	Bldg. Height[1]	Lot Coverage	Garage Parking Spaces	Parking On-Site
New Building	16,700	72,000	N/A	N/A	69′	N/A	51-80	10
Redeveloped Building	12,650	181,572	N/A	N/A	199′	N/A	0	0
Parking Garage	11,930	35,790	N/A	N/A	26′	N/A	113	0
Taxi Waiting Area	235	235	N/A	N/A	15′	N/A	0	0
Total	41,515	289,597	87,180	3.3	N/A	48%	164-193	10

1. Height is measured from grade.

1.2.2 DEVELOPMENT PROGRAM

REDEVELOPED BUILDING

The existing 9-story building will be redeveloped with an additional six stories, each of which will be outside of Chapter 91 jurisdiction. This new 15-story building will

consist of approximately 179 one and two-bedroom residential units. The main entrance will be located on the side between the 6 and 15-story buildings, and the side entrance will be on its north side. This building will be served by parking in the adjacent proposed parking structure located on its north side.

NEW BUILDING

The new building will be six stories in height and will contain either approximately 59 one and two-bedroom residential units or approximately 106 hotel or extended stay units. A restaurant (or other facility of public accommodation) will be located on the waterside of the building's ground floor. Parking for approximately 51 to 80 vehicles will be below the 6-story building with one level at grade and one subsurface level. The higher number of parking spaces in the garage could be achieved through the use of vehicle stackers. A stacker is a hydraulic lift system that provides space for two parked vehicles, one over the other. The existing 5-story building at this location will be taken down.

PARKING AND CIRCULATION

In addition to the subsurface parking beneath the new building, parking for approximately 113 vehicles will be provided in an above ground garage on the north side of the site. The first level of this structure will be at or just below grade, and access will be from New Street. The two upper parking levels will be accessed from New Street via a ramp located within the redeveloped 9-story building. Additional vehicular facilities include: one drop-off area in front of both residential buildings along New Street, one drop-off area in front of the restaurant, and ten parking spaces on the south side of the site. The lobbies of the two main buildings will be accessed from New Street.

WATERSIDE FACILITIES

The pier, wharves, and surrounding watersheet will be new made accessible, for the first time in decades, to both recreational and commercial vessels. There are two wharves on the property: one on the south side and one on the north side. Adjacent to the southern wharf, a small, approximately 36-slip, recreational marina is proposed. Approximately 2,300 cubic yards of material may be dredged to support this marina. Adjacent to the northern pier where the watersheet is in the Designated Port Area (DPA), a landing for a water taxi will be provided, which could also serve as a dock for marine service vessels.

USE OF NEW STREET

There is a significant discontinuity in the existing layout of New Street adjacent to the New Street development. The street width varies from approximately 40 feet to 78 feet. The BRA has suggested that regularizing the street layout would be appropriate. This would involve reducing the extent of the existing paved surface and converting it to open space and drop off area, so as to achieve a uniform street width. This work

would require a discontinuance and other approvals by the Public Improvements Commission.

FACILITIES OF PUBLIC ACCOMMODATION

The project has been designed to welcome and encourage public access to and along the waterfront and from New and Sumner streets. The project includes approximately 8,000 sf of facilities of public accommodation (FPA) on the ground level floor of the new mid-rise residential building to attract the general public to the waterfront. This area will include an approximately 6,000 sf restaurant that is programmed to take full advantage of the waterfront location with views of Boston Harbor and the City of Boston. The restaurant, designed as a year-round structure with indoor and outdoor seating, will offer food and beverages. This use will help activate the area and encourage the public to take advantage of the site's waterfront location and amenities.

The watersheet within the project is approximately 2.0 acres. The northern half of the watersheet is in the DPA while the southern side is not. The program for the non-DPA watersheet is for a small marina. The marina configuration is conceptual at this time due to the limited water depths and extent of the existing pile fields. However, it is expected that approximately 2,300 cubic yards of material will have to be dredged to support the marina. The program for the DPA watersheet includes a landing for water taxis and a possible marine service vessel dock. The landing will be approximately 40 feet long by eight feet wide, and will be connected to the north wharf with a ramp. The DPA will be cleared of in-water obstructions and restored to conditions feasible for DPA uses. A covered taxi waiting area will be constructed for people using the water taxi or others visiting the area and enjoying the views. All of these uses will help activate the waterfront and support water-dependent uses.

PROJECT PHASING

As stated in the 2002 Municipal Harbor Plan (MHP) for East Boston, this site was anticipated to require a MHP Amendment for the Chapter 91 jurisdictional portions of the site in order to permit redevelopment compatible with the community's East Boston Master Plan. This DEIR/DPIR presents and studies the entire site development plan and includes a "Phase I" plan for portions of the redevelopment so some work can proceed while the MEPA and MHP processes are ongoing. MEPA recently approved a Phase 1 Waiver for this project (see Appendix 1, Response to Comments). Figure 1-7, Project Site Plan – Phase 1 shows the site features that have been approved as part of the Phase I Waiver.

1.2.3 PUBLIC BENEFITS

Completion of the proposed New Street Development project will help revitalize this important part of the East Boston waterfront. The project will restore an area of the City that has been underutilized and inaccessible to the public for decades. The

public benefits of the project will make the area more appealing to both residents and visitors arriving by land and by water. The project will provide substantial direct benefits for the City of Boston and the region, as noted below, in addition to improving the tax base of the City substantially.

PUBLIC ACCESS

- The project will redevelop and revitalize a 3.93-acre parcel along East Boston's waterfront that has not been accessible to the public.
- The project will provide new public access to and along the water, enhancing the East Boston waterfront public realm.
- The project will connect the proposed Harborwalk near Border Street to the north with the emerging East Boston Harborwalk being developed to the east. The Harborwalk will ultimately extend 2.2 miles from the Harborside Hyatt Hotel to New Street.
- The project will create approximately 750 linear feet of new public access on the site, including 500 linear feet of Harborwalk along the water's edge.

VIEW CORRIDORS

- The project will extend the Sumner Street view corridor from Sumner Street to the water along the southern boundary of the property and allow for expansive views of Boston Harbor.
- The view corridor looking south along New Street to the Boston skyline will also be enhanced with landscaping and architectural features of the new buildings within the project site.

TRANSPORTATION

- The project will support water transportation with a water taxi landing and waiting area.
- The project is analyzing provision of parking for a car sharing service such as Zipcar and "smart cars" of smaller sizes.
- The project's proximity to Maverick Station supports the use of public transportation.
- The project will utilize key Transportation Demand Measures including the use of bicycle racks and participation in Transportation Demand Management Associations.

HOUSING

- The project will create approximately 179 to 238 new housing units, thereby expanding a constrained housing market and contributing to the City's housing goals. If the project chooses either the hotel or extended stay option,

approximately 106 units will be available to the community as a hotel/extended stay and 179 units would be for residential use.

- The proponent will work with the City to implement the City's affordable housing policies and support the Mayor's Executive Order regarding affordable housing units.

REVENUES

- The project will increase state and local tax revenues through additional commercial and residential uses.
- The project will generate over $750,000 annually in new property tax revenues.
- The project will invest approximately $90 million in development costs.
- Property values in the neighborhood will be improved.

JOB CREATION

- Contributing to the area's economy, the project will create construction phase employment opportunities and 40 new permanent jobs at the facilities of public accommodation, the residential units, and the marina.

ENVIRONMENT

- By adopting the City of Boston's Green Building standards and guidelines and reducing emissions and demand for fossil fuel energy, the project will decrease the adverse effects of air pollution.
- Stormwater controls will significantly reduce pollution to Boston Harbor as well as improve the Harbor's habitat.
- The project will reduce vehicle trips, mileage, and emissions by encouraging residency within walking distance of public transportation, including water transportation, and use of car sharing options, and providing educational and informational signage about transit options.
- The project will be LEED certifiable under the City's Article 37, Green Buildings.

1.2.4 PUBLIC REALM IMPROVEMENTS

The site has been designed to provide significant public access to and along Boston Harbor. Public access to the site will be from several locations: sidewalks along Sumner and New streets, the Harborwalk in LoPresti Park, and by water at a new water taxi landing. The Harborwalk will extend along most of the site's waterfront. Connections will be made to LoPresti Park, the Harborwalks planned at Hodge Boiler Works and Clippership Wharf to the east, and to the Waterfront Way, which is the inland portion of the Harborwalk, that is planned to run along New Street and parts of the East Boston waterfront to the north. Refer to Chapter 3 for additional discussion of Open Space and Public Access in relation to the Chapter 91 program

PUBLIC ACCESS

A 12-foot-wide, 10-feet clear, 500-foot long Harborwalk will be built along the water's edge and will provide such amenities as landscaped viewing areas and benches. On the south side of the property, the new Harborwalk will connect with the existing Harborwalk in LoPresti Park. It will continue north along the edge of the wharves to the end of the northern wharf. Viewing areas along the Harborwalk will provide additional places for people to enjoy the panoramic views of Boston Harbor, the Boston skyline, Charlestown, and the Zakim and Tobin bridges. This Harborwalk will link to the inland portion of the Harborwalk that will connect to the planned Harborwalk at the Boston East site as recommended in the East Boston Municipal Harbor Plan (EBMHP). The Proponent will work with the Boston Parks Department to improve pedestrian access to the Harborwalk through LoPresti Park from the sidewalk on Sumner Street. The existing pathway needs to be enhanced by extending the sidewalk and landscaping the adjacent area.

A water taxi landing and waiting area will provide additional public access to and from points throughout Boston Harbor. The water taxi landing will be located in the DPA portion of the site. The waiting area will be covered to shelter those who may hail a water taxi or be waiting for passengers to arrive. The dock may also support marine service vessels.

OPEN SPACE

Open space area landward of the Harborwalk will provide excellent viewing areas to the Boston skyline and Boston Harbor. Nearby benches will allow visitors to enjoy the views of the waterfront. Portions of the open space areas will be planted with low-height vegetation to improve visibility as well as frame the area. An outdoor seating area next to the restaurant will provide an additional place for people to enjoy the waterfront activities. The public open space areas will be accessible to the public for their continued enjoyment 24 hours per day, seven days per week.

1.3 PROJECT ALTERNATIVES

Two alternatives are addressed in this DEIR/DPIR: a No Action Alternative and a Preferred Alternative, as requested in the Secretary's Certificate.

1.3.1 NO ACTION ALTERNATIVE

If the No Action alternative was implemented, the buildings at 6 – 26 New Street would continue to be vastly underutilized, perhaps used intermittently as commercial storage space, and the city's tax base would remain underserved. The site would not be improved and the site's waterfront would continue to be unavailable to the public. The No Action alternative would preclude activation of the site with 24-hour

residential use, restaurant activity, and enhanced open space and public access. The No Action alternative would also leave the DPA watersheet un-restored for safe vessel access.

1.3.2 PREFERRED ALTERNATIVE

Since the filing of the ENF/PNF, the project design has been revised to address community, interest group, and agency concerns. While the overall program of uses has remained constant, the public realm has been substantially enhanced by improving the pedestrian flow along the Harborwalk and providing interpretive elements and exhibit along the waterfront spaces. The site design has changed over that of the ENF/PNF by improving the vehicular access to the DPA portion of the site with innovative multi-use construction technology and added public parking spaces. Additional height has also been added to the existing 9-story building to make it economically feasible without creating additional impacts.

1.4 PUBLIC REVIEW PROCESS

The project proponent has had several community meetings to review the proposed project in East Boston. This section identifies the state, local, and community meetings that were held regarding the public review process for this project.

1.4.1 STATE MEPA PROCESS

A joint ENF/PNF was filed with the Massachusetts Environmental Policy Act (MEPA) Office in September of 2007. A MEPA scoping session was held at the project site on October 16, 2007. The Secretary of the Executive Office of Energy and Environmental Affairs (EOEEA) issued a Certificate on the ENF on November 1, 2007, which required the preparation of an Environmental Impact Report.

This Draft Environmental Impact Report/Draft Project Impact Report (DEIR/DPIR) is a joint filing intended to satisfy both the BRA Article 80 Development Review and State MEPA processes. The DEIR/DPIR responds to the issues identified in the Secretary's Certificate on the ENF/PNF, provides further analysis of potential transportation and environmental impacts, and improves upon the overall public realm design and programming.

1.4.2 CITY ARTICLE 80 REVIEW PROCESS

The project has also been reviewed with several departments in the City of Boston including the BRA, the Boston Transportation Department (BTD), the Boston Civic Design Commission (BCDC), the Boston Environmental Department (BED), the Boston Parks and Recreation Department, and the Boston Landmarks Commission.

A Letter of Intent was submitted to the BRA on September 14, 2006 in accordance with Mayor Thomas M. Menino's Executive Order of October 10, 2000 as amended governing mitigation for development projects. A joint ENF/PNF was filed with the BRA in September of 2007. A community meeting on the PNF was held in East Boston on October 1, 2007, and a scoping session on the PNF was held on October 2, 2007. The BRA issued a Scoping Determination on March 21, 2008 requiring the preparation a Draft Project Impact Report (DPIR).

The BRA appointed an eight-member Impact Advisory Group (IAG). The IAG was invited to the scoping session on October 2, 2007 for their review and comment on the ENF/PNF.

As mentioned above, this DEIR/DPIR is a joint filing intended to satisfy both the City Article 80 and State MEPA processes. The DEIR/DPIR responds to the issues raised and additional analysis required in the BRA's Scoping Determination. The proponent anticipates that the public comment period for State and City processes will run concurrently.

BOSTON TRANSPORTATION DEPARTMENT

Representatives from the Boston Transportation Department attended the BRA Scoping session held with BRA staff in October 2007. The project team also had conversations and subsequent correspondence with BTD senior staff in October 2007 to clarify the study approach and analytical assumptions.

BOSTON CIVIC DESIGN COMMISSION

On October 2, 2007, the proponent provided an informal presentation to the Boston Civic Design Commission (BCDC). The BCDC generally supported the concept and requested that the project be more fully considered at a sub-committee meeting. Subsequent meetings resulted in requests from the BCDC to include additional modifications in the DPIR before additional meetings with the Design Subcommittee occur. The proponent is maintaining ongoing meetings with the BCDC as the design progresses.

1.4.3 MUNCIPAL HARBOR PLAN AMENDMENT PROCESS

The 6 – 26 New Street Development project will be utilizing the BRA's proposed Amendment to the East Boston Municipal Harbor Plan (EBMHP) to accomplish compliance with Chapter 91. This process, which is being overseen by the Boston Redevelopment Authority, began in August 2007 with walking tour of the existing and proposed projects in East Boston. There have also been numerous public meetings held at Maverick Landing and Boston City Hall. At the time of this writing, the BRA

had voted and approved the Amendment and submitted it to the Secretary for approval. State approval of the Amendment is expected in September 2008.

1.4.4 ZONING

The site is subject to land use controls contained in the City of Boston zoning code and the state Chapter 91 Waterways licensing program. The project is currently going through the municipal harbor planning amendment process. The City is anticipated to incorporate zoning changes in order to ensure conformity with the approved EBMHP Amendment.

The entire property is currently zoned Waterfront Commercial. The purposes of the Waterfront Commercial ("WC") Subdistrict are to ensure that the commercial areas located near the waterfront develop in a manner that is sensitive to and compatible with the goals for the waterfront expressed in the East Boston Neighborhood Plan and applicable state policy. Multifamily residential is allowed on upper floors and as a conditional use on the ground floor. Accessory parking is an allowable use when, as proposed, it is located on the first floor or below grade. General retail business space and community uses are allowed under the zoning. The project also includes a small marina and water taxi landing, which are allowed under the current zoning. Depending on the outcome of the EBMHP Amendment planning process and final project configuration, zoning relief in the form of a Planned Development Area will be sought to obtain zoning compliance for use, height, FAR, and Waterfront Yard Area setback.

1.4.5 PHASE 1 WAIVER

The project received a Phase I waiver through the MEPA process. The intent was to ensure that the Phase I of the project could move forward, while Phase II (Full Build) simultaneously goes through a Municipal Harbor Plan (MHP) Amendment process and MEPA review. The MHP Amendment process may substantially extend the permitting and approval periods and is not in the control of the applicant. The Phase I waiver allows the proponent to proceed with permitting Phase I, which does not require an MHP Amendment, while the MEPA and MHP process are being completed on the entire project site.

Phase I includes the following components (see Figure 1-7, Project Site Plan - Phase I):

- Redevelopment of the 9-story building with an additional six stories outside Chapter 91 jurisdiction;
- Demolition of the 1, 3, and 5-story buildings;
- New approximately 113-space, parking garage on the north side of the existing 9-story building;
- Harborwalk along edge of wharves with a connection to LoPresti Park;

- Removal of the existing dilapidated pile fields;
- Vehicle access route to the DPA watersheet area;
- Water taxi landing and possible marine service vessel dock in the DPA, and water taxi waiting area adjacent to the DPA;
- Interim surface parking in the location of the former 5-story building; and
- Open space in the balance of the area.

Phase II consists of the balance of the project as described in the previous section.

1.5 ARTICLE 80 LEGAL INFORMATION

LEGAL ACTIONS PENDING

There are no legal judgments or actions pending on or regarding the proposed project.

TAX ARREARS

There are no tax arrears on the subject parcels.

EVIDENCE OF SITE CONTROL

New Street Realty Trust is the fee owner of the project site.

PUBLIC EASEMENTS ON OR SURROUNDING SITE

According to the "Engineered Site Plan, New Street Project, East Boston, Massachusetts" prepared by Nitsch Engineering, dated May 9, 2008, there are no public easements on the site. The project site borders two public ways (New and Sumner streets) and a public park (LoPresti Park).

1.6 FEDERAL, STATE AND LOCAL PERMITS

The project expects to secure many local, state, and federal permits and approvals prior to commencement of construction. The following is a list of anticipated federal, state, and local permits/approvals:

AGENCY	PERMIT/APPROVAL
Federal	
Environmental Protection Agency	NPDES Notice of Intent for Construction Dewatering
	NPDES Stormwater Management Notice of Intent
United States Army Corps of Engineers	Section 10/Section 404 Permit
Federal Aviation Administration	Notice of Proposed Construction – Crane
	Notice of Proposed Construction – Building

State	
MEPA Office	Environmental Impact Review
Massachusetts Coastal Zone Management	Federal Consistency Review
Massachusetts Historical Commission	Determination of No Adverse Effect
Department of Environmental Protection	Notification of Construction/Demolition
	Water Quality Certification
	Chapter 91 Waterways License
	Massachusetts Contingency Plan (if necessary)
Local	
Boston Redevelopment Authority	Article 80 Large Project Review
	Cooperation Agreement
	Fair Marketing Plan
	Affordable Housing Agreement
Zoning Commission	Planned Development Area
Boston Landmarks Commission	Article 85 Demolition Delay
Boston Civic Design Commission	Recommendation Pursuant to Article 80 Review
Boston Transportation Department	Transportation Access Plan Agreement
	Construction Management Plan
Boston Conservation Commission	Order of Conditions
Boston Water & Sewer Commission	Site Plan Approval
	General Service Application
	Sewer Connection Permit
Boston Inspectional Services Department	Building Permit
Public Improvements Commission	Various permits for work in public ways
Boston Parks and Recreation	Design Approval for work within 100 feet of a park
Boston Public Works Department	Street Opening Permit.

1.7 PROJECT TEAM

The project team is identified below:

Owners:

New Street Realty Trust
M. Bruce Ohanian,
Varney Hintlian,
LuAnn Ohanian, Trustees
26 Brighton Street
Belmont, MA 02478

Owner's Development Consultant:

Cresset Development, LLC
120 Water Street, 2nd Floor
Boston, MA 02109
(617) 624-9100
Contact: Ed Nardi / Stephen Peabody

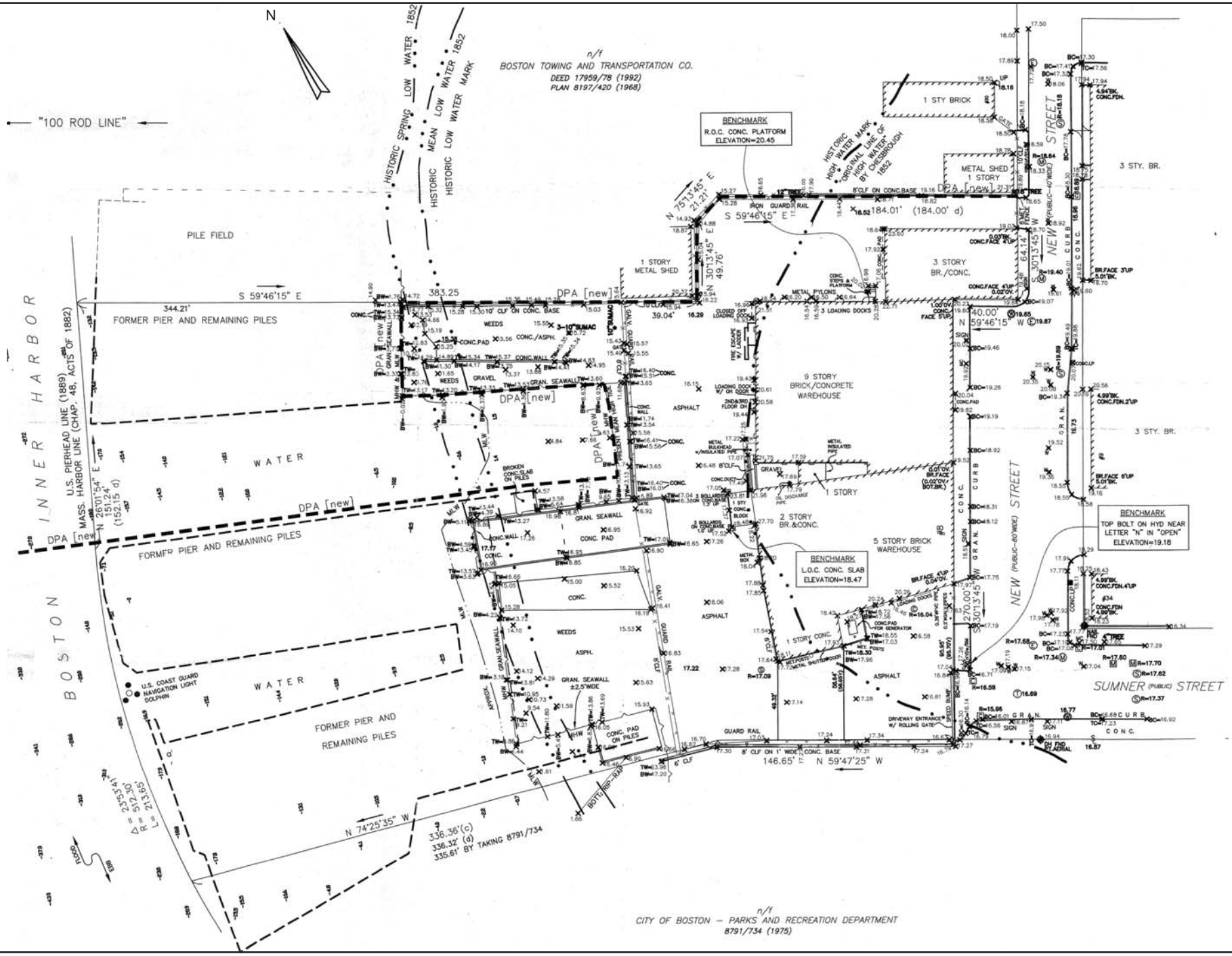
Planning Consultant:	**Fort Point Associates, Inc.** 33 Union Street, 3rd Floor Boston, MA 02108 (617) 357-7044 Contact: Jamie Fay / Richard Jabba
Waterfront Development Counsel:	**Buchanan & Associates** 33 Mount Vernon Street Boston, MA 02108 (617) 227-8410 Contact: Jamy Buchanan Madeja, Esq.
Zoning Counsel:	**McDermott, Quilty & Miller** 21 Custom House Street, Suite 300 Boston, MA 02110 (617) 946-4600 Contact: Steve Miller
Architects:	**Steffian Bradley Architects** 100 Summer Street, 9th Floor Boston, MA 02110 (617) 305-7100 Contact: Jana Silsby
Transportation Consultant:	**Howard/Stein-Hudson Associates, Inc.** 38 Chauncy Street, 9th Floor Boston, MA 02111 (617) 482-7080 Contact: Guy Busa
Infrastructure Consultant:	**Nitsch Engineering** 186 Lincoln Street, Suite 200 Boston, MA 02111 (617) 338-0063 Contact: Paul LeBaron Sr. / John Schmid
Wind Consultant:	**Frank Durgin P.E.** 19 Payson Road Belmont, MA 02478 (727) 581-6267 Contact: Frank Durgin

Mechanical, Plumbing, Fire Protection:	**Petersen Engineering, Inc.** P.O. Box 4774 Portsmouth, NH 03802 (603) 436-4233 Contact: James Petersen
Electrical:	**Ronald W. Buia, Inc.** 1600 Osgood Street, Building 20, Suite 2-89 North Andover, MA 01845 (978) 682-9229 Contact: Ronald Buia
Geotechnical:	**GEI Consultants** 400 Unicorn Park Drive Woburn, MA 01801 (781) 721-4000 Contact: Mark C. Ensign P.G., LSP
Parking:	**Hybrid Parking Solutions** 2 Brattle Square, 3rd Floor Cambridge, MA, MA 02128 (617)868-0800 Contact: Michael Skeldon, Vice President
Historical Consultant:	**Public Archaeology Laboratory, Inc.** 210 Lonsdale Avenue Pawtucket, RI 02860 (401) 728-8780 Contact: Suzanne Cherau



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 1-1
Locus Plan
source: USGS



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 1-2
Existing Conditions Plan
source: Gunther Engineering



View of project site looking north from LoPresti Park



View of project site looking north



View of project site looking south from New Street

NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 1-3
Existing Conditions Photos
source: Fort Point Associates



View of project site on left looking north along New Street



View looking west along Sumner Street

Figure 1-4

Existing Conditions Photos

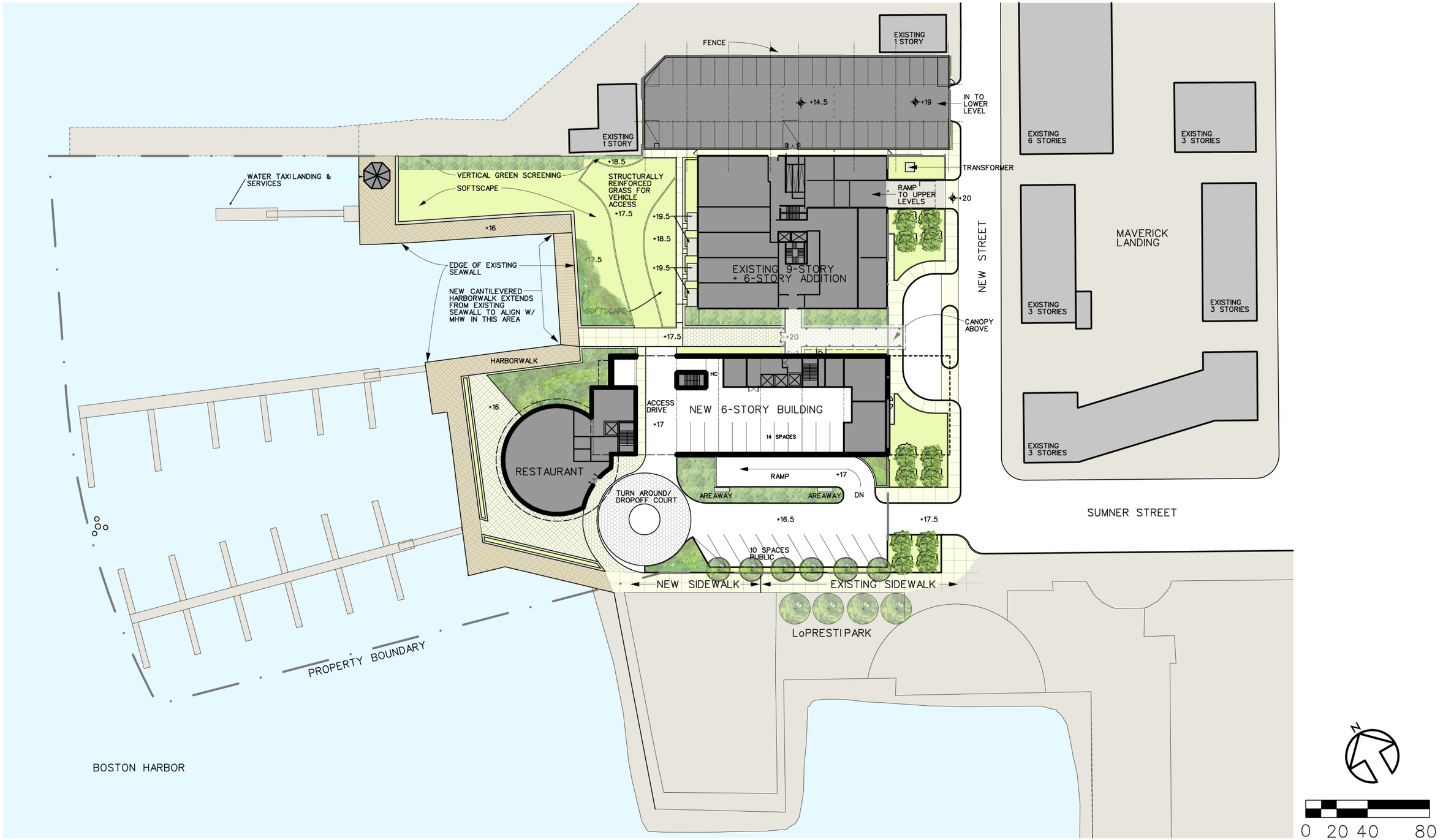
source: Cresset Development/Fort Point Associates



View of northern wharf looking north from project site



View of southern wharf looking north from LoPresti Park



Steffian Bradley Architects
100 Summer Street
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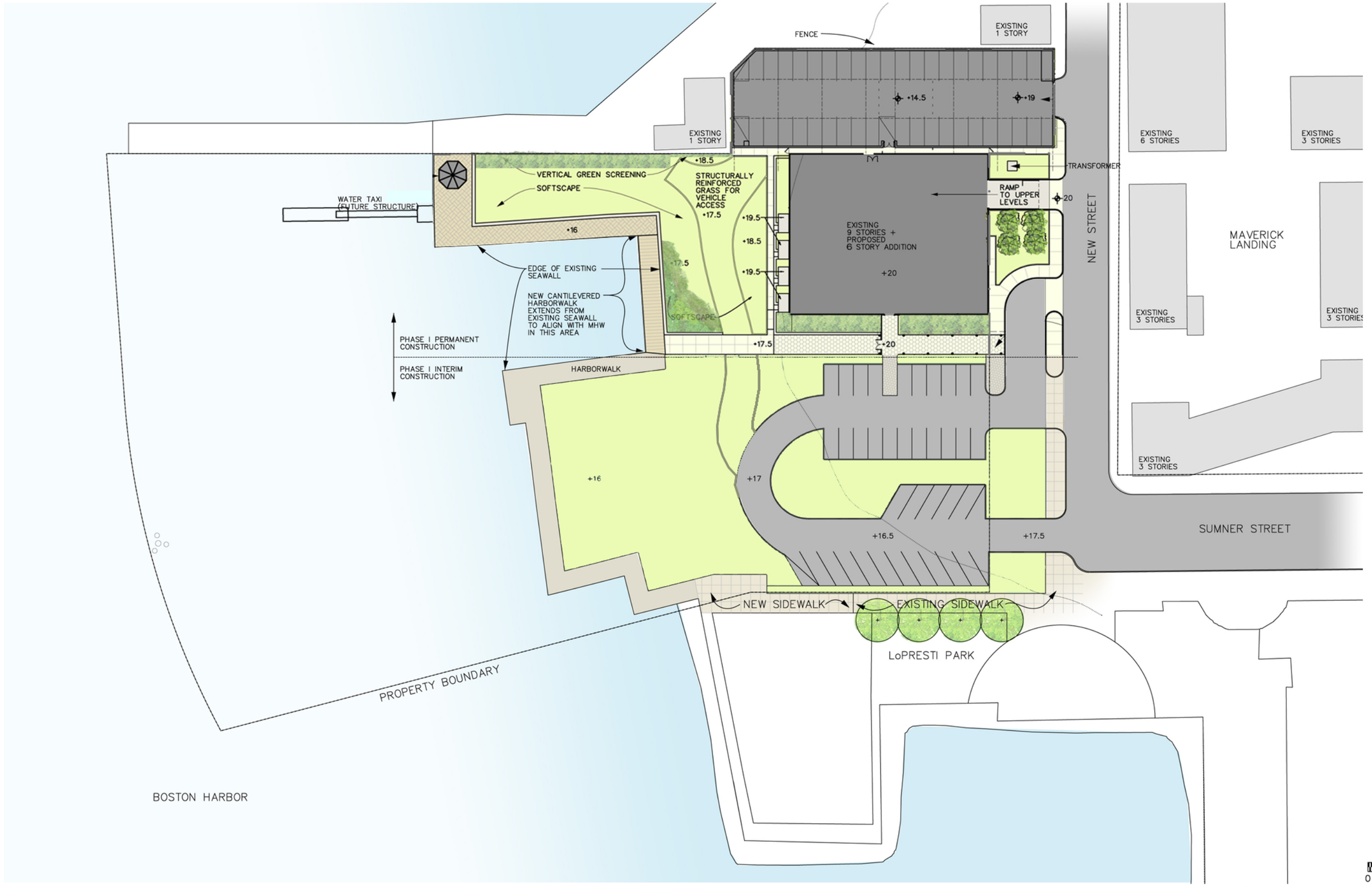
Project Site Plan -Full Build

New Street Project

Figure 1-6

Project Number: 982.000
Scale: see graphic
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



Project Site Plan-Phase 1

New Street Project

Steffian Bradley Architects
100 Summer Street
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Figure 1-7

Project Number: 982.000
Scale: see graphic
June 2008

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ARCHITECTS STEFFIAN BRADLEY sba

Chapter 2

Urban Design

2.0 URBAN DESIGN

The design of the New Street project integrates the site into the East Boston community by creating a vibrant public realm in an area where public access has never been available in the past. The following sections describe the existing urban design setting, define the project's design principles, and demonstrate how these principles are met.

2.1 EXISTING URBAN CONTEXT

The 6 - 26 New Street site is located on the southwestern corner of the East Boston waterfront along the east side of Boston Inner Harbor, providing spectacular views of South Boston, downtown Boston, and the Zakim and Tobin bridges. The site is the terminus of Sumner Street with LoPresti Park adjacent to the South. To the North along the waterfront and New Street is the industrial Boston Towing and Transportation property, which has active piers with docking tug boats, numerous 1-story sheds, and a 50-foot tall industrial building that wraps around the outside corner of the intersection of Maverick and New streets. To the East of New Street is the Maverick Landing site, which consists of four recently created city blocks with 3-story townhouse buildings and a 6-story, 65-foot high apartment building at the corner of Maverick and New streets (see Figure 2-1: Neighborhood Context and View Corridors).

Five blocks down Sumner Street to the East is Maverick Square and the Maverick MBTA Station. Along Sumner Street, East of LoPresti Park, are several residential developments starting with Hodge Boiler Works (permitted; not yet constructed), then Carlton's Wharf, followed by Clippership Apartments. In addition, there are other nearby waterfront parcels such as Clippership Wharf and Portside at Pier One that are either planned or permitted, but not yet constructed.

The project site currently consists of a 5-story building that is minimally and occasionally occupied with commercial uses, a 9-story vacant storage building, and a 3-story vacant storage building, which are directly on the New Street property boundary forming a continuous street wall. At the back of the 5-story building there are one and two-story portions that have loading bays, plus a 1-story concrete block structure that houses the boiler plant for the complex. The 3-story building projects forward of the other two buildings following the property boundary where the New Street public way narrows from over 78 feet to about 40 feet. In character with the former industrial use, the rest of the existing useable site is currently covered completely in asphalt and concrete paving and is surrounded by an 8-foot high chain link fence topped by razor wire and by a 3-foot high guard rail, which is typically found along highways. The fencing and guard rail was installed as security for the site and for the public in the area, at the request of the local

police force. The existing pier, wharves, and pile fields are inaccessible from the rest of the site by this existing fence and guard rail.

The 5-story building has load bearing brick exterior walls with a corbelled brick cornice and precast concrete lintels at openings. Many of the openings have been filled with brick or glass block. The building's need for significant repairs, the close irregularly spaced interior timber columns, and the load bearing brick exterior walls would make conversion of this building into residential units difficult and cost prohibitive. Additionally, the floor levels of this building do not align with the floor levels of the adjacent 9-story concrete building, which would further complicate integration of the two buildings.

In front of the three buildings in the wide section of New Street, there is a 10-foot wide sidewalk and enough room for on-street perpendicular parking spaces and unnecessarily wide drive lanes. Historically, this area of the street was used for loading, but that function no longer exists at the building. There are no street trees or planned/maintained landscaped areas along the building or public sidewalk. The sidewalk at the narrow section of New Street is approximately 7-feet wide.

The adjacent Boston Tow site also has an 8' high chain link fence with razor wire on top along New Street where the buildings do not touch the property boundary. The industrial character of this west side of the street is markedly different from the residential character across the street at Maverick Landing. The 6-story Maverick Landing apartment building is a brick building with metal panel bays, individual entrances on New Street for first floor apartments, and a common pedestrian entrance on Maverick Street for the upper floors. The unit entries, which start ½-story above the sidewalk, provide some separation from the street level as is appropriate given the industrial nature of the Boston Tow site it faces. The two 3-story townhouse structures along the south end of New Street have covered porches, individual entrances to units, landscaping and a very direct connection between the units and the public sidewalk. The existing buildings at the project site are very anonymous, with no notable entrance point and no visual connection to the street at the first floor. This wall of existing buildings currently is not in keeping with the pedestrian nature of the townhouses across the street and cuts off views to the harbor from the interior of the Maverick Landing neighborhood.

2.2 URBAN DESIGN AND RESPONSE TO CONTEXT

The urban design principles and associated design responses for the site are:

1. Maintain and enhance the existing Sumner Street view corridor to the water and the views of the Zakim Bridge and Charlestown beyond. This is achieved by extending Sumner Street into the site with a drop-off/turn-around at the end that will serve potential marine

uses on the pier, wharves, and facilities of public accommodation on the site (see Figure 2-2, Project Site Plan – Full Build and Figure 2-14B, View Down Sumner Street).

2. Remove the 5-story and 3-story buildings from the site to reduce the continuous mass along New Street and open up views to the water from the street and Maverick Landing. The size, shape, condition, location, and structural capacity of the existing 9-story building on the site make it a valuable asset, which is to be renovated as part of the proposed project.

3. Provide a new 6-story residential building to align with the residential buildings along the north side of Sumner Street and face onto both the new extended portion of Sumner Street and New Street, thus continuing the street edge into the site and reinforcing the view corridor. The height of this building is +/-69 feet, very similar to the existing 6-story building across New Street on the Maverick Landing site. It will act as a transition between the townhouses on Sumner and New Streets and the taller existing building on the site (see Figure 2-2, Project Site Plan – Full Build and Figure 2-14B, View Down Sumner Street).

4. Build a 6-story addition (plus mechanical penthouse) on top of the existing 9-story building, with the addition stepped back from the perimeter of the existing building. This allows the density of the project to reach a critical mass for economic viability without additional building lot coverage. This approach also allows the site to be opened up and create more pedestrian-level views as well as larger, more continuous landscaped areas. Additionally, stepping the top levels back reduces their visibility from the street and the length of the shadows cast (see Figure 2-6: 15th Floor Plan and Figures 2-13, 2-14, 2-15,and 2-16 that include all the perspective views).

5. Provide a public use (restaurant) at the waterfront end of the first floor of the new 6-story building with potential for opening the exterior walls to allow both indoor and outdoor seating and abundant transparency to enliven and create a connection to waterfront pier and wharf areas and the extended Sumner Street. This will provide a destination amenity for the general public and the neighborhood (see Figure 2-2, Project Site Plan – Full Build).

6. Provide units at the first floor of the existing 9-story building and the new 6-story building that will have their own individual direct entrances from the public sidewalks. This will create front doors, covered stoops, landscaping and a residential character that will compliment the entries across the street at Maverick Landing and mitigate the scale of the taller building meeting the street. Based on the BRA's study of the feasibility of retail operations in East Boston, true retail at the project site would be uncertain as the character and draw for pedestrian traffic currently changes dramatically along New Street as one moves north from Sumner Street and LoPresti Park toward the very industrial Boston

Towing site and Maverick Street (see Figure 2-2, Project Site Plan – Full Build and Figure 2-7, East Elevation).

7. Create an entrance identity/canopy and drop-off area on New Street for the residential units in both buildings. The canopy and entrance sequence will be located on axis with the newly created space between the two buildings. The walkway under the canopy will connect to the facing entrances of each building and will continue around to the individual unit entries at the first floor of the existing building. The vehicular drop-off area is intended to be contained within landscaping created in the extra wide area of New Street formerly used for loading. The landscape area and the sidewalk are generous enough to allow for street trees, and due to the roughly north-south orientation of New Street, they will get ample light during the day.

8. To respect local neighborhood requests and planning processes, provide as much underground and structured parking on the site as is financially viable. Two levels of parking will be provided within the new 6-story building; one below grade and one at grade. A portion of the parking garage will extend below New Street, which will be addressed through the regulatory process. The total number of parking spaces will be between 51 and 80. Access to the ramp down to the parking will be from the extended street and located adjacent to the new building (see Figures 2-11, W-E Section and 2-12, N-S Section).

9. Provide parking and access drives in areas of the site that will either a) enhance the viability of the facilities of public accommodation and the public areas of the wharves or b) act as a buffer and transition to the industrial Boston Tow site. Ten angled spaces are being proposed on the site along the extended Sumner Street. These spaces are ideally located to support the proposed public uses on the site. A circular turn-around drive provides a drop-off and an access drive that passes through the first floor of the 6-story building maintaining access to the existing wharf abutting the Designated Port Area.

Due to the dilapidated nature of the adjacent piers and sheds on the Boston Tow site, the approximately 64-foot wide area north of the existing 9-story building is not a desirable area to face unit entries. Locating a 3-level parking structure in this area is in keeping with the character of the adjacent industrial site. The structure will support 113 parking spaces on three levels. The lowest parking level is accessed directly from New Street in the area where the existing 3-story building currently sits. The upper parking levels will be accessed by a ramp that will pass through the north end of the existing 9-story building (see Figures 2-2, Project Site Plan – Full Build, 2-3 First Floor Plan, and 2-4 Second Floor Plan).

10. Provide a seamless connection from the Harborwalk on LoPresti Park and the public sidewalk along Sumner Street to the waterfront of the project site. The urban context of this site has been evolving for many years towards a more residential character, as indicated by the taking in eminent domain of a portion of the New Street site for creation of LoPresti

Park. The reconstructed pier design as well as the extended street design allows for a direct connection to the Harborwalk at LoPresti Park. Additionally, the proponent will work with the Parks Department to improve the existing sidewalk connection from Sumner Street to the Harborwalk in LoPresti Park near the roller hockey court (see Figure 2-2, Project Site Plan – Full Build).

2.3 SITE AND LANDSCAPE DESIGN

Along New Street, the primary public drop-off and general entrance to and through the site is located next to LoPresti Park and near the public restaurant. There is also a proposed primarily residential drop-off located between the new and existing buildings. While the public can also pick up and drop off here if desired, it is unlikely to be the preferred location for restaurant goers or Harborwalk users with the wider and closer option immediately adjacent. Within the public way to either side of the drop-off are proposed landscape areas with native canopy shade trees and low plantings & perennial beds below. New Street slopes in a very gentle downhill gradient from about the middle of the 9-story building in both directions. This puts the entrance drive to the lower level of the new parking structure to the north about one foot lower than the first floor and the entrance drive to the site at the extended Sumner Street approximately two feet lower than the first floor. Additional canopy shade trees are proposed next to this vehicular entrance to the site and along the edge of LoPresti Park. The site continues to gently slope down towards the water and the existing wharves at the waterfront side of the site to approximately 3 1/2'- 4' below the first floor level.

The entrance ramp to the underground parking is accessed from the drive on site. There is low landscaping surrounding the ramp to obscure it from view as it descends and yet allow for clear views of approaching pedestrians and traffic at the top.

The proposed site design intends to seamlessly continue the existing Harborwalk from LoPresti Park along the existing seawall and the remaining existing pier which would maintain a grade height similar to the existing. The difference in grade between the first floor of the buildings and the pier and wharves provides an opportunity to create terraced landscape areas that allow for varying purposes and plantings. Low site walls are utilized to create the terraces and to create places to sit facing the water. An open space area adjacent to the restaurant will provide public seating for both the restaurant and casual passersby. Native seaside shrubbery and plantings soften the edges of the terraced area and form an edge to the public seating area.

There will be site furniture, plantings, and lighting to enhance the public realm along the Harborwalk and as appropriate in all the various areas of the site (see Figure 2-2, Project Site Plan – Full Build, Figure 2-13B, View from New Street - Proposed, and Figure 2-15B, View from Channel - Proposed).

2.4 PUBLIC REALM

The pedestrian and public realm along the East Boston waterfront has been improved over the past several years with the development of Piers Park Phase 1, the East Boston Greenway, Porzio Park, the Golden Stairs, Lewis Mall, and most recently at Carlton's Wharf. The public realm will be improved in the future with three residential development projects that have been permitted but not yet built including: Clippership Wharf, Hodge Boiler Works, and Portside at Pier One. A Harborwalk is current planned at Hodge to connect to the existing one at Carlton's Wharf and LoPresti Park.

Substantial public improvements at the project site will create a destination and critical links to the existing and proposed areas outside of the site. A proposed Harborwalk will connect to the existing Harborwalk at LoPresti Park. It will provide excellent access and viewing area for the community to visit and enjoy. A water taxi landing will also draw the public further into the site as well as connect to other points on Boston's waterfront. These facilities, combined with the waterfront open space and marina, will encourage public use and activation of the waterfront and create a lively and inviting public space (see Figure 2-2, Project Site Plan – Full Build).

2.5 VIEW CORRIDORS AND PUBLIC ACCESS

The project is designed to create public access not only from New and Sumner Streets to the water's edge, but also along the waterfront from LoPresti Park to the south. A continuous Harborwalk is proposed along the waterfront and will connect back to New Street. It is embellished with substantial public open space located along this walkway.

The proposed sidewalk extensions and tree plantings from Sumner Street through and along the side of LoPresti Park will create a view corridor and shaded pedestrian path to the waterfront. To the extent compatible with the Parks Department Plans, the New Street project can enhance this connection. Pedestrians and drivers traveling west along Sumner Street to the project will have excellent views of Charlestown and the waterfront through this corridor, which will be a continuation of the trees and sidewalks typical to the recently reconstructed Sumner Street. In addition, the site design of the new building will help to frame the views toward Charlestown and Boston Harbor. Plantings and site improvements will be kept low so as not to impede views.

2.6 ARCHITECTURE DESIGN: FORM, MATERIALS, CHARACTER, AND FEATURES

2.6.1 EXISTING BUILDING WITH ADDITION

The existing 9-story building is a very simple concrete structure that is expressive of its regular structural bays. It is approximately 100′ wide (north-south), 123′ long (east-west) and 120′ high, so it is roughly a cube with minimal detail. When adding 6-stories to the top of this existing building, the design challenge was twofold: 1) to integrate the addition with the existing structure while at the same time stepping it back from the perimeter and 2) to mitigate the large blocky massing of the existing building so that it would be more compatible with its proposed residential use and residential neighbors. The solution is to create bay structures with large windows that start at the addition and then continue down the building to the fourth floor line at the east (New Street) and west elevations. Additionally, similar 5-story bays link the 14th to the 9th floor levels on both the north and south elevations. On a macro-scale, this connects the new massing to the existing, breaks up the massing of the middle floors and even further the upper floors, while maintaining a consistent base for the building; thus creating a traditional tripartite composition. On a micro-scale, individual bay windows were added to units in a staggered pattern on all four sides to create elements at a smaller scale and add an additional layer of texture to the building. The bay windows on the North, East, and South project approximately 3′6″, while the bay windows on the West project approximately 2′6″. These small bays are a contemporary version of traditional bay windows found across the street at Maverick Landing as well as throughout East Boston (see Figures 2-7, 2-8, 2-9, and 2-10, Elevations as well as Figures 2-13, 2-14, 2-15, and 2-16 that include all the perspective views).

All of the existing brick, glass block and window infill between the existing concrete structural elements will be removed. An exterior waterproofing and insulation system will be attached to the outside of the concrete to bring the building into compliance with the current energy codes. The finish materials will be large windows and occasionally patio doors to infill between the concrete and a combination of stone panels, phenolic resin panels and/or metal panels over the concrete. The top five floors of the addition will be predominantly large windows with metal panels and/or phenolic resin panels used as trim and at bays.

2.6.2 NEW RESIDENTIAL OR HOTEL/EXTENDED STAY BUILDING

The new 6-story building is proposed to utilize the same materials and similar features as the existing building with addition, but they are composed to simultaneously create a relationship between the two buildings while allowing each to have its own character and identity. The new building is proposed to be approximately 64 feet

wide (north-south), 192 feet long (east-west) and 69 feet high. The size and scale of this new building is in keeping with many traditional wharf type buildings including buildings along the East Boston and Boston waterfronts. The design challenge with a building of this length is to break down the scale of the façade so that it maintains a residential neighborhood character. The solution is to reduce the scale of the building vertically by creating a tripartite composition of base, middle, and top and horizontally by expressing the location of unique elements such as the access drive.

The base of the building is the first floor with its stone panel clad columns and infill with residential scale windows and entries at units and storefront providing transparency between the public outdoor areas and the facilities of public accommodation. The first floor also projects beyond the residential floors above near the waterfront. This allows facilities of public accommodation (the restaurant) to become a public destination in the open space area created at the end of the Sumner Street extension drive. The second, third and fourth floors create the middle of the composition. These floors are organized with stacking units that correspond to the structural column bays. These middle floors have a regularized composition of windows. A general palette of materials will be established to create a cohesive language and harmony. The top of the building is created by stepping the fifth and sixth floors back from the perimeter of the lower floors similar to the way the 6-story addition stepped back on the existing building. There are also bays connecting the top two floors to the middle floor as well as bays at the sixth floor breaking the flat roof line of the façade. These bays repeat in a consistent rhythm reminiscent of traditional dormers often found on both residential and wharf buildings (see Figures 2-7, 2-8, 2-9, and 2-10, Elevations as well as Figures 2-13, 2-14, 2-15, and 2-16 that include all the perspective views).

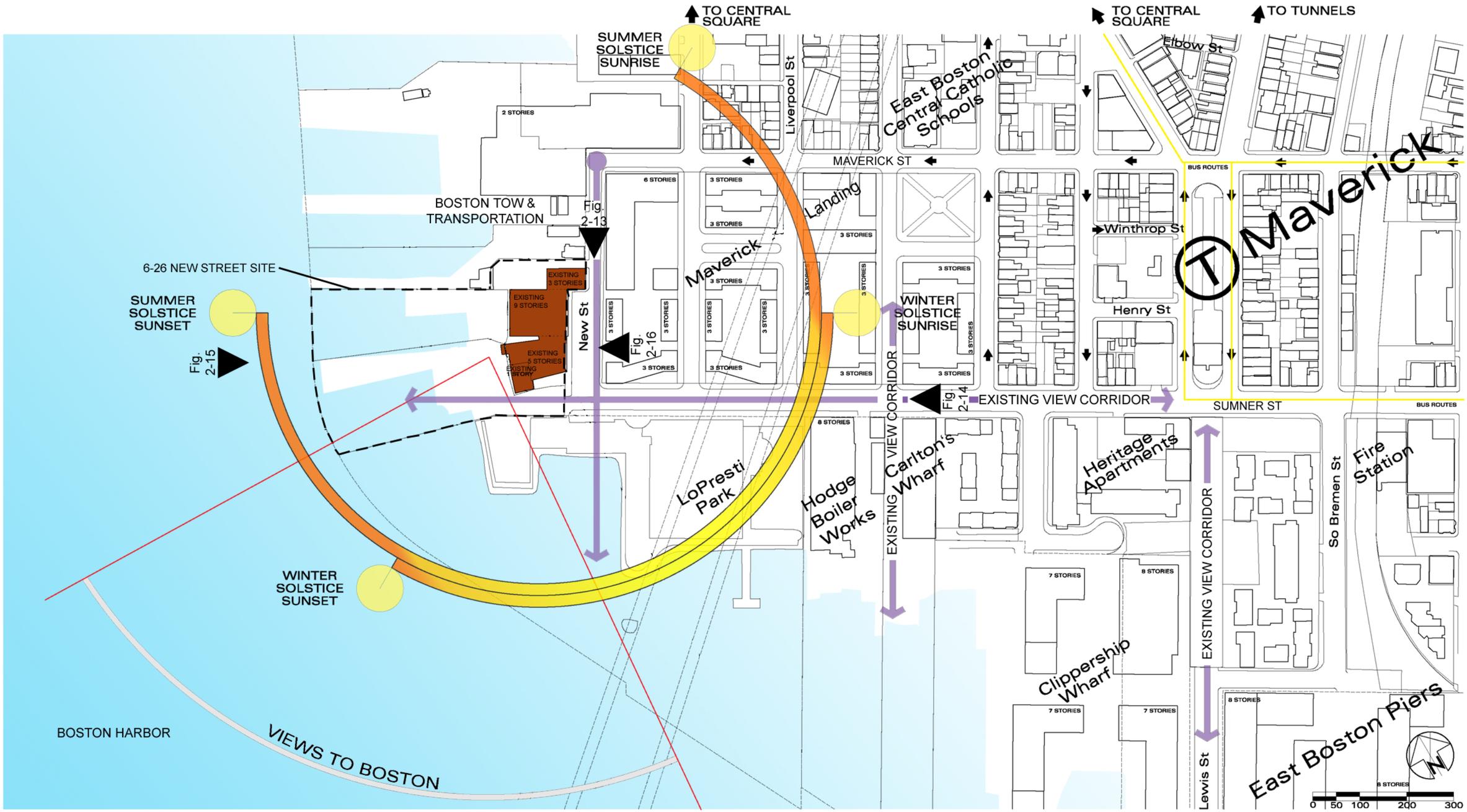
The materials on this new building will be stone panels, brick, metal panels and/or phenolic resin panels in addition to an abundance of windows.

At the time of the submission of this DPIR/DEIR, the proponent is analyzing the market to determine whether the new building would be used as either a residential building or for a hotel/extended stay building. If the market calls for the hotel/extended stay building option, the new building will still be visually consistent and compatible with the other structures on the site as described above.

2.6.3 NEW 3-LEVEL PARKING STRUCTURE

North of the existing 9-story building, the existing 3-story building is being replaced with a 3-level parking structure with a lower level at and slightly below the existing grade and upper levels approximately 10′ and 20′ above the grade at New Street. This parking structure will be designed to compliment the new proposed project and surrounding neighborhood so the front façade treatment will match the fabric of the

street. It will utilize a panelized system of brick, pre-cast concrete, metal panels, and metal mesh proportioned to be in keeping with the adjacent first floor materials proposed for the existing 9-story building and the existing 6-story residential building directly across the street at Maverick Landing.



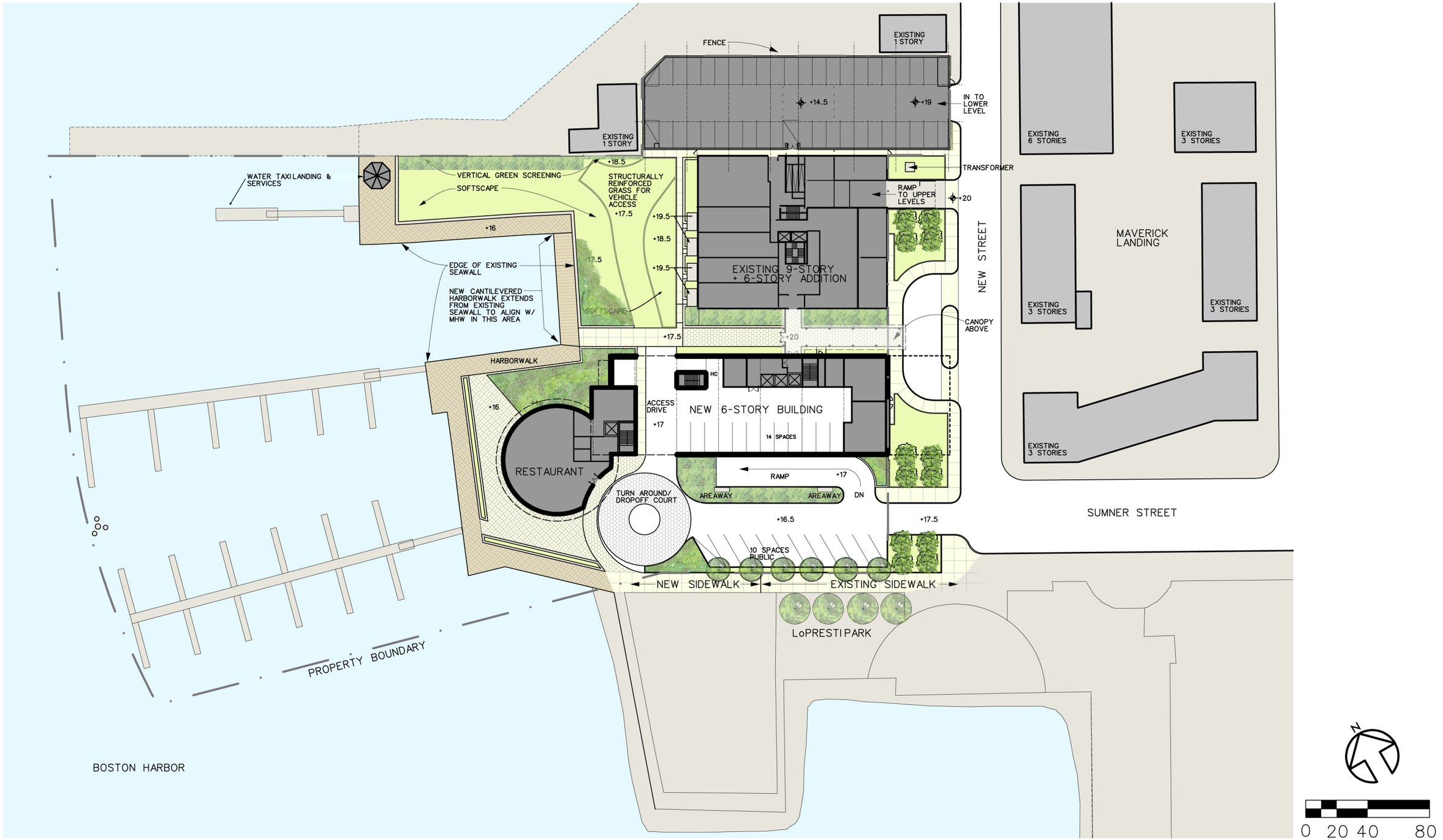
Neighborhood Context & View Corridors

New Street Project

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Figure 2-1

Project Number: 982.000
Scale: see graphic
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N

0 20 40 80

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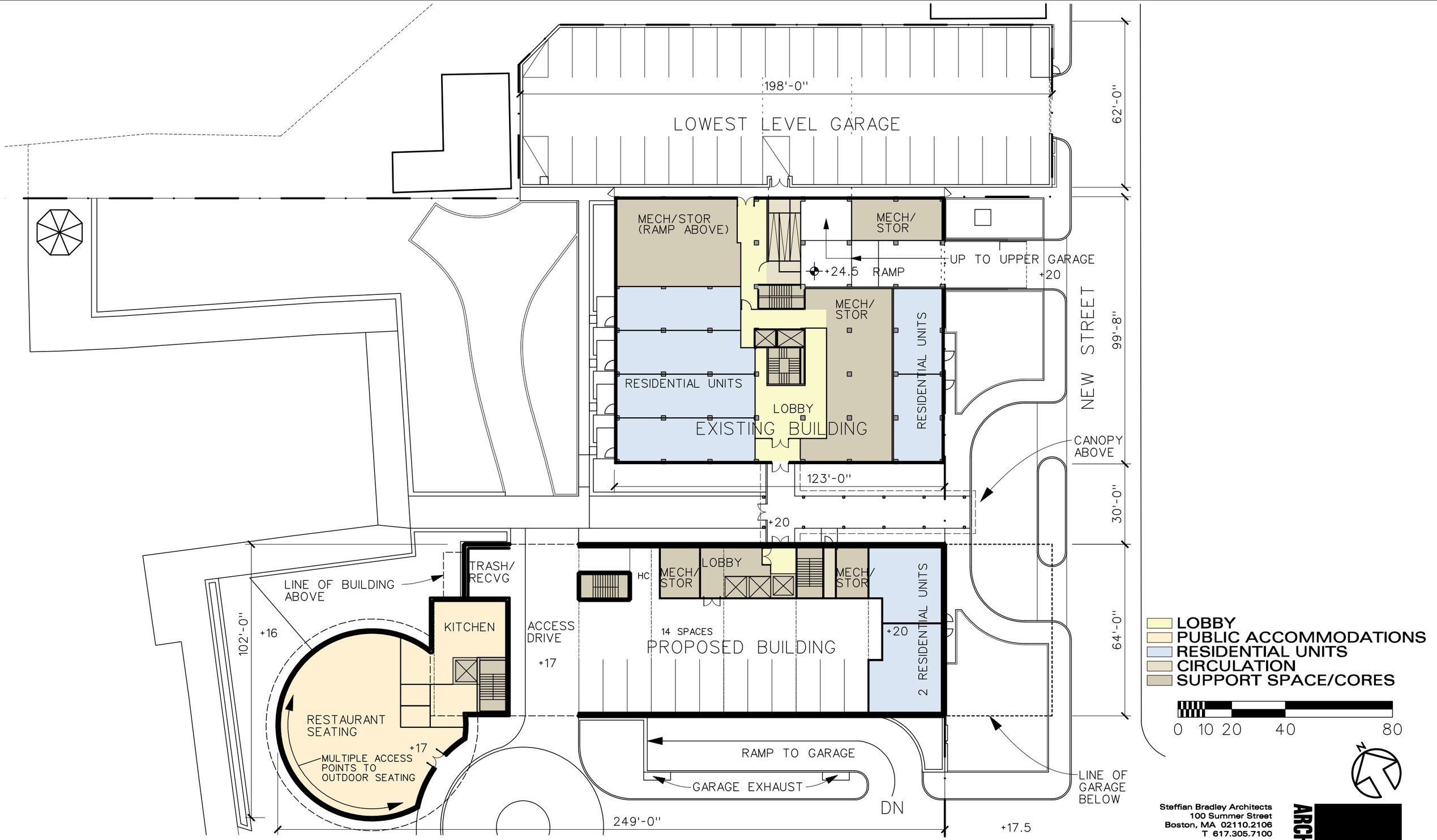
Project Site Plan -Full Build

New Street Project

Figure 2-2

Project Number: 982.000
Scale: see graphic
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1st Floor Plan

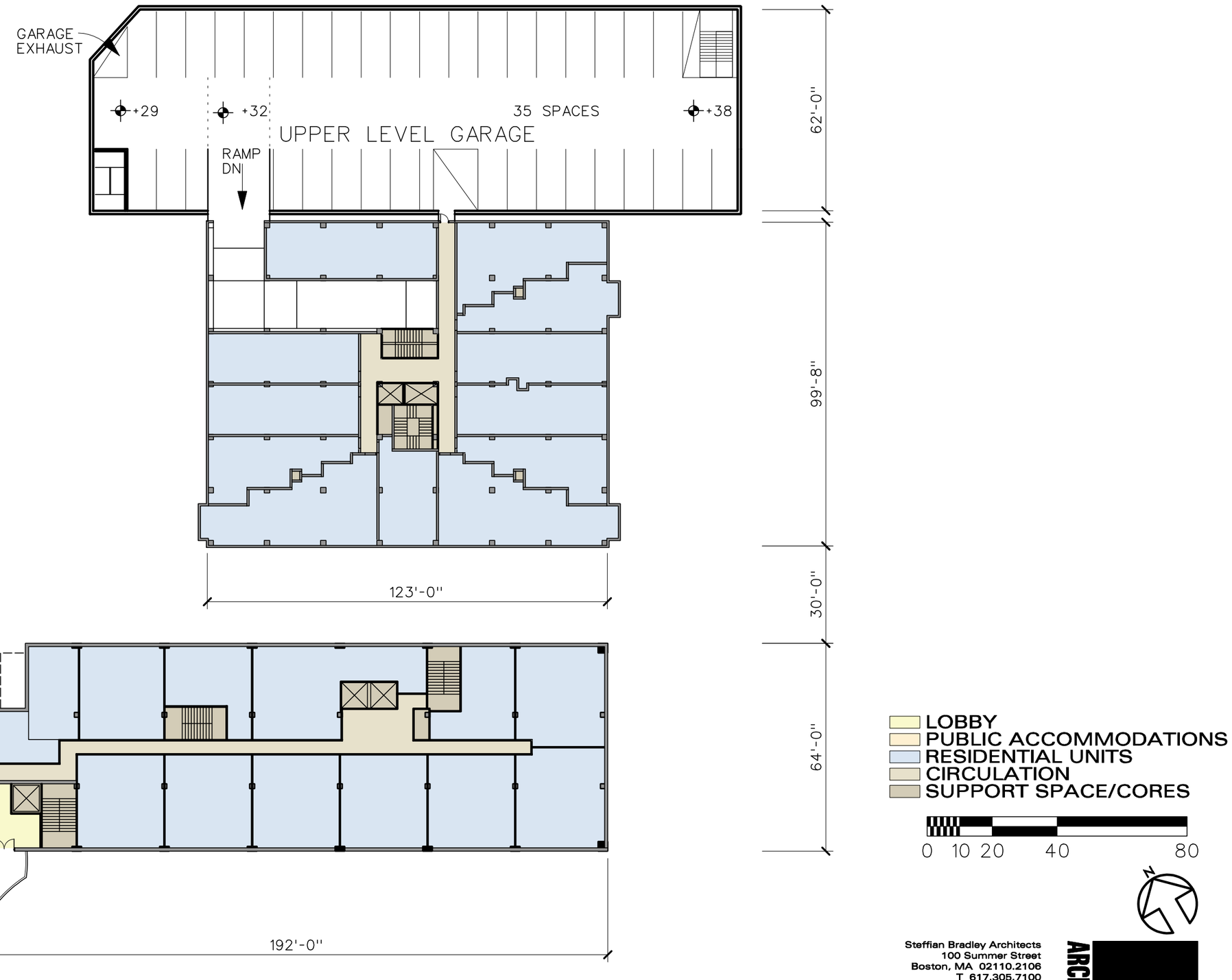
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Figure 2-3

Project Number: 982.000
Scale: 1/32"=1'-0"
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2nd Floor Plan

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Figure 2-4

Project Number: 982.000
Scale: 1/32"=1'-0"
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CIRCULATION
SUPPORT SPACE/CORES

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6th Floor Plan

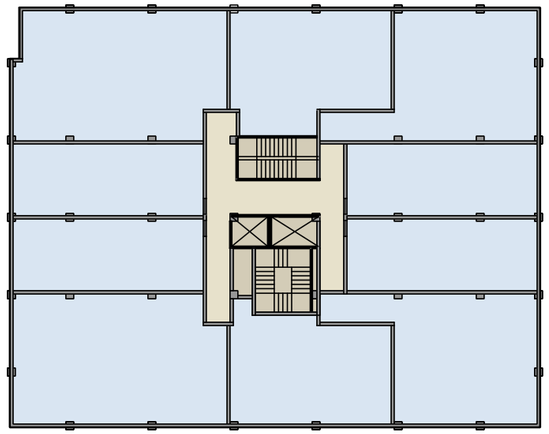
New Street Project

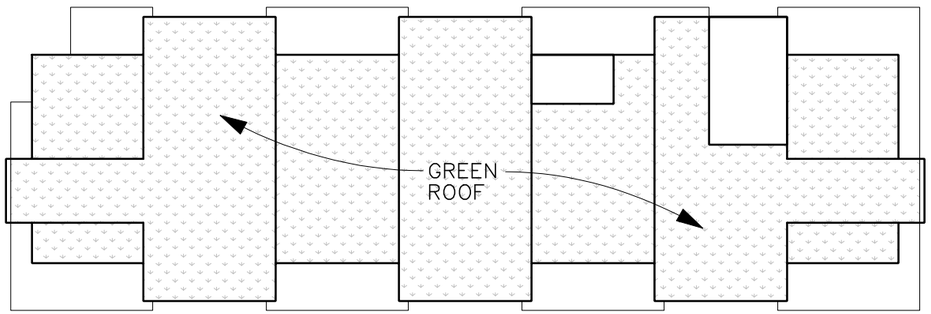
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Figure 2-5

Project Number: 982.000
Scale: 1/32"=1'-0"
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CIRCULATION
SUPPORT SPACE/CORES

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15th Floor Plan

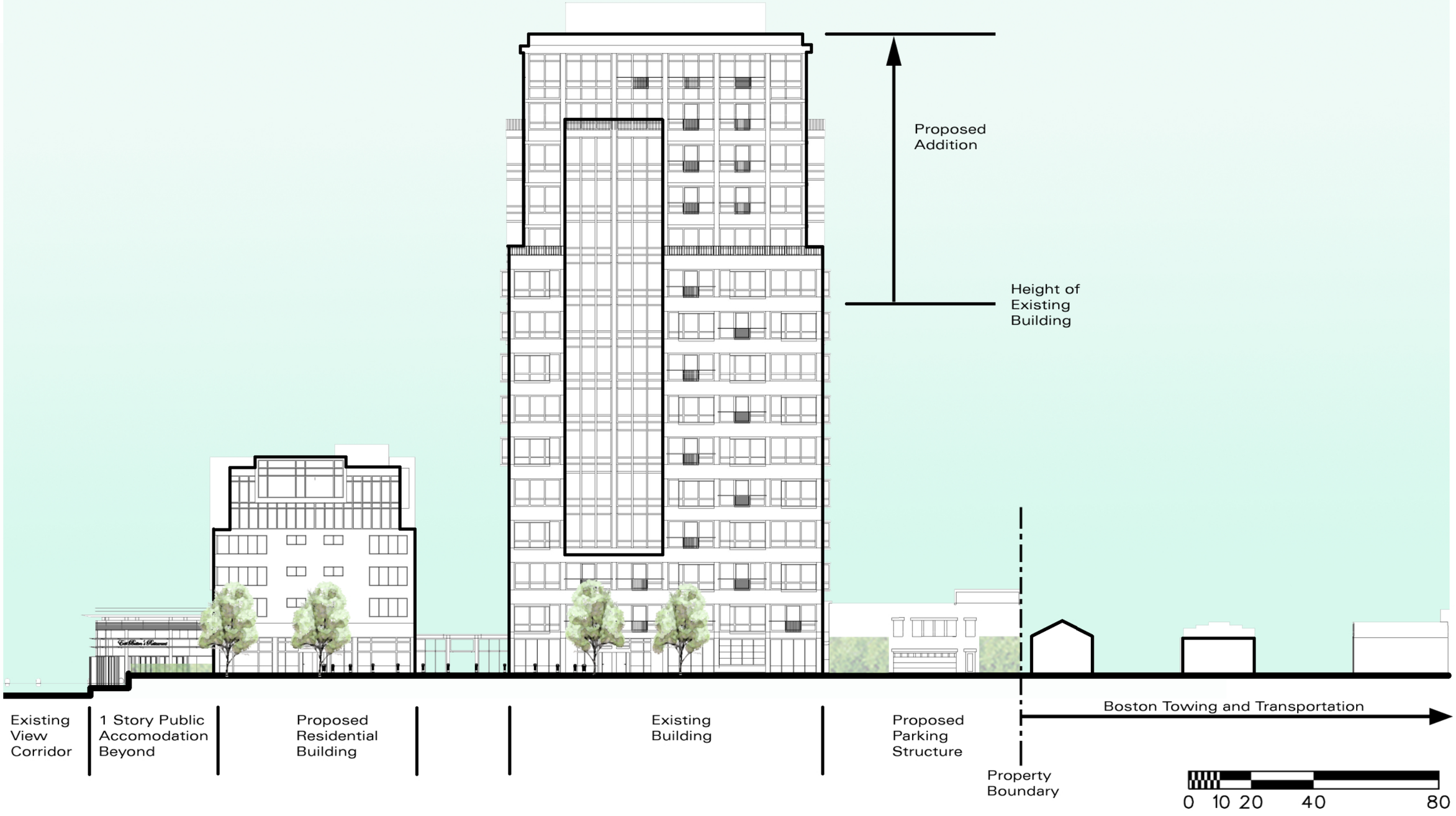
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Figure 2-6

Project Number: 982.000
Scale: 1/32"=1'-0"
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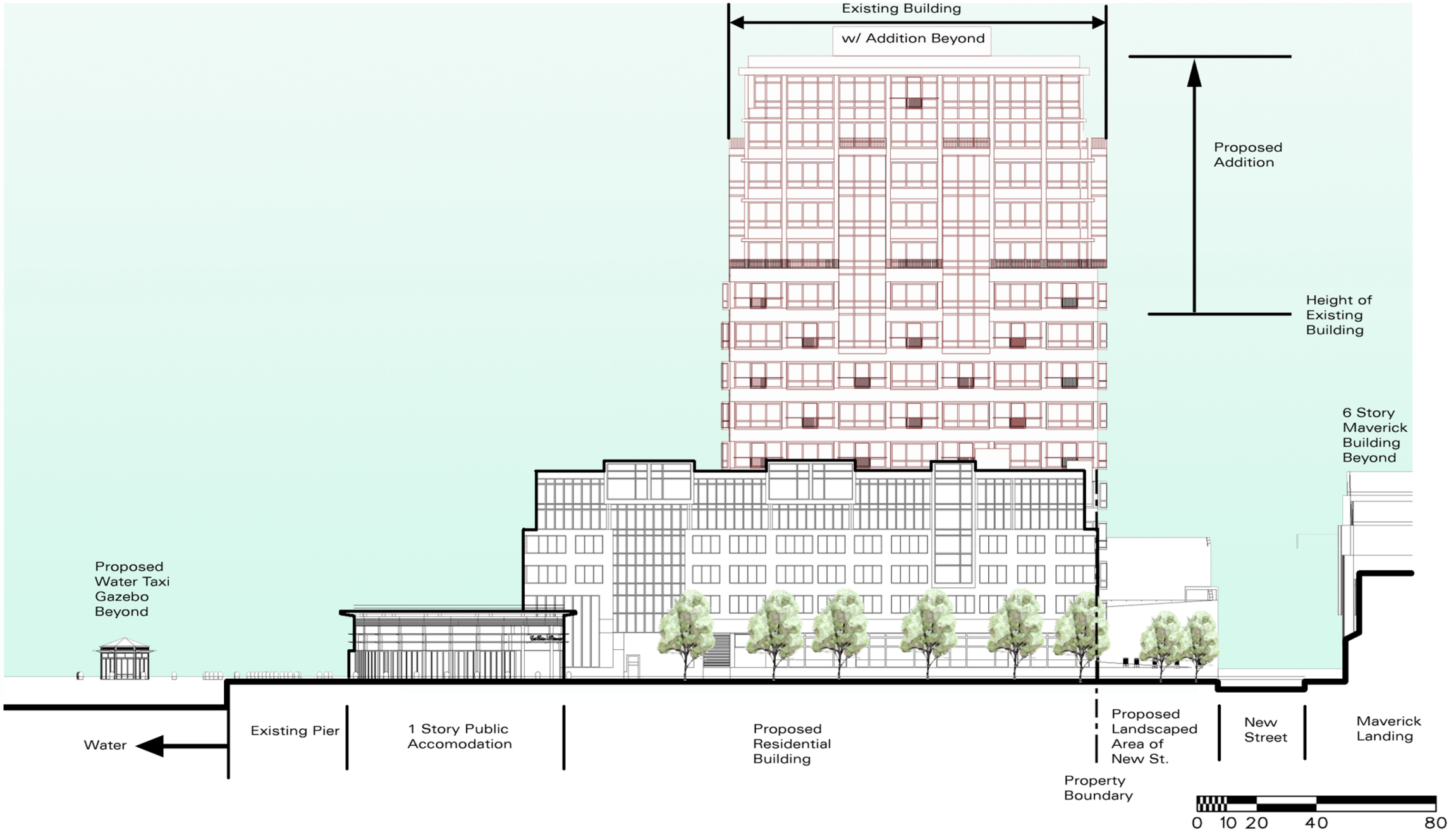
East Elevation

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Figure 2-7

Project Number: 982.000
Scale: 1/32"=1'-0"
June 2008



South Elevation

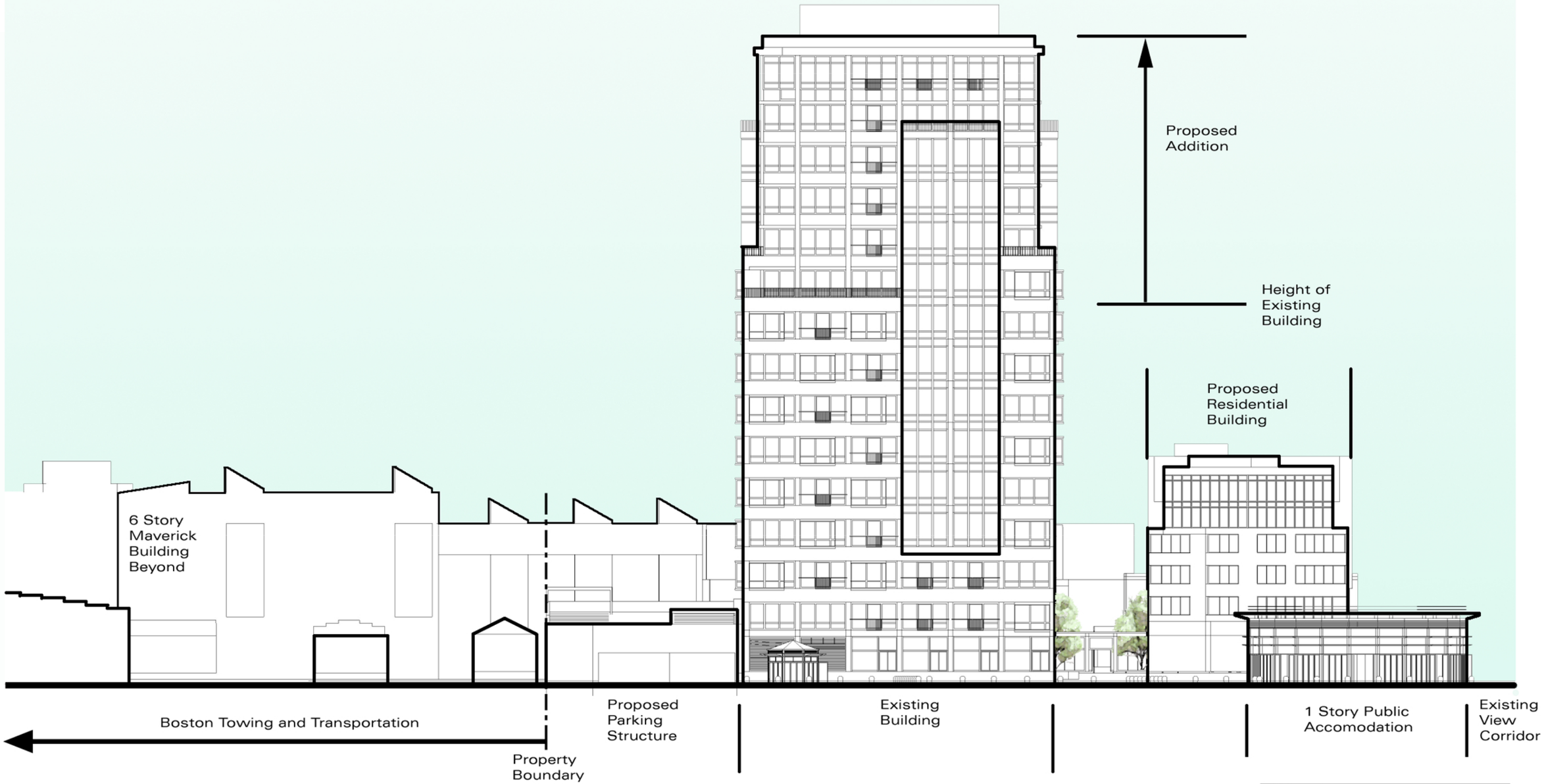
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Figure 2-8

Project Number: 982.000
Scale: 1/32"=1'-0"
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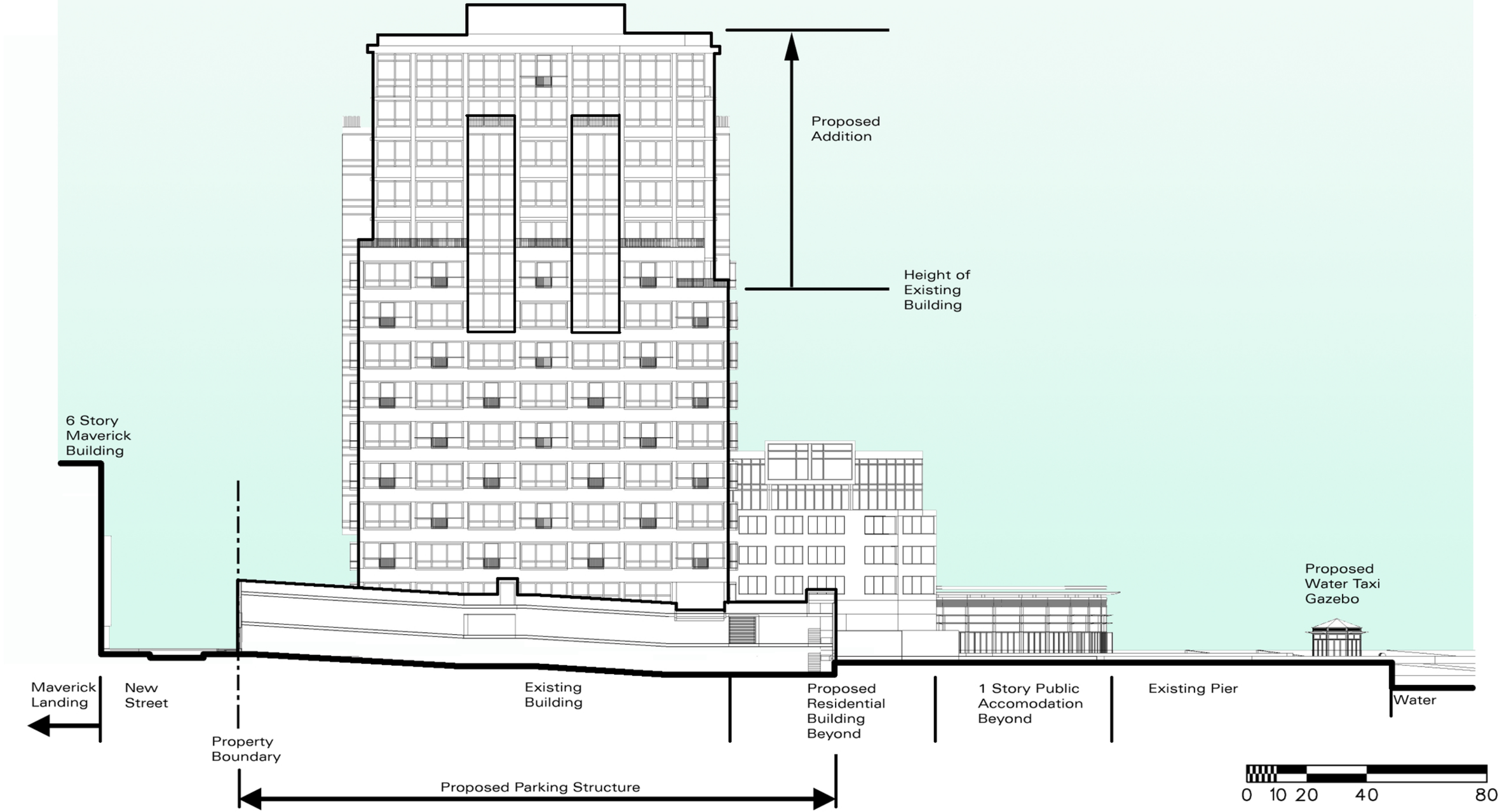
West Elevation

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Figure 2-9

Project Number: 982.000
Scale: 1/32"=1'-0"
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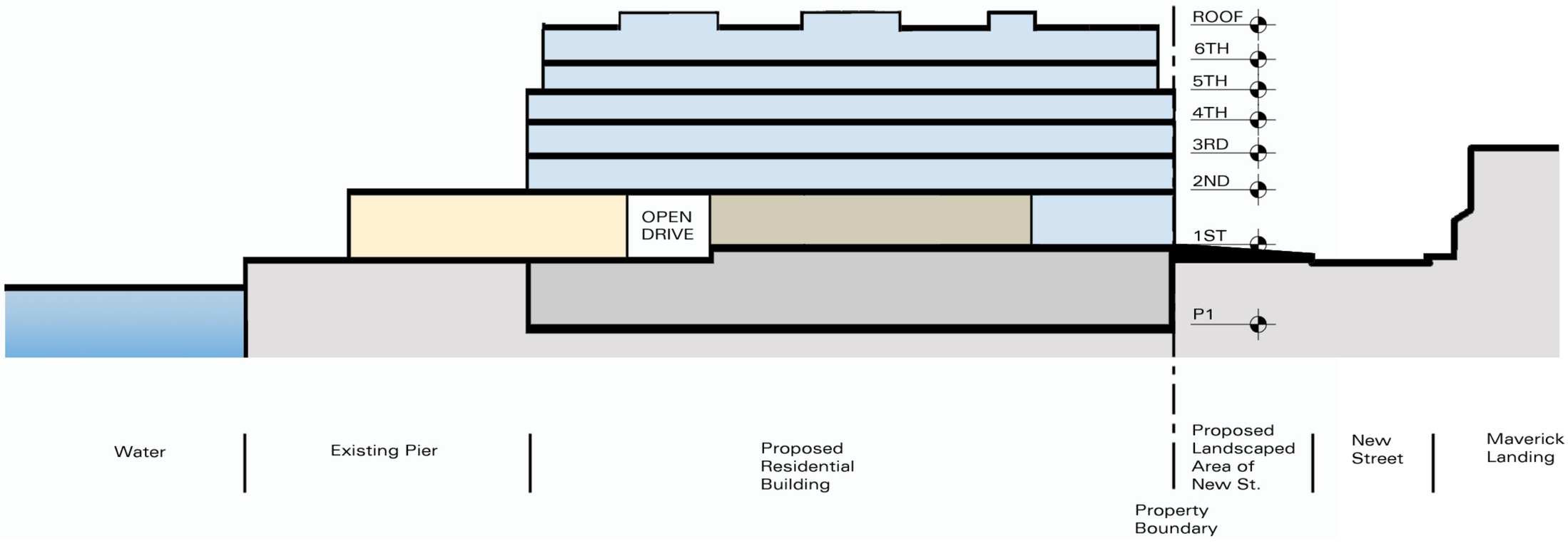
North Elevation

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Figure 2-10

Project Number: 982.000
Scale: 1/32"=1'-0"
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W-E SECTION

New Street Project

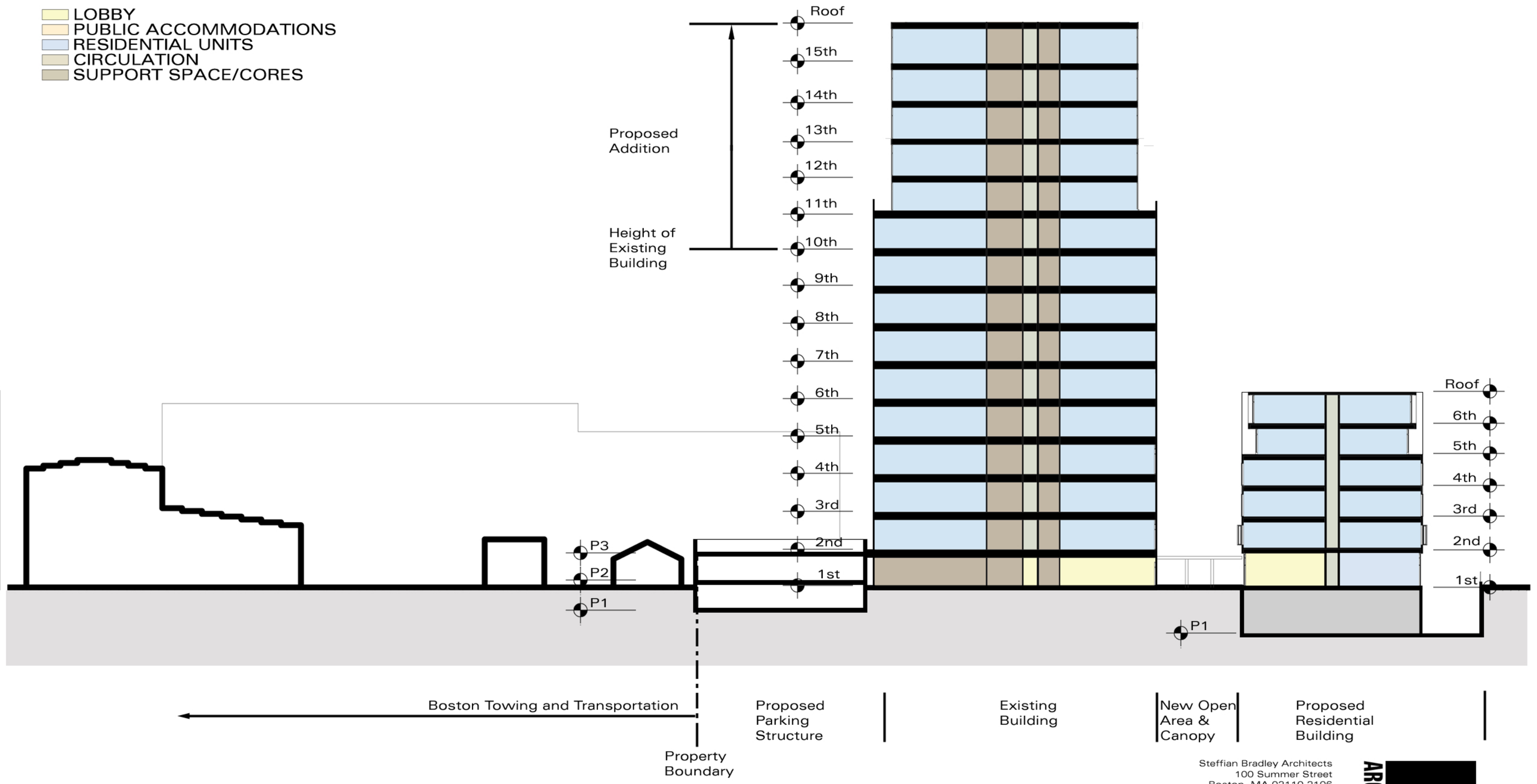
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Figure 2-11

Project Number: 982.000
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N-S SECTION

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Figure 2-12

Project Number: 982.000
Scale: 1/32"=1'-0"
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Maverick Landing | New St. Existing View Corridor w/ Boston in distance | Existing New Street Project Site | Boston Towing & Transportation

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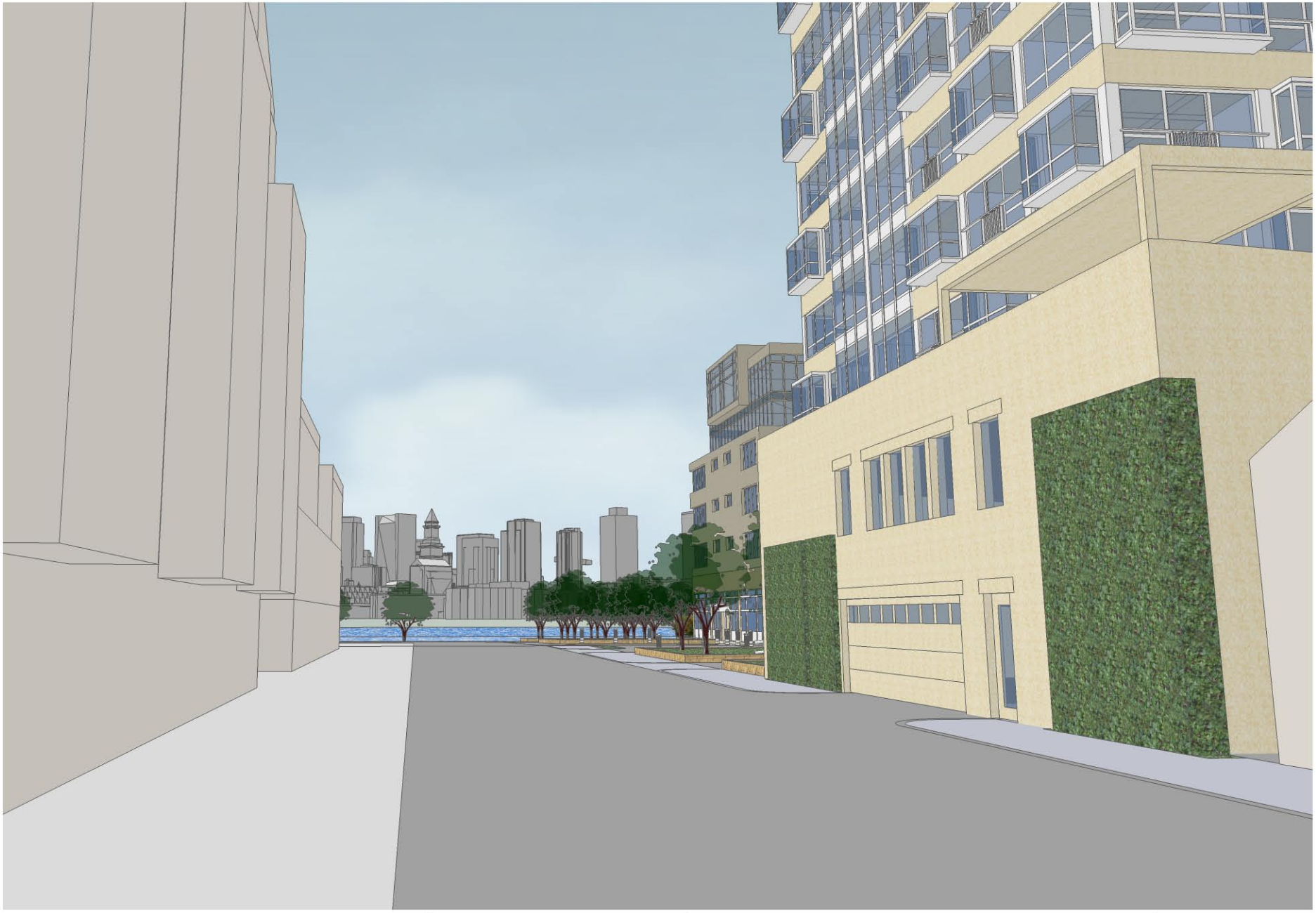
View from New Street-Existing

Figure 2-13A

New Street Project

Project Number: 982.000
Scale: N.T.S.
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Maverick Landing | New St. Existing View Corridor w/ Boston in distance | Proposed Full Build New Street Project | Boston Towing & Transportation

View from New Street-Proposed

New Street Project

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Figure 2-13B

Project Number: 982.000
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Carlton's Wharf
Proposed Hodge Boiler Works in foreground

Sumner St. Existing
View Corridor
w/ Charlestown in distance

Maverick Landing

View Down Sumner Street -Existing

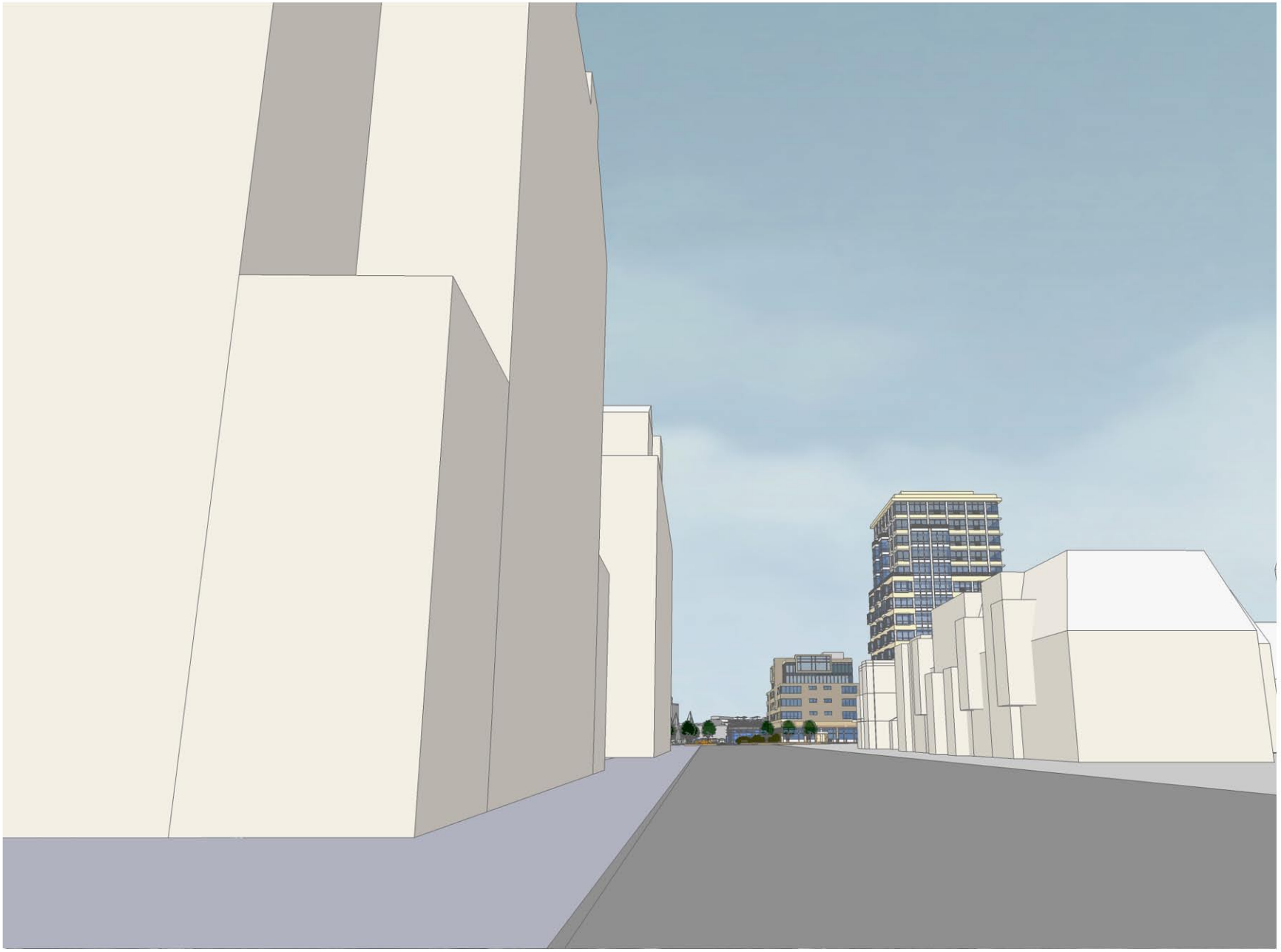
New Street Project

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Figure 2-14A

Project Number: 982.000
Scale: N.T.S.
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Carlton's Wharf
Proposed Hodge Boiler Works in foreground

Sumner St. Existing
View Corridor
w/ Charlestown in distance

Maverick Landing

View Down Sumner Street -Proposed

New Street Project

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Figure 2-14B

Project Number: 982.000
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Boston Towing
& Transportation

Existing New Street Project Site

LoPresti Park

View from Channel - Existing

New Street Project

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Figure 2-15A

Project Number: 982.000
Scale: N.T.S.
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Boston Towing
& Transportation

Proposed Full Build New Street Project

LoPresti Park

View from Channel-Proposed

New Street Project

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Figure 2-15B

Project Number: 982.000
Scale: N.T.S.
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EXISTING

Maverick Landing w/ Existing
New Street Site in foreground

View from Maverick Landing-Existing

New Street Project

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Figure 2-16A

Project Number: 982.000
Scale: N.T.S.
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PROPOSED

Maverick Landing w/ Proposed Full Build
New Street Project in foreground

Charlestown
in distance

View from Maverick Landing-Proposed

New Street Project

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Figure 2-16B

Project Number: 982.000
Scale: N.T.S.
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Chapter 3

Tidelands

3.0 TIDELANDS

3.1 INTRODUCTION

The New Street site is approximately 3.93 acres and located at the intersection of New and Sumner streets in East Boston along Boston Harbor. Approximately half of the property is solid ground composed of both filled tidelands and upland, and approximately half the site is watersheet.

A portion of the site is located within Chapter 91 jurisdiction and thus the Chapter 91 regulations, as modified by the East Boston Municipal Harbor Plan (EBMHP), apply to the portions of the proposed development that are in jurisdiction. Under the state Waterways Regulations, certain use and dimensional requirements outlined in the Chapter 91 regulations may be altered if a local municipality has developed and received state approval of a municipal harbor plan. The applicable Chapter 91 standards, as modified by the EBMHP and the Boundary Review Decision, are discussed in Section 3.5 below. The BRA is seeking an amendment to the EBMHP as anticipated by the Secretary's Decision and as described in Section 3.5.2, Compliance with the Proposed Amendment to the East Boston Municipal Harbor Plan.

3.2 PROJECT DESCRIPTION

The project includes a new 6-story building with either approximately 59 residential units or approximately 106 hotel or extended stay units and a facility of public accommodation (FPA) that replaces existing 1 and 5-story commercial/industrial buildings. It also includes an addition of six floors to an existing 9-story commercial/industrial building to create approximately 179 residential units, with all of the additional stories being outside of Chapter 91 jurisdiction.

The project will provide substantial public benefits and water-dependent uses along the waterfront including a Harborwalk that connects to the existing pedestrian network at LoPresti Park, outdoor seating, multiple viewing areas, and a water taxi waiting area. The new building also includes approximately 8,000 square feet (sf) of space on the ground floor that is programmed as an FPA such as a restaurant. In the non-Designated Port Area watersheet, there will be a small recreational marina. Approximately 2,300 cubic yards of material will have to be dredged to support the marina. In the Designated Port Area (DPA) portion of the watersheet, there will be a landing for a water taxi and a possible dock for marine service vessels.

Two parking levels below the 6-story building, one at grade and one underground, will accommodate 51 - 80 spaces. The higher number of parking spaces in the garages could be

achieved through the use of vehicle stackers. A stacker is a hydraulic lift system that provides space for two parked vehicles, one over the other. A 3-level, parking garage for approximately 113 vehicles will be located on the north side of the existing 9-story building, replacing an existing 3-story structure. On the south side of the new building will be an exterior parking area with 10 spaces.

3.3 TIDELANDS JURISDICTION

The project site is comprised of flowed tidelands, filled (formerly flowed) tidelands, and non-jurisdictional upland. Of the 171,131 square-foot site, approximately 84,547 sf are flowed tidelands, 50,434 sf are filled tidelands, and 36,150 sf are non-jurisdictional upland (see Figure 3-1, Chapter 91 Jurisdiction). Based on the Chesbrough Plan of 1852, the original shoreline runs seaward of all but a small corner of the existing 9-story building. The historic low water line runs parallel to the seaward edges of the existing solid-filled wharfs. Approximately 1/3 of the site is in private tidelands and less than ½ of the site is in Commonwealth tidelands (see Figure 3-2, Historic Shoreline and Authorizations).

Early 1800s East Boston waterfront maps show the natural shoreline. Historic maps from the mid-1800s show wharves and piers on this site and in the vicinity (see Figure 3-2, Historic Maps and Authorizations).

Moreover, the jurisdictional boundary was legally established by DEP through a Request for Determination of Applicability in 2002. As a result, in 2003, the site was re-delineated for Chapter 91 regulatory purposes with a new DPA boundary, per the decision of the Secretary of Environmental Affairs.

All of the existing piers and fill were previously authorized or licensed. Authorizations in 1848 (Chapter 244 of 1848) and 1871 (Chapter 267 of 1871) allowed wharves to be maintained and extended to specific Harbor Commission Lines. Chapter 91 licenses, 118 (1915), 154 (1915), and 200 (1916), permitted the property owner to maintain, dredge, construct walls, and fill in and over the tidewaters of Boston Harbor.

3.4 COMPLIANCE WITH DESIGNATED PORT AREA

The Boston Redevelopment Authority (BRA), with the Boston Municipal Harbor Planning Committee, finalized Part 1 of the EBMHP in February 2002. The Secretary of Environmental Affairs approved the EBMHP on July 15, 2002. The New Street site was specifically mentioned in the EBMHP, which anticipated the redevelopment of the site and a municipal harbor plan amendment to ensure effective implementation of the East Boston Master Plan. The Secretary noted in the Decision that the State had not yet resolved the DPA status of the New Street site and recommended the completion of a DPA Boundary

Review for the site and then a MHP amendment with substitutions and amplifications in order to achieve the overall goals of the EBMHP.

The DPA boundary was reviewed, and the Secretary made a Designation Decision on the East Boston Designated Port Area, which included the property at 6 – 26 New Street, on April 23, 2003. This Designation Decision removed the DPA designation from all land area on the site and left a portion of the waterside DPA restricted, placing several requirements on the redevelopment of the site.

1. Removal or restoration of all on-site piles (DPA and non-DPA portions of the site);
2. Site-wide reconstruction of deteriorated sections of the bulkhead;
3. The design of any future project will include a permanent vehicle access route from New or Sumner Street to the site's Water Dependent Use Zone (WDUZ) and DPA that will be included in any future Chapter 91 license review process;
4. Provide language in lease forms or deeds describing the prior existence of nearby water-dependent industrial facilities with operational characteristics as enumerated at 310 CMR 9.51(1); and
5. Develop any non-water dependent facilities in a manner to prevent significant conflict in operation between their uses with those of any water-dependent facility which can reasonably be expected to locate on or near the project site.

In response to number 1 above, all the pile fields are proposed to be removed from the DPA watersheet as well as the remainder of the water area within the site.

In response to number 2 above, the seawalls and the adjacent surfaces were repaired in March 2007.

In response to number 3 above, a permanent access route will be created to preserve the capacity for vehicle access to the DPA portion of the site. The access road is through a 14-foot high passageway in the 6-story building, which is higher than the clearance of the Ted Williams Tunnel. To ensure that the route can support vehicular access to the DPA, it was designed to accommodate a vehicle that would typically visit the waterfront, known as a SU-30 single unit truck, which is approximately 30 feet long. As shown in Figure 3.3, Design Vehicle Access Route, the vehicle has sufficient turning radii to access the DPA and turn around. The route will be constructed with innovative, structurally reinforced permeable construction technology and "clothed" with green space to permit multi-use for both vehicle access and maximum open space enjoyment for the public.

In response to number 4 above, the proponent will include language in all residential lease forms or condominium deeds that describes the existence of nearby water-dependent industrial facilities and associated activities.

In response to number 5 above, the proponent will ensure that the design of the project will minimize conflicts in operational uses of nearby water-dependent uses. The design of the project will create a buffer between the uses by locating a parking structure between the larger residential building and the adjacent site. Double-glazed windows will be used to minimize noise. Similar building techniques will be developed in other parts of the project.

The Designation Decision also requires that one of the following options be implemented to upgrade the existing infrastructure when the property is redeveloped:

1. Construction of a permanent pile supported pier in the DPA;
2. Installation of floating docks capable of berthing vessels of a type and size common to marine industrial use; or
3. Restoration of the DPA portion of the site to a level that will allow the area to be accessible for vessel berthing at the existing neighboring dock.

The program for the project will conform to at least one of these options, depending on final Chapter 91 licensing proceedings. Currently, it is planned to meet two options; options 2 and 3. For option 2, the proponent will provide a landing for water taxis and possibly a dock for marine service vessels, which are water-dependent industrial uses under the Chapter 91 regulations (310 CMR 9.12 (2)(b)). The landing will be located in the DPA section of the project along the north wharf. For option 3, the proponent's site improvements will allow the area to be newly accessible for water-dependent industrial vessels berthing at the adjacent dock for the first time in recent memory.

3.5 COMPLIANCE WITH CHAPTER 91 STANDARDS

The project is nonwater-dependent pursuant to 310 CMR 9.12(4) of the Waterways regulations because it consists of a residential and mixed-use development. As stated in M.G.L. Chapter 91 Section 18, "No structures or fill for nonwater-dependent uses of tidelands may be licensed unless a written determination by the department [of Environmental Protection] is made following a public hearing that said structures or fill shall serve a proper public purpose and that said purpose shall provide a greater public benefit than public detriment to the rights of the public in said lands . . . " Pursuant to 310 CMR 9.31(2)(b) of the Waterways regulations, DEP presumes that the referenced requirement is met if the project complies with the nonwater-dependent use standards of 310 CMR 9.51 - 9.53, and is consistent with the policies of the Massachusetts Office of Coastal Zone Management (CZM).

The proponent is seeking relief through a municipal harbor plan (MHP) amendment from certain dimensional constraints including height, the water dependent use zone, the location of facilities of private tenancy, and the location of facilities of public accommodation. The East Boston Municipal Harbor Plan Amendment has gone through its

public planning process at the municipal level with the BRA. The BRA recently approved the EBMHP Amendment and forwarded it to the Secretary of Energy and Environmental Affairs for approval.

Section 3.5.1 below describes the project compliance with the existing, applicable Chapter 91 standards outlined in 310 CMR 9.00. Section 3.5.2 describes how the project will comply with the proposed substitutions being requested through the proposed amendment to the EBMHP.

3.5.1 COMPLIANCE WITH CHAPTER 91 REGULATIONS

The project complies with the following standards of the existing Chapter 91 regulations.

310 CMR 9.51(3)(c) – Water-Dependent Use Zone

In accordance with 310 CMR 9.51(3)(c), the project must preserve the site's capacity to serve water-dependent uses. This standard is met by ensuring that new or expanded nonwater-dependent buildings and at or above grade parking facilities are set back from the waterfront. The setback or "water-dependent use zone" (WDUZ) extends landward from the project shoreline 25% of the depth of the lot, with a minimum of 25 feet and a maximum of 100 feet, and along the sides of piers 15% of the lot width, with a minimum of 10 feet and a maximum of 50 feet.

The site has a lot depth of 212 feet, and the WDUZ is set back 53 feet from the project shoreline in the area between the two wharves. On the southern wharf, the WDUZ is set back 25 feet from the end and 22 feet on the sides. On the northern wharf, the setback is 31 feet from the end and 12 feet from the side (see Figure 3-4, Chapter 91 Compliance).

The project complies with the WDUZ standard. The only building located within the WDUZ is the covered, water taxi waiting area, which is a water-dependent use and is allowed within the WDUZ.

310 CMR 9.51(3)(d) - Open Space

In accordance with 310 CMR 9.51(3)(d), no more than 50% of the project site may be occupied by nonwater-dependent use buildings. The regulations require that, at a minimum, one square foot of open space be provided on the project site, landward of the project shoreline, for each square foot of tidelands occupied by the footprint of buildings containing nonwater-dependent uses.

There are 51,088 sf[1] of tidelands landward of the project shoreline on the project site. As proposed, the building footprints will occupy approximately 13,733 sf or approximately 27% of this jurisdiction area, thereby keeping much more than half of the project site free from nonwater-dependent buildings.

310 CMR 9.52(1)(b) Pedestrian Access Network

The proposed Harborwalk along the waterfront, its connection at LoPresti Park, and the public access across the open space areas and restaurant along the southern and western portion of the site enable the project to meet the pedestrian access network requirements of 310 CMR 9.52(1)(b).

310 CMR 9.52(1)(a) – Water-Dependent Activity Facilities

Standard 310 CMR 9.52(1)(a) requires that projects with a WDUZ include at least one facility that generates a water-dependent use activity. The proposed landing for water taxis and a possible dock for marine service vessels, the water taxi waiting area on the north wharf, and the proposed marina enable the project to meet this standard, along with anticipated public use of Harborwalk, which is considered a water-dependent use activity pursuant to 310 CMR 9.02. The landing will also promote active use of the shoreline and will provide a water-dependent facility that is needed on Boston Harbor.

3.5.2 COMPLIANCE WITH THE PROPOSED AMENDMENT TO THE EAST BOSTON MUNICIPAL HARBOR PLAN

The project will conform to the following standards which are included in the BRA's proposed Amendment to the EBMHP:

310 CMR 9.51(3)(b), Facilities of Private Tenancy

Under the Chapter 91 regulations, Facilities of Private Tenancy (FPTs) are generally not allowed within 100 ft of the project shoreline on filled private tidelands. Allowances are made for upper floor accessory services for up to 25% of the required area. Substitute measures that provide alternative methods of meeting the purposes of avoiding privatization and that are tailored to the circumstances of the particular harbor area are allowed through a MHP.

A small portion of both the 3-level parking garage and the redeveloped larger building are within 100 feet of the project shoreline (see Figure 3-4). These areas, which total approximately 1,200 sf, would not be allowed to be occupied for private use under Chapter 91 regulations absent an MHP.

[1] As measured to the project shoreline.

The BRA has proposed an MHP amendment to allow the reconfiguration of the FPA space within 100 feet of the project shoreline to locations that provide more public benefits and more appropriate uses of the waterfront area. The Amendment permits:

- For the gross floor area of FPT that are located within 100 feet of the project shoreline, at least an equivalent area of FPA will be provided on the site, expanding the location of the FPA beyond 100 feet of the project shoreline.

The project complies with the FPT requirement of the Amendment by providing an equal and offsetting amount of FPA space, 1,200 sf, at two areas on the site, landward of the FPA line that is 100 feet from the project shoreline. One of the reconfigured FPA areas will be interior, within the ground floor parking area of the 6-story building, and adjacent to the 100-foot line. The other reconfigured FPA area will be exterior, within 100 feet of the project shoreline, and within the parking area on the south side of the site (see Figure 3-4, Chapter 91 Compliance). Dedicated public parking areas would help provide additional access to the waterfront in a more appropriate location of the site which is closer to the public amenities and park on the south side of the site and away from the industrial uses on the north side of the site.

310 CMR 9.51(3)(e), Height

In accordance with 310 CMR 9.51(3)(e), the building heights are required to be 55 feet or less when located within 100 feet of the HWM and within Chapter 91 jurisdiction. Landward of the 100-foot line, buildings can be stepped up on a 1:2 slope.

Under a Chapter 91 compliant scheme, the new building would be 55 feet within 100 feet of the HWM (see Figure 3-5, Project Building Heights). The building would be stepped up at a 1:2 slope to a maximum height of 65 feet and then would be out of Chapter 91 jurisdiction and could rise to whatever local zoning allowed.

Through the amendment, the BRA is proposing a uniform height requirement of 69 feet for this building. This height will be maintained for the entire length of the building; including those areas outside Chapter 91 jurisdiction. This layout allows for more efficient and economical use of the land as well as an increase the total amount of open space within Chapter 91 jurisdiction on the site to more than 72%. This requested height is less than that approved for nearby waterfront projects in East Boston.

The EBMHP requires projects with a height substitute provision to demonstrate that it results in comparable wind, shadow, and other conditions at the ground level, or that mitigation be provided. A qualitative wind analysis shows that the project meets the BRA wind criteria at key ground level pedestrian areas (see Appendix 4, Wind). A shadow analysis shows that there is a net decrease in shadow between the Chapter 91

compliant scheme and the proposed MHP compliant scheme. Since there were no significant adverse shadow or wind impacts, no offsetting public benefits were required by the proposed EBMHP Amendment.

310 CMR 9.53 - COMMONWEALTH TIDELANDS

The site is privately owned and consists of both private and Commonwealth tidelands, and therefore, the provisions of 310 CMR 9.53(2)(a) pertaining to water-dependent activity and exterior open space apply. Within the Commonwealth tidelands, the only structures are the landing for water taxis and possibly for marine service vessels, the water taxi waiting area, and the marina all of which are water-dependent uses. Pursuant to 310 CMR 9.53(2)(a), the project is required to promote a water-based public activity that is appropriate for the site, given the nature of the project and the condition of the water body on which it is located. The proponent will promote public use and enjoyment of such lands to a degree that is fully commensurate with the proprietary rights of the Commonwealth.

Through the EBMHP Amendment, the BRA is proposing that the project distribute the open space features that serve to activate the public open space in order to enhance its interest, access, and use. Activation of the Harborwalk and waterfront open space will be provided through the use of historic and interpretive elements and displays.

The project will comply with the Amendment by distributed interpretive displays such as a historic map and a descriptive plaque at various points along the waterfront and Harborwalk areas. These elements will be spread out and not concentrated at one location as would otherwise be required under Chapter 91, such that they are more beneficial to the public and enhance the waterfront experience. Specific elements and their locations along the waterfront will be discussed during the Chapter 91 licensing process. Furthermore, the project will attract and maintain substantial public activity on a year round basis by creating open space for public use including a Harborwalk that runs along the whole waterfront of the site and a water taxi landing. These open space areas will also include benches, lighting, trash receptacles, and similar amenities to support and encourage its use.

3.5.3 SUMMARY OF CHAPTER 91 COMPLIANCE

As the foregoing discussion demonstrates, the project complies with the state Chapter 91 regulations as modified by the proposed amendment to the EBMHP. The site design and program will substantially enhance the waterfront environment along this underutilized and partially vacant section of the East Boston waterfront. Consistent with the goals of Chapter 91 and the EBMHP, the public will benefit from public realm improvements that not only provide views and access to and from the waterfront, but also activate the waterfront with a restaurant, recreational use, or similar public waterfront uses.

3.6 NAVIGATION AND SECURITY

3.6.1 PROPOSED OPERATIONS

The Project proposes to construct an approximately 36-slip marina in the non-DPA portion of the site, a landing for water taxis and possibly a dock for marine service vessels in the DPA, which is adjacent to the property owned by Boston Towing and Transportation. Vessels traveling to and from the dock may navigate near the Boston Towing property, but would not interfere with the vessel operations. The proposed types of water-dependent industrial uses are compatible with the existing marine industrial uses and are allowed pursuant to the Waterways Regulations.

3.6.2 SAFETY AND SECURITY

The proponent is aware of the operational security and operational aspects of the Boston Towing and Transportation (BTT) site and anticipates working cooperatively with BTT to assure continued security and operational functionality. Vessel users at the project site will be informed of the types of vessels and uses at the Boston Towing site to minimize conflicts and to ensure safe navigation. No navigational impacts regarding vessels traversing the area are anticipated.

On the landside, the proposed Harborwalk and water taxi waiting area have been redesigned to create a more open and visible area to ensure visitors can be seen along the Boston Towing property line for security purposes.

Construction impacts to vessel traffic at the Boston Towing site are expected to be minimal:

- Dredging for the marina will only be conducted in the non-DPA portion of the watersheet, which is more than 120 feet from the Boston Towing property;
- The marina construction period would only few months; and
- The construction period would only be a few months for the water taxi landing.

3.7 PROJECT COMPLIANCE WITH THE MASSACHUSETTS OFFICE OF COASTAL ZONE MANAGEMENT POLICIES

The project is consistent with the Massachusetts Coastal Zone Management (CZM) Program Policies. The Massachusetts CZM Program was established to protect and manage the development and use of the coastal zone under the provisions of the Federal Coastal Zone Management Act of 1972. This is accomplished by reviewing proposed developments in the coastal zone in terms of consistency with the CZM Coastal Policies and Management Principles. The project's consistency with relevant policies/principles is described below.

STORMWATER MANAGEMENT

WATER QUALITY POLICY #2

"Ensure that nonpoint pollution controls promote the attainment of state surface water quality standards in the coastal zone."

The project has developed a stormwater strategy for construction term and post construction activities. During construction, all stormwater generated from the surfaces used for vehicular traffic will be treated for the removal of suspended solids and potential contaminants in accordance with the Massachusetts DEP stormwater management policies. Best Management Practices (BMPs) will also be implemented to ensure that erosion and sedimentation are minimized. As deemed necessary, erosion and sedimentation controls, such as hay bales and siltation fences, will be used.

HABITAT PROTECTION

HABITAT POLICY #1

"Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and fresh water wetlands for their important role as natural habitats."

The project includes an approximately 36-slip marina and a water-taxi landing that will affect land under ocean and coastal beach resource areas in Boston Harbor. BMPs will be implemented during construction of both the landside and waterside developments to minimize any potential impacts to the resources of the harbor.

COASTAL HAZARDS

COASTAL HAZARD POLICY #1

"Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flow, salt marshes, and land under the ocean."

COASTAL HAZARD POLICY #2

"Ensure construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Approve permits for flood or erosion control projects only when it has been determined that there will be no significant adverse effects on the project site or adjacent or downcoast areas."

There are no natural coastal landforms such as dunes, beaches, barrier beaches, coastal banks, or salt marshes that provide storm damage prevention and flood control. Although there is land subject to coastal storm flowage on the project site, project activities will not

create an adverse impact on this resource area. Abandoned pilings will be removed to help improve the water quality and remove hazards to vessels navigating the local waters.

PUBLIC ACCESS

PUBLIC ACCESS POLICY #1

"Ensure that developments proposed near existing public recreation sites minimize their adverse effects. "

PUBLIC ACCESS MANAGEMENT PRINCIPLE #1

Improve public access to coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation. Link existing coastal recreation sites to each other or to nearby coastal inland facilities via trails for bicyclists, hikers, and equestrians, and via rivers for boaters.

PUBLIC ACCESS MANAGEMENT PRINCIPLE #2

Increase capacity of existing recreation areas by facilitating multiple use and by improving management, maintenance and public support facilities. Resolve conflicting uses whenever possible through improved management rather than through exclusion of uses.

The project creates public access to the waterfront in areas where it is currently prohibited. The project also provides public access along the waterfront and will link a new Harborwalk with LoPresti Park. A water taxi landing at the site will also create additional connections to other parts of Boston Harbor.

COASTAL HAZARDS

GROWTH MANAGEMENT PRINCIPLE #1

"Encourage, through technical assistance and review of publicly funded development, compatibility of proposed development with local community character and scenic resources."

The project creates affordable housing opportunities and is currently going through the community review process. The project is consistent with the East Boston Master Plan and the East Boston Municipal Harbor Plan Amendment.

GROWTH MANAGEMENT PRINCIPLE #3

"Encourage the revitalization and enhancement of existing development centers in the coastal zone through technical assistance and federal and state financial support for residential, commercial and industrial development."

The site is in proximity to the MBTA Blue Line station at Maverick Square, as well as a densely developed residential neighborhood. The project involves the redevelopment of an old, partially vacant, commercial/industrial urban site located on Boston Harbor in East

Boston. It also involves redevelopment of vacant and dilapidated piers and wharves in order to support recreational, commercial, and water-dependent industrial uses.

PORT AND HARBOR INFRASTRUCTURE

PORTS POLICY #1

"Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity and public health."

Dredging for the marina will be conducted in accordance with local, state, and federal regulations to ensure that it minimizes impact to the environmental resources as well as the public's health.

PORTS POLICY #3

"Preserve and enhance the capacity of Designated Port Areas (DPAs) to accommodate water-dependent industrial uses, and prevent the exclusion of such uses from tidelands and any other DPA lands over which a state agency exerts control by virtue of ownership, regulatory authority, or other legal jurisdiction."

This project preserves and enhances the chances of locating water-dependent uses within the DPA portion of the watersheet. Access for DPA uses will be substantially improved by removing the dilapidated timber pilings. A water-taxi landing, which may also be useful for marine service vessels, will be located along the north wharf.

PORTS MANAGEMENT PRINCIPAL #1

"Encourage, through technical and financial assistance, expansion of water dependent uses in designated ports and developed harbors, re-development of urban waterfronts, and expansion of visual access."

This Plan proposes expansion of water-dependent uses in the both the DPA and Non-DPA portions of the project site. It also supports redevelopment of this urbanized waterfront as well as expansion of visual access.

Expansion of Water-dependent Uses

Activities that support expansion of water-dependent uses include:

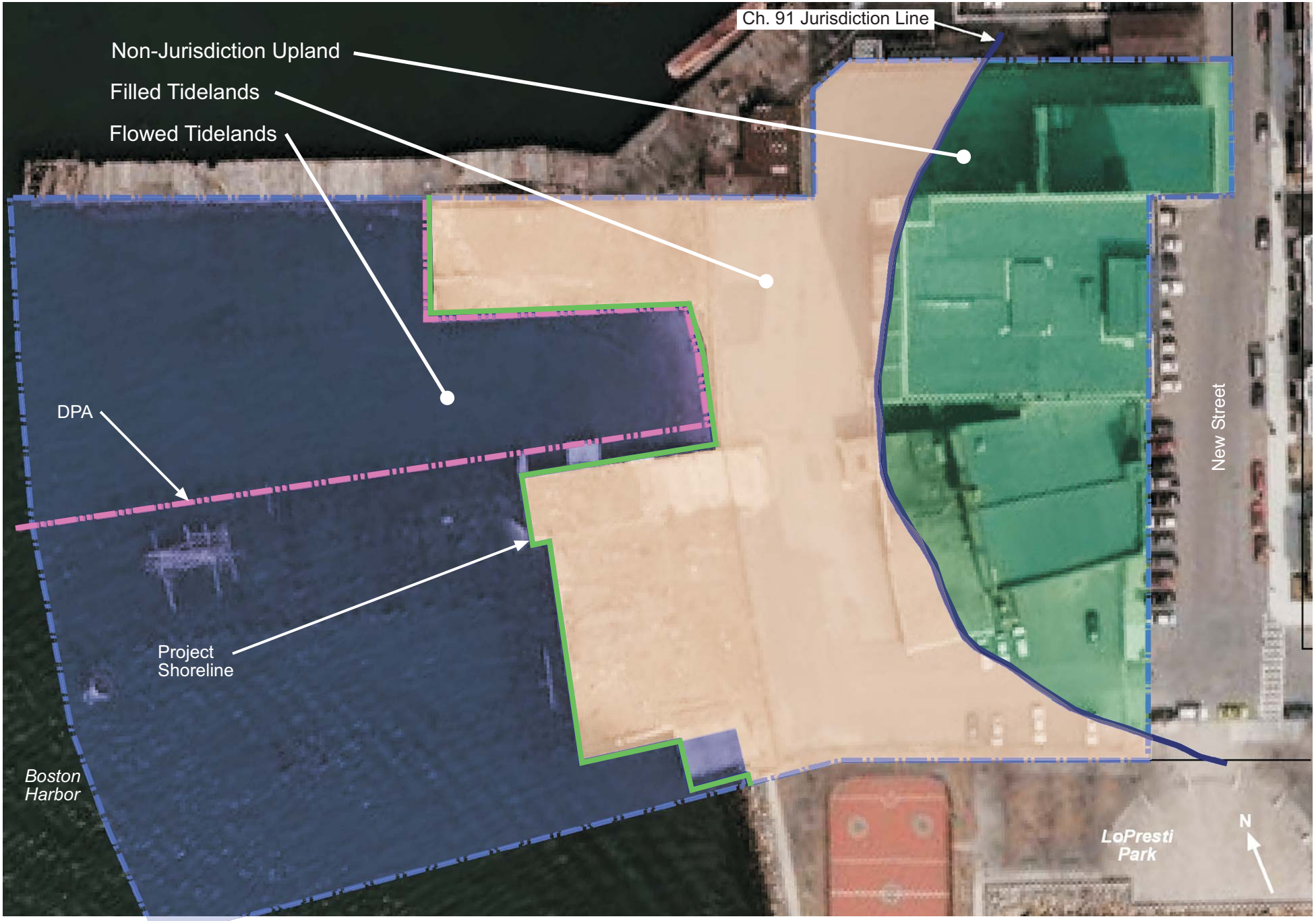
- Removal of all the deteriorated timber pilings within the watersheet of the site;
- A dock for water taxi which may also be useful for marine service vessels in the DPA portion of the watersheet;
- A marina in the non-DPA portion of the watersheet; and
- Restoration of navigable waterway throughout the site for the first time in decades.

Re-development of Urban Waterfronts

The project will substantially redevelop this urban waterfront with new public access and uses including a Harborwalk, water taxi service, and outdoor seating. It will redevelop existing, partially vacant buildings into residential and mixed uses that will help activate this part of East Boston as well a create vibrant place for residents to visit and enjoy.

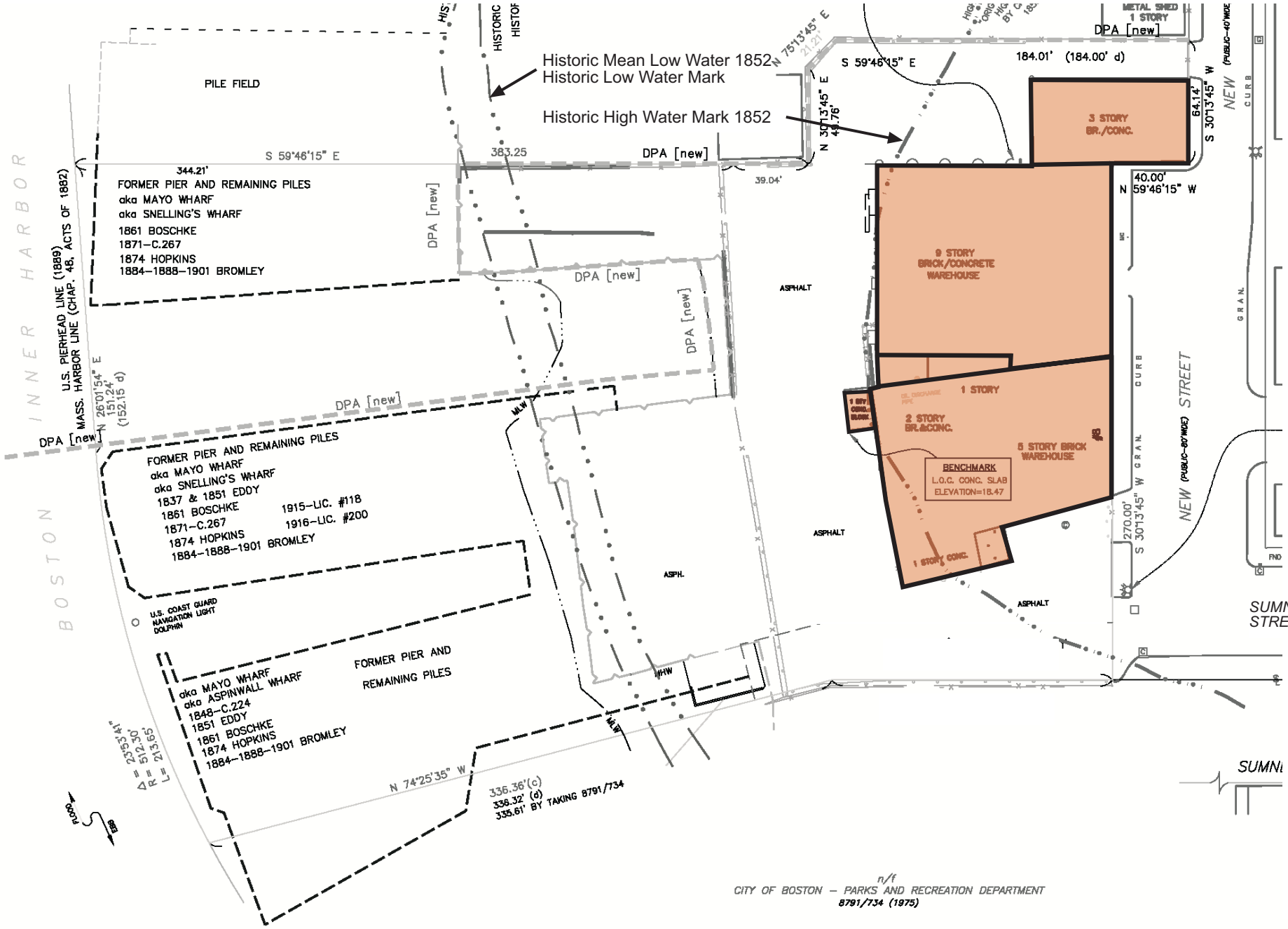
Expansion of Visual Access

In addition to the Harborwalk that is proposed along the edge of the waterfront, two viewing areas will expand visual access for pedestrians to enjoy the panoramic views of the Boston skyline, Charlestown, and vessel activities on the Harbor. Viewing areas, benches, and other amenities will also support public use of the Harborwalk.



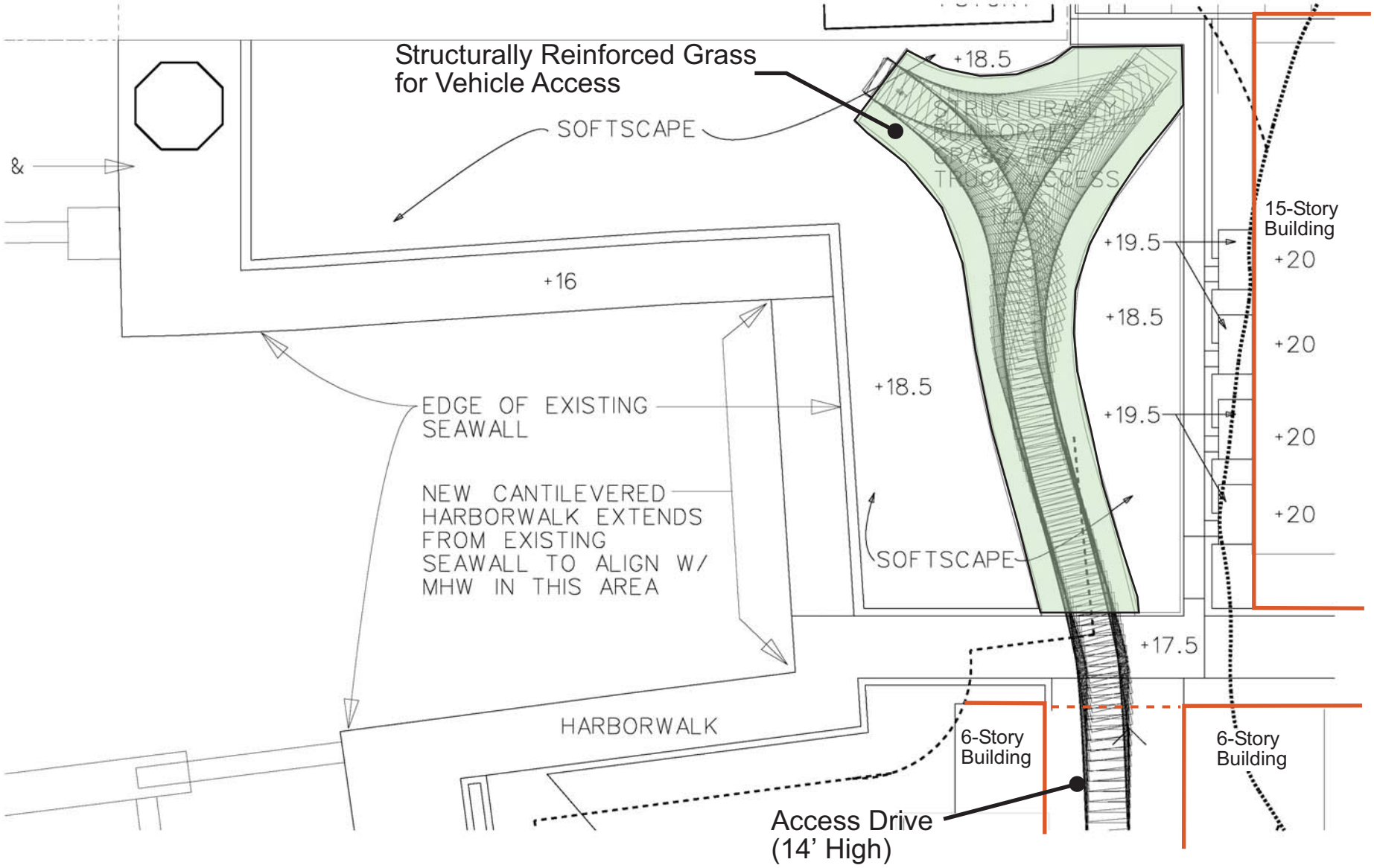
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 3-1
Chapter 91 Jurisdiction
source: Fort Point Associates



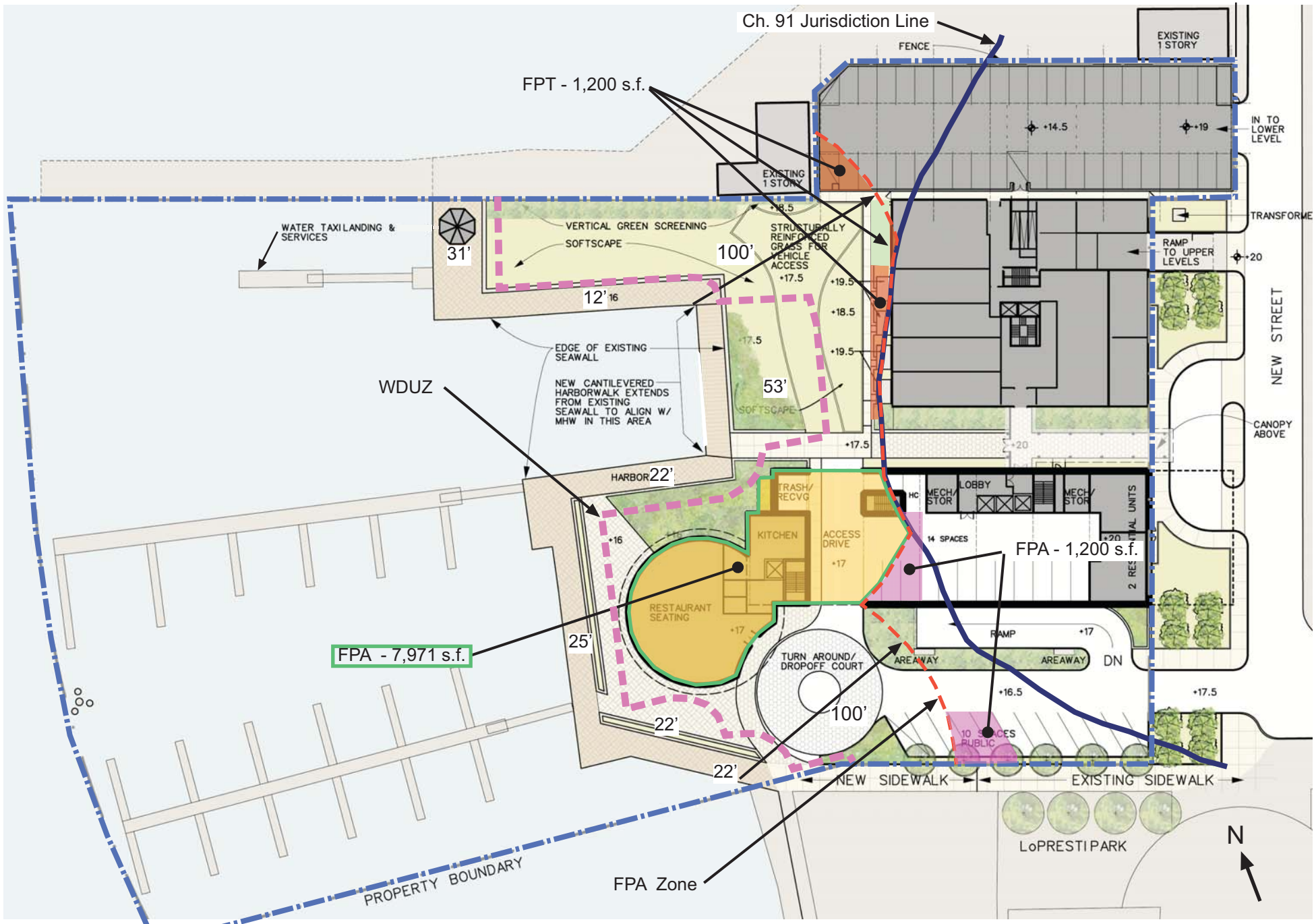
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 3-2
Historic Shoreline and Authorizations
source: Gunther Engineering



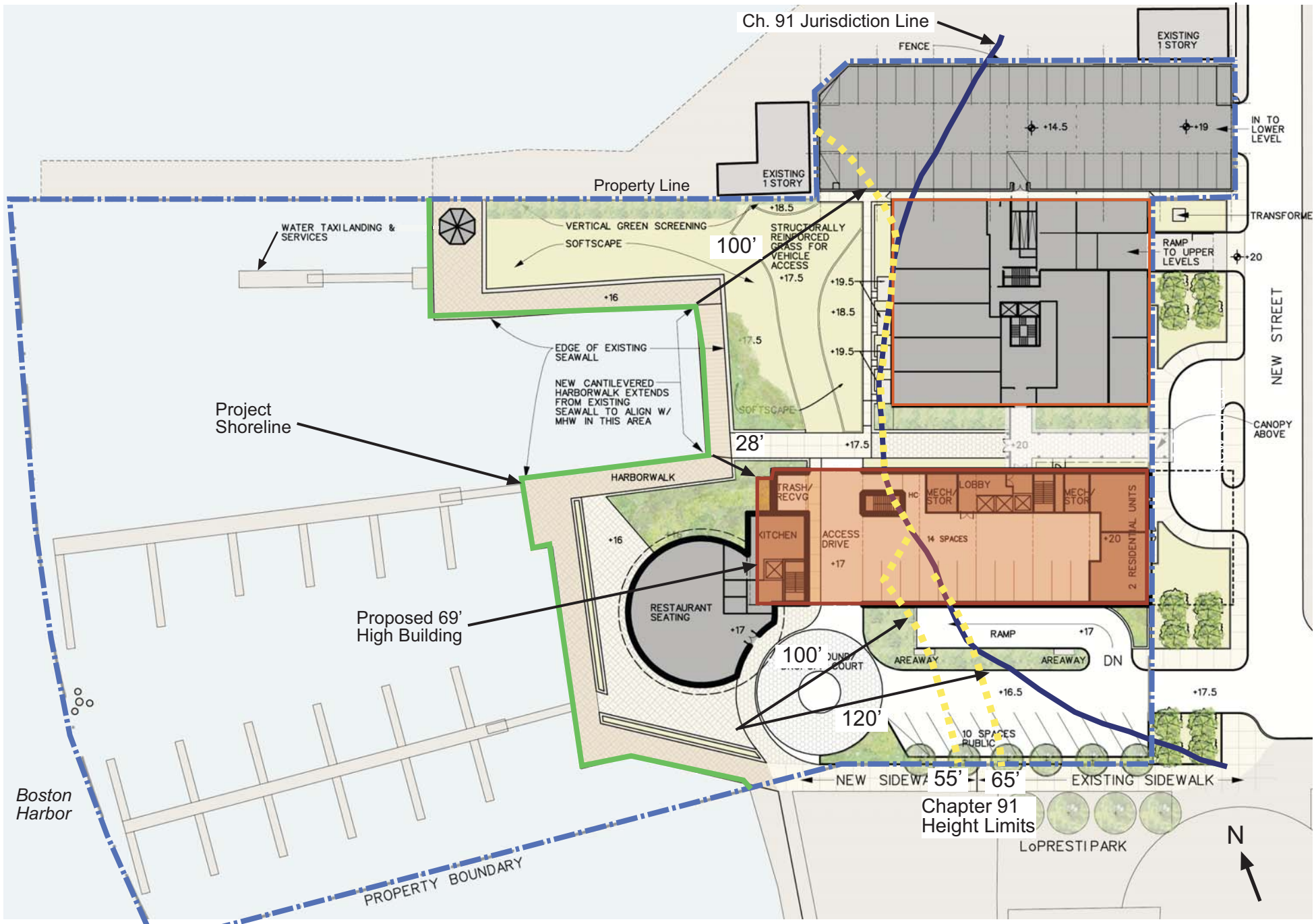
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 3-3
Design Vehicle Access Route
source: Steffian Bradley Architects



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 3-4
Chapter 91 Compliance
source: Crosby, Schlessinger, Smallridge; Fort Point Associates



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 3-5
Project Building Heights
sources: Crosby, Schlessinger, Smallridge; Fort Point Associates

Chapter 4

Transportation

4.0 TRANSPORTATION

4.1 TRANSPORTATION REVIEW FINDINGS

This section describes the transportation issues and analysis associated with the proposed 6–26 New Street Project in East Boston. The Project's transportation impacts are summarized below. The detailed methodology and results are presented in the remainder of this section.

Year 2013 Build Traffic Conditions. Under the Preferred Alternative, all approaches at each study intersection will operate at level of service (LOS) A or LOS B. The only change in level of service will occur during the a.m. peak hour at the Sumner Street/Liverpool Street/ Hodge Boiler Works Driveway, where the northbound driveway will operate at LOS B, as compared to LOS A under No-Build Conditions. All other approaches operate at the same level of service as under No-Build Conditions.

Under the Hotel/Extended Stay Alternative, all approaches at each intersection will operate at LOS A or LOS B. While slightly more vehicle trips are generated under the Hotel/ Extended Stay Alternative than the Preferred Alternative, the resulting intersection levels of service are the same.

See Section 4.4.2.5 for a discussion of the Year 2013 traffic impacts.

Parking- A new, 3-level parking garage with 113 spaces will replace the existing parking/loading area and 3-story building on the north side of the redeveloped building. Vehicles will access this garage from New Street. .

The new 6-story building will contain two levels of parking, one at grade and one subsurface parking garage with a total of 51 to 80 parking spaces. The higher number of parking spaces in the garages could be achieved through the use of vehicle stackers — a hydraulic lift system that provides space for 2 parked vehicles, 1 over the other.

Surface parking for 10 vehicles will be provided on the southern side of the site to support visitor and resident parking.

Based on Boston Transportation Department (BTD) parking space guidelines, the Project's proposed parking spaces will be adequate with the use of parking stackers in the garages.

See Section 4.4.2.6 for a discussion of the parking demand associated with the Project.

Public Transportation- Based on trip generation calculations, the Project will add between 30 and 40 peak-hour transit trips, depending on the development alternative. These trips will be dispersed on the various transit services available at Maverick Square and will not adversely affect transit capacity in the area. See Section 4.4.2.7 for a discussion of the transit demand.

4.2 INTRODUCTION

The Project will contribute to the revitalization of East Boston's Inner Harbor Waterfront by providing public access to the waterfront, creating a Harborwalk connection, and enhancing the public realm in this section of East Boston. With its residential uses and facilities of public accommodation, the Project will generate new pedestrian traffic that will enliven the streets and the open spaces. The Project site occupies a parcel on East Boston's Inner Harbor waterfront with the Boston Towing site to the north, the recently completed Maverick Landing residential project to the east, and LoPresti Park to the south, as shown in **Figure 4-1.**

Maverick Square, which lies east of the Project site, is the nearest commercial district and the site of the MBTA Blue Line subway station and bus connections. The Jeffries Point residential neighborhood is farther east beyond Maverick Square and Logan Airport lies north and east of Jeffries Point. To the north and east of the project site is a mix of industrial and residential properties. Beyond these streets are Central Square and the Sumner Tunnel/Callahan Tunnel/Route 1A portal and toll plaza.

The existing site is currently occupied primarily by a 9-story commercial storage space building, a 5-story storage building with some associated office uses, and a vacant 3-story storage building. During a recent weekday observation at the site, approximately 25 vehicles were parked in the private lot adjacent to and behind the building, and along New Street directly in front of the site.

4.2.1 PURPOSE OF THE REPORT

This chapter presents transportation issues and analysis related to the Project and adheres to the Boston Transportation Department ("BTD") *Transportation Access Plan Guidelines* and Article 80 review process. The transportation evaluation included in this chapter includes:

- Definition and presentation of existing traffic, public transit, pedestrian, bicycle, and parking conditions in the study area;
- Evaluation of the Project's long-term impacts on traffic, public transit, pedestrian, bicycle, and parking conditions; and
- Identification of appropriate measures to mitigate Project impacts.

4.2.2 DESCRIPTION OF THE PROJECT

Two development options are under consideration. The Preferred Alternative includes a new 6-story building and the addition of six stories to the existing 9-story building. This alternative includes residential units in both buildings, a restaurant, a marina, two parking garage facilities and 10 parking spaces. The garages will provide between approximately 164 and 193 spaces, depending on the use of parking stackers.

The second option, the Hotel/Extended Stay Alternative, is a mix of residential units and an extended-stay hotel. The residential units will be contained in the existing 9-story building, which will have six additional stories. The new 6-story building will have 106 hotel units. As with the Preferred Alternative, this option includes a restaurant, a marina, two parking garage facilities, and 10 parking spaces. The garages will provide between 164 and 193 spaces, depending on the use of parking stackers.

Table 4-1 summarizes the land use assumptions and parking spaces used in the transportation analysis. The site plan, as shown in **Figure 4-2,** would be the same for the Preferred Alternative and the Hotel/Extended Stay Alternative, although the interior uses would differ.

Table 4-1. Proposed Build Program for New Street Development

Land Use	Preferred Alternative	Hotel/Extended Stay Alternative
Residential Apartments	238 units	179 units
Hotel Rooms	—	106 rooms
Restaurant	6,000 sf	6,000 sf
Marina	36 slips	36 slips
Parking Spaces	164–193 spaces	164–193 spaces

Both residential and hotel uses have significantly lower peak period traffic impacts than other uses, such as office and retail developments. As presented in Section 4.5 the Proponent will implement travel demand management (TDM) measures in order to minimize automobile reliance among Project residents and hotel guests.

4.2.3 STUDY AREA

The study area for the proposed Project includes the roadways that will provide the principal access to and egress from the site. Access to the site is principally via Paris Street and Sumner Street, while egress from the site is via Sumner Street to Havre Street or New Street and Maverick Street to Border Street. The development of Maverick Landing restored London Street, Liverpool Street, and Border Street as

connecting streets between Sumner Street and Maverick Street. The study area includes the following intersections, as shown in **Figure 4-3.**

- Sumner Street/Havre Street;
- Sumner Street/London Street;
- Sumner Street/Liverpool Street;
- Sumner Street/Border Street;
- Sumner Street/New Street;
- Maverick Street/Havre Street;
- Maverick Street/London Street;
- Maverick Street/Liverpool Street; and
- Maverick Street/Border Street.

4.2.4 METHODOLOGY

The study team conducted this transportation study and supporting analysis in accordance with BTD guidelines. The analysis is presented in two sections:

- The first comprises an inventory of existing (2008) transportation conditions, including roadway capacities, parking, transit, pedestrian circulation, loading, and site conditions.
- The second evaluates future transportation conditions and assesses potential transportation impacts associated with the Project and other neighboring projects. Long-term impacts are evaluated for the year 2013, based on a 5-year horizon from the existing year (2008). Expected roadway, parking, transit, pedestrian, and loading capacities and deficiencies are identified. This section includes the following scenarios:
  - The No-Build Scenario (2013) includes general background growth and additional vehicular and pedestrian traffic associated with specific planned developments in the vicinity of the Project site and proposed transportation improvements.
  - The Build Scenario (2013) includes specific travel demand forecasts for the Project.

4.3 EXISTING CONDITIONS

This section includes a description of existing roadway conditions, geometry, intersection controls, peak-hour traffic volumes, intersection level of service operation, and available transit services and parking supply in the area.

4.3.1 ROADWAY NETWORK AND VEHICULAR CONNECTIONS

The Project site is located in the southwestern corner of East Boston, between Boston Harbor and New Street where it intersects with Sumner Street. Because of the study area's corner location adjacent to Boston Harbor, the streets near the Project site do not provide regional connectivity. As a result, the streets near the Project site carry mainly local traffic and very little through-traffic. Since the land uses near the Project site are mainly residential, and there are no major traffic generators, traffic volumes on the streets in the study area are relatively low.

The Project site has street frontage on New Street, which runs two-way between the western edges of Maverick and Sumner streets. Further to the east, these streets form the northern and southern edges of Maverick Square. Paris Street is a one-way southbound neighborhood collector street running toward Sumner Street, and Havre Street provides a one-way northbound connection. These north–south streets provide access to and from other destinations in and around East Boston; they also provide access to and from downtown Boston and the regional highway system via Route 1A and the Sumner/Callahan Tunnels.

To the north of Sumner Street and to the west of Havre Street, the Maverick Landing redevelopment project recently restored three discontinued north–south streets: London Street, Liverpool Street, and Border Street. Therefore, the transportation study for the Project will assume that access is available via these streets.

The study area for the proposed Project should include the roadways that will provide the principal access to and egress from the site. In existing conditions, access to the site is principally via Paris Street and Sumner Street, while egress away from the site is via Sumner Street to Havre Street or New Street and Maverick Street to Border Street. After the Maverick Landing development restored London Street, Liverpool Street, and Border Street, trips to and from the Project site include use of these streets. As a result, it is proposed that the Project study area include the following intersections, as shown in **Figure 4-3,** Study Area Intersections.

- Sumner Street/Havre Street;
- Sumner Street/London Street;
- Sumner Street/Liverpool Street;
- Sumner Street/Border Street;
- Sumner Street/New Street;
- Maverick Street/Havre Street;
- Maverick Street/London Street;
- Maverick Street/Liverpool Street; and
- Maverick Street/Border Street.

4.3.2 EXISTING ROADWAY CONDITIONS

The following roadway descriptions reflect classifications by the Massachusetts Executive Office of Transportation Office of Transportation Planning (EOT-OTP).

New Street, a local street, spans a single block between Sumner Street and Maverick Street and provides one lane of traffic in each direction, although there are no pavement markings present. Vehicular and pedestrian traffic volumes are light along New Street. On-street parking is allowed on the east side of the roadway, and perpendicular head-in parking spaces are provided on the west side of the roadway in front of the Project site. North of the Project site, no on-street parking is allowed on the west side of the roadway. Sidewalks are provided along both sides of New Street. Single-family and mid-rise residential properties front the east side of the roadway, while the Project site and other industrial uses are found along the west side, adjacent to Boston Harbor.

Sumner Street, a local street within the study area, runs from New Street in the west to Joe Porzio Park, a waterfront park, in the east. Within the study area, Sumner Street provides a single lane of traffic in each direction and on-street parking on both sides of the roadway. Vehicular and pedestrian traffic is generally light along Sumner Street, though pedestrian activity is relatively constant near Maverick Square, including the intersections at Havre Street and at London Street. Sidewalks are provided on both sides of Sumner Street. Land use adjoining Sumner Street within the study area is mostly residential with a limited number of small storefronts.

Maverick Street, an urban minor arterial east of Border Street, runs from Jeffries Street in the east to New Street in the west. Within the study area, Maverick Street is one lane, one-way westbound between Havre Street and Border Street and two-way between Border Street and New Street with one lane in each direction. Vehicular traffic along Maverick Street is light within the study area, and pedestrian volumes are light. A mix of residential and unrestricted on-street parking is allowed along most of Maverick Street within the study area. Residential, industrial, parkland, and institutional land uses front Maverick Street.

Border Street, an urban minor arterial, runs from Condor Street in the north to Sumner Street in the south. Within the study area, Border Street is two-way with one lane in each direction north of Maverick Street. Between Maverick Street and Sumner Street, Border Street is one lane, one-way southbound. Sidewalks are provided on both sides of the roadway, and parking is allowed on both sides of the roadway between Maverick and Sumner Streets. North of Maverick Street, parking is not allowed on the west side of the roadway in the study area.

Liverpool Street, a local street, runs from Central Square in the north to Sumner Street in the south. Within the study area, Liverpool Street is two-way with one lane in each direction north of Maverick Street. Between Maverick Street and Sumner Street, Liverpool Street is one lane, one-way northbound. Within the study area, sidewalks are provided on both sides of the roadway, and parking is allowed on both sides of the roadway.

London Street, a local street, runs from Bennington Street in the north past Sumner Street in the south, where it continues toward the waterfront at the Carlton Wharf Building. Within the study area, London Street is one lane, one-way southbound. Sidewalks are provided on both sides of the roadway and parking is allowed on both sides of the roadway within in the study area.

Havre Street, a local street, runs from Sumner Street in the south to Porter Street and Route 1A (East Boston Expressway) in the north. Within the study area, Havre Street is one lane, one-way northbound. Sidewalks are provided on both sides of the roadway, and parking is allowed on both sides of the roadway within the study area.

4.3.3 EXISTING INTERSECTION CONDITIONS

The following descriptions of the study area intersections include geometry, pedestrian facilities, and intersection traffic control. All intersections are unsignalized.

Sumner Street/Havre Street is an unsignalized T intersection. The eastbound Sumner Street approach consists of a 14-foot, shared left-turn/through lane; the westbound Sumner Street approach consists of a 15-foot, shared through/right-turn lane. Havre Street is one-way northbound. Sidewalks are provided along both sides of each roadway, and crosswalks are provided across the eastbound Sumner Street approach and across Havre Street. Handicapped-accessible curb ramps are provided at both ends of each crosswalk. Sidewalk bulb-outs are provided at the northwest corner of the intersection to shorten pedestrian crossing distances across both crosswalks. Parking is allowed along both sides of all roadways approaching this intersection.

Sumner Street/London Street is an unsignalized four-way intersection. The eastbound Sumner Street approach consists of a 15-foot, shared through/right-turn lane; the westbound Sumner Street approach consists of a 14-foot, shared left-turn/through lane. The southbound London Street approach is stop-controlled and consists of an 11-foot, shared left-turn/through/right-turn lane. South of the intersection, London Street extension is one-way southbound. Sidewalks are provided along all roadways, except for the west side of London Street, south of the intersection. Crosswalks are provided across the eastbound Sumner Street approach and across the southbound London Street approach. Handicapped-accessible curb ramps are provided at both ends of each crosswalk and at the southeast corner of the

intersection. A sidewalk bulb-out is provided at the northwest corner of the intersection to shorten the pedestrian crossing distance across the eastbound Sumner Street approach. Parking is allowed on both sides of all roadways, except for a short section of the east side of London Street immediately south of the intersection.

Sumner Street/Liverpool Street is an unsignalized T intersection. The eastbound Sumner Street approach consists of a 14-foot, shared left-turn/through lane; the westbound Sumner Street approach consists of a 15-foot, shared through/right-turn lane. Liverpool Street is one-way northbound. Sidewalks are provided along both sides of each roadway. A crosswalk is provided across Liverpool Street with handicapped-accessible curb ramps at both ends. Sidewalk bulb-outs are provided on both sides of Liverpool Street immediately adjacent to the intersection to minimize the crosswalk length. Parking is allowed along both sides of each roadway. In the future, the Hodge Boiler Works project proposes to construct a one-way, northbound driveway egress on the south side of the intersection.

Sumner Street/Border Street is an unsignalized T intersection. The eastbound Sumner Street approach consists of a 14-foot through lane; the westbound Sumner Street approach consists of a 15-foot through lane. The southbound Border Street approach is stop-controlled and consists of an 11-foot, shared left-turn/right-turn lane. Sidewalks are provided along both sides of each roadway. Crosswalks are provided across all approaches, with handicapped-accessible curb ramps at both ends of each crosswalk. Sidewalk bulb-outs are provided at the northeast and northwest corners of the intersection, shortening the crossing distances across Sumner Street. Parking is allowed on both sides of each roadway.

Sumner Street/New Street/Site Driveway is an unsignalized three-leg intersection. The eastbound Site Driveway approach is assumed to be stop-controlled and consists of a 12-foot, shared left-turn/through lane. The driveway entrance includes a manually operated chain-link fence gate that was observed by the study team to be open and closed at different times of the day. The westbound Sumner Street approach consists of a 14-foot, shared through/right-turn lane. The right-turn movement at this approach is a free movement, while the through movement is assumed to be yield-controlled. The southbound New Street approach consists of a 17-foot, shared left-turn/right-turn lane. Sidewalks are provided on both sides of the roadway along Sumner Street and along New Street. A crosswalk is provided across the westbound Sumner Street approach with handicapped-accessible curb ramps at both ends. Parallel on-street parking is allowed on both sides of Sumner Street and along the east side of New Street. Perpendicular, head-in parking is allowed along the west side of New Street in the vicinity of the intersection. Private parking spaces are located on both sides of the Site Driveway adjacent to the intersection. Under the future Build Conditions, the site will continue to have a driveway at this location.

Maverick Street/Havre Street is an unsignalized four-leg intersection with two approaches. The westbound Maverick Street approach is stop-controlled, one-way and consists of a 14-foot, shared through/right-turn lane. The northbound Havre Street approach is stop-controlled, one-way, and consists of a 14-foot, share left-turn/through lane. Maverick Street is one-way westbound and Havre Street is one-way northbound away the intersection. Sidewalks are provided along all sides of the intersection. Crosswalks are provided across all four approaches, with handicapped-accessible curb ramps at each end. Parking is allowed along both sides of each roadway, but on-street parking is restricted to handicapped-only on the north side of Maverick Street west of the intersection.

Maverick Street/London Street is an unsignalized four-leg intersection with two approaches. The westbound Maverick Street approach is one-way and consists of a 14-foot, shared left-turn/through lane, and the southbound London Street approach is stop-controlled, one-way, and consists of a 16-foot, shared through/right-turn lane. Maverick Street is one-way westbound and London Street is one-way southbound away from the intersection. Sidewalks are provided along all sides of the intersection, with bulb-outs incorporated at the corners on the south side of the intersection to shorten the crossing distance across London Street. Crosswalks are provided across all four approaches, with handicapped-accessible curb ramps at each end. Parking is allowed on both sides of each roadway. On the north side of Maverick Street, east of the intersection, parking is restricted between 8:00 a.m. and 12:00 p.m., Monday through Saturday, to prevent Blue Line commuter parking.

Maverick Street/Liverpool Street is an unsignalized four-leg intersection with three approaches. The westbound Maverick Street approach is one-way and consists of a 14-foot, shared through/right-turn lane. Maverick Street continues one-way westbound through the intersection. The northbound Liverpool Street approach is stop-controlled, one-way, and consists of a 10-foot, shared left-turn/through lane. The southbound Liverpool Street approach is stop-controlled and consists of an 8-foot right-turn lane. Sidewalks are provided along all sides of the intersection, and crosswalks are provided across each leg of the intersection. Handicapped-accessible curb ramps are provided at each corner of the intersection, but the ramp at the northeast corner is small and not well-located to serve the crosswalk across Liverpool Street. Parking is allowed on both sides of each roadway.

Maverick Street/Border Street is an unsignalized four-leg intersection with three approaches. The eastbound Maverick Street approach consists of an 11-foot, shared left-turn/right-turn lane, and the westbound Maverick Street approach is one-way and consists of a 14-foot, shared left-turn/through/right-turn lane. The southbound Border Street approach is stop-controlled and consists of a 16-foot, shared through/right-turn lane. Border Street continues one-way southbound away from the intersection. Sidewalks are provided along all sides of the intersection, and crosswalks are

provided across each leg of the intersection. Handicapped-accessible curb ramps are provided at each corner of the intersection. Sidewalk bulb-outs are provided at both corners on the south side of the intersection to minimize the crossing distance across Border Street. Parking is allowed on both sides of each roadway except for the west side of Border Street north of the intersection and the north side of Maverick Street west of the intersection.

4.3.4 EXISTING TRAFFIC VOLUMES

The study team conducted vehicular and pedestrian counts in January 2008 at the study area intersections. Vehicle turning movements and pedestrian volumes were collected on a weekday from 7:00 to 9:00 a.m. and from 4:00 to 6:00 p.m. Based on the vehicle counts, the weekday morning and evening peak hours were identified as 7:45 to 8:45 a.m. and 4:00 to 5:00 p.m., respectively. The existing peak-hour volumes are shown in **Figure 4-4** and **Figure 4-5** for the a.m. and p.m. peak hours, respectively. Detailed traffic count data are presented in **Appendix 6.**

4.3.5 EXISTING TRAFFIC OPERATIONS

The criterion for evaluating traffic operations is level of service (LOS). LOS is determined by assessing average delay incurred by vehicles at intersections and along intersection approaches. The study team calculated average delay and associated level of service at study area intersections using Trafficware's Synchro 6 software, which also evaluates the impact on traffic operations from closely spaced intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 *Highway Capacity Manual* (HCM). Level of service and delay (in seconds) are determined based on intersection geometry and available traffic data for each intersection. The Boston Transportation Department (BTD) provided the intersection signal timing and phasing used in this analysis.

LOS A defines the most favorable condition, with minimum traffic delay. LOS F represents the worst condition (unacceptable), with significant traffic delay. The threshold at LOS E/LOS F indicates that the intersection, or intersection approach, is theoretically at capacity. LOS D is generally considered acceptable in an urban environment, such as the Project study area, and below theoretical operating capacity. The delay and LOS thresholds for signalized and unsignalized intersections, as defined in the HCM, as summarized in **Table 4-2.**

Tables 4-3 and 4-4 present Existing Conditions peak-hour levels of service for the study area intersections. Detailed Synchro reports are provided in **Appendix 6.**

Table 4-2. Intersection Level of Service Criteria (HCM excerpt)		
Level of Service	**Average Stopped Delay (sec./veh.)**	
	Signalized Intersection	**Unsignalized Intersection**
A	10	10
B	>10 and 20	>10 and 15
C	>20 and 35	>15 and 25
D	>35 and 55	>25 and 35
E	>55 and 80	>35 and 50
F	>80	>50

During weekday morning and evening peak periods, all intersection approaches operate acceptably at LOS A or LOS B. Approaches operating at LOS D or better are considered to be operating at an acceptable level of service.

4.3.6 EXISTING PARKING CONDITIONS

This section documents the existing parking facilities in the study area.

There is no public off-street parking within a quarter mile of the Project site, although many area businesses have private parking lots for employees and customers only.

Figure 4-6 illustrates on-street parking regulations within one-quarter mile, or about a five-minute walk, from the Project site. Although parking is allowed along most roadways within this area, much of it is restricted. Along Havre Street and Paris Street, in the vicinity of Maverick Square, most on-street parking is signed with a 2-hour limit Monday through Friday, 8:00 a.m.–6:00 p.m., except for vehicles with an East Boston resident parking sticker. This restriction prevents Blue Line commuters to downtown Boston from parking all day in Maverick Square. Parking along portions of London Street, Havre Street, Decatur Street, and Jacobbe Way are reserved for East Boston residents only. The only significant areas where parking is allowed are found along sections of the south side of Sumner Street, the west side of New Street, and Border Street.

From field observations, on-street parking in the neighborhood appears ample.

4.3.7 EXISTING PUBLIC TRANSPORTATION

The Project site is located in a neighborhood that enjoys excellent public transportation service. The MBTA Blue Line rapid transit to and from downtown Boston is the core of the transit service to the neighborhood. This subway service is supplemented by MBTA bus service to other destinations in East Boston and to neighboring cities of Chelsea and Revere. The following are detailed descriptions of the public transportation modes serving the Project neighborhood. The public transportation system near the Project site is shown in **Figure 4-7.**

Table 4-3. Existing (2008) Level of Service Summary, a.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	1.7	0.02	1
Sumner WB thru/right	A	0.0	0.05	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.05	0
Sumner WB left/thru	A	0.8	0.00	0
London SB left/thru/right	B	10.2	0.08	7
Sumner Street/Liverpool Street				
Sumner EB left/thru	A	1.5	0.01	1
Sumner WB thru/right	A	0.0	0.03	0
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.01	0
Sumner WB thru	A	0.0	0.02	0
Border SB left/right	A	9.2	0.08	7
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	0.0	0.00	0
Sumner WB thru/right	A	8.5	0.05	4
New SB left/right	A	4.5	0.02	1
Maverick Street/Havre Street	A	8.4	—	—
Maverick WB thru/right	A	8.0	0.24	—
Havre NB left/thru	A	8.0	0.11	—
Maverick Street/London Street				
Maverick WB left/thru	A	1.9	0.02	1
London SB thru/right	B	10.9	0.27	28
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.12	0
Liverpool NB left/thru	B	10.5	0.05	4
Liverpool SB right	A	9.2	0.01	1
Maverick Street/Border Street				
Maverick EB left/right	A	6.8	0.02	2
Maverick WB left/thru/right	A	1.2	0.01	1
Border SB thru/right	B	10.8	0.14	12

Table 4-4. Existing (2008) Level of Service Summary, p.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	1.0	0.01	1
Sumner WB thru/right	A	0.0	0.10	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.08	0
Sumner WB left/thru	A	1.0	0.01	1
London SB left/thru/right	B	11.2	0.12	10
Sumner Street/Liverpool Street				
Sumner EB left/thru	A	0.7	0.01	1
Sumner WB thru/right	A	0.0	0.07	0
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.01	0
Sumner WB thru	A	0.0	0.04	0
Border SB left/right	A	9.6	0.14	12
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.2	0.01	1
Sumner WB thru/right	A	8.5	0.05	4
New SB left/right	A	7.6	0.01	1
Maverick Street/Havre Street	A	7.9	—	—
Maverick WB thru/right	A	7.9	0.21	—
Havre NB left/thru	A	7.9	0.12	—
Maverick Street/London Street				
Maverick WB left/thru	A	2.0	0.02	2
London SB thru/right	B	10.6	0.11	9
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.09	0
Liverpool NB left/thru	B	10.8	0.10	9
Liverpool SB right	A	9.2	0.02	1
Maverick Street/Border Street				
Maverick EB left/right	A	5.3	0.03	2
Maverick WB left/thru/right	A	1.7	0.02	2
Border SB thru/right	B	12.1	0.22	20

4.3.6.1 BLUE LINE RAPID TRANSIT

The MBTA Blue Line subway, with a station at nearby Maverick Square, provides direct rapid transit service to downtown Boston's densest employment centers: the Financial District (at Aquarium Station and State Street Station) and the concentration of city, state, and federal government offices (at Government Center Station and Bowdoin Station). It also provides runs to Logan Airport and points north to Revere

and provides connections to the Green Line (at Government Center Station) and Orange Line (at State Street Station), and with it access to the rest of downtown Boston and Back Bay.

Blue Line service operates with high frequency: weekday peak-hour headways of 4 minutes, mid-day headways of 9 minutes, weekend headways of 10–11 minutes, and late night headways of 13 minutes. These trains have 5 cars.

Blue Line service to the Project area will also be enhanced by two MBTA initiatives. First, the ongoing Blue Line Modernization Project, which is a Central Artery/Tunnel-related public transit commitment, will enable 6-car train service throughout the Blue Line, thereby relieving crowding. Second, the MBTA also plans to complete a major reconstruction of Maverick Station by the Fall of 2008. This will improve the aesthetics of the station headhouse and enable circulation and pedestrian access improvements at Maverick Square. These improvements to Maverick Station will enhance transit access and the pedestrian experience in Maverick Square.

4.3.6.2 LOCAL BUSES

Maverick Station is served by 5 MBTA local bus routes:

- Route 114: Maverick Square–Bellingham Square, Chelsea;
- Route 116: Maverick Square–Wonderland Station via Revere Street;
- Route 117: Maverick Square–Wonderland Station via Beach Street;
- Route 120: Jeffries Point–Orient Heights via Maverick Square, Bennington Street; and
- Route 121: Maverick Square–Wood Island Station.

Route 114 operates with limited service during weekday commuter peak periods, and operates on 45-minute headways during the day. Route 121 operates only during weekday commuter peak periods and it operates on 30-minute headways. The other routes all operate on 20-minute headways during weekday commuter peak periods. During weekday off-peak periods, they operate on 20–35 minute headways; on Saturdays, they operate on 30-minute headways; and on weekday nights and Sundays they operate on 40–60 minute headways.

4.3.6.3 WATER TRANSPORTATION

There are opportunities for water-borne connections between the East Boston waterfront and other points on Boston Harbor. Currently, water transportation services on the East Boston waterfront are limited to water taxis and airport ferries that connect the Logan South water terminal to downtown Boston. The developer of the Portside at Pier One/Boston Harbor Shipyard & Marina Project has also proposed re-

instituting water transportation service between the Lewis Mall terminal at the southern end of Lewis Street and downtown Boston.

4.3.8 EXISTING PEDESTRIAN CONDITIONS

The public streets near the Project site provide good pedestrian access in general. All public streets have continuous sidewalks and good pedestrian crossings, which enable pedestrian access. Commercial uses at Central Square and Maverick Square and transportation connections at Maverick Square provide residents and visitors with walking destinations. LoPresti Park, immediately adjacent to the Project site, provides pedestrian destinations and recreational opportunities.

The division of the existing Maverick Landing block into smaller blocks that are consistent with the scale of the surrounding East Boston neighborhood has greatly improved pedestrian access in the vicinity of the Project site. Further to the east, the pedestrian system in East Boston is also undergoing major enhancement as a result of open space improvements. Piers Park (Phase I) provides a pleasant pedestrian environment and an attractive destination on the waterfront less than a half mile from the Project site. Pier Park (Phase II) will provide another new waterfront open space even closer to the Project site. The East Boston Greenway provides a pedestrian connection through East Boston to the waterfront, and the Bremen Street Park, upon its completion, will extend this connection further into East Boston. All of these projects, along with the creation of a continuous Harborwalk, will dramatically improve pedestrian amenities in East Boston.

Sidewalks, crosswalks, bulb-outs, and handicapped-accessible curb ramps are generally provided and in good condition within the study area. Many of the pedestrian facilities within the study area were recently constructed as part of the Maverick Landing project. The Project site is located within walking distance of businesses, bus lines, and the MBTA rapid transit station at Maverick Square and along Meridian Street. Pedestrian volumes are moderate within most of the study area. Vehicular volumes and speeds are modest and were not observed to be negatively impacting pedestrian safety and comfort.

The Project site is also adjacent to the Boston Harborwalk, a series of waterfront paths, parks, and observation points being implemented along the shorelines of Boston Harbor. The Project will accommodate an extension of the existing East Boston Harborwalk Segment that currently exists along LoPresti Park.

4.3.9 EXISTING BICYCLE CONDITIONS

While none of the roadways in the study area have specific facilities for bicycles, vehicular traffic volumes are light, and bicycles would be able to operate safely in mixed traffic. The Harborwalk is also open to bicycles, and the East Boston

Greenway, approximately one-third of a mile east of the Project site, provides a north –south bicycle corridor, with future extensions planned.

4.4 EVALUATION OF LONG-TERM IMPACTS

This section presents a description and evaluation of 2013 No-Build and Build Conditions.

4.4.1 NO-BUILD CONDITIONS

No-Build Conditions are independent of the proposed Project and include existing traffic and new traffic resulting from identified projects in the area. Any known roadway or operational improvements are also incorporated into the No-Build Conditions.

4.4.1.2 NO-BUILD BACKGROUND GROWTH

Typically, two steps are used to determine background traffic growth. The first is to apply a general growth rate to account for changes in demographics, auto usage and ownership. The second step to estimate traffic generated by planned new major developments. For this Project, BTD established a general background growth rate of 1% per year for use on projects in this area.

The major planned projects in the study area are described below and mapped in **Figure 4-8.** Some of these projects are currently under construction and will be complete by the Year 2013 (future analysis year). The additional peak-hour traffic generated by all these projects was incorporated into the Year 2013 No-Build intersection analysis.

Beyond the Study Area to the east, the Clippership Wharf project will add approximately 400 residential units, and the Portside at Pier One project approximately 600 residential units. Both projects will include ground floor public uses. Hodge Boiler Works, located to the southeast of the site, will include 119 condominium units and 5 bed and breakfast rooms, as well as a public café and a marina.

4.4.1.3 NO-BUILD TRAFFIC OPERATIONS

The 2012 No-Build analysis uses the same methodology described in Section 4.3.5 for Existing Conditions.

No-Build traffic volumes are shown in **Figures 4-9 and 4-10** for the a.m. and p.m. peak hours, respectively. The resulting intersection operations are shown in **Tables 4-7 and 4-8.** Complete Synchro reports are provided in **Appendix 6.**

Table 4-7. No-Build (2013) Level of Service Summary, a.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	2.0	0.02	2
Sumner WB thru/right	A	0.0	0.14	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.05	0
Sumner WB left/thru	A	1.6	0.01	1
London SB left/thru/right	B	10.7	0.11	9
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	1.4	0.01	1
Sumner WB thru/right	A	0.0	0.03	0
Hodge Driveway NB left/thru/right	A	10.0	0.03	2
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.01	0
Sumner WB thru	A	0.0	0.02	0
Border SB left/right	A	9.3	0.09	7
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.4	0.00	0
Sumner WB thru/right	A	8.6	0.05	4
New SB left/right	A	4.6	0.02	1
Maverick Street/Havre Street	A	8.9	—	—
Maverick WB thru/right	A	8.7	0.27	—
Havre NB left/thru	A	9.1	0.26	—
Maverick Street/London Street				
Maverick WB left/thru	A	1.9	0.02	1
London SB thru/right	B	11.5	0.32	35
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.13	0
Liverpool NB left/thru	B	10.9	0.09	7
Liverpool SB right	A	9.2	0.01	1
Maverick Street/Border Street				
Maverick EB left/right	A	6.9	0.03	2
Maverick WB left/thru/right	A	1.2	0.01	1
Border SB thru/right	B	11.0	0.16	14

Table 4-8. No-Build (2013) Level of Service Summary, p.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	1.1	0.02	2
Sumner WB thru/right	A	0.0	0.17	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.09	0
Sumner WB left/thru	A	2.5	0.03	2
London SB left/thru/right	B	13.6	0.25	25
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	0.7	0.01	1
Sumner WB thru/right	A	0.0	0.07	0
Hodge Driveway NB left/thru/right	B	10.8	0.03	2
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.01	0
Sumner WB thru	A	0.0	0.04	0
Border SB left/right	A	9.7	0.16	14
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.2	0.01	1
Sumner WB thru/right	A	8.5	0.06	4
New SB left/right	A	7.0	0.01	1
Maverick Street/Havre Street	A	8.6	—	—
Maverick WB thru/right	A	8.4	0.24	—
Havre NB left/thru	A	8.7	0.24	—
Maverick Street/London Street				
Maverick WB left/thru	A	2.0	0.02	2
London SB thru/right	B	11.7	0.21	20
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.09	0
Liverpool NB left/thru	B	11.3	0.15	13
Liverpool SB right	A	9.3	0.02	2
Maverick Street/Border Street				
Maverick EB left/right	A	5.4	0.03	2
Maverick WB left/thru/right	A	1.7	0.02	2
Border SB thru/right	B	12.5	0.25	24

No changes in level of service occur from Existing Conditions to No-Build Conditions. All intersection approaches operate acceptably at LOS A or LOS B.

4.4.1.4 NO-BUILD CONDITIONS PUBLIC TRANSPORTATION

The MBTA's on-going Blue Line Modernization Project will make all Blue Line Stations, including Maverick Square, ADA accessible. Work on the Maverick Square Station began in 2005 and includes station modernization, lengthening the platforms for 6-car trains, and accessibility for all with the addition of elevators at the Maverick Square Headhouse and the new Lewis Mall headhouse. A busway is being constructed for MBTA buses serving the station. Overall construction is expected in be complete in Fall 2008.

4.4.2 BUILD CONDITIONS

The Year 2012 Build Condition traffic impacts associated with the proposed Project are presented in this section. Two development alternatives are being proposed and, per BTD's request, each alternative was analyzed separately.

The **Residential Alternative** includes a new 6-story building and the addition of 6 stories to the existing 9-story building. In total, this alternative includes 238 residential units in both buildings, a 6,000-sf restaurant, and between 174 and 203 parking spaces.

The second alternative, the **Hotel/Extended Stay Alternative** would be a mix of residential units and an extended stay hotel. The new 6-story building would have 106 hotel units. The existing 9-story building would have 6 stories added and, in total, would have 179 residential units. This alternative also includes a 6,000-sf restaurant and between 174 and 203 parking spaces.

4.4.2.1 SITE ACCESS AND CIRCULATION

As shown in the site plan in **Figure 4-2,** access to the Project will be identical for both alternatives. A drop-off area with canopy will be located on New Street either for residents or, in the case of the Hotel/Extended Stay alternative, for hotel guests. The walkway under the canopy will connect to the facing entrances of each building and will continue to both the waterfront and around to the individual unit entries at the first floor of the existing building.

Most parking on the Project site will be provided in the following locations:

- A new, 3-level parking garage will replace the existing parking/loading area and 3-story building on the north side of the redeveloped building. Vehicles will enter and exit this parking garage via a new curb cut on New Street, on the eastern side of the site.
- The new 6-story building, whether developed as the Preferred Alternative or the Hotel/Extended Stay Alternative, will contain a 1-level subsurface parking

garage and one level of parking at grade. Surface parking for 10 vehicles will be provided on the southern side of the site.

4.4.2.1 TRIP GENERATION

Trip generation is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, walk trips, and bicycle trips associated with a proposed Project and a specific land use program. A project's location and proximity to different modes determine how people will travel to and from that project site.

The Institute of Transportation Engineers (ITE) vehicle trip generation rates presented below produce the number of "unadjusted" vehicle trips associated with the Project. The "unadjusted" vehicle trips, however, are not the final vehicle trips generated by the Project. Interim steps further refine the estimate to reflect the transit options available in the study area.

Vehicle trip generation estimates for the Project use rates derived from ITE's *Trip Generation* (7th edition, 2003) fitted curve equations and average trip rates. The following ITE land use codes (LUCs) were used to develop the new Project-related vehicle trips for the Project:

Land Use Code 230—Condominium/Townhouse- This land use code refers to ownership units that have at least one other owned unit with the same building structure. Calculation of the number of vehicle trips uses ITE's average rate per dwelling unit.

LUC 310—Hotel- This land use code is defined as a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention centers, limited recreational facilities (e.g., pool, fitness room), and/or other retail services or shops. Calculation of the number of vehicle trips uses ITE's average rate per room.

LUC 420—Marina- This land use code includes both public and private marina facilities. In addition to docks and berths for boats, some sites have social and club activities, limited retail, and restaurants. Calculations of the number of vehicle trips use either ITE's fitted curve equation or average rate per berth.

LUC 931—Quality Restaurant- This land use code is defined as a full-service eating establishment with turnover rates usually of at least one hour or longer. These restaurants do not serve breakfast, but may serve lunch and do serve dinner. Calculations of the number of vehicle trips uses ITE's average rate per 1,000 square feet.

4.4.2.2 MODE SPLIT

BTD publishes vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located within designated Area 2 or 7. The "unadjusted" person trips were distributed to different modes according to the mode shares shown in **Table 4-9.**

Table 4-9. Mode Shares and Vehicle Occupancy Rates by Time of Day

Land Use		Vehicle Share	Walk Share	Transit Share	Vehicle Occupancy Rate (VOR)
Daily					
Condominium	In	54%	29%	17%	1.2
	Out	54%	29%	17%	1.2
Hotel	In	42%	52%	6%	2.1
	Out	42%	52%	6%	2.1
Restaurant	In	42%	52%	6%	2.1
	Out	42%	52%	6%	2.1
Marina	In	42%	52%	6%	2.1
	Out	42%	52%	6%	2.1
a.m. Peak Hour					
Condominium	In	51%	34%	15%	1.2
	Out	45%	30%	25%	1.2
Hotel	In	37%	58%	5%	2.1
	Out	35%	56%	9%	2.1
Restaurant	In	37%	58%	5%	2.1
	Out	35%	56%	9%	2.1
Marina	In	37%	58%	5%	2.1
	Out	35%	56%	9%	2.1
p.m. Peak Hour					
Condominium	In	45%	30%	25%	1.2
	Out	51%	34%	15%	1.2
Hotel	In	35%	56%	9%	2.1
	Out	37%	58%	5%	2.1
Restaurant	In	35%	56%	9%	2.1
	Out	37%	58%	5%	2.1
Marina	In	35%	56%	9%	2.1
	Out	37%	58%	5%	2.1

4.4.2.3 VEHICLE TRIP GENERATION

The trip generation process described above yields the "adjusted" vehicle trips associated with the Project, as shown in **Table 4-10** and **Table 4-11** for the Preferred Alternative and the Hotel/Extended Stay Alternative, respectively.

Table 4-10. Project Vehicle Trips—Preferred Alternative				
Time Period	**Condominium (238 units)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	754	226	202	1,182
In	377	113	101	591
Out	377	113	101	591
a.m. peak hour	48	1	1	50
In	9	1	0	10
Out	39	0	1	40
p.m. peak hour	58	16	2	76
In	37	11	1	49
Out	21	5	1	27

Table 4-11. Project Vehicle Trips—Hotel/Extended Stay Alternative					
Time Period	**Condominium (179 units)**	**Hotel (106 rooms)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	564	362	226	202	1,354
In	262	181	113	101	677
Out	262	181	113	101	677
a.m. peak hour	36	21	1	1	59
In	7	13	1	0	21
Out	29	8	0	1	38
p.m. peak hour	44	23	16	2	85
In	28	12	11	1	52
Out	16	11	5	1	33

Under the Preferred Alternative, the residential units generate most of the a.m. peak-hour vehicle trips. Together, the restaurant space and marina will generate only a few a.m. peak-hour vehicle trips.

During the p.m. peak hour, the residential units will generate most of the vehicles trips, although the restaurant is more active during the p.m. peak hour than in the morning. The marina generates activity throughout the day, with only a few vehicles trips during the peak periods.

The Hotel/Extended Stay Alternative will generate slightly more peak-hour trips. During the a.m. peak hour, about two-thirds of new vehicle trips will be generated by the residential units and about one-third by the hotel. In the p.m. peak hour, about half of the vehicle trips will be generated by the residential units, with a quarter of the trips each attributable to the hotel and restaurant.

4.4.2.4 VEHICLE TRIP DISTRIBUTION

Trip distribution identifies the various travel paths for vehicles arriving either at the on-site parking garage or nearby parking facilities and the corresponding departure travel path. The distribution is a combination of trip origin information and trip destination information.

Figure 4-11 shows the trip distribution on major regional highway and local routes for inbound (entering) and outbound (exiting) trips generated by the Project, as obtained from the Year 2000 Census journey-to-work data and the BTD's origin–destination data for Area 7.

4.4.2.5 BUILD CONDITIONS

Year 2013 Build conditions were analyzed for both the Preferred Alternative and the Hotel/Extended Stay Alternatives. The project generated trips for the Preferred Alternative are shown in **Figures 4-12 and 4-13** for the a.m. and p.m. peak hours, respectively. The associated Year 2013 Build traffic volumes are shown in **Figures 4-14 and 4-15**

The associated Build operations for the Preferred Alternative are presented in **Tables 4-12 and 4-13** for the a.m. and p.m. hours, respectively. Complete Synchro reports are provided in **Appendix 6.**

Under the Preferred Alternative, all approaches at each intersection will continue to operate at LOS A or LOS B. The only change in level of service will occur during the a.m. peak hour at the Sumner Street/Liverpool Street/Hodge Boiler Works Driveway, where the northbound driveway will operate at LOS B, as compared to LOS A under No-Build Conditions. All other approaches operate at the same level of service as under No-Build Conditions.

Because the Preferred Alternative will generate a relatively low number of vehicle trips and study intersections have available capacity, operations at all study intersections will continue at acceptable levels of service. All moves at the two site driveways will operate at LOS A during peak hours.

The project generated trips for the Hotel/Extended Stay Alternative are shown in **Figures 4-16 and 4-17** for the a.m. and p.m. peak hour, respectively. The associated Year 2013 Build traffic volumes are shown in **Figures 4-18 and 4-19.** Build traffic operations for the Hotel/Extended Stay Alternative are presented in **Tables 4-14 and 4-15** for the a.m. and p.m. hours, respectively. Complete Synchro reports are provided in **Appendix 6.**

Table 4-12. Build (2013) Preferred Alternative Level of Service Summary, a.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	2.9	0.04	3
Sumner WB thru/right	A	0.0	0.14	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.06	0
Sumner WB left/thru	A	1.6	0.01	1
London SB left/thru/right	B	10.8	0.11	9
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	1.2	0.01	1
Sumner WB thru/right	A	0.0	0.03	0
Hodge Driveway NB left/thru/right	B	10.0	0.03	3
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.03	0
Sumner WB thru	A	0.0	0.02	0
Border SB left/right	A	9.4	0.09	7
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.7	0.03	2
Sumner WB thru/right	A	8.6	0.05	4
New SB left/right	A	5.3	0.02	2
New Street/Northern Site Driveway				
Site Driveway EB left/thru	A	9.0	0.02	2
New NB left/thru	A	0.1	0.00	0
New SB thru/right	A	0.0	0.03	0
Maverick Street/Havre Street	A	9.0	-	-
Maverick WB thru/right	A	8.8	0.28	-
Havre NB left/thru	A	9.3	0.29	-
Maverick Street/London Street				
Maverick WB left/thru	A	1.8	0.02	1
London SB thru/right	B	11.6	0.33	36
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.14	0
Liverpool NB left/thru	B	11.0	0.09	7
Liverpool SB right	A	9.3	0.01	1
Maverick Street/Border Street				
Maverick EB left/right	A	7.3	0.05	4
Maverick WB left/thru/right	A	1.1	0.01	1
Border SB thru/right	B	11.7	0.18	16

Table 4-13. Build (2013) Preferred Alternative Level of Service Summary, p.m. Peak Hour				
Intersection Approach	**LOS**	**Delay (sec./veh.)**	**V/C Ratio**	**95% Queue Length (feet)**
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	1.6	0.03	2
Sumner WB thru/right	A	0.0	0.17	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.10	0
Sumner WB left/thru	A	2.6	0.03	2
London SB left/thru/right	B	13.8	0.26	25
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	0.6	0.01	1
Sumner WB thru/right	A	0.0	0.07	0
Hodge Driveway NB left/thru/right	B	10.9	0.03	2
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.02	0
Sumner WB thru	A	0.0	0.04	0
Border SB left/right	A	9.8	0.16	15
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.7	0.07	5
Sumner WB thru/right	A	8.5	0.06	4
New SB left/right	A	3.0	0.01	1
New Street/Northern Site Driveway				
Site Driveway EB left/thru	A	9.1	0.02	1
New NB left/thru	A	0.1	0.00	0
New SB thru/right	A	0.0	0.05	0
Maverick Street/Havre Street	A	8.8		—
Maverick WB thru/right	A	8.7	0.26	—
Havre NB left/thru	A	9.0	0.26	—
Maverick Street/London Street				
Maverick WB left/thru	A	1.8	0.02	2
London SB thru/right	B	12.1	0.25	24
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.12	0
Liverpool NB left/thru	B	11.7	0.16	14
Liverpool SB right	A	9.5	0.02	2
Maverick Street/Border Street				
Maverick EB left/right	A	6.1	0.05	4
Maverick WB left/thru/right	A	1.2	0.02	2
Border SB thru/right	B	14.2	0.32	34

Table 4-14. Build (2013) Hotel/Extended Stay Alternative Level of Service Summary, a.m. Peak Hour

Intersection Approach	LOS	Delay (sec./veh.)	V/C Ratio	95% Queue Length (feet)
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	2.8	0.04	3
Sumner WB thru/right	A	0.0	0.14	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.06	0
Sumner WB left/thru	A	1.6	0.01	1
London SB left/thru/right	B	10.8	0.11	9
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	1.2	0.01	1
Sumner WB thru/right	A	0.0	0.03	0
Hodge Driveway NB left/thru/right	B	10.0	0.03	3
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.03	0
Sumner WB thru	A	0.0	0.02	0
Border SB left/right	A	9.3	0.09	7
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.7	0.03	2
Sumner WB thru/right	A	8.6	0.05	4
New SB left/right	A	4.3	0.02	2
New Street/Northern Site Driveway				
Site Driveway EB left/thru	A	9.1	0.02	2
New NB left/thru	A	0.1	0.00	0
New SB thru/right	A	0.0	0.03	0
Maverick Street/Havre Street	A	9.1	-	-
Maverick WB thru/right	A	8.9	0.29	-
Havre NB left/thru	A	9.3	0.29	-
Maverick Street/London Street				
Maverick WB left/thru	A	1.7	0.02	1
London SB thru/right	B	11.8	0.34	38
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.14	0
Liverpool NB left/thru	B	11.1	0.09	7
Liverpool SB right	A	9.3	0.01	1
Maverick Street/Border Street				
Maverick EB left/right	A	7.3	0.05	4
Maverick WB left/thru/right	A	1.1	0.01	1
Border SB thru/right	B	11.8	0.18	17

Shading indicates a worsening in LOS from previous conditions.

Table 4-15. Build (2013) Hotel/Extended Stay Alternative Level of Service Summary, p.m. Peak Hour

Intersection Approach	LOS	Delay (sec./veh.)	V/C Ratio	95% Queue Length (feet)
Unsignalized Intersections				
Sumner Street/Havre Street				
Sumner EB left/thru	A	1.7	0.03	3
Sumner WB thru/right	A	0.0	0.17	0
Sumner Street/London Street				
Sumner EB thru/right	A	0.0	0.10	0
Sumner WB left/thru	A	2.6	0.03	2
London SB left/thru/right	B	13.8	0.26	25
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway				
Sumner EB left/thru	A	0.6	0.01	1
Sumner WB thru/right	A	0.0	0.07	0
Hodge Driveway NB left/thru/right	B	10.9	0.03	2
Sumner Street/Border Street				
Sumner EB thru	A	0.0	0.03	0
Sumner WB thru	A	0.0	0.04	0
Border SB left/right	A	9.8	0.16	15
Sumner Street/New Street/Site Driveway				
Site Driveway EB left/thru	A	9.8	0.08	7
Sumner WB thru/right	A	8.5	0.06	4
New SB left/right	A	3.2	0.01	1
New Street/Northern Site Driveway				
Site Driveway EB left/thru	A	9.1	0.02	1
New NB left/thru	A	0.1	0.00	0
New SB thru/right	A	0.0	0.05	0
Maverick Street/Havre Street	A	8.8	—	—
Maverick WB thru/right	A	8.7	0.27	—
Havre NB left/thru	A	9.0	0.26	—
Maverick Street/London Street				
Maverick WB left/thru	A	1.8	0.02	2
London SB thru/right	B	12.1	0.25	24
Maverick Street/Liverpool Street				
Maverick WB thru/right	A	0.0	0.12	0
Liverpool NB left/thru	B	11.7	0.16	14
Liverpool SB right	A	9.5	0.02	2
Maverick Street/Border Street				
Maverick EB left/right	A	6.2	0.05	4
Maverick WB left/thru/right	A	1.2	0.02	2
Border SB thru/right	B	14.4	0.32	35

Under the Hotel/Extended Stay Alternative, all approaches at each intersection will continue to operate at LOS A or LOS B. While slightly more vehicle trips are generated under the Hotel/Extended Stay Alternative than the Preferred Alternative, the resulting intersection levels of service are the same.

As with the Preferred Alternative, the only change in level of service will occur during the a.m. peak hour at the Sumner Street/Liverpool Street/Hodge Boiler Works Driveway, where the northbound driveway will operate at LOS B, as compared to LOS A under No-Build Conditions. All other approaches operate at the same level of service as under No-Build Conditions. Operations at all study intersections will continue at acceptable levels of service. All moves at the two site driveways will operate at LOS A during peak hours.

4.4.2.6 BUILD CONDITIONS PARKING DEMAND

Parking on the Project site, as shown in the site plan in **Figure 4-2,** will be provided in the following locations:

- A new 3-level, parking garage with 113 spaces will replace the existing parking/loading area and 3-story building on the north side of the redeveloped building. Vehicles will access this garage from New Street.
- The new 6-story building, whether developed as the Preferred Alternative or the Hotel/Extended Stay Alternative, will contain 2-levels of parking: one at grade and one subsurface parking garage with a total of 51 to 80 parking spaces. The higher number of parking spaces could be achieved through the use of vehicle stackers—a hydraulic lift system that provides space for 2 parked vehicles, 1 over the other.
- Surface parking for 10 vehicles will be provided on the southern side of the site.

Under the Preferred Alternative, all parking spaces in the garages will be designated for residents. Under the Hotel/Extended Stay option, the garage parking spaces would be designated for residents and hotel guests.

BTD has established parking space guidelines throughout the City to ensure that the proper parking capacity is provided with new developments. The recommended BTD parking ratios are 0.75 to 1.25 parking spaces per residential unit and 0.75 to 1.25 parking spaces per 1,000 sf of non-residential use, such as hotel. Based on these guidelines and the designated parking spaces in the Project, the study team calculated the resulting parking space ratio, as shown in **Table 4-16.**

Table 4-16. Parking Space Allotment by Land Use		
Use	**Designated Spaces**	**Project Parking Space Ratio**
Preferred Alternative		
Residential: 238 units	164 to 193	0.69 to 0.81 spaces/unit
Hotel/Extended Stay Alternative		
Residential: 179 units	123 to 145	0.69 to 0.81 spaces/unit
Hotel: 106 rooms (68,900 sf)	41 to 48	0.60 to 0.70 spaces/unit

Under the Preferred Alternative, the Project will provide between 0.69 and 0.81 spaces per residential unit. With some use of parking stackers, the parking ratio will meet the parking spaces guideline of 0.75 spaces per unit established by the City.

With the Hotel/Extended Stay Alternative, the Project will provide between 123 and 146 parking spaces, for a ratio of 0.69 to 0.81 spaces per residential unit. For the Hotel, between 41 to 48 parking spaces will be provided, resulting in a parking ratio of 0.60 to 0.70 spaces per room

Under either alternative, the 10 surface parking spaces will serve the restaurant, marina, and other visitor vehicles.

4.4.2.7 BUILD CONDITIONS PUBLIC TRANSPORTATION

Tables 4-17 and 4-18 present the new transit trips associated with the Preferred Alternative and the Hotel/Extended Stay Alternative for daily and peak-hour conditions. With the Preferred Alternative, the Project will add 30 transit trips during the a.m. peak hour and 40 transit trips during the p.m. peak hour. Similarly, the Hotel/Extended Stay Alternative will generate 31 new transit trips in the a.m. peak hour and 41 new trips during the p.m. peak hour. These trips will be dispersed on the various transit services available at Maverick Square and will not adversely affect transit capacity in the area.

4.4.2.8 BUILD CONDITIONS PEDESTRIAN OPERATIONS

The new walk trips associated with the alternatives are presented in **Tables 4-19 and 4-20.** Under the Preferred Alternative, the Project will add 47 walk trips during the a.m. peak hour and 107 walk trips during the p.m. peak hour. Similarly, the Hotel/Extended Stay Alternative will generate 109 new walk trips in the a.m. peak hour and 171 new walk trips during the p.m. peak hour.

Table 4-17. Project Transit Trips—Preferred Alternative				
Time Period	**Condominium (238 units)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	280	68	60	408
In	140	34	30	204
Out	140	34	30	204
a.m. peak hour	29	1	0	30
In	3	0	0	4
Out	26	0	0	26
p.m. peak hour	31	8	1	40
In	24	6	1	31
Out	7	2	0	9

Table 4-18. Project Transit Trips—Hotel/Extended Stay Alternative					
Time Period	**Condominium (179 units)**	**Hotel (106 rooms)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	210	108	68	60	446
In	105	54	34	30	223
Out	105	54	34	30	223
a.m. peak hour	22	8	1	0	31
In	2	4	0	0	7
Out	20	4	0	0	24
p.m. peak hour	23	9	8	1	41
In	18	6	6	1	31
Out	5	3	2	0	10

Table 4-19. Project Walk Trips—Preferred Alternative				
Time Period	**Condominium (238 units)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	478	590	522	1,590
In	239	295	261	795
Out	239	295	261	795
a.m. peak hour	38	6	3	47
In	7	5	1	13
Out	31	1	2	34
p.m. peak hour	45	53	8	106
In	29	35	5	69
Out	16	18	3	37

Table 4-20. Project Walk Trips—Hotel/Extended Stay Alternative					
Time Period	**Condominium (179 units)**	**Hotel (106 rooms)**	**Restaurant (6,000 sf)**	**Marina (36 berths)**	**Total**
Daily	357	942	590	523	2,412
In	178	471	295	261	1,206
Out	178	471	295	261	1,206
a.m. peak hour	28	71	6	3	108
In	5	44	5	1	55
Out	23	27	1	2	53
p.m. peak hour	34	75	53	8	170
In	22	39	35	5	101
Out	12	36	18	3	69

4.4.2.9 BUILD CONDITIONS BICYCLE ACCOMMODATIONS

BTD has established guidelines that buildings with more than nine residential units must provide secure bicycle parking at the rate of one bicycle space per three residential units. Accordingly, secure on-site bicycle storage will be provided for at least 78 bicycles under the Preferred Alternative and for at least 59 bicycles under the Hotel/Extended Stay Alternative. Bicycle racks, signs, and parking areas will conform to BTD standards and be sited in safe, secure locations.

4.4.2.10 BUILD CONDITIONS LOADING AND SERVICE ACCOMMODATIONS

As shown in the site plan in **Figure 4-2,** the Project will provide a service/loading area in the eastern portion of the new 6-story building. Under either alternative, access to this loading area will be via the Sumner Street/New Street intersection. Residential delivery trucks, such as those for small packages, flowers, and dry cleaning, may use the canopied drop-off driveway on New Street.

Future daily truck activity was estimated based on research of the National Cooperative Highway Research Program (NCHRP)[1] for residential, restaurant, and hotel land uses, as summarized in **Table 4-21.**

Under the Preferred Alternative, an estimated seven daily trucks will make deliveries to the Project. Similarly, under the Hotel/Extended Stay Alternative, eight truck trips are estimated. These small numbers of daily truck trips will not affect traffic operations in the study area.

[1] *Truck Trip Generation Data—Synthesis 298.* National Cooperative Highway Research Program (NCHRP) and Transportation Research Board. 2001.

Table 4-21. Truck Delivery Activity	
Use	**Daily Truck Trips**
Preferred Alternative	
Residential	2
Restaurant	5
Total	7
Hotel/Extended Stay Alternative	
Residential	1
Restaurant	5
Hotel	2
Total	8

4.5 TRANSPORTATION DEMAND MANAGEMENT

The Project Proponent is committed to implementing travel demand management ("TDM") measures to reduce parking demand and dependence on autos. TDM will be facilitated by the site's proximity to Maverick Square, allowing reduced auto use by residents. The Proponent is prepared to take advantage of the Project's location close to Maverick Square Station in promotion to future residents. On-site management will keep a supply of transit information (schedules, maps, fare information) at the management office and provide them upon request to building tenants.

The Proponent will work with the City to develop a TDM program appropriate to the Project and consistent with its level of impact. TDM measures for the Project may include, but are not limited to, parking space(s) for a car-sharing service such as Zipcar and secure required bicycle parking for tenants.

The Transportation Access Plan Agreement (TAPA) to be executed with the City as part of the Article 80 approvals will document the TDM and any other mitigation measures proposed by the Project proponent.

4.6 EVALUATION OF SHORT-TERM CONSTRUCTION IMPACTS

Construction impacts are discussed in detail in Section 6. 10.

Most construction activities will be accommodated within current site boundaries. Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a Construction Management Plan to be filed with BTD in accordance

with the City's transportation maintenance plan requirements and prior to commencement of construction.

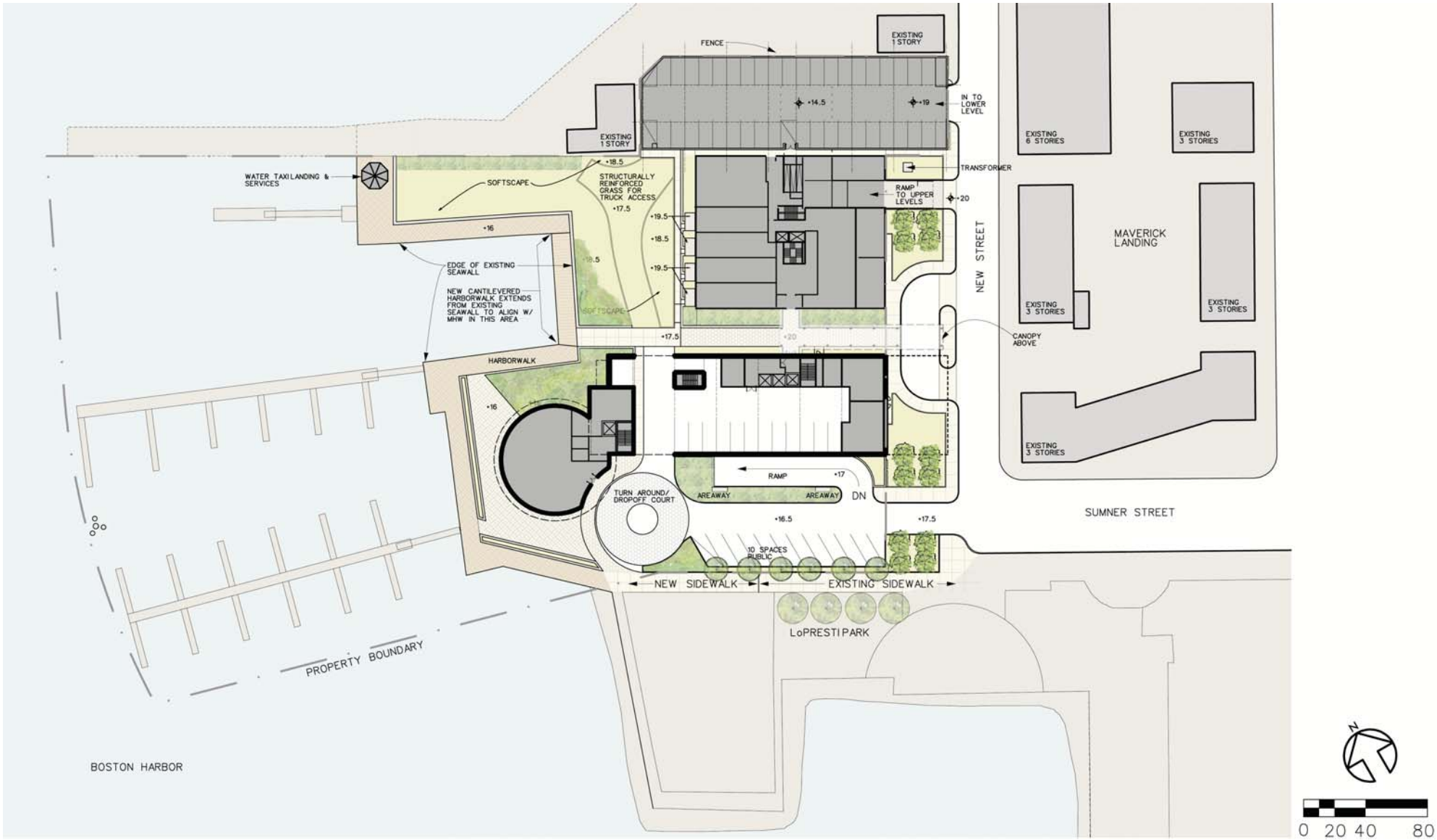
To minimize transportation impacts during the construction period, the following measures will be considered for the Construction Management Plan:

- Limited construction worker parking on-site;
- Encouragement of worker carpooling;
- A subsidy for MBTA passes for full-time employees; and
- Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

The Construction Management Plan to be executed with the City will document all committed measures.

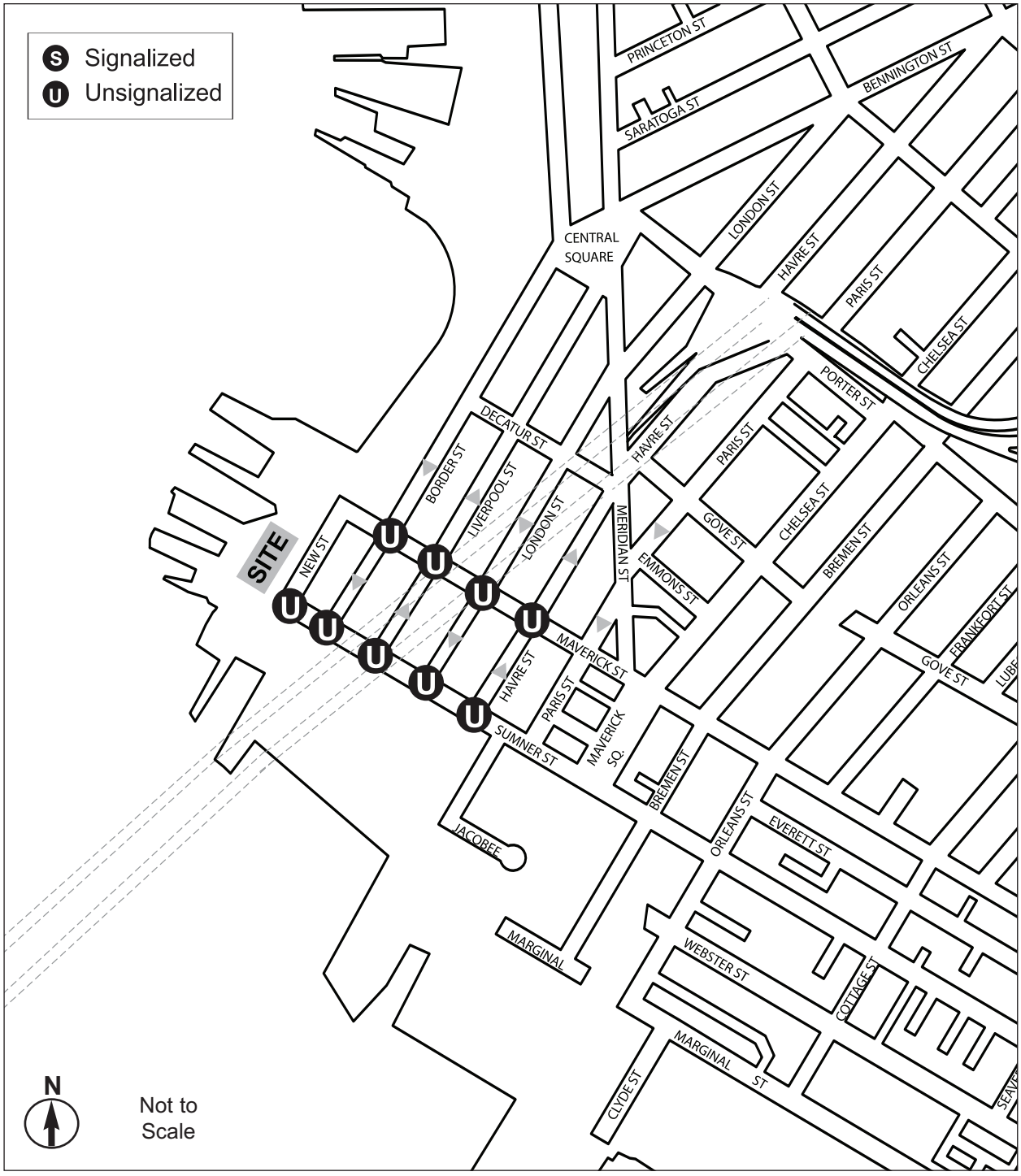

SITE
BOSTON
Inner
Harbor
East Boston
Jeffries Point
Tollgate
Old Ironsides
Charlestown Bridge
Beach
Coast Guard Station
SUMNER TUNNEL
CALLAHAN TUNNEL
MBTA
Marine Park
City Hall
Faneuil Hall
Customhouse
Central Sq
Courthouse
Maverick Sq
Sta
Fire Sta
Camp Hill
Adams Sch
Park
Playground
Barry Playground
Bunker Hill Cem
Eagle Square
Sheridan Sch
Kennedy Sch
O'Donnelly Sch
Barnes Sch
Otis Sch
Lyman Sch
Alighieri Sch
McKay Sch
Eliot Sch
Old North Ch
Library
Paul Revere House
N
Not to Scale

Source: USGS



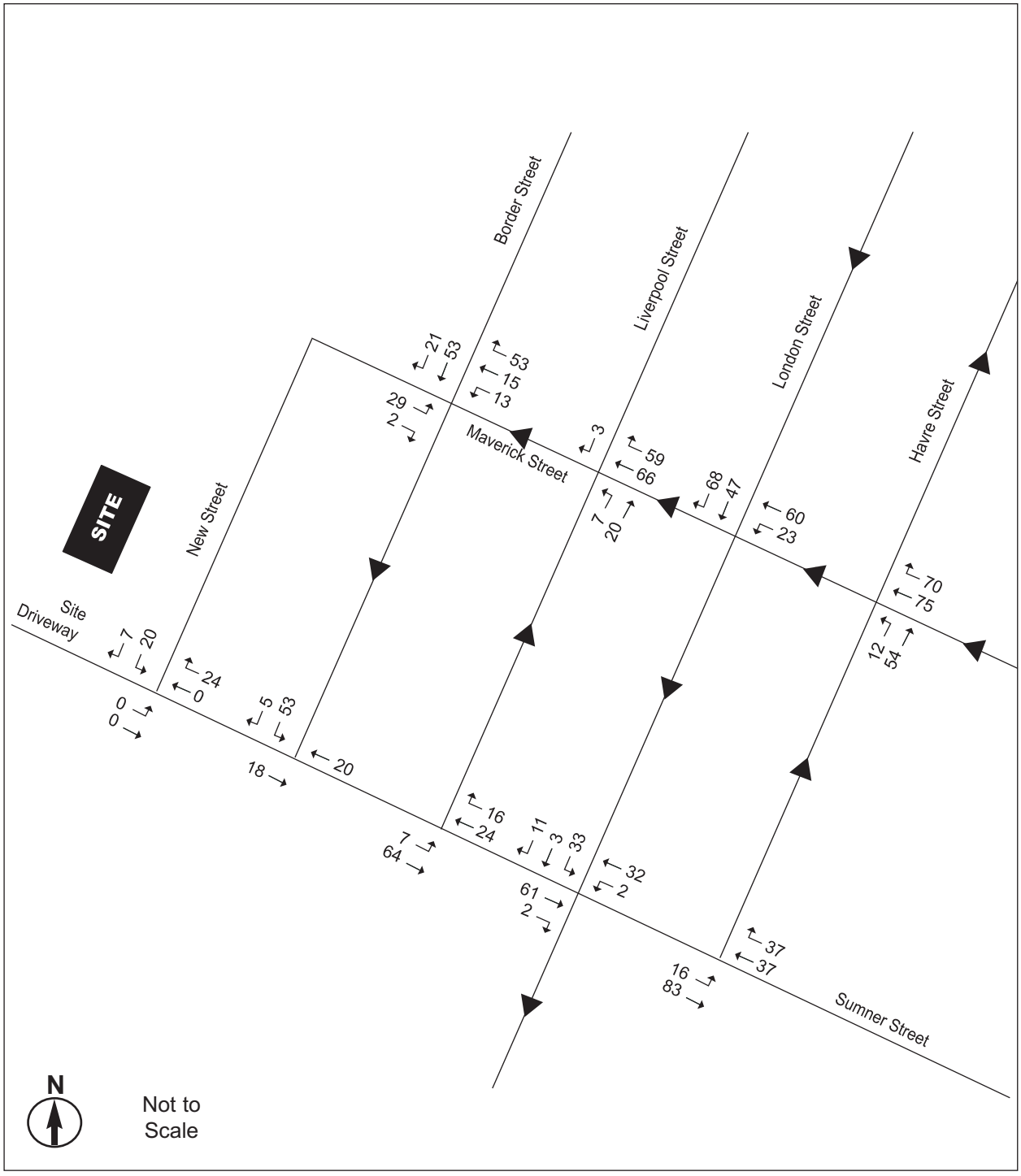
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-2
Site Plan
source: Steffian Bradley Architects



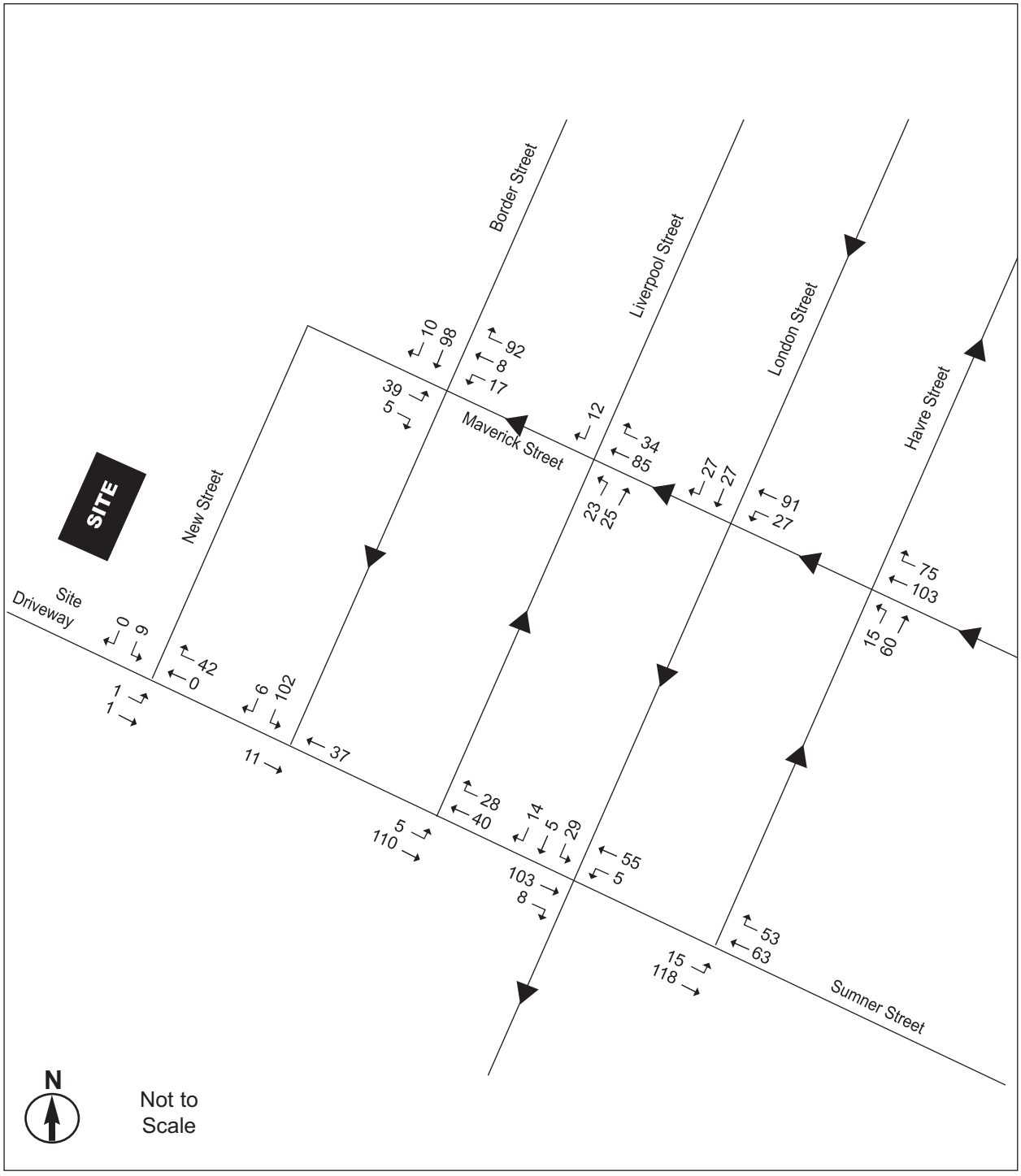
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-3
Study Area Intersections



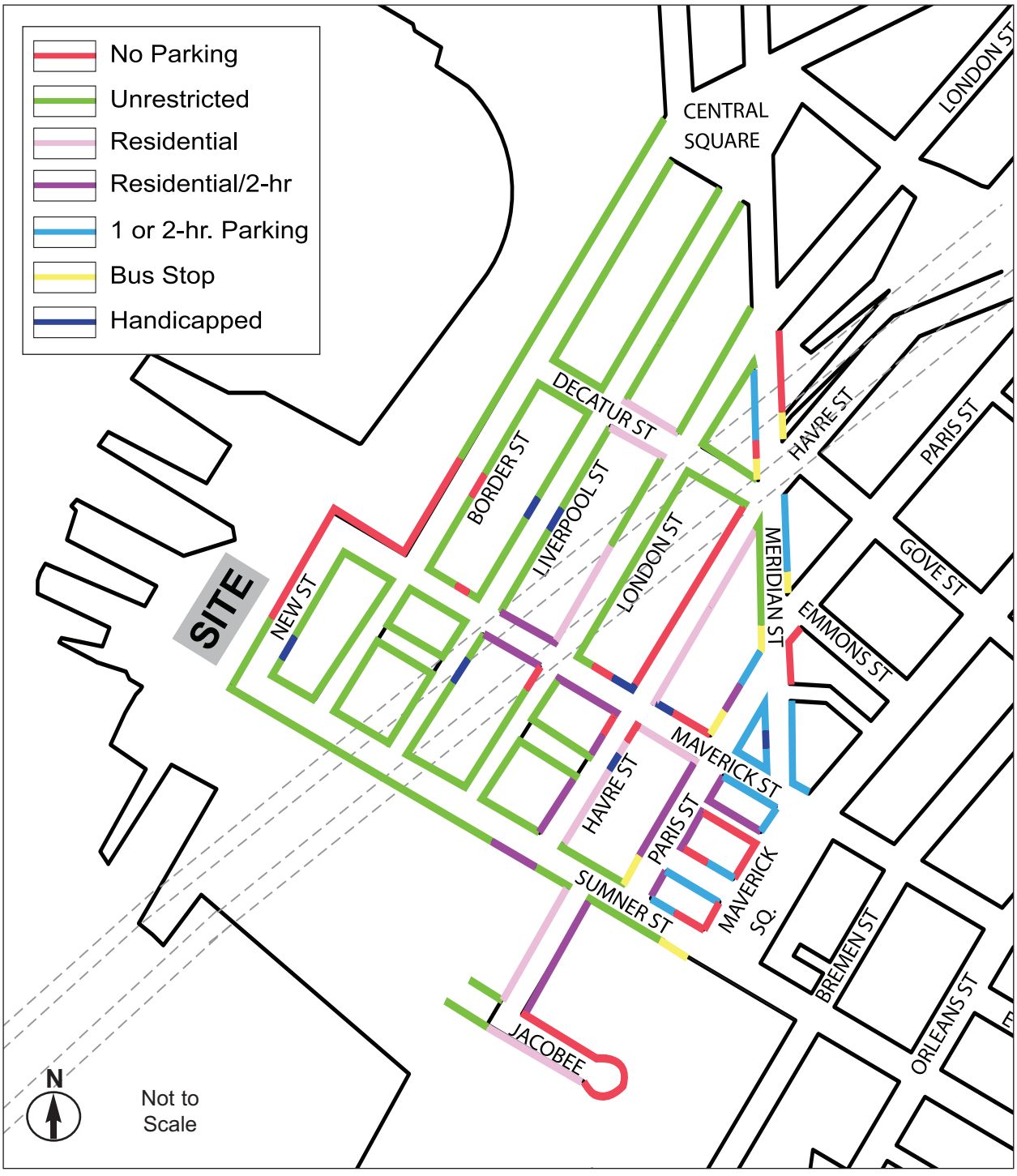
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-4
Existing Conditions (2008) Turning Movement Volumes, a.m. Peak Hour (7:45-8:45 a.m.)



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-5
Existing Conditions (2008) Turning Movement Volumes, p.m. Peak Hour (4:00-5:00 p.m.)

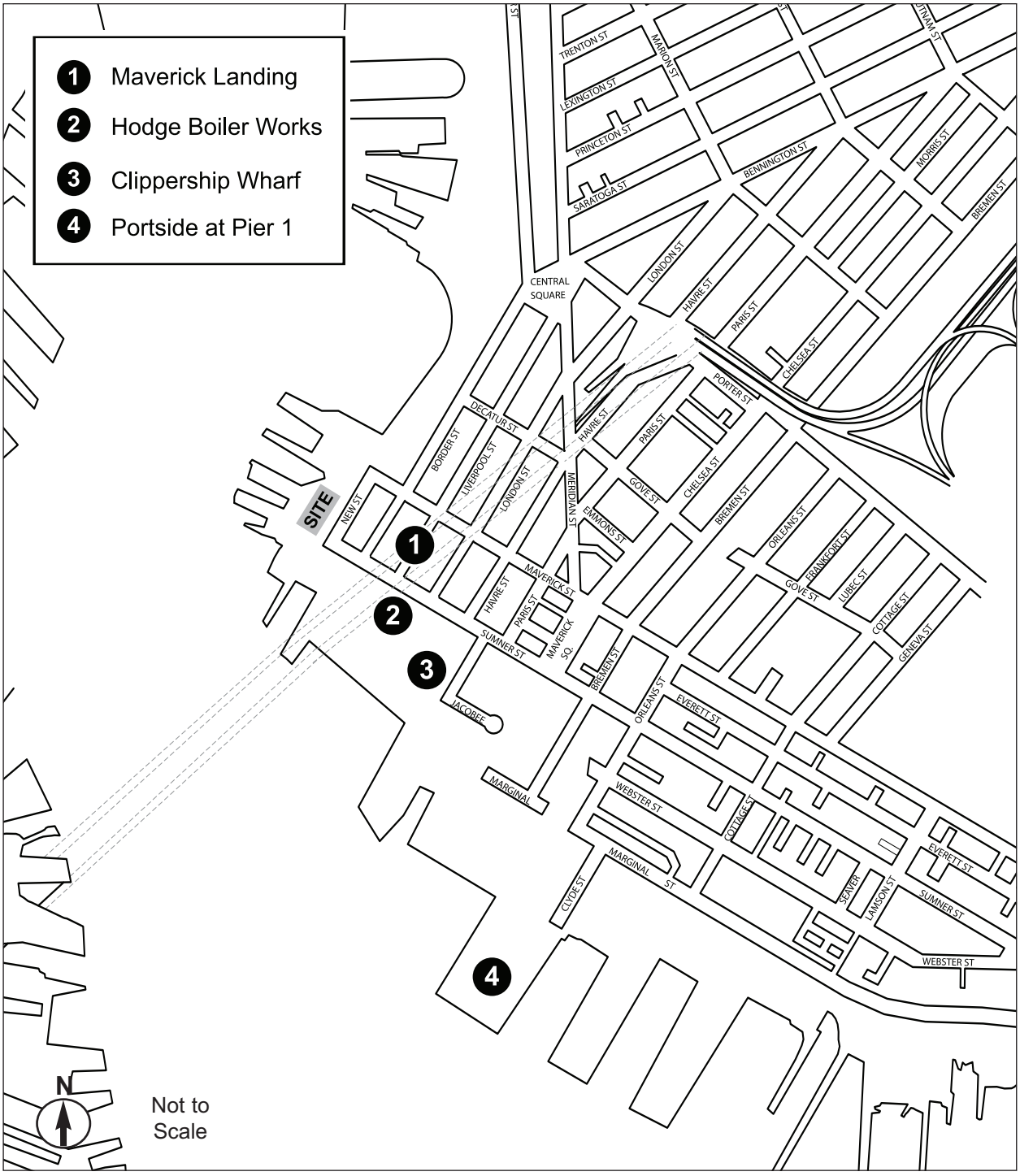


NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-6
On-street Parking

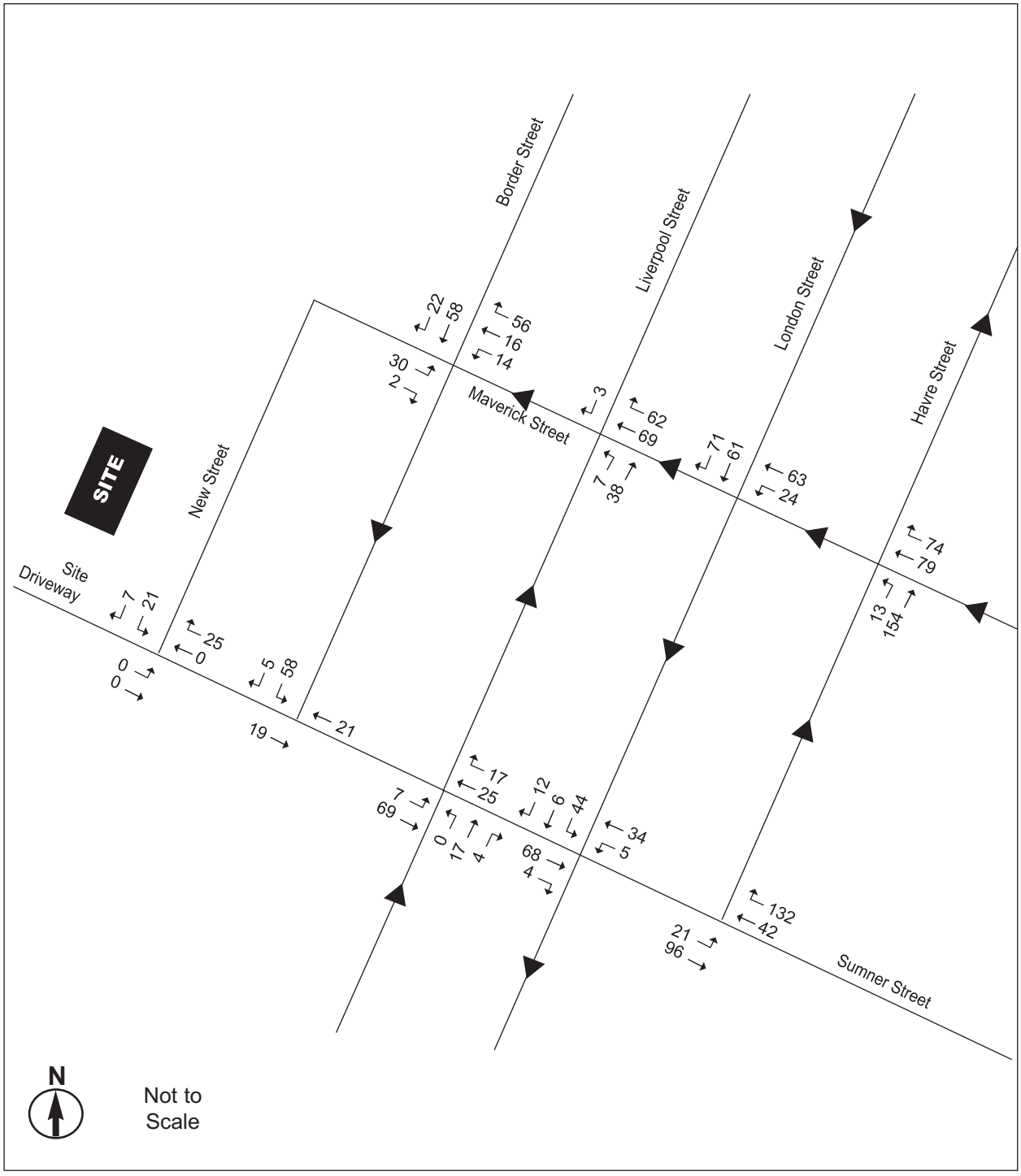

EAST BOSTON
Chelsea Creek
Blue Line
WOOD ISLAND
AIRPORT
MAVERICK
Eagle Square
Day Square
Central Square
Liberty Plaza Shopping Center
East Boston High School
Piers Park
Hilton Hotel
Logan Office Center
E Terminal
C D Terminal
A Terminal
459 to downtown Boston via Logan Airport terminal C and Ted Williams Tunnel
Massport Logan Shuttles
1-800-23-LOGAN
11 All Terminals only
22 Airport Station–Terminals A and B
33 Airport Station–Terminals C, D, and E
66 Water Shuttle Dock–Harborside Dr.–All Terminals–Airport Station
88 All Terminals–North Cargo Area–Satellite Parking
Logan Express buses visit all terminals
SITE
Sumner Tunnel
Callahan Tunnel
McArdle Bridge
Not to Scale

Source: MBTA



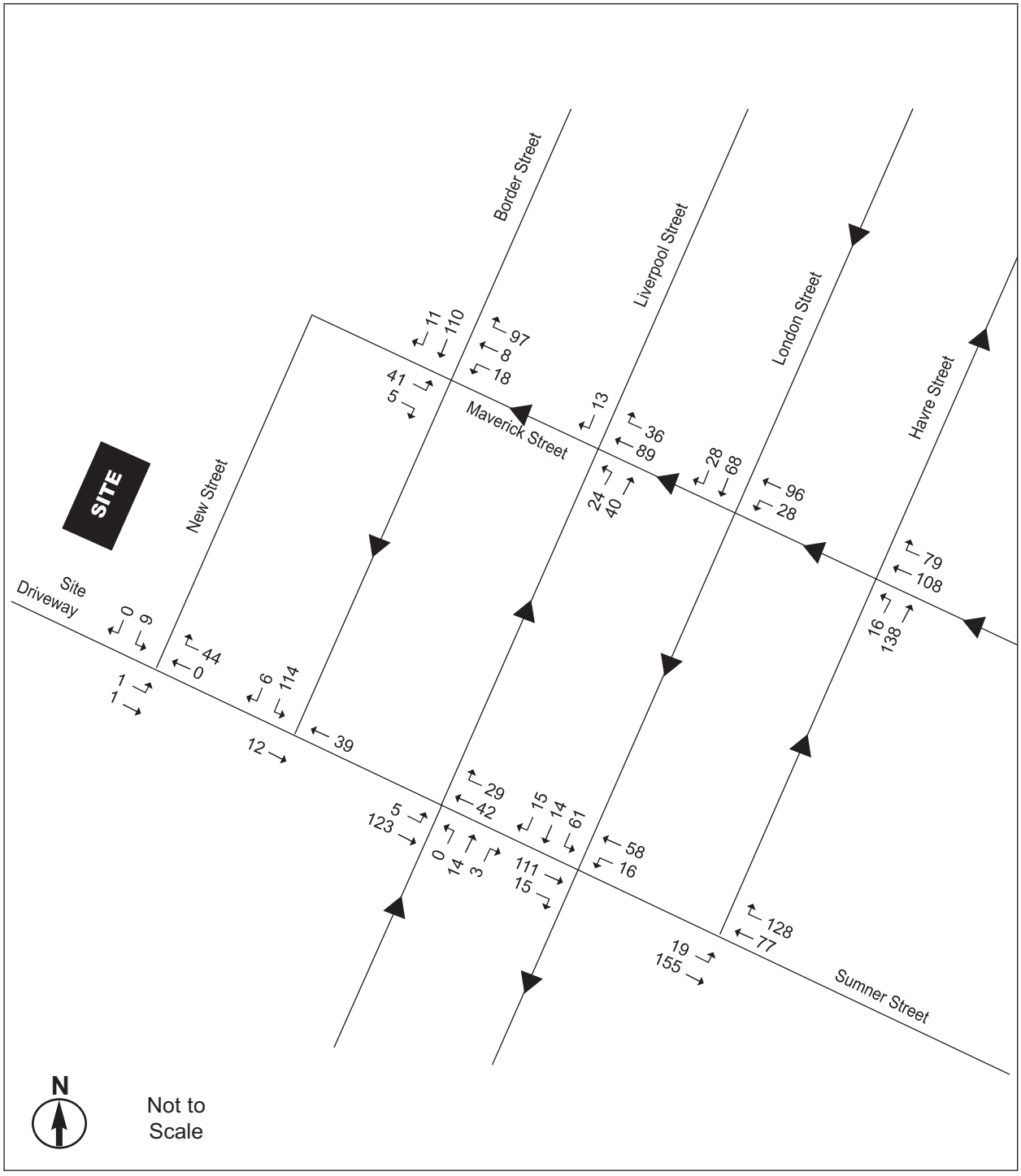
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-8
East Boston Area Projects



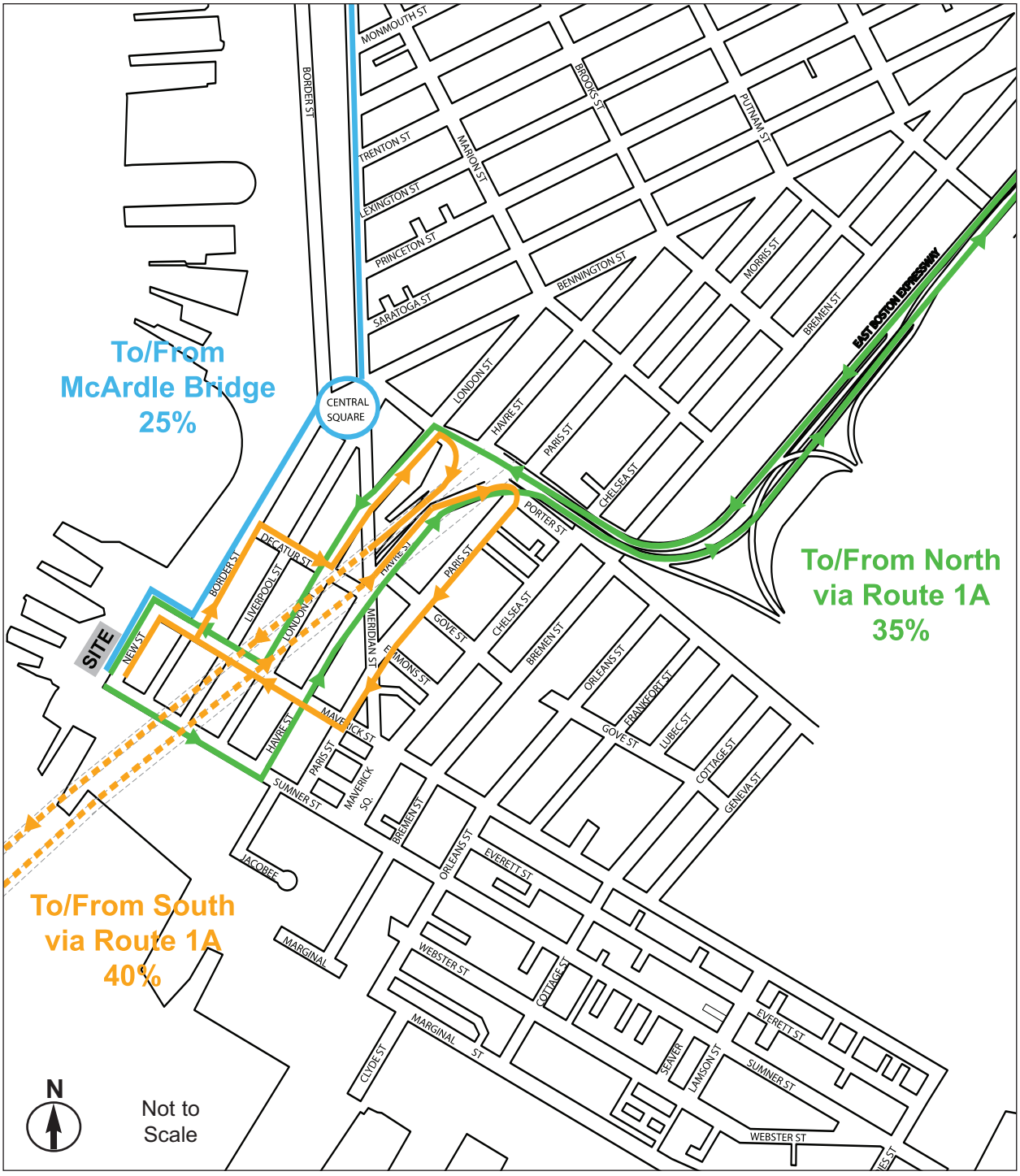
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-9
No-Build Conditions (2013) Turning Movement Volumes, a.m. Peak Hour



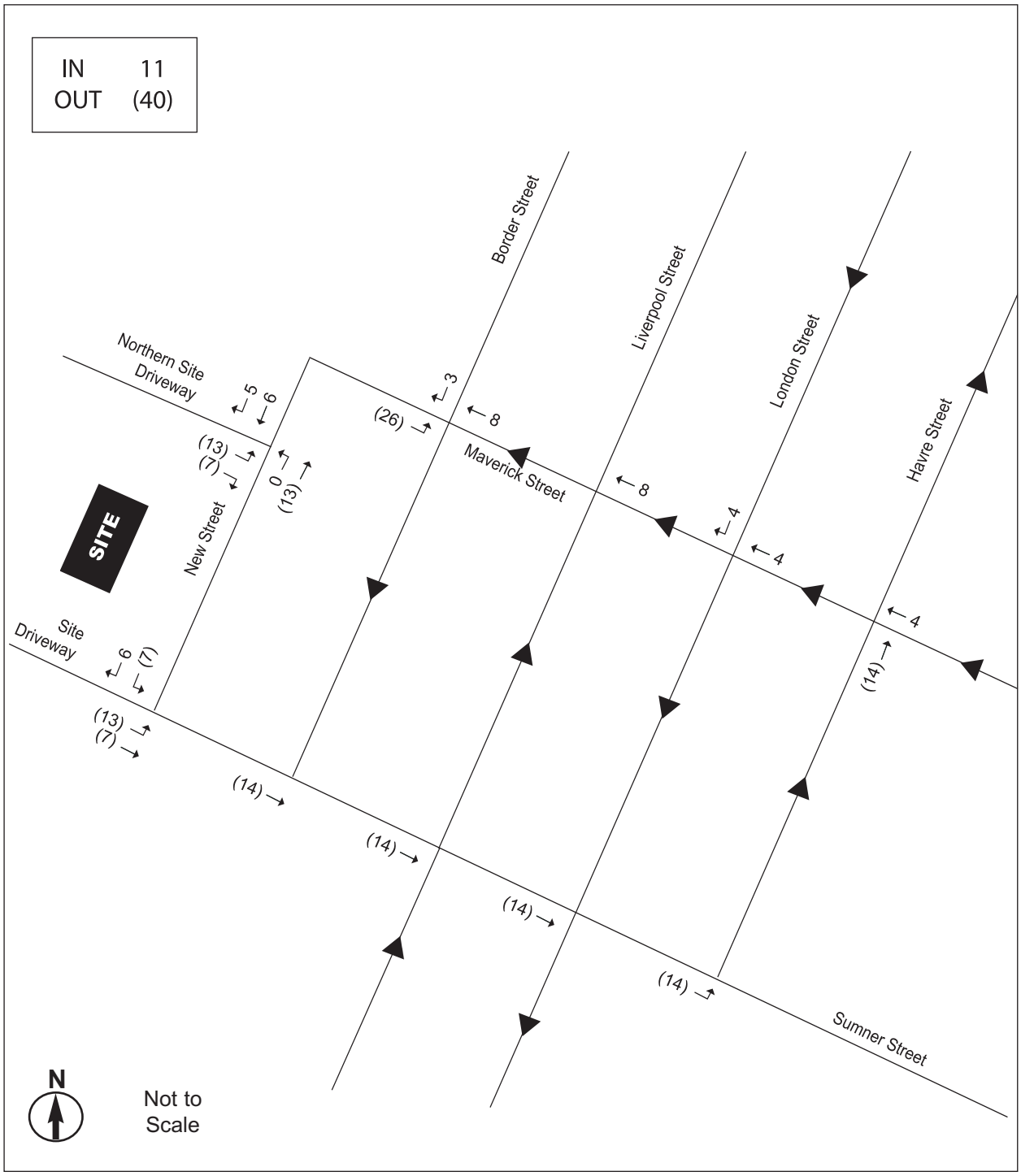
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-10
No-Build Conditions (2013) Turning Movement Volumes, p.m. Peak Hour



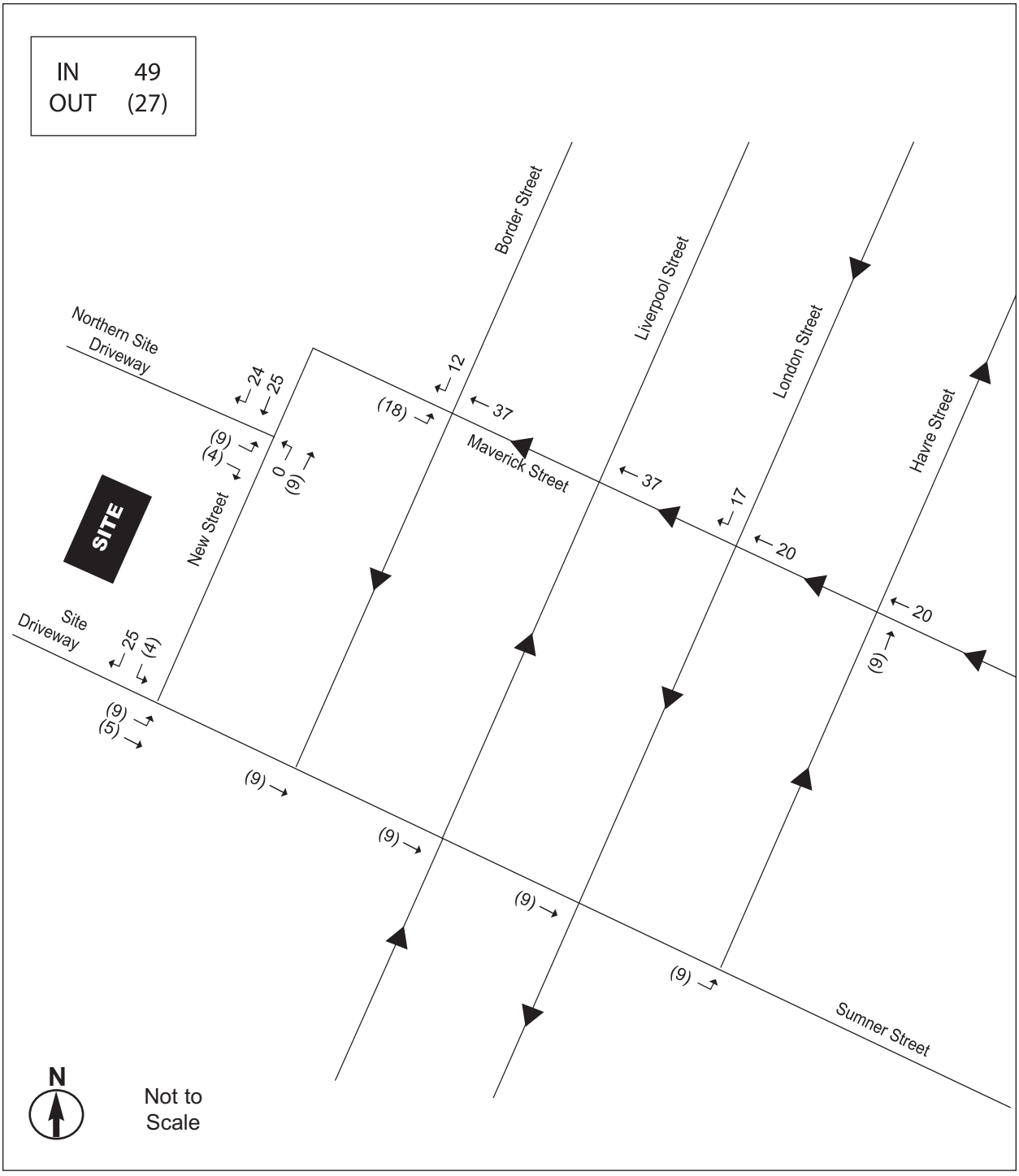
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-11
Vehicular Trip Distribution



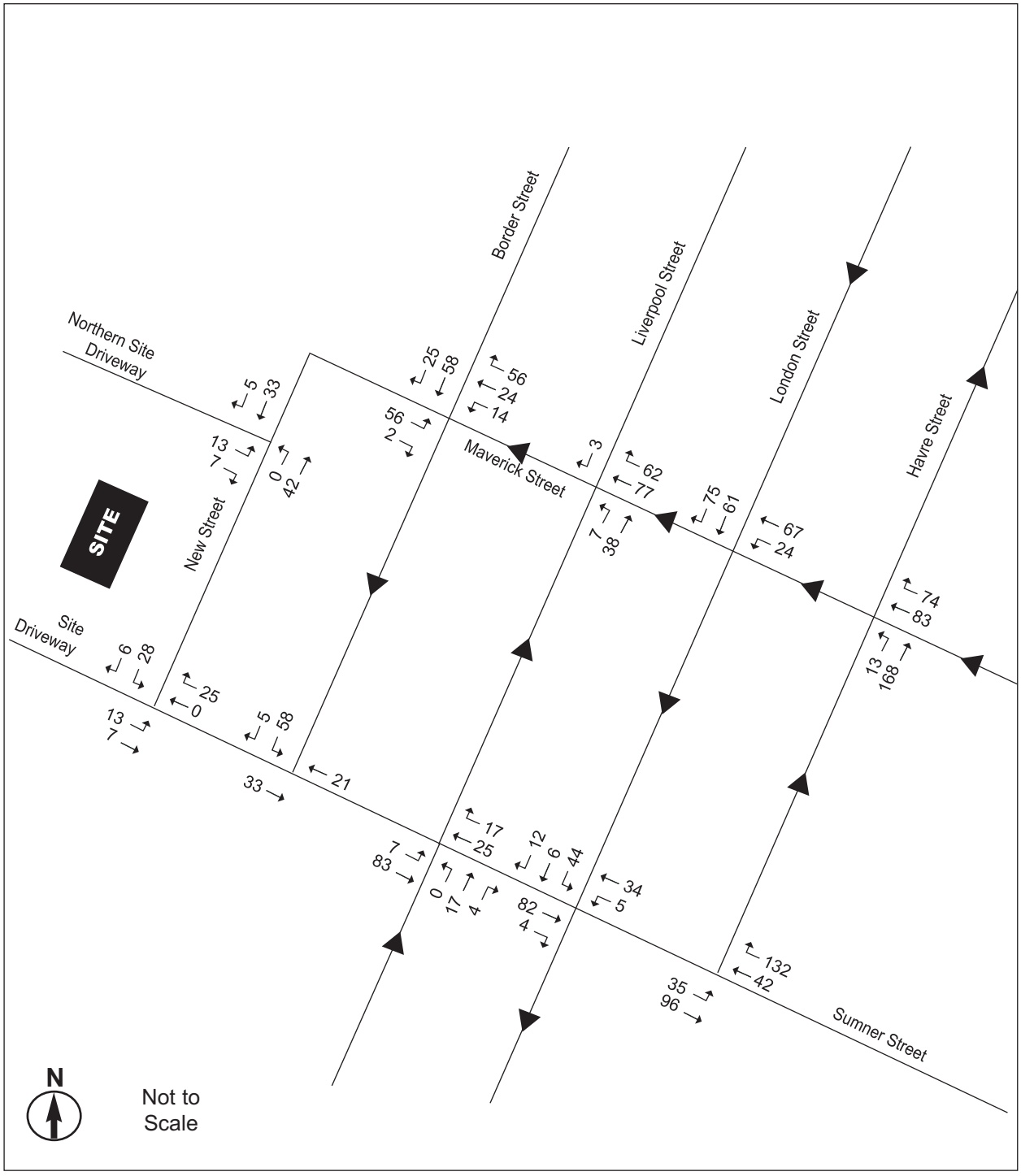
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-12
Preferred Alternative: Project-generated Trips, a.m. Peak Hour



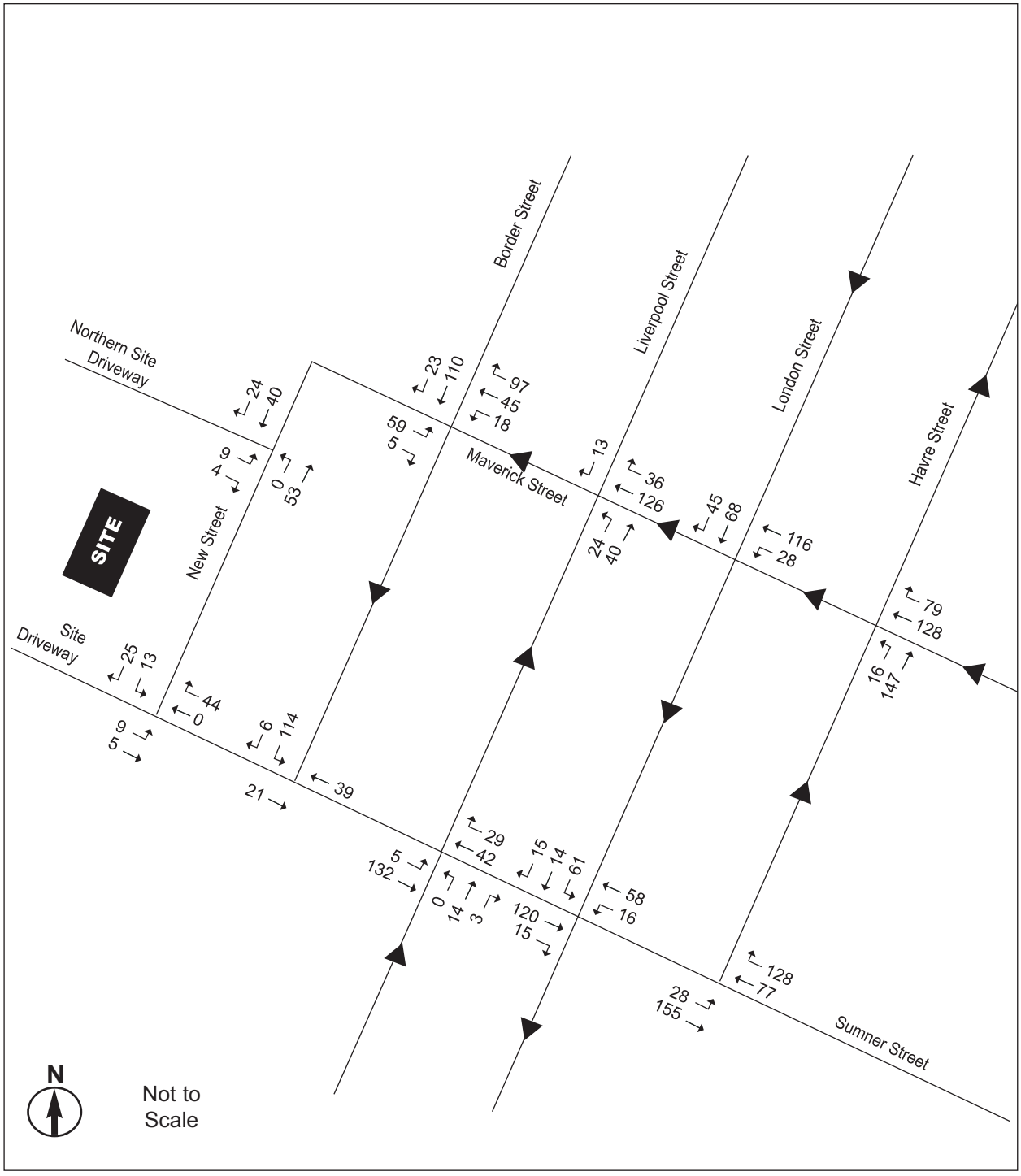
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-13
Preferred Alternative: Project-generated Trips, p.m. Peak Hour



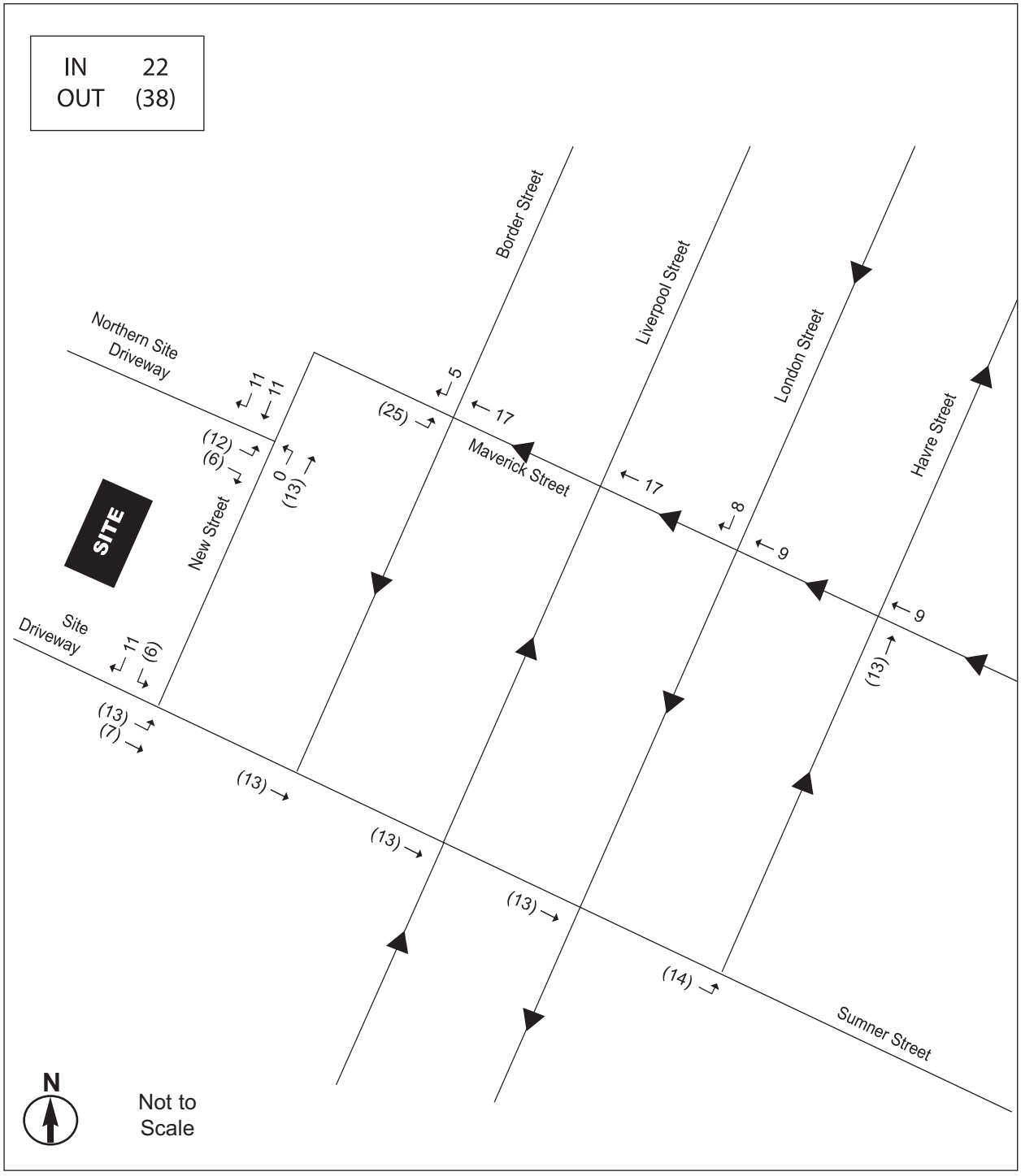
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-14
Preferred Alternative: Build Conditions (2013)
Turning Movement Volumes, a.m. Peak Hour



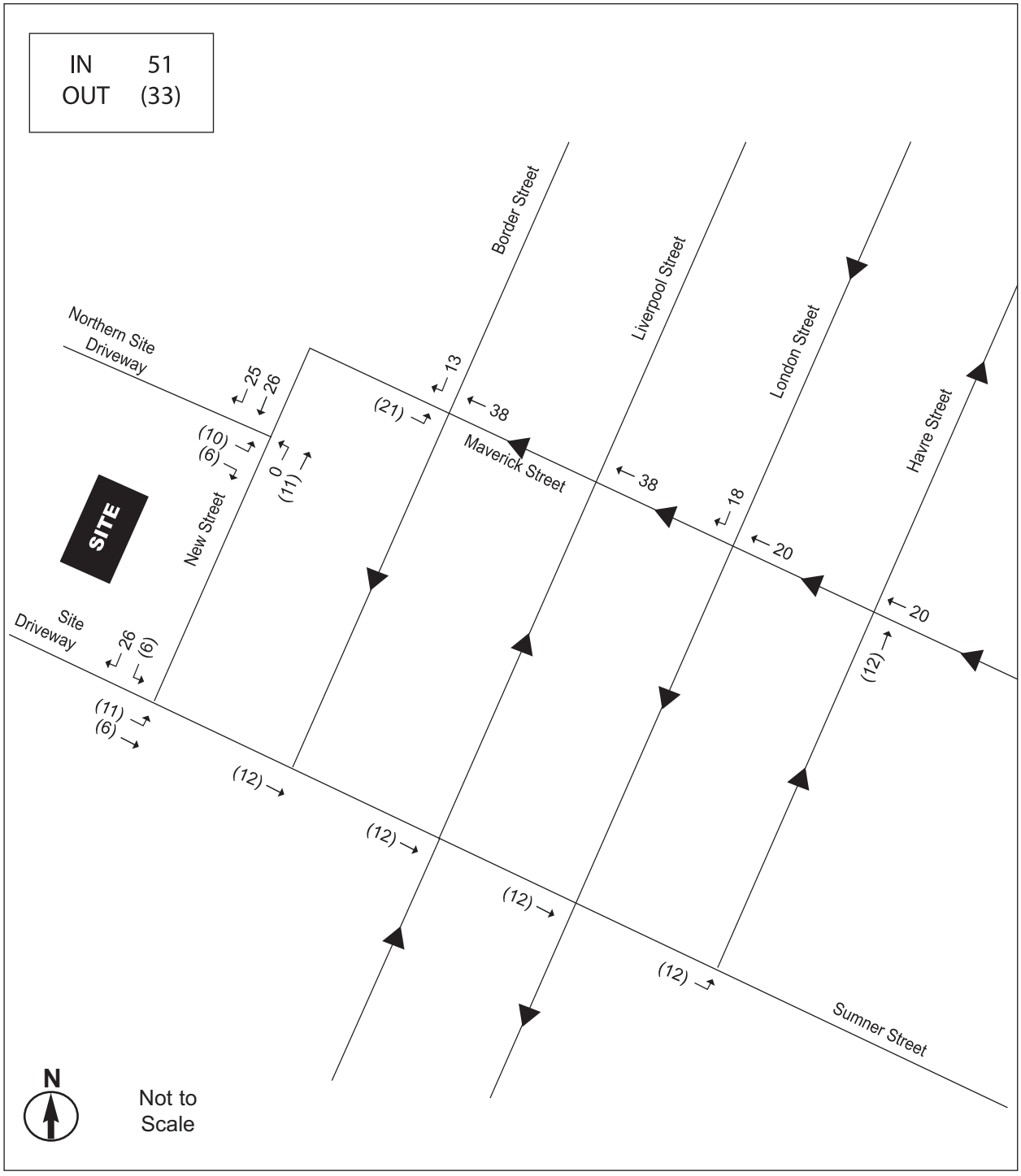
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-15
Preferred Alternative: Build Conditions (2013)
Turning Movement Volumes, p.m. Peak Hour



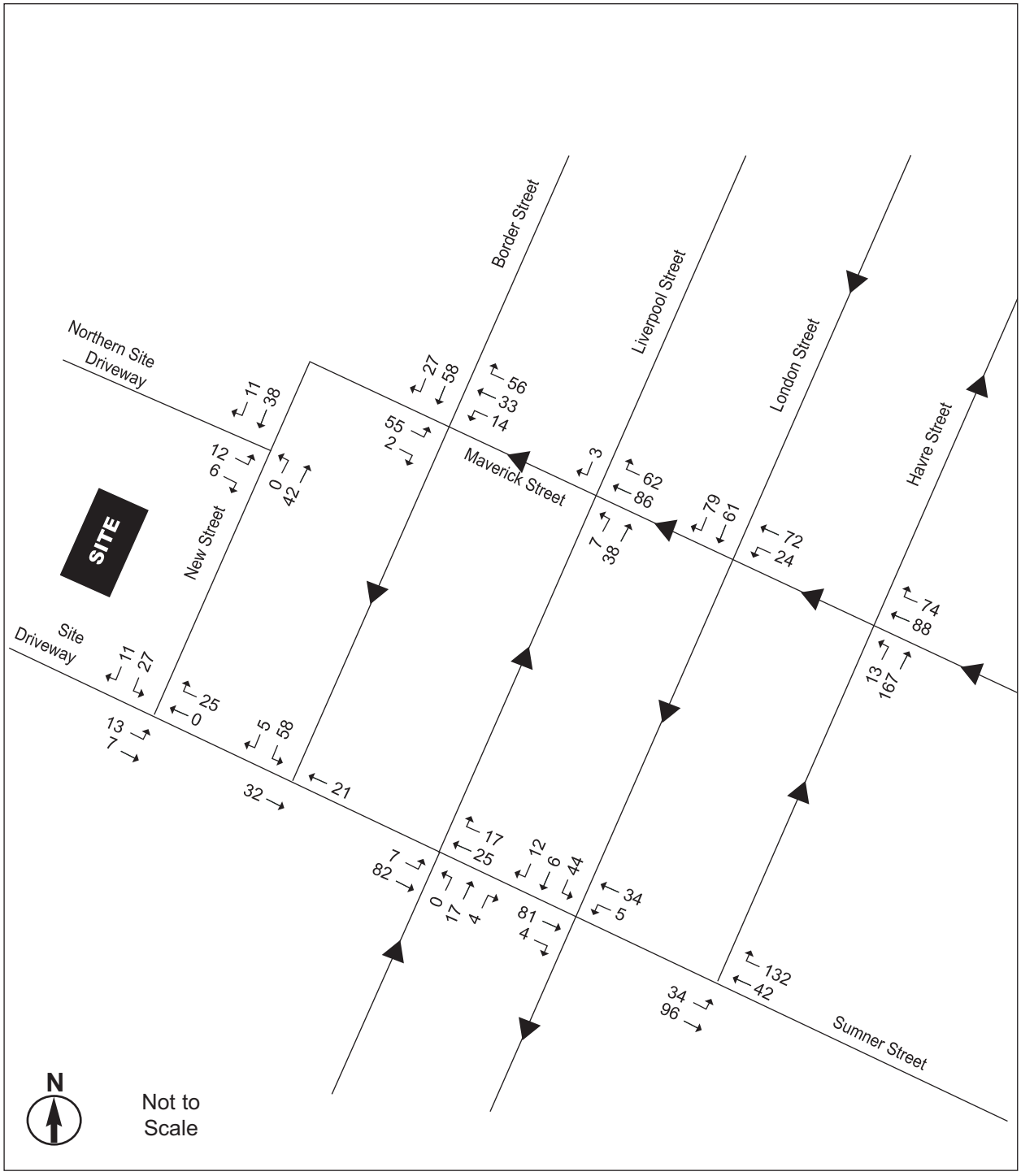
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-16
Hotel Extended Stay Alternative: Project-generated Trips, a.m. Peak Hour



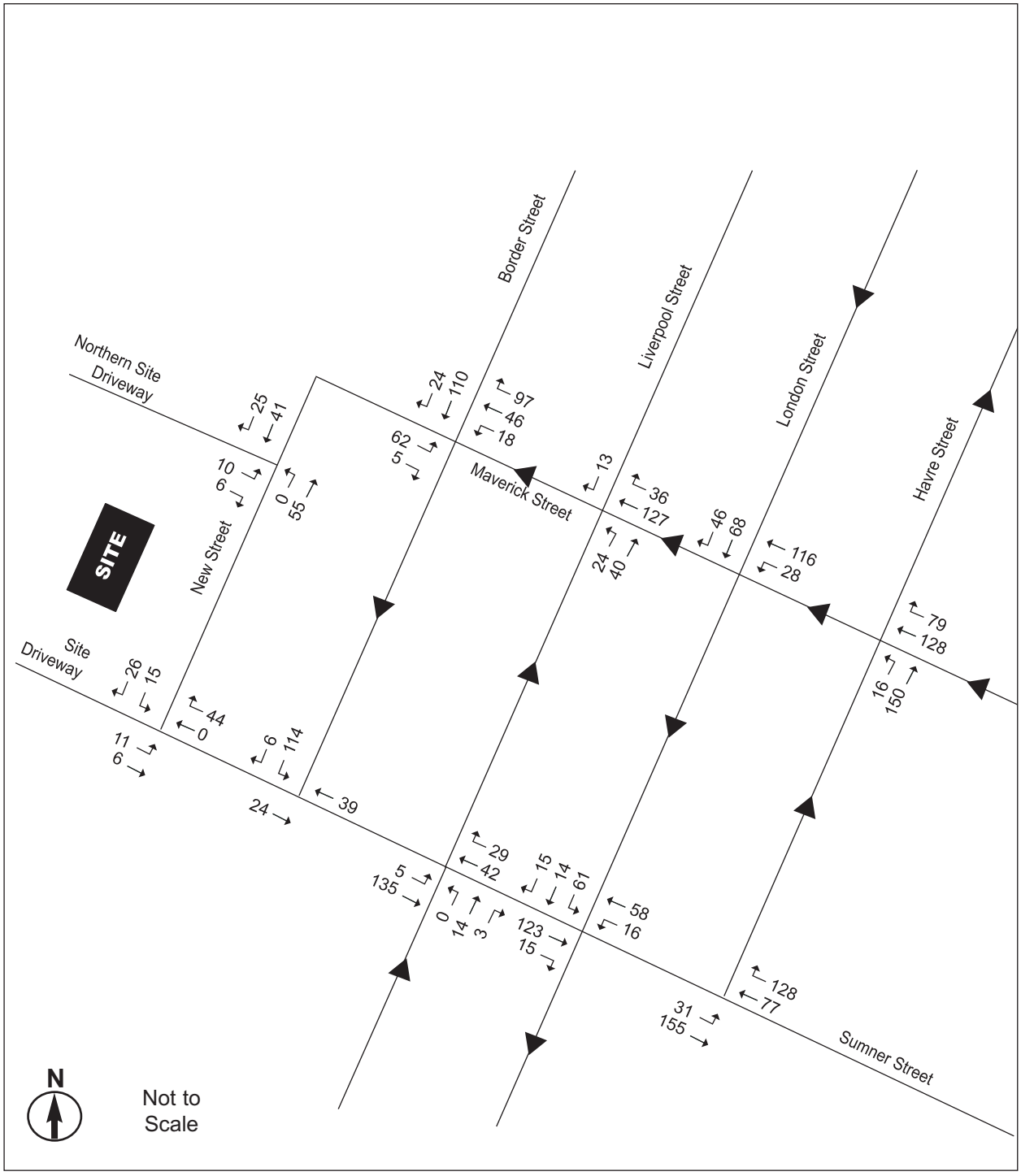
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-17
Hotel Extended Stay Alternative: Project-generated Trips, p.m. Peak Hour



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-18
Hotel Extended Stay Alternative: Build Conditions (2013)
Turning Movement Volumes, a.m. Peak Hour



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 4-19
Hotel Extended Stay Alternative: Build Conditions (2013)
Turning Movement Volumes, p.m. Peak Hour

Chapter 5

Environmental

5.0 ENVIRONMENTAL

This Chapter evaluates the environmental impacts of the New Street Development project.

5.1 WIND

A qualitative assessment has been made to determine the effect of the proposed New Street buildings in East Boston, Massachusetts on pedestrian level winds (PLWs) in their vicinity, as well as the winds in the Inner Harbor. Results are obtained for both existing and build conditions for NW, SW, easterly storm, and annual winds. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new buildings.

Areas of concern include building entrances, the proposed Harborwalk, the immediate watersheet, existing and proposed sidewalks and walkways within and adjacent to the proposed project, New Street, and LoPresti Park. The detailed analysis is presented in Appendix 4.

Results for the wind study were obtained for two conditions as follows and as shown on Figure 5-1, No Build Conditions including Building Heights and PLW Location Numbers and Figure 5-2, Build Conditions including Building Heights and PLW Location Numbers.

None of the 45 locations considered for either existing or build conditions is estimated to have PLWs that exceed the Boston Redevelopment Authority (BRA) guideline wind speed of 31 mph one percent of the time. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the new buildings tends to decrease PLWs somewhat. The increases at locations 22, 26, and 56 occur as a result of those locations being under a building for existing conditions (i.e. not exposed), and exposed for the build conditions. The gap between the 15-story and 6-story buildings will be quite windy for northwest, north, and east southeast wind, but vertical glass walls in the gap could reduce that windiness. See Figure 5-3, Annual PLW Categories for No Build Conditions and Figure 5-4, Annual PLW Categories for Build Conditions.

5.2 SHADOW

The objective of the shadow study is to describe the net impact of the shadows cast by the new buildings as compared to the existing shadow patterns. The areas of greatest interest

are the Harborwalk, open spaces, LoPresti Park, and nearby sidewalks. This report discusses the findings of the shadow analyses for the existing and proposed conditions at the New Street project.

5.2.1 METHODOLOGY

The shadow patterns illustrated in this report were generated with the aid of a computer graphics program that utilized a 3-dimensional model of the project and existing surroundings. The model was prepared by Steffian Bradley Architects. The model simulated the geographic characteristics and solar angles for Boston, Massachusetts. Table 5-1 identifies the dates and times for which the shadow conditions were simulated. The dates correspond to the vernal equinox, summer solstice, autumnal equinox, and winter solstice. The times listed are either Eastern Standard Time (EST) or Eastern Daylight Saving Time (EDT), whichever is in effect for the respective dates.

Table 5-1: Dates and Times Studied

DATE	TIME
Vernal Equinox (March 21st, EST)	9:00 a.m., 12:00 noon, 3:00 p.m.
Summer Solstice (June 21st, EDT)	9:00 a.m., 12:00 noon, 3:00 p.m., 6:00 p.m.
Autumnal Equinox (September 21st, EDT)	9:00 a.m., 12:00 noon, 3:00 p.m., 6:00 p.m.
Winter Solstice (December 21st, EST)	9:00 a.m., 12:00 noon, 3:00 p.m.

The simulations conducted for this study assume bright sunlight from sunrise to sunset, in order to properly identify shadow patterns created by the new structure. Landscaping is not considered on the test configurations; and therefore, the shadow patterns identified are those only created by the various building masses.

The resultant computer generated renderings included as Figures 5-5 through 5-18 exhibit the simulated shadow conditions anticipated to occur on and around the New Street study site. The black lines visible in the renderings indicate the extent of the shadows cast by the existing buildings. The darker grey shadow indicates the shadow cast by the proposed residential buildings on the development site.

5.2.2 RESULTS

The renderings in Figures 5-5 through 5-18 visually identify the shadows anticipated to occur on the study site for the dates and times indicated. The following discussion references these renderings and provides a detailed description of the existing and proposed shadow patterns.

VERNAL EQUINOX - MARCH 21 (FIGURES 5-5 THROUGH 5-7)

At 9:00 a.m., the existing shadow morning sun projects shadows in a westerly direction mostly on the site. With the proposed New Street buildings in place, the shadows extend slightly further to the south and over the watersheet.

At 12:00 noon, the shadows of both the existing conditions and proposed project are cast in a northerly direction, with the proposed extending further onto the adjacent property. A small portion of the Harborwalk area is covered by the shadow of the 6-story building.

At 3:00 p.m., the shadows generated fall towards the northeast and cover a small portion of New Street. Almost all the shadow from the proposed project is off the Harborwalk at this time.

SUMMER SOLSTICE - JUNE 21 (FIGURES 5-8 THROUGH 5-11)

On June 21 at 9:00 am, shadow from the New Street development will extend in a westerly direction into the watersheet and cover some of the open space areas. The shadow from the existing condition also covers part of the Harborwalk area and the watersheet.

At 12:00 noon, the shadows cast by the existing are relative small, and the shadow from the proposed buildings will be minimal on the open space areas including the Harborwalk.

By 3:00 p.m., the shadow has moved towards the northeast and covers a portion of New Street for both the existing and proposed conditions.

At 6:00 p.m., there is very little shadow on the site, and it extends across New Street.

AUTUMNAL EQUINOX - SEPTEMBER 21 (FIGURES 5-12 THROUGH 5-15)

The shadow conditions during the autumnal equinox will be similar to those described for the vernal equinox, except for the difference caused by the use of daylight saving time. At 9:00 a.m., shadows are cast to the west into the watersheet and within the property under both conditions.

At 12:00 noon, the existing buildings project relatively small amount of shadow on the site. For the proposed conditions, shadows fall to the northwest of the site, partly on the Harborwalk and open space areas.

At 3:00 p.m., the shadows of the proposed project fall to the northeast of the site onto a portion of New Street and a very small portion of site's open space areas. Under the existing conditions, there is more shadow on New Street and less on the project site.

By 6:00 p.m., the shadows for both conditions extend in a northeast direction across New Street onto some of the neighbouring properties and relatively no shadows on to the public areas.

WINTER SOLSTICE - DECEMBER 21 (FIGURES 5-16 THROUGH 5-18)

The longest shadows of the year will occur during the winter solstice. At 9:00 a.m., the shadow from the proposed buildings extends farther to the northwest and onto the watersheet than with the existing buildings' shadows.

At 12:00 noon, the shadows from the proposed building are to the northwest and cover the most of the Harborwalk and open space areas. Shadows from the existing buildings, also to the northwest, cover less of the open space.

At 3:00 p.m., the shadows are cast to the northeast. The shadows from the proposed buildings are cast on the neighbouring property to the north, along a portion of New Street, and along a portion of the Harborwalk and watersheet. Shadows from the existing also cover a portion of New Street and the adjacent property.

5.2.3 CONCLUSIONS

A shadow study has been conducted on the proposed New Street development. Using a 3-D computer model and sun position information for Boston, color renderings of the shadow patterns were created to compare the shadow impacts for the existing and proposed buildings within the site and on the adjacent existing properties.

- The largest shadows occur during the winter solstice (December 21), and the shortest shadows occur during the summer solstice (June 21).
- In general, shadows cast by the proposed development extend further on the Harborwalk and open space since the 6-story building, including the restaurant, is close to these public areas on the site.
- Since only small portions of the site are shadowed during the day, there will be ample places and opportunities for the public to enjoy the different parts of the Harborwalk and open space areas.

5.3 DAYLIGHT

This section provides the methodology and results of analyzing the percentage of daylight obstruction from the proposed project. The amount of daylight reaching the streets and the

sidewalks after development of the Project will be significantly less than would otherwise be the case compared to the existing conditions.

The BRA's Scoping Determination on the PNF requested that the daylight analysis study the existing and build conditions, and to evaluate the net change in obstruction.

5.3.1 METHODOLOGY

The daylight analysis 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 centered on the proposed building. 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 dimensions. The two-dimensional base graphic generated by BRADA represents a figure of the building in the "sky dome" from the viewpoint chosen. 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 potential daylight impacts of the proposed building were analyzed from the main public way, New Street, for both conditions.

5.3.2 RESULTS

The results of the daylight analysis are presented in Table 5-2 below. The graphic results of the existing condition and the build condition are shown in Figure 5-19, Daylight Impact Analysis.

Table 5-2: Daylight Analysis Results (percentage obstructed)

Viewpoint	Existing Condition	Build Condition	Net Change
New Street	63.3%	46.1%*	-17.2%

The existing condition revealed a 63.3 percentage obstruction, which was due mainly to connected massing of the 5-story and 9-story buildings directly along New Street. The build conditions revealed a 46.1 percentage obstruction, which resulted in a net decrease of 17.2 percent obstruction or increase in daylight from the existing to the

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

build condition. This increase is due mainly to the fact that there is a large gap between the two buildings at the street level in the build condition where there was no gap in the existing building massing.

5.3.3 CONCLUSIONS

From the viewpoint on New Street, the development of the Project will result in net decrease in daylight obstruction of 17.2 percent between the existing and build conditions. This increase daylight will improve the overall conditions of the area. Furthermore, the daylight obstruction of 43.1 percent for the build condition is significantly lower than other recently approved projects in the area including Hodge Boiler Works (66.0%) and Carlton's Wharf (84.9%).

5.4 SOLAR GLARE

A solar glare analysis is intended to measure potential reflective glare from the buildings onto potentially affected streets, and public open spaces and sidewalk areas in order to determine the likelihood of visual impairment or discomfort due to reflective spot glare. As a result of the design and use of generally non-reflective materials, it is not anticipated that the project will have adverse solar glare impacts or create solar heat buildup in nearby buildings. Reflective glass will not be used in order to reduce potential impacts associated with solar glare.

5.5 AIR QUALITY

This section provides a qualitative review of air quality sources and impacts as a result of the proposed New Street Development in East Boston. These impacts are from the parking garages and from traffic sources. Impacts from construction operations are discussed in Section 5.13. Although the heating and mechanical ventilation systems have not yet been designed, they will be designed so there will not be any substantial impacts to the pedestrian level air quality.

5.5.1 EXISTING AIR QUALITY

The site is currently used for storage and some commercial uses. Most of the space is and has been vacant for decades. There are usually less than five vehicles parked on the site, and approximately two of the 17 floors within the existing four buildings are heated and ventilated, and therefore has relatively minor impacts to the air quality.

5.5.2 PROPOSED PARKING AREAS

A three-level parking garage with approximately 113 spaces is proposed on the north side of the site and a two-level parking area for up to 80 spaces is proposed within the

6-story building. The parking garage will have two access points from New Street. The top level of the 3-level parking garage will be open and the two lower levels of the parking garage will be mechanically vented along the north side. In the six-story building, one of the parking levels is subsurface and will be accessed from a ramp on the south side of this building and one of the levels will be accessed from grade within the archway. Mechanical venting for the subsurface parking level will be through louvers next to the ramp. Venting for the at-grade parking area will include open air windows and screening to increase air flow and reduce emission impacts from the vehicles.

The combination of open air vents and mechanical venting will provide sufficient dilution of vehicle emissions to the air around the buildings. Over the long term, air quality impacts from the garage will decline as motor vehicle emission rates decrease due to more stringent emission control requirements for new vehicles.

Mitigation measures to reduce impacts from the garages include several design and program considerations:

- Locate walkways and public use areas away from vented areas to the extent possible;
- Provide plantings around the vents to the extent possible to diffuse emissions;
- Provide parking space for a shared–use vehicle; and
- Install bicycle racks in the garage(s).

5.5.3 TRAFFIC

The Massachusetts Department of Environmental Protection (DEP) and the Boston Redevelopment Authority (BRA) typically require a future air quality CO analysis for any intersection where the level-of-service (LOS) is expected to deteriorate to D and the proposed project causes a 10% increase in traffic or where the LOS is E or F and the project contributes to a reduction in LOS. The peak hour traffic generated by the preferred option (two residential buildings) will be 50 vehicles during the morning peak hour and 76 vehicles during the afternoon peak hour. The peak hour traffic generated by the hotel/residential stay option (one residential building and either a hotel or extended stay building) will be 59 vehicles during the morning peak hour and 85 vehicles during the afternoon peak hour.

The traffic engineers, Howard/Stein-Hudson Associates, performed a transportation study for the project area, which included nine intersections. Each of these intersections was considered for a microscale CO air quality analysis. Table 5-3 shows a summary of the 2013 Build LOS analysis for each intersection for the residential/hotel option, which is the worst case scenario. Based on intersection capacity analysis presented in this report, none of the study area intersections meet

the DEP/BRA criteria for a microscale analysis. Consequently, a microscale air quality analysis was not performed for the project.

Table 5-3: Summary of 2013 Build Case LOS for Project Study Area Intersections

Intersection	Build LOS AM/PM	Requires Analysis?
Sumner Street/Havre Street	A/A	No
Sumner Street/London Street	B/B	No
Sumner Street/Liverpool Street/Hodge Boiler Works Driveway	B/B	No
Sumner Street/Border Street	A/A	No
Sumner Street/New Street/Site Driveway	A/A	No
New Street/Northern Site Driveway	A/A	No
Maverick Street/Havre Street	A/A	No
Maverick Street/London Street	B/B	No
Maverick Street/Liverpool Street	B/B	No
Maverick Street/Border Street	B/B	No

Source: Howard/Stein-Hudson Associates, Inc.

5.6 NOISE

The proponent does not anticipate a substantial increase in noise impacts associated with the residential and marine-related uses at the project site based on a qualitative analysis of the existing and potential noise sources.

5.6.1 NOISE REGULATIONS

The Boston Air Pollution Control Commission regulates noise in the City of Boston based on zoning and land use classification. The regulations establish a maximum sound level for a residential / industrial zone, such as the project area, of 65 dBA during the day and 55 dBA at night. These limits do not apply to construction noise or motor vehicle traffic. Noise levels are measured at the lot line. The City of Boston has also established noise limits that apply to nine, octave band center frequencies.

DEP regulations (310 CMR 7.10) require property owners of sound sources to ensure unnecessary noise is not emitted and to take necessary precautions to limit noise emissions. Appropriate measures must be taken to suppress industrial and commercial sources of sound and other man-made sources that cause noise.

The Department of Housing and Urban Development (HUD) has noise regulations for exterior levels, which are generally required for approving HUD-supported or assisted housing projects in high noise areas. Their standard exterior noise level requirement is 65 dBA or less. HUD's regulations do not include interior noise standards; rather a goal of 45 dBA is set forth, and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction; any building will provide sufficient attenuation so that if the exterior level is 65 dBA or less, the interior level will be 45 dBA or less.

5.6.2 EXISTING NOISE SOURCES

The existing site contributes relatively little, if any, noticeable notice to the local environment. The mostly vacant buildings and the small commercial use require minimal heating and ventilation, and therefore, do not impact the neighborhood. However, there are existing noise sources from the active industrial property that on the north side of the site, the Boston Towing and Transportation property, which has frequent departures and arrivals of large vessels.

5.6.3 POTENTIAL PROJECT NOISE SOURCES

The primary sources of external mechanical noise will include the make-up air units and the compressors in the residential buildings, which may also include emergency generators that would also contribute to external mechanical noise. There may also be noise from the mechanical venting and associated equipment from the proposed restaurant. It is not anticipated that the rooftop equipment or the vessels at the marina and the water taxi/marine service vessel landing will exceed maximum sound levels.

5.6.4 ANALYSIS OF NOISE

The anticipated noise sources from the project site are expected to be less than the noise from the existing surrounding industrial operations and are expected to be similar to the existing residential uses of the 6-story building at Maverick Landing on the other side of New Street. For example, tugboats operating at the Boston Towing and Transportation site at all hours may contribute to the ambient noise levels. However, the proposed mechanical equipment for the project site are not anticipated to significantly increase the noise levels in comparison with the adjacent uses, and therefore are not expected to violate the noise regulations for a residential/industrial area.

5.6.5 MITIGATION MEASURES

At this time, only visual screens are planned for the rooftop equipment, because the equipment is not expected to exceed maximum sound levels. Furthermore, appropriate low-noise mechanical equipment and noise control measures will be selected as necessary during the design of the project for all sensitive locations, such as LoPresti Park, to enhance compliance with the City of Boston Zoning District Noise Standards and DEP Noise Policy regulations.

5.7 GEOTECHNICAL AND FOUNDATION

5.7.1 FILL AND GLACIAL DEPOSITS

Borings and test pit excavations were taken from the site in 2007. The borings encounter fill ranging in thickness from 2 feet on the northeast side of the property to 14 feet on the southwest side of the property. The fill consisted on granular and cohesive soils containing wood and brick debris, and organic material. The fill overlies hard/dense to very dense glacial deposits consisting of tan/olive sandy lean clay with gravel. The deepest boring was terminated in the glacial deposits at a depth of 92 feet below the ground surface.

5.7.2 PROPOSED FOUNDATION

The existing 9-story building currently sits on concrete piers extending down to spread footings bearing on the glacial deposits underlying the site. Along the north side of this building, the foundation sits partially on a granite block wall that extends down to a wall footing bearing on the glacial deposits. The existing foundation would be used to support the proposed building, which includes an additional 6 floors for residential uses.

Based on the above geotechnical information, the six-story building and underground garage can likely be founded on spread footings bearing on the hard glacial deposits with the lower level slab designed as a slab on-grade with an under-slab drainage system to prevent hydrostatic uplift on the slab.

The 3-level garage can likely be founded on spread footings bearing on the hard glacial deposits with a slab-on-grade for the lower level. If local soft or unsuitable materials are encountered at the excavation subgrade below the slab, they would be removed and replaced with compacted structural fill.

The proposed restaurant is outside of the lower level of the subsurface parking area. At this time, the restaurant will be founded on driven piles, drilled piles, or drilled shafts bearing in the glacial soils.

5.8 GROUNDWATER

A ground water analysis was conducted at the site in June and July 2007. Water levels in the borings were measured from elevation 12.2 to elevation -4.4 (Boston City Base) or approximately 6 to 22 feet below ground surface. These measurements probably do not represent stabilized groundwater levels due to the low permeability of the soils at the site. Because the site is adjacent to Boston Harbor, the groundwater levels were expected to reflect the tidal levels.

Given that groundwater has been determined to be at a depth of approximately 6 to 22 feet below ground surface, dewatering will be required for foundation construction for the 6-story building. At this location, a perimeter groundwater cutoff wall will be required as part of an under-slab drainage system to prevent the groundwater in the fill from entering the drainage system. A sump pump system will be required for discharge of the groundwater seepage from the underlying glacial deposits.

Potential adverse impacts of temporarily lowering groundwater levels on adjacent buildings and utilities will be mitigated by the use of a relatively watertight excavation support system. Dewatering effluent generated during temporary construction dewatering will be discharged in compliance with applicable regulations and discharge permits. Groundwater levels outside the excavation will be monitored and measures undertaken if impacts exceed contract requirements. Groundwater quality will also be monitored during construction as part of the discharge permit requirements. Construction of the proposed development is not expected to have adverse short or long-term impact on groundwater conditions.

The proponent will work with the Boston Groundwater Trust to identify a groundwater observation well at the site and offsite to be used to monitor construction activities and as part of the groundwater monitoring network in East Boston. This will help assure that the project does not have negative impacts on the groundwater levels in this area.

5.9 FLOOD HAZARD DISTRICTS

The New Street site is relatively flat and located on filled tidelands and uplands. Its upland portions range from approximately 5 feet (NGVD) along the top of the solid-filled wharves to 14 feet along the New Street property line. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) indicates the FEMA Flood Zone Designations for the site areas (City of Boston, Community-Panel Number 250286 0005 D, November 2, 1990). According to this FIRM, approximately one-third of the land portion of the site is outside of the 100-year flood zone. The remaining portion of the filled and upland portion of the site is in 100-year floodplain, Zone A2 (Elevation 10.0 (see Figure 5-20, Flood Zones and Wetlands).

In response to agency's concerns about the below-grade parking and the potential hydrostatic forces within the 6-story building, the project designers reviewed the flood impacts and the need for flood proofing and preventing water from entering the garage over land. As a result, there is now one level of subsurface parking instead of two levels. This reduction in depth will significantly reduce the amount of hydrostatic forces that the structure will encounter. In response to agency concerns about flood waters, all garage entrances will be above 10 feet (NGVD). The project will conform to all flood proofing requirements per the applicable State Building Code, currently the sixth edition.

5.10 WETLANDS RESOURCES

5.10.1 RESOURCE AREAS DELINEATION, FUNCTION, AND VALUES

Wetland resource on the Project site include Land Under the Ocean, Designated Port Area, Land Subject to Coastal Storm Flowage, Anadromous/Catadromous Fish Runs (see Figure 5-20, Flood Zones and Wetlands). No inland wetland resource areas are present at the project site. The exact boundaries of the resource areas identified by the wetland consultants have not yet been submitted to the Boston Conservation Commission and are described below.

Land Under the Ocean (LUO) extends from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries (310 CMR 10.25). Nearshore areas of LUO are likely to be significant to storm damage prevention, flood control, and protection of wildlife habitat and, where they are present, shellfish. Nearshore areas of LUO can help reduce storm damage and flooding by buffering wave energy through the formation of offshore bars or by supplying sediments to adjacent beaches.

LUO occurs at the project site below mean low water. Within LUO at the project site are several dilapidated piers and hundreds of old timber pilings.

To assess the function and value of the LUO resource area, and in particular the presence of submerged aquatic vegetation such as eelgrass, maps available through MassGIS were reviewed and on-site observations made. This analysis revealed no such vegetation in the LUO resource area within or adjacent to the project area. Furthermore, the LUO resource area is not known to contain any significant number of shellfish. Due to the absence of marine grasses, the LUO resource area is not significant to providing food for birds or other wildlife. However, many species of finfish, including winter flounder, are known to occur in Boston Harbor. No offshore bars are associated with the project site.

Anadromous/Catadromous Fish Run (Fish Run) means LUO that underlies an area within estuaries or coastal waters that is a spawning or feeding ground or passageway for anadromous or catadromous fish and is identified by the Division of Marine Fisheries or has been mapped in the Coastal Atlas of the Coastal Zone Management Program (310 CMR 9.35). Fish Runs may play an important role in the protection of marine fisheries.

The main channel of Boston Harbor is a fish run for the following species: rainbow smelt, American shad, river herring, and American eel. At the project site, the Fish Run includes all the land and waters that are in the LUO resource area, which runs seaward from mean low water to the property line. Within this area, there are hundreds of old wood piles and portions of former piers.

Land Subject to Coastal Storm Flowage (LSCSF) means land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater. This resource area is significant to flood control and storm damage prevention but has no function for protection of marine fisheries. LSCSF occurs mainly over the north and south wharves and the northwest corner of the site. There are no performance standards associated with this resource area.

Designated Port Areas (DPAs) are developed urban harbors designated by the state, where maritime industrial uses are protected and other uses are restricted (310 CMR 9.24). The project site no longer hosts any DPA land area. Only a portion of the watersheet remains DPA-restricted. Landforms within DPAs have usually been greatly altered and coastal engineering structures typically provide protection to upland areas from storm damage and flooding (310 CMR 10.26). Within DPAs, LUO is the only resource area likely to provide significant protection to any interests of the Wetlands Protection Act including marine fisheries, storm damage prevention, and flood control. Work proposed in LUO in DPAs must minimize changes in water circulation and water quality to avoid adverse impacts to marine fisheries. Projects should also be designed to avoid changes in the land's ability to support adjacent coastal engineering structures, or coastal banks, if they exist.

On the Project site, the DPA boundary includes the northern portion of the watersheet (see Figure 5-20). Within this area, there are approximately 100 old wood piles. Portions of this area have been dredged.

Other Resource Areas and Functions

Because the project area consists solely of coastal wetland resources and is primarily non-vegetated and previously developed, the functions of the resources in terms of maintaining public and private water supplies and prevention of pollution are minimal. Wildlife habitat, other than fisheries and shellfish, is also minimal in the

project area. According to the Massachusetts Natural Heritage Atlas, there are no areas of priority habitat or state protected species. There are no inland wetland resource areas found at the project site.

5.10.2 PROJECT IMPACTS

The project related impacts to wetland resource areas are associated with old pier and piling removal, a new marina and possible very modest dredging for it, the landing for the water taxi and possible marine service vessels, reconstruction of the existing pier, and improvements to the stormwater system and the project design. Each of these activities is well understood and frequently permitted and conditioned in Boston Harbor.

The project has been designed to avoid impacts to resource areas and minimize impacts in areas where impacts are unavoidable. For example, grading to minimize stormwater flows toward the Harbor, and collecting and treating all stormwater using Best Management Practices will reduce impacts.

Pile Removal

The existing dilapidated timber piles remain piers will be removed to clean the site. The piles near the bulkhead will be cut at the mud line so that they do not affect the stability of the stone bulkheads. All demolition material will be taken off-site for disposal in accordance with state regulations. This work be conducted using a barge-mounted crane to the extent possible.

Approximately 400 sf of piles and the remnants of dilapidated piers will be removed from LUO resource area. The removal of piles and dilapidated piers will help restore the LUO resource area. While temporary impacts to water quality may result from such activities, no permanent significant adverse impacts on resource areas are expected. The removal of the structures will enhance the function and value of this resource area.

Designated Port Area

Activities related to the proposed development in the DPA occurring in wetland resources areas include removal of old pilings and installation of a new landing to support water taxis and possibly marine service vessels. All the old pilings within the DPA portion of the watersheet will be removed and properly disposed. New pilings will be installed to support a water taxi/marine service vessel landing that extends from the north wharf on the site.

There will be an approximately 40-foot by 8-foot landing that will extend from the stone bulkhead of the north wharf into the DPA. Approximately 12, 16-inch diameter piles will hold the landing and the associated ramp. The installation of these piles

will impact approximately 50 square feet (sf) of LUO, DPA, and Fish Runs. The landing (float) surfaces will be located above LUO, DPA, and Fish Runs, and will have no direct impact to these resource areas. One potential indirect impact would be due to increased shading of less than 600 sf from the landing and ramp. However, this area does not contain any eelgrass and is not known to be significant to shellfish. Therefore, any shading impacts would be insignificant. These activities are not expected to create significant adverse impacts to LUO and Fish Run.

Dredging

Dredging to support the marina may occur in the LUO and Fish Run resource areas. Approximately 2,300 cubic yards of dredge material will be hydraulically removed, dewatered on site, and property disposed of at an upland landfill facility. Alternative disposal locations depending on its composition and contamination level include on-site and out of state land fill. Debris and hard structures above the softer underlying dredge material will be moved mechanically. Dredging will impact both previously dredged and new areas. Approximately 15,000 sf of LUO will be impacted temporarily since the current area consists mainly of debris from previous the structures on concrete and timber wharves including steel wire, coal, ash, brick, and concrete. This debris will be separated from the underlying dredge spoils. When finished, the site will be much cleaner and free from hazards to navigation.

Marina

The creation of a marina at the New Street site will impact LUO and Fish Run resource areas. Two main floats, approximately 18 finger piers, and two supporting ramps will be constructed on the west side of the southern wharf. The floats and ramps will be approximately 5,200 sf and will be held by approximately 50 16-inch diameter piles. These piles will impact approximately 100 sf of LUO and Fish Runs.
The landing (float) surfaces will be located above LUO, DPA, and Fish Runs, and will have no direct impact to these resource areas. One potential indirect impact would be due to increased shading from the marina floats and ramps. This area, however, does not contain any eelgrass and is not known to be significant to shellfish. Furthermore, the bottom habitat will be improved significantly with the removal of the debris that has accumulated there for the past 100 years. Therefore, any shading impacts would be relatively insignificant. These activities are not expected to create significant adverse impacts to LUO and Fish Run.

Replaced Pier

The approximately 1,000 sf concrete pier on timber piles will be replaced with a new structurally sound pier on concrete pilings in a similar location. The approximately 20 sf of existing piles in the LUO and Fish Run will be replaced by a similar amount of piles, and will therefore not have any significant adverse impacts to these resource areas.

Construction Period Impacts

During construction, erosion control/sedimentation measures, such as the placement of hay bales, if necessary, will be undertaken to minimize temporary impacts to water quality. In-water work will be carried out during the time of year that will not interfere with winter flounder spawning, as designated by the Division of Marine Fisheries. This is also typically a time of low biological activity, and will further minimize the potential impacts of turbidity from in-water activities on biological resources.

5.10.3 CONFORMANCE WITH PERMFORMANCE STANDARDS AND MITIGATION MEASURES

The project activities will be undertaken in a manner to ensure compliance with the performance standards for each wetland resource area, as required in 310 CMR 10.00. The proposed project activities comply with the performance standards contained in the state wetland regulations at 310 CMR 10.25, LUO; 310 CMR 10.26, DPA; and 310 CMR 10.35, Fish Run. The regulations do not contain performance standards for Land Subject to Coastal Storm Flowage (LSCSF).

Land Under Ocean (310 CMR 10.25)

The proposed activities in the LUO will not result in increased flooding or erosion cause by an increase in the height or velocity of waves impacting the shore. Sediment transport processes that would increase flood or erosion hazards by affecting the natural replenishment of beaches will not be significantly impacted.

The portions of the project creating impacts to resource areas are water-dependent and have been designed to minimize and/or avoid adverse impacts on marine fisheries habitat and wildlife habitat caused by changes in water quality. The dredge areas will improve the habitat by removing the debris that currently covers the bottom surface. Only temporary impacts to water quality will occur during the dredging and marina construction period.

Anadromous/Catadromous Fish Run (310 CMR 10.35)

The Fish Run resource area is the same area as LUO. Improvements to this resources area will be through the reduction of impediments and obstructions to spawning or migrating fish. Temporary impacts to the Fish Run as a result of the dredging, removal of the pilings, and installation of the piles that hold the marina floats and landing will be minimized through the uses of siltation booms and time-of-year restrictions.

Designated Port Area (310 CMR 10.26)

All activities with the DPA will minimize adverse effects on marine fisheries by removing all of the dilapidated piers and piles and improving water circulation and

water quality. Any temporary impacts to the water quality will be minimized through the use of siltation booms and time-of-year restrictions where applicable.

5.11 SOLID AND HAZARDOUS WASTE

5.11.1 SITE HISTORY AND COMPLIANCE WITH MASSACHUSETTS CONTINGENCY PLAN

An ASTM Phase I Environmental Site Assessment of the site is being conducted for the site and will include a detailed site usage history based on Sanborn Fire Insurance Maps. The site has had commercial and industrial uses since it was first developed in the 1800s.

A program of soil and groundwater quality testing prior to construction is planned to determine the options for reuse, recycling, disposal, or treatment of soil and groundwater removed from the site. Groundwater testing will be performed to support the application for a temporary construction dewatering discharge permit from the Massachusetts Department of Environmental Protection (Mass DEP).

The site is not listed on the Mass DEP Waste/Reportable Release Sites List.

Given the anticipated depth of urban fill to be excavated and removed from the site for basement construction, it would be common for chemical characterization testing of soil to trigger Mass DEP regulatory notification under the Massachusetts Contingency Plan (MCP). The construction contractor will be responsible for the proper off-site removal of any contaminated soil and disposal of construction and demolition debris in line with local, state, and federal regulations.

5.11.2 BUILDING DEMOLITION

Two of the existing buildings on the site will be demolished and the existing 9-story building will be gutted (prior to renovation and the addition of three floors). Prior to demolition, a hazardous and asbestos-containing materials (ACM) survey will be performed on buildings at the site to evaluate the need for special demolition procedures. If necessary, licensed abatement contractors will remove and dispose of ACMs, PCB light ballasts, mercury-containing fluorescent bulbs, lead paint, and other hazardous wastes. Once the buildings are abated, they will be demolished with machines. Proper dust control measures will be exercised.

Solid waste generated by demolition will be collected and disposed off site by a licensed contractor. The project will be designed to allow at-source separation of recyclables, including paper, metal, glass and plastics. The remainder of the materials (plaster, brick, cement concrete,) will be crushed, tested and recycled under the terms

of the Mass DEP Beneficial Use Determination Permit. Bituminous materials will also be collected and recycled.

Demolition activity must comply with the Solid Waste and Air Quality regulations. According to the Solid Waste provision of M.G.L. Chapter 40, Section 54, a city of Boston building permit or license is required for demolition/renovation at the site. Debris generated from the development will disposed of at a licensed solid waste disposal facility.

5.11.3 OPERATING AND DISPOSAL PLAN

Hazardous materials collected from the site will be evaluated and classified in accordance with 40 CFR 261 to ensure safe removal and disposal. These materials will be removed by a licensed contractor. Hazardous waste manifests, Bills of Lading, and other appropriate documentation will be generated in accordance with local, state, and federal regulations.

5.12 RODENT CONTROL

A rodent control program will be implemented prior to, during, and after construction. The construction contractor will file a rodent extermination certificate, along with the building permit application, with the City of Boston. Rodent inspection, monitoring, and treatment will be conducted before, during, and at the completion of all construction work for the proposed project in compliance with the City's requirements. Rodent extermination prior to the start-up of work may consist of treatment of areas throughout the project site, including the building interior. During the construction process, regular service visits will be made in order to maintain effective rodent control levels. Effective rodent control will also be managed through "build-out," in which a minimal number of potential rodent access points are eliminated as part of the building design.

5.13 CONSTRUCTION IMPACTS

A Construction Management Plan (CMP) will be prepared and submitted to the Boston Transportation Department (BTD) for review once final plans are developed and the construction schedule is fixed and prior to the issuance of a building permit. The proponent intends to follow the guidelines of the City of Boston and the Massachusetts DEP that direct the evaluation and mitigation of construction impacts. The CMP will include detailed information on demolition, removal, construction activities and schedule, specific construction mitigation measures, occupancy of the public right-of-way, and construction materials access and staging area plans to minimize impacts to the local community. Demolition and construction methodologies that ensure public safety and protect nearby residences will be employed. The proponent expects to coordinate extensively with the

neighborhood and with BTD to address optimal transportation planning for the construction period and thereafter.

5.13.1 PUBLIC SAFETY AND PEDESTRIAN ACCESS

Proper pre-planning with the city and neighborhood will be essential to the successful construction of the project. As the design of the Project progresses, the Proponent and its construction team will meet with BTD to discuss the specific locations of barricades, the need for lane closures, pedestrian walkways, and truck queuing areas. Construction methodologies, which ensure public safety and protect nearby residences, will be employed. Techniques such as barricades, walkways, and signage will be used, if necessary.

During the construction phase of the Project, the developer will provide the name, telephone number, and address of a contact person to communicate with on issues related to construction. This contact person will be solely responsible for responding to questions, comments, and complaints of the neighborhood residents.

Periodic meetings will also be held with neighborhood groups to describe the ongoing works and to discuss measures that will be taken to minimize impacts on the community. The Project superintendent will contact abutters and close neighbors at least once a week during new phases on work.

5.13.2 CONSTRUCTION METHODOLOGY

Construction activities include building demolition, excavation for building foundations, utility trenches, building construction, paving, and other site improvements. Only the methodologies for demolition and excavation have been determined at this time. After additional site and geotechnical studies are completed, the remaining construction methods will be identified.

DEMOLITION

Prior to demolition and construction on the site, all hazardous materials in the existing structures will be removed, as required, by licensed abatement contractors. Materials to be removed include asbestos containing building materials (ACBM's, caulk, mastic, floor tiles etc.), PCB's (ballasts), and mercury containing fluorescent bulbs. Once abated, machines will demolish the buildings.

EXCAVATION

Construction of the proposed 6-story building with a 2-level, subsurface parking garage will require excavation to approximately 17 feet below grade. In general, such excavation will be made using conventional earth moving equipment. Most or all of the miscellaneous fill, organic deposits, and some marine deposits, will be removed within the excavation footprint. Temporary dewatering will be performed inside the

excavation, as required, to enable foundation construction. A temporary groundwater cutoff wall will also serve as excavation support and allow foundation construction to proceed in the dry.

The lower floor level of the 1-story parking structure is anticipated to be approximately two feet below the existing grade of the site in that area. Excavation required for the parking structure will be minimal and mainly limited to the requirements of installing the foundation system.

5.13.3 CONSTRUCTION WASTE

The proponent will take an active role with regard to the reprocessing and recycling of construction and building demolition waste. All demolition materials from site materials will be removed from the site.

The disposal contract will include specific requirements that will ensure that construction procedures allow for the necessary segregation, reprocessing, reuse, and recycling of materials. For those materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility, per DEP's Regulations for Solid Waste Facilities, 310 CMR 16.00 This requirement will be specified in the disposal contract. Construction will be conducted so that materials that may be recycled are segregated from those materials not recyclable to enable disposal at an approved solid waste facility.

5.13.4 CONSTRUCTION PHASING, SCHEDULE, AND HOURS

The project does not anticipate closure of New Street during construction. Occupancy of portions of New Street may be required during demolition and construction of buildings. Construction is expected to commence in the spring of 2009 and will be completed in the spring of 2011. The normal hours for construction activity are planned to be from 7:00 am to 4:00 pm Monday through Friday, although extended hours may be requested. The project office storage trailers, material stockpiles, and project management parking will be located within the site.

5.13.5 CONSTRUCTION STAGING AREAS AND WORKER PARKING

The number of workers required for the construction of the project will vary depending upon the stage of construction. Construction workers will typically arrive and depart prior to peak traffic conditions and the construction trips are not expected to substantially impact traffic conditions.

The general contractor will be responsible for educating all construction workers about public transit options and encouraging the use of High Occupancy Vehicles. All construction workers will be encouraged to utilize mass transit and ridesharing

options to access the construction site and to minimize vehicle traffic and parking on the local streets. As part of the program to promote public transportation, the following will be implemented:

- Providing on-site secured space for workers' tool storage;
- Posting transit schedules and maps at the jobsite;
- Distributing informational brochures regarding public transportation; and
- Notifying all subcontractors and suppliers of the worker access/parking limitations and options.

The proponent will submit a Boston Residents Construction Employment Plan in accordance with the Boston Jobs Policy. The Plan will provide that the proponent make good faith efforts to employ local trades people from the City of Boston. In this effort, the proponent will meet with local agencies prior to the start of construction to establish a community outreach program.

Construction staging will occur in the south and west side of the site between the shoreline and the existing buildings. Limited on-site parking will be provided for certain key workers.

5.13.6 CONSTRUCTION TRUCK TRAFFIC AND ACCESS ROUTES

Designated truck routes will be established to govern where construction trucks access and egress the site. The primary, regional construction truck access and egress to and from East Boston will be via Route 1A (see Figure 5-X, Construction Truck Routes). Truck traffic to and from the north will use Route 1A South, while truck traffic to and from the west and south will use the Ted Williams Tunnel (I-90) via Logan Airport and Route 1A. Construction trucks will avoid the Sumner and Callahan tunnels due to congestion and height restrictions.

Within East Boston, the suggested primary, local truck route to the project site is Route 1A southbound to the Porter Street exit, through Central Square, south on Border Street, west on Maverick Street, south on New Street to the project site. The suggested primary truck egress route is north on New Street, east on Maverick Street, north on Border Street through Central Square to Meridian Street, south on Meridian Street, and north on Havre Street to Route 1A northbound, and continue on Route 1A north or exit to I-90 west.

Truck traffic will be heaviest during the excavation and concrete foundation work. During this period, it is expected that approximately 10 trucks, varying in size from small delivery trucks to 18-wheelers, will arrive and leave the site each construction

day. Thereafter, truck traffic will vary throughout the construction period, depending upon the activity.

The project will work closely with the BTD in developing a Construction Management Plan that will include more detail on construction phasing, number of trips, haul routes, and hours of operation.

5.13.7 AIR POLLUTION EMISSIONS AND MITIGATION

During the project construction, air quality will be temporally affected by fugitive dust from construction activities and exhaust emissions from construction vehicles. The worst air quality impacts will be associated with the demolition and excavation phase of the project, when it is conservatively estimated that 10 heavy-duty pieces of construction equipment will be operating simultaneously at the site. Mitigation measures will be employed as necessary to minimize the potential impact of air pollution emissions from project construction operations.

Dust mitigation measures will minimize the generation of fugitive dust and will include, as necessary:

- Wet suppression to minimize the generation of dust from excavation operations and on-site vehicle traffic, with provisions for any runoff control;
- Spraying any piles of excavation materials with soil cement or calcium chloride overnight and on weekends and covering of long-term material stock piles;
- Compacting of the soil or the use of gravel to stabilize the site access points;
- Washing the wheels of vehicles before they leave the site, as necessary, with provisions for runoff control;
- Periodic cleaning of paved streets near the entrances to the site to minimize vehicle mud/dirt carryout;
- Installing fences around the perimeter of the site to help contain wind blown dust; and
- Requiring secure covers over trucks hauling excavate from the site.

Given the limited amount of such activities, air emissions are expected to be minimal.

5.13.8 WATER QUALITY AND BEST MANAGEMENT PRACTICES

During construction, best management practices (BMPs) will be used to limit the transportation of sediment off site. Groundwater wells will be established prior to the start of construction and will be monitored throughout the construction process to maintain water levels. Groundwater encountered during excavation will be recharged back into the soil. The Contractor will obtain a NPDES stormwater permit and

implement BMPs to minimize pollutant runoff. The Contractor will also use the following water quality related measures:

- Complying with all federal, state and city codes, ordinances and regulations governing the on-site discharge of construction dewatering effluent;
- Using hay bales and silt fencing to prevent silt or soil from entering existing catch basins and the Harbor;
- Using temporary wheel wash areas within the site;
- Using temporary gravel entrance berms at the main exits from the site;
- Isolating and protecting stockpiled materials;
- Monitoring the proper use of tarpaulin covered trucks;
- Preventing/controlling truck spillage; and
- Cleaning the adjacent portions of city streets entering and exiting the project.

5.13.9 NOISE GENERATION AND MITIGATION

Intermittent increases in noise levels will occur in the short-term during demolition and construction. The peak noise impacts estimated for the project will only occur for brief periods during the excavation period of the project, when it is conservatively estimated that heavy-duty vehicles will be operating on the site and when pile driving occurs after excavation.

Construction work will comply with the requirements of the City of Boston noise ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures are expected to include:

- Using appropriate mufflers on all equipment and providing ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously operating equipment, such as air compressors, and welding generators with outdoor exposure;
- Replacing specific construction operations and techniques by less noisy ones where feasible;
- Selecting the quietest of alternate equipment items;
- 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; and
- Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

The project will be constructed in a manner that complies with applicable Massachusetts DEP and City of Boston noise regulations.

5.14 SUSTAINABLE DESIGN

5.14.1 EXISTING CONDITIONS

The existing buildings on the site are not energy efficient by current industry standards and state building codes. The 9-story building has a few remnants of insulation on the inside face of the walls from when it was a cold storage building. The heating system is outdated. The windows are also outdated, and in many cases, have significant air infiltration. The complete renovation of this building will utilize the existing structure and transform it into a modern energy efficient building with durable materials.

The existing 1-story, 3-story, and 5-story buildings (with attachments) will be demolished in such a manner to recycle as much of the material as possible including, but not limited to, asphalt, brick, concrete lintels, timber frame structural members, glazing, interior drywall, metal studs, and copper piping. The project intends to recycle a minimum of 75% of all demolition and construction debris.

The new 6-story building as well as the 6-story addition on top of the existing 9-story structure will be designed to provide integrated and optimized building systems that produce energy efficient, durable, comfortable, and healthy buildings. One of the reasons for adding six stories over the existing 9-story building is to provide sensible, efficient building systems while providing more open space and view corridors throughout the project, with minimal impact on the existing area in terms of wind or shadow.

5.14.2 GREEN BUILDING CERTIFICATION

As a means to evaluate the project with regard to sustainability, the project team is utilizing the United States Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) reference guide v2.2 and rating system, which has six categories for this type of project. However, at this time it is not the intent of the team to pursue LEED certification with the USGBC. The project team intends to work with Energy Star Homes program, meet or exceed their standards for an energy efficient home, and meet the City of Boston's zoning ordinance requirements for Green Buildings (Article 37). Pursuant to this article, the project will have to be LEED Certifiable under the most appropriate LEED building rating system, which is New Construction (NC). Up to four of the required points from the Boston Green Building (BGB) program may be included in the calculation toward achieving a LEED certifiable project. BGB credits can be awarded from four categories.

5.14.3 GREEN SITE AND BUILDING FEATURES: LEED SCORING PROJECTIONS

The LEED-NC checklist indicates the LEED points for which the project is expected to qualify through its sustainable design (see Appendix 5, LEED Checklist). The site is a very "green" site for development even though it is adjacent to the valuable and sensitive natural resources of Boston Harbor. The proposed density on the site is consistent with other proposed projects in the area, and the units and core building layout has been designed to maximize their efficiency. The site is located five blocks (approximately ¼ mile) from the Maverick MBTA station and bus stops at Maverick Square. In addition to the views and open space afforded by the water, the project has the benefit of directly abutting the green space of LoPresti Park. The existing condition of the site has all of the useable land area (except the pier areas) covered by either building footprint or driveway/parking areas consisting of impervious asphalt or concrete. The proposed development will create landscape areas and useable plazas and terraces throughout the site, which has numerous environmental benefits. These open space areas will be connected to LoPresti Park and the waterfront and will allow public access through the site. Additionally, the top roofs of both buildings are being designed as green roofs, further transforming impervious surfaces into pervious and reducing the heat island effect on site. More than 75% of the parking will be located in covered & underground parking structures. The project also intends to address transportation issues by having a water taxi dock and parking spaces reserved for a car-sharing service (i.e. Zipcar). The project anticipates qualifying for 9 credits in the LEED Sustainable Sites Category as well as the BGB Modern Mobility credit and BGB Groundwater Recharge credit.

The landscaping will be designed to utilize waterfront hardy, drought tolerant and native species. The need for irrigation will be evaluated once plant species are selected, and if required, rainwater will be collected and used to eliminate unnecessary potable water usage. Additionally, the project intends to utilize low-flow fixtures within the units and water-conserving toilets and urinals. The project anticipates qualifying for a minimum of 2 credits in the LEED Water Efficiency Category.

The existing building as well as the new addition and 6-story building will have an insulation and vapor/air barrier system on the outside of the structure and membrane flashing that integrate into the windows and doors to produce an energy efficient exterior. The windows will be Energy Star rated and selected to resist the corrosion of the seaside air. The exterior finish materials, whether brick, stone panel, metal panel, or phenolic resin panel will all be installed with a "rain-screen technology" attachment method. Most importantly, the decisions regarding thickness of insulation, glazing types and other building materials will be made in an integrated way that identifies the impacts on the size and efficiency of the mechanical system

and produces an optimized building project with the intent to better ASHRAE Standards by a minimum of 20%. In the interior, all appliances and mechanical equipment will be energy star rated. The project anticipates qualifying for 3 credits in the LEED Energy & Atmosphere Category.

Recycling is a very important part of the sustainable strategy for the project given that the existing 5-story building with attachments and the existing 3-story building will be removed. The existing structure of the 9-story building is being reused. During demolition and construction, in excess of 75% of construction wasted will be diverted from landfill disposal, and a construction waste management plan will be developed for the project. Additionally, resident recycling bins will be incorporated into trash rooms in the project. The project anticipates achieving a minimum of 10% recycled content for the proposed materials and will work toward achieving 20%. Additionally, materials will be selected to achieve the 10% regional materials credit and the certified wood credit. The project anticipates qualifying for a minimum of 5 credits in the LEED Materials & Resources Category.

The project will promote healthy indoor environmental quality in a number of different ways. Starting with construction, an Indoor Air Quality Management Plan will be developed for the project. Low emitting materials will be used wherever possible. Indoor chemical and pollutant source control will be provide through such measures as incorporating condensing technology on gas burning equipment that are part of the projects' mechanical systems. The project will also achieve a thermal comfort credit through the integrated design of the building envelope and the mechanical systems. Through out the interiors and the site, energy efficient lighting will be installed along with individual controls. The units will have large windows for natural light and operable window units for ventilation and occupant comfort. Daylighting in 75% of the spaces will be achieved in the proposed 6-story building and in the 6-story addition on the existing building. However, the existing deep footprint of the 9-story building may prevent that credit from being achieved for the project as a whole. The project anticipates qualifying for 7 credits in the LEED Indoor Environmental Quality Category.

The project has LEED Accredited Professionals on the project team and will qualify for 1 credit in the Innovation and Design Process Category.

The total number of LEED/Article 37 credits the project anticipates achieving is 30. This would also be true if the project were divided into two phases. Only one 5% material reuse credit would not be achieved by the proposed new 6-story building on its own in a separate phase. However, it would qualify for the 75% daylighting credit if considered separately from the 9-story, maintaining 30 total credits.

5.15 HISTORIC RESOURCES

5.15.1 OVERVIEW

The New Street Development site contains about 2.0 acres of upland and filled tidelands with 1, 3, 5, and 9-story brick and concrete buildings on it. Approximately 1.93 acres of the parcel are identified as watersheet. The project area was included in a City-Wide Comprehensive Industrial Survey, Boston, Massachusetts conducted by the Public Archaeological Labs (PAL) in 1996-1997 for the Boston Landmarks Commission (BLC) and the Massachusetts Historical Commission (MHC) for inclusion in the MHC's Inventory of the Historic Assets of the Commonwealth (Inventory). The New Street site includes the Boston Cold Storage Company (MHC No. BOS.107) as it was called in the East Boston Inner Harbor Industrial Area (BOS.RP). The Boston Cold Storage Company Warehouses are not recommended as eligible for listing in the National Register of Historic Places (National Register) at this time. Known historic resources included in the MHC's Inventory and located in the immediate vicinity of the project area include: Atlantic Works Machine Shop/Wigglesworth Machinery, 60 Border Street (BOS.12874); Atlantic Boiler Works Office, 80 Border Street (BOS.12875); and Atlantic Works Boiler Shop, 36 New Street (BOS.108). The Atlantic Works Complex (60 and 80 Border Street and 36 New Street) was recommended in the 1996-1997 survey as eligible for listing in the National Register. None of these nearby buildings are currently listed on the National Register.

5.15.2 PLANNING CONTEXT

The MHC's comments on the Expanded Environmental Notification Form (EENF), Project Notification Form (PNF), and the Secretary's Certificate for the project requested that a historic and archaeological reconnaissance survey be conducted that addresses the land use and development history of the property, location and identification of historic resources, and the identification of undisturbed portions of the project areas that are sensitive for belowground marine and terrestrial resources (See Appendix 1, MHC letters dated October 3, 2007 and October 19, 2007). The proponent agreed to the request and engaged Public Archeology Lab (PAL) as consultants to perform the survey. The scope and results of the reconnaissance historic and archaeological survey completed by PAL in response to MHC comments are summarized in the following sections.

The goal of the archaeological reconnaissance survey was to identify any sensitive areas of the proposed project where potentially significant terrestrial and underwater archaeological resources may be present. The reconnaissance survey included archival research, geotechnical data and underground utilities review, and a walkover survey to collect documentary and existing conditions information needed to

determine the archaeological sensitivity of the onshore and marine portions of the New Street project area.

The goals of the historic reconnaissance survey were: to research and document the land use and development history of the property; to conduct a preliminary field reconnaissance survey of historic resources in the project area, and to make recommendations regarding the potential impacts of the proposed project on historic resources.

5.15.3 SURVEY FINDINGS

The survey findings address historic resources that may be impacted by the proposed project (see Figure 5-22, Historic Resources within the Project Area of Potential Effect).

The historic and archaeological reconnaissance survey conducted for the New Street project area resulted in the identification of an Area of Potential Effect (APE) for historic resources that includes the project site, nearby properties in East Boston and areas across the harbor in the North End and Charlestown. The archaeological resources potential of the project parcel, in terms of both terrestrial and underwater cultural deposits, was also determined based on archival research and field survey.

Historic Findings

East Boston

Four historic resources, the Atlantic Works Boiler Shop (including 30 New Street), Atlantic Works Machine Shop, Atlantic Works Office Building, and the East Boston Dry Dock Company/Atlantic Works Railway Dry Docks Site were recommended as eligible for listing in the National Register in 1997 (Adams et al. 1997). The three intact buildings were recommended as a district, while the Dry Dock site was recommended as individually eligible. Because research undertaken for the New Street project indicates that the East Boston Dry Dock Company/Atlantic Works Railway Dry Docks Site retains structures associated with the Atlantic Works, it is recommended that all four resources are eligible as a combined district. Further research would be required to prepare a nomination for this district. The proposed project is within 200 feet of the Atlantic Works Boiler Shop and minor visual effects to this resource are anticipated. Lesser visual impacts are anticipated to the Machine Shop and Office Building because of their greater distance from the project area.

One area, the residential block between Maverick, Border, and Liverpool Streets and Coppersmith Way, has not been previously surveyed. This block appears to be the sole remnant portion of late nineteenth-century waterfront worker housing in this area and may be eligible for the National Register. This block is on the northeast perimeter

of the project APE and only minor visual impacts are anticipated. No further research on this resource is recommended at this time.

The project site (Boston Cold Storage Company) was previously surveyed but was not recommended as eligible for listing in the National Register (Adams et al. 1997). During the course of the present survey, PAL evaluated the Boston Cold Storage Company project area, including the sea walls and timber pile fields at the rear of the area, for National Register eligibility both as a potential cultural landscape and as individual structures. Taken together, the landscape elements lack a common and significant historical association that would allow them to be eligible as a cultural landscape. Research into the Cultural Context for the New Street APE indicates that historically, multi-story structures occupied waterfront parcels near and within the project APE. These structures were demolished in the mid-twentieth century. It is recommended by PAL that this historical precedent be considered when evaluating the potential visual impacts to historic resources from the proposed project.

The sea wall is recommended as individually eligible for the National Register under Criteria A and C in the areas of maritime history, industry, and engineering. Under Criterion A, the wall is associated with the pattern of development of maritime industries in East Boston between ca. 1840 and 1915. After the subdivision of East Boston by William H. Sumner and the East Boston Company in 1833-37, maritime industries on the island shifted over the next 120 years from shipbuilding in the ante-bellum period to manufacturing and metal working in the post-bellum era, to warehousing, bulk shipping, and commercial fisheries in the first half of the twentieth century. Although not all portions of the wall may be linked definitively with specific occupants of the site, map evidence indicates a series of land-making episodes by ship builders, warehousing firms, and fish wholesalers which led to construction of the wall as part of a system of wharves and piers. Under Criterion C, the wall embodies the distinctive characteristics of nineteenth and early twentieth-century granite sea walls and illustrates the evolution of sea wall construction through its incorporation of different patterns of stone coursing (i.e., random-laid and ashlar) and evidence of varying quarrying techniques. The wall retains its integrity and is in good condition. Indirect effects to the sea wall are anticipated from the proposed project.

North End

The North End portion of the New Street project APE contains one property, the Copp's Hill Terrace, which is individually listed in the National Register. One area, the U.S. Coast Guard Support Center, has previously been evaluated as eligible for the National Register by the MHC (Verkennis 1991). Five additional properties have been surveyed but were not recommended as eligible for the National Register. These resources are located approximately 0.5 miles across the Boston Inner Harbor from the project area and there is an unobstructed line of sight between these resources and the project area. However, because of their distance to the project area, only

minor visual impacts to these resources are anticipated. No further research in the Boston APE is recommended.

Charlestown

The Charlestown portion of the project APE encompasses three properties and districts that are designated as National Historic Landmarks and listed in the National Register: the Boston Naval Shipyard, the USS Constitution, and the USS Cassin Young. Like the Boston APE, these resources are approximately 0.5 miles from the project area and have an unobstructed line of sight to the proposed project. Because of their distance to the project area, only minor visual impacts to these resources are anticipated. No further research in the Charlestown APE is recommended.

Archaeological Findings

There are no recorded archaeological sites, including shipwrecks, within the New Street project parcel terrestrial and underwater land areas. However, the current reconnaissance survey resulted in the identification of a high sensitivity area on the southerly side of the site where potentially significant and National Register eligible archaeological resources could be present. The expected resources are primarily associated with a documented late-nineteenth-century dyewood mill complex, which included a large distillery for the processing of dyewood materials. Visible portions of the brick distillery and adjoining warehouse foundations are visible on the ground. Any intact, belowground structural remains and artifacts associated with this period of site occupation have the potential to inform about this little known maritime-related industry that operated on the East Boston waterfront in the late nineteenth century.

High archaeological sensitivity is also assigned to another area on the northerly side the site , which is identified as containing the belowground remains of a probable early to mid-nineteenth-century retaining (sea) wall as well as dense shell (oyster) deposits (possible middens) that could be cultural in origin and date to pre-contact/contact Native American and/or early post-contact period occupations along the Inner Harbor waterfront, prior to the nineteenth-century landfilling activities. Both of these high sensitivity areas in the project parcel could also contain belowground stratigraphic and artifactual evidence of the 1861 fire and early-nineteenth-century shipbuilding-related activities that are documented to have occurred on these waterfront lots.

Other areas of the project site include the remains of early-twentieth-century piers and concrete building ruins, and are not expected to yield belowground resources that would contribute to a greater understanding of the documented historic land uses of the project parcel. These areas are assigned a low archaeological sensitivity for potentially significant Euro-American archaeological resources. In addition, there was no evidence in soil borings of any buried land surfaces that could contain potential Native American resources such as shell middens.

No archaeological sensitivity is recommended for the intertidal and submerged portions of the project area below these adjacent land areas because of the absence of observed submerged cultural resources (i.e., historic shipwrecks), significant vestiges of wharves, or evidence of undisturbed natural land surfaces that could potentially contain pre-contact Native American cultural deposits.

Summary

The project site is located near certain properties in East Boston which are eligible for listing in the National Register but are not listed and is visible across Boston Harbor from National Register properties in the North End and Charlestown. Due to the traditional waterfront/wharf building massing, the proposed project is expected to have only minor visual impacts on nearby properties eligible for listing in the National Register. Due to the distance from the National Register listed properties in the North End and Charlestown, no significant visual impacts will occur.

The project site has been found to have sea walls which are eligible for listing on the National Register, but are not listed. These sea walls have been recently restored and are in good condition and structurally sound. While the proponent does not intend to pursue listing on the National Register, the sea walls are anticipated to remain in their current condition as part of the project redevelopment. A small portion of seawall, in which only a couple of vertical feet of stone is visible between the beach and concrete cap, is anticipated to be covered by a pile supported walkway located above the high water line. This is not viewed as having an adverse impact as the seawalls when originally constructed were commonly obscured from view by surrounding docks and piers.

The project site has been found to have the potential to contain archeological resources in two areas of the site. The northerly portion of the site will be affected by the foundations for a proposed parking garage. The southern portion of the site will be affected by the new six-story building construction and below grade garage. The proponent will seek to ensure that information from potential archeological resources is not lost as a result of the project.

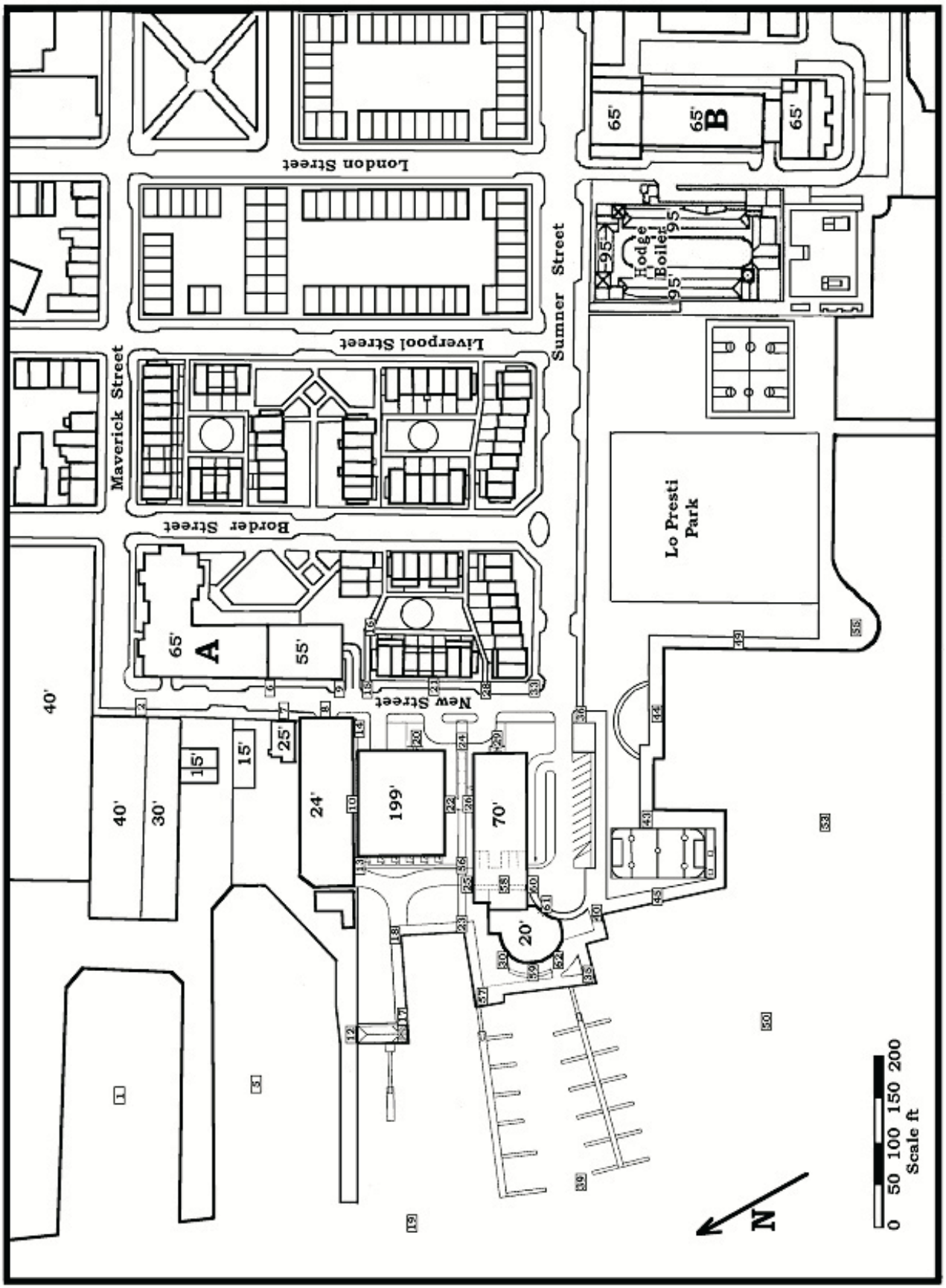
As part of the project and consistent with the East Boston Municipal Harbor Plan Amendment, the proponents anticipate installing interpretive signage in several project locations which will highlight the history of the site, in accordance with guidance provided in the Harbor Plan Amendment.

Table 5-4: Historic Resources in New Street Project APE

MAP #	MHC #	Historic Name / Function	Other Address	Street #	Street Name	City/Town	Year Built	Designations
1	BOS.RP	East Boston Inner Harbor Industrial Area	n/a			Boston (East Boston)	Mid 19th to Mid 20th c.	n/a
2	n/a	East Boston Dry Dock Company/Atlantic Works Railway Dry Docks a/k/a "Boston East Site"	East Boston Inner Harbor Industrial Area	102	Border Street	Boston (East Boston)	1834-1950	RNRE
3	BOS.12.875	Atlantic Works Office Building	Atlantic Works Complex, East Boston Inner Harbor Industrial Area	80	Border Street	Boston (East Boston)	1880	RNRE
4	n/a	Maverick-Border-Liverpool Streets Residential Block	Maverick, Border, and Liverpool Streets, Coppersmith Way		Coppersmith Way	Boston (East Boston)	Mid 19th to Mid 20th c.	n/a
5	BOS.10.8	Atlantic Works Boiler Shop	Atlantic Works Complex, East Boston Inner Harbor Industrial Area	36-40	New Street	Boston (East Boston)	1893	RNRE
6	BOS.10.7	Boston Cold Storage Company	East Boston Inner Harbor Industrial Area	10-16	New Street	Boston (East Boston)	1908	n/a
7	BOS 12.885	American Architectural Iron Company	East Boston Inner Harbor Industrial Area	80	Liverpool Street	Boston (East Boston)	Ca. 1912-1927 to ca. 1950	n/a
8	BOS 12.874	Atlantic Works Machine Shop-Wigglesworth Machinery Co.	East Boston Inner Harbor Industrial Area	60	Border Street	Boston (East Boston)	1930	RNRE

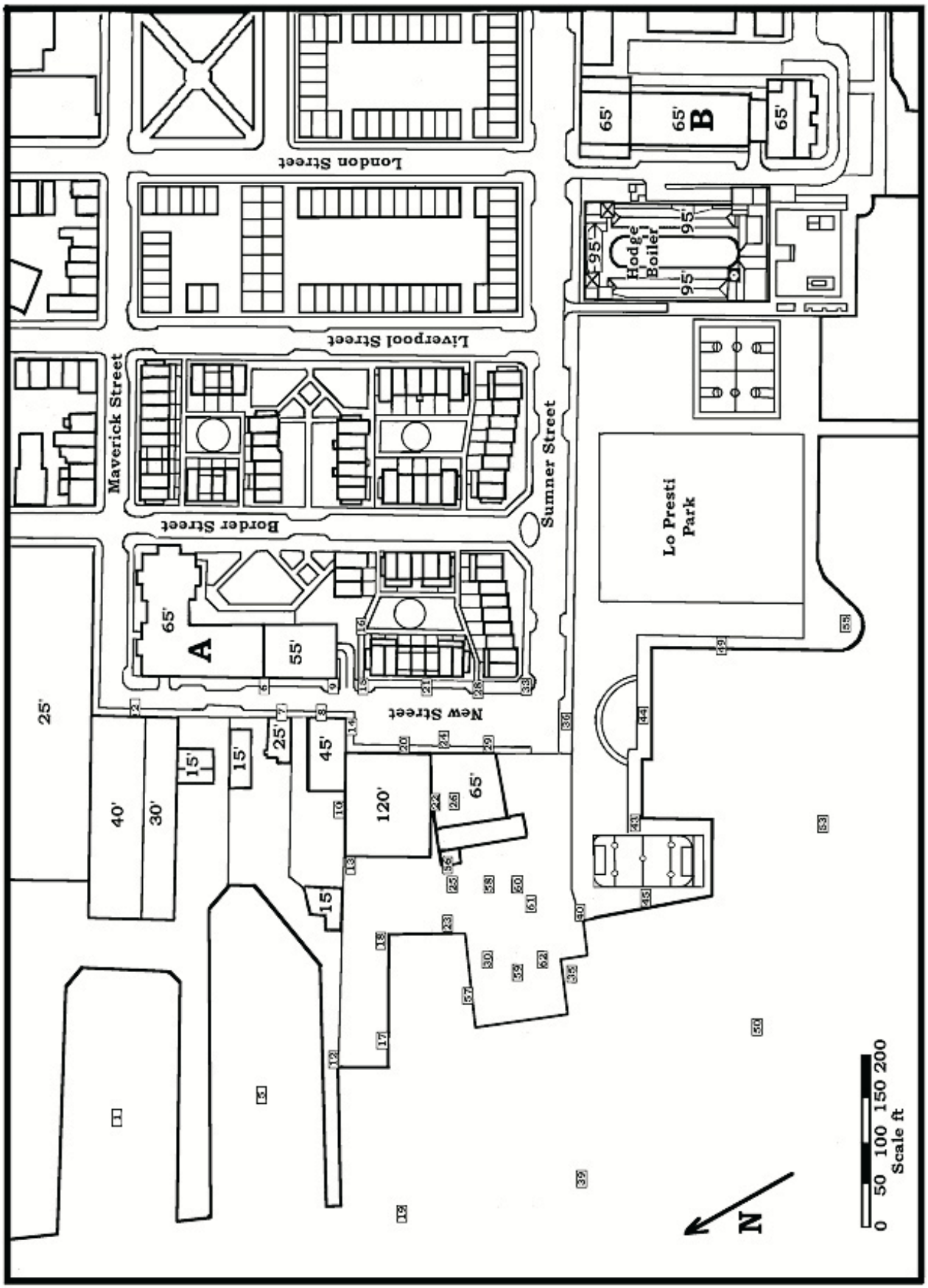
MAP #	MHC #	Historic Name / Function	Other Address	Street #	Street Name	City/Town	Year Built	Designations
9	Park of BOS.10.8	Welding and Engineering Shop	Atlantic Works Complex, East Boston Inner Harbor Industrial Area	30	New Street	Boston (East Boston)	Ca. 1930	RNRE
10	BOS.CT	U.S. Coast Guard Support Center	North End	427-467	Commercial St.	Boston	1896 et. Seq.	RNRE
11	BOS.9147	Tunnel	North End	453	Commercial St.	Boston	1700	n/a
12	BOS.52.38	Battery Wharf	North End	377-397	Commercial St.	Boston	1883	n/a
13	BOS.52.42	Constitution Wharf-Market Cold Storage	North End	405-411	Commercial St.	Boston	1888	n/a
14	BOS 52.43	Constitution Wharf- Boston Sausage Company	North End	415-427	Commercial St.	Boston	1893	n/a
15	BOS.9143	North End Beach Park (a/k/a Langone Recreational Complex)	North End	469-521	Commercial St.	Boston	1894	n/a
16	BOS. CO	Charlestown Navy Yard- Boston Naval Yard *Includes 166 individual MHC- listed items	Charlestown Navy Yard		Chelsea Street	Boston (Charlestown)	1800-1974	NHL,NRDIS
17	BOS.9054	USS Constitution	Charlestown Navy Yard		Navy Yard	Boston (Charlestown)	1797	NHL,NRDIS, NRIND
18	BOS.91.41	USS Cassin Young	Charlestown Navy Yard		Navy Yard	Boston (Charlestown)	1943	NHL,NRDIS, NRIND

* NHL – National Historic Landmark
C – Contributing to a National Register Listed or Eligible District
NRDIS – National Register Historic District
NRIND – National Register Listed
RNRE – Recommended National Register Eligible



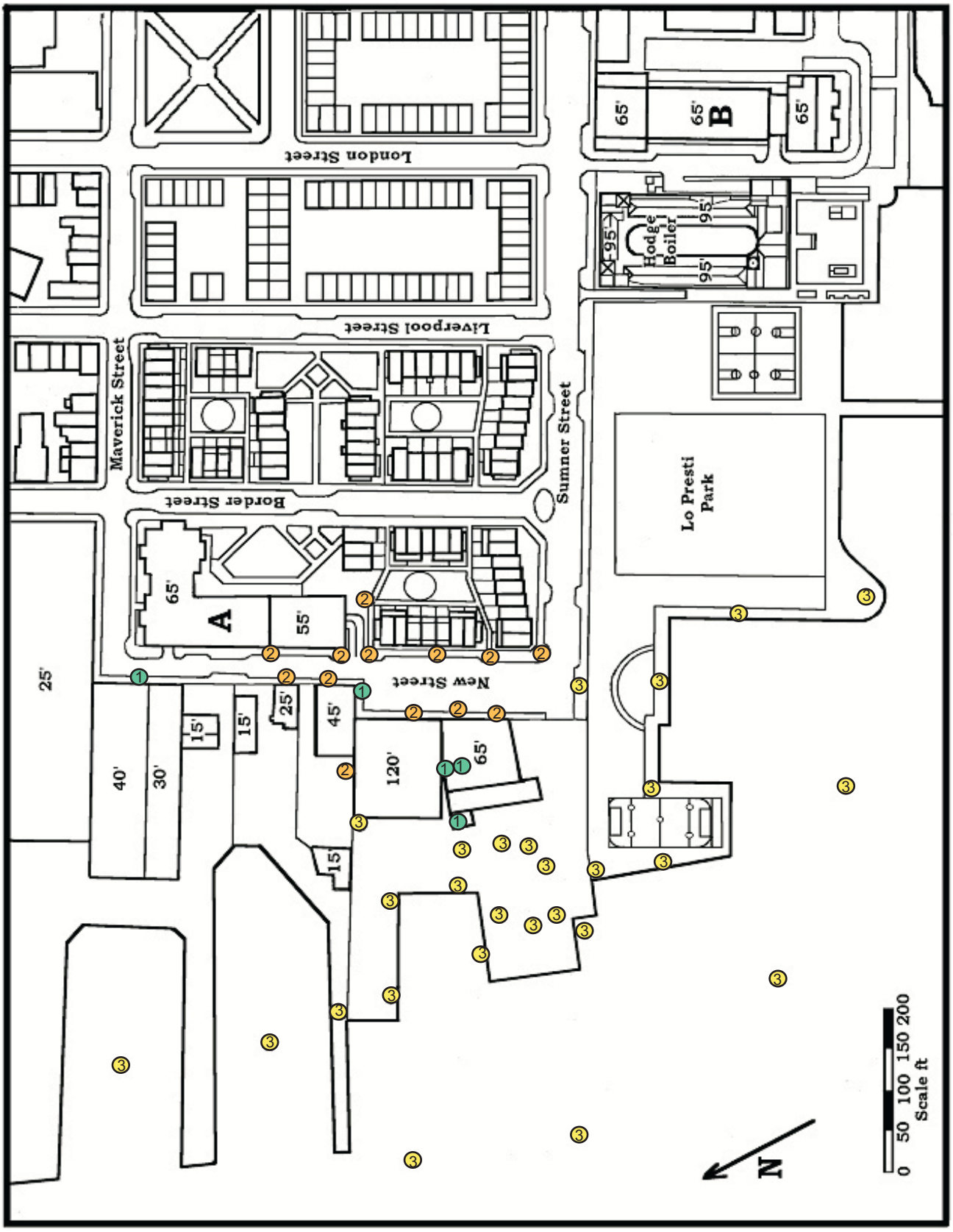
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-1
Existing Conditions and PLW Locations
source: Frank Durgin, P.E.



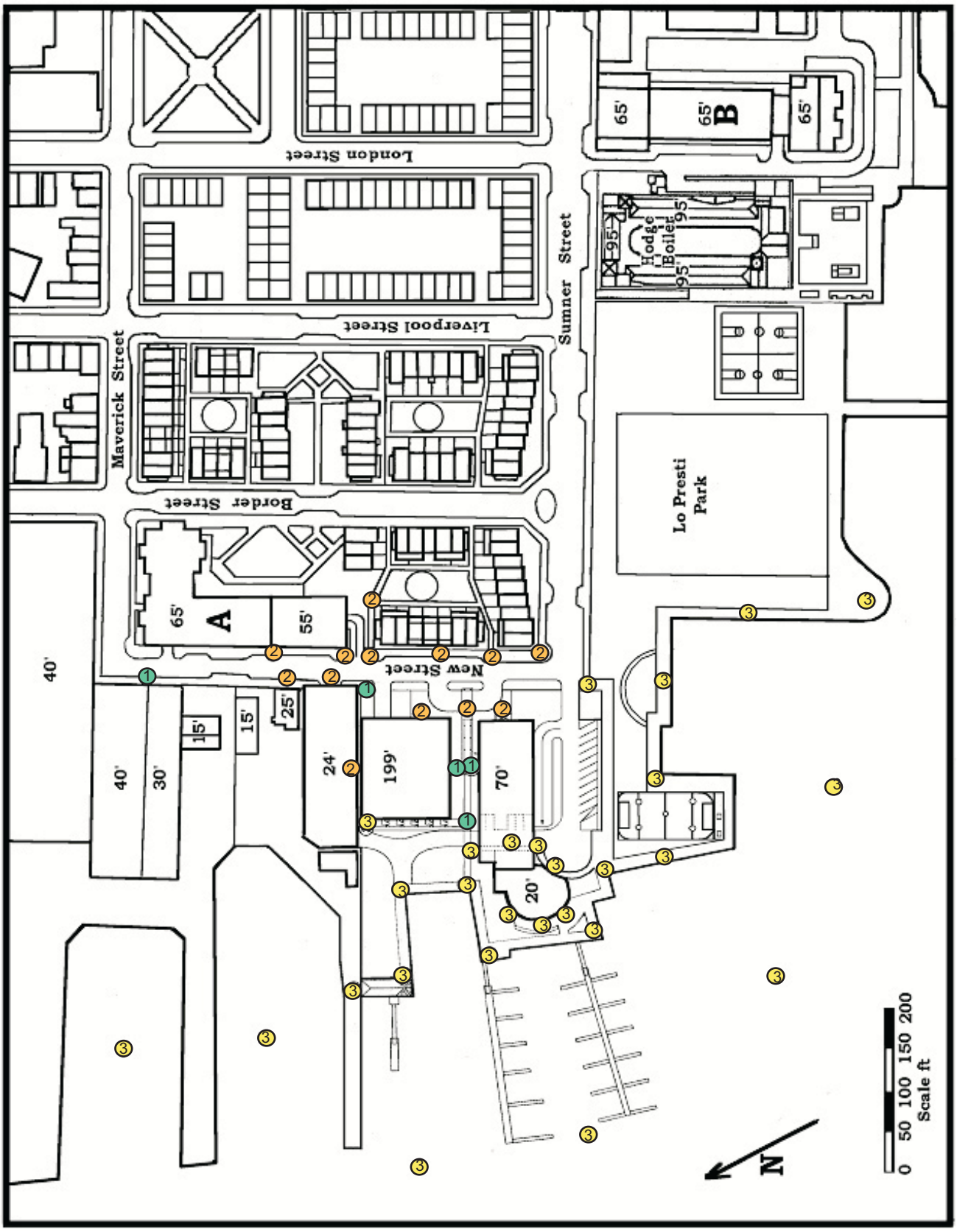
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-2
Build Conditions with PLW Locations
source: Frank Durgin, P.E.



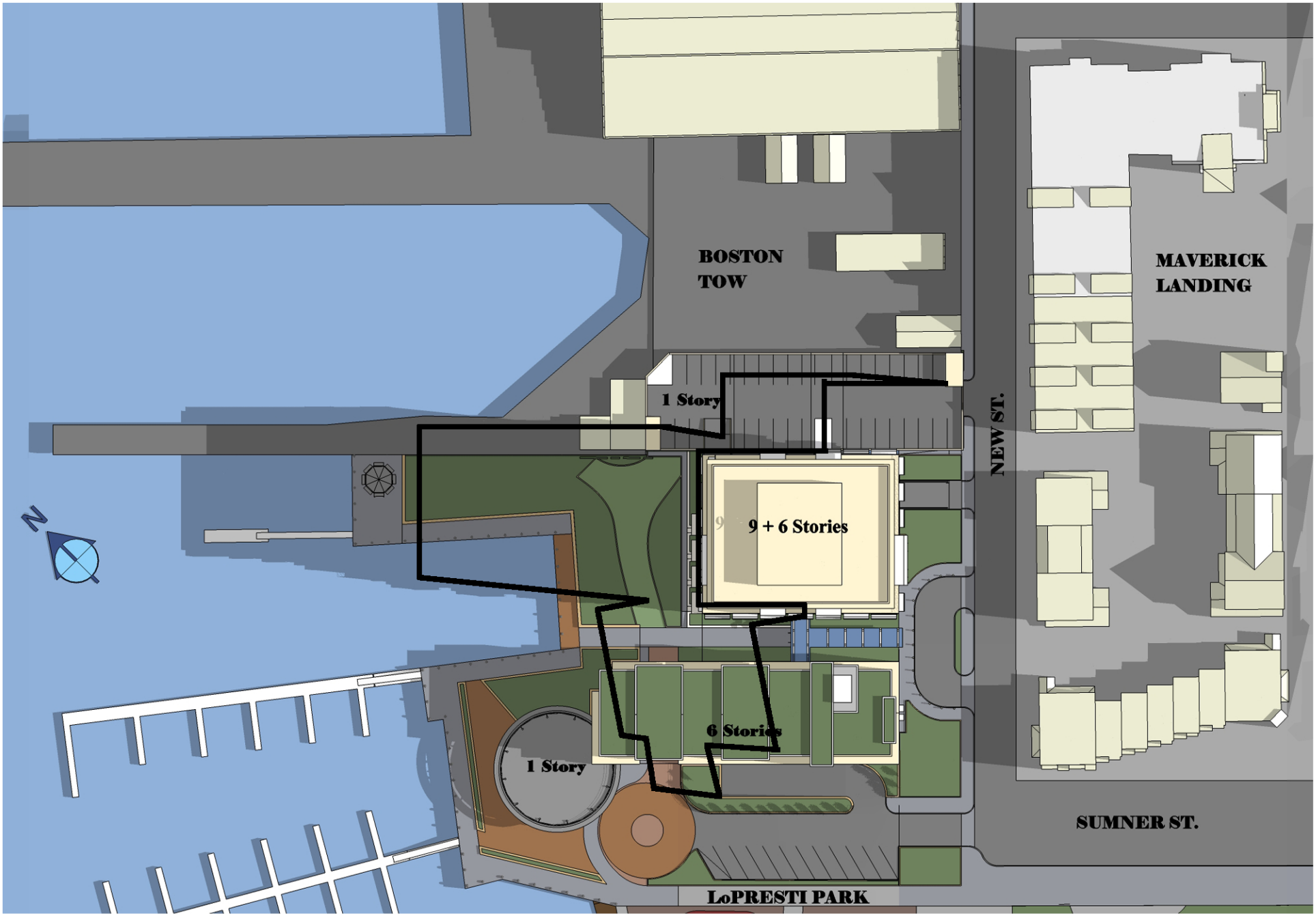
NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-3
PLW Categories for Existing Conditions and Annual Winds
source: Frank Durgin, P.E.



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-4
PLW Categories for Build Conditions and Annual Winds
source: Frank Durgin, P.E.



= EXISTING SHADOWS

New Street Shadow Study

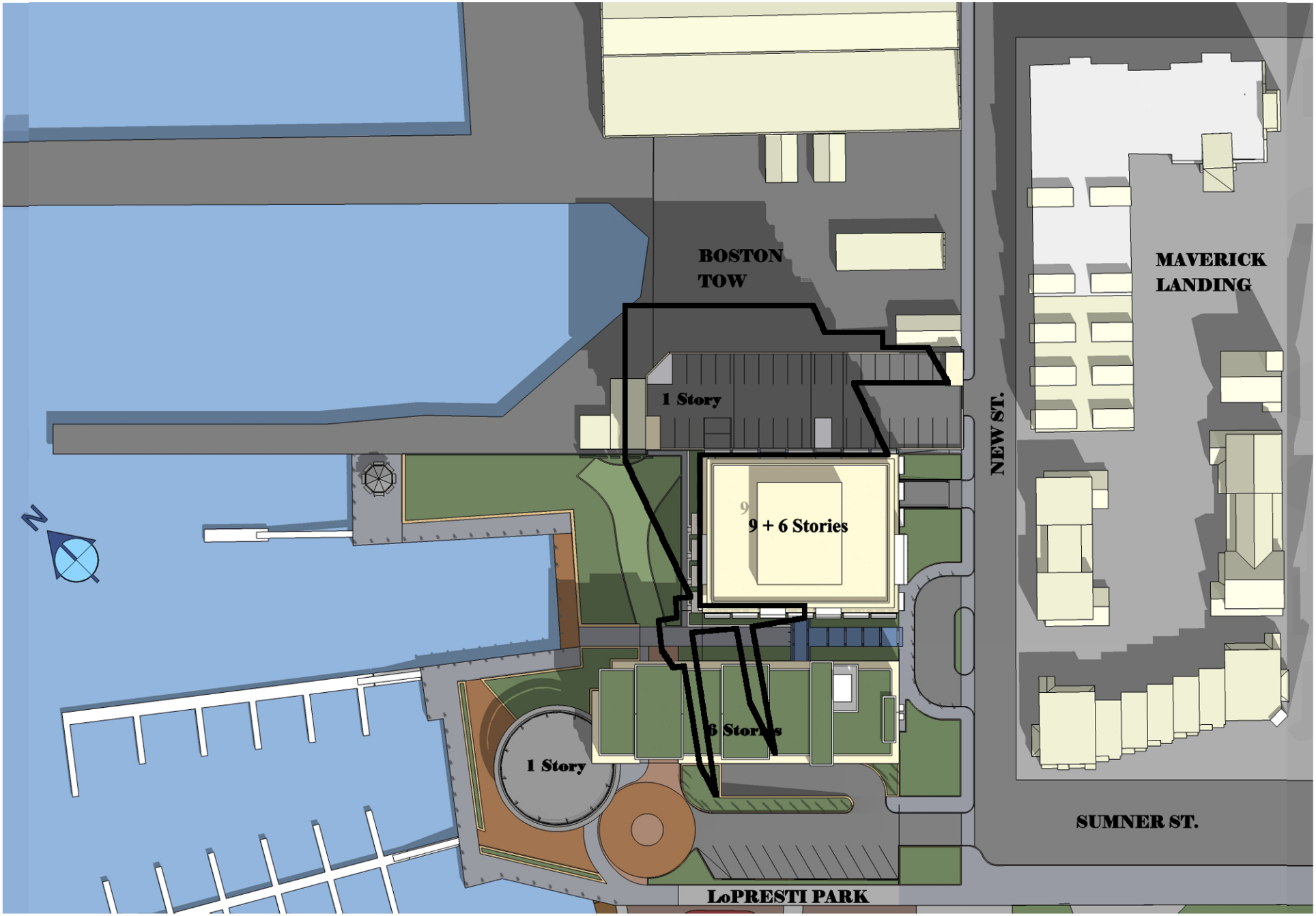
Figure 5- Vernal Equinox 9:00 am

New Street Project

Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



= EXISTING SHADOWS

New Street Shadow Study

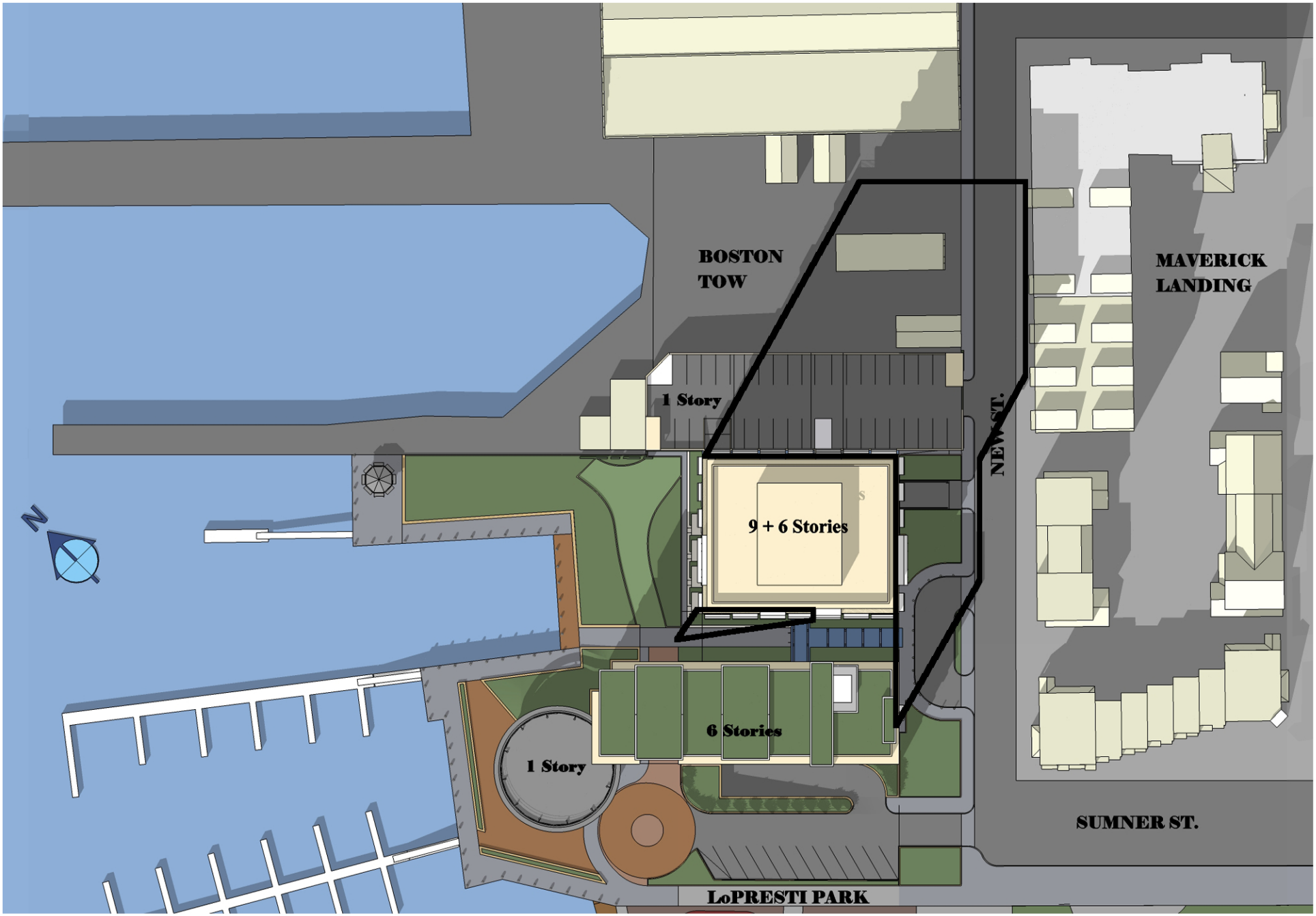
Figure 5-6 Vernal Equinox 12:00 pm

New Street Project

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Project Number: 982.000
Scale: N.T.S.
June 2008

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= EXISTING SHADOWS

New Street Shadow Study

Figure 5-7

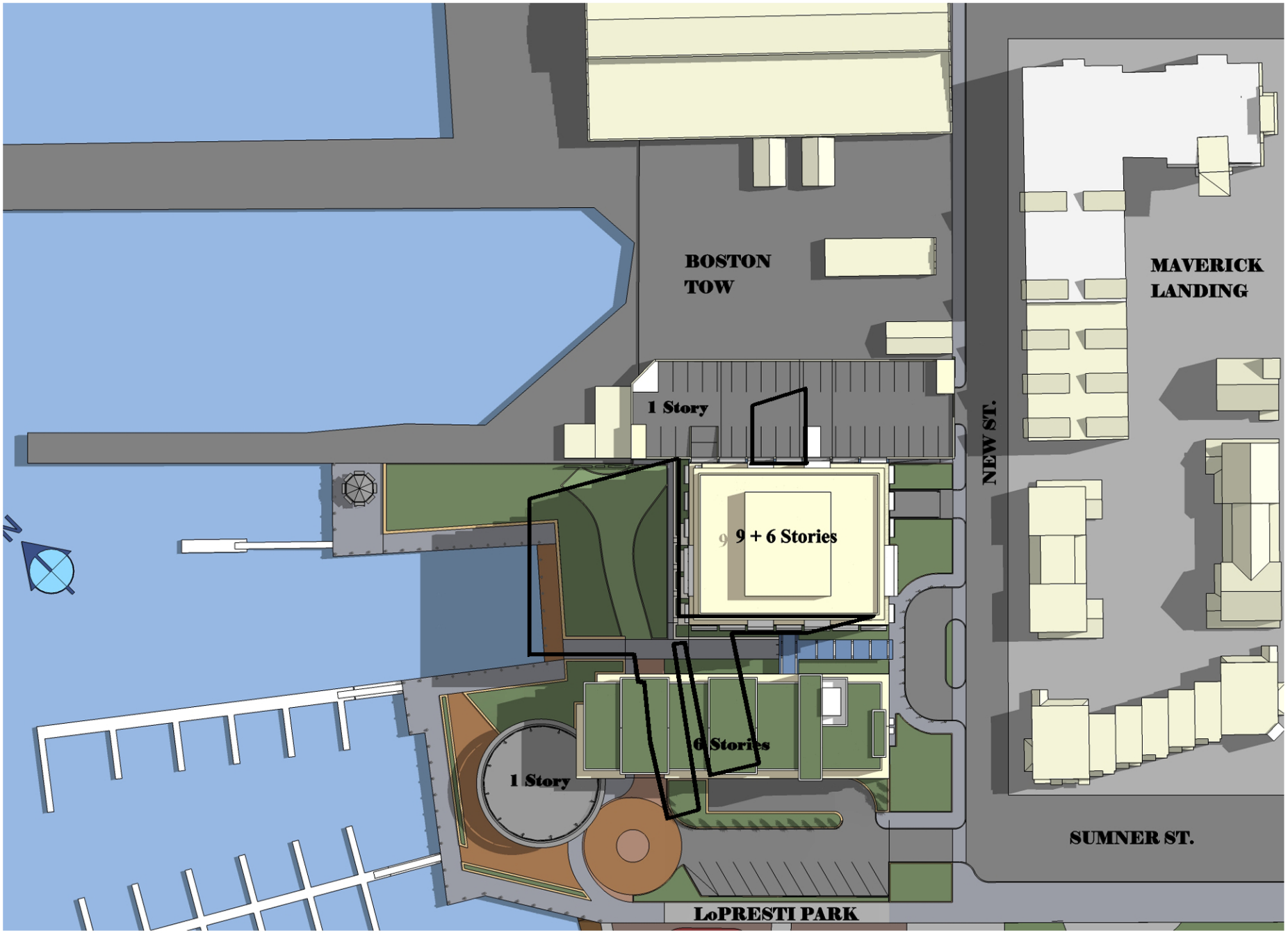
Vernal Equinox 3:00 pm

New Street Project

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Project Number: 982.000
Scale: N.T.S.
June 2008

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= EXISTING SHADOWS

New Street Shadow Study

Figure 5-8

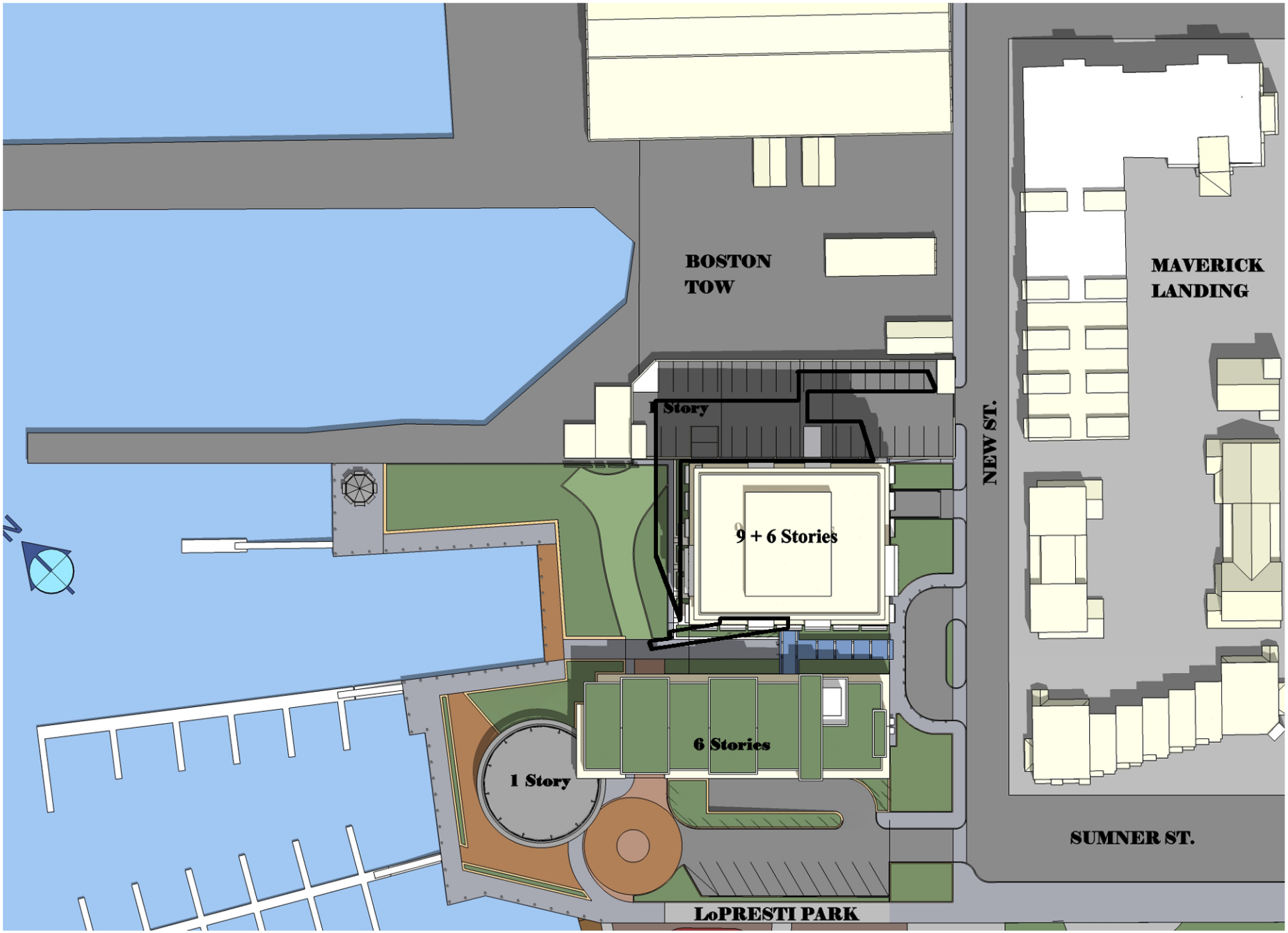
Summer Solstice 9:00 am

New Street Project

Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



= EXISTING SHADOWS

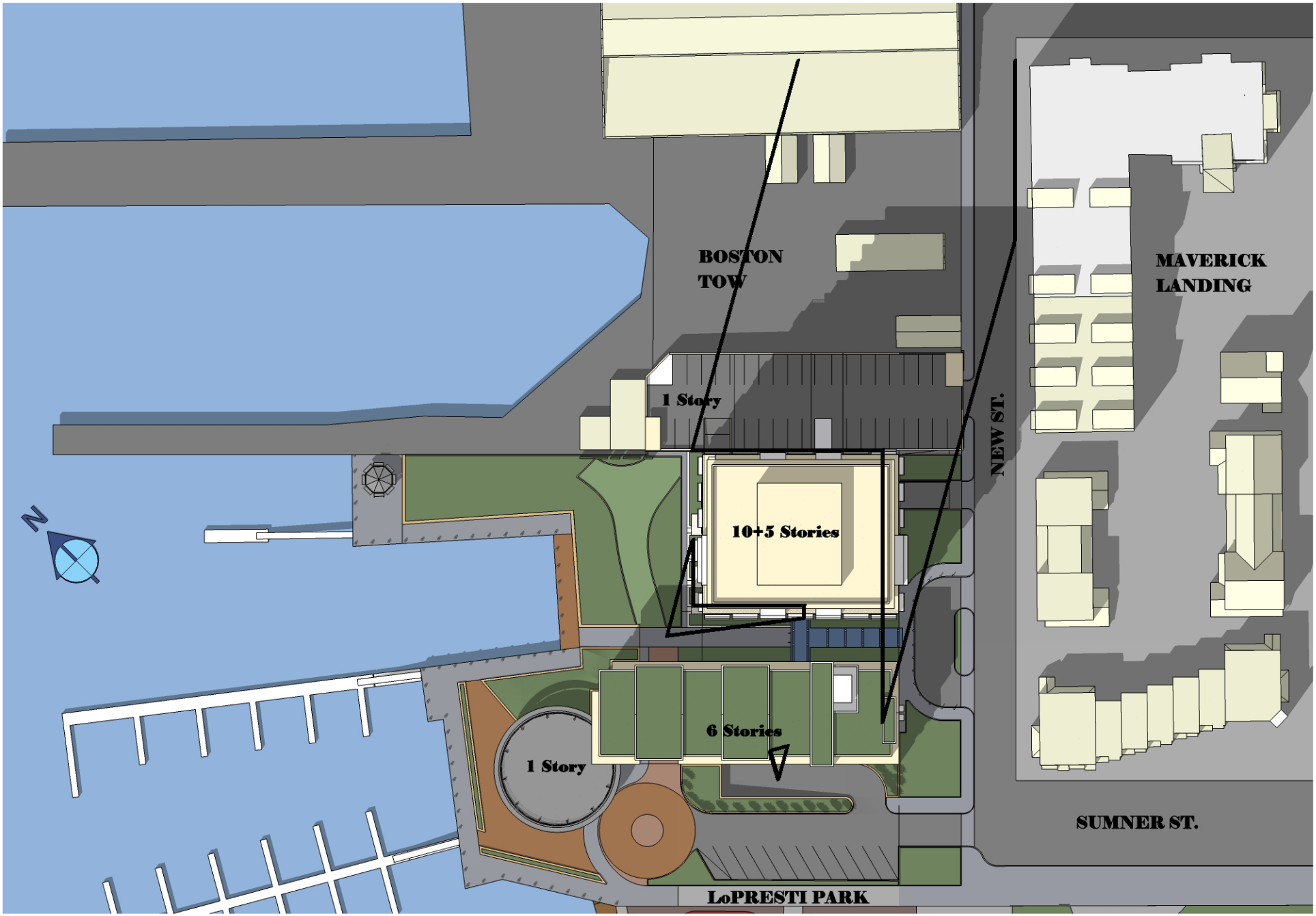
New Street Shadow Study Figure 5-9 Summer Solstice 12:00 pm

New Street Project

Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



= EXISTING SHADOWS

New Street Shadow Study

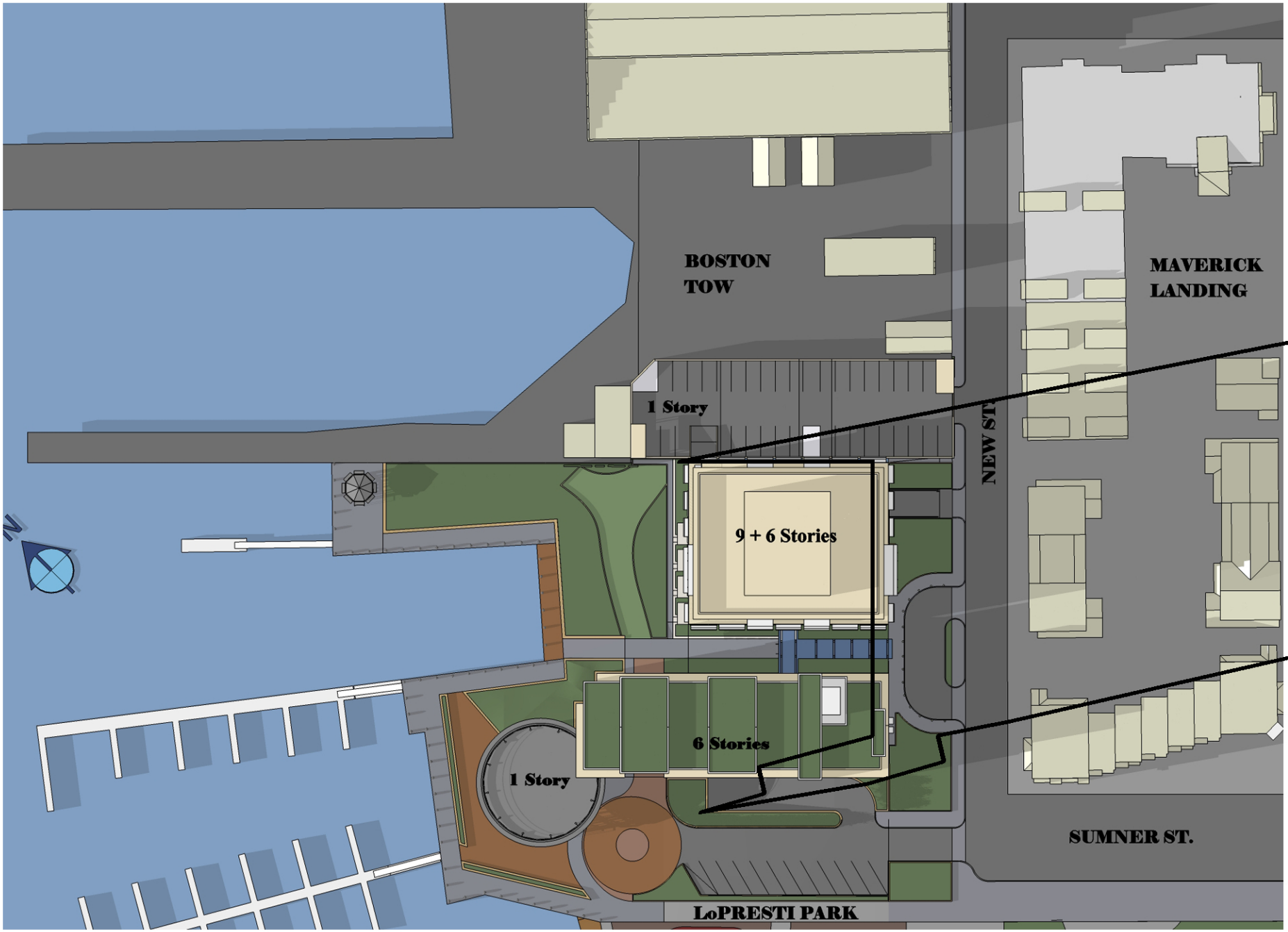
Figure 5-10 Summer Solstice 3:00 pm

New Street Project

Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



= EXISTING SHADOWS

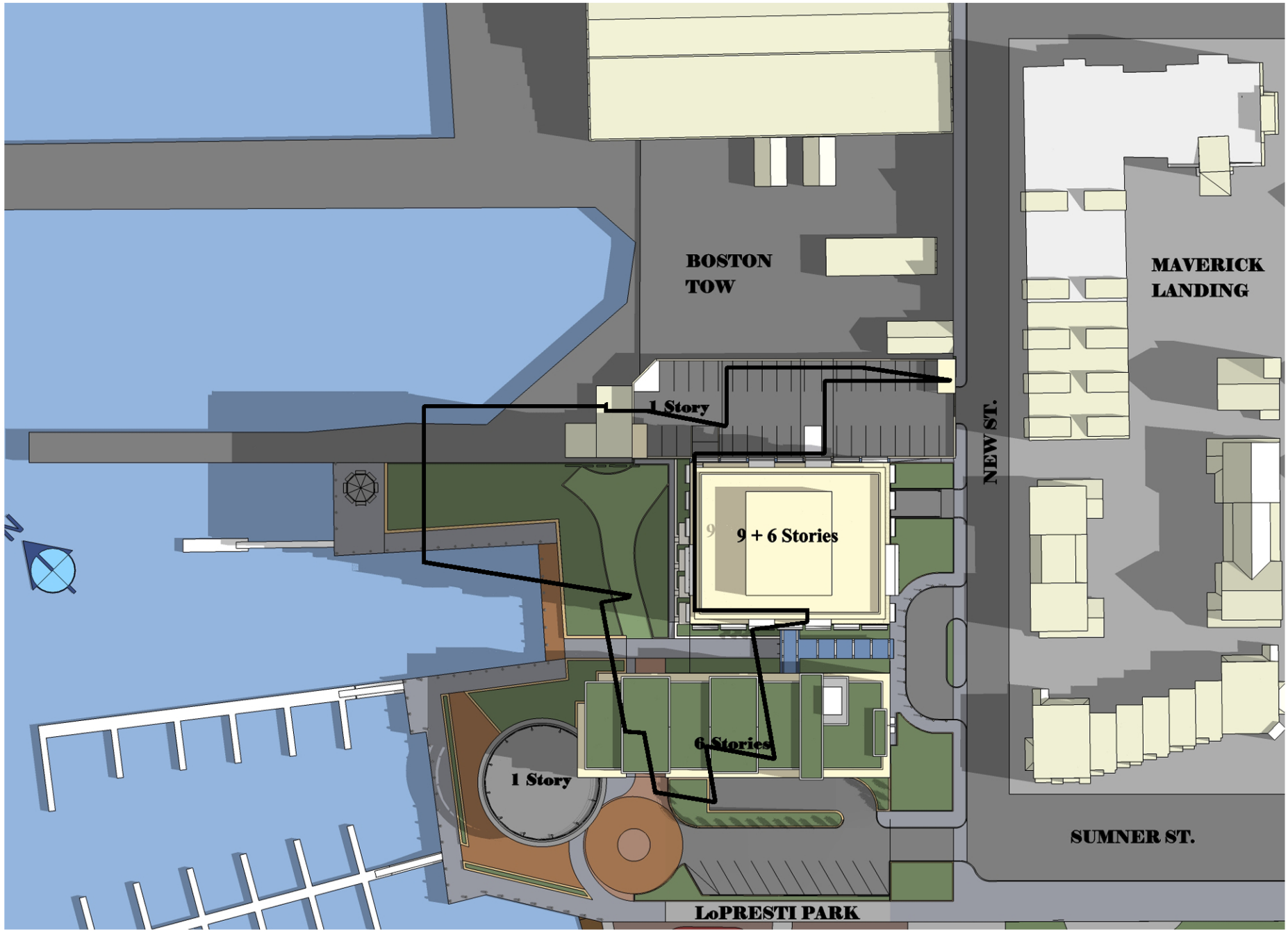
New Street Shadow Study Figure 5-11 Summer Solstice 6:00 pm

New Street Project

Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



= EXISTING SHADOWS

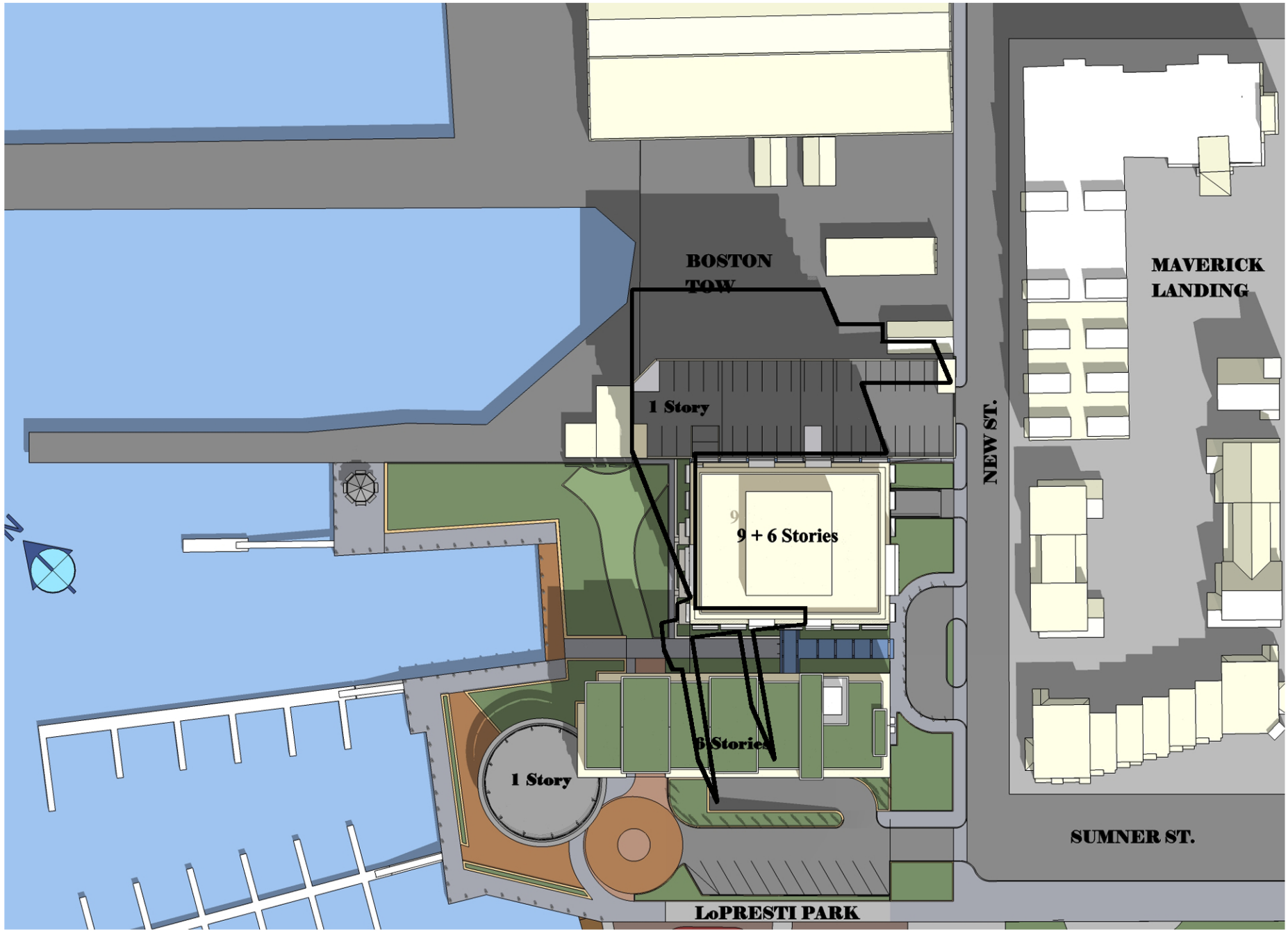
Steffian Bradley Architects
100 Summer Street
Boston, MA 02110.2106
T 617.305.7100

New Street Shadow Study Figure 5-12 Autumnal Equinox 9:00 am

New Street Project

Project Number: 982.000
Scale: N.T.S.
June 2008

ARCHITECTS STEFFIAN BRADLEY sba



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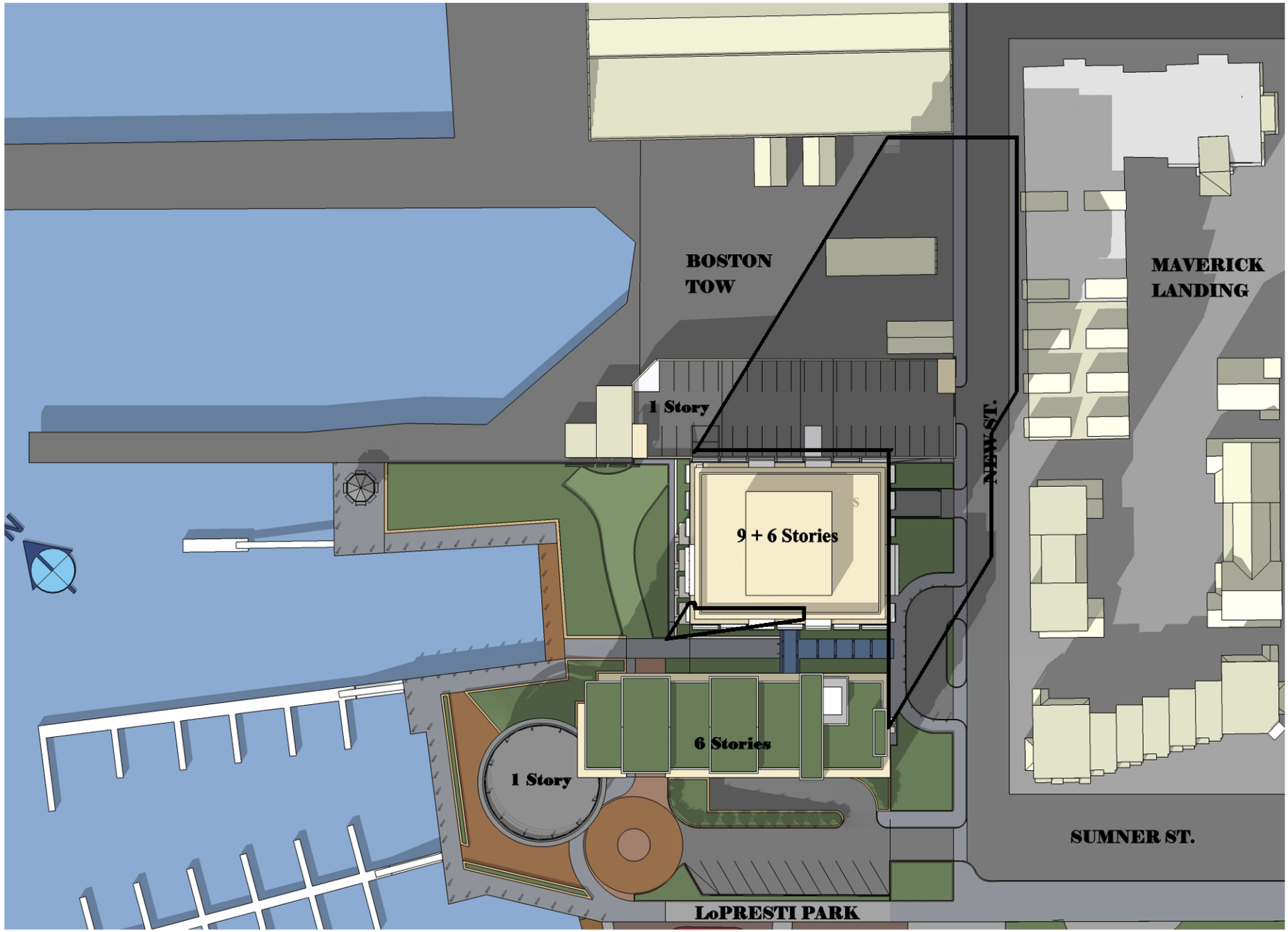
New Street Shadow Study Figure 5-13 Autumnal Equinox 12:00 pm

New Street Project

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Boston, MA 02110.2106
T 617.305.7100

Project Number: 982.000
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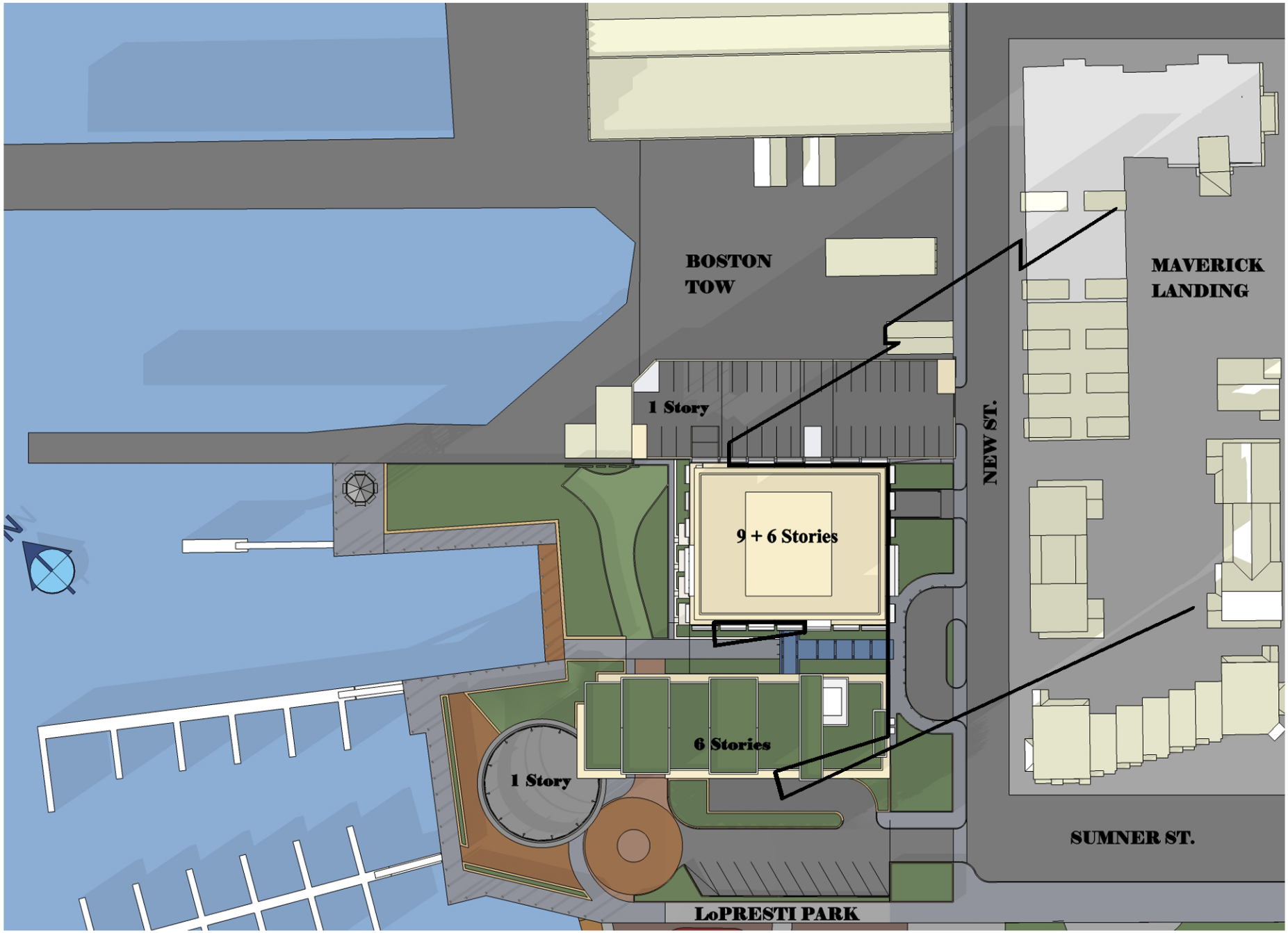
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Boston, MA 02110.2106
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New Street Shadow Study Figure 5-14 Autumnal Equinox 3:00 pm

New Street Project

Project Number: 982.000
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June 2008

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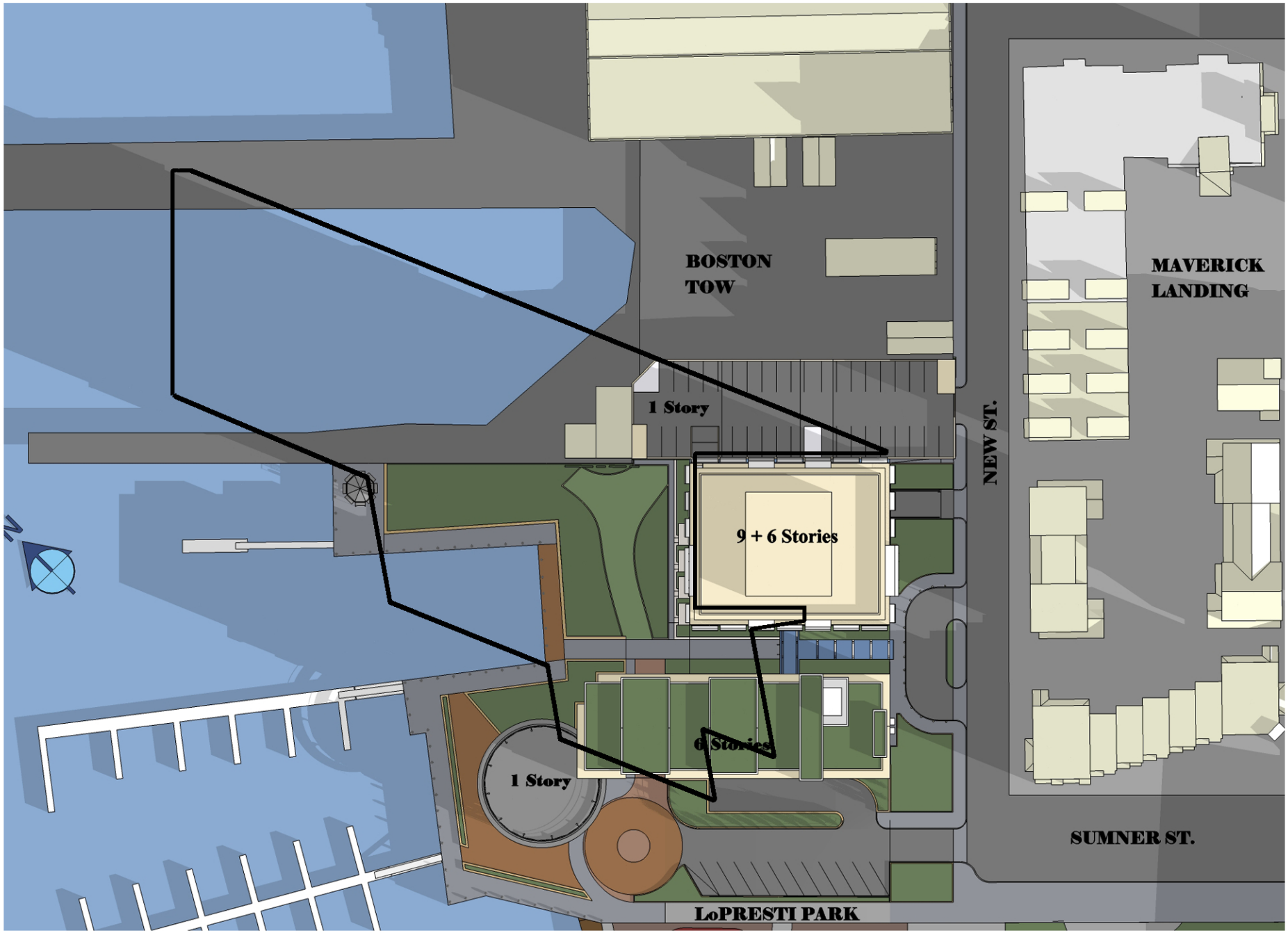
New Street Shadow Study Figure 5-15 Autumnal Equinox 6:00 pm

New Street Project

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New Street Shadow Study

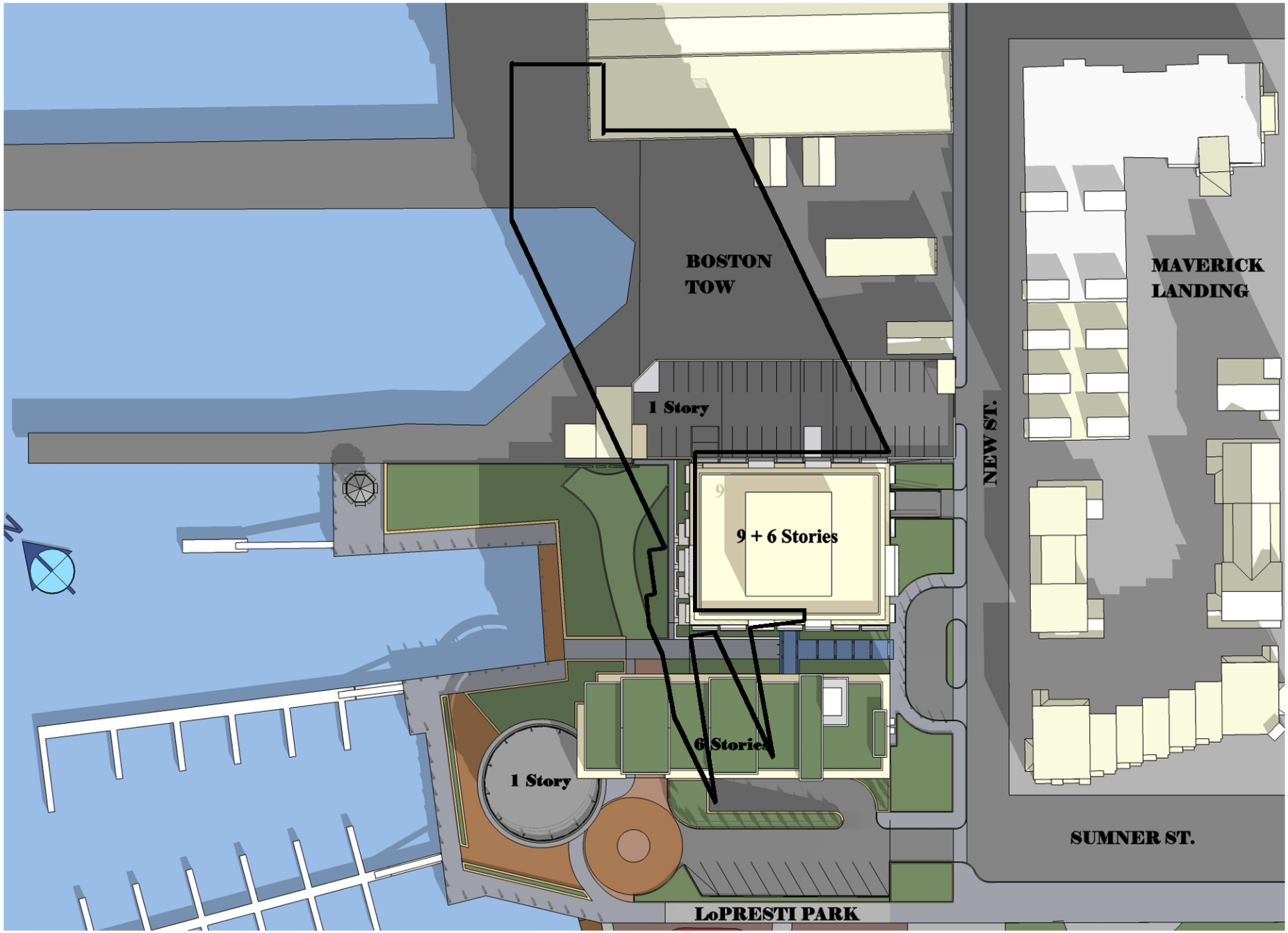
Figure 5-16 Winter Solstice 9:00 am

New Street Project

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Project Number: 982.000
Scale: N.T.S.
June 2008

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= EXISTING SHADOWS

New Street Shadow Study

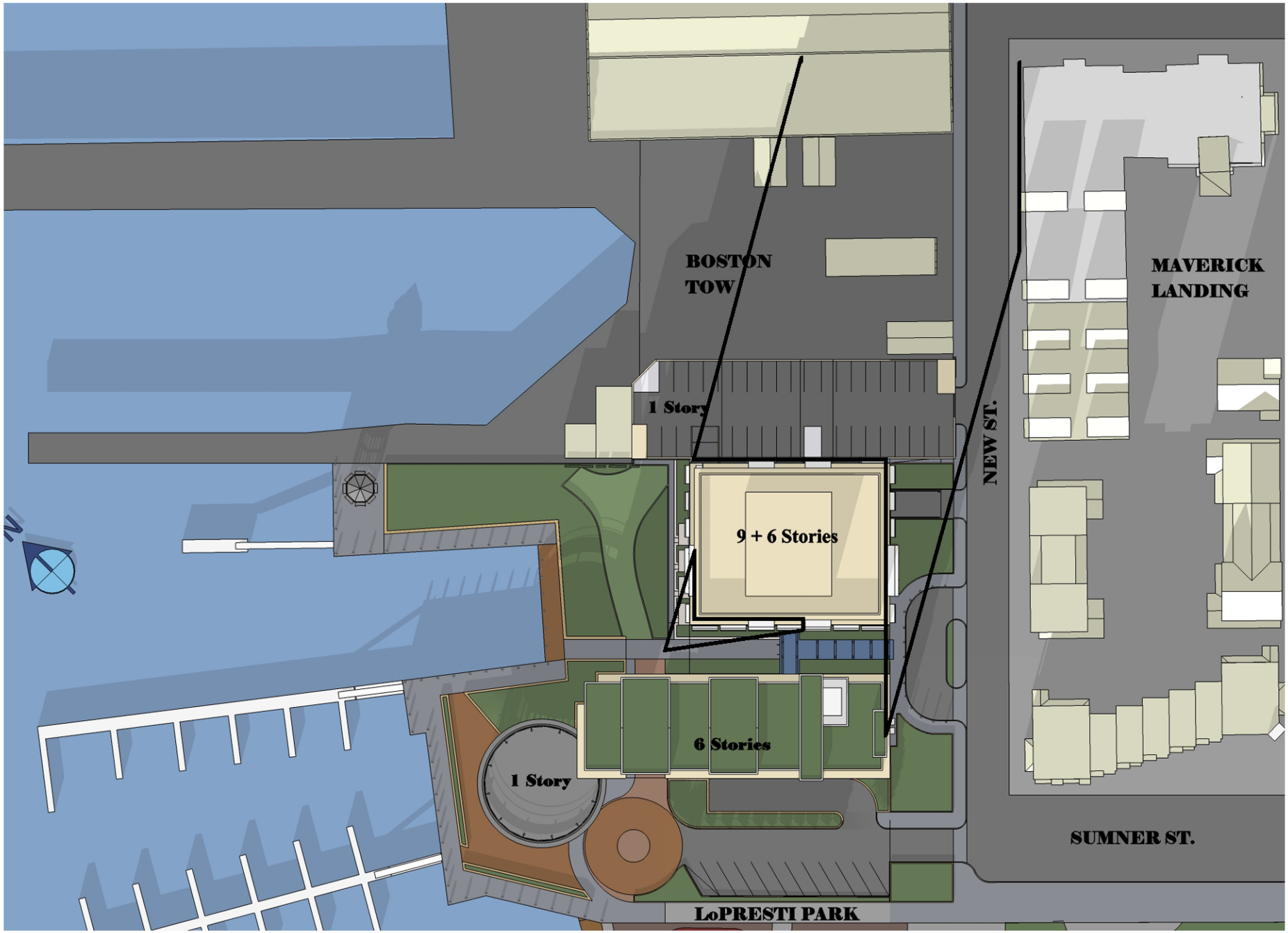
Figure 5-17 Winter Solstice 12:00 pm

New Street Project

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Project Number: 982.000
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June 2008

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= EXISTING SHADOWS

New Street Shadow Study

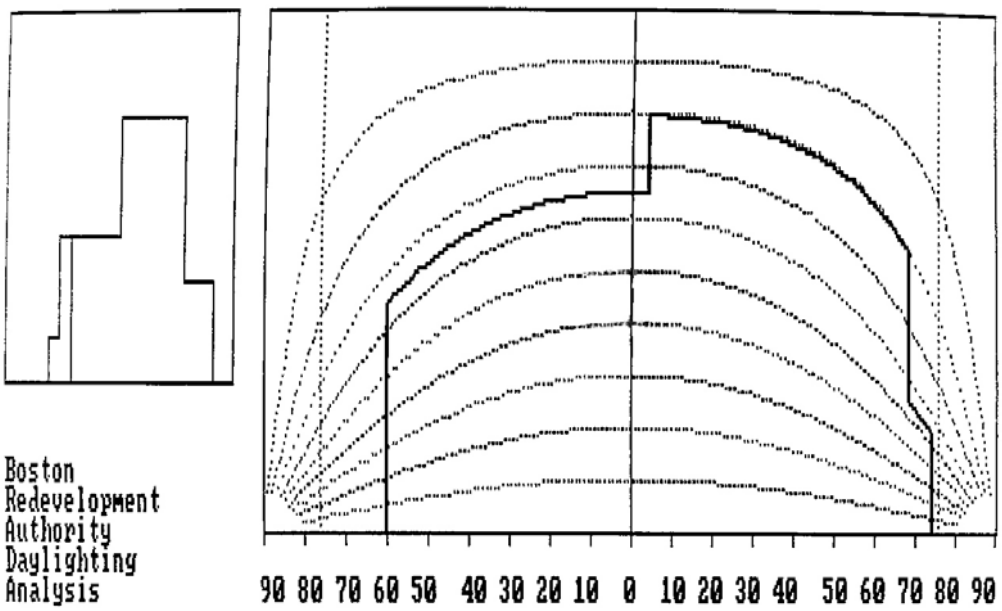
Figure 5-18 Winter Solstice 3:00 pm

New Street Project

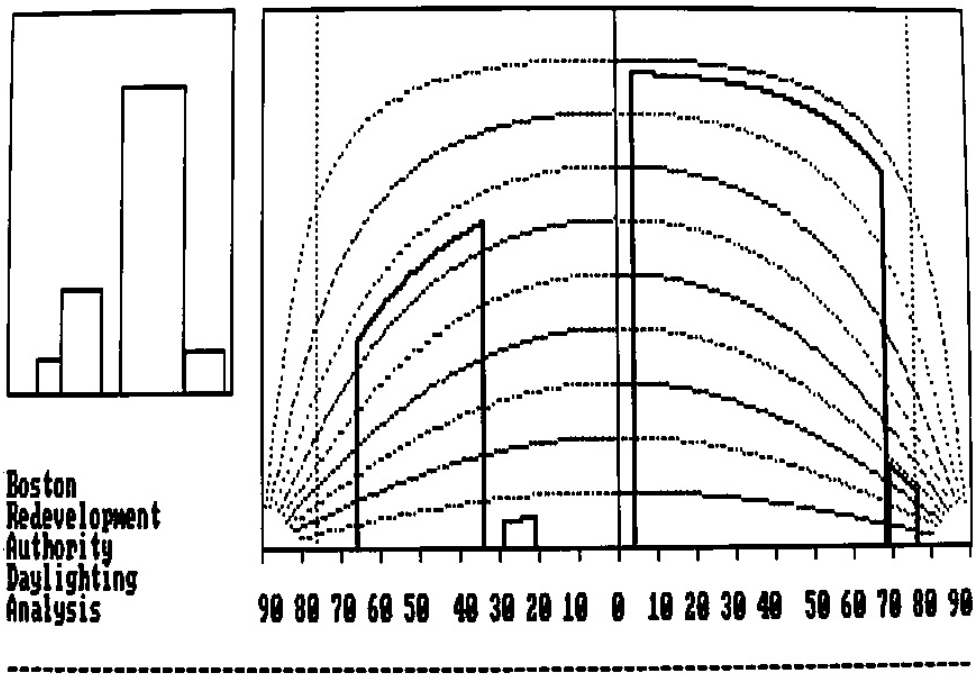
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T 617.305.7100

Project Number: 982.000
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June 2008

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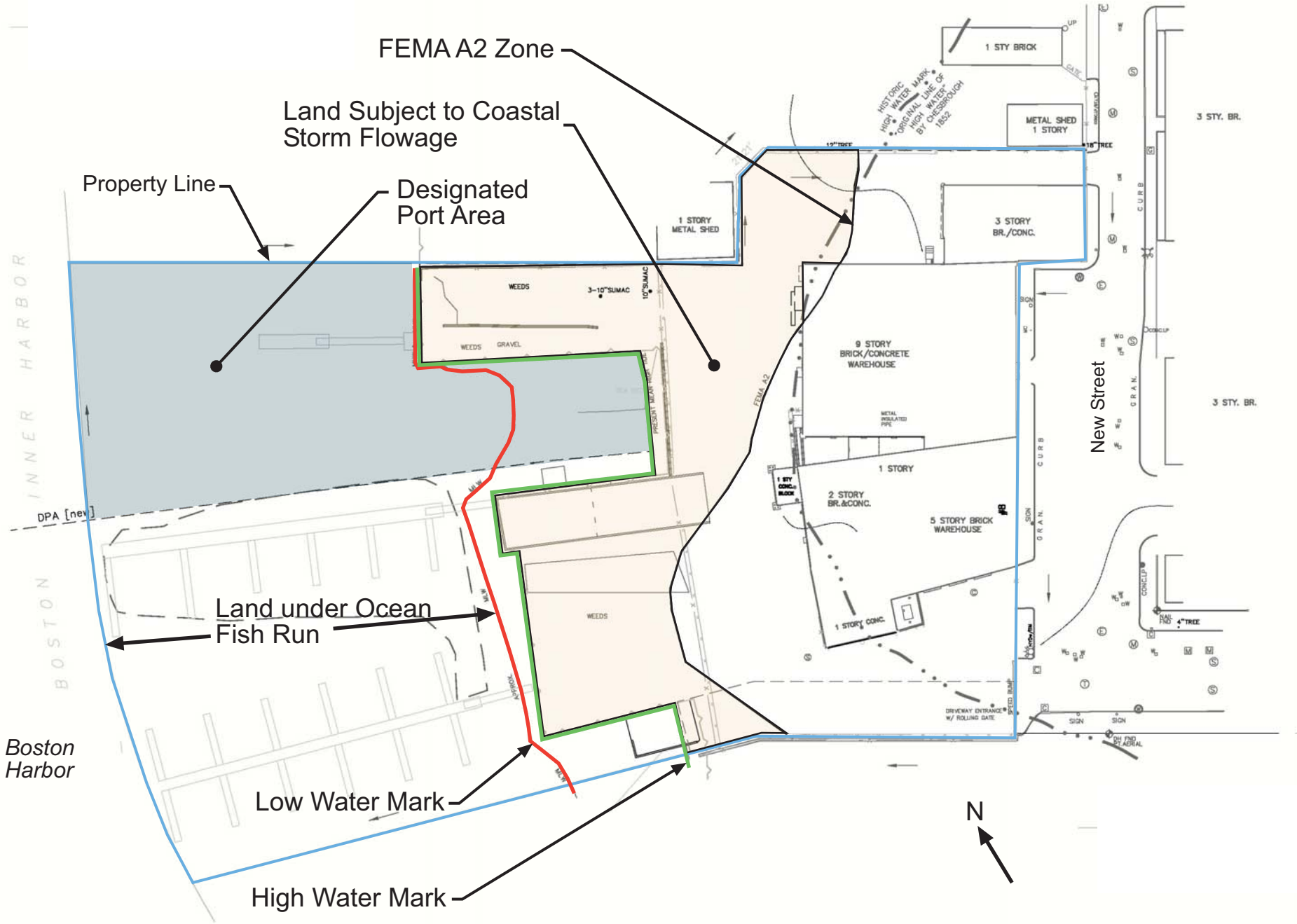
Existing Conditions



Proposed Project

New Street
EAST BOSTON, MASSACHUSETTS

Figure 5-19
Daylight Impact Analysis: New Street
source: BRA,FPA



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-20
Wetland Resource Areas



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-21
Construction Truck Routes
source: BRA



NEW STREET
EAST BOSTON, MASSACHUSETTS

Figure 5-22
Historic Resources within the Area of Potential Effect
sources: Massachusetts Historical Commission/PAL Field Survey 2008

Chapter 6

Infrastructure

6.0 INFRASTRUCTURE

The 6-26 New Street project site in East Boston has adequate water, sanitary, stormwater, energy, telecommunications infrastructure capacity to serve the proposed development. This section explains existing and proposed conditions of each infrastructure element. There are two options for development under consideration. The first would include the addition of 6 stories to an existing 9-story building and a new 6-story building, with a total of approximately 238 residential units (301 total bedrooms) in both buildings. The development would also contain a 5,400 square-foot (sf) restaurant. Under the second option, the new 6-story building would be a hotel/extended stay building with approximately 106 units and a 5,400 sf restaurant.

6.1 WATER SYSTEM

The water consumption on the site is expected to be approximately 28,683 gallons per day (gpd) for the residential option and approximately 35,404 gpd on the hotel/extended stay option, based on the project's estimated sewage generation. A conservative factor of 1.1 was applied to the estimated average daily wastewater flows.

The water service to the project will be provided through a new connection into the existing 8-inch Northern Low Service water main under New Street. This water main is owned and maintained by the Boston Water and Sewer Commission (BWSC). The size of the proposed service and location of the connection to the existing main in New Street will be determined in consultation with the BWSC. The existing water system is shown in Figure 6-1. A hydrant flow test was performed on the existing 8" Northern Low water main on July 26, 2006. The results of this test are provided in Table 6-1 below.

Table 6-1: Hydrant Flow Test Information

Total Flow (gpm)	Flow (gpm) At 20 PSI	Flow (gpm) At 10 PSI	Static PSI	Residual PSI
3,830	7,086	7,819	70	54

6.2 SANITARY SEWAGE

The site currently contains several warehouse buildings. Based on an assumed occupancy of 20 employees, the average daily sewer flow is estimated to be approximately 300 gpd.

The sewage flow calculation for the all residential option is shown in Table 6-2 and for the hotel/extended stay option in Table 6-3 below. In addition to the residential/hotel units,

there will be 5,400 square feet (sf) of restaurant space on the ground floor in both options. To be conservative, it was assumed that the space would be used as a restaurant of approximately 100 seats.

Currently, a 12-inch sewer main is located in New Street (East Boston Branch Sewer). The proposed sewer service for the development will connect to this sewer main at a location to be determined in consultation with the BWSC.

Table 6-2: Estimated Sewage Discharges (All residential option)

Proposed Use	Number of Units	Unit Flow	Sewage Flow
Condominiums	301 Bedrooms	75 gpd/Bedroom	22,575 gpd
Restaurant	100 seats	35 gpd/seat	3,500 gpd
Total			**26,075 gpd**

Table 6-3: Estimated Sewage Discharges (Extended Stay Hotel Option)

Proposed Use	Number of Units	Unit Flow	Sewage Flow
Condominiums	227 Bedrooms	75 gpd/Bedroom	17,025 gpd
Extended Stay Hotel	106 Bedrooms	110 gpd/Bedroom	11,660 gpd
Restaurant	100 seats	35 gpd/seat	3,500 gpd
Total			**32,185 gpd**

Notes:

1. The sewage generation rate used for residential dwelling units is based on a study of the actual sewage generation rates at the nearby Maverick Landing residential complex.

2. Sewage generation rates taken from the Massachusetts Department of Environmental Protection, 310 CMR 15.00, The State Environmental Code, Title V, Section 15.203: Sewage System Design Flow Criteria; and 314 CMR 7.00, Sewer System Extension and Connection Permit Program, Section 7.15: Calculation of Flows.

Per the regulations of 314 CMR 7.00, any proposed development with a new sewer connection that results in a discharge greater than 15,000 gpd but less than 50,000 gpd is required to file a one-time Compliance Certificate with DEP. Both of the project's options result in an estimated sewage discharge of over 15,000 but less than 50,000 gpd and therefore the Project will need to file this Compliance Certificate with DEP. Preliminary analysis of the existing BWSC infrastructure indicates that the existing system is adequate for this development. The existing sewer system is shown in Figure 6-2.

6.3 STORMWATER

6.3.1 EXISTING DRAINAGE CONDITIONS

The project site consists of area of Urban land as classified by the National Resource Conservation Service (NRCS) in the Norfolk and Suffolk Counties (Massachusetts). In this map unit, buildings, industrial areas, and pavement typically cover more than 75% of the land surface. The largest areas of this map unit are in downtown Boston and in land surrounding Boston Harbor. The existing site contains approximately 2.0 acres of impervious surfaces.

The western portion of the site drains via sheet flow directly to the Boston Harbor. The southern and eastern portion of the site flows to a catch basin located within the site. The catch basin is located in front of the loading docks. At this time, it is undetermined where the storm drainage flows from the catch basin. The existing storm drain system is shown in Figure 6-2.

6.3.2 PROPOSED DRAINAGE CONDITIONS

The proposed development plans to remove the existing drainage structure at the site and create a new on-site storm drain system. In general, the roof top drainage would be collected in drywells with overflow connections to outfall pipes that lead to Boston Harbor. A closed drainage system would support the parking areas and include various stormwater Best Management Practices (BMPs) before connecting to the outfall pipe. It is expected that a portion of the proposed open space would continue to flow via sheet flow directly into the Harbor, similar to existing conditions.

Drainage calculations were performed using the Soil Conservation Service (SCS) Technical Release 20 (TR-20) methodology. Stormwater calculations were performed for both existing and proposed conditions for 2, 10 and 100-year storms. It was estimated that approximately 24% of the lot will be landscaped areas. The results of these calculations are summarized in the Table 6-3. With the decrease in impervious area, the proposed development would result in a decrease in the peak runoff rate.

Table 6-3: Stormwater Drainage Calculations

	2-Year Storm	10-Year Storm	100-Year Storm
Existing Conditions	10.20 cfs	14.70 cfs	21.80 cfs
Proposed Conditions.	8.50 cfs	13.20 cfs	20.60 cfs

cfs – cubic feet per second

6.4 STORMWATER MANAGEMENT PLAN

The DEP Stormwater Management Policy requires projects that fall under the jurisdiction of the Massachusetts Wetlands Protection Act (WPA) to meet performance standards with regard to stormwater discharges to wetland resource areas. Due to its proximity to Boston Harbor, portions of the project are subject to the WPA, and stormwater Best Management Practices have been designed in conformance with the DEP performance standards. BMPs and mitigation measures may include deep sump hooded catch basins and water quality inlets (grit/oil separators). The following paragraphs present how the project conforms to the DEP Stormwater Management Standards. If DEP finalizes its draft regulations concerning stormwater management, the project will comply with regulations as applicable.

Standard #1: No new untreated stormwater will discharge into, or cause erosion to, wetlands or waters.

Compliance: The project includes the construction of new buildings, sidewalks, parking areas, and landscape areas. Current runoff from the west side of the site flows into Boston Harbor as surface runoff. The remainder of the site runoff is collected in an existing catch basin and may or may not flow into Boston Harbor. This runoff discharge to the Harbor from the existing system does not provide any known water quality treatment.

For the proposed condition, runoff from most of the site will be collected by a new storm drain system to provide a greater degree of treatment than the existing conditions. The new storm drain system will contain new drywells to collect the runoff from the proposed buildings and deep sump catch basins to collect the runoff from the parking lots. The stormwater will be treated by a treatment unit (i.e. Stormtreat or Stormceptor unit) that will provide a secondary treatment for total suspended solids (TSS) removal prior to discharge.

Standard #2: Post-development peak discharge rates do not exceed pre-development rates on the site either at the point of discharge or down-gradient of the property boundary for the 2 and 10-year 24-hour design storms. The project's stormwater design will not increase flooding impacts offsite for the 100-year design storm.

Compliance: The project will not result in an increase in peak runoff rates as summarized in Table 6-3.

Standard #3: The annual groundwater recharge for the post-development site must approximate the annual recharge from existing site conditions, based on soil type.

Compliance: The post-development ground water recharge will be similar to the existing conditions. There will be a decrease in impervious areas of approximately 0.4 acres resulting from new landscaped areas. As a result, the quality and ground water infiltration capacity of these areas will be improved over the existing conditions.

Standard #4: For new development, the proposed stormwater management system must achieve an 80% removal rate for the site's average annual load of TSS.

Compliance: Stormwater treatment is achieved through the combination of the following BMPs:

- Deep Sump and Hooded Catch Basins
- Treatment Unit

BMP	Design Rate	% To be Treated	Removal by BMP
Deep Sump Manholes/Catch Basins	25%	100%	25%
Treatment Unit	80%	75%	60%
Total			**85%**

Standard #5: If the site contains an area with Higher Potential Pollutant Loads (as prescribed by the Policy), BMPs must be used to prevent the recharge of untreated stormwater.

Compliance: Activities at the site are limited to residences and restaurant uses. The project will not be considered a land use with higher pollutant load.

Standard #6: If the site contains areas of Sensitive Resources (as prescribed by the Policy), such as rare/endangered wildlife habitats, ACECs, etc., a larger volume of runoff from the "first flush" must be treated (1 inch of runoff from impervious area vs. the standard ½ inch).

Compliance: The project will not discharge to or affect any critical areas.

Standard #7: Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.

Compliance: A "redevelopment" project is defined in the DEP Stormwater Policy as: "Development, rehabilitation, expansion, and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area." Therefore, the proposed project is considered a redevelopment project because in its post-development condition, it will create a net decrease of impervious area of approximately 0.4 acres on the site when compared to the pre-development condition.

Standard #8: Erosion and sediment controls must be designed into the project to minimize adverse environmental effects.

Compliance: The erosion control measures incorporated into the project include the placement of haybale/siltation barriers and the installation of silt sacks in catch basins. Erosion control measures will be placed around stockpiles of loose materials. The measures will be inspected and maintained until the disturbed areas are stabilized.

Standard #9: A long-term BMP operation and maintenance plan is required to ensure proper maintenance and functioning of the stormwater management system.

Compliance: An Operations and Maintenance Plan including long-term BMP operation requirements will be prepared to ensure proper maintenance and functioning of the system. The Operations and Maintenance Plan will ensure that the facility provides adequate preventative maintenance to minimize discharge of contaminants to Boston Harbor. Facility personnel will inspect the stormwater management system on a routine basis not less than once per month for the first six months of operation and annually thereafter. Inspection and maintenance shall be performed as follows:

1. Catch basins and manholes shall be inspected for accumulation of silt, sediment, or debris on a monthly basis. Cleaning will be performed whenever the sediment level rises to within one foot of invert elevation of the outlet pipe. Removed sediment will be disposed off site by a qualified waste disposal contractor in accordance with state and federal regulations.

2. The treatment unit shall be inspected and maintained in accordance with the manufacturer's recommendations. During the first year of operation, the unit shall be inspected monthly to determine an appropriate maintenance schedule based on actual site conditions. The unit shall be inspected annually at the end of the winter season and cleaned as necessary. Accumulated sediment will be removed by means of a vacuum truck and disposed off site by a qualified waste disposal contractor in accordance with state and federal regulations.

Street sweeping of the project site shall be performed on an as-needed basis. At a minimum, street sweeping will be performed once per year during the spring to remove salt and sand from snow removal and de-icing activities.

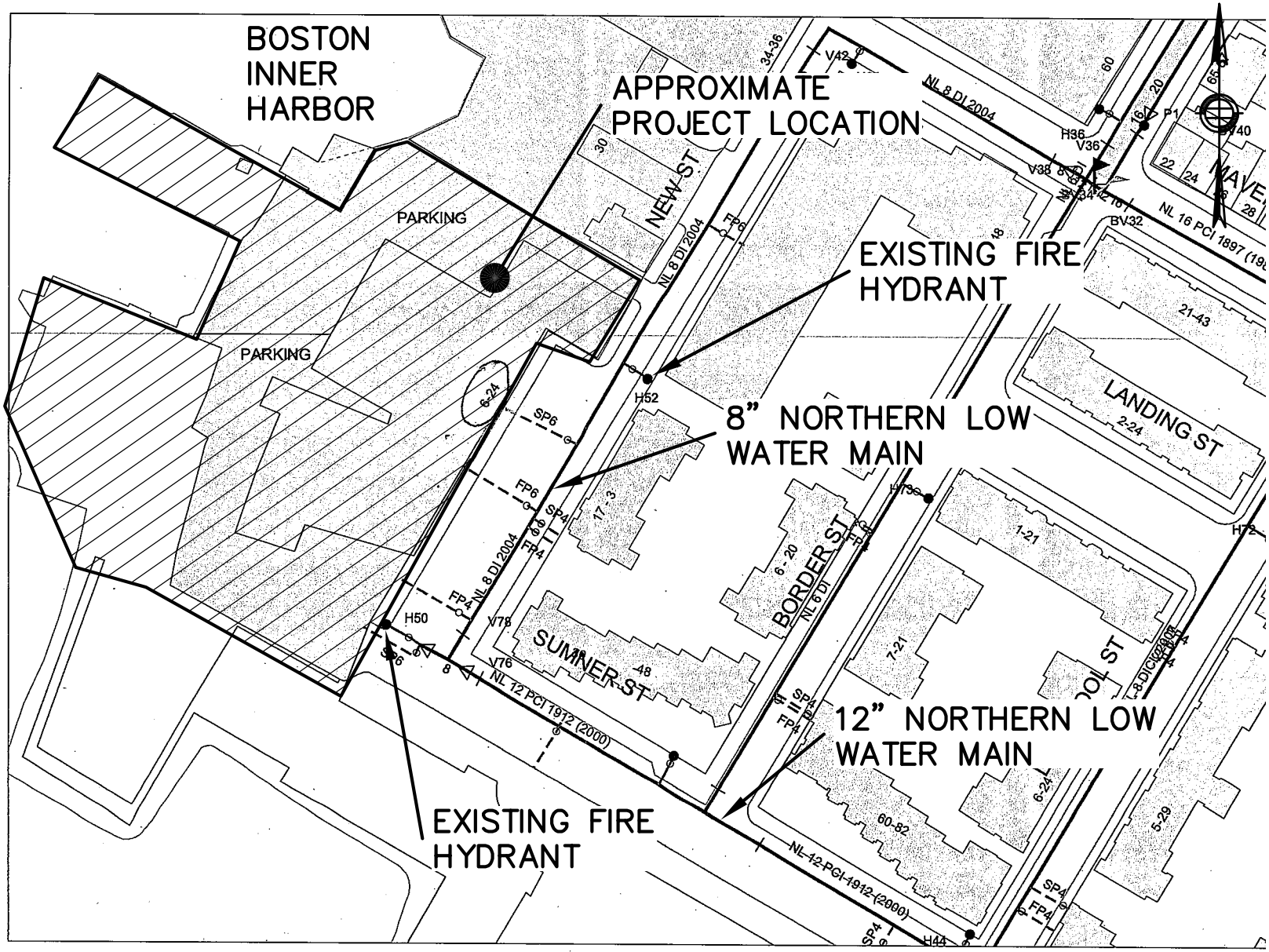
Standard #10: All illicit discharges to the stormwater management system are prohibited.

Compliance: The long-term pollution prevention plan will include measures to prevent illicit discharges. An Illicit Discharge Compliance Statement will be submitted prior to the discharge of any stormwater to post-construction BMP's.

6.5 ENERGY AND TELECOMMUNICATIONS

The natural gas service for this development will be obtained off a gas main in New Street. The electrical and telecommunication services for this development will connect to available services in New Street.

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EXISTING WATER SYSTEM
NEW STREET DEVELOPMENT
6-24 NEW STREET BOSTON, MASSACHUSETTS

PREPARED FOR:
STEFFIAN BRADLEY ARCHITECTS
100 SUMMER STREET BOSTON, MASSACHUSETTS 02110

PROJECT #	6729
FILE:	DPIR sketches.dwg
SCALE:	1" = 100'
DATE:	5-08
PROJECT MGR:	JMS
SURVEYOR:	
DRAFTED BY:	BS
CHECKED BY:	JMs

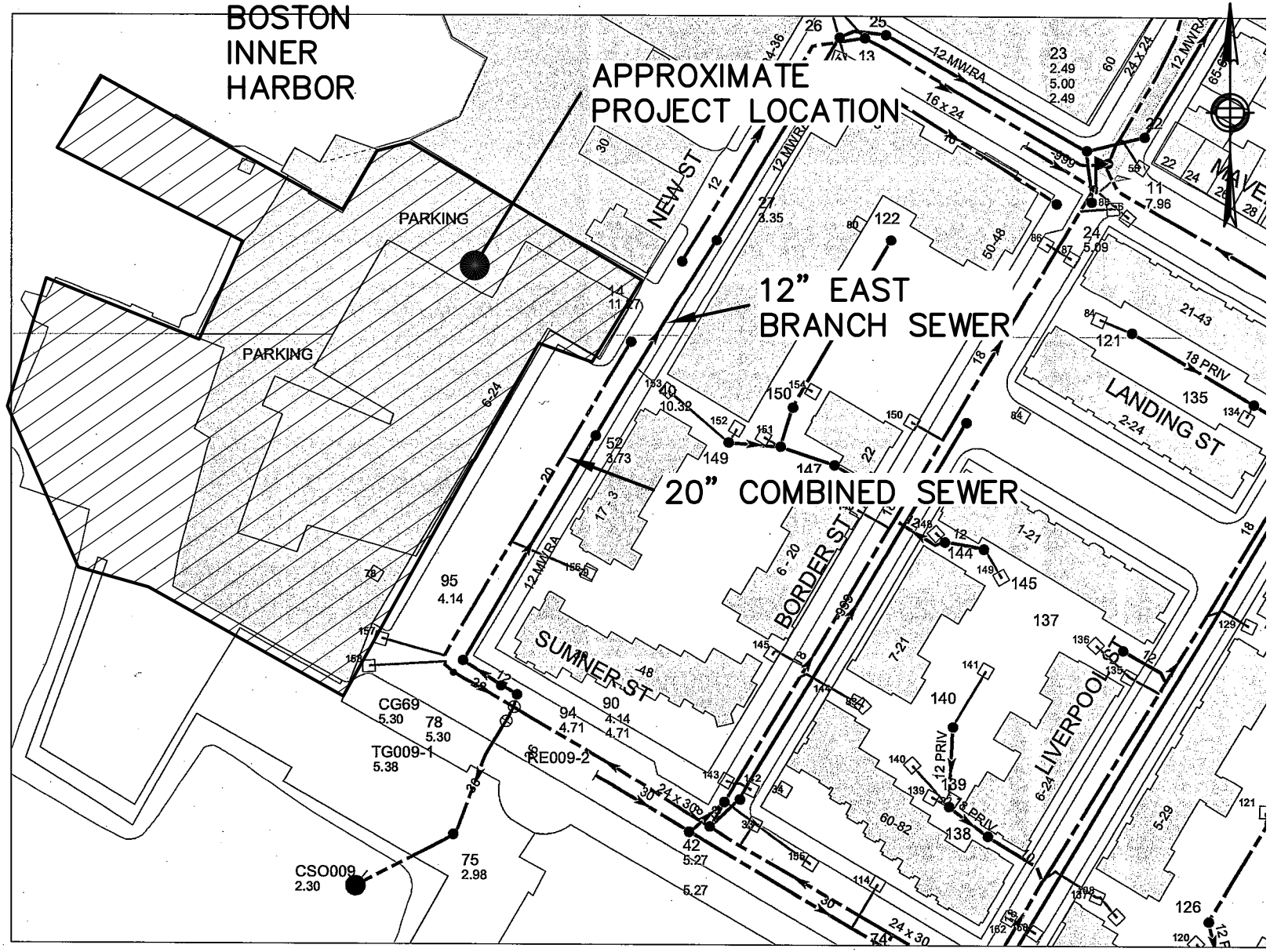
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Fig. 6-1

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One Inch Equals 100 Feet

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EXISTING SEWER AND DRAIN SYSTEM
NEW STREET DEVELOPMENT
6-24 NEW STREET BOSTON, MASSACHUSETTS

PREPARED FOR:
STEFFIAN BRADLEY ARCHITECTS
100 SUMMER STREET BOSTON, MASSACHUSETTS 02110

PROJECT #	6729
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SURVEYOR:	
DRAFTED BY:	BS
CHECKED BY:	JMs

SHEET:

Fig. 6-2

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Chapter 7

Mitigation

7.0 MITIGATION

7.1 INTRODUCTION

While the anticipated impacts associated with the Project are minimal, the proponent will implement a number of measures to mitigate potential environmental impacts. The proponent is committed to making the East Boston waterfront neighborhood an excellent place to live and visit. The proposed development has been carefully designed to be consistent with the East Boston Master Plan, the East Boston Municipal Harbor Plan (EBMHP), and the EBMHP Amendment that the BRA sent to the Secretary for approval.

The proponent or their successors will be responsible for proposed mitigation measures and will implement these measures in both the short and long term. The measures will help mitigate any impacts from demolition and construction and from the daily use and operation of the development after it is complete. Clear mitigation commitments may be found in Appendix 2, Draft Section 61 Finding, of this DEIR/DPIR.

The following section describes the project specific mitigation measures proposed by the proponent.

7.2 TRANSPORTATION

7.2.1 TRANSPORTATION MITIGATION

The proponent proposes to improve traffic flow and pedestrian use along New Street by "regularizing" the street and reducing it from approximately 80-feet wide to approximately 35-feet wide, similar to other streets in the neighborhood. The reduced street width along with landscape improvements on the project side of New Street will make the street more inviting for pedestrians and easier to cross.

Pedestrian access to and around the site will also be improved by creating a seamless connection from the existing Harborwalk at LoPresti Park to the proposed Harborwalk at New Street. The proponent is committed to support development of the sidewalk connections from Sumner Street through LoPresti Park to the Harborwalk (see Section 7.3.7, Public Realm).

7.2.2 TRANSPORTATION DEMAND MEASURES

The Project Proponent is committed to implement or obligate its successor to implement travel demand management ("TDM") measures to reduce parking demand and dependence on single passenger automobiles and trips. TDM will be facilitated by the site's proximity to Maverick Square, allowing reduced auto use by residents

and increasing the opportunities for residents and visitors to walk and use transit. The Proponent or its successor will be prepared to take advantage of the Project's location close to the Maverick Square T Station in promotion to future residents. Building management will keep a supply of transit information (schedules, maps, fare information) at the management office and provide them upon request to building tenants.

The Proponent will work with the City to develop a TDM program appropriate to the Project and consistent with its level of impact. TDM measures for the Project may include, but are not limited to, parking space(s) for a car-sharing service such as Zipcar and secure bicycle parking for residents.

The Transportation Access Plan Agreement (TAPA) to be executed with the City as part of the Article 80 approvals will document the TDM and any other mitigation measures proposed by the Project Proponent.

7.3 ENVIRONMENTAL

The project will minimize impacts on the environment by mitigating air, noise, stormwater, and construction impacts.

7.3.1 AIR QUALITY

Mitigation measures to reduce impacts from the garages include several design and program considerations:

- Locate walkways and public use areas away from vented areas;
- Provide plantings around the vents to the extent possible to diffuse emissions;
- Provide parking space for a shared–use vehicle; and
- Install bicycle racks in the garage(s).

7.3.2 STORMWATER MANAGEMENT

The project has been designed to minimize potential stormwater impacts to the receiving waters of Boston Inner Harbor. The project will conform to the applicable DEP Stormwater Management Standards. Specific measures include:

- Identification of applicable reductions of Infiltration/Inflow to offset its wastewater generation and reduce or remove site runoff from the BWSC and the MWRA systems;
- Implementation of Best Management Practices (BMP) during construction;
- Removal of dilapidated timber piles within the watersheet of the project site; and

- Implementation of a stormwater management plan prepared in accordance with the applicable DEP Stormwater Policy.

7.3.3 NOISE

At this time, only visual screens are planned for the rooftop equipment, which will provide minimal noise mitigation. Since the rooftop equipment is not expected to exceed maximum allowable sound levels, no noise mitigation is proposed. Furthermore, appropriate low-noise mechanical equipment and noise control measures will be selected as necessary during the design of the project for all sensitive locations, such as LoPresti Park, to enhance compliance with the City of Boston Noise Ordinance and DEP Noise regulations.

7.3.4 CONSTRUCTION

A Construction Management Plan (CMP) will be submitted to the Boston Transportation Department (BTD) for review prior to the start of construction. The CMP will include detailed information on construction activities, specific construction mitigation measures and construction materials access and staging area plans to minimize impacts to the local community.

Construction methodologies that enhance public safety will be employed. Techniques such as barricades, walkways and signage will be used. The CMP will include such plans as construction worker commuting and parking, routing plans for trucking/barging and deliveries and control of noise and dust.

During the construction of the project, air quality will be temporarily affected by fugitive dust from construction activities and exhaust emissions from construction vehicles. Mitigation measures will be employed as necessary to minimize the potential impact of air pollutant emissions generated by project demolition and construction operations on all locations surrounding the project site.

Construction dewatering will be necessary to collect seepage into the excavation and to conduct work in the dry. Construction dewatering must be conducted within the perimeter wall system during basement excavation of the 6-story building below the water table and until the structure has sufficient dead weight to resist the hydrostatic uplift forces. Groundwater observation wells will be installed on and around the site during project design to monitor area groundwater levels, establish pre-construction conditions and facilitate monitoring during construction.

The general contractor will obtain a National Pollutant Discharge Elimination System Permit (NPDES) storm water permit and implement Best Management Practices (BMPs) to minimize pollutant runoff so as to be consistent with the NPDES Permit. The contractor will prepare a ″Storm Water Pollution Prevention Plan for Construction

Activities" (SWPPP) and will implement and maintain a program for site erosion control and storm water/groundwater discharge during construction. It will be consistent with the NPDES requirements for the temporary management of storm water during construction and will include the testing and performance requirements stipulated in the permit, as well as an on-site erosion control plan. BMPs will include such measures as:

- Complying with all applicable federal, state, and city codes, ordinances and regulations governing the on-site discharge of construction dewatering effluent;
- Using hay bales and silt fencing to prevent silt or soil from entering existing catch basins;
- Using temporary wheel wash areas within the site;
- Using temporary gravel entrance berms at the main exits from the site;
- Isolating and protecting stockpiled materials;
- Monitoring the proper use of tarpaulin covered trucks;
- Preventing/Controlling truck spillage; and
- Cleaning the adjacent portions of city streets entering and exiting the project.

7.3.5 WETLANDS

The project has been designed to avoid and/or minimize impacts to wetland resources areas. The existing dilapidated piers and associated timber piles will be removed from the watersheet to improve navigation, and reduce debris in the Harbor. This clean up will restore over 25,000 square feet of Land Under Ocean (LUO) as well as increase navigable area in Boston Harbor.

Dredging will be conducted in accordance with appropriate conditions on timing, duration and methodology as approved by regulating federal, state and local agencies. This dredging will remove a substantial amount of accumulated debris from the harbor bottom and improve the habitat.

7.3.6 HISTORIC RESOURCES

As mitigation for the proposed project, the proponent will:

- Seek to ensure that information from potential archaeological resources is not lost as a result of the project; and
- Provide interpretive signage along the waterfront that will highlight the history of the site.

Furthermore, the proponent has recently restored the sea walls, which are now in good condition and structurally sound.

7.3.7 PUBLIC REALM

As a measure to improve pedestrian use and access to LoPresti Park, the proponent anticipates committing to contribute $25,000 in matching funds towards the development of a master plan for LoPresti Park, along with two other abutting property owners, at such time as the Boston Parks and Recreation Commission has secured matching public dollars for the master plan.

7.4 WATERWAYS

The project incorporates a site layout, building designs, and a program of interior and exterior spaces that serve to enhance the public rights in tidelands and promote vastly greater public use and enjoyment of the site. Enhancement measures include:

- The project will build an approximately 500-foot long Harborwalk along the waterfront side of the site. It will connect to the Harborwalk on the south side of the site within LoPresti Park that will ultimately extend 2.4 miles from the Harborside Hyatt Hotel to Border Street.
- The project will provide new public access to and along the water in areas inaccessible to the public for decades, enhancing the East Boston waterfront.
- The project will enhance the Sumner Street and New Street view corridors.
- Interpretive exhibits and displays will enhance the pedestrian experience along the Harborwalk and waterfront areas in accordance with the EBMHP Amendment.
- The project will provide a water taxi landing and possible marine service vessel dock on the Designated Port Area (DPA) portion of the watersheet. A water taxi waiting area will be located on the adjacent wharf.
- A marina will provide the public with greater access to the waters of Boston Harbor and beyond.
- Dilapidated timber piles within the watersheet of the project site will be removed.
- Vehicle access to the DPA portion of the site will be provided.

Approximately 1,200 square feet of the ground floor of the 6-story building and of the parking area on the south side of the site will be made available for public use as part of the reconfigured FPA area in accordance with the EBMHP Amendment.

Appendix 1

Response to Comments

Response to Comments on the Expanded Environmental/Project Notification Forms

MEPA Certificate and BRA Scoping Determination

Letter	Scope
MEPA (M)	Massachusetts Executive Office of Energy and Environmental Affairs, MEPA, Ian A. Bowles, Certificate Massachusetts Executive Office of Energy and Environmental Affairs, MEPA, Ian A. Bowles, Final Record of Decision (FROD)
BRA (B)	Boston Redevelopment Authority

Comments Received:

State

Letter	Commenter
Letter 1	Massachusetts Coastal Zone Management/Bureau of Underwater Archeology, Victor T. Mastone
Letter 2	Massachusetts Coastal Zone Management, Leslie-Ann McGee
Letter 3	Massachusetts Department of Conservation and Recreation, Eric Carlson
Letter 4	Massachusetts Department of Environmental Protection/NERO, John D. Viola
Letter 5	Massachusetts Division of Marine Fisheries, Paul J. Diodati
Letter 6	Massachusetts Historical Commission, Brona Simon
Letter 7	Massachusetts Historical Commission, Brona Simon
Letter 8	Massachusetts Water Resources Authority, Marianne Connolly

City

Letter 9	Boston Environment Department, Bryan Glascock
Letter 10	Boston Fire Department, Dennis L, Keeley
Letter 11	Boston Parks and Recreation Department, Ken Crasco
Letter 12	Boston Public Works Department, Bob Giers
Letter 13	Boston Redevelopment Authority, David Carlson
Letter 14	Boston Redevelopment Authority, Valerie Gingrich
Letter 15	Boston Redevelopment Authority, Katie Pedersen
Letter 16	Boston Transportation Department, Robert D'Amico

Organizations/Private

Letter 17	The Boston Harbor Association, Vivien Li
Letter 18	The Boston Harbor Association, Vivien Li
Letter 19	Rose Marie Mortorana
Letter 20	Pepe & Hazard, Harlan M. Doliner
Letter 21	Trinity Financial, James Keefe

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
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November 1, 2007

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: New Street Development
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EOEA NUMBER	: 14102
PROJECT PROPONENT	: New Street Realty Trust
DATE NOTICED IN MONITOR	: September 25, 2007

Pursuant to the Massachusetts Environmental Policy Act (M.G. L., c. 30, ss. 61-62H) and Sections 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of an Environmental Impact Report (EIR). In a Draft Record of Decision (DROD) also issued today, I propose to grant a Phase 1 Waiver to allow the proponent to initiate Phase 1 of the project prior to completion of an EIR for the entire project.

Project Description

As described in the Expanded Environmental Notification Form (ENF), the proposed project consists of the redevelopment of a waterfront site in East Boston. Phase 1 of the project consists of redevelopment and expansion of the existing 9-story building to create 148 residential units, construction of a 2-level parking garage to the north of the building, demolition of three existing buildings, construction of a Harbor Walk connection along the waterfront with a connection to LoPresti Park, construction of a water taxi landing in the Designated Port Area (DPA) and water taxi waiting area adjacent to the DPA, removal of existing pile fields, construction of a DPA vehicle access route from New Street, creation of surface parking in the southeastern area of the site and creation of lawn and open space on the remainder of the site.

Phase 2 will include construction of a 6-story building to provide 62 residential units or 106 hotel/extended stay units, an underground parking garage, construction of a single story building for a restaurant or other Facility of Public Accommodation (FPA), construction of a recreational marina to the south of the DPA and dredging of approximately 2,300 cubic yards (cy) to support the marina.

The 3.93-acre site is located in the southwestern corner of East Boston on the waterfront. It is bound by New Street and Maverick Landing to the east, LoPresti Park to the south, Boston Inner Harbor to the west and the Boston Towing and Transportation Companies property to the north. It is located in close proximity to Maverick Square and the MBTA's Blue Line Maverick Station. The site includes 50,434 sf of filled tidelands, 84,547 sf of flowed tidelands and 36,150 sf of uplands. These include private and Commonwealth tidelands. The northern half of the watersheet adjacent to the project is designated as a DPA. The site is located within the New Street Complex which is listed in the Inventory of Historic and Archaeological Assets of the Commonwealth. It contains a 9-story warehouse, a 5 story warehouse, a 3-story building, accessory structures, dilapidated wharves and piers. The site is largely comprised of impervious surfaces and untreated stormwater flows into Boston Harbor.

Permitting/Jurisdiction

The project is undergoing MEPA review and subject to preparation of a mandatory EIR pursuant to Section 11.03 (3)(a)(5) because it requires a state permit and consists of new non-water dependent use or expansion of an existing non-water dependent structure provided the use or structure occupies one or more acres of waterways or tidelands. The project requires a Chapter 91 License, a 401 Water Quality Certificate, and a Temporary Construction Dewatering Discharge Permit from the Department of Environmental Protection (MassDEP). It requires approval of an amendment to the Municipal Harbor Plan (MHP) by the Executive Office of Energy and Environmental Affairs (EEA) and review by the Massachusetts Historical Commission (MHC). It is subject to federal consistency review by Coastal Zone Management (CZM). Also, the project is subject to Article 80 Large Project Review by the Boston Redevelopment Authority (BRA), requires the development of a Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP) for review by the Boston Transportation Department (BTD) and requires an Order of Conditions from the Boston Conservation Commission (and a Superseding Order of Conditions from DEP in the event the local Order is appealed).

Potential environmental impacts associated with the project include .9 acres of nonwater dependent use of filled tidelands, generation of 2,219 average daily vehicle trips (adt), use of 39,100 gallons per day (gpd) of water and generation of 35,510 gpd of wastewater. In addition, it will alter 14,100 sf of Land Under the Ocean, 100 sf of DPA, 100 sf of Fish Runs and 30,800 sf of Land Subject to Coastal Storm Flowage (LSCSF). Proposed measures to avoid, minimize and mitigate impacts include the following: a .5 acre reduction in impervious surfaces, improvements to the stormwater management system, provision of a water taxi and landing area, extension of the Harbor Walk and creation of new landscaped areas and open space. It is the proponent's intent for the design and programming of the site to create a waterfront destination that will increase use and enjoyment of the waterfront.

Because the proponent is not seeking financial assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required state agency permits, and that may cause significant Damage to the Environment. In this case, the subject matter of the required state permits (i.e. the Chapter 91 License) is sufficiently broad to confer MEPA jurisdiction over virtually all of the potential environmental impacts of the project.

Phase 1 Waiver Request

The proponent has requested a waiver that will allow the proponent to proceed with Phase 1 of the project prior to preparing an EIR for the entire project. An Expanded ENF was submitted in conjunction with this request that identifies the environmental impacts of the project and describes measures to be undertaken by the proponents to avoid, minimize and mitigate project impacts. A separate letter that identifies how the project satisfies the criteria for a Phase 1 Waiver (dated September 17, 2007) was provided to MEPA and the distribution list.

Joint MEPA/BRA Review

The proponent has identified its intention to coordinate MEPA review of this project with the local review procedure conducted by the Boston Redevelopment Authority (BRA) in accordance with Article 80 of the Boston Zoning Code. City review will also require review and approval of a Transportation Access Plan Agreement (TAPA) and a Construction Management Plan (CMP) by the Boston Transportation Department (BTD). The proponent will prepare a joint Project Impact Report (PIR)/EIR that addresses the requirements of both MEPA and the BRA. The proponent should coordinate this joint review process with both agencies to establish the necessary review periods.

As noted previously, the project, as proposed, would require an amendment to the MHP and the proponent has indicated that it will work with the City to amend the MHP. In accordance with the MHP regulations at 301 CMR 23.04, such an amendment requires a public review process, prior to a decision on the amendment by the Secretary of Environmental Affairs. The public process must be coordinated by the City of Boston under the guidance of CZM. M.1

The proponent has the ability to coordinate the MEPA and MHP amendment processes to provide a timely and efficient mechanism to review project design, programming, and decision-making. Comment letters indicate that the MHP Amendment should be obtained prior to filing of the EIR. The Draft EIR should be used as the vehicle for publishing a public hearing draft of the City's proposed amendment(s). Second, the Final EIR should not be submitted until the MHP process has been completed to ensure that all relevant terms and conditions of this approval effectively inform the MEPA review process.

SCOPE

The EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this scope. It should include a copy of this Certificate and all comment letters. The format of the EIR can be largely determined by this Certificate and the requirements of Article 80 and the scope issued by the BRA. Impacts and mitigation associated with the full-build of the project should be included in the EIR. M.2

Project Description and Permitting

The EIR should include a detailed description of the project, and should briefly describe each state agency action required for the project and each phase of the project. It should demonstrate how the project is consistent with applicable performance standards. The EIR should contain sufficient information to allow the permitting agencies to understand the environmental consequences of their official actions related to the project. M.3

The EIR should identify and explain project phasing. It should discuss the project's consistency with the Commonwealth's Sustainable Development Principles and Executive Order 385 – Planning for Growth and the Metropolitan Area Planning Council's (MAPC) Metro Plan 2000. It should discuss the project's consistency with zoning and the MHP and identify the process for addressing inconsistencies (i.e. through a variance or Planned Development Area (PDA) designation).

The EIR should include a conditions plan at a suitable scale (e.g. 1" = 40'), that includes the watersheet, mean high and low water marks, all flood zones as currently identified by FEMA and detailed existing topography. The EIR should include an overlay of the proposed project (at the same scale) to compare the location of proposed structures and proposed topography to the existing features. Scaled plans should be provided to support evaluation of the proposed redevelopment consistent with the dimensional requirements of the waterways regulations.

Alternatives Analysis

Although this project will require an Amendment to the MHP and is not entirely consistent with the dimensional and use requirements of the Chapter 91 Program, comments from state agencies and others have not identified the need to evaluate an alternative that is compliant with local zoning and the MHP. There appears to be an understanding of the constraints posed by the project site and support for redeveloping this area of the waterfront. Therefore, I am not requiring analysis of additional alternatives in the EIR. The EIR should evaluate the No Build Alternative and the Preferred Alternative in the EIR. The EIR should identify the impacts of each of the alternatives including impacts on tidelands, open space and traffic. The alternatives analysis should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which the proponent plans to avoid, minimize or mitigate Damage to the Environment to the maximum extent feasible. M.4

Sustainable Design

The proponent has stated in the ENF that it intends to meet or exceed the Energy Star Homes program standards for energy efficiency. In addition, it will be required to meet the City of Boston's zoning ordinance requirements for Green Buildings (Article 37) and will construct a LEED Certifiable building. The EIR should identify how the project will be designed and constructed to comply with the City's program. M.5

Chapter 91/Tidelands

If well planned and designed, this project could bring vitality and pedestrian activity to complement recently completed and planned public and private investments in this area. The EIR should identify how the project will improve the parcel's connectivity to public resources and open space surrounding it and serve to complement existing uses. It should identify how the proponent will manage potential conflicts with adjacent port uses. M.6 M.7

Municipal Harbor Plan

The Expanded ENF indicates that full-build of the project will require a zoning change and an amendment to the MHP. The Secretary's 2002 Decision on the City of Boston's East Boston MHP anticipated an amendment to address site-specific issues for properties within the planning area, including the New Street Development project site. The East Boston MHP, presently under development, will request substitute provisions to the minimum use limitations and numerical standards of the Waterways Regulations governing nonwater-dependent projects on tidelands. The project appears to require two substitute provisions: 1) allowing FPTs within 100 feet of the project shoreline and 2) allowing building heights, in excess of those allowed under the Waterways Regulations, closer to the water's edge. M.8

Comments from state agencies identify issues that need to be addressed, including the further development of mitigation, but the comments do not identify concerns with the full-build of the project or the proponent's intention to seek an Amendment to the MHP. MassDEP comments indicate that the 527 square feet (sf) of Facilities of Private Tenancy (FPT) associated with Phase 1 of the project must be reprogrammed consistent with Chapter 91 requirements and I have incorporated this condition into the DROD. The proponent should review the comments from state agencies and ensure that alternatives and project plans address the issues identified by the agencies. M.9

Designated Port Areas

On April 23, 2003, CZM issued its Decision for the East Boston DPA Boundary Review. The Designation Decision removed the DPA designation from the land area of the site, leaving the northerly portion of the watersheet in the DPA on the condition that redevelopment of the site would include the following: removal or restoration of all on-site piles within the entire project site; reconstruction of the deteriorated sections of the bulkhead; a permanent vehicular access route from New or Summer Streets to the Water-Dependent Use Zone and DPA; lease forms or deed notifications of pre-existing water-dependent industrial operations nearby; and non-water

dependent facilities, which are designed in a manner to prevent significant conflict with water-dependent facilities, which reasonably can be expected to locate on or near the project site. The Expanded ENF outlines the proonent's commitment to fulfill these requirements. Draft Section 61 Findings should be prepared for consideration by DEP during project permitting to ensure these commitments are secured in Phase 1. The proponent should carefully consider, and respond in the EIR, to comments from The Boston Harbor Association and Pepe and Hazard (on behalf of Boston Towing and Transportation Companies, Inc.) regarding support of DPA uses and minimization of conflict between existing and future uses. M.10 M.11

Public Access

The EENF states that the project will provide approximately 500 linear feet of Harborwalk, a connection to LoPresti Park and two public viewing areas along the waterfront to improve public access to the waterfront.

The EIR should identify preliminary designs, permitting requirements, and maintenance needs to support the evaluation of mitigation elements. The EIR should provide more detail regarding the size and use of the proposed water taxi structure, the use and design of the restaurant (or other FPA) and the landscape design of the open space. In particular, the proponent should identify additional information regarding the design of the Harbor Walk and indicate whether recommendations included in comment letters can be accommodated. The EIR should identify interim and final finishes for the Harbor Walk, indicate whether it will be widened to 12 feet, identify how the connection to LoPresti Park will be treated, indicate whether the cantilevered section of the Harbor Walk can be eliminated and indicate whether a path can be created from the Harbor Walk terminus to New Street. M.12

Wetland Resources

The project will result in a net decrease in impervious surfaces on the site and will include a Stormwater Management System to collect and treat stormwater. The EENF states that the proposed marina activities will require the dredging of approximately 2,300 cubic yards of material adjacent to the southern wharf. In addition, it includes construction of below grade parking within the 100-year floodplain (zone A2, with a base flood elevation of 10 NGVD).

The EIR should include plans that delineate all applicable resource area boundaries including riverfront areas, buffer zones, 100-year flood elevations, priority and/or estimated habitat, wetland replication areas, and waterways. The EIR should quantify the project's estimated impact on each resource area. It should describe the nature of all impacts that cannot be avoided and whether they are temporary or permanent in nature. The EIR should confirm that all feasible methods to reduce impervious surfaces, including parking supply/design have been explored. M.13

The EIR should present drainage calculations and detailed plans for the management of stormwater. It should include a detailed description of the proposed drainage system design, including a discussion of the alternatives considered along with their impacts. The EIR should identify the quantity and quality of flows. The rates of stormwater runoff should be analyzed for M.14

the 10, 25 and 100-year storm events. The EIR should address the performance standards of DEP's Stormwater Management Policy and demonstrate that the design of the drainage system is consistent with this policy.

The EIR should provide information on the dredging methods to be used, the volume of material to be dredged, the proposed disposal site and alternatives, and associated mitigation measures. The proponent should consult with MassDEP, the Division of Marine Fisheries and the Boston Conservation Commission regarding in-water work. The EIR should propose and include commitments to implement appropriate mitigation measures based on these consultations. M.15

Comments from the Department of Conservation and Recreation identify concern with the below grade parking and note that the structure is likely to be subject to massive hydrostatic forces. The structure must be constructed consistent with the State Building Code (Sixth Edition, Section 3107.0) requirements. In addition, the proponent should consider the FEMA Technical Bulletin on Non-Residential Floodproofing - Requirements and Certification. The EIR should respond to the concerns identified by DCR and demonstrate that the project will conform with regulatory standards and requirements. M.16

Traffic and Transportation

The ENF states that the project will generate a maximum of 2,219 average daily vehicle trips (adt) on a weekday based on Institute of Transportation Engineers (ITE) unadjusted trip rates. Because of its proximity to transit and commercial areas, the project has the potential to minimize vehicle trips. To build on this potential, the proponent should work to minimize the amount of proposed parking and develop a strong Transportation Demand Management (TDM) Program. M.17

The EIR should include the Traffic Impact Study prepared in accordance with a scope to be issued by the BRA and the Boston Transportation Department (BTD). It should identify appropriate mitigation measures for areas where the project will have a direct impact on traffic operations. M.18

Water Use

The proposed project will use approximately 39,100 gpd of water. Water will be provided to the site by the Boston Water and Sewer Commission (BWSC) through a new connection to the existing 12-inch water main in New Street. The EIR should include plans illustrating the proposed changes to the existing system and provide an updated on its consultations with the BWSC. The EIR should outline the proponent's efforts to reduce water consumption. M.19

Wastewater

The proposed project will generate approximately 35,510 gpd of wastewater. Because the generation is between 15,000 gpd and 50,000 gpd, the proponent is required to file a certification statement with MassDEP. The Expanded ENF states that the sewer system has sufficient capacity to accommodate the increase in flows from the project. It indicates that wastewater will be discharged to the 12-inch combined sewer in New Street/Summer Street managed by the Boston Water and Sewer Commission (BWSC).

The EIR should identify the wastewater generation rates for each facility and it should demonstrate that calculation of the rates are consistent with the sewer extension and connection regulations (314 CMR 7.00). Comments from the MWRA indicate that the 12-inch sewer is an MWRA interceptor and recommend that the project connect to the BWSC 20-inch that runs along the project site. Comments from MassDEP and the MWRA indicate that the proponent will be expected to eliminate extraneous water from the system (Infiltration/Inflow (I/I)), or reduce stormwater discharge, at a minimum ratio of 4:1 (approximately 140,840 gpd for this project). I note that this ratio may be increased if specific flow constrictions/overflows already exist in the sewershed to which the new flow is added. MWRA comments indicate that the I/I reductions and a commitment to remove site runoff from the BWSC and MWRA systems should be conditions of the Phase 1 Waiver and I have included these in the DROD. The proponent should coordinate closely with the MWRA, MassDEP and BWSC regarding adequate mitigation. M.20 M.21

Groundwater/Contaminated Soils

Dewatering of the construction site should include monitoring to avoid significant impacts to groundwater levels. The EIR should summarize pre-construction groundwater conditions and outline how it will monitor groundwater levels (on- and off-site). In addition, the EIR should address how contamination encountered during construction will be addressed and compliance with the Massachusetts Contingency Plan (MCP) will be achieved. M.22

Historic Resources

The ENF indicates that the site lies within the New Street Complex which is listed in the Inventory of Historic and Archaeological Assets of the Commonwealth. Comments from MHC and the Board of Underwater Archaeologists (BUAR) indicate that the site has the potential to contain archaeological sites with classes of vessels of which our knowledge is severely limited and, thus, are potentially historically and archaeologically significant. The proponent should conduct a reconnaissance historic and archaeological survey including comprehensive documentary research to trace the land use and development history of the property. The survey should be conducted as part of the Phase 1 project. The proponent should refer to comments and consult with MHC and BUAR to develop the scope of the survey. M.23

Construction

The EIR should present a discussion on potential construction period impacts (including but not limited to noise, vibration, dust, and traffic maintenance) and analyze feasible measures, which can avoid or eliminate these impacts. All demolition activities must comply with both Solid Waste and Air Pollution Control regulations (M.G.L. Chapter 40, Section 54). M.24

Comments from the Division of Marine Fisheries (DMF) indicate that no in-water, silt producing activities should be allowed from February 15 through June 30 to protect winter flounder spawning, juvenile development and foraging habitat and anadromous fish passage and refuge habitat. M.25

Given the close proximity to existing residences, the proponent should consider participation in DEP's Clean Air Construction Initiative to mitigate diesel emissions associated with the construction period. The EIR should present a discussion of measures to implement construction-period diesel emission mitigation including retrofit of construction equipment and use of on-road low-sulfur diesel (LSD) fuel. M.26

Mitigation

The EIR should include a separate chapter on mitigation measures. It should develop transportation and parking demand management measures to reduce single passenger automobile trips and encourage walking and transit use. This section should include a Draft Section 61 Finding for all state permits. The Draft Section 61 Finding should contain a clear commitment to mitigation, an estimate of the individual costs of the proposed mitigation, and the identification of the parties responsible for implementing the mitigation. A schedule for the implementation of mitigation should also be included. M.27

Comments

The EIR should respond to the comments received to the extent that the comments are within the subject matter of this scope. Each comment letter should be reprinted in the EIR. I defer to the proponent as it develops the format for this section, but the Response to Comments section should provide clear answers to questions raised. M.28

Circulation

The EIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to City of Boston officials. A copy of the EIR should be made available for public review at the Boston Public Library. The proponent should provide a hard copy of the EIR to each state and city agency from which the proponent will seek permits or approvals.

November 1, 2007
Date

Ian A. Bowles

Comments received:

10/19/07	Coastal Zone Management (CZM)/Board of Underwater Archaeological Resources (BUAR)
10/15/07	CZM
10/25/07	Department of Environmental Protection/Northeast Regional Office (MassDEP NERO)
10/15/07	Department of Conservation and Recreation (DCR)/Flood Hazard Management Program
10/25/07	Division of Marine Fisheries (DMF)
10/3/07	Massachusetts Historical Commission (MHC)
10/19/07	MHC (second letter)
10/24/07	Massachusetts Water Resources Authority (MWRA)
10/25/07	Pepe & Hazard for Boston Towing and Transportation Companies
10/29/07	The Boston Harbor Association

IAB/CDB/cdb

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December 3, 2007

FINAL RECORD OF DECISION

PROJECT NAME	: New Street Development
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EOEA NUMBER	: 14102
PROJECT PROPONENT	: New Street Realty Trust
DATE NOTICED IN MONITOR	: November 12, 2007

Pursuant to the Massachusetts Environmental Policy Act (MEPA) (G.L.c.30, ss. 61-62H) and Section 11.11 of the MEPA regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (ENF) and hereby **grant** a waiver that will allow the proponent to proceed with Phase 1 of the project prior to preparing a mandatory Environmental Impact Report (EIR) for the entire project.

Project Description

As described in the Expanded Environmental Notification Form (ENF), the proposed project consists of the redevelopment of a waterfront site in East Boston. Phase 1 of the project consists of redevelopment and expansion of the existing 9-story building to create 148 residential units, construction of a 2-level parking garage to the north of the building, demolition of three existing buildings, construction of a Harbor Walk connection along the waterfront with a connection to LoPresti Park, construction of a water taxi landing in the Designated Port Area (DPA) and water taxi waiting area adjacent to the DPA, removal of existing pile fields, construction of a DPA vehicle access route from New Street, creation of surface parking in the southeastern area of the site and creation of lawn and open space on the remainder of the site. Phase 2 will include construction of a 6-story building to provide 62 residential units or 106 hotel/extended stay units, an underground parking garage, construction of a single story building

for a restaurant or other Facility of Public Accommodation (FPA), construction of a recreational marina to the south of the DPA and dredging of approximately 2,300 cubic yards (cy) to support the marina.

The 3.93-acre site is located in the southwestern corner of East Boston on the waterfront. It is bound by New Street and Maverick Landing to the east, LoPresti Park to the south, Boston Inner Harbor to the west and the Boston Towing and Transportation Companies property to the north. It is located in close proximity to Maverick Square and the MBTA's Blue Line Maverick Station. The site includes 50,434 sf of filled tidelands, 84,547 sf of flowed tidelands and 36,150 sf of uplands. These include private and Commonwealth tidelands. The northern half of the watersheet adjacent to the project is designated as a DPA. The site is located within the New Street Complex which is listed in the Inventory of Historic and Archaeological Assets of the Commonwealth. It contains a 9-story warehouse, a 5-story warehouse, a 3-story building, accessory structures, dilapidated wharves and piers. The site is largely comprised of impervious surfaces and untreated stormwater flows into Boston Harbor.

Permitting/Jurisdiction

The project is undergoing MEPA review and subject to preparation of a mandatory EIR pursuant to Section 11.03 (3)(a)(5) because it requires a state permit and consists of new non-water dependent use or expansion of an existing non-water dependent structure provided the use or structure occupies one or more acres of waterways or tidelands. The project requires a Chapter 91 License, a 401 Water Quality Certificate, and a Temporary Construction Dewatering Discharge Permit from the Department of Environmental Protection (MassDEP). It requires approval of an amendment to the Municipal Harbor Plan (MHP) by the Executive Office of Energy and Environmental Affairs (EEA) and review by the Massachusetts Historical Commission (MHC). It is subject to federal consistency review by Coastal Zone Management (CZM). Also, the project is subject to Article 80 Large Project Review by the Boston Redevelopment Authority (BRA), requires the development of a Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP) for review by the Boston Transportation Department (BTD) and requires an Order of Conditions from the Boston Conservation Commission (and a Superseding Order of Conditions from DEP in the event the local Order is appealed).

Because the proponent is not seeking financial assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required state agency permits, and that may cause significant Damage to the Environment. In this case, the subject matter of the required state permits (i.e. the Chapter 91 License) is sufficiently broad to confer MEPA jurisdiction over virtually all of the potential environmental impacts of the project.

Summary of Potential Environmental Impacts

Potential environmental impacts associated with the project include .9 acres of nonwater dependent use of filled tidelands, generation of 2,219 average daily vehicle trips (adt), use of 39,100 gallons per day (gpd) of water and generation of 35,510 gpd of wastewater. In addition, it

will alter 14,100 sf of Land Under the Ocean, 100 sf of DPA, 100 sf of Fish Runs and 30,800 sf of Land Subject to Coastal Storm Flowage (LSCSF).

Summary of Proposed Mitigation

As noted previously, the project consists of redevelopment of a site that is currently underutilized and contains aging infrastructure. The Expanded ENF identifies a range of measures to ensure adequate environmental protection, rehabilitate aging infrastructure and improve access to the waterfront. The proponent is committed to the following measures:

- design and construction of LEED Certifiable buildings;
- construction of 750 linear feet of new public access on the site including construction of a 10-foot clear Harbor Walk with a connection to LoPresti Park;
- extension of the Sumner Street view corridor;
- construction of a water taxi landing in the Designated Port Area (DPA) and water taxi waiting area adjacent to the DPA;
- removal of existing pile fields;
- construction of a DPA vehicle access route from New Street;
- design, construction and maintenance of a stormwater management system consistent with the MassDEP Stormwater Management Policy;
- development of a groundwater monitoring system;
- creation of lawn and open space consistent with Chapter 91 requirements;
- measures to minimize construction period impacts; and
- recycling of 75% of construction and demolition debris.

Waiver Request

The proponent has requested a waiver that will allow the proponent to proceed with Phase 1 of the project prior to preparing a mandatory Environmental Impact Report (EIR) for the entire project. An Expanded ENF was submitted in conjunction with this request that identifies the environmental impacts of the project and describes measures to be undertaken by the proponents to avoid, minimize and mitigate project impacts.

Criteria for a Phase 1 Waiver

The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

(a) result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; and
(b) not serve to avoid or minimize Damage to the Environment.

The MEPA regulations at 301 CMR 11.11(4) state that, in the case of a partial waiver of a mandatory EIR review threshold that will allow the proponent to proceed with Phase 1 of the project prior to preparing an EIR, I shall base the finding required in accordance with 301 CMR 11.11(1)(b) on a determination that:

> (a) the potential environmental impacts of Phase 1, taken alone, are insignificant;
> (b) ample and unconstrained infrastructure facilities and services exist to support Phase 1;
> (c) the project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated; and
> (d) the agency action(s) on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

Findings

Based upon the information submitted by the proponent and after consultation with the state permitting agencies, I find that the Waiver Request has merit and that the proponent has demonstrated that the proposed project meets the standards for all waivers at 301 CMR 11.11(1). I find that strict compliance with the requirement to submit a mandatory EIR prior to completion of Phase 1 of the project would result in an undue hardship for the proponent because the Expanded ENF proposes measures to avoid and minimize Damage to the Environment and commits to completion of DPA requirements. In addition, I have conditioned this proposed Phase 1 Waiver to ensure it will comply with Chapter 91 regulations and adequately address environmental impacts. Requiring the resolution of the MHP Amendment prior to completion of Phase 1 is likely to significantly delay aspects of the project that do not necessarily require an MHP amendment. Therefore, the requirement for completion of an EIR prior to Phase 1 is not necessary and would not serve to avoid or minimize Damage to the Environment. In fact, advancement of the project will improve access to the waterfront through completion of the Harbor Walk and improvements to waterfront infrastructure. In accordance with 301 CMR 11.11(4), the latter finding is based on my determination that:

(a) the potential environmental impacts of Phase 1, taken alone, are insignificant.

The project consists of redevelopment of an existing site in close proximity to transit. The proposed design will reduce the amount of impervious surfaces on the site, improve existing infrastructure (including the stormwater management system), improve access to the waterfront and the DPA and includes construction of a LEED-certifiable building. The permitting process will provide sufficient opportunities to address any outstanding information requests or the development of additional, specific mitigation.

(b) ample and unconstrained infrastructure facilities and services exist to support Phase 1.

Because the project is a redevelopment project, the site contains existing water, sewer and other utility infrastructure. It is located in close proximity to existing transit and will introduce water transit to minimize impacts on local roadways. In addition, it will rehabilitate existing waterfront infrastructure and provide water transit.

(c) the project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated.

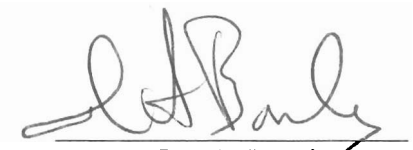
Phase 1 is a self-contained project that is not dependent upon completion of the full-build of the project. Its impacts can be permitted and mitigated separately from the full-build of the project. Permit review will confirm that the public access and open space measures associated with Phase 1 satisfy Chapter 91 requirements.

(d) the agency actions on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

The Expanded ENF has provided sufficient information to demonstrate that the project can adequately meet the performance standards and requirements of required state permits. The Chapter 91 License can be conditioned to ensure that the full-build of the project complies with MEPA and its implementing regulations. As a condition of the Phase 1 Waiver, the proponent must prepare draft Section 61 Findings outlining all the proposed mitigation measures associated with Phase 1 for consideration during permitting. Prior to submitting a Chapter 91 license application for Phase 1, the 527 square foot area of Facilities of Private Tenancy (FPT) must be reprogrammed as FPAs. In addition, the proponent must identify adequate reductions of Inflow/Infiltration (I/I) to offset its wastewater generation, remove site runoff from the Boston Water and Sewer Commission and the Massachusetts Water Resources Authority systems and the proponent must conduct a reconnaissance historic and archaeological survey as requested by MHC and the Board of Underwater Archaeologists (BUAR) as part of Phase 1. Finally, MassDEP should consider during project permitting whether a significant contribution to the LoPresti Park Master Plan, as recommended by The Boston Harbor Association, is appropriate based on the environmental impacts of the project. M.29 M.30

Conclusion

I have determined that this waiver request has merit, and issued a Draft Record of Decision (DROD), which was published in the Environmental Monitor on November 12, 2007 in accordance with 301 CMR 11.15(2), which began the public comment period. The public comment period lasted for 14 days and ended on November 26, 2007. No comments were provided on the DROD. Based on comments received on the ENF and consultation with the permitting agencies, I hereby **grant** the waiver requested for this project, which will allow the proponent to proceed with Phase 1 of the project prior to preparing a mandatory Environmental Impact Report (EIR) for the entire project, subject to the above findings and conditions.



December 3, 2007
Date

Ian A. Bowles

No Comments Received

IAB/CDB/cdb

MEPA Certificate	Executive Office of Environmental Affairs, Secretary Ian A. Bowles
M.1	The Municipal Harbor Plan (MHP) Amendment public review process was coordinated by the City of Boston and continues under the guidance of Massachusetts Office of Coastal Zone Management, which received an MHP Amendment request from the City in May, 2008. The Secretary of Energy and Environmental Affairs is anticipated to make an MHP Amendment decision in due course. A final EIR Certificate will not be anticipated until the MHP Amendment process has been completed.
M.2	All impacts and mitigation associated with the full build of the project are addressed in the DEIR/DPIR. Section 7, Mitigation Measures, provides a list of all mitigation measures, responsible parties, and a schedule for implementation. Appendix 2, Section 61 Finding specifically addresses the mitigation measures related to this project.
M.3	The detailed project description is found in Section 1. The Phase I plan is in Section 1. The project's consistency with the EO 385, the EBMHP, the EBMP, the Commonwealth's Sustainable Development Principles, and zoning are described in Section 1.
M.4	Project alternatives are described in Section 1.3.
M.5	Section 5.14 provides documentation of how the project is designed and constructed to meet the City of Boston's Article 37 requirements.
M.6	Section 3.0 provides a detailed discussion of tidelands issues including the project's compliance with Waterways regulations including the parcel's connectivity to public resources and open space surrounding it.
M.7	Compatibility with adjacent port uses are also addressed in Section 3.2.
M.8	Section 3.1.4 describes how the project complies with the substitutions requested in the BRA's EBMHP Amendment.
M.9	Section 3 describes responds to all issues from state agencies regarding the EBMHP Amendment. Phase I issues are addressed in Section 1.3 and in the Appendix 2, Draft Section 61 Finding.
M.10	See response to comment M.9.
M.11	Safety and security issues within the site and the adjacent Boston Towing property are described in Section 3.1. See also response to comment # 20.1 regarding the safety and security issues with the Boston Towing property.
M.12	Section 1 provides a description and graphic of the facilities of public accommodation including the Harborwalk and the water taxi waiting area.
M.13	Resource areas and an analysis of wetland impacts are in Section 5.10 of the DEIR/DPIR.
M.14	The DEIR/DPIR will include drainage calculations addressing both quality and quantity for the 10, 25, and 100-year storm events and a detailed storm water management plan, including a discussion regarding alternatives considered. The project will also comply with the latest MassDEP Stormwater Management Policy and current wetlands and 401 Water Quality Certification regulations.
M.15	See Section 5.10 regard dredging, associated impacts, and mitigation measures.

M.16	The structure will be constructed in conformance with State Building Code (Sixth Edition, Section 3107.) See Section 5.9, Flood Hazard Districts and response to comment # 3.1.
M.17	Section 4.0 includes a detailed assessment of present and future traffic volumes, trip generation estimates, and the proposed parking required for the project. A full discussion of transportation demand management measures is provided in the DEIR/DPIR, Section 6.
M.18	Section 4 of the DEIR/DPIR presents transportation issues and an analysis related to the Project. This analysis adheres to the Boston Transportation Department ("BTD") *Transportation Access Plan Guidelines* and the requirements of the Article 80 review guidelines. See also response to comment # 16.1.
M.19	Section 6 of the DEIR/DPIR indicates the proposed methods to provide water to the site from the BWSC system. Proposed changes to the BWSC system and proposed water conservation measures are indicated in this Section.
M.20	The proponent will file a certification statement with the MassDEP prior to construction. All new sanitary sewer connections will be performed in compliance with the BWSC and MWRA applicable requirements. The proponent will comply with the I/I mitigation measures as specified by the DEP and will work closely with the MWRA, MassDEP, and the BWSC accordingly.
M.21	The proponent will identify adequate reductions in I/I to offset its wastewater generation, and will remove site runoff from the BWSC and the MWRA systems. See also response to comments 8.1 through 8.4.
M.22	The groundwater will be monitored before, during, and post construction as described in this Section 5.8. Section 5.13 describes the construction methods, including dewatering, at the site, and Section 5.11 addresses how contamination at the site will be addressed.
M.23	The results of the reconnaissance historic and archaeological survey are in Section 5.16.
M.24	Construction impacts and measures to avoid or eliminate them are detailed in Section 5.13. The demolition activities will comply with both Solid Waste and Air Pollution Control regulations.
M.25	In-water construction activities will comply with the dates needed to protect winter flounder spawning areas, and the fish refuge and habitat for anadromous and catadromous fish. See Section 5.10 regarding impacts to wetland resources.
M.26	All construction equipment will have the required emission control equipment. Construction period diesel emission mitigation is described in Section 5.13.
M.27	Mitigation measures are in Section 7.0. Commitments to mitigation measures identified in the ENF/PNF are in Appendix 2 of the DEIR/DPIR.
M.28	Comments and responses are in Appendix 1 of the DEIR/DPIR.
M.29	Phase I mitigation measures are addressed in the Chapter 61 Finding in Appendix 2.
M.30	See response to comment # 17.6.

BOSTON REDEVELOPMENT AUTHORITY

SCOPING DETERMINATION
NEW STREET DEVELOPMENT

SUBMISSION REQUIREMENTS
FOR DRAFT PROJECT IMPACT REPORT (DPIR)

PROPOSED PROJECT:	NEW STREET DEVELOPMENT
PROJECT SITE:	6-26 NEW STREET, EAST BOSTON BOUNDED BY NEW STREET AND MAVERICK LANDING TO THE EAST, LoPRESTI PARK TO THE SOUTH, BOSTON INNER HARBOR TO THE WEST, AND THE BOSTON TOWING AND TRANSPORTATION PROPERTY TO THE NORTH
PROPONENT:	NEW STREET REALTY TRUST AND CRESSET DEVELOPMENT, LLC c/o CRESSET DEVELOPMENT, LLC 120 WATER STREET, 2ND FLOOR BOSTON, MA 02109
DATE:	MARCH 21, 2008

The Boston Redevelopment Authority ("BRA") is issuing this Scoping Determination pursuant to Section 80B-5 of the Boston Zoning Code ("Code") in response to a Project Notification Form ("PNF"), which New Street Realty Trust and Cresset Development, LLC (the "Proponent"), filed for the New Street project on September 17, 2007. Notice of the receipt by the BRA of the PNF was published in the *Boston Herald* on September 17, 2007, which initiated a public comment period with a closing date of October 17, 2007.

On September 14, 2006, in accordance with the BRA's policy on mitigation as outlined in Mayor Thomas M. Menino's Executive Order Relative to the Provision of Mitigation by Development Projects in Boston, the Proponent submitted a Letter of Intent for the redevelopment of a 3.93 acre property, which

includes land and watersheet, located at 6-26 New Street in East Boston (the "Proposed Project").

On September 15, 2006, letters soliciting Impact Advisory Group ("IAG") nominations for the Proposed Project were delivered to City Councilor Salvatore LaMattina, former State Senator Robert Travaglini, and the former State Representative Anthony Petruccelli, who is now the State Senator for the District. Additional letters seeking recommendations were delivered to the Office of Neighborhood Services and the City Councilors At-Large.

The letters sought nominations or recommendations to the IAG by September 22, 2006. City Councilor Salvatore LaMattina responded with a total of two (2) nominations. The Office of Neighborhood Services responded with a total of two (2) nominations. The BRA nominated four (4) people. On October 26, 2006, former State Senator Robert Travaglini, former State Representative Anthony Petruccelli, who is now the State Senator, and the four City Councilors At-Large declined the opportunity to make nominations. Following the election for the 1st Suffolk District State Representative seat, IAG nominations were sought from State Representative Carlo Basile. State Representative Carlo Basile nominated one (1) person to serve on the IAG.

Eight (8) individuals were appointed to the IAG and have been invited to participate in advising BRA staff on the determination and consideration of impacts and appropriate mitigation regarding the Proposed Project. The following list includes the names of the IAG members:

Pram Ekaputra
Kristin Langone
Rose Marie Martorana
Robert Pyles
Stephanie Richardson
Fran Rowan
Ian Shields
Bob Strelitz

The Notice of the receipt by the BRA of the PNF and the PNF were sent to the City's public agencies pursuant to Section 80A-2 of the Code, as well as to the IAG members. Pursuant to Section 80B-5.3 of the Code, a scoping session was held on October 2, 2007 with the City of Boston's public agencies at which time the Proposed Project was reviewed and discussed. Members of the IAG were also invited to attend the scoping session.

The Proponent conducted a publicly advertised public meeting on October 1, 2007 at the Maverick Landing Community Center, located at 31 Liverpool Street in East Boston. The community will continue to have an opportunity to give input regarding the Proposed Project during the Article 80-review process.

Comments received by the BRA during the comment period are included in **Appendices A, B, and C**. The DPIR should include complete responses to all comments included in **Appendices A, B and C** within the framework of the criteria outlined in the Scoping Determination. Written comments in response to the PNF received by the BRA from the City's public agencies are included in **Appendix A** and must be answered in their entirety.

Specifically, they are:

- David Carlson, Senior Architect, BRA, and Executive Director, Boston Civic Design Commission
- Kenneth Crasco, FASLA, Chief Landscape Architect, City of Boston Parks and Recreation Department
- Robert D'Amico, Senior Planner, City of Boston Transportation Department
- Bob Giers, City of Boston Public Works Department
- Valerie Gingrich, Waterfront Planner, BRA
- Bryan Glascock, Director, City of Boston Environment Department
- Dennis L. Keeley, Acting Fire Marshall, City of Boston Fire Department
- Katie Pedersen, Senior Project Manager/Environmental Review Specialist, BRA

Written comments in response to the PNF received by the BRA from the IAG are included in **Appendix B** and must be answered in their entirety. Listed in chronological order of date received, specifically they are from:

- Rose Marie Martorana - October 17, 2007
- Pram Ekaputra, Rose Marie Martorana, Robert Pyles, Stephanie Richardson, Fran Rowan and Ian Shields - October 19, 2007

Written comments in response to the PNF received by the BRA from the public are included in **Appendix C** and must be answered in their entirety. Listed in chronological order of date received, specifically they are from:

- James G. Keefe, Trinity Financial - October 17, 2007
- The Boston Harbor Association - October 29, 2007

The Scoping Determination requests information that the BRA requires for its review of the Proposed Project in connection with Article 80 of the Code, Development Review and Approval and other applicable sections of the Code.

I. PROJECT DESCRIPTION

The New Street project is located at 6-26 New Street in East Boston, and consists of 3.93 acres, of which approximately 2 acres are watersheet, and is bound by New Street and Maverick Landing to the east, LoPresti Park to the south, the Boston Inner Harbor to the west, and the Boston Towing and Transportation Property to the north (the "Project Site"). The Project Site includes land under water, filled tidelands and upland that contains four existing concrete buildings, specifically, a one, three, five, and a nine-story building, and two wharves. There are also several piers on the waterside of the Project Site.

The Project Site has historically been used for multiple commercial and industrial purposes. From the early 1900s to the 1950s, the Project Site was primarily used for cold storage. Following the 1950s, until the 1980s, confectionary companies occupied the buildings. Today, the buildings are intermittently used for commercial purposes.

In the late 1970s, the Commonwealth of Massachusetts placed a Designated Port Area ("DPA") restriction on portions of the Project Site, including portions of both the land as well as the watersheet. In April 2003, the Massachusetts Office of Coastal Zone Management removed the DPA designation from the land area of the Project Site, but retained the DPA designation on the northwest portion of the watersheet. One of the requirements of the removal of the DPA designation from the land area is that a vehicle access route to the DPA be provided within the Project Site.

As stated in the 2002 Municipal Harbor Plan for East Boston, it was anticipated that portions of the Project Site that are located within Chapter 91 jurisdiction would be included in the scope of a Municipal Harbor Plan amendment for the 2002 Municipal Harbor Plan for East Boston. Since the Proposed Project is phased and because Phase I does not require a Municipal Harbor Plan amendment, the Proponent applied for and received a Phase I Waiver through the Massachusetts Environmental Policy Act process (the "MEPA process"). The Phase I Waiver will allow the permitting of Phase I to occur while the MEPA and Municipal Harbor Plan amendment processes are completed for the entire Project Site.

The total gross floor area for the Proposed Project is 225,919 square feet with a total floor-area-ratio ("FAR") of approximately 2.6. The combined building

footprint is 40,598 square feet, which occupies 47% of the upland area. The Proposed Project involves two phases, which are described below.

Phase I involves the redevelopment of the existing nine-story building that will include a three-story addition, as well as the construction of a two-level parking garage to be located on the north side of the nine-story building. The two-level parking garage will contain up to 104 parking spaces, and will replace the existing three-story building. Stackers might be used to achieve this number of parking spaces. Once completed, the 12-story building, which will be approximately 162 feet tall, will contain approximately 148 residential units. The aforementioned vehicle access route to the DPA area, as well as the creation of 500 linear feet of new Harborwalk and two public viewing areas along the water's edge, which will improve public access to the waterfront and provide connections to LoPresti Park to the south, will be completed during this phase. Phase I also includes a water taxi landing in the DPA watersheet and a water taxi waiting area adjacent to the DPA, and the removal of existing pile fields. The existing five-story building will be razed and an interim surface parking area will be situated in its place. Open space is the final component of Phase I.

Phase II involves the construction of a new six-story, approximately 69 foot tall building, that will replace the existing one-story, and five-story buildings. The six-story building will either contain approximately 62, one and two-bedroom residential units, or 106 hotel or extended stay units. Either use option will include a two-level, underground parking garage, which will accommodate up to 121 vehicles (stackers might be used to achieve this number of parking spaces), and a restaurant or other type of facility of public accommodation that will be located on the waterside of the building's ground floor. A small recreational marina, which will be located along the southern wharf in the non-DPA watersheet, is also a component of Phase II. Approximately 2,300 cubic yards of material will have to be dredged to support the marina. Final landscape and Harborwalk finishes will be part of this phase.

II. PREAMBLE

The Proposed Project is being reviewed pursuant to Article 80, Development Review and Approval, which sets forth a comprehensive procedure for project review of the following components: transportation, environmental protection, urban design, historic resources, infrastructure systems, site plan, tidelands, and Development Impact Project, if any. The Proponent is required to prepare and submit to the BRA a Draft Project Impact Report ("DPIR") that meets the requirements of the Scoping Determination by detailing the Proposed Project's impacts and proposed measures to mitigate, limit or minimize such impacts. Since the Proposed Project is phased and because the Proponent applied for and

was granted a Phase I Waiver through the MEPA process, the Proponent may submit a DPIR for Phase I, and then a separate DPIR for Phase II. The intent of affording the Proponent the option to submit two separate DPIRs is to allow the permitting of Phase I to occur while the Municipal Harbor Plan amendment process takes place, which ultimately may affect the timing of when a DPIR can be submitted for Phase II. The DPIR shall contain the information necessary to meet the specifications of Section 80B-3 (Scope of Large Project Review; Content of Reports) and Section 80B-4 (Standards for Large Project Review Approval), as required by the Scoping Determination. After submitting the DPIR, the Proponent shall publish notice of such submittal as required by Section 80A-2. Pursuant to Section 80B-4(c)(i)(3), the BRA shall issue a written Preliminary Adequacy Determination ("PAD") within ninety (90) days. Public comments, including the comments of public agencies, shall be transmitted in writing to the BRA no later than fifteen (15) days prior to the date by which the BRA must issue its PAD. The PAD shall indicate the additional steps, if any, necessary for the Proponent to satisfy the requirements of the Scoping Determination. If the BRA determines that the DPIR adequately describes the Proposed Project's impacts and, if appropriate, proposed measures to mitigate, limit or minimize such impacts, the PAD will announce such a determination and that the requirements of further review are waived pursuant to Section 80B-5.4(c)(iv). Section 80B-6 requires the Director of the BRA to issue a Certification of Compliance indicating the successful completion of the Article 80 development review requirements before the Commissioner of Inspectional Services can issue any building permit for the Proposed Project. B.1

III. REVIEW/SUBMISSION REQUIREMENTS

In addition to full-size scale drawings, 55 copies of a bound booklet containing all submission materials reduced to size 8-1/2" x 11", except where otherwise specified, are required. The booklet should be printed on both sides of the page. In addition, an adequate number of copies must be available for community review. A copy of this scoping determination should be included in the booklet for review.

A. GENERAL INFORMATION B.2

1. Applicant/Proponent Information

   a. Development team

      (1) Names

(a) Proponent (including description of development entity and type of corporation, and the principals thereof)
(b) Attorney
(c) Project consultants and architects

(2) Business address, telephone number, FAX number and e-mail, where available for each

(3) Designated contact for each

b. Legal Information

(1) Legal judgments or actions pending concerning the Proposed Project

(2) History of tax arrears on property owned in Boston by Applicant

(3) Evidence of site control over project area, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.

(4) Nature and extent of any and all public easements into, through, or surrounding the site.

B. REGULATORY CONTROL AND PERMITS

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR. B.3

C. PROJECT ALTERNATIVES

The DPIR must include the following alternatives. The analyses as provided for in the Environmental Protection Component, Urban Design Component, and Transportation Component sections of this Scoping Determination shall be required for both alternatives. B.4

Alternative 1 - No build as a means of measuring the baseline; and

Alternative 2 - Full build of Proposed Project as modified during the Boston Civic Design Commission, BRA, and public review process and in response to comments contained in this Scoping Determination.

D. PROJECT DESCRIPTION

The DPIR shall contain a full description of the Proposed Project and its elements, including size, physical characteristics, and proposed uses. This section of the DPIR shall also present the development context of the Proposed Project (description of the surrounding environment), existing site conditions, project purpose and objectives, and approximate project cost and development schedule. B.5

The Proponent shall provide plans indicating the locations and layouts of the affordable units, all of which shall be presumed to be created on-site, consistent with BRA policy. The number of units to be created, the incomes of the households to be reached, and the unit size mix shall be consistent with the Inclusionary Development Policy, effective May 16, 2006. B.6

E. TRANSPORTATION COMPONENT

The analysis included in the DPIR must utilize the Boston Transportation Department's ("BTD") Transportation Access Plan Guidelines and Scope and BTD's comment letter, dated October 22, 2007. Both BTD documents are included in **Appendix A** and are incorporated herein by reference and made a part hereof. The Proponent is required to address all comments included in BTD's comment letters in addition to the following comments. B.7

The DPIR shall include a detailed traffic and transportation analysis that describes the Proposed Project's impacts on the transportation network, and the proposed measures by the Proponent that are intended to mitigate, limit, or minimize any adverse impacts that can be reasonably attributable to the Proposed Project. B.8

At this time, because two use options exist for Phase II of the Proposed Project, either residential or hotel or extended stay, the Proponent shall be required to submit to BTD two separate transportation plans, one for residential and the other for a mixed-use development. B.9

BTD will require the Proponent to submit transportation data in all future documents that accounts for the impacts associated with the already permitted projects on the East Boston waterfront.

Construction Management Plan

The Proponent must execute a Construction Management Plan ("CMP") with BTD. The CMP should detail the schedule, staging, parking, delivery, and other associated impacts of the construction of this Proposed Project. B.10

Transportation Access Plan Agreement

The Proponent will have to execute a Transportation Access Plan Agreement ("TAPA") with BTD, which will codify the specific measures, mitigation and agreements between the Proponent and BTD. The Proponent shall be responsible for all costs associated with mitigation efforts including, but not limited to design and engineering, construction, and inspection. B.11

F. ENVIRONMENTAL PROTECTION COMPONENT

The DPIR shall address the comments of the City of Boston Environment Department, dated October 31, 2007, included in **Appendix A**, and incorporated herein by reference and made a part hereof. B.12

Additional comments related to environmental impacts are described in a memorandum from Katie Pedersen, Senior Project Manager/Environmental Review Specialist, BRA, dated October 22, 2007. This memorandum is included in **Appendix A,** and incorporated herein by reference and made a part hereof and will be addressed in its entirety.

Air Quality

The Proponent shall submit a future analysis of carbon monoxide levels for any intersection where the level of service ("LOS") is expected to deteriorate to D and where the Proposed Project causes a 10 percent increase in traffic or where the level of service is E or F and the Proposed Project contributes to a reduction in LOS. The methodology and parameters of the air quality analysis shall be approved in advance by the BRA and the Massachusetts Department of Environmental Protection ("DEP"). Mitigation measures to eliminate or avoid any violation of air quality standards shall be proposed. B.13

The Proponent anticipates the Proposed Project will generate 1,746 daily vehicle trips for the residential option and 2,219 trips for the residential and hotel/extended stay option. Should the Proposed Project generate over 3,000 vehicle trips per day, a microscale analysis for ozone shall be required to assess the total volatile organic compounds ("VOC") and nitrogen oxides ("NOx") emissions associated with all project related vehicle trips and to demonstrate the VOC/NOx emissions associated with the Proposed Project are less than those from the no-build case in the short-and long-term. If VOC/NOx emissions from the Proposed Project are greater than the no-build case, reasonable and feasible VOC/NOx reduction/mitigation should be included. The analysis shall be in conformance with the Massachusetts DEP guidelines.

The Proponent has stated that DPIR/DEIR will include a full traffic operations analysis of all study area intersections for existing, future no-build and future build conditions. The traffic operations analysis shall describe the existing and projected future air quality in the project vicinity and evaluate ambient levels to determine conformance with the National Ambient Air Quality Standards ("NAAQS") and the U.S. Department of Housing and Urban Development ("HUD") requirements for residential and other sensitive receptors. Particular attention shall be given to mitigation measures to ensure compliance with air quality standards. B.14

The results of the air quality analysis shall be compared to the Massachusetts State Implementation Plan to determine project compliance with the Plan. Mitigation measures to eliminate or avoid any violation of air quality standards shall be described.

A description of the Proposed Project's heating and mechanical systems, including the location of building's/garage intake and exhaust vents and specifications, and an analysis of the impact on pedestrian level air quality and on any sensitive receptors from operation of the heating, mechanical and exhaust systems, including the building's emergency generator as well as the parking garage, shall be required. Measures to avoid any violation of air quality standards shall be described.

The CMP shall include mitigation measures to ensure the short-term air quality impacts from fugitive dust expected during the early phases of construction from demolition of the buildings and site preparation activities are minimal.

Noise

The Proponent shall establish the existing noise levels at the Proposed Project site and vicinity based upon the noise-monitoring program. The Proponent shall also calculate future noise levels after project completion based on appropriate

modeling and demonstrate compliance with the Design Noise Levels established by U.S. Department of Housing and Urban Development for residential and other sensitive receptors and with all applicable Federal, State and City of Boston Noise criteria and regulations. B.15

The Proponent has stated that the primary sources of external mechanical noise will include garage ventilation systems, potential restaurant ventilation equipment, and heat rejection equipment that are part of the mechanical systems, as well as emergency generators. Despite the fact that the rooftop equipment is not anticipated to exceed maximum sound levels, appropriate low-noise mechanical equipment in the mechanical penthouse and noise control measures will be required for sensitive locations in accord with the Regulations for Control of Noise in the City of Boston and the Commonwealth of Massachusetts due to the Proposed Project's proximity to the adjacent residential neighborhood.

Solar Glare

The Proponent has stated that final building materials for the Proposed Project have not been chosen, thus it is imperative that the choice of materials include low reflective glass, as to avoid the creation of a visual nuisance, or a hazard, as it distracts or interferes with vision or concentration. B.16

The Proponent shall demonstrate that the glass will not cause adverse solar glare impacts. However, should the design change and incorporate substantial glass-facades, a solar glare analysis shall be required. The analysis shall measure potential reflective glare from the building onto potentially affected streets and public open spaces and sidewalk areas in order to determine the likelihood of visual impairment or discomfort due to reflective spot glare. Mitigation measures to eliminate any adverse reflective glare shall be identified. Technical data used for the analysis shall be included.

Daylight

A daylight analysis for both build and no-build conditions shall be conducted, measuring the percentage of skydome obstruction by the Proposed Project and evaluating the net change in obstruction. If alternative massing studies are requested as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study shall treat the following elements as controls for data comparison: existing conditions, the context of the area, and the as-of right conditions. The areas of interest include viewpoints along New Street, Sumner Street, LoPresti Park and the Harborwalk. Daylight analyses shall be taken for each major building façade within the limits of the BRA Daylight Analysis ("BRADA") program, fronting the public and quasi-public ways. The midpoint of each roadway shall be taken as a study point. B.17

Transportation

The Proponent shall be required to submit a TAPA that analyzes the Proposed Project's impact on the Transportation Network, and that proposes measures intended to mitigate, limit, or minimize, to the extent economically feasible, any adverse impact on the transportation network reasonably attributable to the Proposed Project. B.18

The Proponent shall prepare the TAPA in consultation with BTD.

Geotechnical Impacts

A description and analysis of the existing sub-soil conditions, including the potential for ground movement and settlement during excavation and potential impact on adjacent buildings and utility lines shall be provided. This analysis shall also include a description of the foundation construction methodology, the amount and method of excavation, and the need for any blasting and/or pile driving and the impact on adjacent buildings and infrastructure. A Vibration Monitoring Plan shall be developed prior to the commencement of construction activities so as to ensure that impacts from the project construction on adjacent buildings and infrastructure are avoided. Mitigation measures to minimize and avoid damage to adjacent buildings and infrastructure must be described. B.19

Groundwater

The construction of two basement levels for underground parking will require excavation to approximately 17 feet below grade and thus will require both temporary and permanent groundwater control. A groundwater cutoff wall will be installed to mitigate the potential adverse impacts of temporarily lowering groundwater levels. The temporary groundwater cutoff wall will also serve as excavation support and allow construction foundation to proceed in a dry state. Installation of observation monitoring wells will serve to monitor groundwater levels outside the excavation area and should groundwater levels depress below specified levels the contractor will perform documented response measures. B.20

Upon completion of construction, the Proponent is encouraged to assign monitoring wells to the Boston Groundwater Trust ("Trust") with a permanent easement for access by the Trust or designated representative.

The BRA requests that the Proponent consult with the Trust regarding potential groundwater issues. Contact information for the Trust:

Boston Groundwater Trust
234 Clarendon Street
Boston, MA 02116

Attention: Elliott Laffer, Executive Director
617-859-8439

If on-going pumping or dewatering is required, the metering of discharge should be conducted with oversight by the Boston Water and Sewer Commission.

Shadow

A shadow analysis shall be performed for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn, it should be noted that due to the time differences (daylight savings v. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes. B.21

The shadow impact analysis shall include net shadow as well as existing shadow and must clearly show the incremental impact of the Proposed Project. For purposes of clarity, new shadow should be shown in a dark, contrasting tone distinguishable from existing shadow. The shadow impact study area shall include, at a minimum, the entire area to be encompassed by the maximum shadow expected to be produced by the Proposed Project. The build condition(s) shall include all buildings under construction and any proposed buildings anticipated to be completed prior to the completion of the Proposed Project. Shadow from all existing buildings within the shadow impact study area shall be shown. A North Arrow shall be provided on all figures. Shadows shall be determined by using the applicable Boston Azimuth and Altitude data.

Particular attention shall be given to existing or proposed public open spaces and pedestrian areas, including, but not limited to, the existing sidewalks and pedestrian walkways within, adjacent to, and in the vicinity of the Proposed Project and the existing and proposed plazas, historic resources, LoPresti Park, and other open space areas within the vicinity of the Proposed Project.

Wind

The qualitative analysis of pedestrian level winds ("PLWs") did not provide a sufficient assessment of existing (no-build) and build conditions. It is not clear what the anticipated impact of the proposed 160 foot building will be, as it is not discussed. The text of Section 6.1 indicates that the outdoor seating area and the area between the "12- and six-story buildings will be a little windy at times, especially at the harbor end." It is suggested that clear Plexiglas windshields may be used for public comfort in the area where outdoor restaurant seating is planned. Figure 3-4B shows that this area is adjacent to walkways around the B.22

proposed first story area of public accommodation and to the adjacent LoPresti Park and to an open space area toward the water. The affect that Plexiglas windshields might have in these areas is not referenced. The area between the buildings is an accessway to open space and Harborwalk.

Wind speeds increase with the elevation above the ground surface, and taller buildings intercept these faster winds and deflect them to the pedestrian level. Due to the fact that the proposed 160 foot building will be located adjacent to a 70 foot building a concern arises as to the potential for the funneling of wind through gaps between the buildings and the potential of the acceleration of wind around the corners of buildings which may also cause an increase in wind speeds.

In addition, there is no information about existing conditions, the configuration upon which any assessment must be based. A wind study should be conducted that compares existing and projected conditions with results reported in the DPIR in a Table containing data for annual and four-season winds.

The BRA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BRA wind design criterion states that an effective gust velocity 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 locations is based on the work of Melbourne. The placement of wind measurement locations shall be based on an understanding of the pedestrian use of the Proposed Project and the surrounding area. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing or walking.

Stormwater Management

The Proponent has provided a description of the exiting drainage conditions. However, the Proponent has yet to determine where the storm drainage flows from the catch basin located in front of the loading docks on the southern and eastern portion of the site. The Proposed Project plans to remove the existing drainage structure at the site and create a new on-site storm drain system. B.23

The Proponent has demonstrated compliance with the DEP Stormwater Management Policy as the Proposed Project falls under the jurisdiction of the Massachusetts Wetlands Protection Act ("WPA") to meet performance standards with regard to stormwater discharges to wetland resource areas. Due to its proximity to the Boston Harbor, the Proposed Project is subject to the WPA, and stormwater Best Management Practices ("BMPs") have been designed in conformance with the DEP performance standards.

The quality of stormwater is receiving increasing regulatory attention as it is a primary contributor to the condition of receiving water bodies. The Boston Water and Sewer Commission ("BWSC") spends more than $600,000 annually for the disposal of materials removed from catch basins. This cost does not include labor and general operating and maintenance costs. If the project requires the installation of and/or work at stormdrains, we ask that the Proponent help to educate the public and further improve the water quality of local water bodies by agreeing to the permanent installation of plaques that bear the warning "Don't Dump - Drains to Boston Harbor." Information on the casting can be obtained from the Operations Division of the BWSC (617-989-7000).

Tidelands/Chapter 91

Documentation from the Massachusetts DEP regarding Chapter 91 licensing determination of applicability shall be provided. B.24

Solid and Hazardous Wastes/Materials

The Proponent shall provide a list of any known or potential contaminants on site together with a description of remediation measures to ensure their safe removal and disposal, pursuant to the M.G.L., Chapter 21E and the Massachusetts Contingency Plan. B.25

Any potential hazardous wastes to be generated by the Proposed Project must be identified. In addition, potential waste generation must be estimated and plans for disposal indicated and measures to promote reduction of waste generation and to promote recycling in compliance with the City's recycling program must be described.

Building Materials Resource Center

Building demolition and/or renovation activities may offer an opportunity for recycling, reprocessing or donation of construction and building materials (e.g., glass, brick, stone, interior furnishing) to the Building Materials Resource Center ("BMRC"). This non-profit center offers, for only a handling fee, new and used materials for low and middle income homeowners. The Proponent is encouraged to contact the BMRC at the following address regarding disposal and/or acquisition of materials that may be appropriate for reuse: B.26

Building Materials Resource Center
100 Terrace Street
Roxbury, MA 02120
617-442-8917

Historic Landmarks

The Proponent has identified, mapped and described historic resources and other historic properties in the vicinity of the Proposed Project's site and evaluated the anticipated effects of the Proposed Project on these resources. There are no historic resources located adjacent to the site. No adverse impacts to the historic structures in the surrounding area will result from the proposed residential or hotel/extended stay uses. B.27

Article 85

The Proposed Project requires demolition of three of the four existing buildings. The proposed demolition requires Article 85 Demolition Delay review by the Boston Landmarks Commission (the "BLC"). B.28

Sustainable Design/Green Buildings

The purpose of Article 37 of the Code is to ensure that major buildings projects are planned, designed, constructed and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston. Any Proposed Project subject to the provisions of Article 37 shall be LEED Certifiable (U.S. Green Buildings Council) under the LEED rating system. Proponents are encouraged to integrate sustainable building practices at the inception of the design process. B.29

The Proponent has provided a completed LEED-NC checklist for which the Proposed Project purports to achieve 30 points. The Proponent shall provide an explanatory narrative establishing compliance with specific points. The applicant shall also demonstrate that the Proposed Project will meet the requirements of the article with appropriate supporting documentation and by certification from a LEED Accredited Professional and/or other expert recognized by the BRA.

The BRA is pleased that the Proposed Project is intending to achieve 30 points and encourages the Proponent to take the small steps necessary to achieve a LEED Silver designation, whether or not this Proposed Project pursues formal certification with the US Green Building Council.

G. URBAN DESIGN COMPONENT

A complete discussion of the Proposed Project as it relates to the Urban Design Component and other Article 80 review topics are described in a memorandum from David Carlson, Senior Architect, BRA, dated October 23, 2007 included in **Appendix A.** These comments are incorporated herein by reference and made a part hereof and must be addressed in their entirety in the DPIR. B.30

Boston Civic Design Commission

Boston Civic Design Commission ("BCDC") Review is established by Article 28 of the Code and is a part of the Article 80 Project and Plan review processes. BCDC review is advisory to the BRA and should occur before the BRA Board takes action pursuant to the Article 80 process. In special cases, where this threshold is not applicable, BCDC review should occur during the schematic phase of project design or plan evolution so as to maximize the potential benefit of BCDC comments. B.31

BCDC has initiated their review of the Proposed Project with a vote to review and presentation that occurred on October 2, 2007; however, it is recommended that the Proposed Project wait until responses to design issues have been generated for inclusion in a DPIR or Supplemental Information package before a second presentation to the Design Committee is scheduled. BCDC comments are attached as an excerpt from the minutes of that date. The Proposed Project was also discussed in more detail in a Design Committee meeting on November 13, 2007; no formal transcription of notes or minutes are available, but some of the points noted for further study are listed after the excerpt. The Proposed Project has *already* been modified to some degree as part of the ongoing process of review.

H. INFRASTRUCTURE SYSTEMS COMPONENT

Although the Boston Water & Sewer Commission ("BWSC") did not submit comments regarding the Proposed Project, typically the BWSC requires Proponents to perform an infrastructure impact analysis. Furthermore, the PNF states that the Proponent anticipates Site Plan Approval, General Service Application, and a Sewer Connection Permit from BWSC. The Proponent should coordinate with BWSC to ensure that the necessary review and approvals occur, and that the appropriate analyses are completed regarding the Proposed Project. B.32

I. FIRE PREVENTION/CONTROL

The DPIR must address the following fire prevention/control issues for all phases of construction as well as for the final design stage. The written comments of Dennis L. Keeley, Acting Fire Marshall, City of Boston Fire Department, dated October 1, 2007, are included in **Appendix A,** and are incorporated herein by reference and made a part hereof. B.33

The following issues must be addressed:

- emergency vehicle access to all new buildings as well as any existing buildings that might be affected;

- impact on availability and accessibility of hydrant locations for new buildings as well as any existing buildings that might be impacted;

- impact on availability and accessibility to siamese connection locations for new buildings as well as for any existing buildings that might be impacted;

- impact that a transformer vault fire or explosion will have on the fire safety of the building(s), particularly as it relates to the location of the vault;

- need for Boston Fire Department permit requirements as outlined in the Boston Fire Prevention Code, the Massachusetts Fire Prevention Regulations 527 CMR, and the Massachusetts fire Prevention Laws (M.G.L. c. 148); and

- if the Proposed Project will include air-supported structures, the impact of the design on fire safety relative to the interaction of the area underneath the structure to the structure as well as to the interaction of the structure to the area underneath the structure.

J. PUBLIC WORKS COMPONENT

The DPIR must address the comments from the Boston Public Works Department Commission ("PWD"), dated October 12, 2007, included in **Appendix A,** and incorporated herein by reference and made a part hereof. B.34

Site Plan
The Proponent must provide an engineer's site plan at an appropriate engineering scale that shows curb functionality on both sides of all streets that abuts the property.

Sidewalks
The Proponent is responsible for the reconstruction of the sidewalks abutting the project, and where appropriate, extend the limits to the nearest intersection. This effort may constitute a License, Maintenance and Indemnification ("LM&I") agreement with the Public Improvement Commission ("PIC"). The reconstruction effort must meet current ADA guidelines, including the re-construction or installation of necessary ADA compatible ramps where needed.

Discontinuances
Any and all discontinuances (sub-surface, surface or above surface) within the Public Right-of-Way ("ROW") must be processed through the PIC.

Landscaping
The Proponent must seek approval from Ken Crasco, Chief Landscape Architect, Boston Parks and Recreation Department, for all landscape elements. Program must accompany a LM&I with the PIC.

Street Lighting
Street lighting needs must be consulted with Mr. Joe Banks of the Street Lighting Division, PWD, and where needed, be installed by the Proponent, and must be consistent with the area lighting, to provide a consistent urban design.

Roadway
Based on the extent of construction activity, including utility connections and taps, the Proponent will be responsible for the reconstruction of the roadway sections that immediately abuts the property, and where appropriate, extend the limits on re-construction to the nearest intersection.

Public Trash Receptacles
The Proponent should consult with Tim McCarthy of PWD, and is responsible for purchasing solar powered trash compactors to be used in public space consistent with the City of Boston's Plans.

Public Art
Proponent is encouraged to contact Sarah Hutt, Boston Arts Commission, to participate with the City's public arts program, creating notable art pieces in public spaces.

Groundwater
Proponent should install groundwater-monitoring wells in accordance to Inspectional Services Department standards, to monitor groundwater levels during construction, and convey the wells to the Boston Groundwater Trust through the PIC after the completion of the project.

K. BOSTON PARKS AND RECREATIONAL DEPARTMENT REVIEW

The DPIR must address the comments from the Boston Parks and Recreational Department, dated October 16, 2007, included in **Appendix A,** and incorporated herein by reference and made a part hereof. B.35

As noted in the PNF, in accordance with the requirements of City Ordinance 7-4.11, the Proposed Project will eventually need to come before the Parks and Recreation Commission for design approval.

L. MUNICIPAL HARBOR PLAN

As indicated in section I. PROJECT DESCRIPTION of this document, it was stated in the 2002 Municipal Harbor Plan for East Boston that portions of the Project Site that are located within Chapter 91 jurisdiction would be included in the scope of a Municipal Harbor Plan amendment for the 2002 Municipal Harbor Plan for East Boston. Since the Proposed Project is phased and because Phase I does not require a Municipal Harbor Plan amendment, the Proponent applied for and received a Phase I Waiver through the MEPA process. The Phase I Waiver will allow the permitting of Phase I to occur while the MEPA and Municipal Harbor Plan amendment processes are completed for the entire Project Site. Specifically, through the Municipal Harbor Plan amendment process, the Proposed Project will seek relief for Facilities of Private Tenancy and height, which are detailed below.

Ground Floor Uses

The Proposed Project has 7,971 square feet of Facilities of Public Accommodation ("FPA") area in the ground level of the six-story building that is within 100 feet of the project shoreline. There is an additional 527 square feet of FPA beyond the 100-foot line. There is also a total of 527 square feet of interior space within 100 feet of the project shoreline, including 507 square feet within the parking garage and 20 square feet within the nine-story residential building. The Proponent has indicated that it will seek relief of 527 square feet of Facilities of Private Tenancy space by reconfiguring the location of the FPA zone in the East Boston Municipal Harbor Plan amendment process.

Building Height

The proposed building height of the 6-story building is approximately 69 feet tall and does not conform to the height allowed under Chapter 91 regulations, per 310 CMR 9.51 (3)(e). The Proponent will be seeking a substitution for the height through the East Boston Municipal Harbor Plan amendment process to allow a 69 foot tall building within 100 feet of the high water mark.

Zoning

The Proposed Project is located within a Waterfront Commercial Subdistrict of the East Boston Neighborhood District (Article 53 of the Code). Accordingly, the minimum open space is 50%, the maximum allowed Floor Area Ratio is 1.0 and the maximum allowed building height is fifty-five (55) feet. In this zoning subdistrict, the proposed multifamily use is allowed on upper floors and

conditional on the ground floor, and hotel use, which is proposed as one of the two options for Phase II, is a conditional use.

Tidelands

The Project Site is comprised of flowed tidelands, filled (formerly flowed) tidelands, and non-jurisdictional upland. Of the 171,131 square-foot site, approximately 84,547 square feet are flowed tidelands, 50,434 square feet are filled tidelands, and 36,150 square feet are non-jurisdictional upland. Approximately 1/3 of the Project Site is in private tidelands and less than ½ of the Project Site is in Commonwealth tidelands.

M. DEVELOPMENT IMPACT PROJECT

Based on the information provided in the PNF, the Proposed Project's uses will not require the Proponent to enter into a Development Impact Project ("DIP") agreement. Even if a hotel or extended stay use were to be a component of Phase II, the aforementioned uses would not meet the square footage threshold under Article 80B-7 of the Code to necessitate the execution of a DIP agreement.

N. PUBLIC NOTICE

The Proponent will be responsible for preparing and publishing in one or more newspaper(s) of general circulation in the city of Boston a Public Notice of the submission the DPIR to the BRA as required by Article 80A-2. This notice shall be published within five (5) days after the receipt of the DPIR by the BRA. Public comments shall be transmitted to the BRA within seventy five (75) days of the date upon which the DPIR is submitted. B.36

Following publication of the Notice, the Proponent shall submit a copy of the Public Notice to the BRA as well as the date of publication.

BRA Scope	Boston Redevelopment Authority
B.1	The proponent will submit a DPIR that includes both Phase I and Phase II.
B.2	Fifty-five copies of the completed DEIR/DPIR will be submitted to the BRA for their review and distribution. Full-size scale drawings will be submitted to the appropriate agencies during the Article 80 Review process.
B.3	An updated list of all permits and approvals is contained in Section 1.0 of the DEIR/DPIR.
B.4	The alternatives required in the Environment, Urban Design, and Transportation sections reflect the no-build and preferred alternatives.
B.5	See Sections 1.0 and 2.0 for descriptions of the project.
B.6	Section 1.2 of the DEIR/DPIR provides counts of affordable units.
B.7	See responses to BTD's comment letter # 13.
B.8	A detailed traffic and transportation analysis is in Section 4 of the DEIR/DPIR
B.9	Section 4, Transportation includes a separate analyses for the residential development and for the residential and hotel/extend stayed development.
B.10	A construction management plan will be submitted separately to the BTD as part of the Article 80 review process.
B.11	A TAPA with BTD will be executed as part of the Article 80 review process.
B.12	Responses to all comments from the City of Boston Environment Department can be found in numbers 9.1 through 9.8.
B.13	An air quality analysis is in Section 5.5 of the DEIR/DPIR. Since none of the environmental thresholds were exceeded, a future analysis of carbon monoxide levels was not conducted. See also response to comment # 15.1.
B.14	See responses to comments # 15.2 and 15.3.
B.15	See response to comment # 15.5.
B.16	Section 5.4 provides a discussion of the project's solar glare.
B.17	A daylight analysis is in Section 5.3.
B.18	A TAPA with BTD will be executed as part of the Article 80 review process.
B.19	See response to comment # 15.9.
B.20	See response to comment # 15.10.
B.21	See response to comment # 15.11.
B.22	See response to comment # 15.12.
B.23	See response to comment # 15.13.
B.24	Section 3.1.4 describes how the project complies with the substitutions requested in the BRA's EBMHP Amendment. See also response to comment # 15.10.
B.25	Section 5.7 provides details about how the project complies with applicable solid and hazardous waste regulations.

B.26	The proponent will contact the BRMC regarding disposal and/or acquisition of materials that may be appropriate for reuse.
B.27	The results of the historic and archeological survey are in Section 5.16 of the DEIR/DPIR.
B.28	The Boston Landmarks Commission did not require the project to be subject to the 90-day demolition delay period.
B.29	Section 5.14 provides documentation of how the project meets Article 37 requirements.
B.30	Responses to comments from David Carlson are addressed in the response section and within the DPIR.
B.31	The proponent will continue meeting with and seek the recommendation of the BCDC to improve the design of the buildings as part of the ongoing Article 80 review process.
B.32	Section 6 provides an analysis of the project's impacts on the infrastructure.
B.33	See responses to comments # 10.1 through 10.5.
B.34	The proponent will coordinate with the Boston Public Works Department to ensure necessary reviews and approvals occur regarding site plans, sidewalks, discontinuances, landscaping, street lighting, roadway, public trash receptacles, public art, and ground water.
B.35	See responses to comments numbers 11.1 through 11.3.
B.36	The proponent will publish a public notice in one newspaper of general circulation in the City of Boston within five days of the DPIR submittal to the BRA.

Letter 1 DB

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1200 Fax (617) 626-1240 Web Site: www.mass.gov/czm/buar/index.htm

October 19, 2007

RECEIVED
OCT 24 2007
MEPA

Secretary Ian A. Bowles
Executive Office of Environmental Affairs
Attention: Deirdre Buckley, MEPA Unit
100 Cambridge St., Suite 900
Boston, MA 02114

RE: New Street Development, East Boston (EOEA No. 14102)

Dear Secretary Bowles:

The staff of the Massachusetts Board of Underwater Archaeological Resources has completed its review of the above referenced project as described in the *Environmental Monitor* of 25 September 2007.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. No record of any underwater archaeological resources was found within the proposed project boundaries. However, due to the high number of remnant historic wharves and related structures associated with intensive historic period shipbuilding, commerce, transportation and other waterfront activities in this area, the Board cannot conclude that there are no submerged cultural resources in the proposed project area. Additionally, the historical record suggests more than thirty (30) shipwrecking incidents in proposed project vicinity during the period of 1799-1893 for which locations are vague. Furthermore, the loss of earlier and smaller coastal vessels and the purposeful abandonment of obsolete or damaged vessels are generally not found in the documentary record. The level and diversity of maritime commercial, military, and recreational activities throughout the Boston Inner Harbor region may have resulted in the creation of a number of undocumented and anonymous underwater archaeological sites such as small craft, derelict vessels, or dumpsites. These possible site types represent classes of vessels of which our knowledge is severely limited and, thus, are potentially historically and archaeologically significant.

Due to the high archaeological potential of the proposed project vicinity, the Board recommends an archaeological assessment of the submerged portion of the project area (and inter-tidal zone) including, but not limited to historic research of the property use, a visual survey at low tide by a qualified marine archaeologist and documentation of the extant marine railway remains. This assessment should be completed and submitted for review by both the staff of the Board and the Massachusetts Historical Commission prior to any demolition/construction activity. 1.1

The Board appreciates the opportunity to provide the comments. Should you have any questions regarding this letter, please do hot hesitate to contact me at the address above, by telephone at (617) 626-1141, or by email at victor.mastone@state.ma.us.

Sincerely,

Victor T. Mastone
Director

Cc: Brona Simon, MHC
Marc Paiva, USACE
Brad Washburn, MCZM
Bob Boeri, MCZM

Printed on Recycled Paper

Letter 1	Massachusetts Coastal Zone Management/Bureau of Underwater Archaeological Resources, Victor T. Mastone
1.1	An archaeological assessment of the submerged portion of the project area was conducted as requested.

Letter 2

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX: (617) 626-1240

MEMORANDUM

TO: Ian Bowles, Secretary, EOEEA
ATTN: Deirdre Buckley, MEPA Unit
FROM: Leslie-Ann McGee, Director, CZM
DATE: October 15, 2007
RE: EOEA 14102 – New Street Development, East Boston

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Expanded Environmental Notification Form (EENF), noticed in the Environmental Monitor dated September 25, 2007, and recommends the preparation of an Environmental Impact Report.

Project Description

The project site is located at 6-26 New Street in East Boston on a 3.93 acre site, of which approximately 2 acres is watersheet. The project site is bound by New Street to the east, LoPresti Park to the south, Boston Harbor to the west, and the Boston Towing and Transportation property to the north. The EENF states that the project site is comprised of land under water, filled tidelands, and upland that currently includes an existing complex of four concrete buildings and two solid-fill wharves.

The proposed project consists of the redevelopment of an existing 9-story building, the construction of a new 6-story building, and a small parking garage. The existing 9-story building will be redeveloped with an additional three stories consisting of 148 residential units. The new 6-story building will contain either 62 residential units or 106 hotel or extended stay units and approximately 8,000 square feet of facility of public accommodation space on the waterside of the building's ground floor. The proposed two-story subsurface parking garage will provide parking for between 71 and 121 vehicles, the higher number of parking spaces could be achieved with the use of vehicle stackers. The project will also include a small marina, a water taxi service and waiting area, public open space, dredging, and public access to and along Boston Harbor.

The EENF states that the project will be completed in two phases. The proponent has applied for a Phase I waiver through the Massachusetts Environmental Policy Act (MEPA) process to allow permitting of Phase I, which does not require a Municipal Harbor Plan (MHP) amendment, while the MEPA and MHP amendment process are completed for the entire project site.

Project Comments

Municipal Harbor Plan

The EENF indicates that the Secretary's 2002 Decision on the City of Boston's East Boston Municipal Harbor Plan (EBMHP) anticipated an amendment to the EBMHP to address site-specific issues for properties within the planning area, including the New Street Development project site. The EENF further states that the City of Boston has begun the process of preparing an amendment to the EBMHP and will be requesting substitute provisions to the minimum use limitations and numerical standards of the Waterways Regulations governing nonwater-dependent projects on tidelands for the New Street site.

As it is proposed currently, the project appears to require two (2) substitute provisions: 1) allowing facilities of private tenancy to be located within 100 feet of the project shoreline; and 2) allowing building heights, in excess of those allowed under the Waterways Regulations, closer to the water's edge. Pursuant to 310 CMR 9.34(2)(b), DEP may apply alternative use limitations or numerical standards provided substitute provisions and associated offsets, supported by appropriate analysis, are specified in an approved MHP. While it is possible for this project to begin the MEPA review process, a Chapter 91 license cannot be issued until the city has completed the MHP amendment and obtained approval from the Secretary of the Executive Office of Energy and Environmental Affairs. CZM recommends, therefore, that a final Certificate for the project not be issued until the city's EBMHP Amendment has been approved by the Secretary. 2.1

Designated Port Area

On April 23, 2003, CZM issued its Decision for the East Boston Designated Port Area Boundary Review. The Designation Decision removed the DPA designation from the land area of the site, leaving the northerly portion of the watersheet in the DPA. The Designation Decision also included commitments by the property owner to implement various on-site infrastructure improvements. CZM recommends that the proponent coordinate with the Boston Redevelopment Authority's (BRA) ongoing East Boston Municipal Harbor Plan Amendment process and complete the on-site infrastructure improvements included in the Designation Decision to ensure consistency with all applicable CZM program policies. 2.2

Dredging

The EENF states that the proposed marina activities will require the dredging of approximately 2,300 cubic yards of material adjacent to the southern wharf. The DEIR should provide information on the dredging method(s) to be utilized, the volume of material to be dredged, the proposed disposal site and alternatives, and all short and long-term mitigation measures necessary to ensure consistency with all applicable CZM program policies. 2.3

Public Access

The EENF states that the project will provide approximately 500 linear feet of Harborwalk and two public viewing areas along the water's edge in order to improve public access to the waterfront and to provide connections to existing LoPresti Park to the south. CZM supports the project's incorporation of Harborwalk and the public viewing areas and recommends that the proponent coordinate with the BRA's ongoing East Boston Municipal Harbor Plan Amendment process to ensure that the proposed Harborwalk meets City of Boston Harborwalk standards and to ensure consistency with all applicable CZM program policies. 2.4

Federal Consistency Review

The proposed project may be subject to CZM federal consistency review, in which case the project must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at 617-626-1050, or visit the CZM web site at www.mass.gov/czm.

LAM/bw

cc: Brad Washburn,
CZM Boston Harbor Regional Coordinator
Ben Lynch,
Program Chief, MassDEP Waterways Regulation Program
Richard McGuinness,
Deputy Director of Waterfront Planning, Boston Redevelopment Authority
Kristin Kara,
Project Manager, Boston Redevelopment Authority
Vincent Malkoski,
MA Division of Marine Fisheries

Letter 2	Massachusetts Coastal Zone Management, Leslie-Ann McGee
2.1	The proponent understands the requirement to have an approved East Boston Municipal Harbor Plan (EBMHP) Amendment prior to the issuance of a Chapter 91 license for jurisdictional areas not included in the Phase I waiver, and that the Final Certificate will not be issued until the EBMHP Amendment has been approved.
2.2	The proponent is actively involved with the Boston Redevelopment Authority's (BRAs) and CZM's ongoing EBMHP Amendment process. The project will make site improvements required by the CZM Designation Decision for the East Boston Designated Port Area, April 23, 2003 in conjunction with the anticipated redevelopment of the site.
2.3	Section 5.10 provides dredging information including dredging method(s) to be utilized, the volume of material to be dredged, the proposed disposal site and alternatives, and short and long-term mitigation measures necessary to ensure consistency with applicable CZM program policies.
2.4	The proponent is actively coordinating with the BRAs ongoing EBMHP Amendment process to ensure the Harborwalk meets the City of Boston Harborwalk standards and to ensure consistency with all applicable CZM program policies.
2.5	The project is subject to CZM federal consistency review. Therefore, the project has included responses to CZMs enforceable program policies in Section 3.7.

From: Carlson, Eric (DCR)
Sent: Monday, October 15, 2007 2:09 PM
To: Buckley, Deirdre (EEA)
Subject: 14102 - Boston

Deirdre,

My concern about this project relates to the below grade parking. The project is located partly within the 100-year floodplain (zone A2, with a base flood elevation of 10 NGVD). Even without flooding conditions the structure is likely to be subject to massive hydrostatic forces. They do address this in the ENF (Ch. 6) so they are aware. They must meet the conditions of the State Building Code, Sixth Edition, Section 3107.0. Additionally, FEMA has a Technical Bulletin on the subject, Non-Residential Floodproofing - Requirements and Certification, that the applicant may want to consider. 3.1

In addition to considering the forces the structure will encounter, the design must also prevent water from entering overland. This type of situation is extremely dangerous and can happen rapidly. Entrances to the lower levels should be higher than elevation 10; one foot higher might be a good place to start.

Thanks.

Eric Carlson, Environmental Engineer
Flood Hazard Management Program
(617) 626-1362

Letter 3	Massachusetts Department of Conservation and Recreation, Eric Carlson
3.1	The project designers understand the need for flood proofing the below-grade parking and for preventing water from entering the garage over land. The project will conform to all applicable flood proofing requirements per the applicable State Building Code, currently the sixth edition.

Letter 4 DB

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

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OCT 29 2007
MEPA

October 25, 2005

Ian A. Bowles
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street,
Boston MA, 02108

RE: East Boston
New Street Development
New Street
EEA # 14102

Attn: MEPA Unit

Dear Secretary Pritchard:

The Department of Environmental Protection (MassDEP) has reviewed the Expanded Environmental Notification Form (EENF) submitted by New Street Realty Trust to redevelop the site bounded by New Street and Maverick Landing into either 240 residential units in two buildings or 210 residential units and 106 hotel/extended stay units. Both plans also provide facilities of public accommodation, including a 5,400 sf restaurant with 240 parking spaces on a 3.93-acre site on Boston Harbor in East Boston (EEA# 14102). The Department provides the following comments.

Waterways, Chapter 91

The proposed project categorically requires preparation of an EIR as it involves nonwater-dependent use of over 1 acre of tidelands.[1] The project site is included within the East Boston Municipal Harbor Plan Amendment presently under development that will propose substitute provisions for the height of structures and reallocate the public uses required on the ground floor within 100 feet of the project shoreline.

The proponent has requested a Phase I waiver to allow a waterways license application to be reviewed for certain structures prior to the completion of the MEPA review and the East Boston Municipal Harbor Plan Amendment processes. The Phase I activities include construction of a 2-level parking garage, the addition of three floors to the existing nine-story building, removal of 3 buildings and all of the dilapidated pile fields, construction of a water taxi landing, a one-story building on end of the wharf within the Designated Port Area (DPA), and a temporary Harborwalk along the waterfront. According to Figure 4-3, the portion of the garage

[1] The 171,131 sf project site includes 50,434 sf of filled tidelands, 84,547 sf of flowed tidelands and 36,150 sf of uplands.

and ground floor of the nine-story building on filled tidelands, within 100 feet of the water are proposed for private nonwater-dependent purposes, which is in conflict with 310 CMR 9.51(3)(b). Without the ability to overlay the historic mean high water line on the cross-section of the nine-story building, it is unclear if the upper floor additions to this building also will be within c91 jurisdiction. Prior to submitting a c.91 license application for Phase I, the 527 square foot area should be reprogrammed as *Facilities of Public Accommodation,* or alternatively, a substitute provision should be approved through the East Boston Municipal Harbor Plan Amendment process, presently under development. 4.1

The c91 jurisdictional lines illustrated in the ENF were confirmed in a Determination of Applicability issued by the Department in 2002. In addition, the East Boston Designated Port Boundary was modified in 2003, as illustrated in Figure 4-1, to exclude the filled tidelands on the project site on the condition that redevelopment of the site would include the following: removal or restoration of all on-site piles within the entire project site; reconstruction of the deteriorated sections of the bulkhead; a permanent vehicular access route from New or Summer Streets to the Water-Dependent Use Zone and DPA; lease forms or deed notifications of pre-existing water-dependent industrial operations nearby; and non-water dependent facilities, which are designed in a manner to prevent significant conflict with water-dependent facilities, which reasonably can be expected to locate on or near the project site. These parameters appear to have been incorporated into the proposed redevelopment and will remain guiding principles in the Department's review of the waterways license application when submitted.

The proponent suggests alternate scenarios for the proposed six-story building to be used either for residential (62 units) or hotel (106-room) development. While the Department is sympathetic to the need to remain flexible to changing market conditions, a license cannot authorize two potential uses for the same area.

Scaled plans should be provided so the Department can confirm that the proposed redevelopment is consistent with the other dimensional requirements of the waterways regulations. More detail is anticipated regarding the size and use of the one-story wharf building within the DPA, the use and design of the single story restaurant, the landscape design of the open space -- especially how the connection to LoPresti Park is treated and an appropriate Harborwalk terminus under Phase 1 conditions, and the plans for the proposed marina with the associated dredging. 4.2

Wetlands and Stormwater

The proposed project would alter 14,000 square feet (sf) of land under the ocean, 100 sf of designated port area, 100 sf of fish runs, and 30,800 sf of land subject to coastal storm flowage. It is estimated that 2,300 cubic yards of sediment will be dredged for the marina and sediment disposal is planned at the Chelsea Creek CAD site. According to the EENF the project would comply with the Stormwater Management Policy and standards.

Wastewater

The EENF states that there is sufficient capacity in the existing collection system to accommodate the estimated 35,210 gallons per day (gpd) of new wastewater flow, (total flow is estimated at 35,510 gpd), from the New Street project. Wastewater generated by the project will

discharge into the Boston Water and Sewer Commission (BWSC) sewer system, which flows into the MWRA system and ultimately to the Deer Island Wastewater Treatment Facility.

MassDEP, in cooperation with MWRA and its member communities (including Boston), are implementing a flow control program in the MWRA regional wastewater system, to remove extraneous clean water (e.g., infiltration/ inflow (I/I)) from the system. Routinely, MassDEP is requiring proponents that are adding significant new wastewater flow, (such as the New Street project), to assist in the I/I reduction effort and to ensure that the additional wastewater flows are offset by the removal of I/I. 4.3

Currently, MassDEP is using a minimum 4:1 ratio for I/I removal to new wastewater flow added. This ratio may be increased if specific flow constrictions/overflows already exist in the sewershed to which the new flow is added. The proponent should therefore work with the BWSC, and consult with DEP on this issue. Assuming that a 4:1 ratio is utilized, the proponent will need to remove, or cause to be removed, 140,840 gpd of I/I.

The wastewater generation rates for each facility, including alternative facilities proposed should be identified in the EIR, and it should be demonstrated that the waste generation rates are consistent with the sewer extension and connection regulations in 314 CMR 7.00. As of January 12, 2007, a certification statement with MassDEP has been required for a wastewater discharge greater than 15,000 gallons per day and less than 50,000 gallons per day. Should the flows be equal to or greater than 50,000 gpd, a sewer extension/connection permit would be required for the project. Additional information on the changes in the sewer extension and connection regulations is available on the MassDEP website: http://www.mass.gov/dep/service/regulations/314cmr07.pdf.

Construction Period Air Quality

MassDEP recommends that the project proponent participate in the MassDEP Diesel Retrofit Program to mitigate the construction-period impacts of diesel emissions to the maximum extent feasible. Diesel emissions contain fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), which has been found to exacerbate a number of heath conditions, such as asthma and respiratory ailments. $PM_{2.5}$ also contributes to lung damage and has been identified as a likely carcinogen.

4.4

MassDEP staff re available to work with the project proponent to implement construction-period diesel emission mitigation, which could include the installation of after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). For more information on these technologies, see: http://www.epa.gov/otaq/retrofit/verif-list.htm.

In addition, MassDEP reminds the project proponent that off-road equipment engines must use low sulfur diesel (LSD) fuel as of July 2007, as required by a 2004 regulation issued by the U.S. Environmental Protection Agency. On-road LSD fuel has a sulfur content of approximately 500 parts per million (ppm) in contrast to the 3,000 ppm sulfur level of current off-road diesel fuel. The use of LSD fuel, in conjunction with after-engine emission controls, can reduce $PM_{2.5}$ by an additional 25 percent beyond that obtainable with after-engine controls

only. Project proponents may also use on-road ultra low sulfur diesel (ULSD) fuel, which has a sulfur content of 15 ppm.

Air Quality

The project proponent is advised that pre-installation approval from the MassDEP Division of Air Quality Control is needed if the project will include the installation of any Fuel Utilization Facility that emits air contaminants (e.g., furnaces, fuel burning equipment, boiler(s)) sized above the de minimus threshold levels in 310 CMR 7.02. In addition, if the building is to be equipped with emergency generators, additional review by the Department may be required depending on the size of the generator units. An emergency generator with an energy input capacity of less than 3 million BTU per hour is exempt from the requirements of 310 CMR 7.02. An emergency generator with an energy input capacity of more than 10 million BTU per hour requires pre-installation approval from the Department. A generator with a capacity between 3 million and 10 million BTU per hour must either follow the work practices in 310 CMR 7.03 or receive pre-installation approval under 310 CMR 7.02. 4.5

Recycling Issues

The project includes demolition and reconstruction, which will generate a significant amount of construction and demolition (C&D) waste. The EENF proposes to recycle a minimum of 75 percent of the construction debris (p.6-12). MassDEP greatly appreciates the proponent's commitment and strongly supports this effort as a sustainable measure for the project. 4.6

The project proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54, which provides:

> "Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate."

For purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, MassDEP considers an asphalt, brick, and concrete (ABC) rubble processing or recycling facility, pursuant to the provisions of section (3) of 310 CMR 16.05 Site Assignment Regulations for Solid Waste Management Facilities, to be conditionally exempt from the site assignment requirements if the ABC rubble at such facilities is separated at the point of generation from other solid waste materials. Under 310 CMR 16.05(3), ABC can be crushed on-site with just a 30-day notification to MassDEP. However, the asphalt is limited to weathered bituminous concrete (no roofing asphalt) and the brick and concrete must be uncoated or not impregnated with materials such as

roofing epoxy. If the brick and concrete are not clean, e.g., coated and/or impregnated, the material is defined as construction and demolition (C&D) waste and requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

Pursuant to the requirements of 310 CMR 7.02 of the Air Pollution Control Regulations, if the ABC crushing activities are projected to result in the emission of one ton or more of particulate matter to the ambient air per year and/or if the crushing equipment employs a diesel oil fired engine with an energy input capacity of three million or more British thermal units per hour for either mechanical or electrical power which will remain on-site for twelve or more months, then a plan application must be submitted to MassDEP for written Approval prior to installation and operation of the crushing equipment. 4.7

In addition, since it appears that significant portions of the demolition project contain asbestos, the project proponent is advised that asbestos and asbestos-containing waste material are a special waste as defined in the Solid Waste Management regulations (310 CMR 19.061). Asbestos removal notification on permit form ANF 001 and building demolition notification on permit form AQ06 must be submitted to MassDEP at least 10 working days prior to initiating work. Except for vinyl asbestos tile (VAT) and asphaltic-asbestos felt and shingles, the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by MassDEP (310 CMR 19.061). No asbestos containing material including VAT, and/or asphaltic-asbestos felts or shingles may be disposed at a facility operating as a recycling facility, (310 CMR 16.05). The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material. 4.8

The demolition activity also must conform to current Massachusetts Air Pollution Control Regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10. As such, the proponent should propose measures to alleviate dust, noise, and odor nuisance conditions, which may occur during the demolition. MassDEP must be notified in writing, at least 10 days in advance of removing any asbestos. MassDEP also must be notified in writing, at least 10 days prior to any demolition work. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Pollution Control Regulations (310 CMR 7.15 (2)). 4.9

Facilitating future waste reduction and recycling and integrating recycled materials into the project are necessary to minimize or mitigate the long-term solid waste impacts of this type of development. The Commonwealth's waste diversion strategy is part of an integrated solid waste management plan, contained in The Solid Waste Master Plan that places a priority on source reduction and recycling. Efforts to reduce waste generation and promote recycling have yielded significant environmental and economic benefits to Massachusetts' residents, businesses, and municipal governments over the last ten years. Waste diversion will become even more important in the future as the key means to conserve the state's declining supply of disposal capacity and stabilize waste disposal costs.

As the lead state agencies responsible for helping the Commonwealth achieve its waste diversion goals, MassDEP and EEA have strongly supported voluntary initiatives by the private sector to institutionalize source reduction and recycling into their operations. Adapting the

design, infrastructure, and contractual requirements necessary to incorporate reduction, recycling and recycled products into existing large-scale developments has presented significant challenges to recycling proponents. Integrating those components into developments such as the New Street Development at the planning and design stage enable the project's management and occupants to establish and maintain effective waste diversion programs. For example, facilities with minimal obstructions to trash receptacles and easy access to main recycling areas and trash chutes allow for implementation of recycling programs and have been proven to reduce cleaning costs by 20 percent to 50 percent. Other designs that provide sufficient space and electrical services will support consolidating and compacting recyclable material and truck access for recycling material collection.

By incorporating recycling and source reduction into the design, the proponents would have the opportunity to join a national movement toward sustainable design. Sustainable design was endorsed in 1993 by the American Institute of Architects with the signing of its *Declaration of Interdependence for a Sustainable Future.* The project proponent should be aware there are several organizations that provide additional information and technical assistance, including WasteCap, the Chelsea Center for Recycling and Economic Development, and MassRecycle. 4.10

The MassDEP appreciates the opportunity to comment on this proposed project. Please contact Andrea Langhauser at (617) 348-4084 for further information on Chapter 91 Waterways Licensing and John Zajac at (978) 694-3240 for further information on the sewer issues. If you have any general questions regarding these comments, please contact Nancy Baker, MEPA Review Coordinator at (978) 694-3338.

Sincerely,

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Ben Lynch, Andrea Langhauser, MassDEP-Boston
Kevin Brander, Jack Zajac, MassDEP-NERO, BRP
Marianne Connolly, MWRA
Dennis Ducsik, MCZM
Joseph P. Sullivan P.E., Boston Water and Sewer Commission

Letter 4	Massachusetts Department of Environmental Protection, Northeast Regional Office, John D. Viola
4.1	The upper floor additions on the 9-story building are set back from the existing building footprint and are not within Chapter 91 jurisdiction. The project requires several modest substitutions, as detailed in the EBMHP Amendment proposed by the BRA to the Secretary of Energy and Environmental Affairs, for the portions of the site redevelopment which are in Chapter 91 jurisdiction. .
4.2	The project is currently preparing design development and updated landscape plans which will include more details of the 1-story building located on the northern wharf, the single-story restaurant, the small marina, and the landscaping of open space and Harborwalk, both in Phase 1 and Full Build conditions.
4.3	The project will participate in any required flow control program in order to reduce infiltration/inflow into the wastewater system.
4.4	The project will participate in the MassDEP Diesel Retrofit Program in order to mitigate construction period impacts of diesel emissions to the maximum extent feasible. The project will also conform to U.S. EPA requirements regarding use of low sulfur diesel for off-road equipment engines.
4.5	The project will comply with air quality regulations pursuant to 310 CMR 7.00.
4.6	The project has committed to recycling a minimum of 75% of its demolition and reconstruction waste. It will comply with both Solid Waste and Air pollution regulations pursuant to the provisions of 310 CMR 16.00 and will work with the selected contractor to develop a recycling plan for demolition and reconstruction-generated waste.
4.7	If demolition activities are anticipated to exceed emission thresholds, then a plan application will be submitted to MassDEP for written approval prior to installation and operation of crushing equipment as required per air quality regulations (310 CMR 7.00).
4.8	Although the scope of work has not been fully defined at this time, the project anticipates conducting a hazardous waste survey on the interior and exterior of each existing building on the site for the purposes of determining the presence and approximate quantity of hazardous material noted for future demolition of the structures and proper disposal of demolition debris. At a minimum, the survey will include an inventory of asbestos containing material, lead paint, PCB containing equipment, and other potentially hazardous materials. All materials will be properly disposed.

4.9	All of the existing New Street buildings except for the 9-story building will be demolished for the project. Although the 9-story building will remain, it will be completely gutted. All the buildings will be inventoried for the presence of hazardous materials (i.e. lead, asbestos, and PCBs). Any hazardous materials will be removed by a licensed contractor before demolition and will be disposed of in accordance with all applicable regulations. Any required asbestos removal will comply with regulation 310 CMR 7.15, which establishes standards and procedures for asbestos removal and requires the notification of the Department of Environmental Protection (DEP) in writing at least 10 days in advance of any asbestos removal. The demolition contractor will attempt to recycle as much of the building materials, including asphalt pavement, as possible. Any materials that cannot be recycled will be disposed of at an approved solid waste disposal facility. All demolition material will be transported from the site in covered trucks. The demolition phase of the project is expected to take less than 60 days to complete and will have a brief and insignificant air quality impact. The demolition activities will comply with regulations 310 CMR 7.01, 7.09, and 7.10. As per 310 CMR 7.09(2), the DEP will be notified ten working days prior to the initiation of the building demolition. The DEIR/DPIR describes measures to reduce the potential air quality and noise impacts of the necessary building demolition.
4.10	To date, the project has incorporated sustainable design measures into its design and operation, and will be LEED certifiable. As the design process continues, sustainable design features will be included. The project will be using several informational and technical resources to aid in its development including a LEED certified professional.

Letter 5

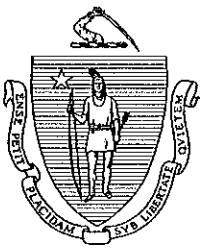
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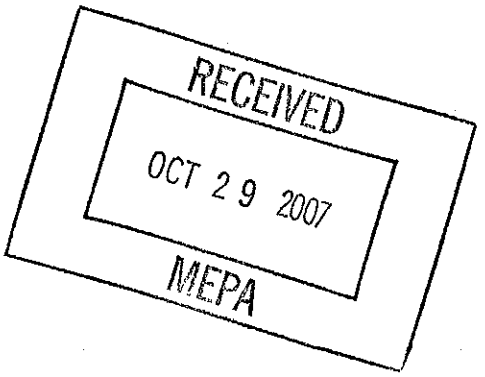
Commonwealth of Massachusetts

Division of Marine Fisheries

251 Causeway Street • Suite 400
Boston, MA 02114
(617) 626-1520
fax (617) 626-1509

Paul J. Diodati
Director





October 25, 2007

Ian A. Bowles, Secretary
Executive Office of Environmental Affairs
Attn: MEPA Office,
Buckley, EOEA#14102
100 Cambridge St., 9th Fl, 02114
Boston, MA 02114-2150

Dear Secretary Bowles:

The Massachusetts Division of Marine Fisheries (*MarineFisheries*) has reviewed the Project Notification Form and Expanded Environmental Notification Form submitted by New Street Realty Trust and Cresset Development LLC, for the New Street Development Project on the East Boston Waterfront. We provide the following information on marine fisheries resources at the project site and the project's potential impacts to those resources.

The proposed project is the re-development of a 3.93-acre property along the East Boston Waterfront, on Boston Inner Harbor. The proposal includes hotel and /or residential uses and construction of a small recreational marina and facilities for recreational and commercial vessels. This portion of the project would require the removal of the existing dilapidated pile field, dredging of 2,300 CY of material from the proposed boat basin and construction of a water taxi landing and waiting area.

The proposed marina facilities and boat basin are within Boston Inner Harbor. Boston Inner Harbor is essential habitat for the spawning and juvenile development of winter flounder (*Pseudopleuronectes americanus*), an important commercial and recreational species. Winter flounder eggs are demersal and adhesive, forming clusters which are vulnerable to smothering by settling sediments. Juvenile fish use the intertidal and nearshore areas during development for forage and shelter. Additionally, the Inner Harbor provides passage for the Charles and Mystic River anadromous fish runs. Shallow, protected areas are important habitat providing forage and refuge for migrating anadromous fish, such as rainbow smelt (*Osmerus mordax*) and alewife (*Alosa pseudoharangus*).

We suggest that no in-water, silt-producing activities be allowed from Feb 15 through June 30 of any year, in order to protect winter flounder spawning, juvenile development and foraging habitat and anadromous fish passage and refuge habitat. 5.1

In addition, we encourage the applicant to explore innovative stormwater management techniques such as the use of vegetated biofiltration swales and permeable paving to reduce stormwater run-off to the harbor. 5.2

Thank you for the opportunity to comment on this proposal. If you have any questions about this review, please contact Tay Evans at our Gloucester office at (978) 282-0308, ext. 168.

Sincerely,

Paul J. Diodati
Director

Cc: Chris Bush, Boston Conservation Commission
Commissioner Griffin, DFG

Letter 5	Massachusetts Division of Marine Fisheries, Paul J. Diodati
5.1	In order to protect winter flounder spawning, juvenile development and foraging habitat and anadromous fish passage and refuge habitat, there will not be any in-water, silt producing activities during periods prohibited by resource management agencies, currently set as between February 15 and June 15 of any year.
5.2	The proponent is exploring innovative stormwater management techniques to reduce stormwater runoff to Boston Harbor. Current plans including use of permeable paving along the proposed vehicle access route and use of a cistern that collects rain water for landscaping use. Other techniques will be established as the project completes the design process. Section 5.10 and Section 6.3 provide additional information regarding stormwater controls and use of innovative stormwater management techniques.

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

October 3, 2007

Secretary Ian A. Bowles
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn.: Deirdre Buckley

RE: New Street Development, 6-26 New Street, East Boston, MA. MHC #RC.43055. EEA #14102.

Dear Secretary Bowles:

Staff of the Massachusetts Historical Commission have reviewed the Expanded Environmental Notification Form (ENF) and Project Notification Form submitted for the project referenced above.

The project area includes the Boston Cold Storage Company (BOS.107) at 10-16 New Street, included in MHC's Inventory of Historic Assets of the Commonwealth. This area was included in the "City-Wide Comprehensive Industrial Survey, Boston, Massachusetts, 1996-1997" conducted by the PAL on behalf of the Boston Landmarks Commission and the MHC. The historic property was not recommended as significant in the survey report.

The project area is also in an area of East Boston that historically "share[d] waterfront orientation with emphasis on shipbuilding and support industries" (PAL, page 7). The project area includes an historic granite seawall, and concrete slab piers in poor condition partially supported by a framework of massive timber beams on timber pilings. An arrangement of timber pilings extend into the harbor that once supported timber plank piers. An historic granite seawall, mostly dry-laid but with some cemented joints, traces the edge of the harbor (see Figures 2-5 & 3-17A in the ENF).

According to the ENF (page 6-15), the project area was the location of piers used for "graving docks and fitting ships" in the mid-19th century. By the late 19th century, the property had piers and buildings on the land and on the timber-supported piers for "fish packing, ship outfitting, and dye wood manufacturing." In the early to mid-20th century the property was used for cold storage and general commercial storage.

MHC requests that a reconnaissance historic and archaeological survey (950 CMR 70) be conducted for the property. The scope of the investigation should include comprehensive documentary research to trace the land use and development history of the property. The survey scope should include a review of the data from the geotechnical coring for information about subsurface conditions. Available recent high resolution aerial photographs taken at low tide, and accurate maps and renderings of the property should be reviewed and included with the report of

6.1

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www.state.ma.us/sec/mhc

the investigation to assist in documenting the location and conditions of the pier pilings and other potentially important site features, including any submerged cultural resources. The report of the investigation should include recommendations for any additional investigations that may be required to locate and evaluate significant resources, or the sufficiency of the documentation assembled in the report. The report should include recommendations to retain and preserve important site characteristics (such historic granite seawalls) that appear to be proposed to be incorporated into the project design (see Figure 3-17B). Additional information should be provided to the MHC and the BLC on the proposed treatment of the historic granite seawalls to preserve, repair where needed, and retain the visual characteristics of these character-defining elements of Boston Harbor. It appears that at least one section of the granite seawall would be obscured by a proposed new cantilevered section. Project planners should consider setting the harborwalk further back in the parcel to retain the current edge of the seawall. A public interpretation initiative (such as professionally designed durable exhibit panels) on the history of the property could be considered as part of the public benefit and access plan. 6.2

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), MGL c. 9, ss. 26-27C (950 CMR 70-71), and MEPA (301 CMR 11). Please contact Edward L. Bell of my staff if you have any questions at this time.

Sincerely,

Brona Simon

Brona Simon
State Historic Preservation Officer
Executive Director
State Archaeologist
Massachusetts Historical Commission

xc:
Karen Kirk Adams, USACOE-NED-Regulatory
Kate Atwood, USACOE-NED
Coastal Zone Management
Victor Mastone, Board of Underwater Archaeological Resources
Boston Redevelopment Authority
Ellen Lipsey, Boston Landmarks Commission
Ellen P. Berkland, Boston City Archaeologist
Fort Point Associates

Letter 6	Massachusetts Historical Commission, Brona Simon
6.1	A reconnaissance historic and archaeological survey has been conducted for this property, and a summary is included in Section 5.15.
6.2	The project anticipates maintaining the integrity of the granite seawall along the Harborwalk including the wall under the proposed new cantilevered section of the Harborwalk. The granite features of this section would still be visible from the outer portions of the two wharves.

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

October 19, 2007

Secretary Ian A. Bowles
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn.: Deirdre Buckley

RE: New Street Development, 6-26 New Street, East Boston, MA. MHC #RC.43055. EEA #14102.

Dear Secretary Bowles:

Staff of the Massachusetts Historical Commission have reviewed the Phase I Waiver Request for the project referenced above.

MHC requests that the project planners incorporate within the Phase I aspect of the project, as the first component of the phase, the reconnaissance historic and archaeological survey (950 CMR 70) described in MHC's comments of October 3, 2007. The project schedule should provide ample opportunity for the US Army Corps of Engineers to review the results of the investigations; to consult with MHC, the Massachusetts Board of Underwater Archaeological Resources, the Boston Landmarks Commission, and any other consulting parties; and, to make determinations of eligibility and effect; and to comment to adopt and implement feasible measures to avoid, minimize, or mitigate any adverse effects to National Register-eligible historic and archaeological resources in accordance with the procedures of 36 CFR 800. 7.1

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), MGL c. 9, ss. 26-27C (950 CMR 70-71), and MEPA (301 CMR 11). Please contact Edward L. Bell of my staff if you have any questions at this time.

Sincerely,

Brona Simon
State Historic Preservation Officer
Executive Director
State Archaeologist
Massachusetts Historical Commission

xc:
Bruce Ohanian,New Street Realty Trust
Jamie M. Fay, Fort Point Associates, Inc.
Karen Kirk Adams, USACOE-NED-Regulatory
Kate Atwood, USACOE-NED
Coastal Zone Management
Victor Mastone, Board of Underwater Archaeological Resources
Boston Redevelopment Authority
Ellen Lipsey, Boston Landmarks Commission
Ellen P. Berkland, Boston City Archaeologist

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Letter 7	Massachusetts Historical Commission, Brona Simon
7.1	The reconnaissance historic and archaeological survey will be included in the Phase I aspect of the project. A summary of the survey is in Section 5.15, Historic Resources.

October 24, 2007

Mr. Ian A. Bowles, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge St, Suite 900
Attn: MEPA Office, Deirdre Buckley
Boston, MA 02114

Subject New Street Development, East Boston
Environmental Notification Form - EOEEA #14102

Dear Secretary Bowles:

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the New Street Development Project in East Boston.
New Street Realty Trust ("the Proponent") is proposing to redevelop an approximate 3.93-acre site along the East Boston waterfront on Boston Inner Harbor. The project includes the redevelopment of an existing 9-story building for residential uses with an additional three floors and a two-level parking garage and the demolition of several buildings. The project also includes the construction of a new six story building and a two-level parking garage.

The Expanded Environmental Notification Form (EENF) estimates that the full-build project will increase sanitary flow to the municipal collection system by 35,210 gallons per day (gpd), from 300 gpd to about 35,510 gpd. It also states that preliminary analysis indicates that the existing Boston Water and Sewer Commission (BWSC) collection system is adequate to handle this increase in flow. Also, the EENF states that the project's sewer system will connect to the 12-inch East Boston Branch Sewer and implies this sewer is owned and operated by the Boston Water & Sewer Commission (BWSC).

The 12-inch East Boston Branch Sewer is actually an MWRA interceptor. The Proponent should instead plan to connect the project's sewer system to the BWSC system in New Street, which includes a 20-inch pipe along the project site that drains through a combined sewer overflow (CSO) regulator in Sumner Street to the MWRA interceptor. MWRA plans to replace its 12-inch pipe with a larger pipe as part of its East Boston Branch Sewer relief project, one of 35 projects in MWRA's $811 million long-term CSO control plan for Boston Harbor. 8.1

MWRA plans to construct the East Boston Branch Sewer Relief project between June 2008 and June 2010 in compliance with the Federal District Court Order in the Boston Harbor Case. As part of this project, MWRA will be replacing its existing sewer on New Street using the pipebursting method (in situ replacement). MWRA will also be installing new pipes and structures at the southern end of New Street at the intersection with Sumner Street to effect required modifications to the existing BWSC combined sewer overflow regulator. MWRA's work in New Street and Sumner Street is scheduled to occur between December 2008 and March 2010. The Proponent must coordinate design and construction of any proposed utilities installations and/or connections within New Street with MWRA and BWSC to ensure no conflicts exist with MWRA's court-ordered construction. 8.2

Most areas draining to the East Boston Branch Sewer are served by combined sewer systems that during wet weather carry high quantities of stormwater runoff along with the sanitary flows. The combined flows contribute to surcharging of the East Boston Branch Sewer and the local collection system and contribute to CSOs to Boston Inner Harbor and Chelsea Creek during large storms. Any increase in flow to these systems may contribute to greater surcharging and overflows during wet weather. New flows to the system should be offset with Infiltration/Inflow (I/I) removal or sewer separation to help ensure that the benefits of the CSO control plan will be realized and will provide and maintain the necessary water quality improvements in the long-term. 8.3

A plan to offset any net increase in flow to the sewer systems should be developed and implemented in accordance with Massachusetts Department of Environmental Protection (DEP) and BWSC policies. A Phase I waiver should require the Proponent to develop detailed estimates of the net amount of wastewater that will be generated and a plan for offsetting and precluding any increase in flow to the collection system. Also, the Proponent should confirm that any stormwater flows that may be entering the sewer system from the project site today (e.g. draining to the catch basin mentioned in the EENF) will be removed and redirected to the project's new storm drain system, stormwater treatment and Boston Harbor. Removal of any site runoff from the BWSC and MWRA sewer systems should be conducted as part of Phase I, especially if Phase I redevelopment will increase runoff quantities. 8.4

The MWRA prohibits the discharge of groundwater to the sanitary sewer system, pursuant to 360 C.M.R. 10.023(1) except in a combined sewer area when permitted by the Authority and the municipality. The proposed structures have access to a nearby receiving water; the discharge of groundwater to the sanitary sewer system associated with the construction and redevelopment of the New Street project is prohibited.

I can be reached at 617 788-1165 for further questions and/or assistance in agency coordination.

Sincerely,

Marianne Connolly
Prog. Mgr., Regulatory Compliance

cc: Kevin McKenna, MWRA Sewer Permitting
Ralph Francesconi, MWRA Water Permitting
David Kubiak, MWRA Engineering & Construction

Letter 8	Massachusetts Water Resources Authority, Marianne Connolly
8.1	The project will connect its sewer lines to the Boston Water Sewer Commission (BWSC) system in New Street.
8.2	The proponent will coordinate the design and construction of any proposed utility installations and/or connection in New Street with MWRA and BWSC to ensure there are no conflicts with MWRAs court ordered construction.
8.3	The proponent will be coordinating with the BWSC regarding I/I measures for the project and will participate in any required I/I program to help ensure that the benefits of the CSO control plan will be realized.
8.4	Waste flows for both Phase I and full build conditions will be included in the DEIR/DPIR. The proponent will investigate methods to offset any increase in flow in accordance with MassDEP and BWSC policies. Although the sewer system is currently being designed, plans are to minimize any stormwater entering the system and also to remove any stormwater entering the system and redirect it into Boston Harbor after pre-treatment. Site runoff and stormwater separation from the MWRA and BWSC systems are anticipated to be conducted as part of Phase I.

October 31, 2007

Ian A. Bowles, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, 9th Floor
Boston, MA 02114
Attention: Deirdre Buckley, MEPA Office

Paul McCann, Acting Director
Boston Redevelopment Authority
Boston City Hall, Room 925
Boston, MA 02201
Attention: Kristin Kara, Project Manager

Re: 6-26 New Street, East Boston – New Street Development
Expanded Environmental Notification Form/Project Notification Form, EEA #14102

Dear Secretary Bowles and Acting Director McCann:

The City of Boston Environment Department has reviewed the Expanded Environmental Notification Form/Project Notification Form (EENF/PNF) and offers the following comments.

The 3.93-acre project site, in East Boston, is bounded by New Street, Maverick Landing, LoPresti Park, Boston Harbor and Boston Tow and Transportation. Pursuant to the Zoning Code, the site is in a designated Waterfront Service zoning area. About half of the site is on filled tidelands and upland and half is flowed tidelands.

A portion of the waterside is a Designated Port Area (DPA) which carries with it some requirements on site redevelopment. In response, the proponent will provide a water taxi landing and service area in the DPA section of the site and will make site improvements that will allow marine industrial vessels to access and berth at the adjacent dock.

A Municipal Harbor Plan (MHP) Amendment will likely be required for the portions of the site that are subject to the jurisdiction of Chapter 91, the Commonwealth's waterways regulations. Chapter 91 prohibits "…significant privatization of waterfront areas immediately adjacent to the water dependent use zone… for non-water dependent purposes." Facilities of Private Tenancy (FPT) are not to be sited on the ground level of filled tidelands within 100 feet of a project's shoreline.

The EENF/PNF indicates that it presents and studies the entire project site and development plan. The proponent plans to construct the project in two phases so that construction can begin while the regulatory changes involving the MHP Amendment and Chapter 91 are resolved.

The project site is occupied by four buildings; three (a one-story, a three-story and a five-story) will be demolished. An existing nine-story building will be expanded to 12 stories and will be converted to 148 residential units. A rectangular bay of windows is shown to span several stories vertically.

A two-level parking garage with 78-104 spaces (104 with stackers) will be constructed on the north side of the 12-story building; 15 surface spaces will be on the south side.

A new six-story building will be constructed for use as 62 residences or as a 106-key hotel or extended stay units. It will include 7,971 square feet (SF) of ground-floor facilities of public accommodation (FPA) within 100 feet of the project shoreline and 71-121 (121 with stackers) parking spaces on two below-grade levels.

Proposed work under Phase I is to be:

- the redevelopment of and addition to the existing nine story building;
- construction of the new 78 to 104-space parking garage on the north side of the building;
- demolition of the three other buildings;
- construction of Harborwalk along the wharves with a connection to LoPresti Park;
- removal of the pile field;
- construction of truck access route to the DPA watersheet area;
- construction of water taxi landing and waiting area; and
- construction of parking in area of former five-story building.

A cantilevered, 10-foot clear Harborwalk will be constructed along the piers and wharves and will connect with the LoPresti Park Harborwalk. Figure 1-2, (Site Plan-Full Build) shows an 18-slip marina in the non-Designated Port Area (DPA) portion of the watersheet. Improvement dredging of 2,300 cubic yards (CU) would be required for this use. A water taxi landing and services area is to be provided on the northern wharf.

We request that the Harborwalk be 12-feet clear rather than the proposed ten. The additional two feet would allow a comfortable experience for people to stand along the waterside to enjoy the view while pedestrians walk in both directions behind them. Easy circulation for pedestrians using wheelchairs or walking with baby carriages would be most likely with a slightly wider Harborwalk. 9.1

The Executive Secretary of the BCC has reviewed the EENF/PNF and requests that the Draft Environmental Impact Report/Draft Project Impact Report (DEIR/DPIR) address the following:

- **The proponent should confirm that that, in addition to removal of the pile field, all marine debris and dilapidated pier structures will be removed as part of Phase I of the project.** 9.2
- **The project shadow analysis must review and address any impacts the added building height will have upon the solar array located on the building at Maverick Landing adjacent to the project site.** 9.3
- **The project landscape plan and site design indicate the Harborwalk will end at the location of the proposed water taxi facility and Boston Towing and Transportation's property line. To prevent a dead-end of the Harborwalk at the property line, a pathway along the northern extent of the property should be** 9.4
- **included in the site plan to connect the Harborwalk back to New Street. The site design should also not preclude a future Harborwalk connection to the adjacent property.**
- **The proponent should specify whether the existing granite seawall will be maintained as part of the final design and, if not, describe and document the reasons for the decision, discuss other materials and describe how the granite block will be reused.** 9.5

The EENF/PNF indicates that a detailed shadow, daylight and solar glare analyses will be in the DEIR/DPIR.

We look forward to these analyses and note that the BCC's request regarding the Maverick Landing

The Wind section of the EENF/PNF indicates that a qualitative assessment was conducted.

The data and documentation of the wind analysis is not useful for review. The text of Section 6.1 indicates that the outdoor seating area and the area between the "12- and six-story buildings will be a little windy at times, especially at the harbor end." It is suggested that clear Plexiglas windshields may be used for public comfort in the area where outdoor restaurant seating is planned. Figure 3-4B shows that this area is adjacent to walkways around the proposed first story area of public accommodation and to the adjacent LoPresti Park and to an open space area toward the water. The affect that Plexiglas windshields might have in these areas is not referenced. The area between the buildings is an accessway to open space and Harborwalk. 9.6

In addition, there is no information about existing conditions, the configuration upon which any assessment must be based. A wind study should be conducted that compares existing and projected conditions with results reported in the DEIR/DPIR in a Table containing data for annual and four-season winds.

Sheet flow on the western side of the site goes directly into Boston Harbor. Stormwater from the south and east drain into a catch basin; the proponent does not know to where the stormwater is then transported.

The site is now 100 percent impervious; landscaping will result in a decrease of about 24 percent of impervious surface. In addition, a new storm drain system is proposed. It will consist of new drywells, deep sump catch basins and equipment associated with treatment systems. A green roof will be installed on the roof of the new six-story building and on the addition to the nine-story building.

We commend the proponent for this attention to stormwater and for the proposed plan.

The DEIR/DPIR should quantify existing and project sound from the project with and without emergency generators and for only emergency generators. 9.7

The EENF/PNF indicates that Transportation Demand Management (TDM) will be covered in a DEIR/DPIR.

We ask that the proponent include each of the following measures in a TDM plan: 9.8

- On-site Transportation Coordinator shared by all project users.
- Transit pass subsidies for all employees, including contract workers, with a pro rata subsidy for part-timers.
- Pre-tax payroll deduction for transit pass purchase.
- On-site transit pass distribution.
- Maintenance of a database of employee information for ridematching/planning purposes – home address, commuting mode, work hours, etc.
- A Guaranteed Ride Home program for non-drivers and high occupancy vehicle (HOV) users (three or more occupants).
- Posting and on-site availability of public and private transit schedules with rate information.
- On-site information about MassRIDES.
- Secure bicycle storage in an area protected from the elements (for commuters).
- Additional bicycle storage for short-term users.
- Showers and changing rooms/lockers for commuters who bike or walk.
- Direct deposit of paychecks.
- An on-site ATM.
- A local hiring program (Walk to Work).
- Car sharing such as Zipcar (includes a program for businesses).
- Incentives such as toll subsidies, preferential parking or reduced-rate parking for high occupancy vehicle HOV commuting.
- Occasional parking for transit commuters who may sometimes need to drive.
- Parking rate structure designed to discourage commuter use.
- Fueling stations for alternative fuel vehicles.

<u>Hotel-specific</u>

- On-site car rental or special arrangements with car rental agency to provide car at hotel.
- On-site trip-planning assistance.
- Sending transit information (MBTA, water shuttle, etc.) and special car rental information to all who reserve a room and to all registrants of a meeting or seminar to be held at hotel, should the hotel offer meeting space.
- Selling MBTA Link Passes on-site.
- If offering shuttle services, share with other hotels, serve major transit hubs for multiple modes and contract with one that uses clean (alternative) fueled vehicles.

Residence-specific

- Car-sharing, such as Zipcar.
- Secure, indoor storage for residents' bicycles.
- Bicycle racks for visitors.
- Posting information about public and private transit routes (including water), schedules and rates.
- One free Link Pass for each condominium unit during the six months to one year after the initial sale of each unit.

The EENF/PNF indicates that construction issues including dust and noise will be included in a Construction Management Plan.

Thank you for the opportunity to comment. We look forward to the next step of review.

Sincerely,

Bryan Glascock
Director

cc: Kathleen Pedersen, Project Manager and Environmental Review Specialist, BRA

Letter 9	Boston Environment Department, Bryan Glascock
9.1	The Harborwalk will provide users with extensive views of the Boston skyline, Boston Harbor, Chelsea Creek, and Charlestown along the entire project waterfront from LoPresti Park to the water taxi landing. It will include amenities such as benches, viewing areas, an interpretive display, and appropriate lighting, which will make it more enjoyable for users of the Harborwalk. The width of the Harborwalk will be at least 10 feet clear and will be wider, up to 22-feet clear in other places, in order to fit appropriate uses, such as the viewing areas and interpretive signage, along its path and within the existing layout of the two granite-bulkhead, filled wharves. The 10-foot wide path will provide ample room and easy circulation for both wheelchairs and baby carriages.
9.2	Any marine debris and dilapidated pier structures will be removed as part of Phase I of the project.
9.3	The shadow analysis in Section 5.2 addresses any impacts that the added building height would have on the solar array located at Maverick Landing.
9.4	The potential inclusion of a pathway along the Boston Towing and Transportation side of the site was reviewed and considered through the main concepts and alternatives design process. The inclusion of a pathway at this location would have prevented the construction of a parking garage, however, which is an integral and necessary practical component of the project. A pathway in this location was also considered by many to be dysfunctional in relation to the ongoing Designated Port Area operations of Boston Towing. To maintain a standard parking bay width, there was not any more room to fit a pathway. Should the use of the Boston Towing property change in the future, it is possible the proposed Harborwalk along the outer pier could be connected to this adjacent property.
9.5	All the granite walls are anticipated to be maintained as part of the final design. In fact, portions of the granite seawall were recently reconstructed using the original granite blocks that had fallen off the wall.
9.6	The full text of the pedestrian wind analysis was inadvertently excluded from the ENF/PNF and is included in the DEIR/DPIR (see Section 5.1 and Appendix 4). The purpose of the pedestrian wind analysis is to identify the effects of pedestrian level winds (PLWs) regarding the proposed project building design. It compares existing with proposed PLWs. The analysis, however, does not review the wind effects on a micro scale and therefore, elements such as trees, posts, signs, wind screens, and other small features that could change the winds at individual locations are not considered. Plexiglas windshields placed at a particular location such as the outdoor seating at the restaurant will most likely improve the existing PLW conditions. The wind study contains existing conditions data, the configuration upon which the assessment is based, and a comparison of existing and projected conditions.

9.7	The DEIR/DPIR includes a review of existing and proposed noise levels and includes levels with and without emergency generators. See Section 5.6.
9.8	The proponent has offered appropriate travel demand management measures to minimize the use of single-occupant vehicles and maximizing the use of alternate modes of transport. A full discussion of transportation demand management measures is provided in the DEIR/DPIR, Section 4.0.

Boston

Kristin Kara
Project Manager
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

October 1, 2007

Dear Ms. Kara:

Regarding the Project Notification Form for the New Street Development – East Boston project submitted to the BRA on September 17, 2007 the Boston Fire Department requires the following issues addressed by a qualified individual.

1. Emergency vehicle site access to the new buildings as well as existing buildings that might be affected. 10.1
2. Impact on availability and accessibility of hydrant locations for new buildings as well as for any existing buildings that might be impacted. 10.2
3. Impact on availability and accessibility to siamese connection locations for new buildings as well as for any existing buildings that might be impacted.
4. Impact that a transformer vault fire or explosion will have on the fire safety of the building. Particularly as it relates to the location of the vault. 10.3
5. Need for Boston Fire Department permit requirements as outlined in the Boston Fire Prevention Code, the Massachusetts Fire Prevention Regulations (527 CMR), and the Massachusetts Fire Prevention Laws (MGL CH148). 10.4
6. For projects involving air-supported structures, it is critical that the impact of the design has on fire safety relative to the interaction of the area underneath the structure to the structure as well as to the interaction of the structure to the area underneath the structure.
7. Due to the increasing popularity of private wireless communication services, it has become increasingly difficult and costly for the Fire Department to locate our emergency communications equipment at appropriate sites. At the same time, the need for antenna sites has grown as development continues in downtown/Back Bay. We would appreciate it if the BRA, as part of its development review process for high-rise towers, could assist the Fire Department in obtaining rooftop access for our communications equipment as a public benefit too meet this critical public safety need. 10.5

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These items should be analyzed for all phases of the construction as well as the final design stage. This project will need permits from the Boston Fire Department as well as the Inspectional Services Department.

Respectfully,

Dennis L. Keeley
Acting Fire Marshal

Pjm
Cc: Paul Donga, FPE, Plans Unit, BFD

Boston Redevelopment Authority

Boston's Planning & Economic Development Office

Thomas M. Menino, *Mayor*
Clarence J. Jones, *Chairman*
Paul L. McCann, *Acting Director*

One City Hall Square
Boston, MA 02201-1007
Tel 617-722-4300
Fax 617-248-1937

MEMORANDUM

TO: Roderick Fraser, Boston Fire Department

FROM: Kristin Kara, Project Manager

DATE: September 18, 2007

SUBJECT: New Street Development – East Boston: Notice of Project Notification Form Receipt and Invitation to Scoping Session

The purpose of this memorandum is to convey to you the Project Notification Form (the "PNF") Receipt for the subject project, and to invite you to a Scoping Session for the proposed New Street project (the "Proposed Project"), in East Boston, which is undergoing a Large Project Review pursuant to Article 80B of the Boston Zoning Code. **The Scoping Session is scheduled for Tuesday, October 2, 2007 at 9:30 a.m.** in Room 900 (BRA Board Room), 9th Floor, City Hall at the Boston Redevelopment Authority (the "BRA").

Article 80 of the Boston Zoning Code, Development Review and Approval, provides unified requirements for the review of development projects in Boston which include important opportunities for community involvement in the development review process. Project review under Article 80 is initiated when the project proponent ("Applicant") files a PNF in writing with the BRA. The PNF sets forth in sufficient detail those aspects of the proposed project that are necessary to determine its potential or likely impacts. Article 80 requires the BRA to invite all of the City's public agencies to a Scoping Session with BRA staff and the Applicant. Enclosed for your review is the PNF receipt and the PNF, which under Article 80 the BRA is required to send to you.

The Scoping Session is attended by staff from City public agencies that choose to send a representative, and the Applicant. The Applicant will briefly present the Proposed Project and then there will be an opportunity to clarify or explore issues of concern.

The BRA may issue a written Scoping Determination setting forth those elements of the Proposed Project described in the PNF that the Applicant must study, analyze and mitigate by filing a Draft Project Impact Report ("DPIR"), or find that the PNF is adequate and issue a Scoping Determination waiving further review. The BRA solicits comments from all City public agencies and the public in preparing the Scoping Determination. Written comments regarding the Proposed Project must be received by the BRA no later than **Wednesday, October 17, 2007.**

If you need clarification please contact me at (617) 918-4263.

Thank you.

cc: BRA Project Review Team:

Ann Theresa Dwyer	Jansi Chandler	David Carlson	Susan Elsbree
Tom Miller	Prataap Patrose	Richard Shaklik	Katie Pederson
Heather Campisano	Kairos Shen	Randi Lathrop	Valerie Gingrich
Richard McGuiness	Carlos Montanez		

Letter 10	Boston Fire Department, Dennis L. Keeley
10.1	The site plan provides for emergency vehicle access on the front (east) side of the building from New Street and from the south side along the parking area. Access to the west side on the back (waterfront) of the project site is from the 14-foot high passageway through the proposed 6-story building.
10.2	Hydrants are present on New and Sumner streets. These hydrants will service all existing and proposed buildings. Siamese connections will be included in final building plans in accordance with local code and specific requirements from the Boston Fire Department.
10.3	The proponent is not currently planning on having a transformer vault inside the building. A transformer is shown outside in the area of New Street that will be used for the project. The proponent has not yet discussed this with the energy provider, the Public Improvement Commission, or the Boston Public Works Department. If the project is required to have a vault, then it will be designed to conform to all applicable codes and to the satisfaction of the energy provider and Boston Fire Department.
10.4	Boston Fire Department permits will be applied for as required by the by Massachusetts Fire Prevention Laws (MGL 148), Massachusetts Fire Prevention regulations (527 CMR), and the Boston Fire Prevention Code, (Ordinances of 1979, Chapter 28).
10.5	The proponent anticipates working with the Boston Fire Department and the BRA to explore placement of rooftop access for communications equipment as a public benefit to the extent practicable and allowed by local and state regulations.

Public Notice

The Boston Redevelopment Authority ("BRA") pursuant to Article 80 of the Boston Zoning Code ("Code"), hereby gives notice that a Project Notification Form ("PNF") was filed by New Street Realty Trust ("Proponent") on September 17, 2007, for the New Street Development Project to be located at 6-26 New Street, East Boston, located on the East Boston Waterfront on Boston Inner Harbor.

The Proposed Project includes the redevelopment of an existing nine-story building that will include a three-story addition, and the construction of a new six-story building, which will replace two existing buildings. The Proposed Project contains a mix of uses including up to 210 residential units, possibly a hotel, facilities of public accommodation on the ground floor, a recreational marina, space allocated for Designated Port Area uses, and up to 225 parking spaces.

The proponent is seeking issuance of a Scoping Determination by the BRA pursuant to Section 80B-5 of the Code. The BRA in the Scoping Determination for such PNF may waive further review pursuant to Section 90B-5 3(d) of the Code, if after reviewing public comments, the BRA finds that such PNF adequately describes the Proposed Project's Impacts.

The PNF may be reviewed in the office of the Secretary of the BRA, Room 910, Boston City Hall, Boston, MA 02201 between 9:00AM and 5:00PM, Monday through Friday, except legal holidays. Public comments on the PNF should be transmitted to Kristin Kara, BRA at the address stated above, or via email to kristin.kara.bra@cityofboston.gov,within 30 days of the date of this notice or by October 17, 2007.

BOSTON REDEVELOPMENT AUTHORITY
Harry R. Collings,
Executive Director/Secretary

Sep 17

From: Kara, Kristin [mailto:Kristin.Kara.bra@cityofboston.gov]
Sent: Tuesday, October 16, 2007 1:48 PM
To: Edward G. Nardi; Stephen D. Peabody
Subject: FW: New Street Development

FYI - Parks Dept. comment letter

From: Crasco, Ken - Parks Dept.
Sent: Tuesday, October 16, 2007 1:41 PM
To: Kara, Kristin
Cc: McLaughlin, Brian - Parks Dept.
Subject: New Street Development

TO: Kristin Kara, Project Manager, BRA

RE: New Street Development PNF Response

The Parks and Recreation Department appreciated an opportunity to attend the Scoping Session on October 2, 2007 to learn more about the preliminary plans for the New Street Development. As noted in the PNF, this project will eventually need to come before the Parks and Recreation Commission for design approval in accordance with the requirements of City Ordinance 7-4.11. 11.1

As an initial response to the PNF, this Department has concerns about the configuration of the paved access road and parking area that are proposed to be situated directly adjacent to the property line of the adjacent LoPresti Park, a Parks Department property. As proposed, an access road with a paved turn-around and a ten car diagonal parking zone would abut the project's interface with the park. (The cover illustration for the PNF implies that diagonal parking continues along the front of the park bordering Sumner Street, which is not the case, as parallel parking abuts the park along Sumner Street.) The Department would prefer to see much less pavement abutting the park edge. We advocate a more park-like open space treatment with tree and grass area where the New Street project abuts the park. 11.2

The Parks Department looks forward to seeing further design advances for this project, as well as the detailed shadow studies to be incorporated in the DPIR/DEIR. 11.3

Ken Crasco, FASLA
Chief Landscape Architect
Boston Parks and Recreation Department
1010 Massachusetts Avenue, Boston, MA 02118
(T) 617.635.4854
(F) 617.635.3256

Letter 11	Boston Parks and Recreation Department, Ken Crasco
11.1	The project understands that approval from the Boston Parks and Recreation Department is required under Boston Code of Ordinances, Chapter VII, Section 7-4.11 and will be seeking such approval.
11.2	The landscaping and parking on the project site along the LoPresti Park side of the project have been designed to soften this edge and make it a more inviting area for pedestrians coming from in the Park to continue to walk along the Harborwalk. It will be a substantial improvement from existing conditions. Potential landscape treatments include trees, grass, and other plantings. Furthermore, the project team anticipates meeting with the Parks Department to discuss potential improvements along this edge of the Park as part of the design process.
11.3	Detailed shadow studies can be found in Section 5.2, Shadow Studies.

From: Giers, Bob
Sent: Friday, October 12, 2007 2:56 PM
To: Kara, Kristin
Cc: Jayasinghe, Para; Leo, Vincent; Banks, Joseph; Spinetto, Stephen; Hutt, Sarah; Crasco, Ken - Parks Dept.
Subject: New Street Development

Hi Kara,

Here are PWD comments for the subject project located at 6-26 New Street in East Boston, where the developer is estimating the cost of the project to be approximately $90,000,000:

Site Plan:

Developer must provide an engineer's site plan at an appropriate engineering scale, that shows curb functionality on both sides of all streets that abuts the property. 12.1

Sidewalks:

Developer is responsible for the reconstruction of the sidewalks abutting the project, and where appropriate, extend the limits to the nearest intersection. This effort may constitute a License, Maintenance and Indemnification (LM&I) agreement with the Public Improvement Commission (PIC). The reconstruction effort must meet current ADA guidelines, including the re-construction or installation of necessary ADA compliant pedestrian ramps where needed. 12.2

Discontinuances:

Any and all discontinuances (sub-surface, surface or above surface) within the Public Right-of-Way (ROW) must be processed through the PIC. 12.3

Landscaping:

Developer must seek approval from Ken Crasco, Chief Landscape Architect with the Parks and Recreation Department for all landscape elements. Program must accompany a LM&I with the PIC. 12.4

Street Lighting:

Street lighting needs must be consulted with Mr. Joe Banks of the Street Lighting Division with the PWD, and where needed, be installed by the developer, and must be consistent with the area lighting, to provide a consistent urban design. 12.5

Roadway:

Based on the extent of construction activity, including utility connections and taps, the Developer will be responsible for the reconstruction of the roadway sections that immediately abuts the property, and where appropriate, extend the limits on re-construction to the nearest intersection. 12.6

Public Trash Receptacles:

Developer to consult with Tim McCarthy of BPWD, and is responsible for purchasing solar powered trash compactors to be used in Public space consistent with City of Boston's plan. 12.7

Public Art:

Developer is encouraged to contact Sarah Hutt, Boston Arts Commission to participate with the City's public arts program, creating notable art pieces in public spaces. 12.8

Groundwater:

Developer should install groundwater-monitoring wells in accordance to ISD standards, to monitor groundwater levels during construction, and convey the wells to the Groundwater Trust through the PIC after the completion of the project. 12.9

Note: these are the general standard BPWD requirements applicable to every project, more detailed comments will be addressed during the PIC review process;

Any questions please give me a call at 617-635-4966

Thank you, Bob Giers

Letter 12	Boston Public Works Department, Bob Giers
12.1	An engineer's site plan at an appropriate scale that shows the curb functionality along New and Sumner streets will be included in the EIR submittals.
12.2	Portions of New Street along the front side of the project will be reconstructed to meet ADA guidelines. The proponent will work with the Public Improvement Commission (PIC) to establish a License, Maintenance, and Indemnification (LM&I) agreement as required.
12.3	To accomplish the streetscape improvements desired by the BRA, abutting property owners and the project proponents, there will be an anticipated taking, discontinuance, and conveyance of portions of Public Right of Way along New Street, with the approval of the PIC and the BRA. The proponent will work with the PIC and the BRA as part of this process.
12.4	The proponent will work with the Ken Crasco of the Boston Parks and Recreation Department to help determine appropriate landscaping along portions of the project site that border LoPresti Park. An LM&I Agreement with the PIC is not required for areas on the project site.
12.5	Street lighting along New Street will be consistent with the area lighting.
12.6	The roadways sections that are disturbed as part of this project will be reconstructed as required.
12.7	The proponent will work with the Public Works Department to determine the best location, if any, for the placement of solar trash compactors on public space.
12.8	The proponent will contact the Boston Arts Commission to help identify potential art pieces for public spaces.
12.9	The proponent will work the Boston Groundwater Trust to determine the best location for any necessary groundwater monitoring wells.

MEMORANDUM

TO: Kristin Kara
FROM: David Carlson
DATE: October 23, 2007; updated March 11, 2008
SUBJECT: New Street Residences
PNF Scoping Comments

The Proposed Project consists of approximately 148 (addition) plus 62 (new) residential units (or 106 hotel rooms) in a massing and height configuration that presumptively is in the process of being modified in response to comments. Therefore the comments made below should be applied or understood in their general, and not necessarily specific, sense. 13.1

DAYLIGHT COMPONENT

A daylight analysis for both build and no-build conditions shall be conducted by measuring the percentage of skydome that is obstructed by the Proposed Project building(s) and evaluating the net change in obstruction. If alternative massing studies are requested or result as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study should treat three elements as controls for data comparisons: existing conditions, the as-of-right zoning envelope, and context examples. The areas of interest include New Street, LoPresti Park, and a point along the future Harborwalk. Daylight analyses should be taken for each major building facade fronting these public ways. The midpoint of each public accessway or roadway should be taken as the study point; consult with BRA staff with any questions. The BRADA program must be used for this analysis. 13.2

URBAN DESIGN COMPONENT

The Boston Civic Design Commission has initiated their review of this Project with a vote to review and presentation on October 2, 2007; however, it is recommended that the Project wait until responses to design issues have been generated for inclusion in a DPIR or Supplemental Information package before a second presentation to Design Committee is scheduled. BCDC comments are attached as an excerpt from the minutes of that date. The Project was also discussed in more detail in a Design Committee on November 13, 2007; no formal transcription of notes or minutes is available, but some of the points noted for further study are listed after the excerpt. The Project has *already* been modified to some degree as part of the ongoing process of review. 13.3

The Proposed Project as described in the PNF will demolish two of the three existing buildings on the site (which will require review under Article 85 by the BLC) and create a new residential compound with a possible hotel program and a waterfront restaurant pavilion. Parking will be reconstructed to replace the existing low building to the north adjacent to the industrial DPA use; two underground levels of parking are planned below the new building. The PNF project design proposes three floors added to the existing large warehouse building and also creates public open space and Harborwalk, improving the edge of LoPresti Park. Additional information should be provided which updates the Project in a manner which responds to 13.4

issues raised in comments and by the BCDC. The updated Project would be not so much an alternative design as one which has evolved in response to comments. Please address the following issues and provide the requested information.

1. Better define the public open space, including Harborwalk and the pathway that also serves as the required access for the DPA watersheet uses. Develop the landscape treatment, including the screening of any external garage ramp. Include thoughts about lighting and strategic measures which ensure the safe public enjoyment of all passages, including any connecting the spaces formed by the structures.
2. Consider placing Harborwalk on land and revealing the restored seawall, where and if feasible.
3. The parking below ground may need to be minimized. Add a floor of parking to the garage structure on the north, with access from within the adjoining existing building. This may allow the reintroduction of a single loft-style duplex to either side of the parking entry, accessed from the sidewalk, possibly programmed for artist space (since the Atlantic Works building nearby has successful artists programming).
4. Simplify the treatment (and select the program) of the south residential structure, with a focus on the upper two floors. The treatment of these floors is disproportionately elaborate.
5. Study the treatment and experience of the space between the buildings to ensure its comfort to both occupants and the public.
6. Consider studying the proportions of the addition to the larger industrial building, possibly with a modest increase in height, to allow an overall simplification, a better relationship to the lower building, and a more iconic presence on the Harborfront.
7. Consider modifying the New Street alignment to normalize the street width, if permitted by BTD/PWD.

We reserve the right to request that additional urban design objectives be addressed as the Proposed Project moves forward in the BRA review process, in addition to any specific issues raised by others in the comment period. The following (standard list of) urban design materials must be submitted for the additional information or DPIR for the Proposed Project. 13.5

1. Written description of program elements and space allocation for each element

2. Plan for the surrounding area and district and sections at an appropriate scale (1" = 40' or larger) showing relationships of the Proposed Project to the surrounding area and district:

    a. massing
    b. building height
    c. scaling elements
    d. open space
    e. major topographical features
    f. pedestrian and vehicular circulation
    g. land use

3. Black and white or color 8"x10" photographs of the site and neighborhood

4. Eye-level perspective (reproducible line drawings) showing the proposal (including main

entries and public passages/areas) in the context of the surrounding area. Views from the neighborhood streets as well as the internal public spaces are required, with particular emphasis on important viewing areas such as key intersections or public parks/attractions. Long-ranged (distanced) views of the proposed project should also be studied to assess the impact on the skyline or other view lines. (Check view lines by electronic or physical model testing, or also by checking aerial photos.) At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) both the build and no-build conditions. The view locations should be approved by the BRA before analysis is begun. View studies should be cognizant of light and shadow, massing and bulk.

5. Site sections at 1" = 20' or larger showing relationships to adjacent buildings and spaces.

6. Site plan at an appropriate scale (1" = 20' or larger) showing:

    a. General relationships of proposed and existing adjacent buildings and open space

    b. Open spaces defined by buildings on adjacent parcels and across streets

    c. General location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features

    d. Pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas

    e. Survey information, such as extending elevations, benchmarks, and utilities

    f. Construction limits

7. Study building/site model at 1" = 16' or 1" = 20' showing preliminary concept of setbacks, cornice lines, fenestration (window treatment), facade composition, etc.

8. Massing model at 1" = 40' in basswood suitable for placement in the Downtown model at the BRA, if appropriate.

9. Drawings at an appropriate scales (e.g., 1" =8', 1"-16', or 1"-20') to describe the facade design and proposed materials including:

    a. Building and site improvement plans

    b. Elevations in the context of the surrounding area

    c. Sections showing organization of functions and spaces

    d. Preliminary building plans showing ground floor and typical upper floors

    e. Phasing of the proposed project (if applicable)

10. A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development.

11. Proposed schedule for submittal of all design or development related materials.

INFRASTRUCTURE SYSTEMS COMPONENT

An infrastructure impact analysis should be performed.

The discussion of Proposed Project impacts on infrastructure systems should be organized system-by-system as suggested below. The applicant's submission must include an evaluation of the Proposed Project's impact on the capacity and adequacy of existing water, sewerage, energy (including gas and steam), and electrical communications (including telephone, fire alarm, computer, cable, etc.) utility systems, and the need reasonably attributable to the proposed project for additional systems facilities.

Any system upgrading or connection requiring a significant public or utility investment, creating a significant disruption in vehicular or pedestrian circulation, or affecting any public or neighborhood park or streetscape improvements, comprises an impact which must be mitigated. Additional information must describe anticipated impacts in this regard, including specific mitigation measures, and must include nearby Proposed Project (i.e. Hodge Boiler Works, Boston East) buildout figures in the analysis. The standard scope for infrastructure analysis is given below:

1. Utility Systems and Water Quality

a. Estimated water consumption and sewage generation from the Proposed Project and the basis for each estimate. Include separate calculations for air conditioning system make-up water

b. Description of the capacity and adequacy of water and sewer systems and an evaluation of the impacts of the Proposed Project on those systems

c. Identification of measures to conserve resources, including any provisions for recycling or 'green' strategies

d. Description of the Proposed Project's impacts on the water quality of Boston Harbor or other water bodies that could be affected by the Project, if applicable

e. Description of mitigation measures to reduce or eliminate impacts on water quality

f. Description of impact of on-site storm drainage on water quality

g. Information on how the Proposed Project will conform to requirements of the Ground Water Trust, if applicable

h. Detail methods of protection proposed for infrastructure conduits and other artifacts, including BSWC sewer lines and water mains, during construction

i. Detail the energy source of the interior space heating; how obtained, and, if applicable, plans for reuse of condensate.

Thorough consultation with the planners and engineers of the utilities will be required, and should be referenced in the Infrastructure Component section.

2. Energy Systems

a. Description of energy requirements of the project and evaluation of project impacts on resources and supply

b. Description of measures to conserve energy usage and consideration of the feasibility of including solar energy provisions or other on-site energy provisions.

Additional constraints or information required are described below. Any other system (emergency systems, gas, steam, optic fiber, cable, etc.) impacted by this development should also be described in brief. The location of transformer and other vaults required for electrical distribution or ventilation must be chosen to minimize disruption to pedestrian paths and public improvements both when operating normally and when being serviced, and must be described. Storm drain and sewage systems should be separated or separations provided for in the design of connections.

Excerpted from the BCDC Minutes of October 2, 2007 (Commissioners' names are abbreviated by initials):

The next item was a presentation of the **New Street Development Project** located at 6-26 New street in the East Boston neighborhood. John Pears (JP) of SBA introduced the Project team and presented the design, starting with the site locus and context, including the odd 2-width New Street, Maverick Landing, and the poor condition of marine infrastructure. They cannot upgrade and rehab the 5-story building, and part of their basic strategy is to allow more light along New Street. They at first proposed a 7-story addition, then 5, and now 3. And this is not just a loft conversion; the architecture is intended to create a residential scale. Windows are projecting out from the frame, using the concept of a kind of bay window. The new 6-story building keeps its alignment with Sumner Street, with a 1-story restaurant space at the end; Sumner Street conceptually continues into the site, bringing with it a sense of public continuity. We will work with the Parks Department on the connection to LoPresti Park. Harborwalk will follow the seawall. It terminates in a pavilion with a water taxi stop. (Shows views.) There is a green screen on the 1-story garage; the Project will pick up the pedestrian scale and entries of Maverick (Landing's) sides. Lighter materials will be used in the new building, to lighten its connection. The top will be softened, like in old buildings.

ET: Questions? DS: Chapter 91...is it upland or lowland? Is there parking on both phases (Yes, yes.)? Is the connection for a fire truck? Jamie Fay (JF): Yes, but also for trucks in the DPA area. (Shows the sought resolution of the DPA boundary, which had literally split the site, allowing the Project to proceed.) Jamie B. Magena (JM): The land is whole, but the water remains split, so the uses that require both must be tempered. DS: It feels like there is a lot of parking in Phase 1, a negative. It hasn't come together, a jumble of unrelated pieces. I like the old concrete frame

building. To see things added to it...it's like a 70s TAC project, or me doing one in the Midwest. I'd prefer to see it as it is, with a simple conversion, and then jazzing up the Phase 2 building. MD: I don't have as much an issue with the architecture. The massing moves are good. The views down New Street are compelling. Views down Sumner from the same distance would help. I hope the FPA doesn't result in a privatization of the view corridor; it needs more study. JP: (Indicates site plan.) This area has changed a great deal; it was drawn as a grander gesture with a large turnaround. It's a more intimate scale now. MD: I had a long conversation with Hodge Boiler Works about that. If you have a parking ramp, how do you keep it from becoming a pit? LW: How does the parking work? JP: From the turnaround. It's very important that the restaurant be viable, and it needs pedestrian access, take-out, and vehicular access to make it work.

MD: Uses at the ground floor? JP points to the lobby and support spaces. The units would be work/live if need be; the team wants to relate them to Maverick. DS: Have you engaged DEP and others in the planning? JF: Yes, we are working with the BRA and the State on an amendment that will help with the uses, etc. JM: Both DEP and CZM have seen this, it's been through 5 processes, it needs to join with LoPresti Park. DH: I have no problem with the addition; on the site plan I need information. But, I am concerned about the restaurant, how that works...if figural, it has to command the site. On the units, I'm not sure that the residential is the right feel, since the units are loft-like, since they are deep. The 'bays' proposed extend that sense of depth, so we should look at this carefully. LW: It seems funny to send people down, and turn around first, and then park. The restaurant really must be sculptural, a focal point. The garage seems to be squeezing the street. JP: In part, we need the parking. But also - the existing building is in the same line, as is the rest of the street. DS: Why the parking amount you have? JP: Because 148 units need the amount. DS: Why not gang them in a single structure, going higher? JP: It would block views from the windows. And it's not wide enough to allow internal ramping more than one floor. LW: More information on the parking, please. JM: the State prefers parking as a buffer. WR: It would be useful to know how wide the existing sidewalk is; it may not be so bad.

ET: Most people come with a model. Even if it's a study model, it will help to understand. On the warehouse building, you are trying almost too hard to conceal its origins. There's a lot of character in the existing - it's almost as though you are embarrassed. You're losing a piece of history in how it came to be. Like at Jackson Square, the buildings are too 'foreground.' The restaurant should be, but the others, less so. The renderings are beautiful, they stimulate responses...it's a great start. It could get simpler. With that, the New Street Development Project was sent to Committee.

November 13, 2007 Design Committee (ET, DH, WR, LW):

Work was presented by JP which addressed many of the issues noted above.
Issues noted during that discussion to be studied moving forward included: the differentiation and 'specialness' of the public realm; the amount of separation of the two buildings (at 30') and whether this would be comfortable with any projecting windows; tops of the two buildings which are more unifying and simpler - yet special, as they will be viewed (esp. higher) from around the harbor; simplify especially the upper floors of the lower structure; work on the safety and quality of the passage shown under the lower structure. Build a study model.

Letter 13	Boston Redevelopment Authority, David Carlson
13.1	The project is being modified in response to comments from the BRA. These comments and the content of the DEIR/DPIR are based on the revised design.
13.2	A daylight analysis for build and no-build conditions was conducted by the proponent and can be found in Section 5.3 of this DEIR/DPIR. When constructed, the project will pose minimal daylight obstruction impacts on the public areas including LoPresti Park and the Harborwalk areas.
13.3	The project is committed to providing a building of high quality design and construction. The elements of the design will continue to be refined through the design process in consultation with the BRA and all relevant parties. When the proponent generates the next level of design changes in response to the BCDC's review, the design team will present them to the BCDC for additional comments.
13.4	The following responses are organized with respect to the numbers in the comment letter: 1. Refer to text and figures in Section 2, Urban Design for landscaping description. Plants will be selected and reviewed during the design process. In regards to site lighting, the project would like to achieve LEED light pollution credit conformance. We would work with the appropriate agencies to achieve this while providing safe areas for the public. 2. The Harborwalk will be on land along the site except at a small cantilevered section. This small section allows for increased green space and handicapped slope for the walkway between the buildings that runs from New Street to Harborwalk. 3. A parking level has been removed from below the new 6-story building and one level added to the parking garage on the north side of the site. 4. Refer to text and figures in Section 2, Urban Design. 5. Refer to text and figures in Section 2, Urban Design. 6. Refer to text and figures in Section 2, Urban Design. 7. Refer to Project Site Plan in Section 2, Urban Design. See also responses to comments # 13.1 and # 13.3.
13.5	The urban design features of the project and programming are provided in Section 2, Urban Design. Photographs of the site are in Section 1, Project Description. Perspective drawings, site section plans are provided in Section 2. A massing model has been developed and will be reviewed by the BRA. Full size drawings will be provided as part of the BRA design review process.
13.6	An analysis of potential impacts from the Project upon existing infrastructure is included in Section 6.0 of the DEIR/DPIR. As detailed in this section, the Project is well served by public and private infrastructure systems, and it is anticipated that project-related demand can be accommodated without impacting system capacities.

MEMORANDUM

Date: October 17, 2007

To: Kristin Kara, Project Manager

From: Valerie Gingrich, Planner II

Re: **Comments on the Project Notification Form (PNF) for the New Street Development in East Boston**

The following are my comments and questions in response to the PNF submitted for 6-26 New Street by New Street Realty Trust and Cresset Development LLC.

Open space

- The open space proposed for the project should be designed in a comprehensive way, taking into consideration the existing open space adjacent to the project. The design should create a continuous experience along the waterfront. 14.1

- The design should be detailed, showing proposed open space amenities (water features, benches, landscaping, signage, lighting, public art, bike racks, recreation, etc.)

Harborwalk

- The Harborwalk standard is a minimum of 12 feet (10 feet clear), but should be wider where possible. 14.2

- Proposed Harborwalk amenities should be shown on the site plan (Benches, lighting, historic/interpretive signage, bike racks, public art, fishing piers, wayfinding signage, ladders, etc.).

- Considering the importance of the Sumner Street view corridor, the terminus of this corridor on the project site (Harborwalk) should provide space for a public viewing area.

- A connection from Harborwalk back to New Street should be planned into the design. Because the proposed parking structure will prohibit a reconnection along the property line, a connection between the two buildings should be considered.

Public Parking

How will the public parking, which has been proposed as a Facility of Public Accommodation, be designated/reserved for public use? 14.3

Height

Figure 4-4 shows the proposed height substitutions for the project in plan form. The applicant should provide sections and 3D renderings comparing the proposed building massing to what would be allowed by Chapter 91. 14.4

Environmental

The applicant should provide a detailed shadow analysis and daylight analysis as indicated in the PNF. 14.5

Letter 14	Boston Redevelopment Authority, Valerie Gingrich
14.1	The open space within the New Street project site addresses many of the needs for it in comprehensive manner by: • Creating a direct waterfront walkway and access for all users, • Connecting seamlessly to the existing Harborwalk at LoPresti Park, • Providing excellent amenities including benches, viewing areas, lighting, and others as the design is developed and needs are identified, • Providing a destination points including interpretive display and the taxi landing and waiting area, and • Incorporate a mix of uses such as the outdoor restaurant seating area, landscaping, and grassed areas. Additional landscape treatments to improve the edge between LoPresti Park and the project site will be coordinated with the Parks Department (see also response to comment #11.2).
14.2	The Harborwalk is a minimum of 12-feet wide (10-feet clear) and will be wider along various parts such as the northwest corner of the southern wharf (see also response to comment # 9.1). Amenities will be shown on the detailed design drawings as they are developed during the design process. The project understands the importance and visibility of the Sumner Street view corridor and its connection to the Harborwalk. A public viewing area is programmed at or near the terminus of this view corridor along the Harborwalk.
14.3	The public parking spaces within the proposed FPA will allowed for public uses on a first come, first serve basis. There will be signs in front of each space that designates it for public use.
14.4	Sections and renderings of the proposed development are in Section 1 of the DEIR/DPIR. A massing model of the Chapter 91 compliant and proposed project scheme was used in the EBMHP Amendment that was sent for the Secretary's approval.
14.5	A detailed shadow analysis is in Section 5.2, Shadow Studies. A daylight analysis is in Section 5.3, Daylight Analysis.

BRA MEMORANDUM

TO: Kristin Kara

FROM: Katie Pedersen

DATE: October 22, 2007

RE: New Street Development
East Boston, Massachusetts
Comments on Expanded Project Notification Form/Environmental Notification Form

I have reviewed the Expanded Project Notification Form/Environmental Notification Form (PNF/ENF) dated September 17, 2007 and submit the following Scoping Determination comments for the Environmental Protection Component. The Expanded ENF/PNF presents the studies performed with regard to the entire site development plan as well as proposes to secure a "Phase 1 waiver" for portions of the redevelopment. While the Massachusetts Environmental Policy Act (MEPA) and Massachusetts Harbor Plan (MHP) processes are ongoing, the proponent requests to proceed with a segment of proposed project work

New Street Realty Trust (proponent) proposes to redevelop the approximately 3.93-acre property (the site) located along the East Boston waterfront on Boston Inner Harbor. The proposed project site currently includes four buildings located next to each other; 1, 3, 5, and 9-stories in height. There are two wharves and several timber piers on the waterside of the property.

The proposed project includes the redevelopment of the existing 9-story building for residential uses with three added residential floors and a 2-level parking garage on the north side of the existing 9-story building, and the demolition of the 1, 3, and 5-story buildings. It also includes the construction of a new 6-story building for either residential use or for a hotel/extended stay with a 2-level parking facility below the new building.

The proposed project will be built in full compliance with the State's Chapter 91 use and dimensional limitations as modified by the proposed amendment to the East Boston Municipal Harbor Plan (EBMHP), the East Boston Designated Port Area Boundary Review, and other applicable design and environmental guidelines.

Air Quality

The proponent shall submit a future analysis of carbon monoxide levels for any intersection where the level of service (LOS) is expected to deteriorate to D and the proposed project causes a 10 percent increase in traffic or where the level of service is E or F and the proposed project contributes to a reduction in LOS. The methodology and parameters of the air quality analysis shall be approved in advance by the BRA and the

15.1

Massachusetts Department of Environmental Protection (DEP). Mitigation measures to eliminate or avoid any violation of air quality standards shall be proposed.

The proponent anticipates the proposed project will generate 1,746 daily vehicle trips for the residential option and 2,219 trips for the residential and hotel/extended stay option. Should the proposed project generate over 3,000 vehicle trips per day, a microscale analysis for ozone shall be required to assess the total volatile organic compounds (VOC) and nitrogen oxides (NOx) emissions associated with all project related vehicle trips and to demonstrate the VOC/NOx emissions associated with the proposed project are less than those from the no-build case in the short-and long-term. If VOC/NOx emissions from the proposed project are greater than the no-build case, reasonable and feasible VOC/NOx reduction/mitigation should be included. The analysis shall be in conformance with the Massachusetts DEP guidelines.

The proponent has stated that DPIR/DEIR will include a full traffic operations analysis of all study area intersections for existing, future no-build and future build conditions. The traffic operations analysis shall describe the existing and projected future air quality in the project vicinity and evaluate ambient levels to determine conformance with the National Ambient Air Quality Standards (NAAQS) and the U.S. Department of Housing and Urban Development (HUD) requirements for residential and other sensitive receptors. Particular attention shall be given to mitigation measures to ensure compliance with air quality standards. 15.2

The results of the air quality analysis shall be compared to the Massachusetts State Implementation Plan to determine project compliance with the Plan. Mitigation measures to eliminate or avoid any violation of air quality standards shall be described.

A description of the project's heating and mechanical systems, including thelocation of buildings/garage intake and exhaust vents and specifications, and an analysis of the impact on pedestrian level air quality and on any sensitive receptors from operation of the heating, mechanical and exhaust systems, including the building's emergency generator as well as the parking garage, shall be required. Measures to avoid any violation of air quality standards shall be described. 15.3

The construction management plan shall include mitigation measures to ensure the short-term air quality impacts from fugitive dust expected during the early phases of construction from demolition of the buildings and site preparation activities are minimal. 15.4

Noise

The proponent shall establish the existing noise levels at the proposed project site and vicinity based upon the noise-monitoring program. The proponent shall also calculate future noise levels after project completion based on appropriate modeling and demonstrate compliance with the Design Noise Levels established by U.S. Department of Housing and Urban Development for residential and other sensitive receptors and with all applicable Federal, State and City of Boston Noise criteria and regulations. 15.5

The proponent has stated that the primary sources of external mechanical noise will include garage ventilation systems, potential restaurant ventilation equipment, and heat rejection equipment that are part of the mechanical systems, as well as emergency generators. Despite the fact that the rooftop equipment is not anticipated to exceed maximum sound levels, appropriate low-noise mechanical equipment in the mechanical penthouse and noise control measures will be required for sensitive locations in accord with the Regulations for Control of Noise in the City of Boston and the Commonwealth of Massachusetts due to the proposed project's proximity to the adjacent residential neighborhood.

Solar Glare

The proponent has stated that final building materials for the proposed project have not been chosen, thus it is imperative that the choice of materials include low reflective glass, as to avoid the creation of a visual nuisance, or a hazard, as it distracts or interferes with vision or concentration. 15.6

The proponent shall demonstrate that the glass will not cause adverse solar glare impacts. However, should the design change and incorporate substantial glass-facades, a solar glare analysis shall be required. The analysis shall measure potential reflective glare from the building onto potentially affected streets and public open spaces and sidewalk areas in order to determine the likelihood of visual impairment or discomfort due to reflective spot glare. Mitigation measures to eliminate any adverse reflective glare shall be identified. Technical data used for the analysis shall be included.

Daylight

A daylight analysis for both build and no-build conditions shall be conducted, measuring the percentage of skydome obstruction by the proposed project and evaluating the net change in obstruction. If alternative massing studies are requested as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study shall treat the following elements as controls for data comparison: existing conditions, the context of the area, and the as-of right conditions. The areas of interest include viewpoints along New Street, Sumner Street, LoPresti Park and the Harborwalk. Daylight analyses shall be taken for each major building façade within the limits of the BRA Daylight Analysis (BRADA) program, fronting the public and quasi-public ways. The midpoint of each roadway shall be taken as a study point. 15.7

Transportation

The proponent shall be required to submit a Transportation Access Plan that analyzes the proposed project's impact on the Transportation Network, and that proposes measures intended to mitigate, limit, or minimize, to the extent economically feasible, any adverse impact on the transportation network reasonably attributable to the proposed project. 15.8

The proponent shall prepare the Transportation Access Plan in consultation with the Boston Transportation Department.

Geotechnical Impacts

A description and analysis of the existing sub-soil conditions, including the potential for ground movement and settlement during excavation and potential impact on adjacent buildings and utility lines shall be provided. This analysis shall also include a description of the foundation construction methodology, the amount and method of excavation, and the need for any blasting and/or pile driving and the impact on adjacent buildings and infrastructure. A Vibration Monitoring Plan shall be developed prior to the commencement of construction activities so as to ensure that impacts from the project construction on adjacent buildings and infrastructure are avoided. Mitigation measures to minimize and avoid damage to adjacent buildings and infrastructure must be described. 15.9

Groundwater

The construction of two basement levels for underground parking will require excavation to approximately 17 feet below grade and thus will require both temporary and permanent groundwater control. A groundwater cutoff wall will be installed to mitigate the potential adverse impacts of temporarily lowering groundwater levels. The temporary groundwater cutoff wall will also serve as excavation support and allow construction foundation to proceed in a dry state. Installation of observation monitoring wells will serve to monitor groundwater levels outside the excavation area and should groundwater levels depress below specified levels the contractor will perform documented response measures. 15.10

Upon completion of construction, the proponent is encouraged to assign monitoring wells to the Boston Groundwater Trust (Trust) with a permanent easement for access by the Trust or designated representative.

If on-going pumping or dewatering is required, the metering of discharge should be conducted with oversight by the Boston Water and Sewer Commission.

Shadow

A shadow analysis shall be performed for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn, it should be noted that due to the time differences (daylight savings v. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes. 15.11

The shadow impact analysis shall include net shadow as well as existing shadow and must clearly show the incremental impact of the proposed project. For purposes of

clarity, new shadow should be shown in a dark, contrasting tone distinguishable from existing shadow. The shadow impact study area shall include, at a minimum, the entire area to be encompassed by the maximum shadow expected to be produced by the proposed project. The build condition(s) shall include all buildings under construction and any proposed buildings anticipated to be completed prior to the completion of the proposed project. Shadow from all existing buildings within the shadow impact study area shall be shown. A North Arrow shall be provided on all figures. Shadows shall be determined by using the applicable Boston Azimuth and Altitude data.

Particular attention shall be given to existing or proposed public open spaces and pedestrian areas, including, but not limited to, the existing sidewalks and pedestrian walkways within, adjacent to, and in the vicinity of the proposed project and the existing and proposed plazas, historic resources, LoPresti Park, and other open space areas within the vicinity of the proposed project

Wind

The qualitative analysis of pedestrian level winds (PLWs) did not provide a sufficient assessment of existing (no-build) and build conditions. It is not clear what the anticipated impact of the proposed 160 foot building will be, as it is not discussed. Wind speeds increase with the elevation above the ground surface, and taller buildings intercept these faster winds and deflect them to the pedestrian level. Due to the fact that the proposed 160 foot building will be located adjacent to a 70 foot building a concern arises as to the potential for the funneling of wind through gaps between the buildings and thepotential of the acceleration of wind around the corners of buildings which may also cause an increase in wind speeds. 15.12

The proponent shall conduct a more comprehensive qualitative wind analysis. The BRA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BRA wind design criterion states that an effective gust velocity 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 locations is based on the work of Melbourne. The placement of wind measurement locations shall be based on an understanding of the pedestrian use of the proposed project and the surrounding area. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing or walking.

Stormwater Management

The proponent has provided a description of the exiting drainage conditions. However, the proponent has yet to determine where the storm drainage flows from the catch basin located in front of the loading docks on the southern and eastern portion of the site. The proposed project plans to remove the existing drainage structure at the site and create a new on-site storm drain system. 15.13

The proponent has demonstrated compliance the DEP Stormwater Management Policy as the proposed project falls under the jurisdiction of the Massachusetts Wetlands Protection Act (WPA) to meet performance standards with regard to stormwater discharges to wetland resource areas. Due to its proximity to the Boston Harbor, the project is subject to the WPA, and stormwater Best Management Practices (BMPs) have been designed in conformance with the DEP performance standards.

Tidelands/Chapter 91

Documentation from the Massachusetts DEP regarding Chapter 91 licensing determination of applicability shall be provided. 15.14

Solid and Hazardous Wastes/Materials

The proponent shall provide a list of any known or potential contaminants on site together with a description of remediation measures to ensure their safe removal and disposal, pursuant to the M.G.L., Chapter 21E and the Massachusetts Contingency Plan. 15.15

Any potential hazardous wastes to be generated by the proposed site must be identified. In addition, potential waste generation must be estimated and plans for disposal indicated and measures to promote reduction of waste generation and to promote recycling in compliance with the City's recycling program must be described.

Historic Landmarks

The proponent has identified, mapped and described historic resources and other historic properties in the vicinity of the proposed project's site and evaluated the anticipated effects of the proposed project on these resources. There are no historic resources located adjacent to the site. No adverse impacts to the historic structures in the surrounding area will result from the proposed residential or hotel/extended stay uses.

Sustainable Design/Green Buildings

The purpose of Article 37 of the Boston Zoning Code is to ensure that major buildings projects are planned, designed, constructed and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston. Any proposed project subject to the provisions of Article 37 shall be LEED Certifiable (U.S. Green Buildings Council) under the LEED rating system. Proponents are encouraged to integrate sustainable building practices at the inception of the design process.

The proponent has provided a completed LEED-NC checklist for which the proposed project purports to achieve 30 points. The proponent shall provide an explanatory narrative establishing compliance with specific points. The applicant shall also demonstrate that the proposed project will meet the requirements of the article with 15.16

appropriate supporting documentation and by certification from a LEED Accredited Professional and/or other expert recognized by the BRA.

I am pleased that this project is intending to achieve 30 points and encourage you to take the small steps necessary to achieve a LEED Silver designation, whether or not this project pursues formal certification with the US Green Building Council.

Letter 15	Boston Redevelopment Authority, Katie Pedersen
15.1	Since the level of service (LOS) did not deteriorate to D, the proposed project did not cause a 10 percent increase in traffic, and where the LOS is E or F and the proposed project did not contribute to a reduction in LOS, a future analysis of carbon monoxide levels was not conducted at the requested study intersections.
15.2	The traffic operations analysis will describe the existing and projected future air quality in the project vicinity and evaluation ambient levels to determine conformance with the National Ambient Air Quality Standards and the U.S. Department of Housing and Urban Development requirements for residential and other sensitive receptors. The results will be compared to the Massachusetts State Implementation Plan and mitigation measures are described (see Section 5.5).
15.3	The project's heating and mechanical systems and an analysis of the impact on pedestrian level air quality and on any sensitive receptors will be provided. Measures to avoid any violation of air quality standards will also be describe (see Section 5.5.)
15.4	The construction management plan will include mitigation measures to ensure the short-term air quality impacts from fugitive dust expected during the early phases of construction from demolition of the buildings and site preparation activities are minimized
15.5	Existing and proposed noise levels and impacts are described in Section 5.6 along with compliance with local, state, and federal regulation and criteria. Appropriate low-noise mechanical equipment in the mechanical penthouse and noise control measures will be included as part of the designs in order to mitigate noise due to the project's proximity to a residential neighborhood.
15.6	Although the final building materials have not been chosen, the final choices will avoid the creation of a visual nuisance or hazard so that it does not distract or interfere with vision or concentration.
15.7	A daylight analysis for build and no build (existing) conditions is included in Section 5.3.
15.8	A Transportation Access Plan will be submitted as part of the Article 80 review process.
15.9	A description and analysis of geotechnical impacts and conditions is in Section 5.7 and 5.13. A vibration monitoring plan will be developed based on the analysis of the geotechnical studies and the resultant determination of appropriate construction methodologies.
15.10	The project has been redesigned to have one subsurface parking level instead of two subsurface parking levels. See Section 5.7 concerning appropriate construction methods that ensure the project minimizes groundwater impacts.
15.11	A shadow analysis is in Section 5.2 and includes existing and net shadow.
15.12	A wind analysis is in Section 5.1. See also response to comment # 9.6.

BOSTON
TRANSPORTATION
DEPARTMENT

ONE CITY HALL PLAZA/ROOM 721
BOSTON, MASSACHUSETTS 02201
(617) 635-4680/FAX (617) 635-4295

October 22, 2007

Kristin Kara, Project Manager
Boston Redevelopment Authority
One City Hall Square, 9th Floor
Boston, Massachusetts 02201

Re: Project Notification Form (PNF) Expanded Environmental Notification Form (EENF) for the New Street Development Project in East Boston, Massachusetts

Dear Ms. Kara,

The Boston Transportation Department (BTD) has reviewed the above document and is pleased to submit the following comments and Scope of Work.

The project includes the redevelopment of the existing 9-story building for residential uses with three added residential floors and 2-level parking garage. The project will also include the demolition of three small building and the construction of a new 6-story building for either residential use or for a hotel or extended stay use with a 2-level parking facility below the new building. Depending on which option is selected, the project will create between 148 and 210 new housing units. Due to the two options under study, the proponent shall be required to submit to BTD two separate transportation plans, one for strictly residential use and the other for a mixed-use development. 16.1

BTD will require the proponent to submit transportation data in all future documents that reflect the impacts in conjunction with the other major permitted developments on the East Boston waterfront. They include, Portside at Pier One, Clippership Wharf and the Hodge Boiler Works.

On a minor note, on Page 6-26 Paragraph 3, there is a minor error. The document lists the MBTA as having five car trains currently in use on the Blue Line. The correct number should be four.

Finally, the proponent shall include the number and location for H/P Parking Spaces for both residents and potential customers to cover both options being entertained by the developer.

If you have any questions, I may be reached at 617-635-3076.

Sincerely,

Robert D'Amico
Senior Planner

THOMAS M. MENINO, Mayor

PRINTED ON RECYCLED PAPER

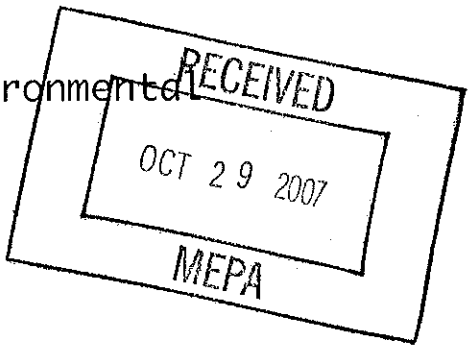
Letter 16	Boston Transportation Department, Robert D'Amico
16.1	Two separate transportation plans will be submitted as part of the DEIR/DPIR regarding the residential only and the residential/hotel options. Transportation data for these plans will include impacts related to other major development projects on the East Boston waterfront.

Letter 17 pB

The Boston Harbor Association
for a clean, alive and accessible Boston Harbor

29 October 2007

Secretary Ian Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
ATT: MEPA Office



RE: EOEA #14102-Expanded Environmental Notification Form-New Street Development, East Boston, MA

Dear Secretary Bowles:

The Boston Harbor Association, a non-profit, public interest organization founded in 1973 by the League of Women Voters and the Boston Shipping Association to promote a clean, alive, and accessible Boston Harbor, has served on the Municipal Harbor Planning Committee for East Boston since its inception. TBHA supports the revitalization of the East Boston waterfront, with its mix of maritime industrial, commercial, residential, and recreational uses. We believe that the New Street Development project has the potential of being a model for combined usage of the waterfront by maritime industrial and non-maritime industrial uses, and we look forward to the re-development of the site.

New Street Development has requested a Phase I waiver to allow an initial phase of construction while the full build project is reviewed in the MEPA process. An Expanded Environmental

374 Congress Street, Suite 307 ■ Boston, Massachusetts ■ 02210-1807 ■ Telephone (617) 482-1722 ■ Fax (617) 482-9750 ■ www.tbha.org

Notification Form has been filed for the initial development.

During Phase I, the project proponent proposes to construct 148 residential units by renovating the existing nine-story building and adding three stories; demolishing four existing on-site buildings; constructing a two-story garage; constructing an interim HarborWalk, lawn, and open spaces; removing existing pile fields; constructing a vehicle access route through the site to the DPA watersheet; constructing a water taxi landing in the DPA; and providing interim surface parking area.

Phase II development on tidelands would include a new six-story residential building with 62 units; ground floor facility of public accommodation, such as a restaurant; underground parking for 121 vehicle; marina in the non-DPA watersheet; and completion of the HarborWalk and landscaping. A second option calls for the six-story building to be a residential and hotel or extended stay use, dependent upon the market.

We have reviewed the Expanded Environmental Notification Form and offer the following comments:

Promotion of Maritime Industrial Uses: In response to the work of the Municipal Harbor Planning (MHP) Committee and to the MHP submission of the Boston Redevelopment Authority, the Director of the Coastal Zone Management Program authorized in 2003 the removal of the land side of 6-26 New Street

(proposed project site) from Designated Port Area (DPA) designation while leaving that portion of the watersheet closest to Boston Towing and Transportation company in the DPA.

The decision included a number of requirements, such as a permanent vehicle access route from New or Sumner Street to the site's Water Dependent Use Zone and Designated Port Area, removal of the dilapidated piles, and reconstruction of the seawalls, as well as requiring specific language in lease forms or deeds describing the prior existence of nearby water-dependent industrial uses (Boston Towing and Transportation next door). The CZM Decision concluded, "Commitments to upgrades in site infrastructure, referenced above, have the potential to provide facilities for water dependent industrial use on this site. CZM will work closely with DEP and the New Street Realty Trust to ensure that these goals are achieved" (24 April 2003 Designation Decision for the East Boston Designated Port Area, page 8).

The Expanded Environmental Notification Form proposes to put a water taxi landing and waiting area in the Designated Port Area watersheet. We do not believe that this is consistent with CZM's designation decision or intent. Pages 6-7 of the Designation Decision reads in part: "A marine industrial use has not yet been identified for the site. However, the (New Street Realty) Trust has committed to significant upgrades to the existing infrastructure in the form of one of the following options: 17.1

1. Construction of a permanent pile supported pier in the DPA;

2. Installation of floating docks capable of berthing vessels of a type and size common to marine industrial use; or

3. Restoration of the DPA portion of the site to a level that will allow the area to be accessible for vessel berthing at the existing neighboring dock."

The three options listed above, together with the requirement that a permanent vehicle access route be provided to the DPA, are consistent with the needs of a maritime industrial user, and we urge the project proponent to continue to identify such a user for the DPA watersheet.

TBHA is a long time supporter of water taxi landings, and would urge that such a landing and waiting area be incorporated into the non-DPA watersheet area.

Second, the types of uses outlined in the Expanded ENF document for the non-DPA watersheet area may or may not be compatible with the maritime industrial uses which will be in the Designated Port Area of the watersheet. 17.2

The Secretary's April, 2003 Designation Decision, as cited above, states that, "The owners of the 6-26 New Street properties have previously agreed to provide language in lease forms or deeds describing the prior existence of nearby water-dependent industrial facilities with operational

characteristics as enumerated at 310 CMR 9.51 (1), and have agreed to develop any non-water dependent facilities "in a manner to prevent significant conflict in operation between their uses with those of any water-dependent facility which can reasonably be expected to locate on or near the project site..." as required by 310 CMR 9.51(1)" (page 8 of Decision).

The project proponent indicates that "the proponent will include language in all residential lease forms or condominium deeds that describes the existence of nearby water-dependent industrial facilities and associated activities" (page 4.3 of Expanded ENF). Consistent with the Secretary's Decision quoted immediately above, we urge that the project proponent be required to provide language in all lease forms or condominium deeds, including any commercial leases such as restaurants and all other ground-floor facilities of public accommodation (FPA), as well as to the marina operator and to each tenant in the marina, if a marina is built. 17.3

The language in these lease forms and condominium deeds should be as specific as possible to give appropriate notice to buyers and tenants regarding the presence of adjoining and abutting DPA maritime-industrial uses. We suggest the following language in lease forms and condominium deeds: "The operation of water-dependent facilities and/or maritime industrial facilities and/or activities in the Designated Port Area of the property as well as adjacent to this site will generate noise,

including but not limited to noise from trucking and towing activities, vessel and equipment repairs and maintenance, and all other activities which support the Working Port. Such operations will generate emissions from machinery, equipment, and trucks.

"In addition, a permanent vehicle access route for trucks from New or Sumner Street has been built to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

"The residential units, commercial facilities, and if applicable, marina have been designed in anticipation of these adjacent conditions, but no representation is made that truck traffic, truck and/or truck refrigeration noise, odors, emissions, heavy equipment noise, and other environmental conditions related to maritime industrial and/or water-dependent industrial activities will not be experienced by unit residents, by commercial tenants, or by marina users.

"A unit resident, residents, commercial tenant or tenants, and/or marina or marina user shall not engage in prohibiting the above stated and/or future maritime-industrial and/or water-dependent industrial activities or conditions; conditions and activities, present or future, in or found adjacent to the East Boston Designated Port Area, and/or conditions and activities of the permanent vehicle access route for trucks from New or Sumner Street

to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

"Furthermore, the management entity or if relevant, condominium association, is prohibited from using management entity funds, or if relevant, condominium association funds, to restrict the above stated and/or future maritime-industrial and/or water-dependent industrial activities or conditions; conditions and activities, present or future, in or found adjacent to the East Boston Designated Port Area; and conditions and activities of the permanent vehicle access route for trucks from New or Sumner Street to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

HarborWalk: The project proponent proposes to build a 10-foot wide clear, 500-foot long HarborWalk with landscaped viewing areas and benches. The Boston Redevelopment Authority, Boston Environment and the Boston Conservation Commission routinely recommend a minimum 12-foot wide HarborWalk, and to the best of our knowledge, there has not been any new project approved in the last five years along Boston's waterfront which has had a HarborWalk of less than 12-foot wide clear (and certainly no development which has needed a MHP Amendment). 17.4

Furthermore, all HarborWalk segments built in the last five years have had a variety of public amenities, including but not limited to access from the HarborWalk to public rest rooms for the general public; interpretive signage; free binoculars; and public art. We strongly urge the project proponent to look at other new HarborWalk segments along the East Boston waterfront, such as at Carlton Wharf and at Navy Fuel Pier, which are beautifully-designed, with interpretive signage, lighting, native vegetation, and public art. We further urge the project proponent to look at the Chapter 91 licenses for recently-approved East Boston projects (Hodge Boiler Works, Clippership Wharf, and Pier One developments) to get a sense of the HarborWalk amenities which 21st century developments are required to provided.

Figure 1-4 of the Expanded ENF identifies a new cantilevered HarborWalk extending from the existing seawall. The Boston Environment Department and the Boston Conservation Commission traditionally do not support cantilevered HarborWalk segments covering the watersheet. We understand in communications with the proponent that the proposed HarborWalk construction at the inlet area is not proposed over the watersheet, but rather, pile supported to match the existing site grade, and is not over the water. We strongly support the HarborWalk on the landward side of the property, consistent with what other waterfront property owners permitted in the last five years have been required to do. 17.5

Connection to LoPresti Park: This property abuts LoPresti Park, a municipal park well-used by local East Boston residents. The park, well maintained by the Boston Parks and Recreation Department, includes sitting areas, spray fountain, play ground, dock for viewing, and lit courts for basketball and other games.

We commend the project proponent for his commitment to working with the Boston Parks and Recreation Department "to improve pedestrian access to the HarborWalk through LoPresti Park from the sidewalk on Sumner Street" (page 2-5). We anticipate and urge that the project proponent contribute $25,000 to the master planning process for the renovation of LoPresti Park, similar to the commitments made by the developers of Hodge Boiler Works and Maverick Landing, all abutters to the park. 17.6

Along LoPresti Park in the evenings, local residents often fish on the banks. We urge the project proponent to provide amenities in the non-DPA section of his property, such as fish cleaning stations, for local residents who fish near LoPresti Park.

Compliance with the Proposed Amendment to the Municipal Harbor Plan: During the Municipal Harbor Planning process, the proponent will need to address several issues: the project has 7,971 sf of facilities of public accommodation (FPA) in the ground level of the six-story building that is within 100 feet of the project shoreline. There is an additional 527 sf of FPA beyond the 100-foot 17.7

line. There is also a total of 527 sf of interior space within 100 feet of the project shoreline, including 507 sf within the parking garage and 20 sf within the nine-story residential building. The proponent has indicated that it will seek relief of 527 sf of facility of private tenancy by reconfiguring the location of the FPA zone during the Municipal Harbor Planning process (page 4-6 of Expanded ENF).

In addition, height substitutions and offsets for the additional height will need to be addressed during the Municipal Harbor Planning process.

Sustainable Development: In the last few years, Boston Mayor Thomas M. Menino and newly-elected Massachusetts Governor Deval Patrick have been national leaders in championing sustainable development and in urging the reduction of carbon footprints.

Waterfront development in the 21st century needs to be sensitive to these issues. We commend the project proponent for incorporating improved storm water management into the project, as well as agreeing to conversion of the existing nine-story building to a LEED-certifiable structure and building a new LEED-certifiable six-story building.

Approximately 164 to 240 parking spaces are proposed for the 210 residential units on site. We urge the project proponent to re-examine the proposed number of parking spaces, consistent with city and state efforts for sustainable development

17.8

and increased reliance on mass transit and water transportation.

A more robust discussion is needed of public transportation and water transportation, given the fact that a new MBTA head house is being built on Lewis Mall, making the Blue Line at Maverick Station more accessible and convenient for waterfront users. The renovations at Maverick Square, moreover, will make both the underground waiting platforms more comfortable and user-friendly, while the above-ground improvements will help pedestrian and vehicular circulation around the square. The MBTA improvements to this area are significant and will make mass transit an even more attractive option for residents and workers at the New Street Development. 17.9

In addition, the developer at Pier One is required to reinstate water transportation between Lewis Wharf and downtown Boston. Water transportation will become an important alternative for more residents and workers, and will be viable option for those at New Street Development.

Water quality improvements: As part of the federally-mandated Boston Harbor Project, the Massachusetts Water Resources Authority will begin construction of its East Boston Branch Sewer Relief project next year. We urge close coordination by the project proponent with the MWRA during the project construction phase. 17.10

We concur with the MWRA that any increase in flows to the system should be offset by Infiltration/Inflow removal or by sewer separation to ensure that improved water quality is maintained in the long term.

Phase I Waiver: If a Phase I waiver is granted to this project, we ask that the following be incorporated:

1. Construction of the HarborWalk should be on land, and not cantilevered over water, consistent with existing policies of the Boston Environment Department and the Boston Conservation Commission. Since the proponent proposes to provide a HarborWalk segment during Phase I (which we strongly support), it should meet Boston Environment Department and Boston Conservation Commission standards for the 21st century, which is a minimum of 12 feet clear. 17.11

2. Construction of a water taxi landing and waiting area should be in the non-DPA portion of the watersheet, so that the DPA portion of the watersheet can be reserved for truly maritime industrial uses, consistent with CZM's 23 April 2003 Designation Decision for the East Boston Designated Port Area. 17.12

3. Funding should be provided as part of the Phase I waiver to the Boston Parks and Recreation Department for the master planning process for LoPresti Park, at a financial level at or greater than that provided by other park abutters. 17.13

We look forward to the revitalization of this important portion of the East Boston waterfront. Thank you for your consideration of the above.

Sincerely,

Vivien Li
Executive Director

Letter 17	The Boston Harbor Association, Vivien Li
17.1	The proposed water taxi use along the north wharf is a maritime industrial use and allowed in a DPA. The proposed floating dock supports a water taxi and possible marine service vessel use consistent with CZM's DPA designation decision.
17.2	The proposed passenger vessel use, a marine industrial use, is compatible with existing marine industrial uses within the DPA watersheet on the adjacent property. No significant conflicts are expected between the proposed marina in the non-DPA portion of the watersheet and the existing marine industrial uses at the Boston Towing property. Furthermore, these two uses will be buffered and separated by the proposed water taxi use in the DPA portion of the watersheet.
17.3	As part of the Chapter 91 licensing process, the proponent will respond to the request in the East Boston Municipal Harbor Plan Amendment regarding the inclusion of language in condominium documents that describe the existence of nearby water-dependent industrial uses in the DPA.
17.4	The Harborwalk will provide users with extensive views along the entire project waterfront from LoPresti Park to the water taxi landing. It will include amenities such as benches, viewing areas, an interpretive display, and appropriate lighting, which will make it more enjoyable for users of the Harborwalk. The width of the Harborwalk will be at least 12 feet wide and 10-feet clear and will be wider, up to 22-feet clear in other places, in order to fit appropriate uses, such as the viewing areas and interpretive signage, along the Harborwalk and within the existing layout of the two granite-bulkhead, filled wharves.
17.5	The cantilevered portion of the Harborwalk is located on the landward side of the mean high water line and is not over the watersheet.
17.6	As a measure to improve pedestrian use and access to the Park, the proponent anticipates committing to contribute $25,000 in matching funds towards the development of a master plan for LoPresti Park, along with two other abutting property owners, at such time as the Boston Parks and Recreation Commission has secured matching public dollars for the master plan.
17.7	The proponent is actively involved with the Boston Redevelopment Authority's (BRAs) ongoing EBMHP Amendment process and is applying for relief to the standards as further specified therein, including height and facilities of private tenancy. This process will need to be completed prior to issuance of a Chapter 91 license (see Section 1.1).

17.8	The number of parking spaces has been reduced based on the efforts to create a LEED certifiable and sustainable project, reduce the dependency on vehicles, and meet the needs of the residents and users of the facility.
17.9	A more robust discussion of public and water transportation is presented in the DEIR/DPIR. It addresses the benefits of the new MBTA station at Maverick Square as well as the options for residents and workers at New Street. See Section 4.0.
17.10	See response to comment numbers 8.2 and 8.3.
17.11	The Harborwalk will be constructed in Phase I of the project and over the land portions of the site. The Harborwalk width will range from 10-feet clear to approximately 22-feet clear. See response to comment # 17.4.
17.12	Construction of the water-taxi landing will be completed as part of Phase I and will be located in the DPA portion of the watersheet since it is allowed as a water-dependent industrial use. See response to comment # 17.1.
17.13	See response to comment # 17.6.

The Boston Harbor Association
for a clean, alive and accessible Boston Harbor

29 October 2007

Mr. Paul McCann
Acting Director
Boston Redevelopment Authority
One City Hall Plaza
Boston, MA 02201

RE: Project Notification Form-New Street Development, East Boston

Dear Mr. McCann:

The Boston Harbor Association, a non-profit, public interest organization founded in 1973 by the League of Women Voters and the Boston Shipping Association to promote a clean, alive, and accessible Boston Harbor, has served on the Municipal Harbor Planning Committee for East Boston since its inception. TBHA supports the revitalization of the East Boston waterfront, with its mix of maritime industrial, commercial, residential, and recreational uses. We believe that the New Street Development project has the potential of being a model for combined usage of the waterfront by maritime industrial and non-maritime industrial uses, and we look forward to the re-development of the site.

New Street Development has requested a Phase I waiver with the state's MEPA office to allow an initial phase of construction while the full build project is reviewed in the MEPA process. An Expanded Environmental Notification Form/ Project

Notification Form has been filed for the initial development.

During Phase I, the project proponent proposes to construct 148 residential units by renovating the existing nine-story building and adding three stories; demolishing four existing on-site buildings; constructing a two-story garage; constructing an interim HarborWalk, lawn, and open spaces; removing existing pile fields; constructing a vehicle access route through the site to the DPA watersheet; constructing a water taxi landing in the DPA; and providing interim surface parking area.

Phase II development on tidelands would include a new six-story residential building with 62 units; ground floor facility of public accommodation, such as a restaurant; underground parking for 121 vehicle; marina in the non-DPA watersheet; and completion of the HarborWalk and landscaping. A second option calls for the six-story building to be a residential and hotel or extended stay use, dependent upon the market.

We have reviewed the Expanded Environmental Notification Form/Project Notification Form and offer the following comments:

Promotion of Maritime Industrial Uses: In response to the work of the Municipal Harbor Planning (MHP) Committee and to the MHP submission of the Boston Redevelopment Authority, the Director of the Coastal Zone Management Program authorized in 2003

the removal of the land side of 6-26 New Street (proposed project site) from Designated Port Area (DPA) designation while leaving that portion of the watersheet closest to Boston Towing and Transportation company in the DPA.

The decision included a number of requirements, such as a permanent vehicle access route from New or Sumner Street to the site's Water Dependent Use Zone and Designated Port Area, removal of the dilapidated piles, and reconstruction of the seawalls, as well as requiring specific language in lease forms or deeds describing the prior existence of nearby water-dependent industrial uses (Boston Towing and Transportation next door). The CZM Decision concluded, "Commitments to upgrades in site infrastructure, referenced above, have the potential to provide facilities for water dependent industrial use on this site. CZM will work closely with DEP and the New Street Realty Trust to ensure that these goals are achieved" (24 April 2003 Designation Decision for the East Boston Designated Port Area, page 8).

The Expanded Environmental Notification Form/ Project Notification Form proposes to put a water taxi landing and waiting area in the Designated Port Area watersheet. We do not believe that this is consistent with CZM's designation decision or intent. Pages 6-7 of the Designation Decision reads in part: "A marine industrial use has not yet been identified for the site. However, the (New Street Realty) Trust has committed to significant upgrades 18.1

to the existing infrastructure in the form of one of the following options:

1. Construction of a permanent pile supported pier in the DPA;

2. Installation of floating docks capable of berthing vessels of a type and size common to marine industrial use; or

3. Restoration of the DPA portion of the site to a level that will allow the area to be accessible for vessel berthing at the existing neighboring dock."

The three options listed above, together with the requirement that a permanent vehicle access route be provided to the DPA, are consistent with the needs of a maritime industrial user, and we urge the project proponent to continue to identify such a user for the DPA watersheet.

TBHA is a long time supporter of water taxi landings, and would urge that such a landing and waiting area be incorporated into the non-DPA watersheet area.

Second, the types of uses outlined in the Expanded ENF/ PNF document for the non-DPA watersheet area may or may not be compatible with the maritime industrial uses which will be in the Designated Port Area of the watersheet. 18.2

The Secretary's April, 2003 Designation Decision, as cited above, states that, "The owners of the 6-26 New Street properties have previously agreed to provide language in lease forms or deeds describing

the prior existence of nearby water-dependent industrial facilities with operational characteristics as enumerated at 310 CMR 9.51 (1), and have agreed to develop any non-water dependent facilities "in a manner to prevent significant conflict in operation between their uses with those of any water-dependent facility which can reasonably be expected to locate on or near the project site..." as required by 310 CMR 9.51(1)" (page 8 of Decision).

The project proponent indicates that "the proponent will include language in all residential lease forms or condominium deeds that describes the existence of nearby water-dependent industrial facilities and associated activities" (page 4.3 of Expanded ENF/ PNF). Consistent with the Secretary's Decision quoted immediately above, we urge that the project proponent be required to provide language in all lease forms or condominium deeds, including any commercial leases such as restaurants and all other ground-floor facilities of public accommodation (FPA), as well as to the marina operator and to each tenant in the marina, if a marina is built. 18.3

The language in these lease forms and condominium deeds should be as specific as possible to give appropriate notice to buyers and tenants regarding the presence of adjoining and abutting DPA maritime-industrial uses. We suggest the following language in lease forms and condominium deeds: "The operation of water-dependent facilities and/or maritime industrial facilities and/or activities in

the Designated Port Area of the property as well as adjacent to this site will generate noise, including but not limited to noise from trucking and towing activities, vessel and equipment repairs and maintenance, and all other activities which support the Working Port. Such operations will generate emissions from machinery, equipment, and trucks.

"In addition, a permanent vehicle access route for trucks from New or Sumner Street has been built to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

"The residential units, commercial facilities, and if applicable, marina have been designed in anticipation of these adjacent conditions, but no representation is made that truck traffic, truck and/or truck refrigeration noise, odors, emissions, heavy equipment noise, and other environmental conditions related to maritime industrial and/or water-dependent industrial activities will not be experienced by unit residents, by commercial tenants, or by marina users.

"A unit resident, residents, commercial tenant or tenants, and/or marina or marina user shall not engage in prohibiting the above stated and/or future maritime-industrial and/or water-dependent industrial activities or conditions; conditions and activities, present or future, in or found adjacent to the East Boston Designated Port Area, and/or

conditions and activities of the permanent vehicle access route for trucks from New or Sumner Street to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

"Furthermore, the management entity or if relevant, condominium association, is prohibited from using management entity funds, or if relevant, condominium association funds, to restrict the above stated and/or future maritime-industrial and/or water-dependent industrial activities or conditions; conditions and activities, present or future, in or found adjacent to the East Boston Designated Port Area; and conditions and activities of the permanent vehicle access route for trucks from New or Sumner Street to the Water Dependent Use Zone on this property and to the Designated Port Area on the watersheet, consistent with the 23 April 2003 Designation Decision for the East Boston Designated Port Area.

HarborWalk: The project proponent proposes to build a 10-foot wide clear, 500-foot long HarborWalk with landscaped viewing areas and benches. The Boston Redevelopment Authority, Boston Environment and the Boston Conservation Commission routinely recommend a minimum 12-foot wide HarborWalk, and to the best of our knowledge, there has not been any new project approved in the last five years along Boston's waterfront which has had a HarborWalk of less than 12-foot wide clear

18.4

(and certainly no development which has needed a MHP Amendment).

Furthermore, all HarborWalk segments built in the last five years have had a variety of public amenities, including but not limited to access from the HarborWalk to public rest rooms for the general public; interpretive signage; free binoculars; and public art. We strongly urge the project proponent to look at other new HarborWalk segments along the East Boston waterfront, such as at Carlton Wharf and at Navy Fuel Pier, which are beautifully-designed, with interpretive signage, lighting, native vegetation, and public art. We further urge the project proponent to look at the Chapter 91 licenses for recently-approved East Boston projects (Hodge Boiler Works, Clippership Wharf, and Pier One developments) to get a sense of the HarborWalk amenities which 21st century developments are required to provided.

Figure 1-4 of the Expanded ENF/ PNF identifies a new cantilevered HarborWalk extending from the existing seawall. The Boston Environment Department and the Boston Conservation Commission traditionally do not support cantilevered HarborWalk segments covering the watersheet. We understand in communications with the proponent that the proposed HarborWalk construction at the inlet area is not proposed over the watersheet, but rather, pile supported to match the existing site grade, and is not over the water. We strongly support the HarborWalk on the landward side of the property, consistent with what other waterfront

18.5

property owners permitted in the last five years have been required to do.

Connection to LoPresti Park: This property abuts LoPresti Park, a municipal park well-used by local East Boston residents. The park, well maintained by the Boston Parks and Recreation Department, includes sitting areas, spray fountain, play ground, dock for viewing, and lit courts for basketball and other games.

We commend the project proponent for his commitment to working with the Boston Parks and Recreation Department "to improve pedestrian access to the HarborWalk through LoPresti Park from the sidewalk on Sumner Street" (page 2-5). We anticipate and urge that the project proponent contribute $25,000 to the master planning process for the renovation of LoPresti Park, similar to the commitments made by the developers of Hodge Boiler Works and Maverick Landing, all abutters to the park. 18.6

Along LoPresti Park in the evenings, local residents often fish on the banks. We urge the project proponent to provide amenities in the non-DPA section of his property, such as fish cleaning stations, for local residents who fish near LoPresti Park.

Compliance with the Proposed Amendment to the Municipal Harbor Plan: During the Municipal Harbor Planning process, the proponent will need to address several issues: the project has 7,971 sf of facilities of public accommodation (FPA) in the 18.7

ground level of the six-story building that is within 100 feet of the project shoreline. There is an additional 527 sf of FPA beyond the 100-foot line. There is also a total of 527 sf of interior space within 100 feet of the project shoreline, including 507 sf within the parking garage and 20 sf within the nine-story residential building. The proponent has indicated that it will seek relief of 527 sf of facility of private tenancy by reconfiguring the location of the FPA zone during the Municipal Harbor Planning process (page 4-6 of Expanded ENF/ PNF).

In addition, height substitutions and offsets for the additional height will need to be addressed during the Municipal Harbor Planning process.

Sustainable Development: In the last few years, Boston Mayor Thomas M. Menino and newly-elected Massachusetts Governor Deval Patrick have been national leaders in championing sustainable development and in urging the reduction of carbon footprints.

Waterfront development in the 21st century needs to be sensitive to these issues. We commend the project proponent for incorporating improved storm water management into the project, as well as agreeing to conversion of the existing nine-story building to a LEED-certifiable structure and building a new LEED-certifiable six-story building.

Approximately 164 to 240 parking spaces are proposed for the 210 residential units on site. We 18.8

urge the project proponent to re-examine the proposed number of parking spaces, consistent with city and state efforts for sustainable development and increased reliance on mass transit and water transportation.

A more robust discussion is needed of public transportation and water transportation, given the fact that a new MBTA head house is being built on Lewis Mall, making the Blue Line at Maverick Station more accessible and convenient for waterfront users. The renovations at Maverick Square, moreover, will make both the underground waiting platforms more comfortable and user-friendly, while the above-ground improvements will help pedestrian and vehicular circulation around the square. The MBTA improvements to this area are significant and will make mass transit an even more attractive option for residents and workers at the New Street Development. 18.9

In addition, the developer at Pier One is required to reinstate water transportation between Lewis Wharf and downtown Boston. Water transportation will become an important alternative for more residents and workers, and will be viable option for those at New Street Development.

Water quality improvements: As part of the federally-mandated Boston Harbor Project, the Massachusetts Water Resources Authority will begin construction of its East Boston Branch Sewer Relief project next year. We urge close coordination by 18.10

the project proponent with the MWRA during the project construction phase.

We concur with the MWRA that any increase in flows to the system should be offset by Infiltration/Inflow removal or by sewer separation to ensure that improved water quality is maintained in the long term.

Consistent with Mayor Menino's call for a No Discharge Area in Boston Harbor by 2008, if a marina is built, a free pumpout facility must be provided. 18.11

Phase I Waiver: If a Phase I waiver is granted to this project, we ask that the following be incorporated:

1. Construction of the HarborWalk should be on land, and not cantilevered over water, consistent with existing policies of the Boston Environment Department and the Boston Conservation Commission. Since the proponent proposes to provide a HarborWalk segment during Phase I (which we strongly support), it should meet Boston Environment Department and Boston Conservation Commission standards for the 21st century, which is a minimum of 12 feet clear. 18.12

2. Construction of a water taxi landing and waiting area should be in the non-DPA portion of the watersheet, so that the DPA portion of the watersheet can be reserved for truly maritime industrial uses, consistent with CZM's 23 April 18.13

2003 Designation Decision for the East Boston Designated Port Area.

3. Funding should be provided as part of the Phase I waiver to the Boston Parks and Recreation Department for the master planning process for LoPresti Park, at a financial level at or greater than that provided by other park abutters. 18.14

We look forward to the revitalization of this important portion of the East Boston waterfront. Thank you for your consideration of the above.

Sincerely,

Vivien Li
Executive Director

Letter 18	The Boston Harbor Association, Vivien Li
18.1	See response to comment # 17.1.
18.2	See response to comment # 17.2.
18.3	See response to comment # 17.3.
18.4	See response to comment # 17.4.
18.5	See response to comment # 17.5.
18.6	See response to comment # 17.6.
18.7	See response to comment # 17.7.
18.8	See response to comment # 17.8.
18.9	See response to comment # 17.9.
18.10	See response to comment # 17.10.
18.11	The proponent will comply with city, state, and federal laws concerning pumpout facilities.
18.12	See response to comment # 17.11.
18.13	See response to comment # 17.12.
18.14	See response to comment # 17.6.

To Whom it May Concern:

As a member of the L.A.G., for the New St. project, I was overjoyed to see, work will soon replace an age old eye sore in this community.

B.R.A. 2004 OCT 17 P 3:47

I have lived on London St. my entire life. I know the community well. Every time a developer comes into East Boston + beautifies our properties, it's a step up for us.

What I saw at our meeting, on Sept was delightful. The waterfront has such beautiful scenic views, it's a shame that it has gone undeveloped this long.

Not only will it beautify our community, it will bring revenue + jobs here, also. What's not to like?!

I say, 'Build it! They will come'.

Sincerely,

Rose Marie Mastrorosa

Letter 19	Rose Marie Mortorana
	No responses are needed.

PEPE & HAZARD LLP
A BUSINESS LAW FIRM

225 FRANKLIN STREET, 16TH FLOOR
BOSTON, MASSACHUSETTS 02110-2804
617.748.5500 FACSIMILE: 617.748.5555

HARLAN M. DOLINER
Attorney At Law
Direct: 617.748.5522
hdoliner@pepehazard.com

October 25, 2007

By Electronic Mail and Facsimile
Secretary Ian A. Bowles
EOEA, Attn: MEPA Office
Ms. Deirdre Buckley, **EOEA File #14102**
100 Cambridge Street, Suite 900
Boston MA 02114

Re: **EOEA File #14102** Comments on Expanded Environmental Notification Form – *New Street Development,* East Boston

Dear Secretary Bowles and Ms. Buckley:

Introduction

This letter, commenting on the *Project Notification Form and Expanded Environmental Notification Form* ("ENF/PNF") for the "New Street Development" at 6-26 New Street, East Boston (EOEA File #14102) is respectfully submitted on behalf of my client Boston Towing & Transportation Companies, ("Boston Towing"), which abuts the project site on the north. As discussed below, Boston Towing has serious concerns about potential safety and security issues that arise from proposed development as described in the ENF/PNF. While these concerns go to the vital issue of whether Boston Towing could safely and securely continue its operations during the construction and operation of the New Street Development, we believe the concerns do not necessitate an EIR. Rather, we request that the Secretary, in his certificate on the ENF/PNF, require that the permitting authorities (DEP Waterways, etc.) take these concerns, their impacts and their resolutions into account in their permitting processes and in conditioning their permits.

Boston Towing and Its Operations

Boston Towing is the oldest continually operating general maritime towing company in New England, dating back to 1857. It is also the largest New England-based marine transportation company providing regularly scheduled general and specialized towing services, including petroleum transport, ship docking, LNG vessel escort, RO/RO, lightering, marine construction, salvage support, petroleum transportation and specialized towing. [1] These tugboat, towboat and barge operators regularly escort large

[1] Lightering is the off-shore transfer of a liquid bulk cargo to or from a barge to a ship. In the Boston Towing provides these services to vessels anchored in or near Boston Harbor, bringing fuel and fresh water, *e.g.*, and off-loading sewage. The transport of ships' sewage is projected to profoundly increase if Boston Harbor is declared a "no discharge" zone.

vessels carrying cargoes such as LNG, home heating oil and jet fuel in and out of the Port of Boston.[2] The services are provided 24 hours a day, 365 days a year, regardless of weather or sea conditions. Barge operations are expected to markedly increase in the very near future as home heating oil and other energy sources are increasingly transported by short sea shipping to reduce the expense and carbon footprint of highway truck transport.

As a company operating commercial vessels and involved in the escort of LNG ships, Boston Towing must comply with a hierarchy of international and federal laws and regulations governing maritime security in the post-9/11 world, including the International Ship & Port Security Code, (ISPS), the Maritime Transportation Security Act of 2002, (MTSA) and the Safety of Life at Sea Convention, (SOLAS). Of major concern is the security of it operations and the control of access to its New Street facility. These are required to be addressed in the various vessel and facility security assessments and plans it is required to perform, develop and implement. It is anticipated that development and operation of the New Street Project will necessitate amendments to these assessments and plans, as well as physical modifications to Boston Towing's southerly border. 20.1

The ENF/PNF does not take into account Boston Towing's operations and safety/security issues

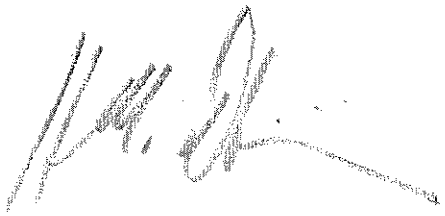
Boston Towing tugboats ranging from 85 to 128 feet, barges and other marine construction equipment are constantly plying the water directly in front of the project's proposed water taxi and recreational marina operations. The project's proposed water taxi landing, public access, and outdoor dining areas would all be located next to where Boston Towing's sewage barge off-loads and fuel transfer operations occur. One does not have to think long and hard to imagine potentially horrific scenarios occurring because of these project feature's location next to these maritime industrial activities: a diner at the proposed outdoor restaurant carelessly tosses a cigarette while a fuel transfer is on-going; a recreational boater exits the proposed marina as a tug with a barge in tow leaves the Boston Towing facility and (of necessity) crosses in front of the marina; a tourist attempts to enter onto the Boston Towing site to get a better photo of the "nifty" tugboats.

The proponent and its consultants have done a laudable job in the ENF/PNF's discussion of the project's land side benefits, impacts and permitting processes. The ENF/PNF's analysis of water sheet usage both in and adjacent to the Designated Port Area, ("DPA") portion of the site, however, lacks any analysis of how the project's construction and operation would be coordinated with Boston Towing's pre-existing, on-going vessel traffic and maritime industrial uses. To the proponent's credit, a preliminary discussion of these issues with Boston Towing has begun, and is expected to continue. It is critical, though, that the permitting processes to occur before the Department of Environmental Protection, Coastal Zone Management, (and for that matter the involved federal and city agencies) include these safety and security concerns, and that the agencies involved integrate them into their deliberations and permit conditions. Boston Towing maintains that the best way to accomplish this is for the Secretary, in his certificate on the ENF/PNF, require that the 20.2

[2] Boston Towing employs about 130 management, operations, maintenance, construction and sea-going personnel.

permitting authorities (DEP Waterways, etc.) take these concerns, their impacts and their resolutions into account in their permitting processes and in the conditions set forth in the permits that issue.

Sincerely,



Harlan M. Doliner

CC: Boston Towing & Transportation Companies
Jamy Buchanan Madeja, Esq. (Counsel for the Proponent)
Boston Redevelopment Authority

Letter 20	Pepe & Hazard, Harlan M. Doliner
20.1	The proponent fully understands the issues regarding the security of the Boston Towing and Transportation operations and the control of access to its property. The proposed uses for the New Street project along the northerly border with the Boston Towing property within the DPA area is for a water taxi landing and potential marine service vessels, and is allowed under the state Chapter 91 regulations On the landside portion of the site, which is not in the DPA area, a vehicle access route to the DPA is planned along with a waiting area for water taxis and open space. These uses should have minimal impact on the operations of and control of access to the Boston Towing facilities.
20.2	Section 3.6 of the DEIR/DPIR includes a review and analysis of the project's proposed operations, and the impacts and resolutions concerning the safety and security issues at the Boston Towing property. The permitting agencies will review this analysis and propose permit conditions as necessary.

TRINITY
FINANCIAL

Real Estate Finance
Development Planning
Project Management

October 17, 2007

Kristen Kara
Project Manager
Boston Redevelopment Authority
One City Hall Square, 9th floor
Boston, MA 02201

RE: New Street Development, East Boston, MA

Dear Kristen,

As General Partner of the Maverick Landing development, I am writing in support of the abutting New Street Development project as presented in the PNF/ENF dated September 17, 2007. The project will bring continued improvement to a long underutilized site and will build on the life and vitality we have started at Maverick Landing.

The access to the water along the harborwalk will be great for the entire neighborhood. I am particularly glad to see the reconfiguration of the intersection of Sumner and New Streets and the way in which the new design will "normalize" the traffic and pedestrian patterns. I appreciate your efforts and look forward to the project moving through the process.

Sincerely,

James G. Keefe
President

40 Court Street, Boston, MA 02108-4303
(617) 720-8400 Fax (617) 720-8401

Letter 21	Trinity Financial, James Keefe
	No responses are needed.

Appendix 2

Draft Section 61 Findings

Draft Section 61 Finding

Project Name: **New Street Development**
Project Location: **6 – 26 New Street**
Project Proponent: **New Street Realty Trust**
EOEA File No.: **#14102**

Massachusetts General Laws Chapter 30, Section 61 requires State agencies and authorities to review, evaluate and determine impacts on the natural environment of all projects or activities conducted by them, and to undertake all practicable means and measures to minimize and prevent damage to the environment. The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required [on a project]." M.G.L. c. 30, §. 62A.

Draft Section 61 Findings prepared for the Project are found on the following pages.

FINDING BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF RESOURCE PROTECTION FOR A CHAPTER 91 LICENSE UNDER M.G.L. C. 30, S. 61

Introduction

Massachusetts General Laws, Chapter 30, section 61 ("Section 61") requires that "[a]ll agencies, departments, boards, commission and authorities of the Commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects, or activities conducted by them and shall use all practical means and measures to minimize damage to the environment. Any determination made by an agency of the Commonwealth shall include a finding describing that all feasible measures have been taken to avoid or minimize said impact." The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required [on a project]." M.G.L. c. 30. S. 62A.

The development of the New Street site will require a Chapter 91 License from DEP Waterways Program for work on approximately 3.93 acres of flowed, filled (formerly flowed) tidelands, and uplands. Approximately two-thirds of the project site, including watersheet area, is within Chapter 91 jurisdiction. The project will require a Chapter 91 license. Therefore, the DEP-Waterways Program must issue a Section 61 finding before doing so.

MEPA Review

An Environmental Notification Form (ENF) for the Project was prepared and filed on September 17, 2007. The Secretary of the Executive Office of Energy and Environmental Affairs (the Secretary) issued a Certificate on the ENF specifying the scope for a Draft Environmental Impact Report (DEIR) on November 1, 2007. The DEIR was filed with the Secretary on June 16, 2008. The Secretary issued the Certificate on the DEIR on _____.

Project Description

The New Street project includes the redevelopment of an existing 9-story building and the construction of a new, mid rise residential building or a building for a hotel or extended stay use, and a small parking garage. The project will also include a small marina, a water taxi service and waiting area, public open space, dredging, and substantial public access to and along Boston Harbor. There will be approximately 174 to 203 parking spaces on the site, depending on the use of stackers. The project will provide substantial public access to and along the Harbor with the addition of a Harborwalk along the entire waterfront of the site as well as additional connections to the existing section of the Harborwalk at LoPresti Park in East Boston. The Project meets the performance standards of the Chapter 91 regulations as modified by the East Boston Municipal Harbor Plan.

Mitigation Measures

- The project will redevelop and revitalize an approximately 3.93-acre parcel along East Boston's waterfront that has never been accessible to the public in recent memory.

- The project will build an approximately 500-foot long Harborwalk along the waterfront side of the site. It will connect the existing Harborwalk on the south side of the site with LoPresti Park that will ultimately extend 2.4 miles from the Harborside Hyatt Hotel to Border Street.
- The project will provide new public access to and along the water, enhancing the East Boston waterfront.
- The project will enhance the Sumner Street and New Street view corridors.
- Interpretive exhibits and displays will enhance the pedestrian experience along the Harborwalk and waterfront areas in accordance with the MHP Amendment.
- The project will provide a landing for a water taxi service and possible other marine service vessels on the Designated Port Area (DPA) portion of the watersheet. A water taxi waiting area will be located on the adjacent wharf.
- A marina will provide the public with greater access to the waters of Boston Harbor and beyond.
- All dilapidated timber piles within the watersheet of the project site will be removed.
- Vehicle access to the DPA portion of the site will be provided.

Conclusion

Now, therefore, the DEP-BRP, having reviewed the MEPA filings for the New Street Development and the mitigation measures proposed, finds pursuant to M.G.L. c. 30, section 61 that with the implementation of the aforesaid measures, all practical and feasible means and measures will have been taken to avoid or minimize potential damage to the environment from the Project.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION – BUREAU OF RESOURCE PROTECTION

_____ _____

Date By

FINDING BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF RESOURCE PROTECTION
(FOR A WATER QUALITY CERTIFICATION) UNDER M.G.L. C. 30, S. 61

Introduction

Massachusetts General Laws, Chapter 30, section 61 ("Section 61") requires that "[a]ll agencies, departments, boards, commission and authorities of the Commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects, or activities conducted by them and shall use all practical means and measures to minimize damage to the environment. Any determination made by an agency of the Commonwealth shall include a finding describing that all feasible measures have been taken to avoid or minimize said impact." The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required [on a project]." M.G.L. c. 30. S. 62A.

The development of the New Street project may require a Water Quality Certification from DEP for the discharge and removal of fill in state waters. Therefore, the DEP-BRP must issue a Section 61 Finding before doing so.

MEPA Review

An Environmental Notification Form (ENF) for the Project was prepared and filed on September 17, 2007. the Secretary of the Executive Office of Energy and Environmental Affairs (the Secretary) issued a Certificate on the ENF specifying the scope for a Draft Environmental Impact Report (DEIR) on November 1, 2007. The DEIR was filed with the Secretary on June 16, 2008. The Secretary issued the Certificate on the DEIR on _____.

Project Description

The proposed project will result in the removal of fill in state waters due to dredging for the marina. The project also involves the placement of piles in tidal waters for water-dependent purposes to support the proposed marina, the water taxi landing, and a possible marine service vessel dock.

The Project received a Phase 1 waiver and is subject to the Phase 1 Mitigation Measures specified below should it be built in two phases.

Mitigation Measures

- Identification of adequate reductions of Infiltration/Inflow to offset its wastewater generation, remove site runoff from the BWSC and the MWRA systems.
- Implementation of Best Management Practices (BMP) during construction.
- Removal of dilapidated timber piles within the watersheet of the project site.
- Implementation of a stormwater management plan prepared in accordance with the DEP Stormwater Policy.

Conclusion

Now, therefore, the DEP-BRP, having reviewed the MEPA filings for the New Street Development project and the mitigation measures proposed, finds pursuant to M.G.L. c. 30, section 61 that with the implementation of the aforesaid measures, all practical and feasible means and measures will have been taken to avoid or minimize potential damage to the environment from the Project.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION – BUREAU OF RESOURCE PROTECTION

_____ _____

Date By

Appendix 3

Distribution List

FEDERAL

Army Corps of Engineers

Karen Adams
Permits and Enforcement Branch
Regulatory Division
696 Virginian Road
Concord, MA 01742

STATE

Elected Officials

Senator Anthony W. Petruccelli
Room 413-B
State House
Boston, MA 02133

Representative Carlo Basile
Room 39
State House
Boston, MA 02133

Executive Office of Energy and Environmental Affairs

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Department of Environmental Protection

Nancy Baker, MEPA Coordinator
DEP/Northeast Regional Office
205-B Lowell Street
Wilmington, MA 01887

Richard Tomczyk, Section Chief
DEP/Northeast Regional Office
Wetlands and Waterways
205B Lowell Street
Wilmington, MA 01887

Ben Lynch
Department of Environmental Protection
Division of Wetlands and Waterways
One Winter Street
Boston, MA 02108

Massachusetts Board of Underwater Archaeological Resources

Victor Mastone, Director
Office of Coastal Zone Management
251 Causeway Street, Suite 800
Boston, MA 02114

Massachusetts Coastal Zone Management

Massachusetts Coastal Zone Management
Attn: Project Review Coordinator
251 Causeway Street, Suite 800
Boston MA 02114

Massachusetts Department of Conservation and Recreation

Division of Urban Parks
Attn: MEPA Coordinator
251 Causeway Street, Suite 600
Boston MA 02114

Massachusetts Division of Marine Fisheries

Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

Massachusetts Historical Commission

Brona Simon, Executive Director
Massachusetts Archives Building
220 Morrissey Boulevard
Dorchester, MA 02125

Massachusetts Water Resource Authority

Marianne Connolly, MEPA Coordinator
Charlestown Navy Yard
100 First Avenue, Building 34-2
Charlestown, MA 02129

CITY OF BOSTON

Mayor's Office

Honorable Thomas M. Menino, Mayor
Boston City Hall
One City Hall Square
Boston, MA 02201

Jay Walsh, Director
Mayor's Office of Neighborhood Services
One City Hall Square, Room 708
Boston, MA 02201

Judith Kurland, Chief of Staff, Mayor's Office
Boston City Hall
One City Hall Square, 5th Floor
Boston, MA 02201

Boston City Council

Maureen Feeney, President
Boston City Council
One City Hall Plaza, 5th Floor
Boston, MA 02201

Councilor Felix Arroyo
Boston City Council
One City Hall Plaza, 5th Floor
Boston, MA 02201

Councilor Salvatore LaMattina
Boston City Council
One City Hall Plaza, 5th Floor
Boston, MA 02201

Councilor Stephen J. Murphy
Boston City Council
One City Hall Plaza, 5th Floor
Boston, MA 02201

Councilor Sam Yoon
Boston City Council
One City Hall Plaza, 5th Floor
Boston, MA 02201

Boston Environment Department

Bryan Glascock, Directory
Boston Environment Department
One City Hall Square, Room 805
Boston, MA 02201

Ellen Lipsey, Executive Director
Boston Landmarks Commission
One City Hall Square, Room 805
Boston, MA 02201

Chris Busch, Executive Secretary
Boston Conservation Commission
One City Hall Square, Room 805
Boston, MA 02201

Boston Public Health Commission

1010 Massachusetts Avenue
Boston, MA 02118

Boston Redevelopment Authority

Acting Director, Paul McCann
One City Hall Square, 9th Floor
Boston, MA 02201
Attn: Kristin Kara, Project Manager

Richard McGuinness, Waterfront Planner
One City Hall Square, 9th Floor
Boston, MA 02201

LIBRARY

Boston Public Library

East Boston Branch
276 Meridian Street
East Boston, MA 02128

NON-GOVERNMENTAL ORGANIZATIONS/ASSOCIATIONS

The Boston Harbor Association

Vivien Li, Executive Director
374 Congress Street, Suite 307
Boston, MA 02210

INDIVIDUALS

Pepe & Hazard LLP

Harlan Doliner, Esq.
225 Franklin Street, 16th Floor
Boston, MA 02110

Trinity Financial

James Keefe, President
40 Court Street
Boston, MA 02108

Boston Preservation Alliance

Sarah Kelly
Old City Hall
45 School Street
Boston, MA 02108

Appendix 4

Wind

A QUALITATIVE ASSESSMENT OF PEDESTRIAN LEVEL WINDS FOR THE PROPOSED NEW STREET BUILDINGS IN EAST BOSTON, MASSACHUSETTS

BY FRANK H. DURGIN, P.E.

1.0 SUMMARY

A qualitative assessment has been made to determine the effect of the proposed New Street buildings in East Boston, Massachusetts, on pedestrian level winds (PLWs) in their vicinity, as well as the winds in the Inner Harbor. Results are obtained for both existing and build conditions for NW, SW, easterly storm, and annual winds.

None of the forty-five locations considered for either existing or build conditions is estimated to have PLWs that exceed the Boston Redevelopment Authority (BRA) guideline wind speed of 31 mph oftener than once in 100 hours. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the new buildings tends to decrease PLWs somewhat. The significant increases at locations 22, 26, and 56 occur as a result of those locations being under a building for existing conditions, but exposed for build conditions. The gap between the 199-foot and the proposed six-story building will be quite windy for NW, N, and ESE winds, but vertical glass walls in the gap could reduce that windiness.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new buildings.

2.0 INTRODUCTION

This is an assessment of the effect of the proposed New Street buildings in East Boston, Massachusetts, on PLWs in their vicinity. The assessment is based on:

1 The results of five previous assessments done for proposed buildings at Maverick Gardens, Clippership Wharf, Lo Presti Park, Hodge Boiler, and Pier One [1, 2, 3, 4, and 5];

2 Two previous assessments done for different proposed buildings in the site [6, 7];

3 A roof and first floor plan for the proposed buildings obtained from Fort Point Associates (FPA);

4 An aerial photo of the site obtained from FPA:

5 Several site visits to the area for the previous studies [1, 2, 3, 4, 5, 6, and 7] ;

6 Many photographs taken for the previous assessments in References [1, 2, 3, 4, 5, and 6] ;

7 An evaluation of the urban context of the proposed project site;

8 A review of the Boston wind climate; and

9 The author's 36 years of experience dealing with PLWs.

The interaction of the wind with buildings and structures is very complicated and, at times, difficult to predict, especially for an urban area with a mixture of low-rise and mid-rise buildings. Thus this evaluation provides a qualitative assessment of PLWs.

3.0 LOCATION AND DESCRIPTION OF THE PROJECT AND SURROUNDING AREA

3.1 DESCRIPTION OF EXISTING CONDITIONS (Figure 1)

The site is located on the Harbor side of New Street at the intersection of Sumner and New Streets. Currently, the site contains four buildings. There is a 45-ft three-story building near the NE end of the site that abuts on New Street. Next to it is a 120-ft nine-story building that is set back about 40 feet compared to the 45-ft building. Then there is a 65-ft six-story building attached to the nine-story building and set back the same as the nine-story building. Finally, behind and attached to the 65 ft building, there is a one-story building and shed (Figure 1). Approximate building heights of nearby buildings to the nearest 5 feet and the locations at which PLWs have been estimated are shown in Figure 1. Most of the locations investigated are the same as those used in the two previous studies [6,7]. Some locations in those studies that did not change were not reinvestigated.

3.2 DESCRIPTION OF BUILD CONDITIONS (Figure 2)

The 45-foot three-story building near the SW end of the site will be torn down and the area between the existing 120-foot building and the northeast end of the site will become a 24-foot high parking garage. The 120-foot nine-story building will remain, but the total height will be increased to 199 feet. The remaining five- and one-story buildings will also be torn down. They will be replaced by a 70-foot six-story building with a circular restaurant at its harbor end, as shown in Figure 2. Much of the first floor of both buildings will be used for retail space. The part of the site to the SW of the six-story building and next to Lo Presti Park will be used for surface parking.

The gap between the twelve- and six-story buildings will be about 35 feet wide, and the main entrance to both the twelve- and six-story buildings will be off a walkway in the gap between the two buildings at locations 22, 24, and 26.

A Harbor Walk along the rebuilt wharves is planned. Locations 12, 17, 18, 23, 57, 35, 40, 43, 44, 45, 49, and 55 are along that Harbor Walk. Locations 1, 5, 19, 39, 50, and 53 are in Boston Inner Harbor.

3.3 THE SURROUNDING AREA (Figures 1 and 2)

To the SE, the heights to about ± 5 feet of the buildings at the Hodge Boiler site and Carlton Wharf Building B are indicated in Figures 1 and 2. The height of Maverick Landing Building A, roughly E of the site, is also indicated. Most of the other buildings in Maverick Landing are 20 to 30 feet tall. The heights of buildings to the NE of the New Street site are indicated in the figures. To the N, NW, W, SW, and S of the site is the Boston Inner Harbor.

4.0 THE WIND CLIMATE

4.1 THE VARIATION OF WIND SPEED WITH HEIGHT

In general, the natural wind is unsteady (*i.e.,* it is gusty) and its average speed increases with height above the ground [6]. Figure 3 depicts how the average wind speed varies with height for different types of terrain. While generally it does not happen, when one puts up any building, the possibility exists that the building will bring the higher speed winds at the top of the building down to ground level.

Figure 4 shows schematically how an isolated building interacts with the wind. Because the wind speed increases with height, as the wind is forced to a stop at the upwind façade, the pressure recovered on that façade is higher near the top than at the bottom of the façade. As a result, the wind flows down the windward façade and forms the vortex upwind of the building shown in the figure. This vortex is stretched and accelerated as it goes around the two upwind lower corners, causing the accelerated flow in areas (A) shown on the left hand side of Figure 4. Similar accelerated areas also occur for winds blowing at the corners of the building (B in Figure 4). Because the proposed buildings are exposed to NW and SW winds coming off the Inner Harbor, they interact in ways similar to that shown in Figure 4. Also, because the 199- and 70-foot buildings are much higher than the 30-foot Maverick Garden building across New Street, the winds in the gap between the two buildings will be accelerated by such vortices.

Monolithic buildings (*i.e.,* those that do not change shape with height), if they are significantly taller than most of the surrounding buildings, almost invariably will be windy at their bases. This is the case for the proposed buildings. When there are many buildings of similar height in an area, they tend to shelter one another.

4.2 STATISTICAL DESCRIPTION OF THE BOSTON WIND CLIMATE

The project site is located about 1.3 miles W of Logan Airfield. Thus, the wind data from Logan Airfield usually used to define the winds for the Boston area is applicable. Figure 5 depicts a wind rose for Boston. The wind speeds are estimated at pedestrian level at the airport. The length of each line radiating from the center of the figure to the outermost crossing line is proportional to the total time the wind comes from that direction. The other lines crossing the radial lines indicate the frequency of winds less than 7, 10, and 15 mph. As noted in the figure, the wind rose is based on surface wind data from Logan Airfield taken from 1945 to 1965. Data from 1965 to 2005 is also available, but it is not believed to be as representative of the true winds in Boston. Many 25- to 40-story buildings have been built in the financial district of Boston since 1965. The financial district is just one mile SSW of Logan Airfield.

Figure 5 shows that the winds in Boston come primarily from the NW, W, and SW. Figures 6 through 9 show pedestrian level wind roses for Boston for winter (Dec., Jan., and Feb.), spring (Mar., Apr., and May), summer (Jun., Jul., and Aug.), and fall (Sept., Oct., and Nov.). These figures show that NW winds tend to occur during the colder months and SW winds during the warmer months. Spring and fall are transitional, but winds are stronger in the spring than in the fall. Strong easterly winds usually occur during storms when there is precipitation.

The average wind speed at Logan Airfield at 58 feet (the average height at which the data was taken) is 12.9 mph. At pedestrian height (*i.e.,* at chest height, 4.5 feet) it is about 8.6 mph. The average wind speeds at 58 and 4.5 feet at Logan Airfield for each month are shown in Figure 10. Seasonally, the average wind speed at pedestrian level is 9.4 mph in the winter, 9.2 mph in the spring, 7.4 mph in the summer, and 8.2 mph in the fall.

5.0 CRITERIA

Since the early 1980s, the BRA has used a guideline criterion for acceptable winds of not exceeding a 31 mph effective gust more often than once in one hundred hours. The effective gust is defined as the average wind speed plus 1.5 times the root mean square variation about the average. The effective gust can be shown to be about the fastest one-minute gust in an hour. When many locations are considered, the effective gust averages about 1.4 times the average hourly wind speed [10]. However, that ratio can vary widely from 1.4 for individual locations.

In 1978, Melbourne [9] developed probabilistic criteria for average and peak PLWs, which accounted for different types of pedestrian activity as well as the safety aspects of such winds. Durgin [10] suggested the use of an Equivalent Average which combines the effects of average, gusting, and peak winds and later [11 and 12] reinterpreted Melbourne's criteria to apply to Equivalent Average winds (Figure 11). The Equivalent Average used in this figure is similar to an hourly average, but combines the effects of steady and gusting winds. Five categories of PLWs are defined:

1) Comfortable for Long Periods of Standing or Sitting;
2) Comfortable for Short Periods of Standing and Sitting;
3) Comfortable for Walking;
4) Uncomfortable for Walking;
5) Dangerous and Unacceptable.

These criteria are not absolute (any location can have dangerous winds in a major storm or hurricane). Rather, they imply that the location would have wind

speeds such that the activity suggested could be undertaken comfortably most of the time, and would be perceived[1] as such, by most people who frequent the location. For example, the PLWs at Logan Airfield are in Category 4 (uncomfortable for walking) but near the dividing line between Category 4 and Category 3 (comfortable for walking) (see Figure 11). But they are well under the BRA 31 mph effective gust wind speed guideline (converted to an equivalent average wind), which is high in Category 4. Therefore, most people would probably perceive conditions in the open at Logan Airfield as marginally comfortable for walking.

6.0 PEDESTRIAN LEVEL WINDS AT THE SITE

6.1 Introduction

The objective of this study was to examine the effects of the proposed buildings on PLWs about the site, at nearby buildings, and in Boston Inner Harbor.

In the following sections, the effects of NW winter winds, SW summer winds, and easterly storm winds will be discussed for existing and build conditions. The results from NW, SW, and storm directions will be summarized by an estimated prediction of the annual PLW category at each location considered. When a PLW Category does not change, it does not mean the PLWs did not increase or decrease, but only that they did not change sufficiently for the PLW Category to change.

The estimated categories for all locations, wind directions, and annual winds for both existing and build conditions are shown in figures 12 to 19. The results for all locations, wind directions, and annual winds are tabulated in Table 1 and summarized in Table 2. Table 2 indicates both the number of locations that will not change category and those that will change up or down one or two categories.

For the most part, the weather in New England is dominated by either large coastal storms (fall, winter, and spring) or the Bermuda High (summer). Typically, when a coastal storm occurs, it rains or snows for 4 to 12 hours, then it clears, and, as the storm moves to the NE, the winds blow from the NW for three or four days until the next weather system arrives. These storms and the NW winds following them occur mostly in the fall, winter, and spring. NW winds are particularly uncomfortable in the winter, when typically they occur on cold days. The Bermuda High is generally responsible for the SW winds that occur in the summer.

[1] On a somewhat windy day, a person familiar with the location would choose not to go there for the specified activity.

6.2.1 Northwest (Winter) Winds (Figures 12 & 13)

NW winds blow at the site off the Boston Inner Harbor (See figure 12). The results for NW winds include the effects of all winds blowing from W to N. The estimated categories for all locations for existing and build conditions for NW winds are shown in Figures 12 and 13 (also see Tables 1 & 2).

For NW winds, the PLW Category at thirty-three of the forty-five locations considered do not change. The PLW Category increased by two at locations 22. 26, and 56. This should not be surprising, as all three of these locations are under buildings for existing conditions, but are exposed to winds off the harbor for build conditions. The PLW Category increased from one to two at locations 24 and 28 because both are sheltered by the existing buildings, but for build conditions are exposed to winds through the gap between the 70- and 199-foot buildings. The PLW Category decreased by one at locations 13, 17, 43, 44, 58, and 60 because of increased sheltering due to the new buildings. The PLW Category at location 61 is estimated to decrease from three to one because it will be sheltered from NW winds by the restaurant.

6.2.2 Southwest (Summer) Winds (Figures 14 & 15)

The prevailing winds in the summer are from the SW. SW winds also blow off the harbor at the site (Figure 14). The results for SW winds include effects of all winds blowing from S to W. The estimated categories for all locations for existing and build conditions are shown in Figures 14 and 15 (also see Tables 1 & 2).

For SW winds, the PLW Category does not change at thirty-four of the forty-five locations considered. The PLW Category does not increase by two at any location. It increases by one at locations 2, 8, and 14. The increases at all these locations are caused, at least in part, by the increased height of the 199-foot building. The PLW Category decreases by one at locations 18, 23, 25, 58, 60, and 61. All of these decreases are caused by the presence of the new six-story building and restaurant, which now shelters them. Finally, at locations 12 and 13, the PLW Category decreases by two, because these locations have gone from being totally exposed to quite sheltered.

6.2.3 Easterly Storm Winds (Figures 16 & 17)

Easterly winds occur about one third of the time. Light easterly winds occur as a storm starts or in the summer as a sea breeze. During the first four to twelve hours of a typical coastal storm, it rains or snows depending on the temperature. The wind is from the NE or SE depending on whether the center of the storm passes to the east or west of the city. The results for easterly storm winds includes the effects of all winds blowing from N to E to S (i.e., from the eastern side of the compass).

Since for strong easterly winds, it will generally be raining or snowing, and people expect it to be windy, the emphasis in evaluating the effect of the proposed buildings should be on entering or exiting buildings. The Categories for all easterly wind directions from N-E-S were estimated and have been combined to obtain a single result for easterly winds. Bear in mind that the total time the winds come from all of these easterly directions is about the same as the time the wind comes from either the NW or SW quadrants.

The estimated Categories for all locations for existing and build conditions are shown in Figures 16 and 17 (See Tables 1 & 2).

For easterly winds, PLW Categories at thirty-three of the forty-five locations considered are estimated to remain unchanged. The PLW Category does not increase by two at any location. It increases by one at locations 22, 26, 58, and 59. The increases at locations 22 and 26 are because they are no longer under a building and at 58 and 59 because they are now more exposed to storm winds. The PLW Category decreases by one at locations 12, 13, 18, 35, 40, 50, 60, and 61. All of these locations, except 12, are sheltered by the proposed 70-foot building. Location 12 receives some sheltering from the .water taxi service building.

6.2.4 Annual Winds

In the above discussion, only winds from three general wind directions are discussed. While those are important directions related to seasons and storms, one cannot infer the overall annual windiness at any location from those results. PLW Categories were estimated for the eight major wind directions (i.e., from the NE, E, SE, S, SW, W, NW, and N directions). Those estimated categories were then used with an eight compass point statistical description of the Boston wind climate to estimate the overall annual category for each of the fifty-six locations considered. The resulting estimated categories for each location for existing and build conditions are listed in the last column in Tables 1 & 2. In comparing these annual estimates with those for the five specific directions, one must remember that the total occurrence of winds from the easterly directions is roughly equal to that for either NW or SW. These annual estimates are qualitative and must be treated as such.

For annual winds, thirty-six of the forty-five locations considered are estimated not to change PLW Category. Of the other locations, the PLW Category is estimated to rise two Categories at locations 22, 26, and 56. These increases occur for the same reasons stated in the section on NW winds. The PLW Category increases by one at location 10 because for build conditions it is on the roof of the garage. Increases at this location were also noted for one or more of the individual directions considered above. Finally, the PLW Category decreased by one at locations 13, 36, 58, 60 and 61. These decreases are due to sheltering effects of the proposed buildings.

7.0 SUMMARY AND CONCLUSIONS

A qualitative assessment has been made to determine the effect of the proposed New Street buildings in East Boston, Massachusetts, on PLWs in their vicinity, as well as the winds in the Inner Harbor. Results are obtained for both existing and build conditions for NW, SW, easterly storm, and annual winds.

None of the forty-five locations considered for either existing or build conditions is estimated to have PLWs that exceed the BRA guideline wind speed of 31 mph oftener than once in 100 hours. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the new buildings tends to decrease PLWs somewhat. The significant increases at locations 22, 26, and 56 occur as a result of those locations being under a building for existing conditions, but quite exposed for build conditions. The gap between the 199-foot and the proposed six-story building will be quite windy for NW, N, and ESE winds, but vertical glass walls in the gap could reduce that windiness.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new buildings.

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TABLE 1

ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex) AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
1	3	3	3	3	3	3	3	3	1
2	1	1	1	2	1	1	1	1	2
5	3	3	3	3	3	3	3	3	5
6	2	2	2	2	2	2	2	2	6
7	1	1	2	2	2	2	2	2	7
8	1	1	1	2	2	2	2	2	8
9	2	2	2	2	2	2	2	2	9
10	3	3	1	1	2	2	2	3	10
12	3	3	3	1	3	2	3	3	12
13	3	2	3	1	2	1	3	2	13
14	1	1	1	2	1	1	1	1	14
15	1	1	2	2	2	2	2	2	15
16	1	1	1	1	2	2	2	2	16
17	3	2	3	3	3	3	3	3	17
18	3	3	3	2	3	2	3	3	18
19	3	3	3	3	3	3	3	3	19
20	1	1	2	2	1	1	2	2	20
21	1	1	2	2	2	2	2	2	21
22	1	3	1	1	1	2	1	3	22
23	3	3	3	2	2	2	3	3	23
24	1	2	2	2	2	2	2	2	24
25	3	3	3	2	2	2	3	3	25
26	1	3	1	1	1	2	1	3	26
28	1	2	2	2	1	1	2	2	28
29	1	1	2	2	2	2	2	2	29
30	3	3	3	3	2	2	3	3	30
33	2	2	3	3	1	1	2	2	33
35	3	3	3	3	3	2	3	3	35
36	2	2	3	3	2	2	3	2	36
39	3	3	3	3	3	3	3	3	39
40	3	3	3	3	2	1	3	3	40
43	3	2	3	3	2	2	3	3	43
44	3	2	3	3	2	2	3	3	44
45	3	3	3	3	2	2	3	3	45
49	3	3	3	3	3	3	3	3	49

TABLE 1 Cont'd

ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex) AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
50	3	3	3	3	3	2	3	3	50
53	3	3	3	3	3	3	3	3	53
55	3	3	3	3	3	3	3	3	55
56	1	3	1	1	1	1	1	3	56
57	3	3	3	3	3	3	3	3	57
58	3	2	3	2	1	2	3	2	58
59	3	3	3	3	2	3	3	3	59
60	3	2	3	2	2	2	3	2	60
61	3	1	3	2	2	1	3	2	61
62	3	3	3	3	2	1	3	3	62

TABLE 2

SUMMARY OF LOCATIONS THAT CHANGED CATEGORY BETWEEN EXISTING AND BUILD CONDITIONS

Direction	NW	SW	Storm	Annual
Up 2 Cat.	3	0	0	3
Up 1 Cat	2	3	4	1
No Change.	33	34	33	36
Down 1 Cat.	6	6	8	5
Down 2 Cat.	1	2	0	0

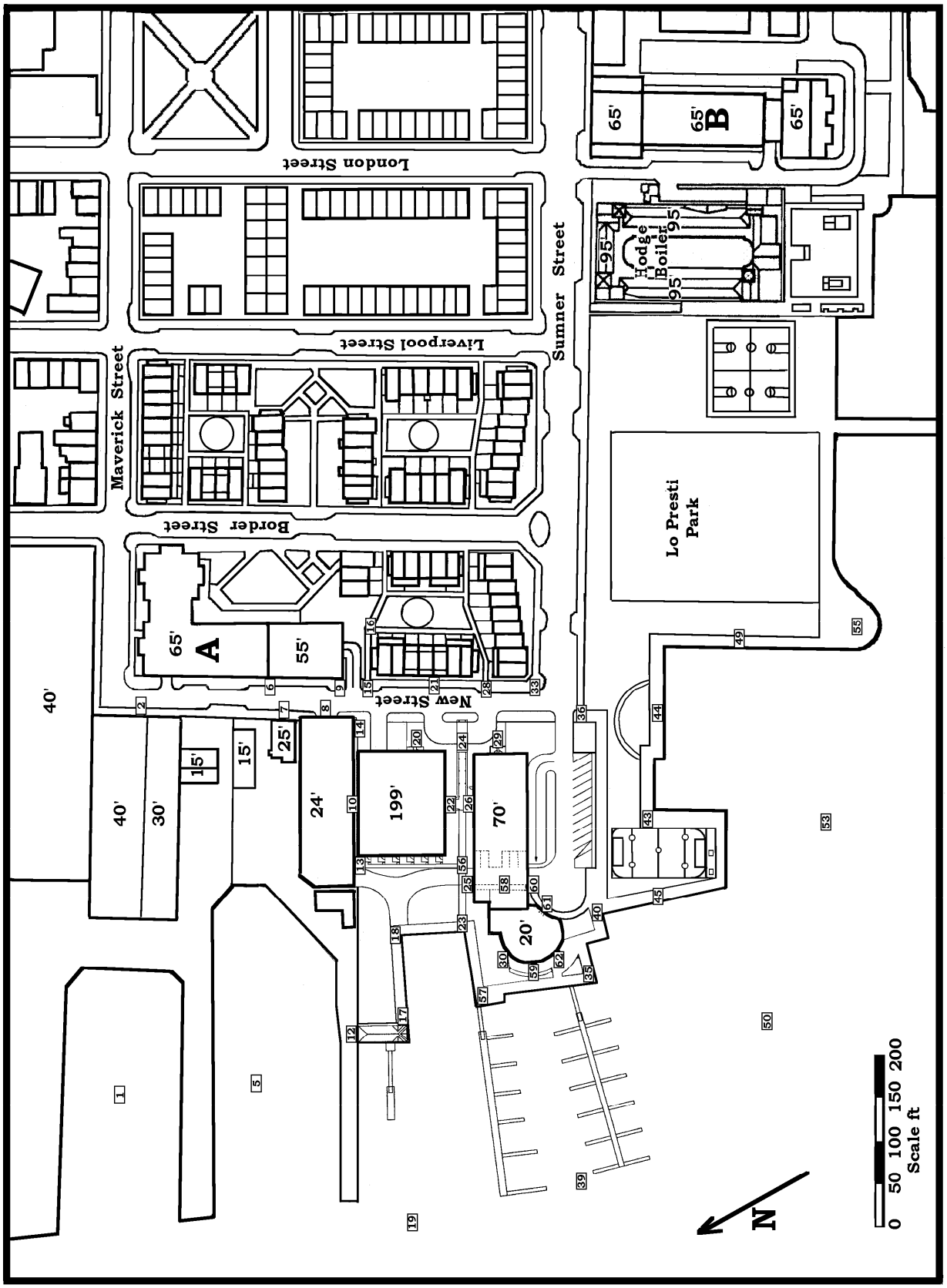


Figure 1 Map of Existing Conditions and PLW Locations

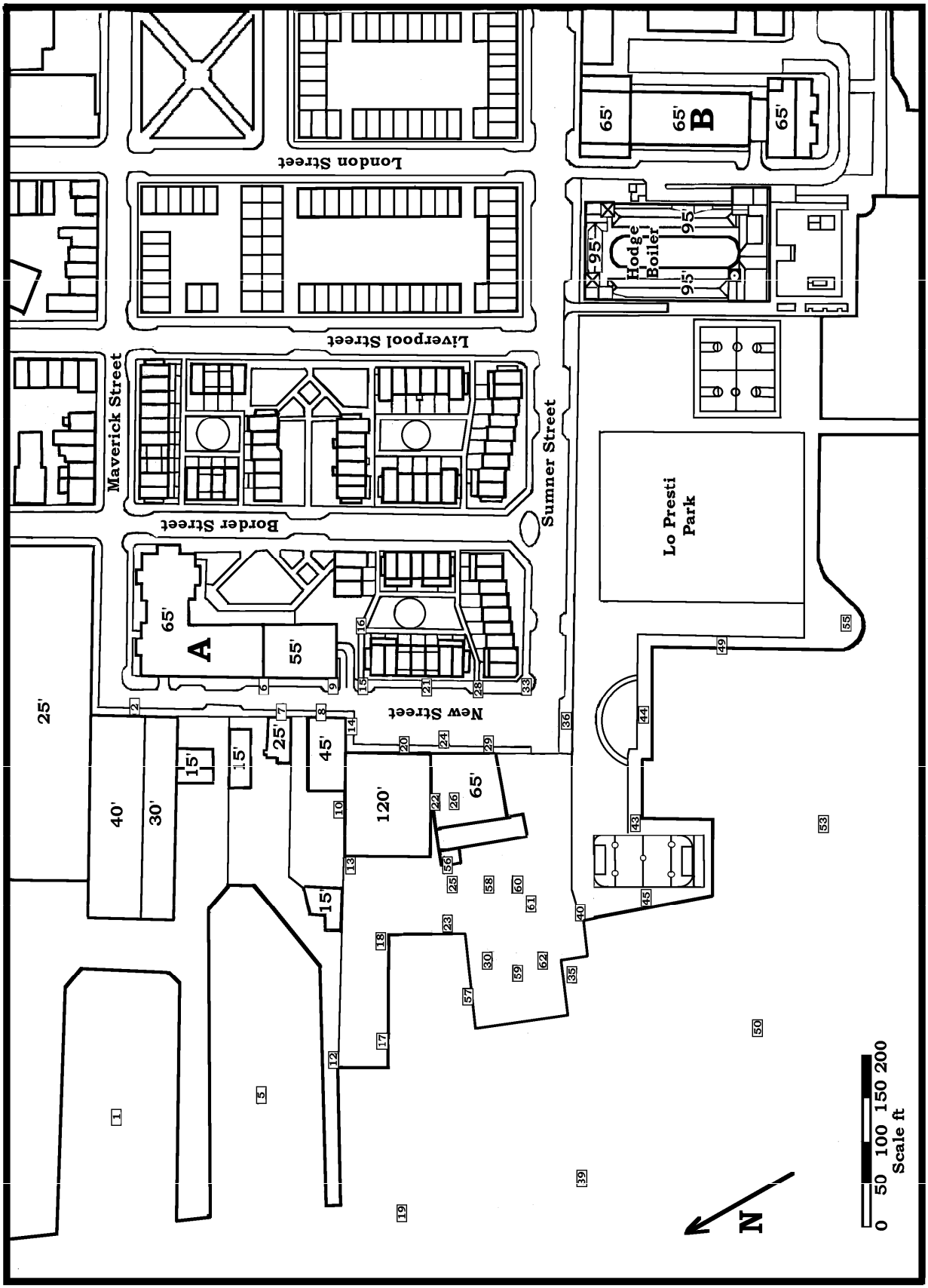


Figure 2 Map of Build Conditions With PLW Locations

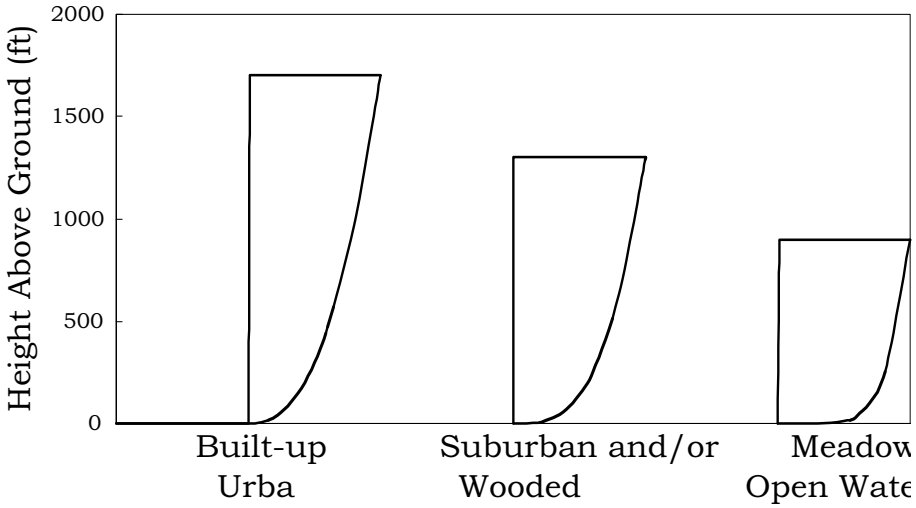


Figure 3 Types of Earth's Boundary Layers After Davenport

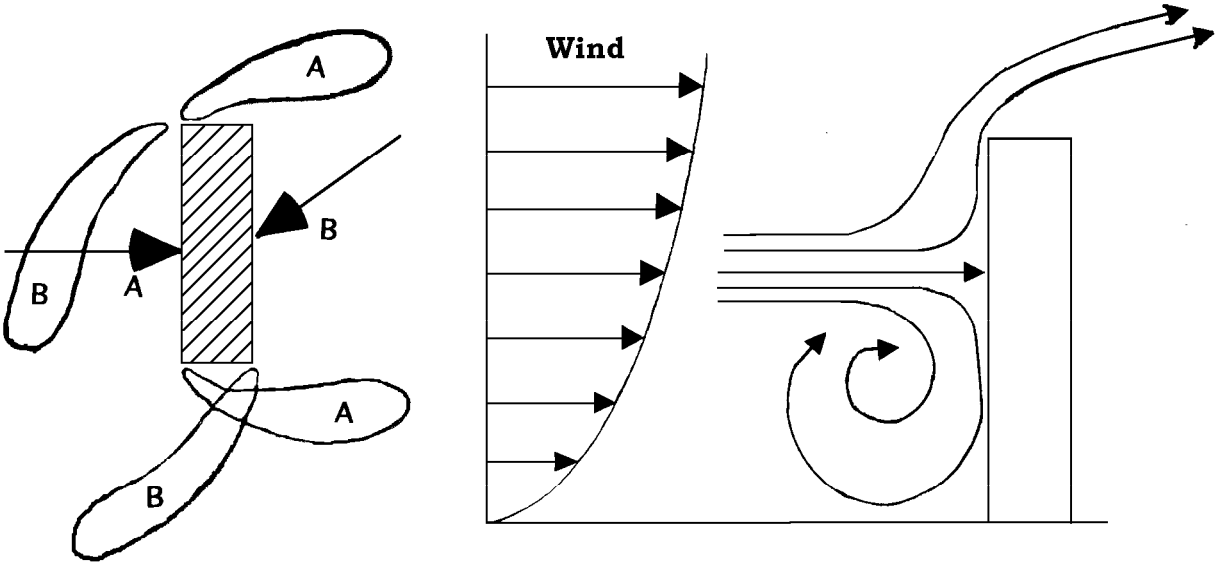


Figure 4 Schematic of the Wind Interacting with a Typical Building

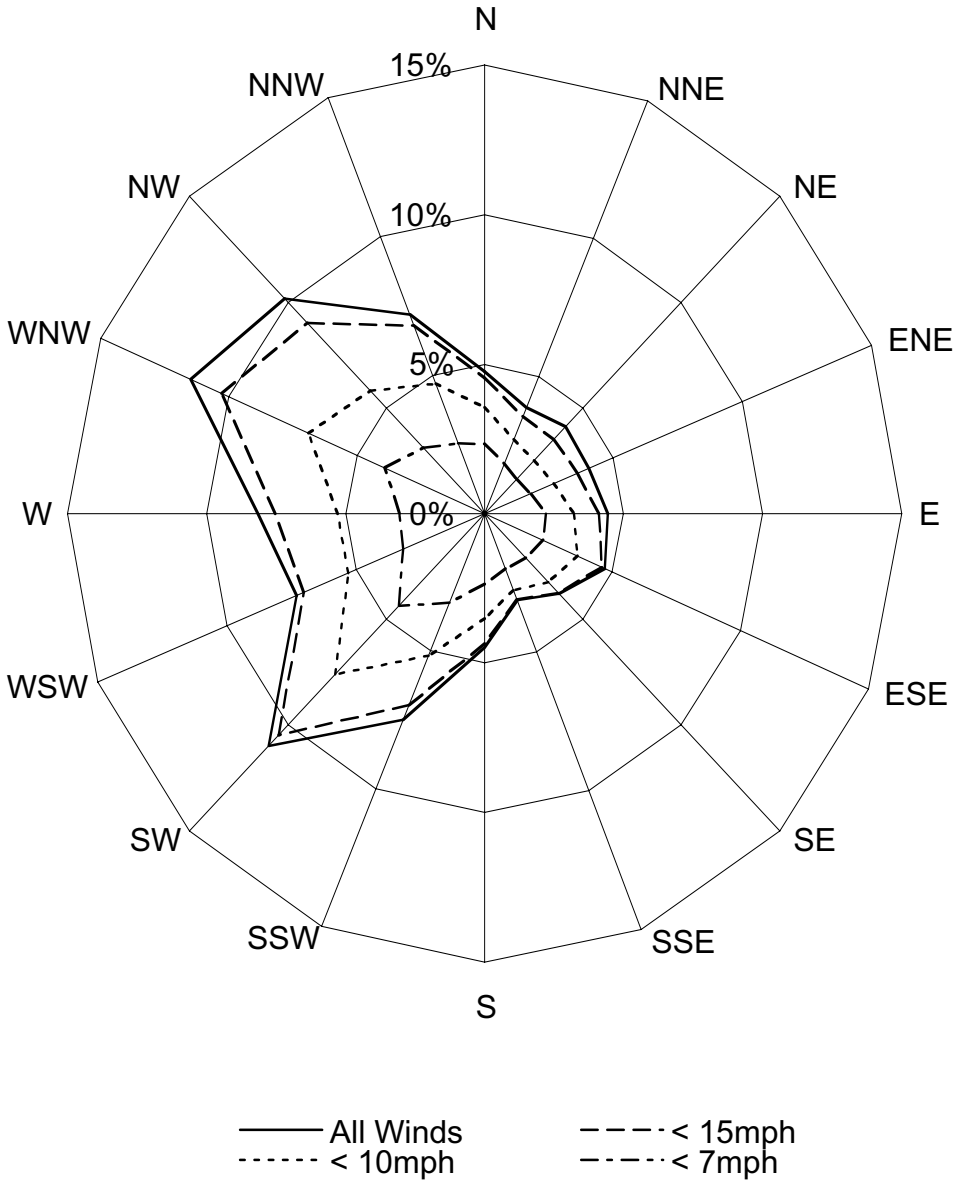


Figure 5 Annual Pedestrian Level Wind Rose for Boston Base Surface Data from Logan Airfield 1945-1965

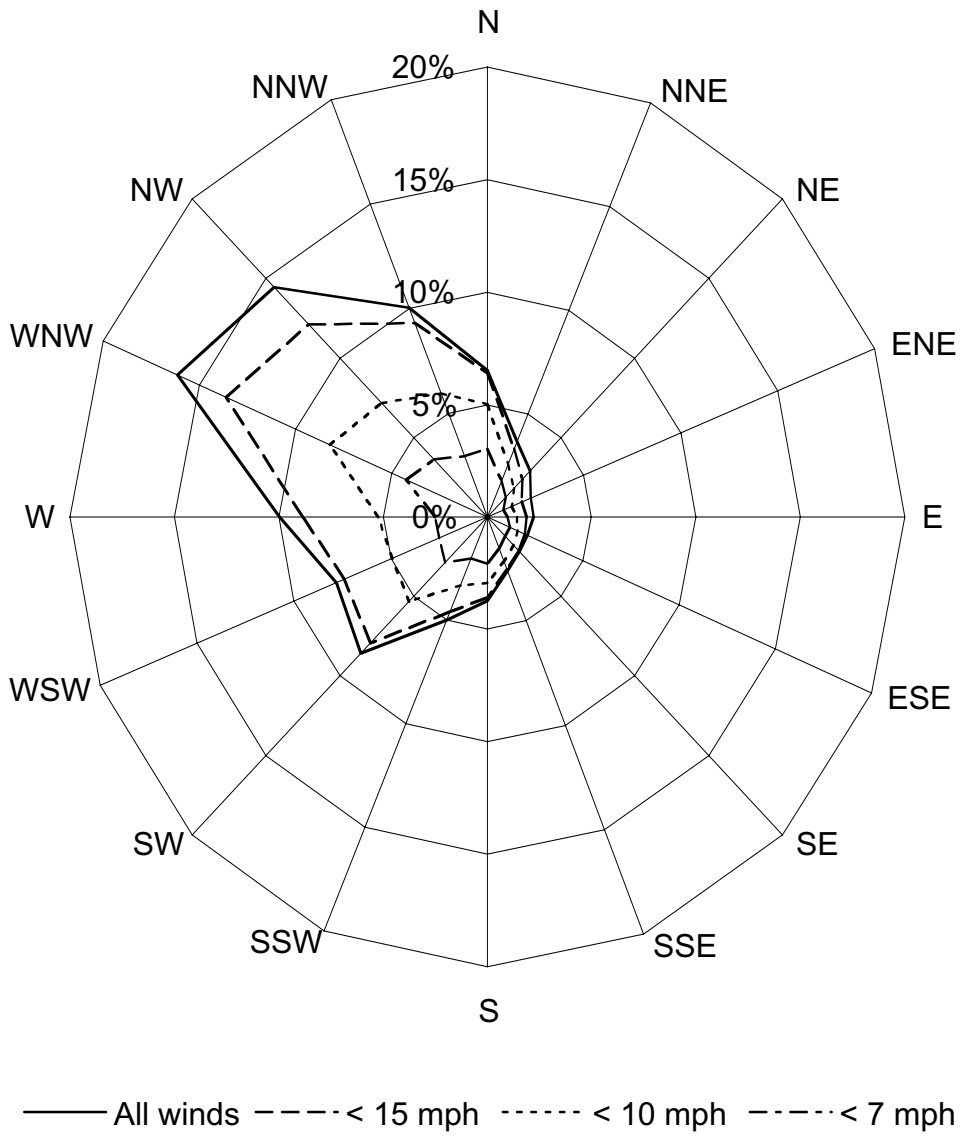


Figure 6 Winter (December, January, February) Pedestrian L
Wind Rose for Boston Based on Surface Data from Logan Air I
1945-1965

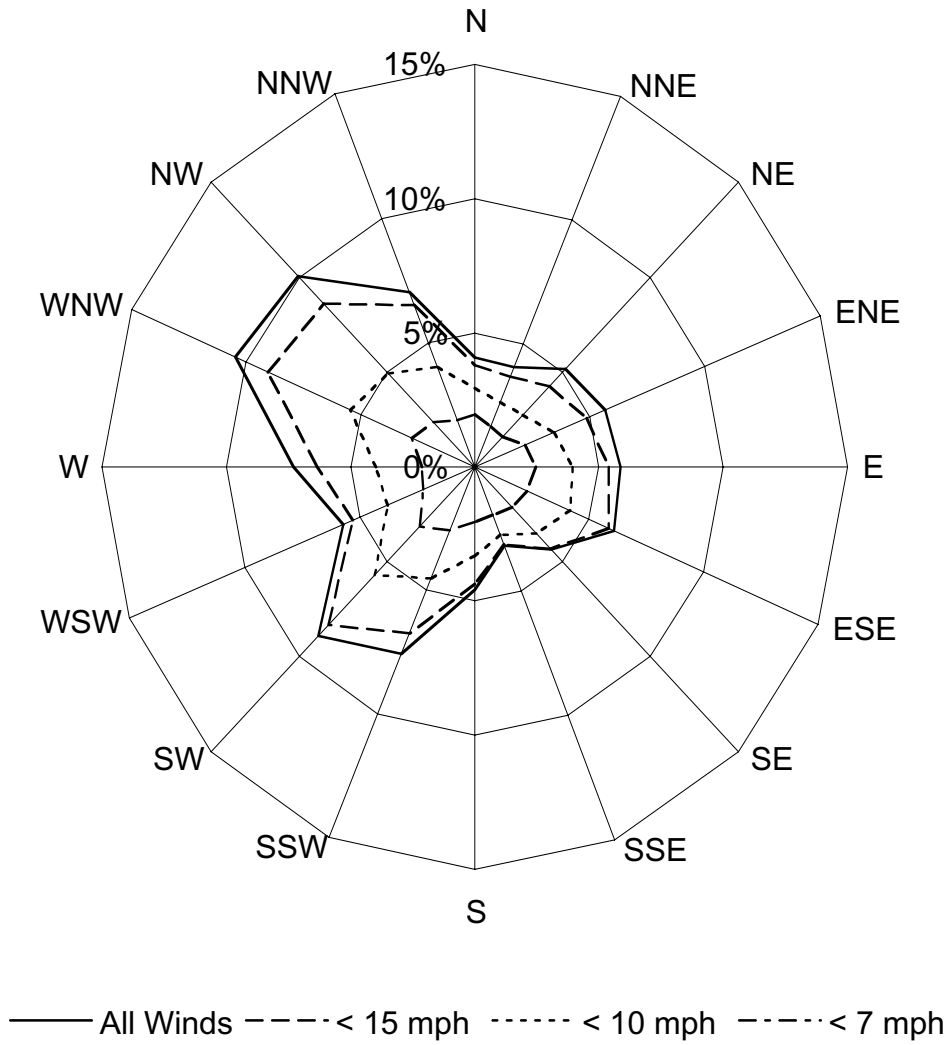


Figure 7 Spring (March, April, May) Pedestrian Level Wind R
for Boston based on Surface Data from Logan Air Field 1945-1

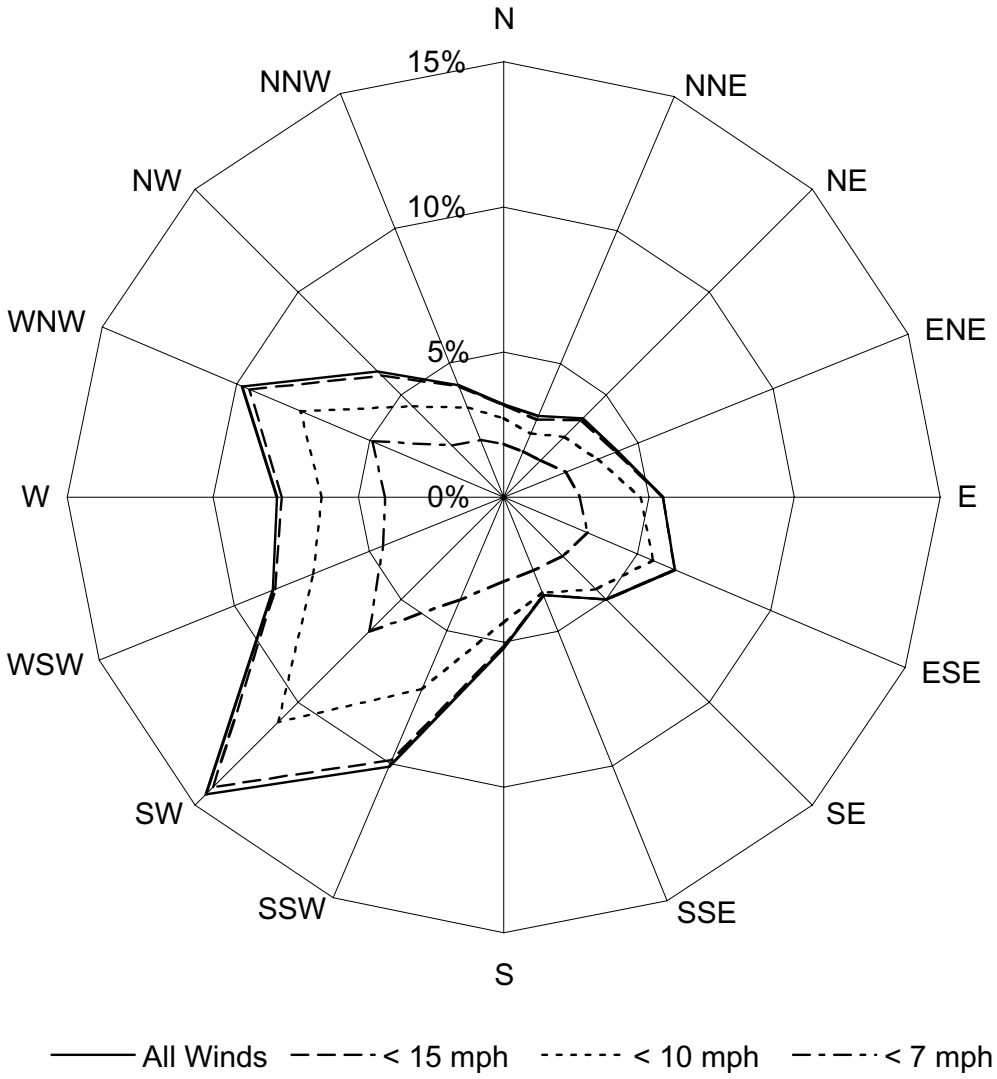


Figure 8 Summer (June, July, August) Pedestrian Level Wind Rose for Boston based on Surface Data from Logan Air Field 1945-1965

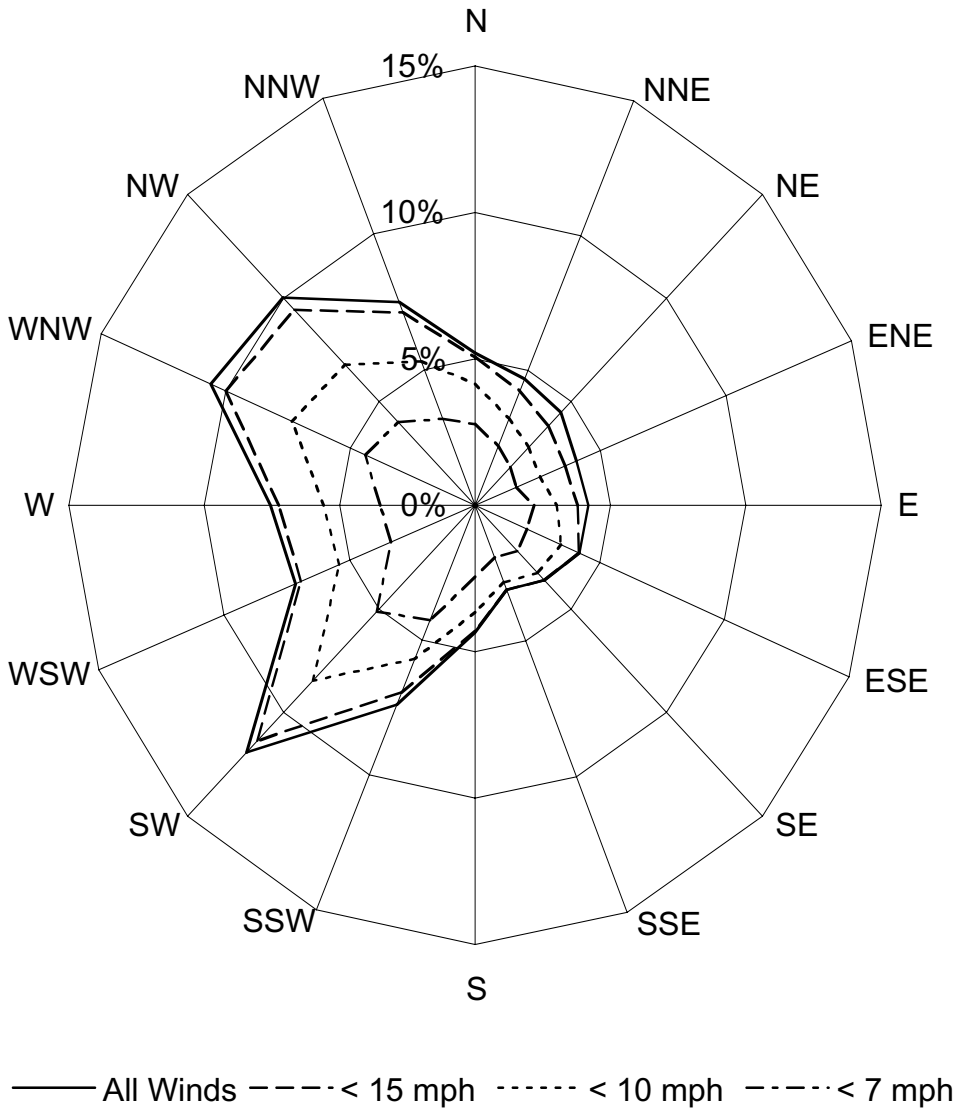
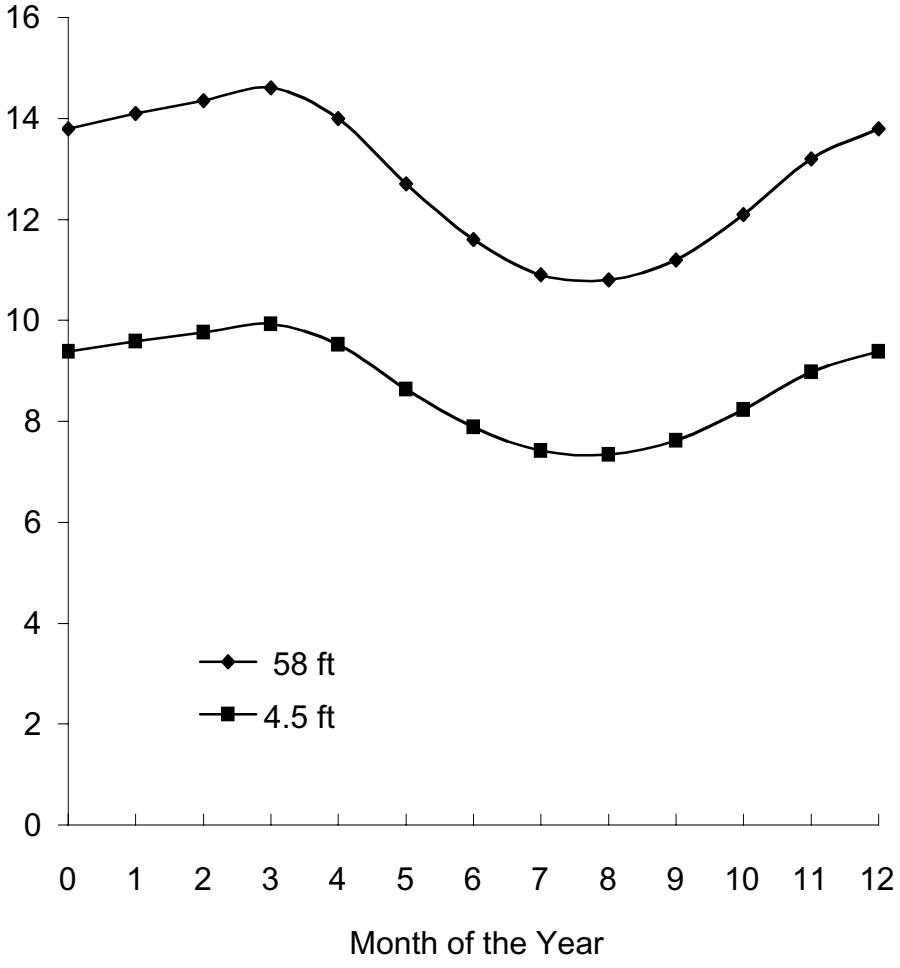


Figure 9 Fall (September, October, November) Pedestrian Le
Wind Rose for Boston based on Surface Data from Logan Air
1945-1965



Yearly Average is 12.9 mph at 58 feet

Figure 10 Average Wind Speed at Logan Airfield Based on Surface Data from 1945-1965

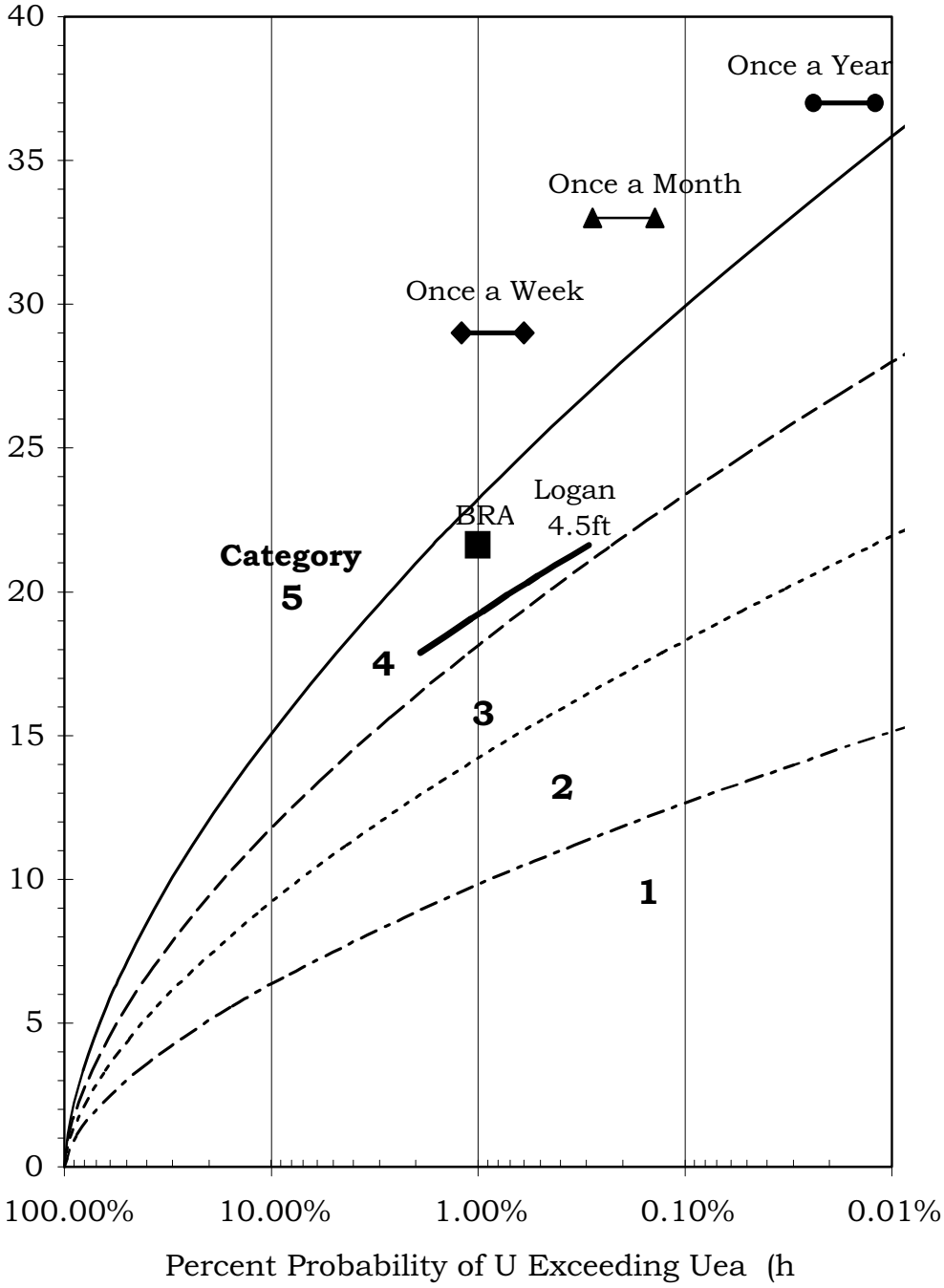


Figure 11 Pedestrian Level Wind Criteria for Equival Average Winds

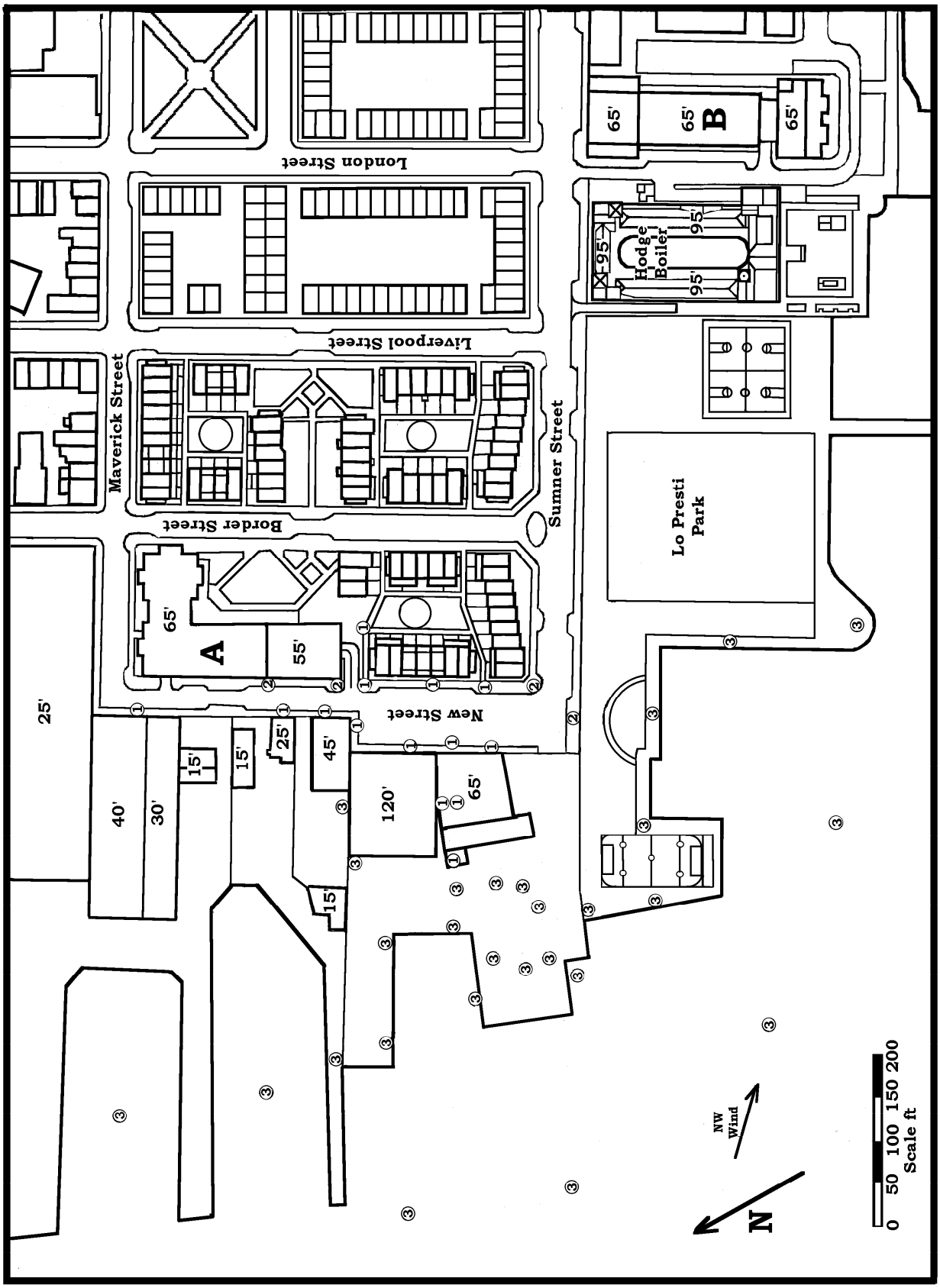


Figure 12 PLW Categories for Existing Conditions and NW winds

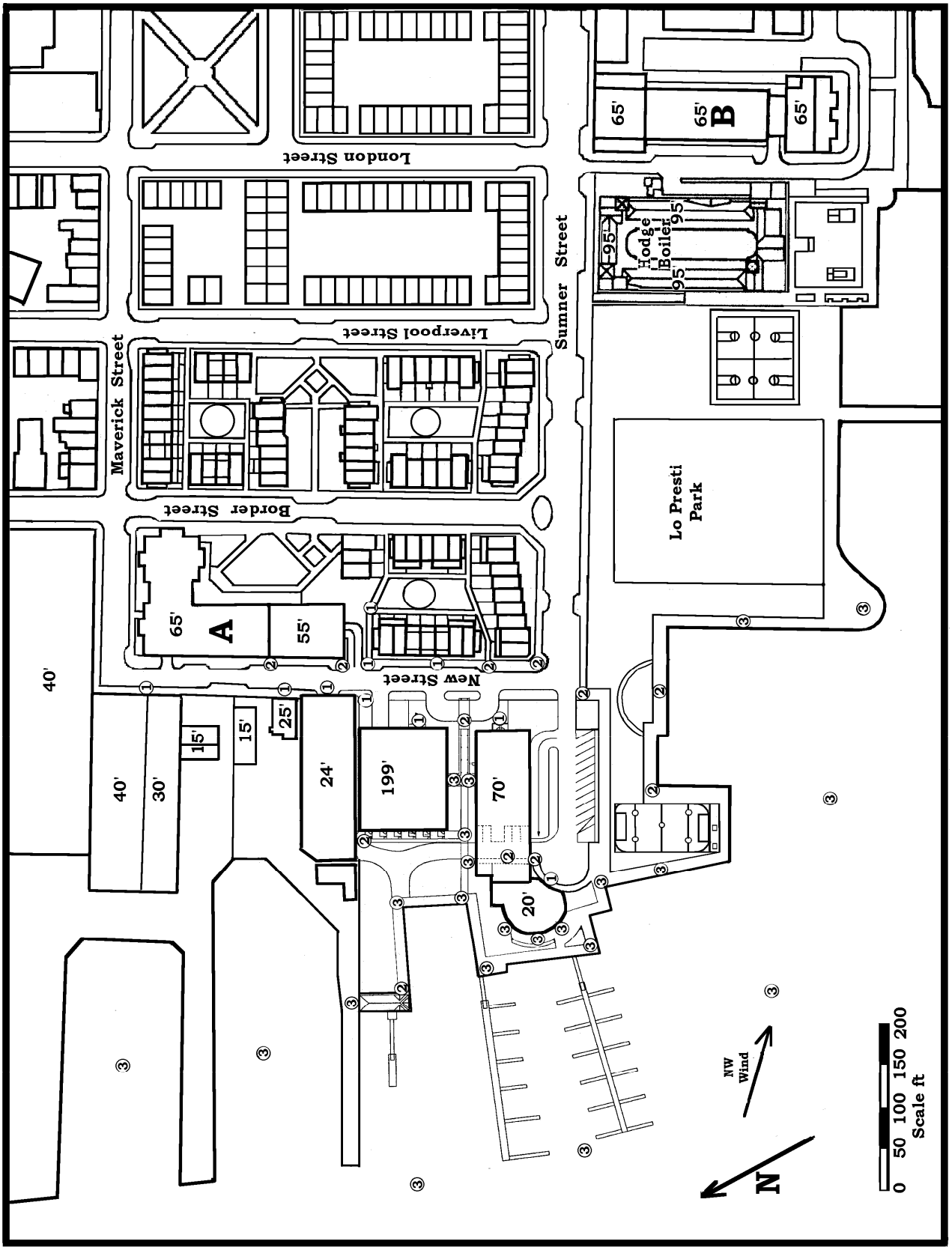


Figure 13 PLW Categories for Build Conditions and NW Winds

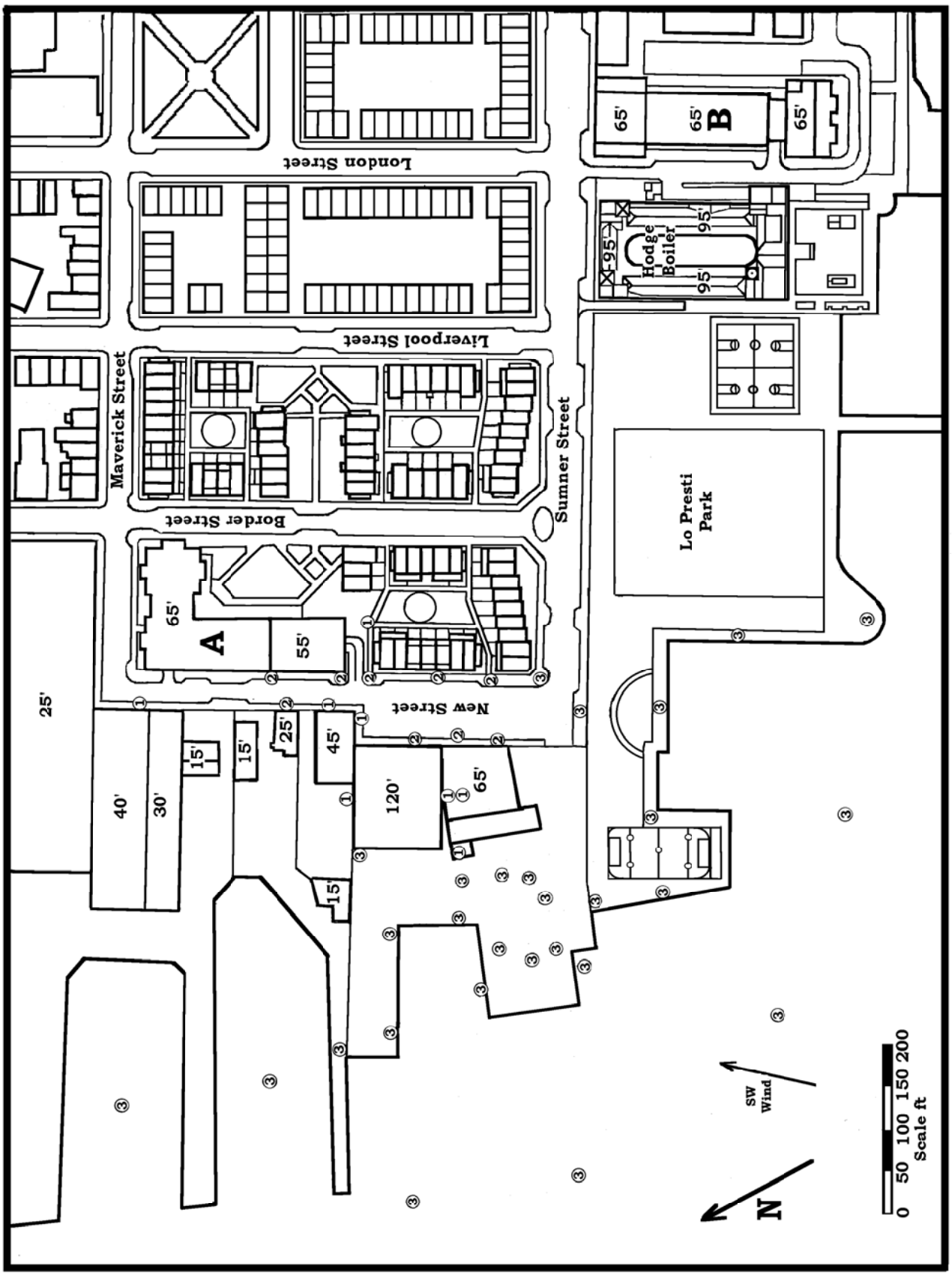


Figure 14 PLW Categories for Existing Conditions and SW Winds

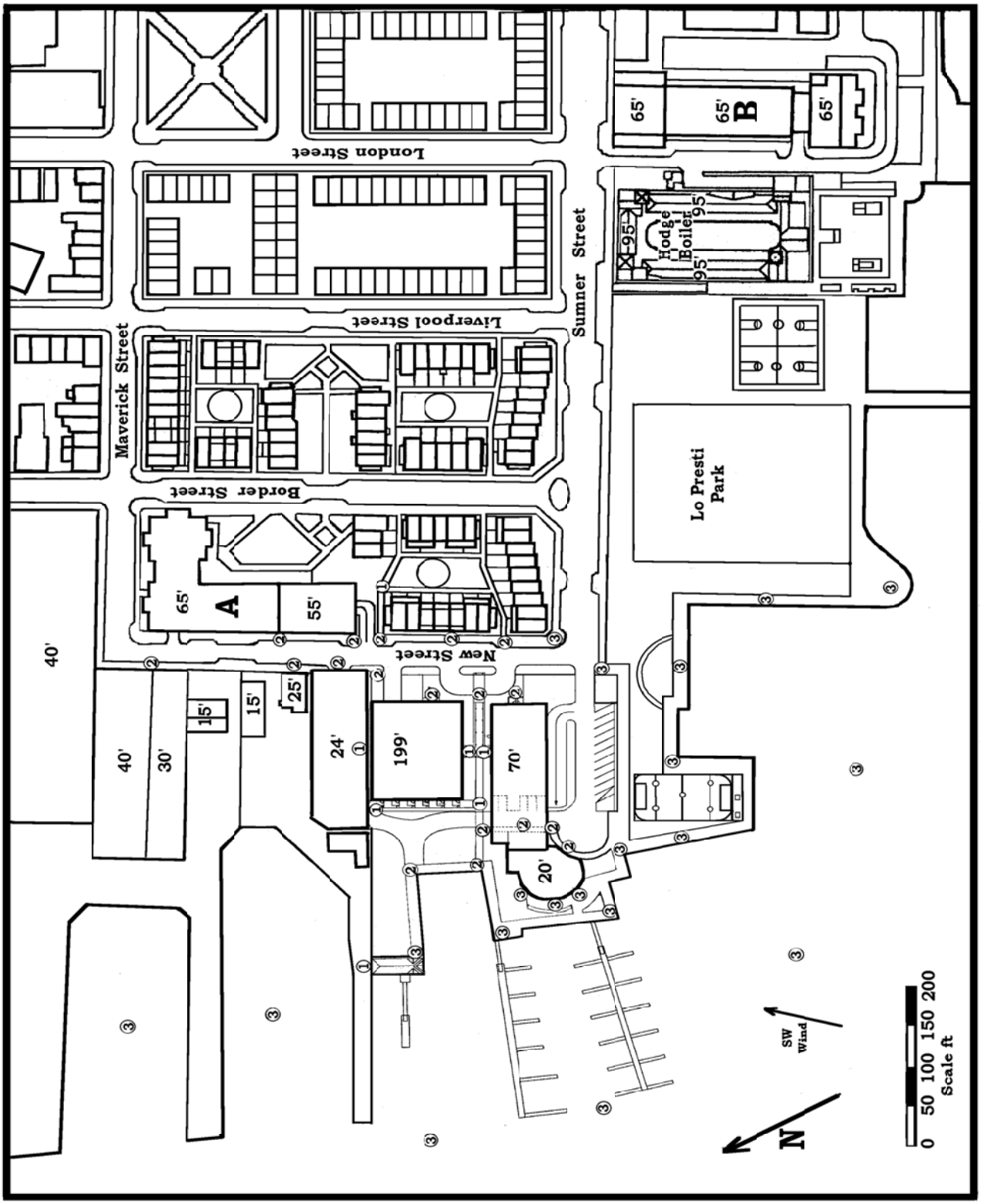


Figure 15 PLW Categories for Build Conditions and SW Winds

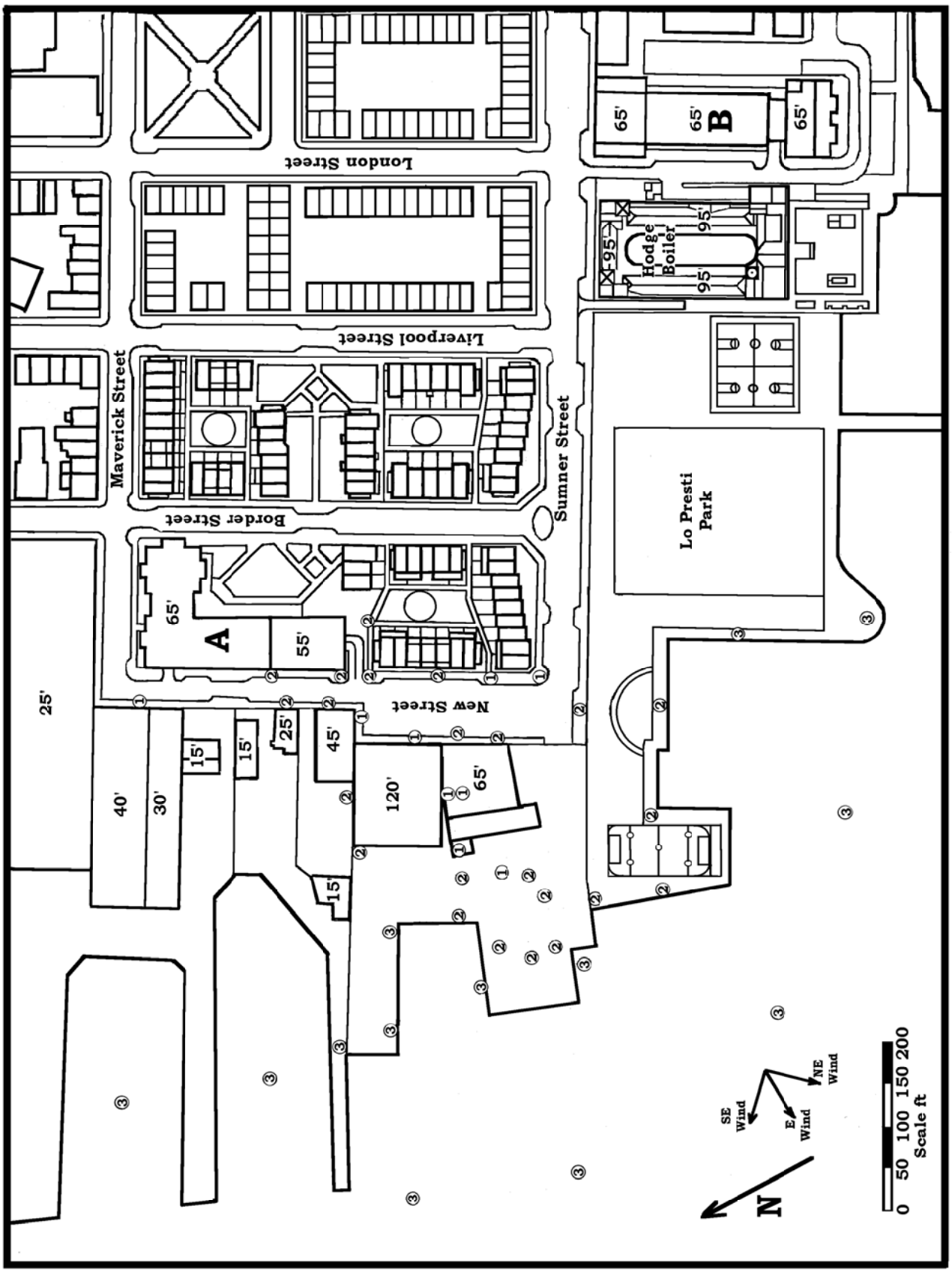


Figure 16 PLW Categories for Existing Conditions and Easterly Storm Winds

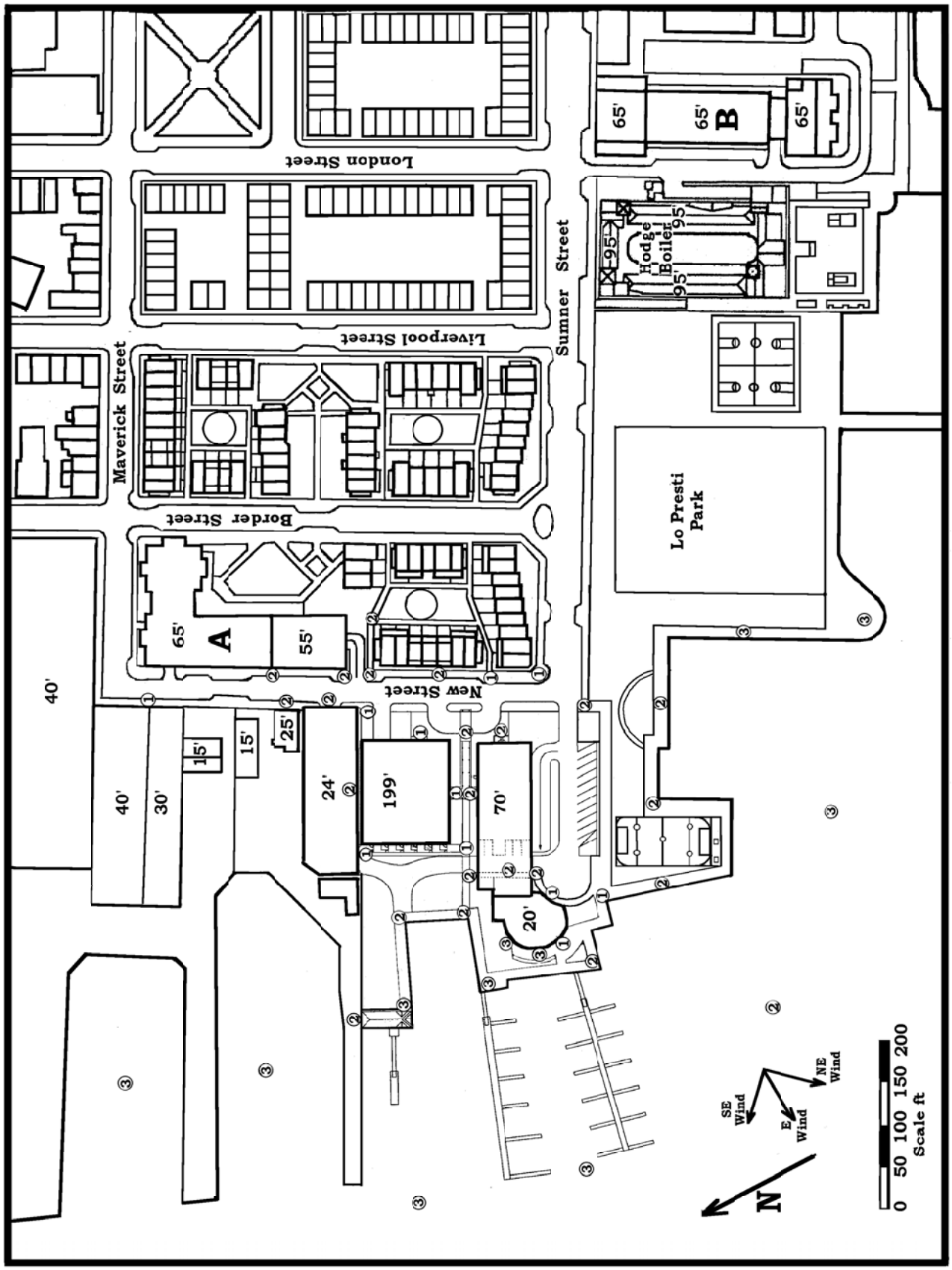


Figure 17 PLW Categories for Build Conditions and Easterly Storm Winds

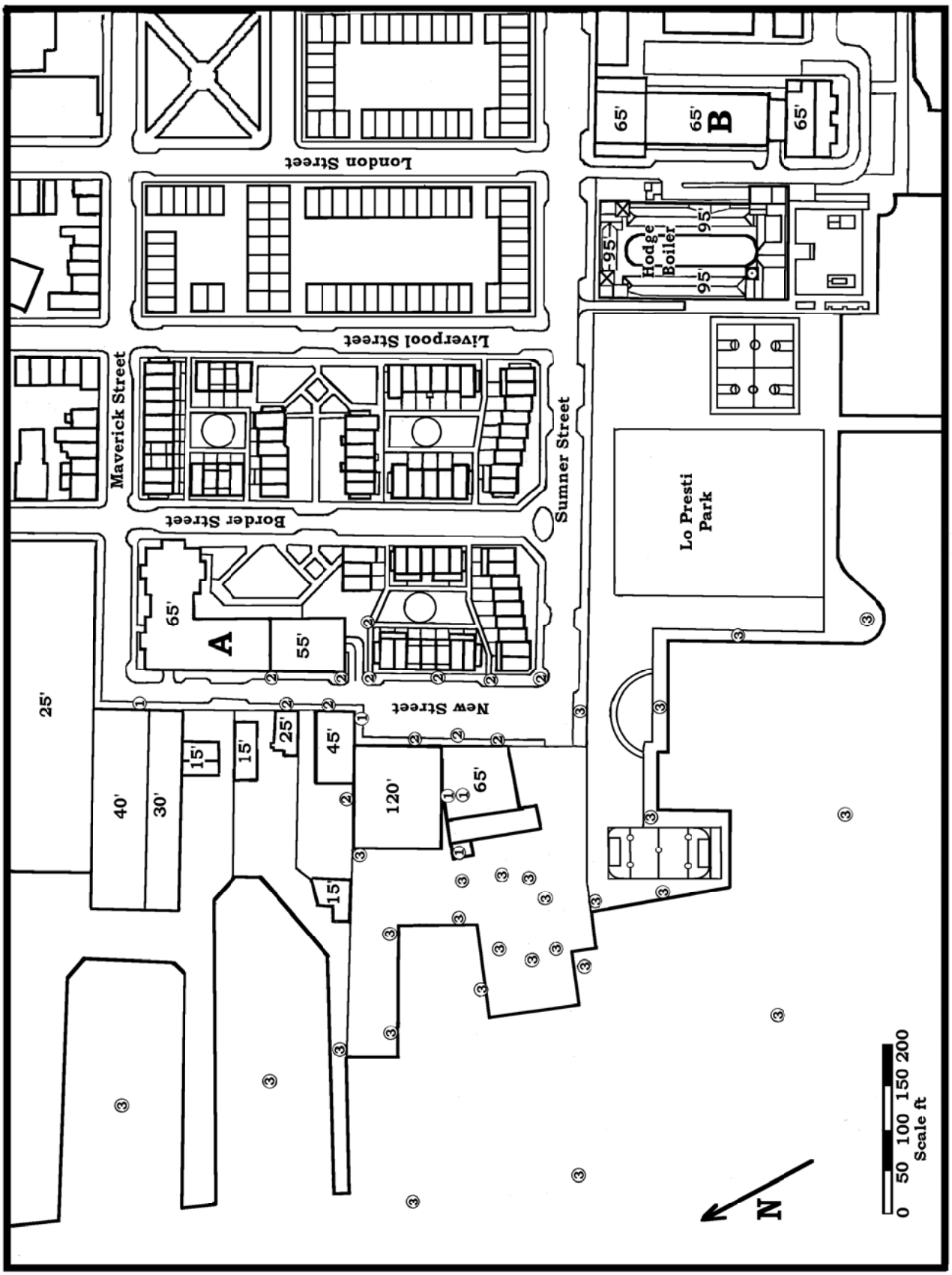


Figure 18 PLW Categories for Existing Conditions and Annual Winds

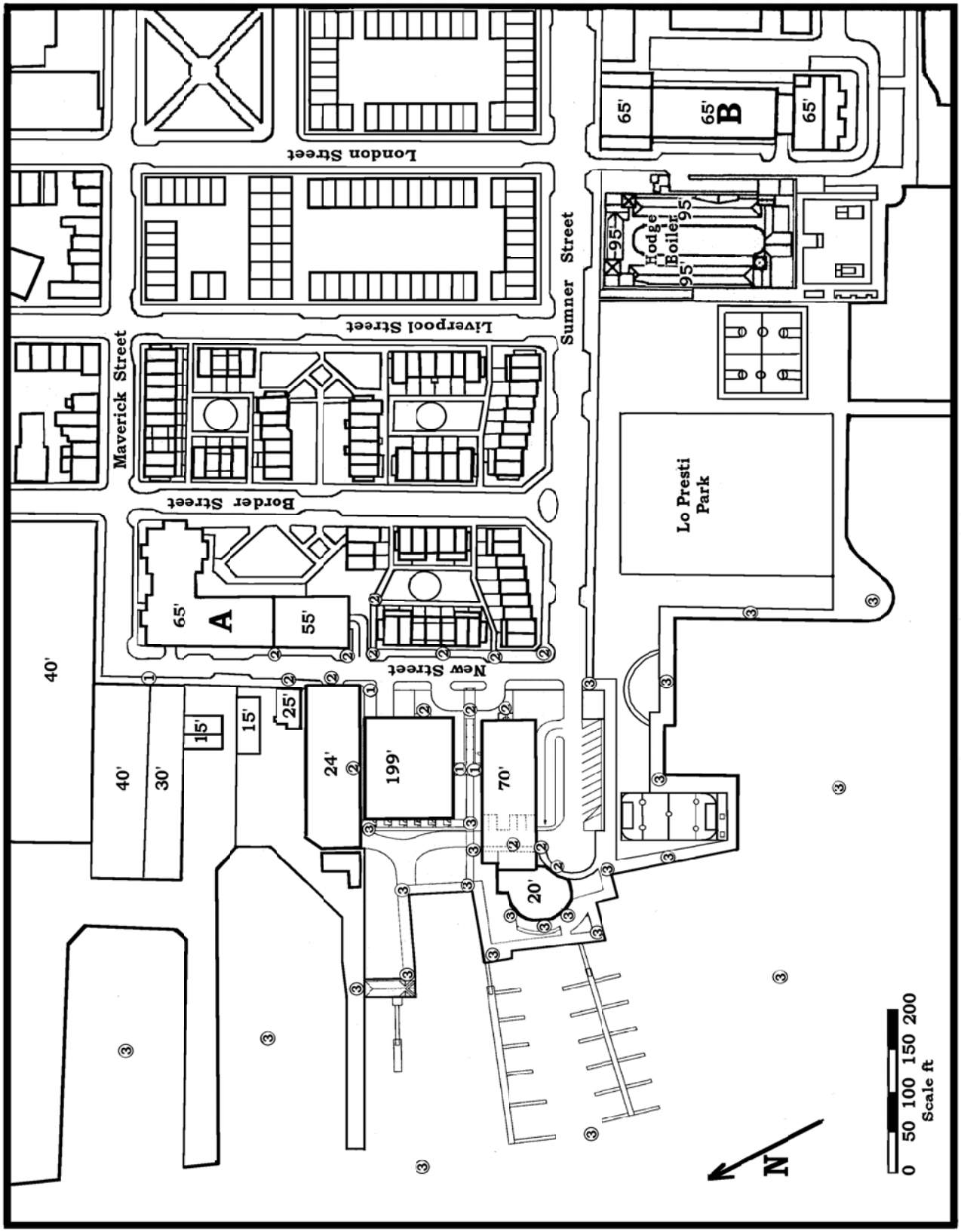


Figure 19 PLW Categories for Build Conditions and Annual Winds

Appendix 5

LEED Checklist

LEED for New Construction v2.2
Registered Project Checklist

Project Name: 4-26 New Street Development
Project Address: 4-26 New Street, East Boston, MA

Yes	?	No			
9	2	**3**	**Sustainable Sites**		**14** Points
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
1			Credit 1	**Site Selection**	1
1			Credit 2	**Development Density & Community Connectivity**	1
		1	Credit 3	**Brownfield Redevelopment**	1
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
		1	Credit 4.3	**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles	1
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
	1		Credit 5.1	**Site Development,** Protect of 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

Yes	?	No			
2	2	**1**	**Water Efficiency**		**5** Points
1			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
	1		Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
		1	Credit 2	**Innovative Wastewater Technologies**	1
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
	1		Credit 3.2	**Water Use Reduction**, 30% Reduction	1

3	2	**12**	**Energy & Atmosphere**		**17** Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
3		7	Credit 1	**Optimize Energy Performance**	1 to 10
				10.5% New Buildings or 3.5% Existing Building Renovations	1
				14% New Buildings or 7% Existing Building Renovations	2
			3	17.5% New Buildings or 10.5% Existing Building Renovations	3
				21% New Buildings or 14% Existing Building Renovations	4
				24.5% New Buildings or 17.5% Existing Building Renovations	5
				28% New Buildings or 21% Existing Building Renovations	6
				31.5% New Buildings or 24.5% Existing Building Renovations	7
				35% New Buildings or 28% Existing Building Renovations	8
				38.5% New Buildings or 31.5% Existing Building Renovations	9
				42% New Buildings or 35% Existing Building Renovations	10
		3	Credit 2	**On-Site Renewable Energy**	1 to 3
				2.5% Renewable Energy	1
				7.5% Renewable Energy	2
				12.5% Renewable Energy	3
		1	Credit 3	**Enhanced Commissioning**	1
	1		Credit 4	**Enhanced Refrigerant Management**	1
	1		Credit 5	**Measurement & Verification**	1
		1	Credit 6	**Green Power**	1

continued…

Yes	?	No			
6	2	4	**Materials & Resources**		**13** Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
		1	Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
		1	Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
1			Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
1			Credit 3.1	**Materials Reuse**, 5%	1
		1	Credit 3.2	**Materials Reuse**,10%	1
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regio	1
		1	Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regio	1
	1		Credit 6	**Rapidly Renewable Materials**	1
1			Credit 7	**Certified Wood**	1
Yes	?	No			
7	5	3	**Indoor Environmental Quality**		**15** Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
	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 & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
	1		Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
1			Credit 5	**Indoor Chemical & 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 & Views**, Daylight 75% of Spaces	1
		1	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1
Yes	?	No			
1	1	3	**Innovation & Design Process**		**5** Points
	1		Credit 1.1	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.2	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.3	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.4	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1
Yes	?	No			
28	14	26	**Project Totals** (pre-certification estimates)		**69** Points

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 pc

2		2	**Boston Green Building Credits**		**4** Points
Y			Prereq 1	**Retrofit all diesel construction vehicles**	Required
Y			Prereq 2	**Outdoor construction management plan**	Required
Y			Prereq 2	**Integrated pest management plan**	Required
		1	Credit 1	**Modern Grid**	1
		1	Credit 2	**Historic Preservation**	1
1			Credit 3.1	**Groundwater Recharge**	1
1			Credit 3.2	**Modern Mobility**	1
Yes	?	No			
30	14	28	**Project Totals** (pre-certification estimates)		73 Points

Appendix 6

Transportation

APPENDIX 6-1 TRAFFIC COUNTS

N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

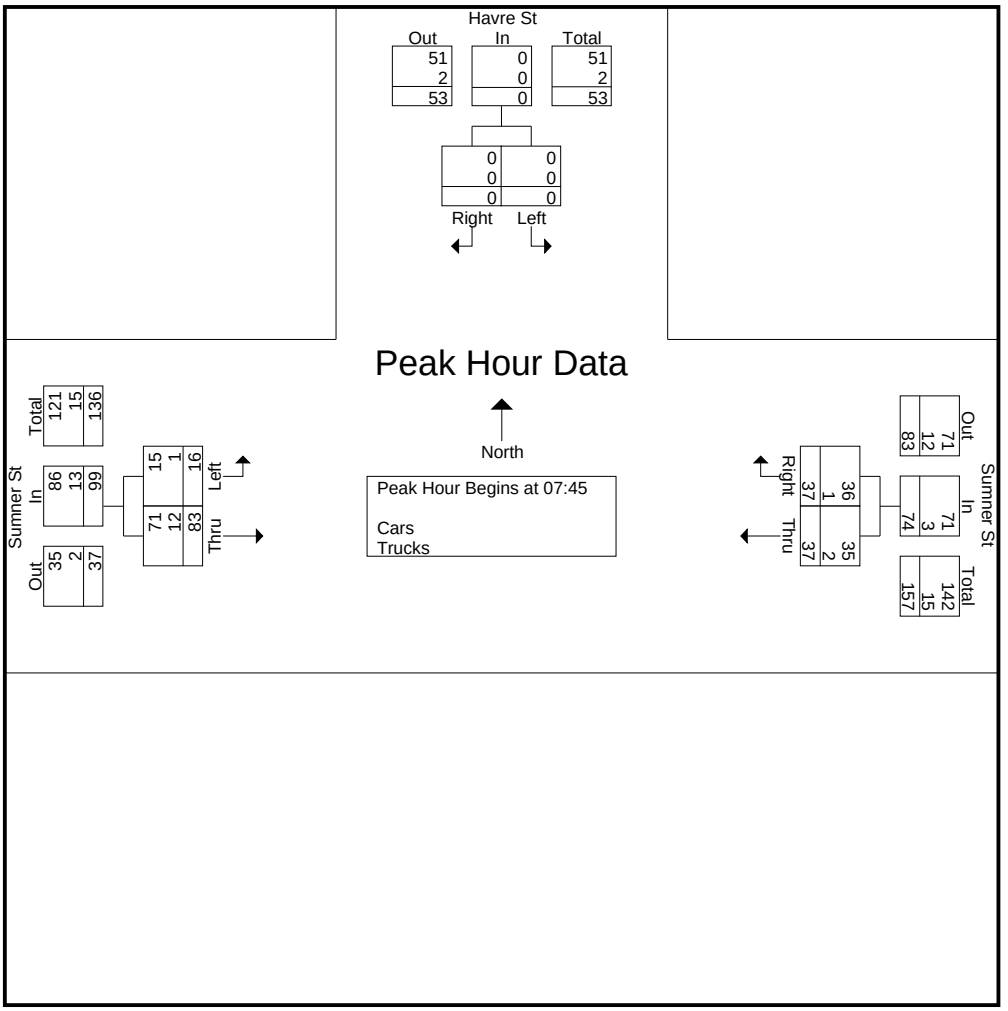
Groups Printed- Cars - Trucks

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	9	5	1	15	5	12	1	25	23	48
07:15	0	0	10	8	9	14	2	10	2	26	29	55
07:30	0	0	9	7	6	13	2	20	1	23	35	58
07:45	0	0	9	9	9	14	4	23	6	29	45	74
Total	0	0	37	29	25	56	13	65	10	103	132	235
08:00	0	0	8	8	9	8	3	20	7	23	40	63
08:15	0	0	13	10	13	16	3	21	2	31	47	78
08:30	0	0	14	10	6	14	6	19	8	36	41	77
08:45	0	0	22	8	9	20	4	18	11	53	39	92
Total	0	0	57	36	37	58	16	78	28	143	167	310
Grand Total	0	0	94	65	62	114	29	143	38	246	299	545
Apprch %	0	0		51.2	48.8		16.9	83.1				
Total %	0	0		21.7	20.7		9.7	47.8		45.1	54.9	
Cars	0	0		62	61		26	120		0	0	515
% Cars	0	0	100	95.4	98.4	100	89.7	83.9	100	0	0	94.5
Trucks	0	0		3	1		3	23		0	0	30
% Trucks	0	0	0	4.6	1.6	0	10.3	16.1	0	0	0	5.5

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	9	9	18	4	23	27	45
08:00	0	0	0	8	9	17	3	20	23	40
08:15	0	0	0	10	13	23	3	21	24	47
08:30	0	0	0	10	6	16	6	19	25	41
Total Volume	0	0	0	37	37	74	16	83	99	173
% App. Total	0	0		50	50		16.2	83.8		
PHF	.000	.000	.000	.925	.712	.804	.667	.902	.917	.920
Cars	0	0	0	35	36	71	15	71	86	157
% Cars	0	0	0	94.6	97.3	95.9	93.8	85.5	86.9	90.8
Trucks	0	0	0	2	1	3	1	12	13	16
% Trucks	0	0	0	5.4	2.7	4.1	6.3	14.5	13.1	9.2

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 2



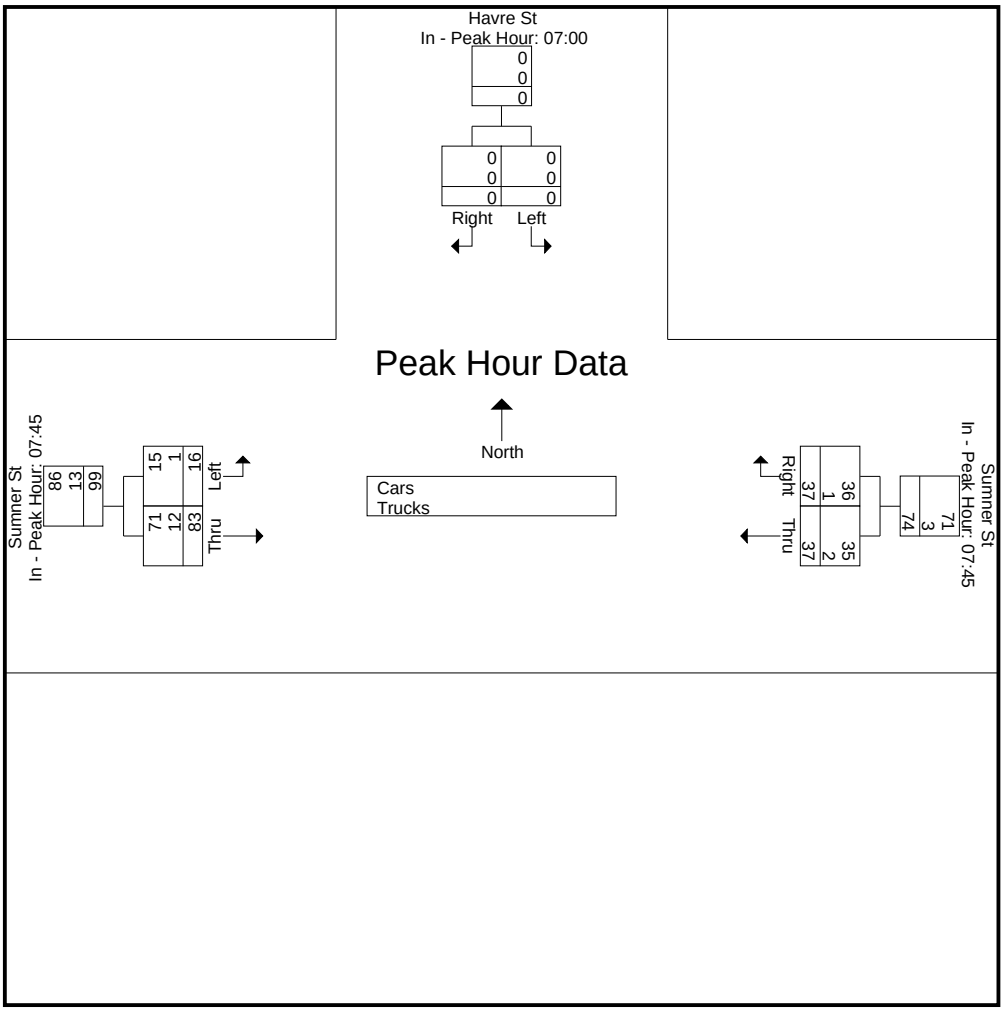
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:45			07:45		
+0 mins.	0	0	0	9	9	18	4	23	27
+15 mins.	0	0	0	8	9	17	3	20	23
+30 mins.	0	0	0	10	13	23	3	21	24
+45 mins.	0	0	0	10	6	16	6	19	25
Total Volume	0	0	0	37	37	74	16	83	99
% App. Total	0	0		50	50		16.2	83.8	
PHF	.000	.000	.000	.925	.712	.804	.667	.902	.917
Cars	0	0	0	35	36	71	15	71	86
% Cars	0	0	0	94.6	97.3	95.9	93.8	85.5	86.9
Trucks	0	0	0	2	1	3	1	12	13
% Trucks	0	0	0	5.4	2.7	4.1	6.2	14.5	13.1

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

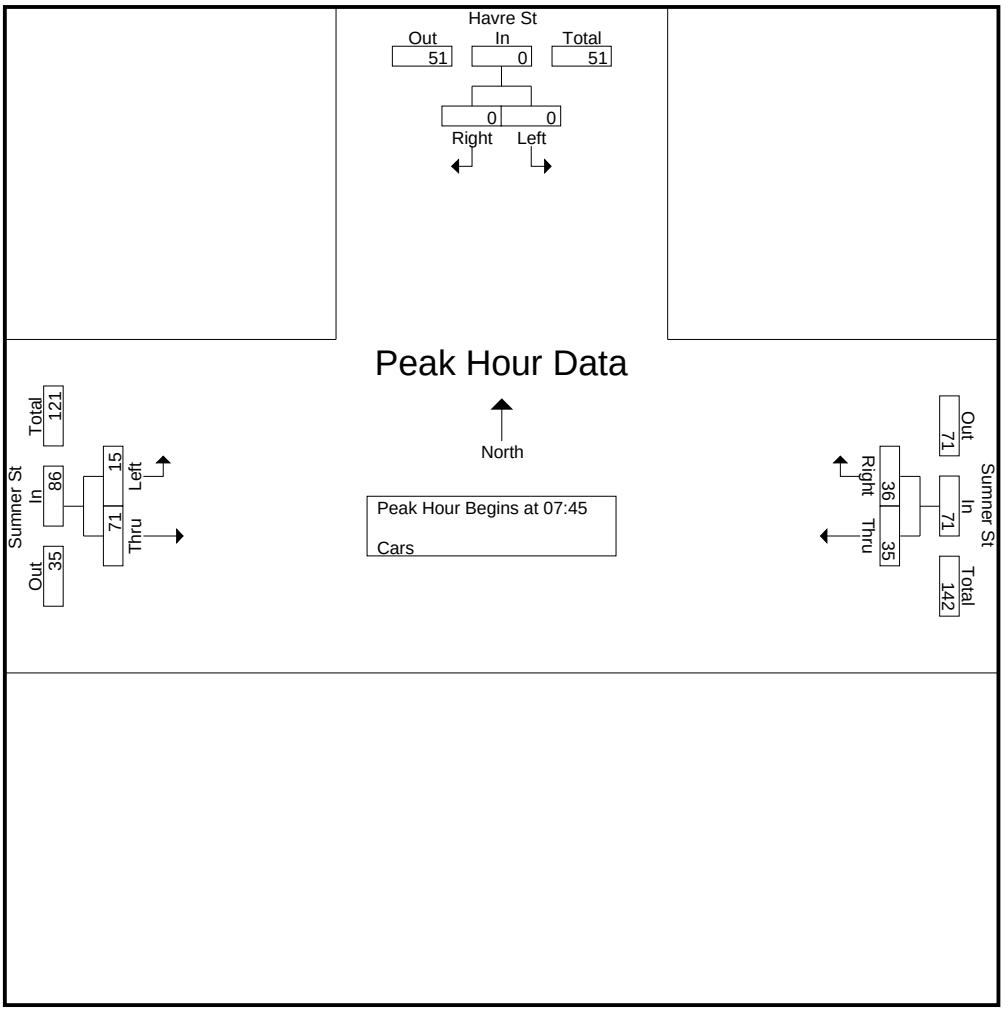
Groups Printed- Cars

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	9	5	1	15	4	10	1	25	20	45
07:15	0	0	10	8	9	14	2	8	2	26	27	53
07:30	0	0	9	7	6	13	1	18	1	23	32	55
07:45	0	0	9	8	9	14	4	18	6	29	39	68
Total	0	0	37	28	25	56	11	54	10	103	118	221
08:00	0	0	8	8	8	8	3	18	7	23	37	60
08:15	0	0	13	9	13	16	3	19	2	31	44	75
08:30	0	0	14	10	6	14	5	16	8	36	37	73
08:45	0	0	22	7	9	20	4	13	11	53	33	86
Total	0	0	57	34	36	58	15	66	28	143	151	294
Grand Total	0	0	94	62	61	114	26	120	38	246	269	515
Apprch %	0	0		50.4	49.6		17.8	82.2				
Total %	0	0		23	22.7		9.7	44.6		47.8	52.2	

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	8	9	17	4	18	22	39
08:00	0	0	0	8	8	16	3	18	21	37
08:15	0	0	0	9	13	22	3	19	22	44
08:30	0	0	0	10	6	16	5	16	21	37
Total Volume	0	0	0	35	36	71	15	71	86	157
% App. Total	0	0		49.3	50.7		17.4	82.6		
PHF	.000	.000	.000	.875	.692	.807	.750	.934	.977	.892

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 2



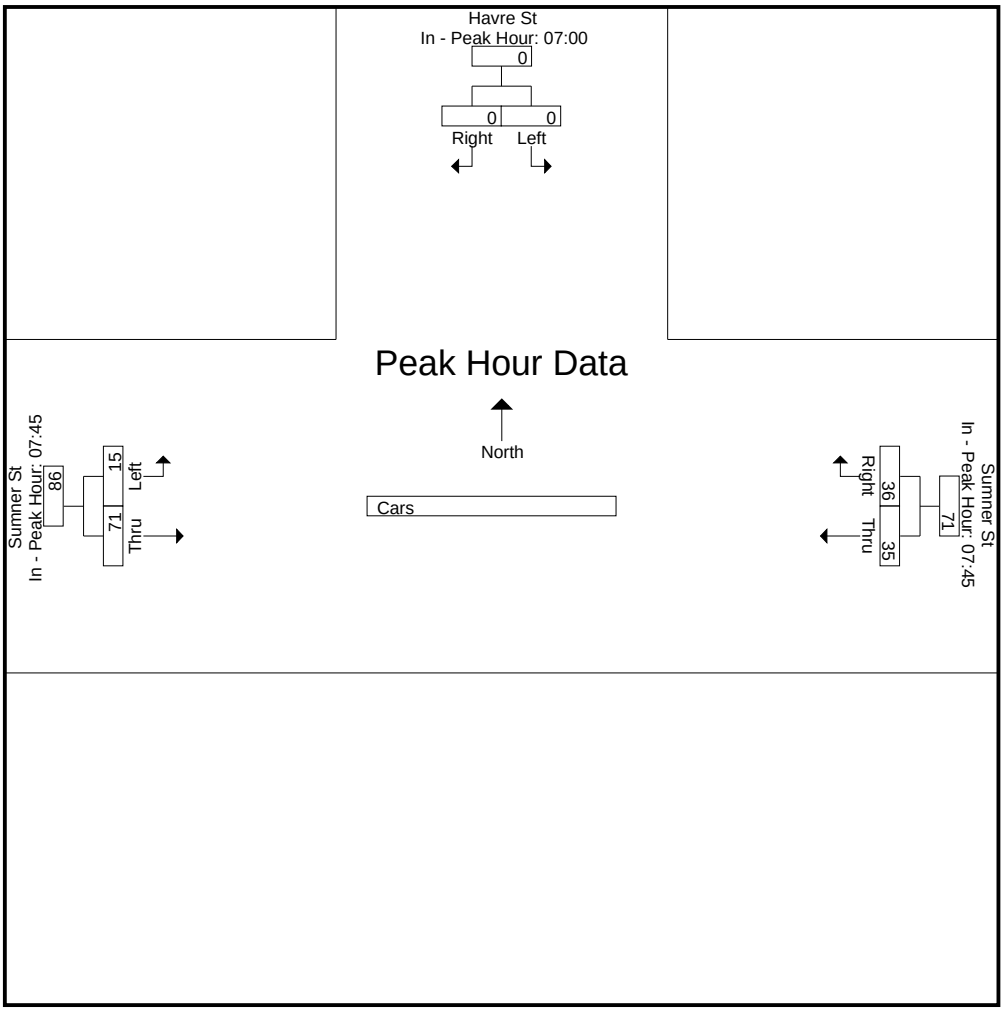
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:45			07:45		
+0 mins.	0	0	0	8	9	17	4	18	22
+15 mins.	0	0	0	8	8	16	3	18	21
+30 mins.	0	0	0	9	13	22	3	19	22
+45 mins.	0	0	0	10	6	16	5	16	21
Total Volume	0	0	0	35	36	71	15	71	86
% App. Total	0	0		49.3	50.7		17.4	82.6	
PHF	.000	.000	.000	.875	.692	.807	.750	.934	.977

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

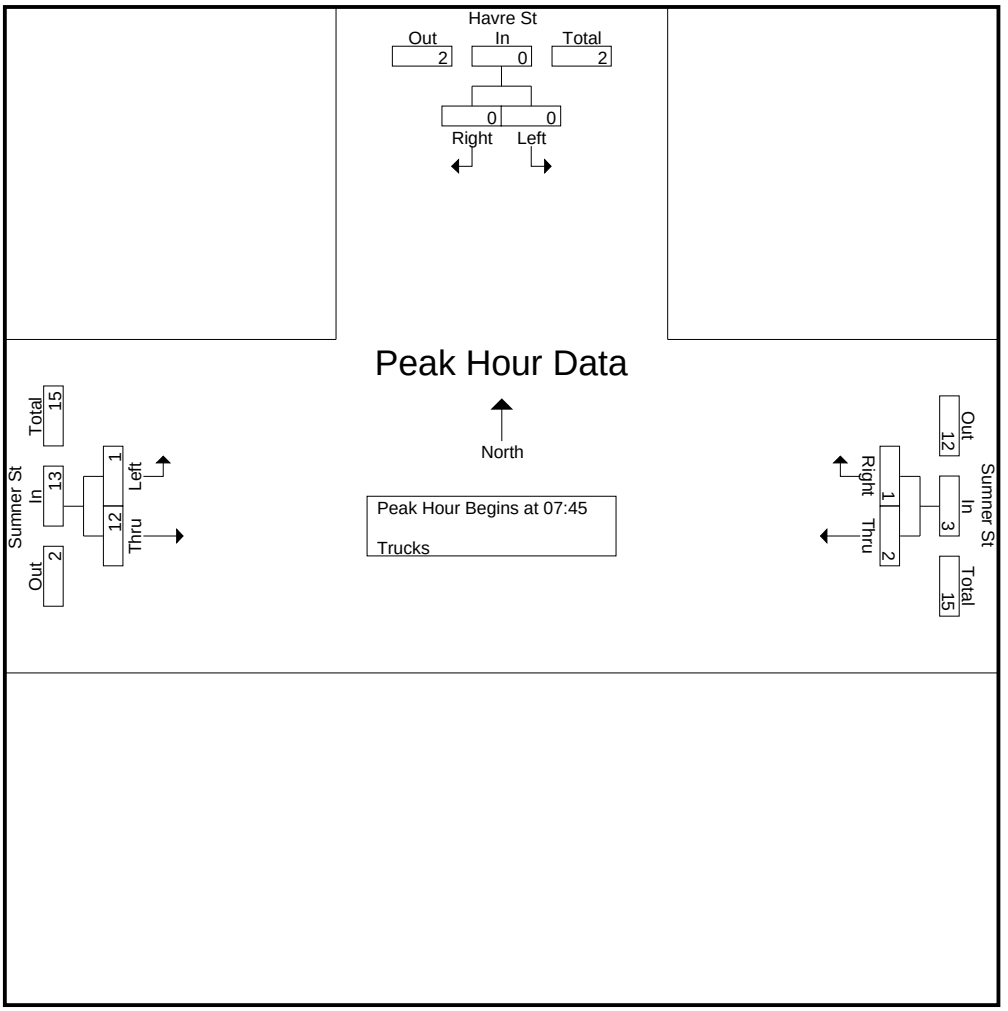
Groups Printed- Trucks

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	0	0	0	0	1	2	0	0	3	3
07:15	0	0	0	0	0	0	0	2	0	0	2	2
07:30	0	0	0	0	0	0	1	2	0	0	3	3
07:45	0	0	0	1	0	0	0	5	0	0	6	6
Total	0	0	0	1	0	0	2	11	0	0	14	14
08:00	0	0	0	0	1	0	0	2	0	0	3	3
08:15	0	0	0	1	0	0	0	2	0	0	3	3
08:30	0	0	0	0	0	0	1	3	0	0	4	4
08:45	0	0	0	1	0	0	0	5	0	0	6	6
Total	0	0	0	2	1	0	1	12	0	0	16	16
Grand Total	0	0	0	3	1	0	3	23	0	0	30	30
Apprch %	0	0		75	25		11.5	88.5				
Total %	0	0		10	3.3		10	76.7		0	100	

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	1	0	1	0	5	5	6
08:00	0	0	0	0	1	1	0	2	2	3
08:15	0	0	0	1	0	1	0	2	2	3
08:30	0	0	0	0	0	0	1	3	4	4
Total Volume	0	0	0	2	1	3	1	12	13	16
% App. Total	0	0		66.7	33.3		7.7	92.3		
PHF	.000	.000	.000	.500	.250	.750	.250	.600	.650	.667

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 2

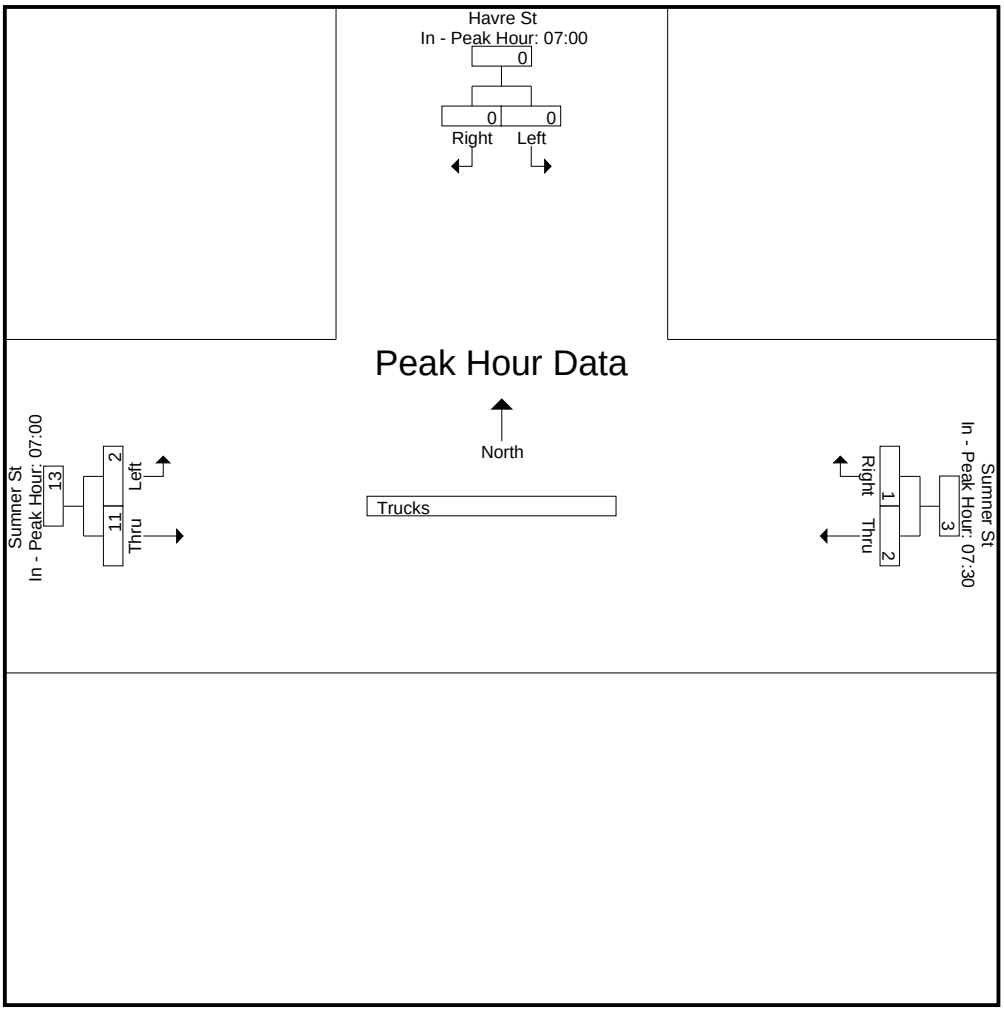


Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:30			07:00		
+0 mins.	0	0	0	0	0	0	1	2	3
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	0	0	0	0	1	1	1	2	3
+45 mins.	0	0	0	1	0	1	0	5	5
Total Volume	0	0	0	2	1	3	2	11	13
% App. Total	0	0		66.7	33.3		15.4	84.6	
PHF	.000	.000	.000	.500	.250	.750	.500	.550	.650

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

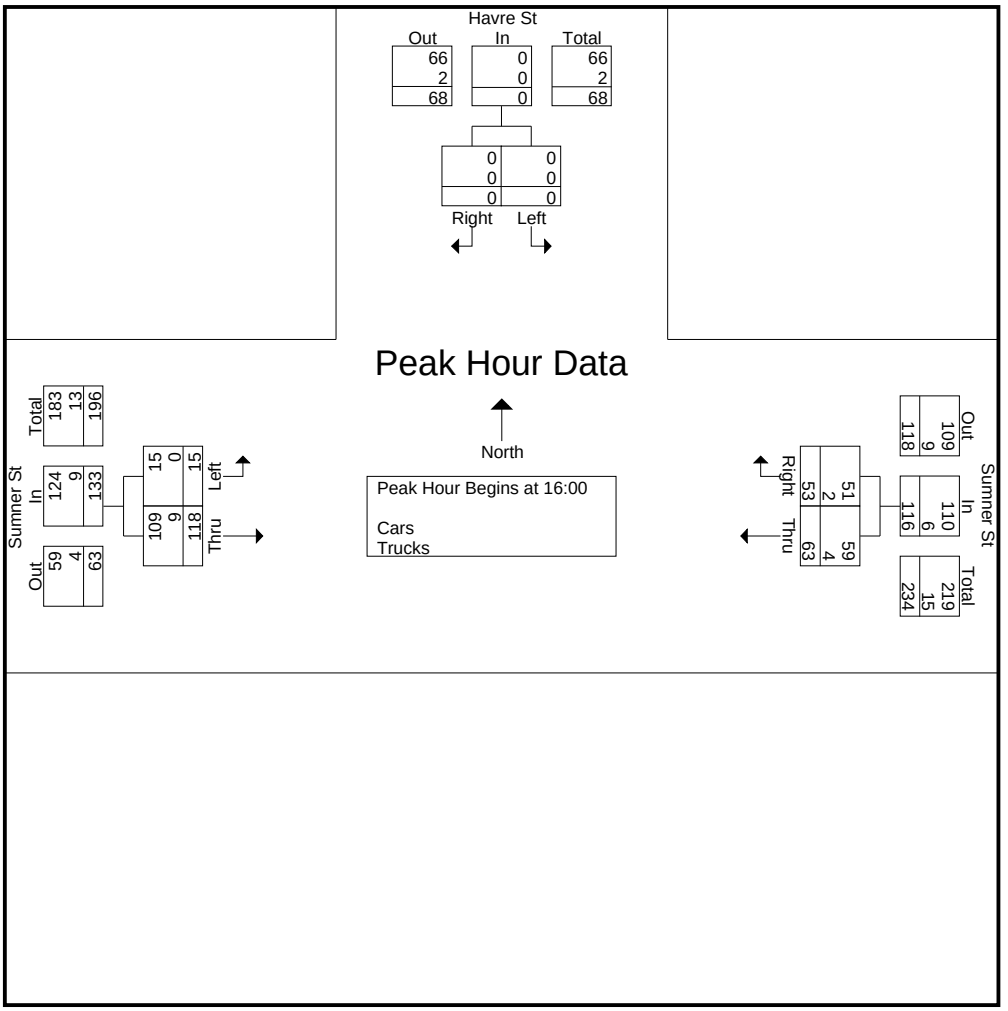
Groups Printed- Cars - Trucks

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	9	15	10	9	4	21	0	18	50	68
16:15	0	0	15	23	18	13	5	31	7	35	77	112
16:30	0	0	9	9	10	10	2	36	5	24	57	81
16:45	0	0	22	16	15	12	4	30	0	34	65	99
Total	0	0	55	63	53	44	15	118	12	111	249	360
17:00	0	0	10	9	4	5	1	24	1	16	38	54
17:15	0	0	16	18	14	25	3	36	6	47	71	118
17:30	0	0	8	9	10	16	1	28	2	26	48	74
17:45	0	0	13	6	7	10	1	22	6	29	36	65
Total	0	0	47	42	35	56	6	110	15	118	193	311
Grand Total	0	0	102	105	88	100	21	228	27	229	442	671
Apprch %	0	0		54.4	45.6		8.4	91.6				
Total %	0	0		23.8	19.9		4.8	51.6		34.1	65.9	
Cars	0	0		101	86		21	216		0	0	653
% Cars	0	0	100	96.2	97.7	100	100	94.7	100	0	0	97.3
Trucks	0	0		4	2		0	12		0	0	18
% Trucks	0	0	0	3.8	2.3	0	0	5.3	0	0	0	2.7

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	15	10	25	4	21	25	50
16:15	0	0	0	23	18	41	5	31	36	77
16:30	0	0	0	9	10	19	2	36	38	57
16:45	0	0	0	16	15	31	4	30	34	65
Total Volume	0	0	0	63	53	116	15	118	133	249
% App. Total	0	0		54.3	45.7		11.3	88.7		
PHF	.000	.000	.000	.685	.736	.707	.750	.819	.875	.808
Cars	0	0	0	59	51	110	15	109	124	234
% Cars	0	0	0	93.7	96.2	94.8	100	92.4	93.2	94.0
Trucks	0	0	0	4	2	6	0	9	9	15
% Trucks	0	0	0	6.3	3.8	5.2	0	7.6	6.8	6.0

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 2



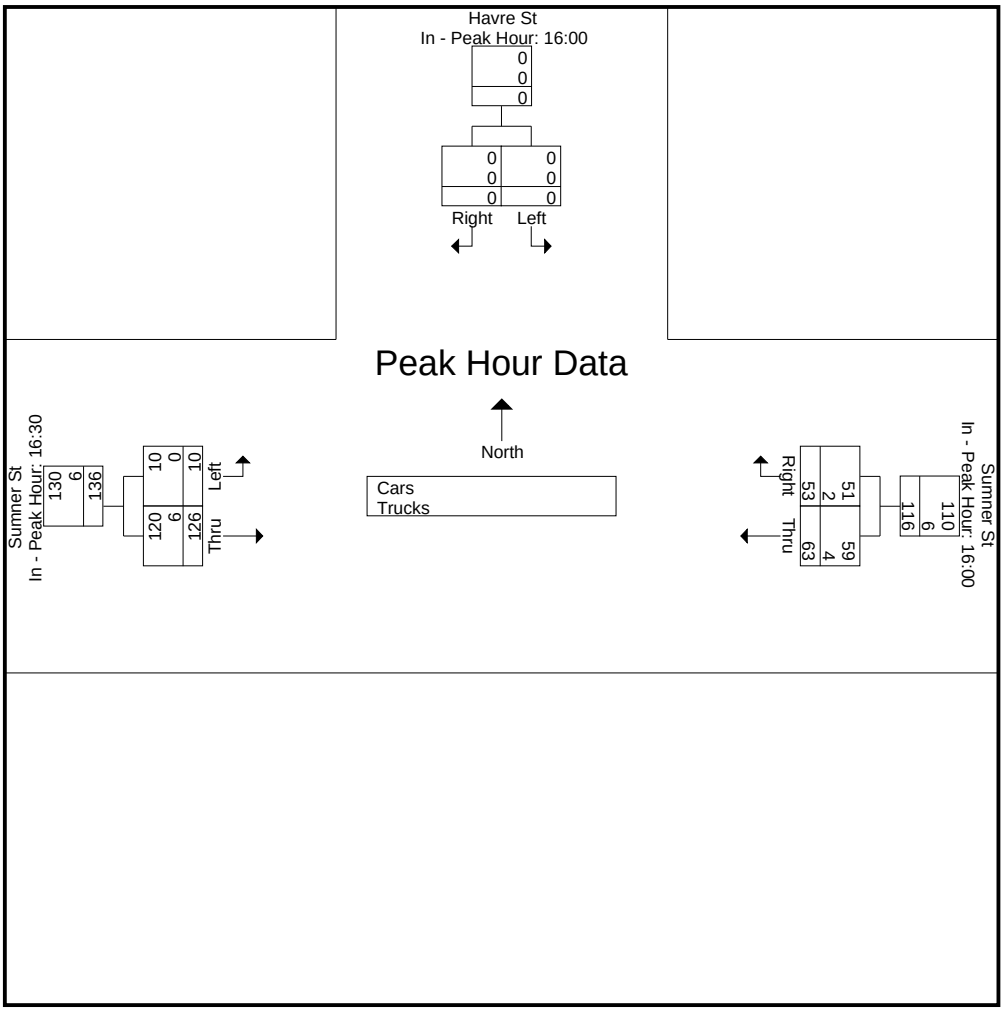
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:30		
+0 mins.	0	0	0	15	10	25	2	36	38
+15 mins.	0	0	0	23	18	41	4	30	34
+30 mins.	0	0	0	9	10	19	1	24	25
+45 mins.	0	0	0	16	15	31	3	36	39
Total Volume	0	0	0	63	53	116	10	126	136
% App. Total	0	0		54.3	45.7		7.4	92.6	
PHF	.000	.000	.000	.685	.736	.707	.625	.875	.872
Cars	0	0	0	59	51	110	10	120	130
% Cars	0	0	0	93.7	96.2	94.8	100	95.2	95.6
Trucks	0	0	0	4	2	6	0	6	6
% Trucks	0	0	0	6.3	3.8	5.2	0	4.8	4.4

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

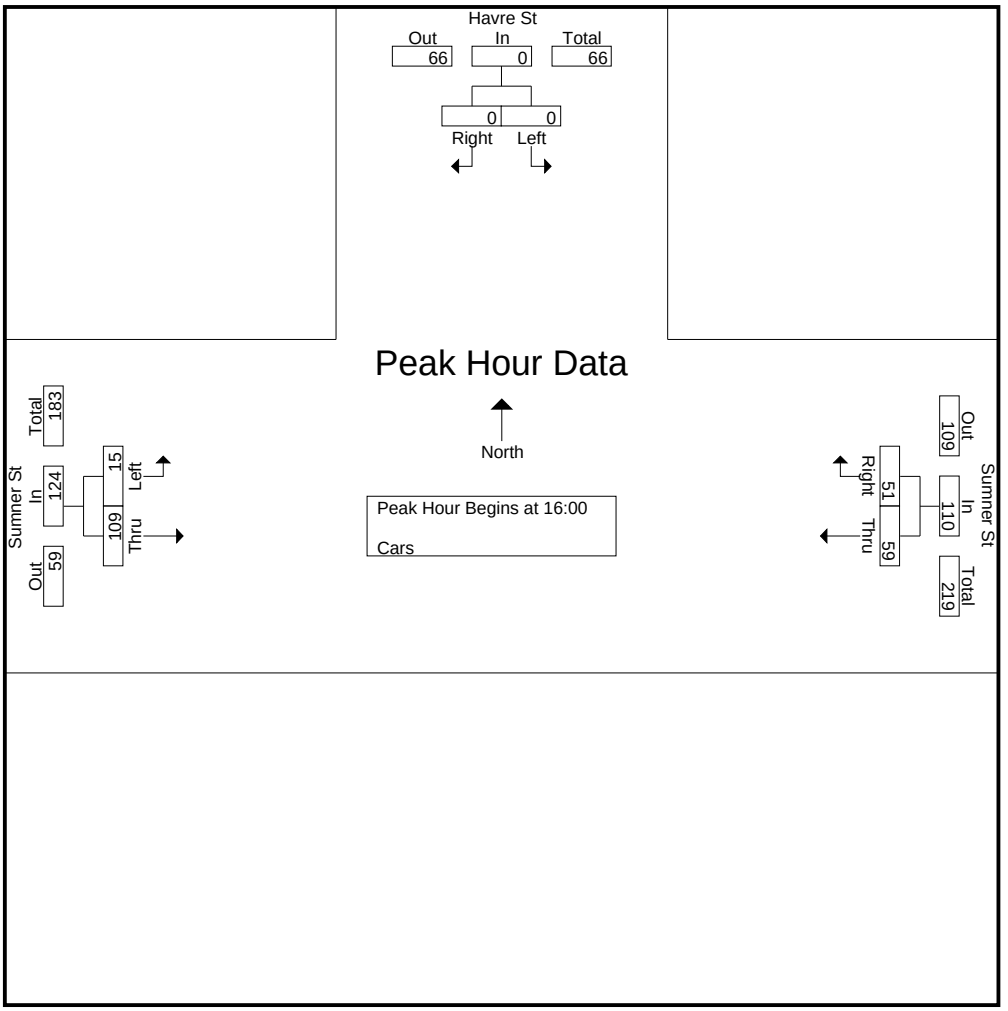
Groups Printed- Cars

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	9	13	10	9	4	19	0	18	46	64
16:15	0	0	15	22	18	13	5	29	7	35	74	109
16:30	0	0	9	9	8	10	2	35	5	24	54	78
16:45	0	0	22	15	15	12	4	26	0	34	60	94
Total	0	0	55	59	51	44	15	109	12	111	234	345
17:00	0	0	10	9	4	5	1	23	1	16	37	53
17:15	0	0	16	18	14	25	3	36	6	47	71	118
17:30	0	0	8	9	10	16	1	26	2	26	46	72
17:45	0	0	13	6	7	10	1	22	6	29	36	65
Total	0	0	47	42	35	56	6	107	15	118	190	308
Grand Total	0	0	102	101	86	100	21	216	27	229	424	653
Apprch %	0	0		54	46		8.9	91.1				
Total %	0	0		23.8	20.3		5	50.9		35.1	64.9	

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	13	10	23	4	19	23	46
16:15	0	0	0	22	18	40	5	29	34	74
16:30	0	0	0	9	8	17	2	35	37	54
16:45	0	0	0	15	15	30	4	26	30	60
Total Volume	0	0	0	59	51	110	15	109	124	234
% App. Total	0	0		53.6	46.4		12.1	87.9		
PHF	.000	.000	.000	.670	.708	.688	.750	.779	.838	.791

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
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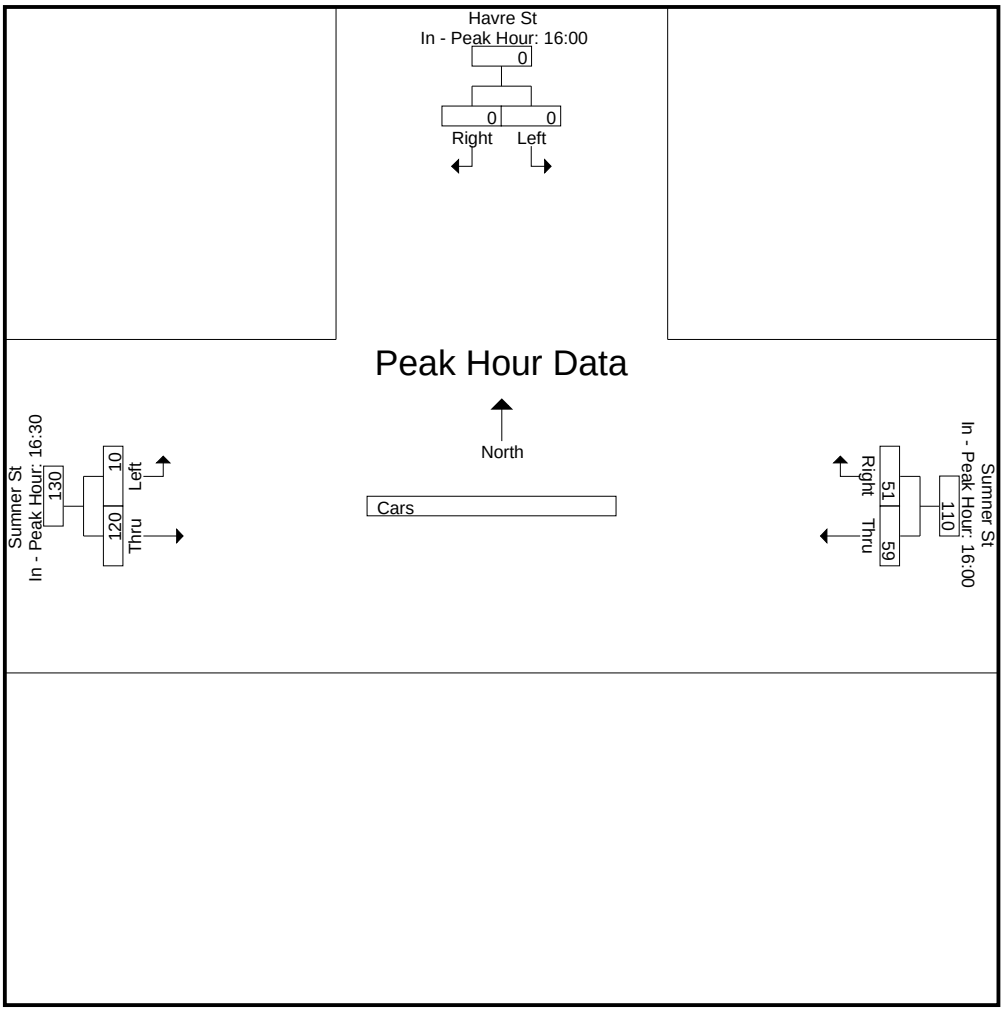


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:30		
+0 mins.	0	0	0	13	10	23	2	35	37
+15 mins.	0	0	0	22	18	40	4	26	30
+30 mins.	0	0	0	9	8	17	1	23	24
+45 mins.	0	0	0	15	15	30	3	36	39
Total Volume	0	0	0	59	51	110	10	120	130
% App. Total	0	0		53.6	46.4		7.7	92.3	
PHF	.000	.000	.000	.670	.708	.688	.625	.833	.833

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
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N/S Street : Havre Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 1

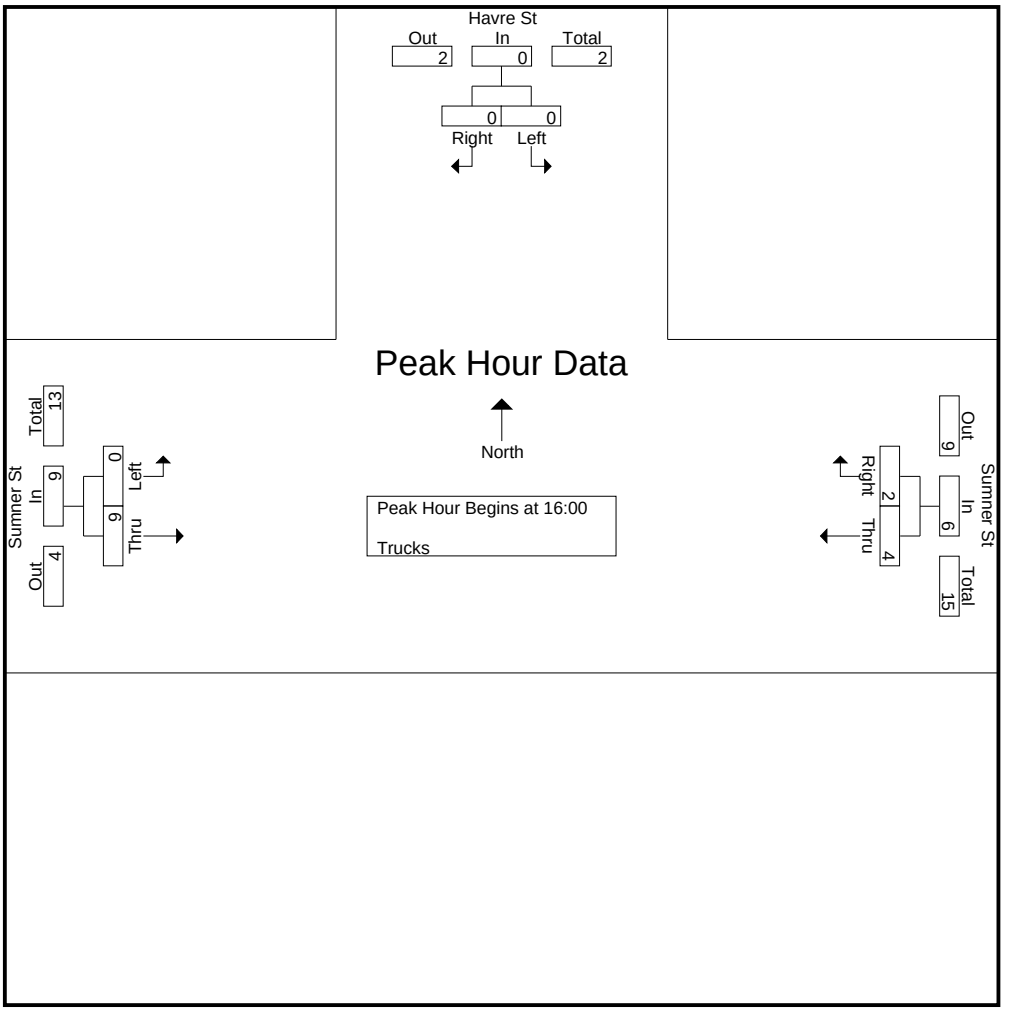
Groups Printed- Trucks

	Havre St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	2	0	0	0	2	0	0	4	4
16:15	0	0	0	1	0	0	0	2	0	0	3	3
16:30	0	0	0	0	2	0	0	1	0	0	3	3
16:45	0	0	0	1	0	0	0	4	0	0	5	5
Total	0	0	0	4	2	0	0	9	0	0	15	15
17:00	0	0	0	0	0	0	0	1	0	0	1	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	2	0	0	2	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	4	2	0	0	12	0	0	18	18
Apprch %	0	0		66.7	33.3		0	100				
Total %	0	0		22.2	11.1		0	66.7		0	100	

	Havre St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	2	0	2	0	2	2	4
16:15	0	0	0	1	0	1	0	2	2	3
16:30	0	0	0	0	2	2	0	1	1	3
16:45	0	0	0	1	0	1	0	4	4	5
Total Volume	0	0	0	4	2	6	0	9	9	15
% App. Total	0	0		66.7	33.3		0	100		
PHF	.000	.000	.000	.500	.250	.750	.000	.563	.563	.750

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
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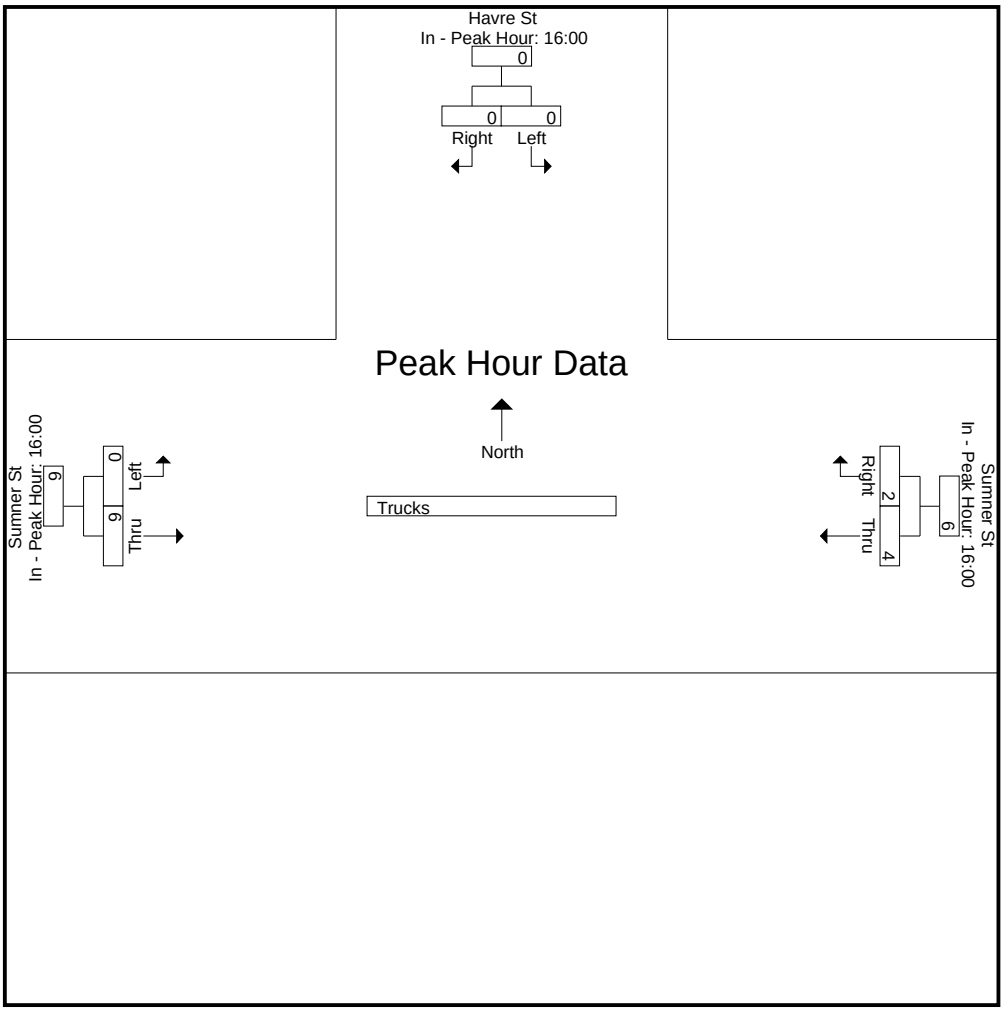
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:00		
+0 mins.	0	0	0	2	0	2	0	2	2
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	0	0	0	0	2	2	0	1	1
+45 mins.	0	0	0	1	0	1	0	4	4
Total Volume	0	0	0	4	2	6	0	9	9
% App. Total	0	0		66.7	33.3		0	100	
PHF	.000	.000	.000	.500	.250	.750	.000	.563	.563

Accurate Counts
978-664-2565

File Name : 60830001
Site Code : 60830001
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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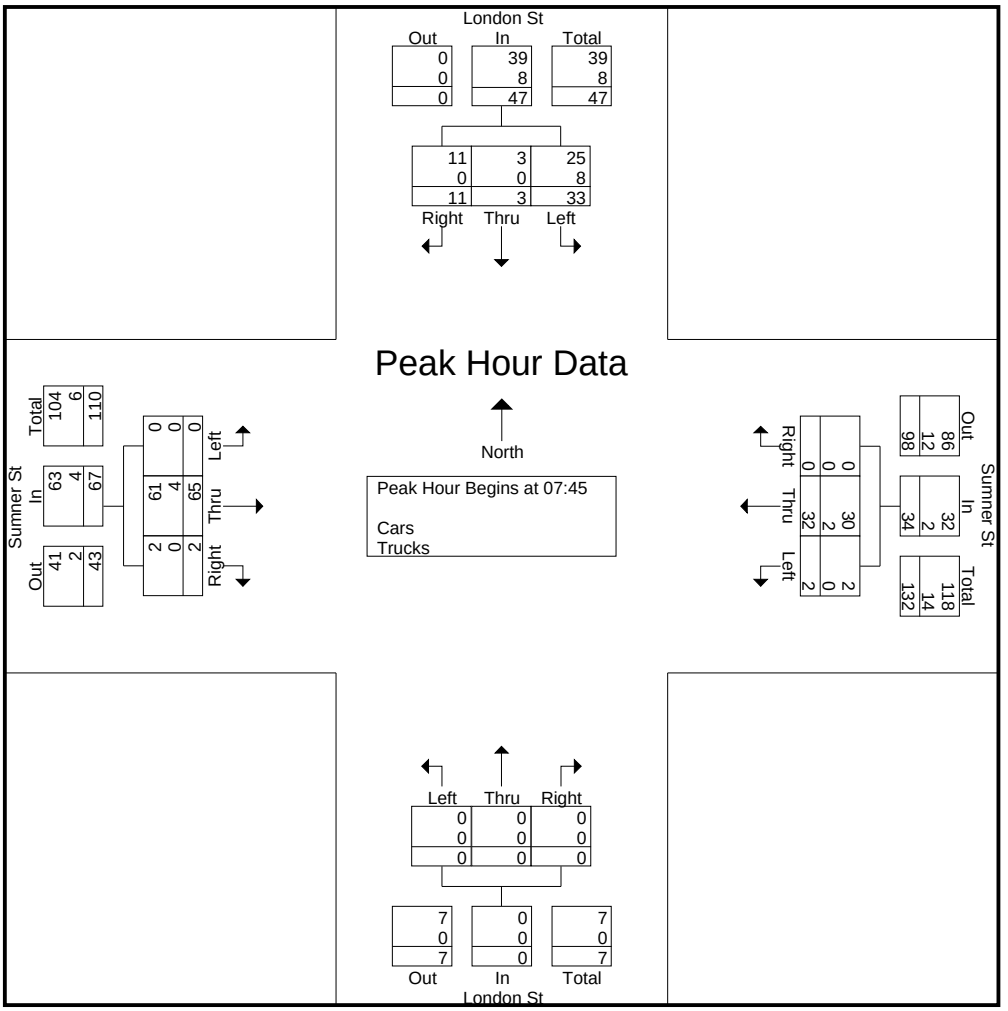
Groups Printed- Cars - Trucks

	London St From North				Sumner St From East				London St From South				Sumner St 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	6	1	0	8	0	5	0	3	0	0	0	1	0	11	0	1	13	23	36
07:15	2	0	1	13	0	8	0	9	0	0	0	7	0	12	2	7	36	25	61
07:30	10	0	2	8	1	6	0	3	0	0	0	8	0	11	0	5	24	30	54
07:45	9	1	2	7	0	9	0	6	0	0	0	9	0	16	1	5	27	38	65
Total	27	2	5	36	1	28	0	21	0	0	0	25	0	50	3	18	100	116	216
08:00	9	1	3	4	1	7	0	2	0	0	0	4	0	14	0	3	13	35	48
08:15	10	1	4	12	0	7	0	3	0	0	0	9	0	15	0	3	27	37	64
08:30	5	0	2	13	1	9	0	6	0	0	0	5	0	20	1	6	30	38	68
08:45	5	0	1	15	0	7	0	5	0	0	0	3	0	15	0	0	23	28	51
Total	29	2	10	44	2	30	0	16	0	0	0	21	0	64	1	12	93	138	231
Grand Total	56	4	15	80	3	58	0	37	0	0	0	46	0	114	4	30	193	254	447
Apprch %	74.7	5.3	20		4.9	95.1	0		0	0	0		0	96.6	3.4				
Total %	22	1.6	5.9		1.2	22.8	0		0	0	0		0	44.9	1.6		43.2	56.8	
Cars	42	4	14		3	55	0		0	0	0		0	103	4		0	0	417
% Cars	75	100	93.3	98.8	100	94.8	0	100	0	0	0	100	0	90.4	100	100	0	0	93.3
Trucks	14	0	1		0	3	0		0	0	0		0	11	0		0	0	30
% Trucks	25	0	6.7	1.2	0	5.2	0	0	0	0	0	0	0	9.6	0	0	0	0	6.7

	London St From North				Sumner St From East				London St From South				Sumner St 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	9	1	2	12	0	9	0	9	0	0	0	0	0	16	1	17	38
08:00	9	1	3	13	1	7	0	8	0	0	0	0	0	14	0	14	35
08:15	10	1	4	15	0	7	0	7	0	0	0	0	0	15	0	15	37
08:30	5	0	2	7	1	9	0	10	0	0	0	0	0	20	1	21	38
Total Volume	33	3	11	47	2	32	0	34	0	0	0	0	0	65	2	67	148
% App. Total	70.2	6.4	23.4		5.9	94.1	0		0	0	0		0	97	3		
PHF	.825	.750	.688	.783	.500	.889	.000	.850	.000	.000	.000	.000	.000	.813	.500	.798	.974
Cars	25	3	11	39	2	30	0	32	0	0	0	0	0	61	2	63	134
% Cars	75.8	100	100	83.0	100	93.8	0	94.1	0	0	0	0	0	93.8	100	94.0	90.5
Trucks	8	0	0	8	0	2	0	2	0	0	0	0	0	4	0	4	14
% Trucks	24.2	0	0	17.0	0	6.3	0	5.9	0	0	0	0	0	6.2	0	6.0	9.5

Accurate Counts
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File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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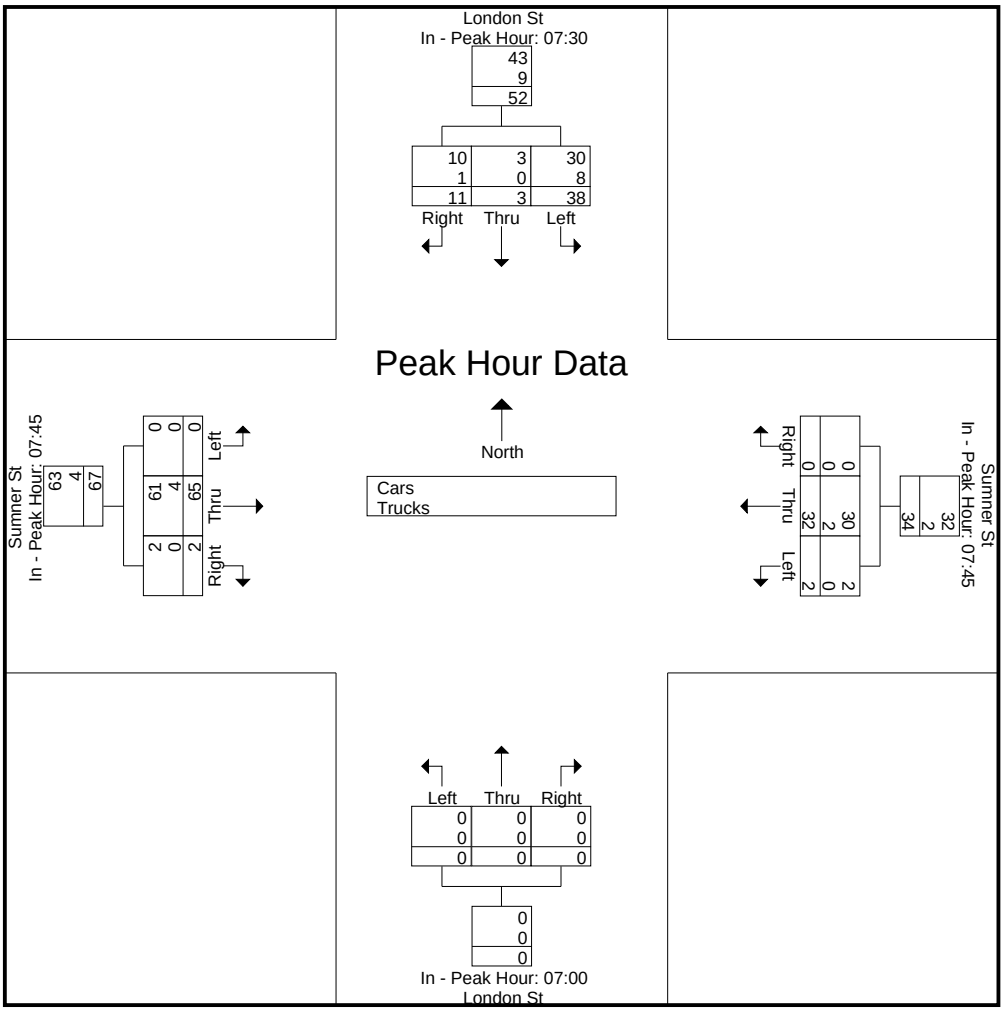
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:45				07:00				07:45			
+0 mins.	10	0	2	12	0	9	0	9	0	0	0	0	0	16	1	17
+15 mins.	9	1	2	12	1	7	0	8	0	0	0	0	0	14	0	14
+30 mins.	9	1	3	13	0	7	0	7	0	0	0	0	0	15	0	15
+45 mins.	10	1	4	15	1	9	0	10	0	0	0	0	0	20	1	21
Total Volume	38	3	11	52	2	32	0	34	0	0	0	0	0	65	2	67
% App. Total	73.1	5.8	21.2		5.9	94.1	0		0	0	0		0	97	3	
PHF	.950	.750	.688	.867	.500	.889	.000	.850	.000	.000	.000	.000	.000	.813	.500	.798
Cars	30	3	10	43	2	30	0	32	0	0	0	0	0	61	2	63
% Cars	78.9	100	90.9	82.7	100	93.8	0	94.1	0	0	0	0	0	93.8	100	94
Trucks	8	0	1	9	0	2	0	2	0	0	0	0	0	4	0	4
% Trucks	21.1	0	9.1	17.3	0	6.2	0	5.9	0	0	0	0	0	6.2	0	6

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
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Start Date : 1/16/2008
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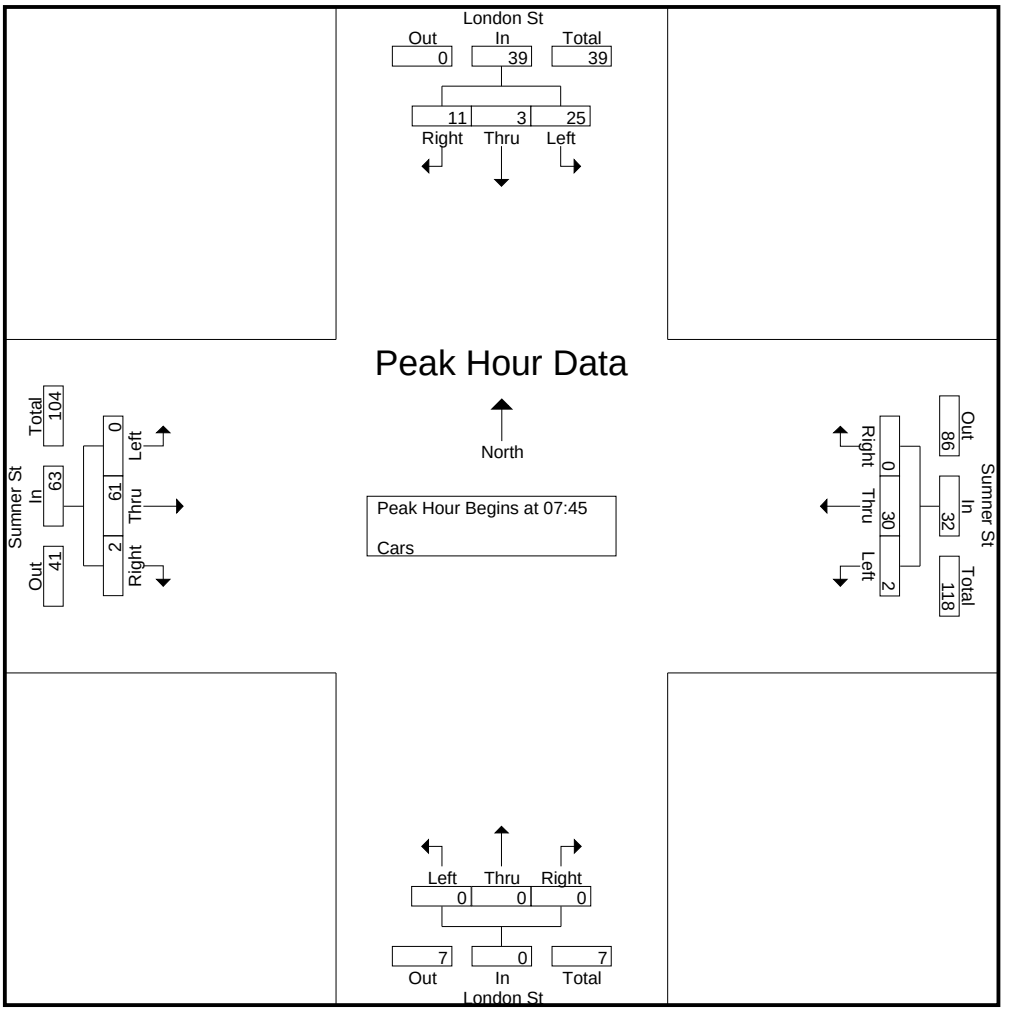
Groups Printed- Cars

	London St From North				Sumner St From East				London St From South				Sumner St 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	4	1	0	8	0	5	0	3	0	0	0	1	0	10	0	1	13	20	33
07:15	2	0	1	13	0	8	0	9	0	0	0	7	0	10	2	7	36	23	59
07:30	8	0	1	8	1	6	0	3	0	0	0	8	0	10	0	5	24	26	50
07:45	5	1	2	7	0	8	0	6	0	0	0	9	0	15	1	5	27	32	59
Total	19	2	4	36	1	27	0	21	0	0	0	25	0	45	3	18	100	101	201
08:00	8	1	3	4	1	7	0	2	0	0	0	4	0	13	0	3	13	33	46
08:15	9	1	4	12	0	6	0	3	0	0	0	9	0	14	0	3	27	34	61
08:30	3	0	2	12	1	9	0	6	0	0	0	5	0	19	1	6	29	35	64
08:45	3	0	1	15	0	6	0	5	0	0	0	3	0	12	0	0	23	22	45
Total	23	2	10	43	2	28	0	16	0	0	0	21	0	58	1	12	92	124	216
Grand Total	42	4	14	79	3	55	0	37	0	0	0	46	0	103	4	30	192	225	417
Apprch %	70	6.7	23.3		5.2	94.8	0		0	0	0		0	96.3	3.7				
Total %	18.7	1.8	6.2		1.3	24.4	0		0	0	0		0	45.8	1.8		46	54	

	London St From North				Sumner St From East				London St From South				Sumner St 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	1	2	8	0	8	0	8	0	0	0	0	0	15	1	16	32
08:00	8	1	3	12	1	7	0	8	0	0	0	0	0	13	0	13	33
08:15	9	1	4	14	0	6	0	6	0	0	0	0	0	14	0	14	34
08:30	3	0	2	5	1	9	0	10	0	0	0	0	0	19	1	20	35
Total Volume	25	3	11	39	2	30	0	32	0	0	0	0	0	61	2	63	134
% App. Total	64.1	7.7	28.2		6.2	93.8	0		0	0	0		0	96.8	3.2		
PHF	.694	.750	.688	.696	.500	.833	.000	.800	.000	.000	.000	.000	.000	.803	.500	.788	.957

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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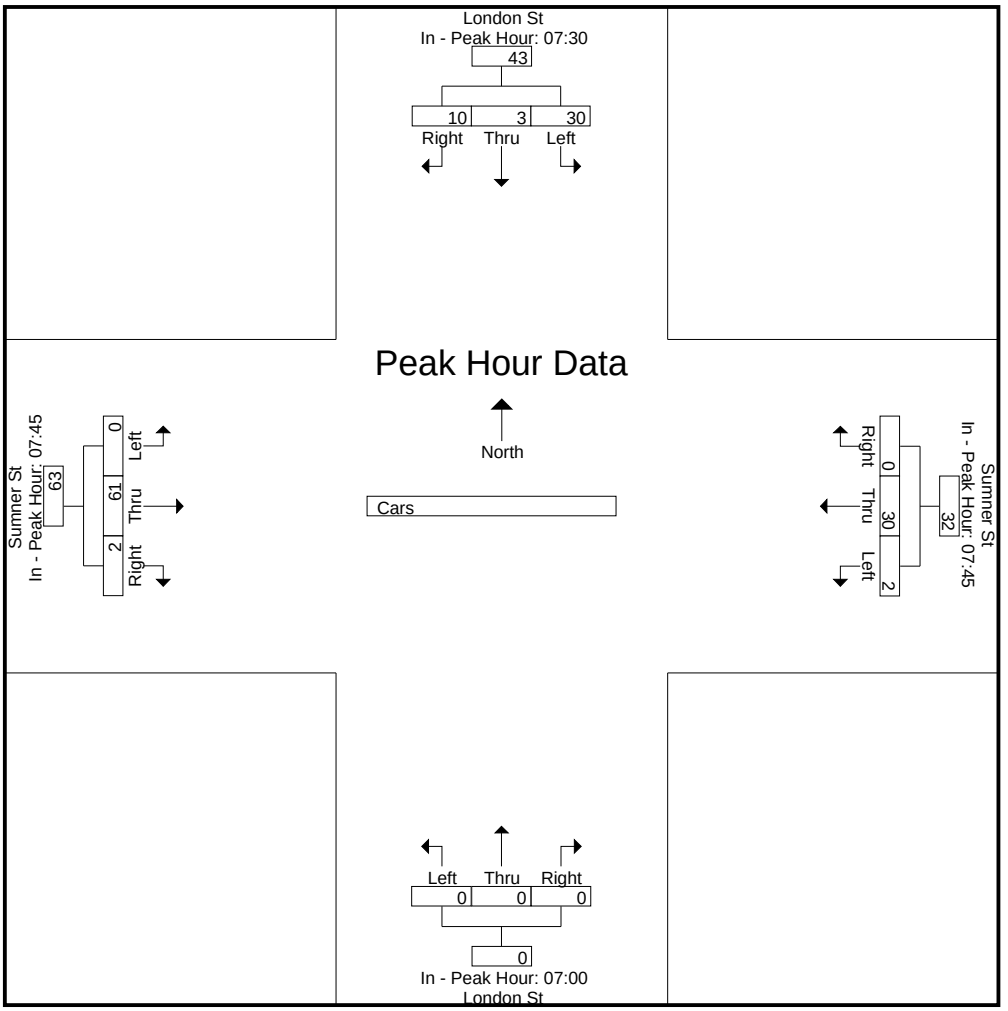
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:45				07:00				07:45			
+0 mins.	8	0	1	9	0	8	0	8	0	0	0	0	0	15	1	16
+15 mins.	5	1	2	8	1	7	0	8	0	0	0	0	0	13	0	13
+30 mins.	8	1	3	12	0	6	0	6	0	0	0	0	0	14	0	14
+45 mins.	9	1	4	14	1	9	0	10	0	0	0	0	0	19	1	20
Total Volume	30	3	10	43	2	30	0	32	0	0	0	0	0	61	2	63
% App. Total	69.8	7	23.3		6.2	93.8	0		0	0	0		0	96.8	3.2	
PHF	.833	.750	.625	.768	.500	.833	.000	.800	.000	.000	.000	.000	.000	.803	.500	.788

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
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Start Date : 1/16/2008
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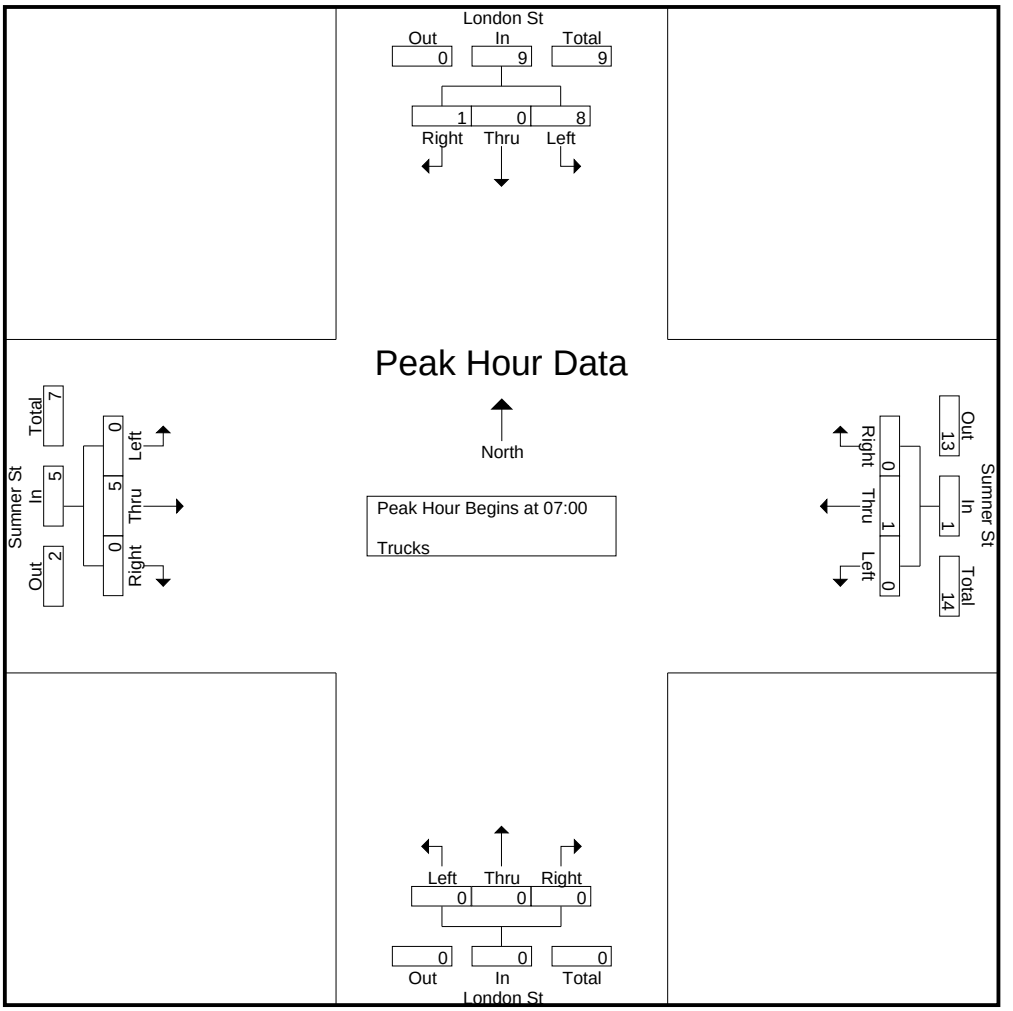
Groups Printed- Trucks

	London St From North				Sumner St From East				London St From South				Sumner St 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	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	3
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
07:30	2	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	4
07:45	4	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	6	6
Total	8	0	1	0	0	1	0	0	0	0	0	0	0	5	0	0	0	15	15
08:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2
08:15	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3	3
08:30	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	3	4
08:45	2	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	6	6
Total	6	0	0	1	0	2	0	0	0	0	0	0	0	6	0	0	1	14	15
Grand Total	14	0	1	1	0	3	0	0	0	0	0	0	0	11	0	0	1	29	30
Apprch %	93.3	0	6.7		0	100	0		0	0	0		0	100	0				
Total %	48.3	0	3.4		0	10.3	0		0	0	0		0	37.9	0		3.3	96.7	

	London St From North				Sumner St From East				London St From South				Sumner St 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 07:00																	
07:00	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	3
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30	2	0	1	3	0	0	0	0	0	0	0	0	0	1	0	1	4
07:45	4	0	0	4	0	1	0	1	0	0	0	0	0	1	0	1	6
Total Volume	8	0	1	9	0	1	0	1	0	0	0	0	0	5	0	5	15
% App. Total	88.9	0	11.1		0	100	0		0	0	0		0	100	0		
PHF	.500	.000	.250	.563	.000	.250	.000	.250	.000	.000	.000	.000	.000	.625	.000	.625	.625

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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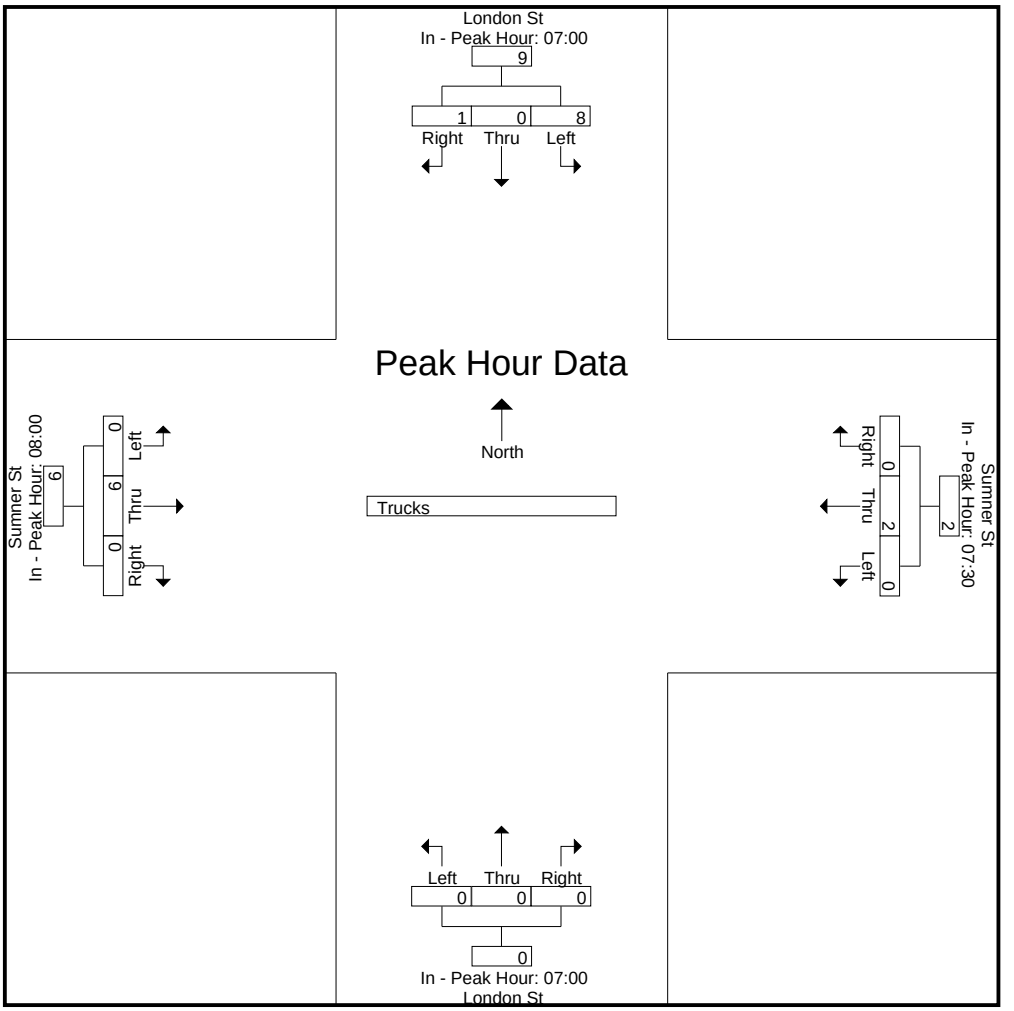
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:30				07:00				08:00			
+0 mins.	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+30 mins.	2	0	1	3	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	4	0	0	4	0	1	0	1	0	0	0	0	0	3	0	3
Total Volume	8	0	1	9	0	2	0	2	0	0	0	0	0	6	0	6
% App. Total	88.9	0	11.1		0	100	0		0	0	0		0	100	0	
PHF	.500	.000	.250	.563	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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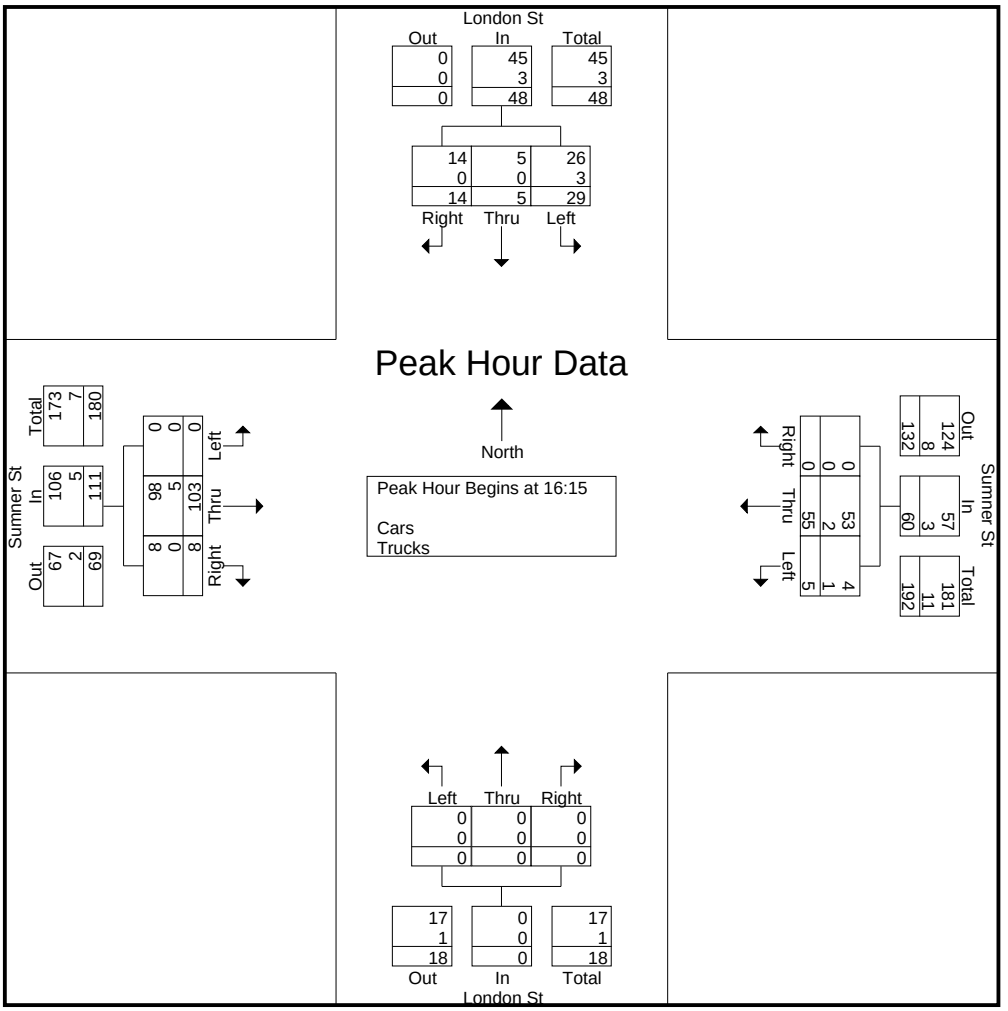
Groups Printed- Cars - Trucks

	London St From North				Sumner St From East				London St From South				Sumner St 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	7	0	0	13	1	12	0	6	0	0	0	9	0	19	1	5	33	40	73
16:15	11	1	2	9	3	21	0	4	0	0	0	4	0	27	4	3	20	69	89
16:30	5	1	3	12	1	9	0	4	0	0	0	5	0	29	0	5	26	48	74
16:45	6	2	6	14	1	15	0	7	0	0	0	7	0	28	2	7	35	60	95
Total	29	4	11	48	6	57	0	21	0	0	0	25	0	103	7	20	114	217	331
17:00	7	1	3	11	0	10	0	2	0	0	0	8	0	19	2	5	26	42	68
17:15	7	2	5	14	2	16	0	4	0	0	0	8	0	33	0	6	32	65	97
17:30	5	1	4	10	1	7	0	12	0	0	0	24	0	25	0	13	59	43	102
17:45	5	1	2	13	1	5	0	11	0	0	0	8	0	23	3	6	38	40	78
Total	24	5	14	48	4	38	0	29	0	0	0	48	0	100	5	30	155	190	345
Grand Total	53	9	25	96	10	95	0	50	0	0	0	73	0	203	12	50	269	407	676
Apprch %	60.9	10.3	28.7		9.5	90.5	0		0	0	0		0	94.4	5.6				
Total %	13	2.2	6.1		2.5	23.3	0		0	0	0		0	49.9	2.9		39.8	60.2	
Cars	49	9	25		8	93	0		0	0	0		0	196	12		0	0	659
% Cars	92.5	100	100	97.9	80	97.9	0	100	0	0	0	100	0	96.6	100	100	0	0	97.5
Trucks	4	0	0		2	2	0		0	0	0		0	7	0		0	0	17
% Trucks	7.5	0	0	2.1	20	2.1	0	0	0	0	0	0	0	3.4	0	0	0	0	2.5

	London St From North				Sumner St From East				London St From South				Sumner St 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 16:15																	
16:15	11	1	2	14	3	21	0	24	0	0	0	0	0	27	4	31	69
16:30	5	1	3	9	1	9	0	10	0	0	0	0	0	29	0	29	48
16:45	6	2	6	14	1	15	0	16	0	0	0	0	0	28	2	30	60
17:00	7	1	3	11	0	10	0	10	0	0	0	0	0	19	2	21	42
Total Volume	29	5	14	48	5	55	0	60	0	0	0	0	0	103	8	111	219
% App. Total	60.4	10.4	29.2		8.3	91.7	0		0	0	0		0	92.8	7.2		
PHF	.659	.625	.583	.857	.417	.655	.000	.625	.000	.000	.000	.000	.000	.888	.500	.895	.793
Cars	26	5	14	45	4	53	0	57	0	0	0	0	0	98	8	106	208
% Cars	89.7	100	100	93.8	80.0	96.4	0	95.0	0	0	0	0	0	95.1	100	95.5	95.0
Trucks	3	0	0	3	1	2	0	3	0	0	0	0	0	5	0	5	11
% Trucks	10.3	0	0	6.3	20.0	3.6	0	5.0	0	0	0	0	0	4.9	0	4.5	5.0

Accurate Counts
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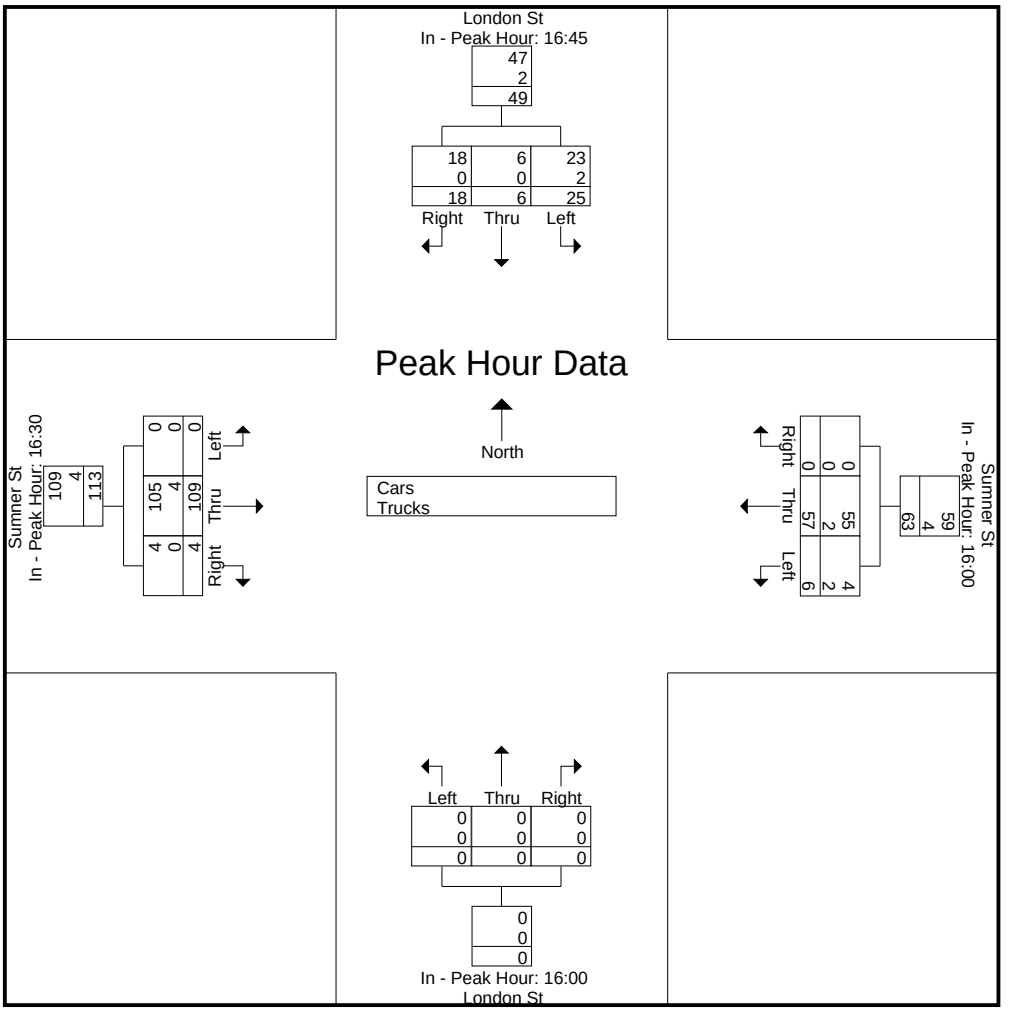
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:45				16:00				16:00				16:30			
+0 mins.	6	2	6	14	1	12	0	13	0	0	0	0	0	29	0	29
+15 mins.	7	1	3	11	3	21	0	24	0	0	0	0	0	28	2	30
+30 mins.	7	2	5	14	1	9	0	10	0	0	0	0	0	19	2	21
+45 mins.	5	1	4	10	1	15	0	16	0	0	0	0	0	33	0	33
Total Volume	25	6	18	49	6	57	0	63	0	0	0	0	0	109	4	113
% App. Total	51	12.2	36.7		9.5	90.5	0		0	0	0		0	96.5	3.5	
PHF	.893	.750	.750	.875	.500	.679	.000	.656	.000	.000	.000	.000	.000	.826	.500	.856
Cars	23	6	18	47	4	55	0	59	0	0	0	0	0	105	4	109
% Cars	92	100	100	95.9	66.7	96.5	0	93.7	0	0	0	0	0	96.3	100	96.5
Trucks	2	0	0	2	2	2	0	4	0	0	0	0	0	4	0	4
% Trucks	8	0	0	4.1	33.3	3.5	0	6.3	0	0	0	0	0	3.7	0	3.5

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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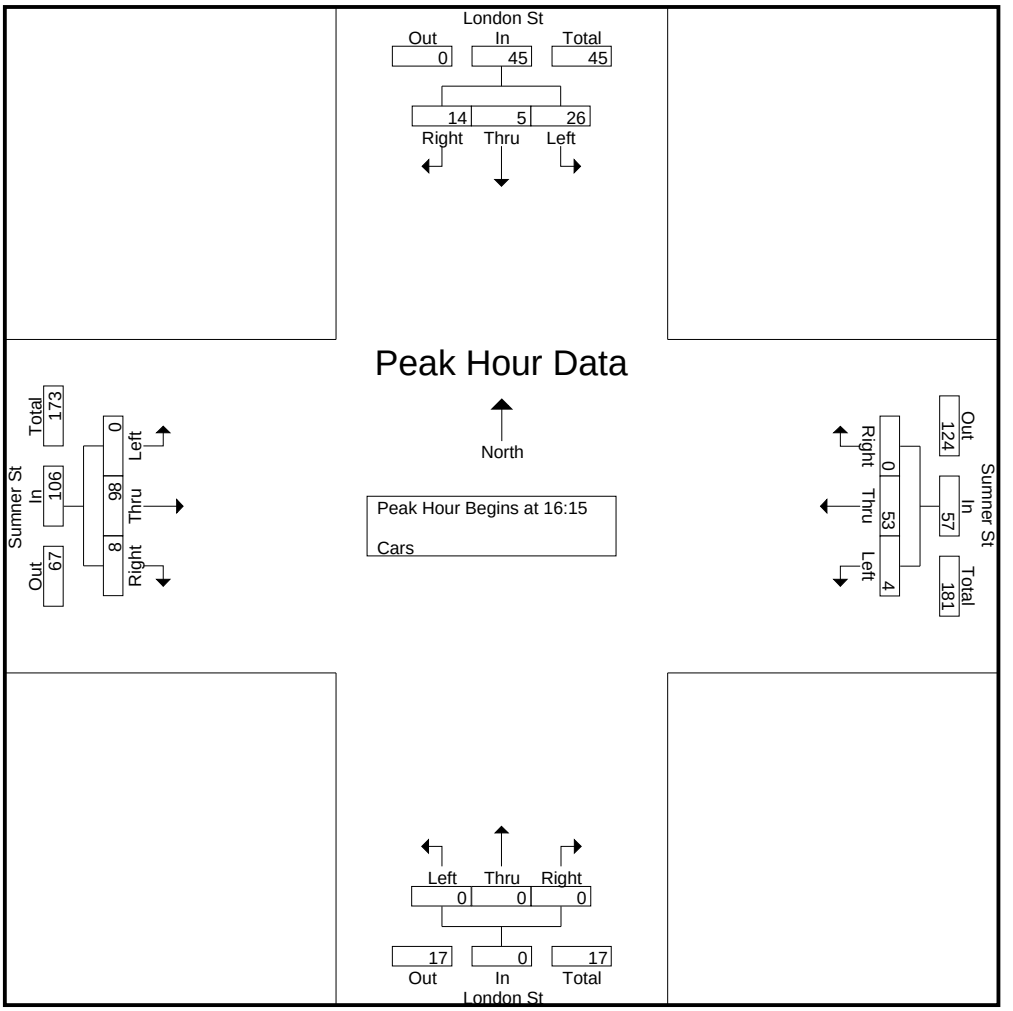
Groups Printed- Cars

	London St From North				Sumner St From East				London St From South				Sumner St 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	6	0	0	11	0	12	0	6	0	0	0	9	0	19	1	5	31	38	69
16:15	10	1	2	9	2	20	0	4	0	0	0	4	0	26	4	3	20	65	85
16:30	5	1	3	12	1	9	0	4	0	0	0	5	0	28	0	5	26	47	73
16:45	4	2	6	14	1	14	0	7	0	0	0	7	0	26	2	7	35	55	90
Total	25	4	11	46	4	55	0	21	0	0	0	25	0	99	7	20	112	205	317
17:00	7	1	3	11	0	10	0	2	0	0	0	8	0	18	2	5	26	41	67
17:15	7	2	5	14	2	16	0	4	0	0	0	8	0	33	0	6	32	65	97
17:30	5	1	4	10	1	7	0	12	0	0	0	24	0	23	0	13	59	41	100
17:45	5	1	2	13	1	5	0	11	0	0	0	8	0	23	3	6	38	40	78
Total	24	5	14	48	4	38	0	29	0	0	0	48	0	97	5	30	155	187	342
Grand Total	49	9	25	94	8	93	0	50	0	0	0	73	0	196	12	50	267	392	659
Apprch %	59	10.8	30.1		7.9	92.1	0		0	0	0		0	94.2	5.8				
Total %	12.5	2.3	6.4		2	23.7	0		0	0	0		0	50	3.1		40.5	59.5	

	London St From North				Sumner St From East				London St From South				Sumner St 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 16:15																	
16:15	10	1	2	13	2	20	0	22	0	0	0	0	0	26	4	30	65
16:30	5	1	3	9	1	9	0	10	0	0	0	0	0	28	0	28	47
16:45	4	2	6	12	1	14	0	15	0	0	0	0	0	26	2	28	55
17:00	7	1	3	11	0	10	0	10	0	0	0	0	0	18	2	20	41
Total Volume	26	5	14	45	4	53	0	57	0	0	0	0	0	98	8	106	208
% App. Total	57.8	11.1	31.1		7	93	0		0	0	0		0	92.5	7.5		
PHF	.650	.625	.583	.865	.500	.663	.000	.648	.000	.000	.000	.000	.000	.875	.500	.883	.800

Accurate Counts
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File Name : 60830002
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Start Date : 1/16/2008
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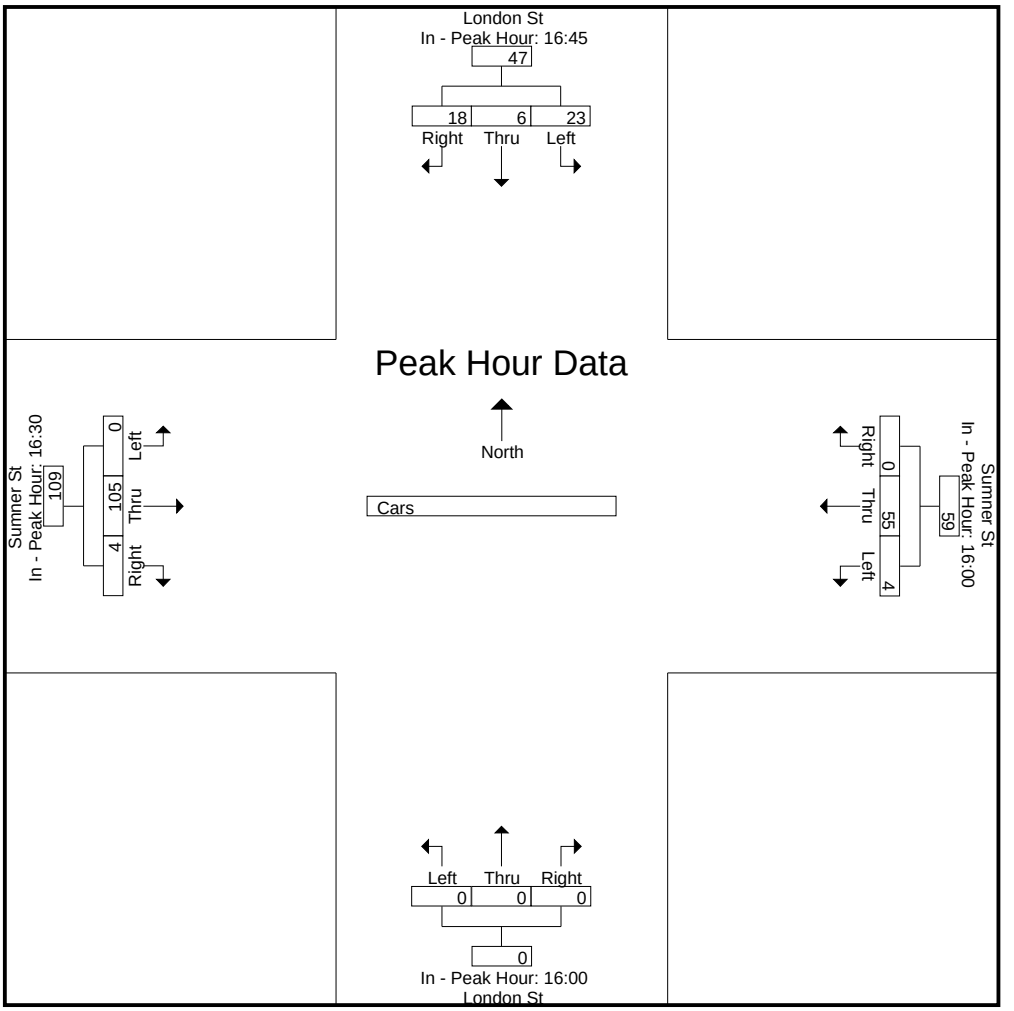
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:45				16:00				16:00				16:30			
+0 mins.	4	2	6	12	0	12	0	12	0	0	0	0	0	28	0	28
+15 mins.	7	1	3	11	2	20	0	22	0	0	0	0	0	26	2	28
+30 mins.	7	2	5	14	1	9	0	10	0	0	0	0	0	18	2	20
+45 mins.	5	1	4	10	1	14	0	15	0	0	0	0	0	33	0	33
Total Volume	23	6	18	47	4	55	0	59	0	0	0	0	0	105	4	109
% App. Total	48.9	12.8	38.3		6.8	93.2	0		0	0	0		0	96.3	3.7	
PHF	.821	.750	.750	.839	.500	.688	.000	.670	.000	.000	.000	.000	.000	.795	.500	.826

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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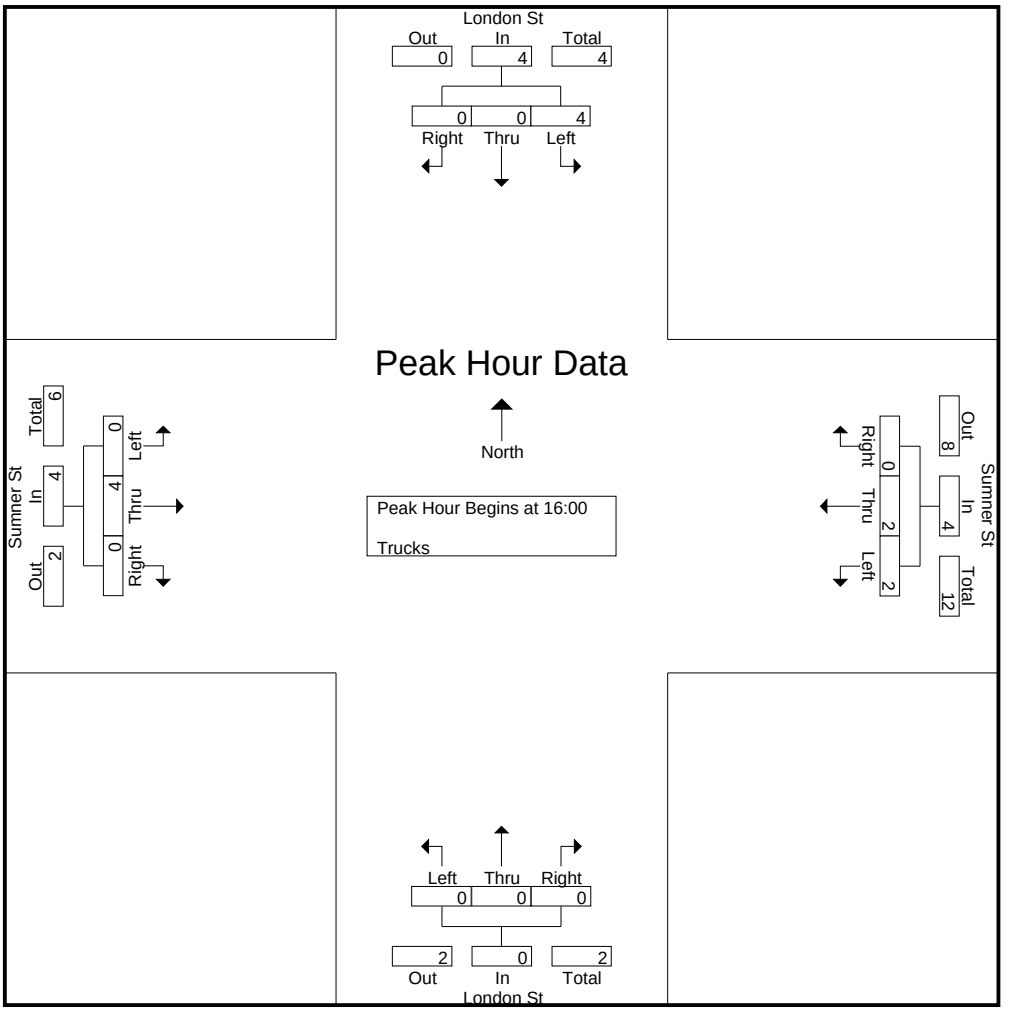
Groups Printed- Trucks

	London St From North				Sumner St From East				London St From South				Sumner St 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	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	2	2	4
16:15	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	4	4
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
16:45	2	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	5	5
Total	4	0	0	2	2	2	0	0	0	0	0	0	0	4	0	0	2	12	14
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
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	2	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	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
Grand Total	4	0	0	2	2	2	0	0	0	0	0	0	0	7	0	0	2	15	17
Apprch %	100	0	0		50	50	0		0	0	0		0	100	0				
Total %	26.7	0	0		13.3	13.3	0		0	0	0		0	46.7	0		11.8	88.2	

	London St From North				Sumner St From East				London St From South				Sumner St 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	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
16:15	1	0	0	1	1	1	0	2	0	0	0	0	0	1	0	1	4
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:45	2	0	0	2	0	1	0	1	0	0	0	0	0	2	0	2	5
Total Volume	4	0	0	4	2	2	0	4	0	0	0	0	0	4	0	4	12
% App. Total	100	0	0		50	50	0		0	0	0		0	100	0		
PHF	.500	.000	.000	.500	.500	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.600

Accurate Counts
978-664-2565

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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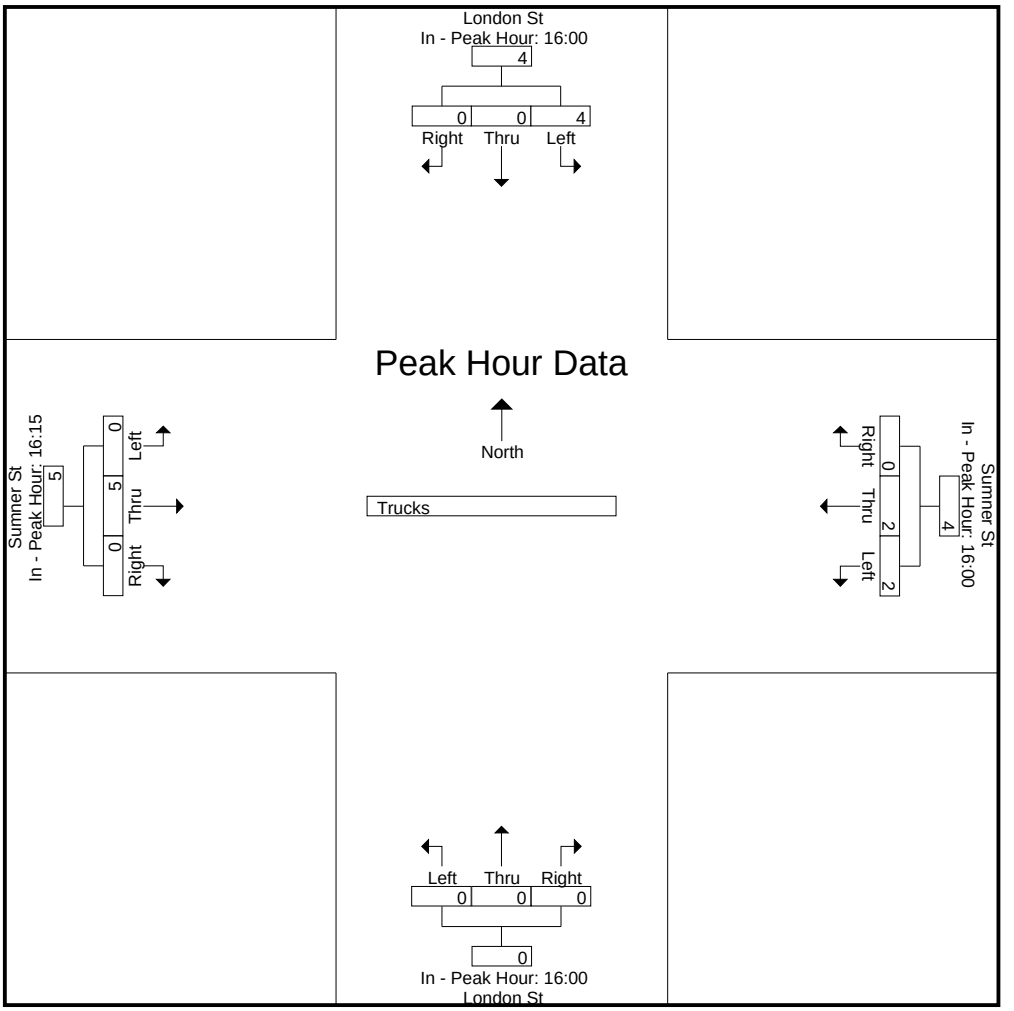


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:15			
+0 mins.	1	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1
+15 mins.	1	0	0	1	1	1	0	2	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	2	0	0	2	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	4	0	0	4	2	2	0	4	0	0	0	0	0	5	0	5
% App. Total	100	0	0		50	50	0		0	0	0		0	100	0	
PHF	.500	.000	.000	.500	.500	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625

File Name : 60830002
Site Code : 60830002
Start Date : 1/16/2008
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N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

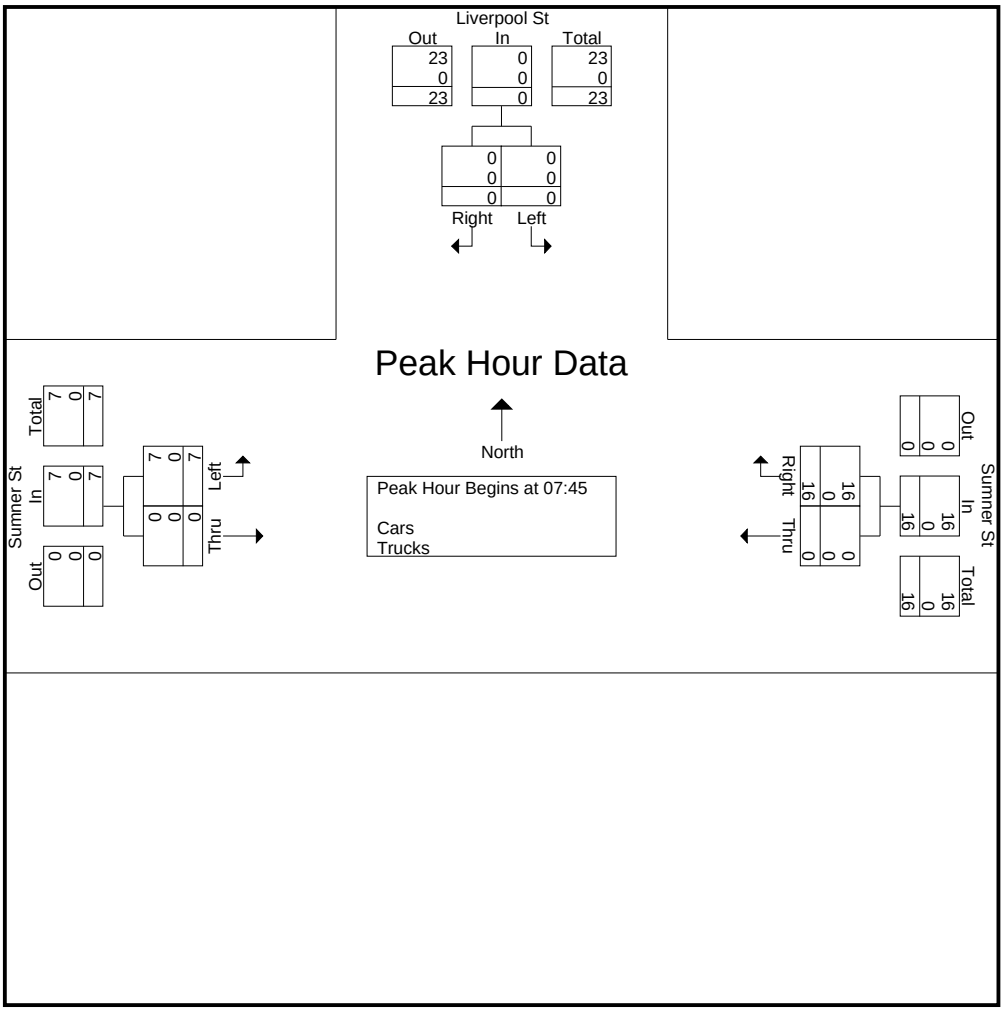
Groups Printed- Cars - Trucks

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	7	0	1	0	1	0	5	12	2	14
07:15	0	0	8	0	6	0	0	0	0	8	6	14
07:30	0	0	5	0	4	0	0	0	3	8	4	12
07:45	0	0	2	0	2	0	2	0	0	2	4	6
Total	0	0	22	0	13	0	3	0	8	30	16	46
08:00	0	0	3	0	4	0	1	0	2	5	5	10
08:15	0	0	10	0	5	0	0	0	1	11	5	16
08:30	0	0	3	0	5	1	4	0	0	4	9	13
08:45	0	0	3	0	3	0	1	0	1	4	4	8
Total	0	0	19	0	17	1	6	0	4	24	23	47
Grand Total	0	0	41	0	30	1	9	0	12	54	39	93
Apprch %	0	0		0	100		100	0				
Total %	0	0		0	76.9		23.1	0		58.1	41.9	
Cars	0	0		0	28		9	0		0	0	91
% Cars	0	0	100	0	93.3	100	100	0	100	0	0	97.8
Trucks	0	0		0	2		0	0		0	0	2
% Trucks	0	0	0	0	6.7	0	0	0	0	0	0	2.2

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	2	2	2	0	2	4
08:00	0	0	0	0	4	4	1	0	1	5
08:15	0	0	0	0	5	5	0	0	0	5
08:30	0	0	0	0	5	5	4	0	4	9
Total Volume	0	0	0	0	16	16	7	0	7	23
% App. Total	0	0		0	100		100	0		
PHF	.000	.000	.000	.000	.800	.800	.438	.000	.438	.639
Cars	0	0	0	0	16	16	7	0	7	23
% Cars	0	0	0	0	100	100	100	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 2



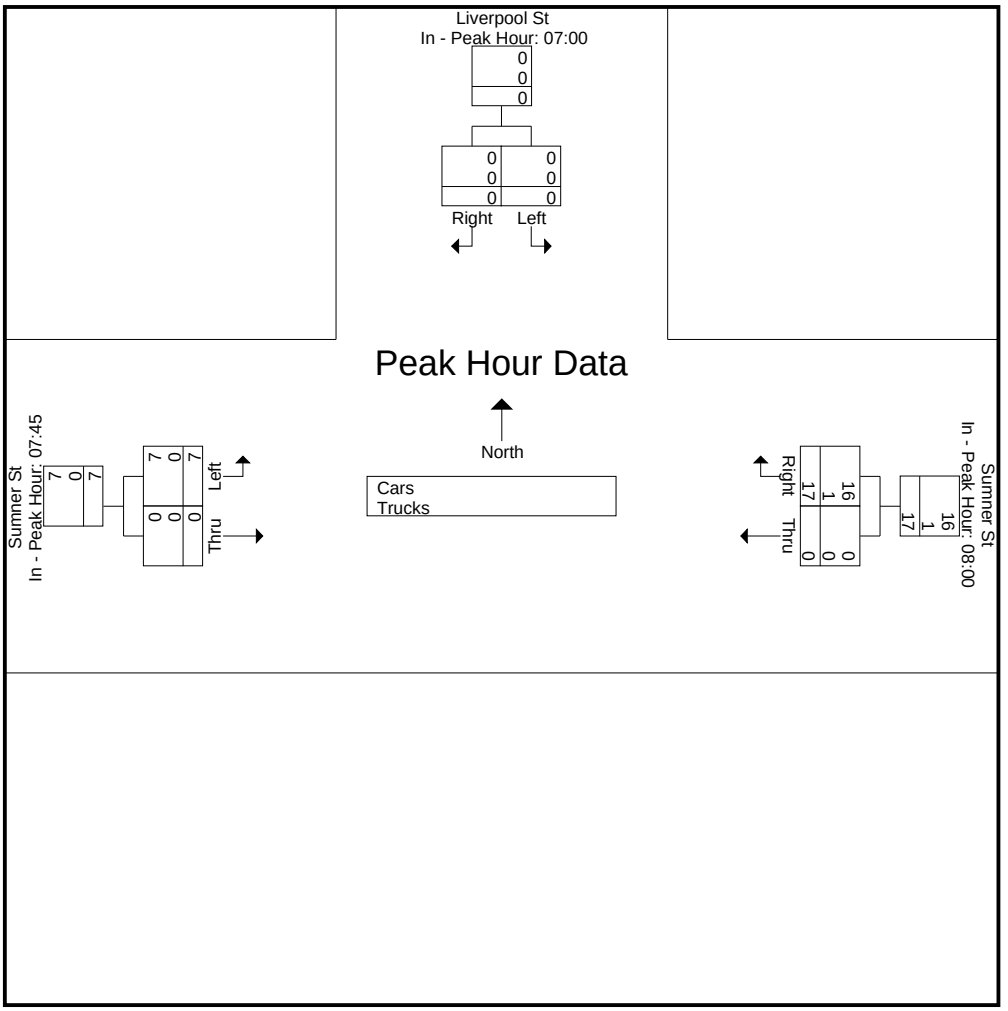
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			08:00			07:45		
+0 mins.	0	0	0	0	4	4	2	0	2
+15 mins.	0	0	0	0	5	5	1	0	1
+30 mins.	0	0	0	0	5	5	0	0	0
+45 mins.	0	0	0	0	3	3	4	0	4
Total Volume	0	0	0	0	17	17	7	0	7
% App. Total	0	0		0	100		100	0	
PHF	.000	.000	.000	.000	.850	.850	.438	.000	.438
Cars	0	0	0	0	16	16	7	0	7
% Cars	0	0	0	0	94.1	94.1	100	0	100
Trucks	0	0	0	0	1	1	0	0	0
% Trucks	0	0	0	0	5.9	5.9	0	0	0

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 3



N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

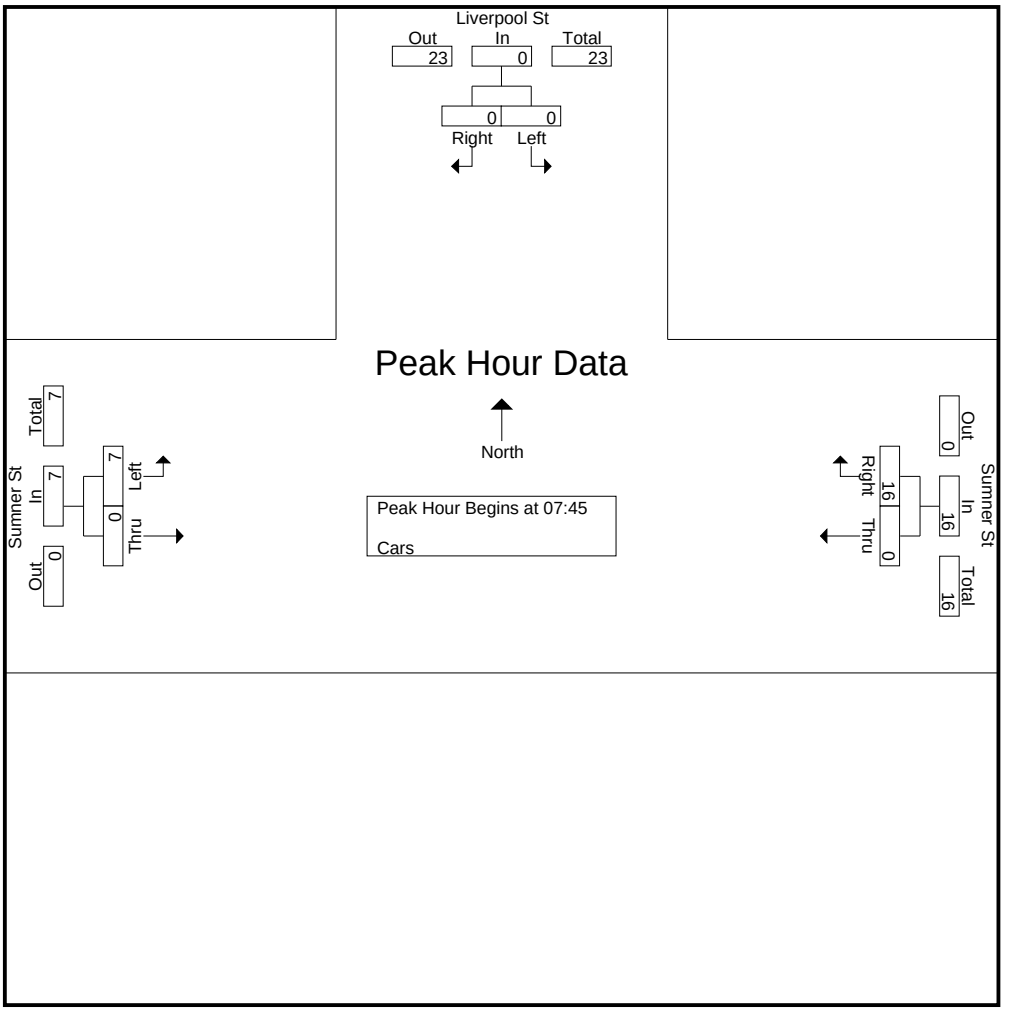
Groups Printed- Cars

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	0	0	7	0	1	0	1	0	5	12	2	14
07:15	0	0	8	0	6	0	0	0	0	8	6	14
07:30	0	0	5	0	3	0	0	0	3	8	3	11
07:45	0	0	2	0	2	0	2	0	0	2	4	6
Total	0	0	22	0	12	0	3	0	8	30	15	45
08:00	0	0	3	0	4	0	1	0	2	5	5	10
08:15	0	0	10	0	5	0	0	0	1	11	5	16
08:30	0	0	3	0	5	1	4	0	0	4	9	13
08:45	0	0	3	0	2	0	1	0	1	4	3	7
Total	0	0	19	0	16	1	6	0	4	24	22	46
Grand Total	0	0	41	0	28	1	9	0	12	54	37	91
Apprch %	0	0		0	100		100	0				
Total %	0	0		0	75.7		24.3	0		59.3	40.7	

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	2	2	2	0	2	4
08:00	0	0	0	0	4	4	1	0	1	5
08:15	0	0	0	0	5	5	0	0	0	5
08:30	0	0	0	0	5	5	4	0	4	9
Total Volume	0	0	0	0	16	16	7	0	7	23
% App. Total	0	0		0	100		100	0		
PHF	.000	.000	.000	.000	.800	.800	.438	.000	.438	.639

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
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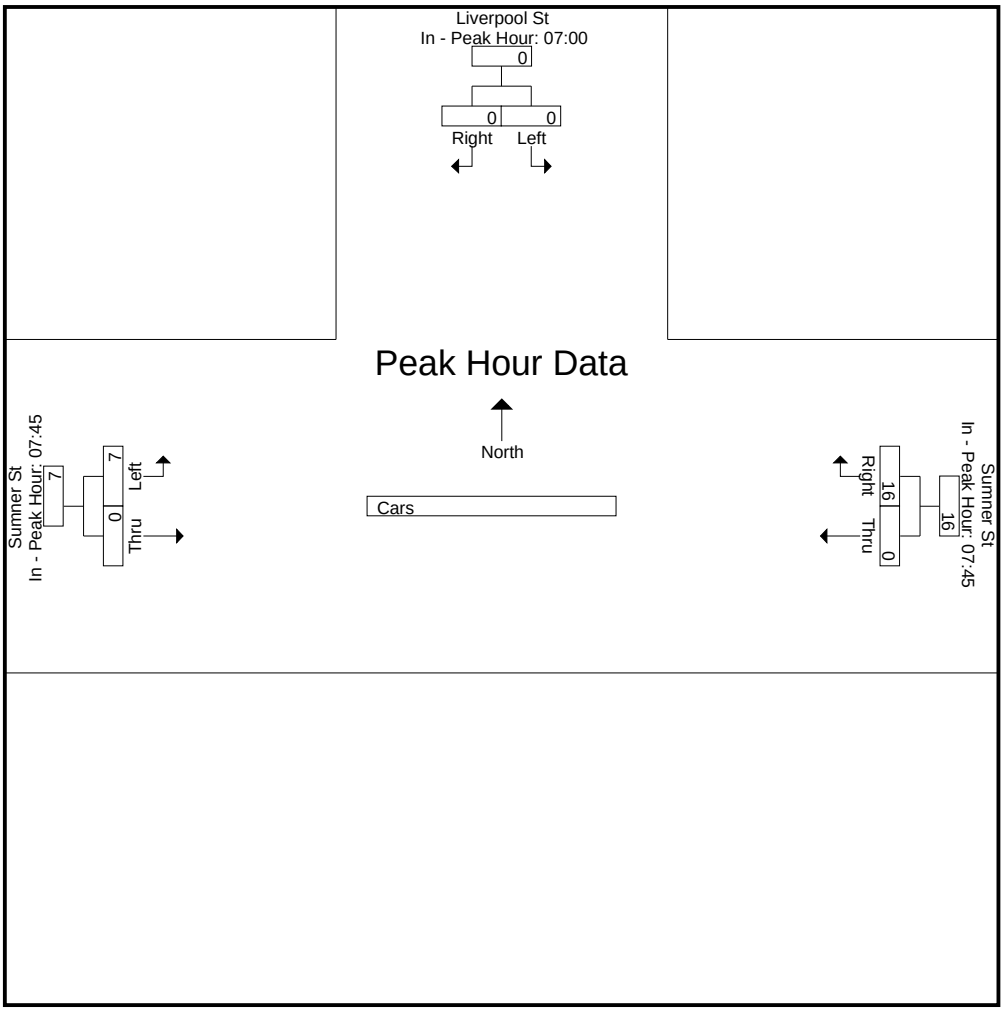
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:45			07:45		
+0 mins.	0	0	0	0	2	2	2	0	2
+15 mins.	0	0	0	0	4	4	1	0	1
+30 mins.	0	0	0	0	5	5	0	0	0
+45 mins.	0	0	0	0	5	5	4	0	4
Total Volume	0	0	0	0	16	16	7	0	7
% App. Total	0	0		0	100		100	0	
PHF	.000	.000	.000	.000	.800	.800	.438	.000	.438

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 3



N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

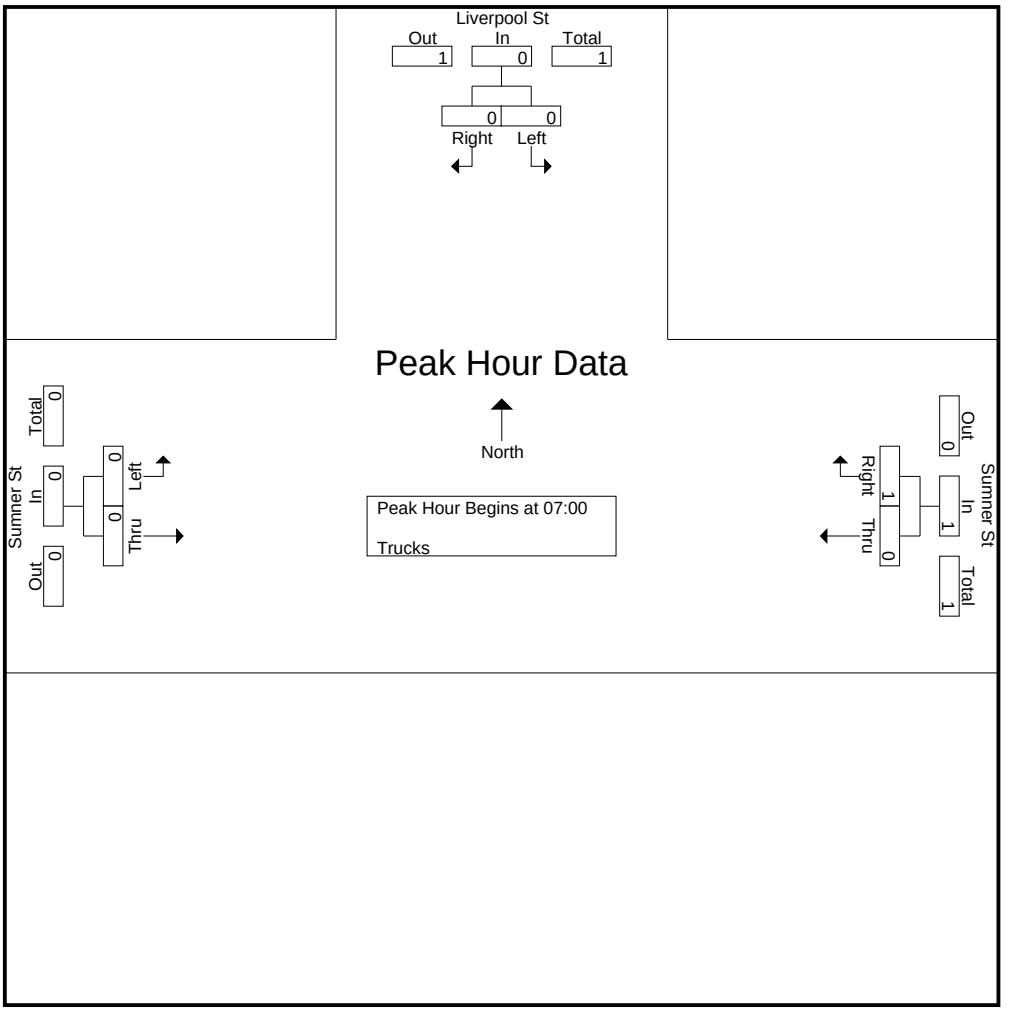
Groups Printed- Trucks

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	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	0	0	0	1	0	0	0	0	0	1	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15	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
08:45	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	1	0	0	0	0	0	1	1
Grand Total	0	0	0	0	2	0	0	0	0	0	2	2
Apprch %	0	0		0	100		0	0				
Total %	0	0		0	100		0	0		0	100	

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0
07:15	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	1	1	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 2



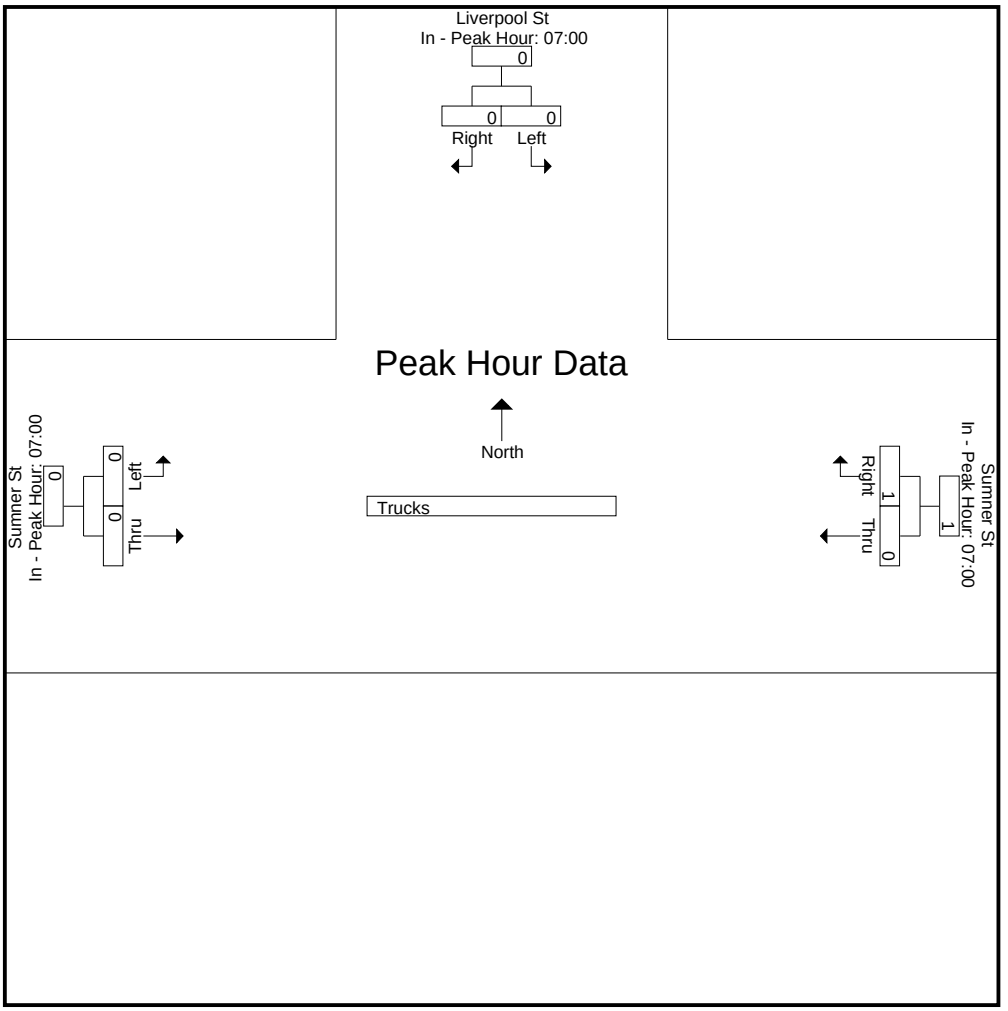
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:00			07:00		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0
% App. Total	0	0		0	100		0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 3



N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

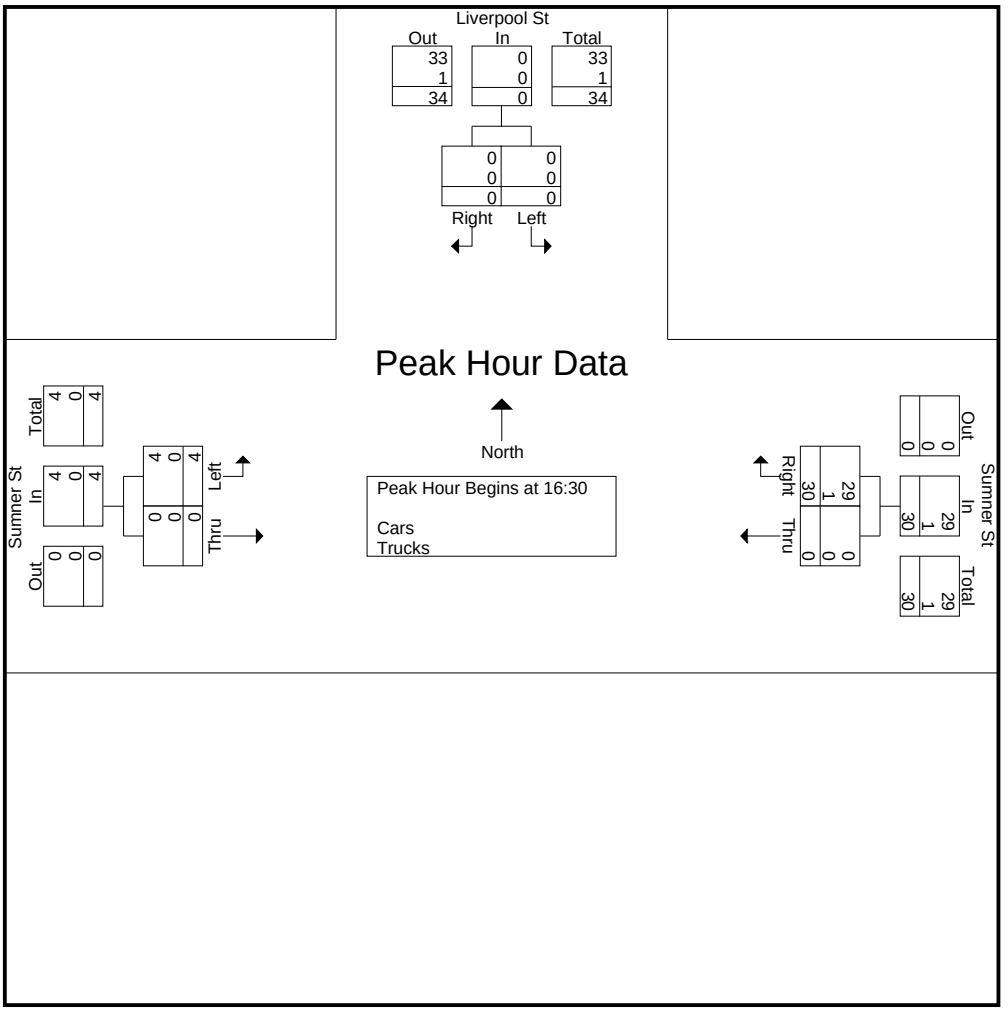
Groups Printed- Cars - Trucks

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	4	0	3	0	1	0	0	4	4	8
16:15	0	0	4	0	6	0	1	0	0	4	7	11
16:30	0	0	12	0	7	0	3	0	0	12	10	22
16:45	0	0	2	0	12	0	0	0	0	2	12	14
Total	0	0	22	0	28	0	5	0	0	22	33	55
17:00	0	0	8	0	4	1	0	0	1	10	4	14
17:15	0	0	4	0	7	0	1	0	3	7	8	15
17:30	0	0	7	0	4	1	5	0	1	9	9	18
17:45	0	0	2	0	4	0	2	0	0	2	6	8
Total	0	0	21	0	19	2	8	0	5	28	27	55
Grand Total	0	0	43	0	47	2	13	0	5	50	60	110
Apprch %	0	0		0	100		100	0				
Total %	0	0		0	78.3		21.7	0		45.5	54.5	
Cars	0	0		0	46		13	0		0	0	109
% Cars	0	0	100	0	97.9	100	100	0	100	0	0	99.1
Trucks	0	0		0	1		0	0		0	0	1
% Trucks	0	0	0	0	2.1	0	0	0	0	0	0	0.9

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0	0	0	7	7	3	0	3	10
16:45	0	0	0	0	12	12	0	0	0	12
17:00	0	0	0	0	4	4	0	0	0	4
17:15	0	0	0	0	7	7	1	0	1	8
Total Volume	0	0	0	0	30	30	4	0	4	34
% App. Total	0	0		0	100		100	0		
PHF	.000	.000	.000	.000	.625	.625	.333	.000	.333	.708
Cars	0	0	0	0	29	29	4	0	4	33
% Cars	0	0	0	0	96.7	96.7	100	0	100	97.1
Trucks	0	0	0	0	1	1	0	0	0	1
% Trucks	0	0	0	0	3.3	3.3	0	0	0	2.9

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 2



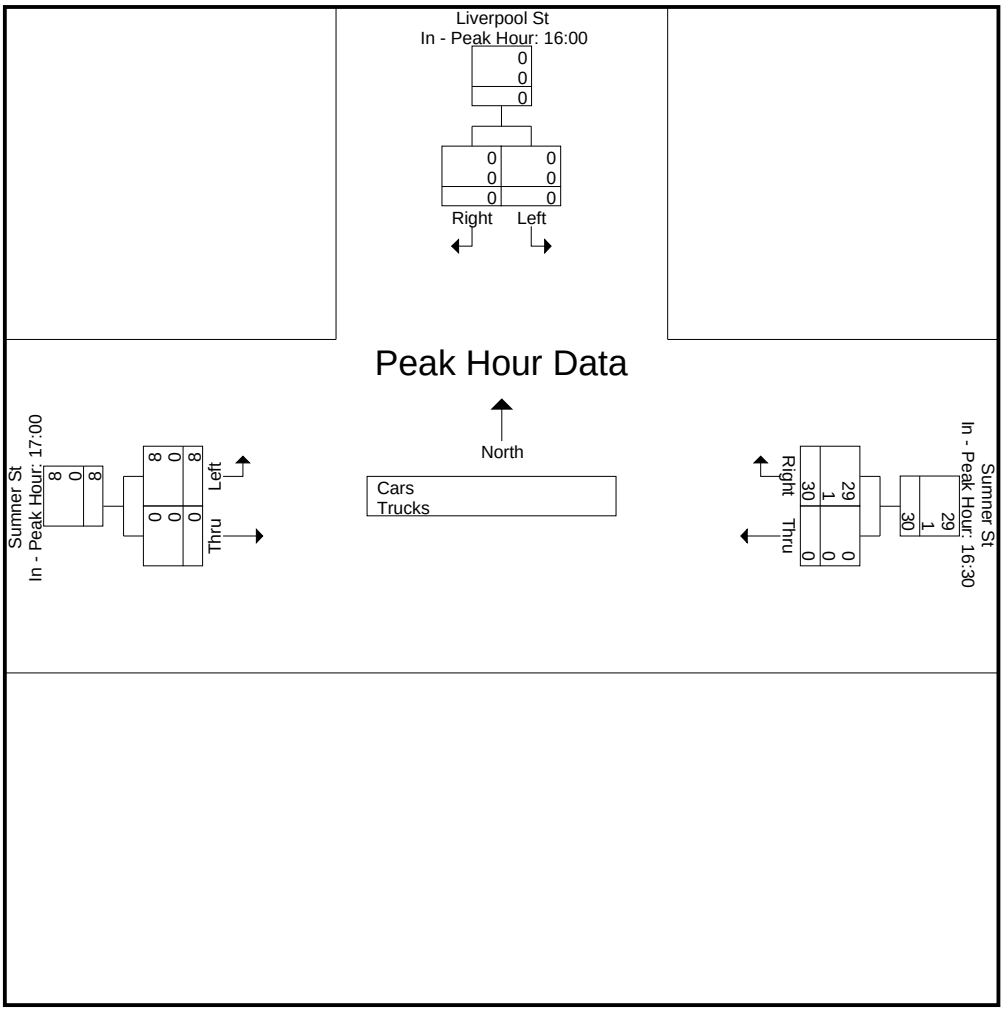
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:30			17:00		
+0 mins.	0	0	0	0	7	7	0	0	0
+15 mins.	0	0	0	0	12	12	1	0	1
+30 mins.	0	0	0	0	4	4	5	0	5
+45 mins.	0	0	0	0	7	7	2	0	2
Total Volume	0	0	0	0	30	30	8	0	8
% App. Total	0	0		0	100		100	0	
PHF	.000	.000	.000	.000	.625	.625	.400	.000	.400
Cars	0	0	0	0	29	29	8	0	8
% Cars	0	0	0	0	96.7	96.7	100	0	100
Trucks	0	0	0	0	1	1	0	0	0
% Trucks	0	0	0	0	3.3	3.3	0	0	0

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 3



N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

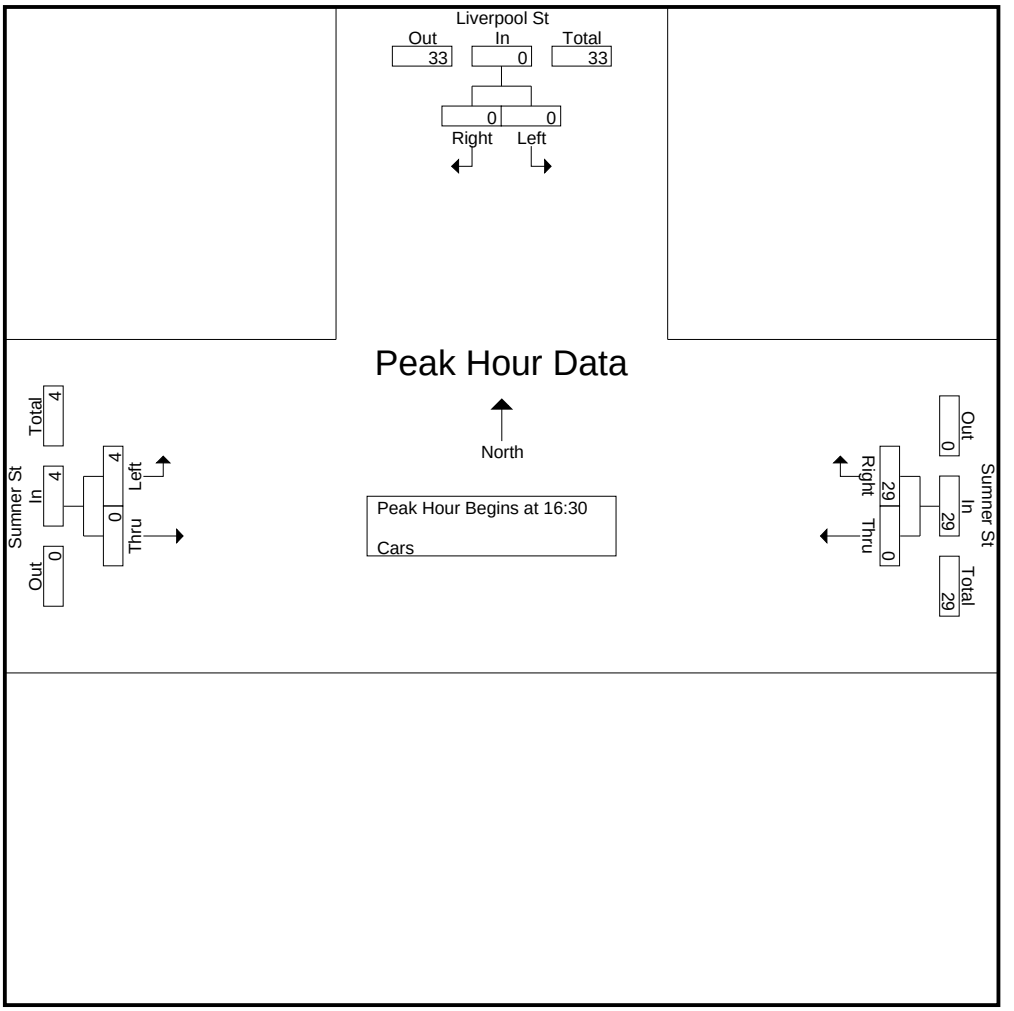
Groups Printed- Cars

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	4	0	3	0	1	0	0	4	4	8
16:15	0	0	4	0	6	0	1	0	0	4	7	11
16:30	0	0	12	0	7	0	3	0	0	12	10	22
16:45	0	0	2	0	11	0	0	0	0	2	11	13
Total	0	0	22	0	27	0	5	0	0	22	32	54
17:00	0	0	8	0	4	1	0	0	1	10	4	14
17:15	0	0	4	0	7	0	1	0	3	7	8	15
17:30	0	0	7	0	4	1	5	0	1	9	9	18
17:45	0	0	2	0	4	0	2	0	0	2	6	8
Total	0	0	21	0	19	2	8	0	5	28	27	55
Grand Total	0	0	43	0	46	2	13	0	5	50	59	109
Apprch %	0	0		0	100		100	0				
Total %	0	0		0	78		22	0		45.9	54.1	

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0	0	0	7	7	3	0	3	10
16:45	0	0	0	0	11	11	0	0	0	11
17:00	0	0	0	0	4	4	0	0	0	4
17:15	0	0	0	0	7	7	1	0	1	8
Total Volume	0	0	0	0	29	29	4	0	4	33
% App. Total	0	0		0	100		100	0		
PHF	.000	.000	.000	.000	.659	.659	.333	.000	.333	.750

Accurate Counts
978-664-2565

File Name : 60830003
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Start Date : 1/16/2008
Page No : 2

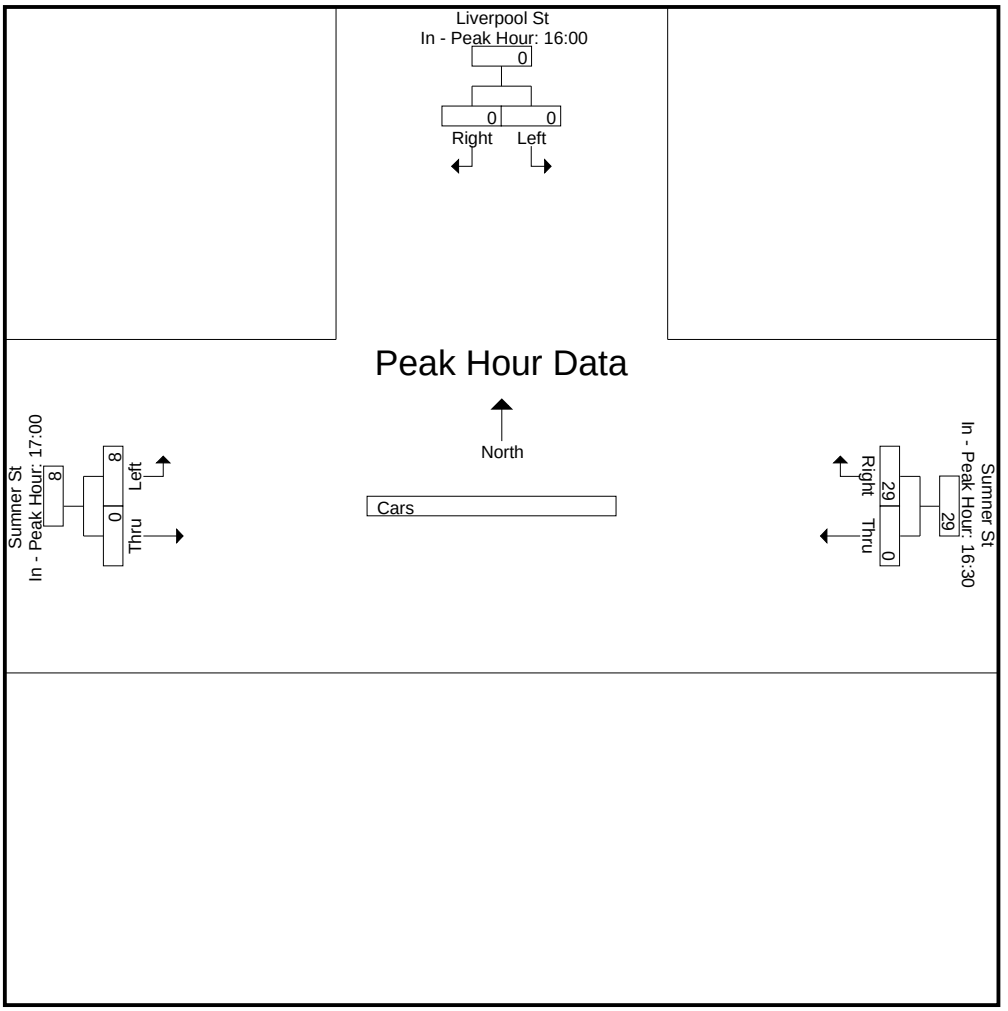


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:30			17:00		
+0 mins.	0	0	0	0	7	7	0	0	0
+15 mins.	0	0	0	0	11	11	1	0	1
+30 mins.	0	0	0	0	4	4	5	0	5
+45 mins.	0	0	0	0	7	7	2	0	2
Total Volume	0	0	0	0	29	29	8	0	8
% App. Total	0	0		0	100		100	0	
PHF	.000	.000	.000	.000	.659	.659	.400	.000	.400

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
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N/S Street : Liverpool Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 1

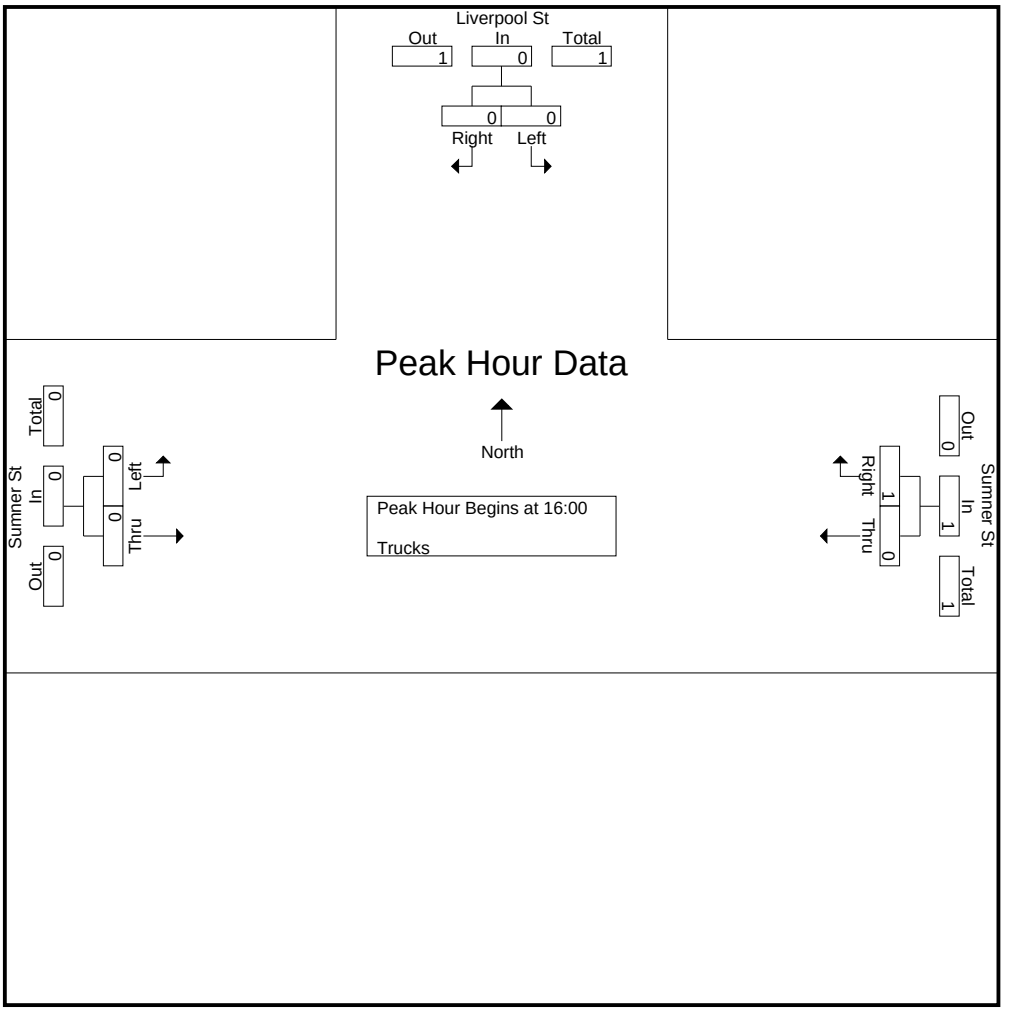
Groups Printed- Trucks

	Liverpool St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15	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
16:45	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	1	0	0	0	0	0	1	1
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	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	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	0	0	0	1	1
Apprch %	0	0		0	100		0	0				
Total %	0	0		0	100		0	0		0	100	

	Liverpool St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0
16:15	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	1	0	0	0	1
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

Accurate Counts
978-664-2565

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 2

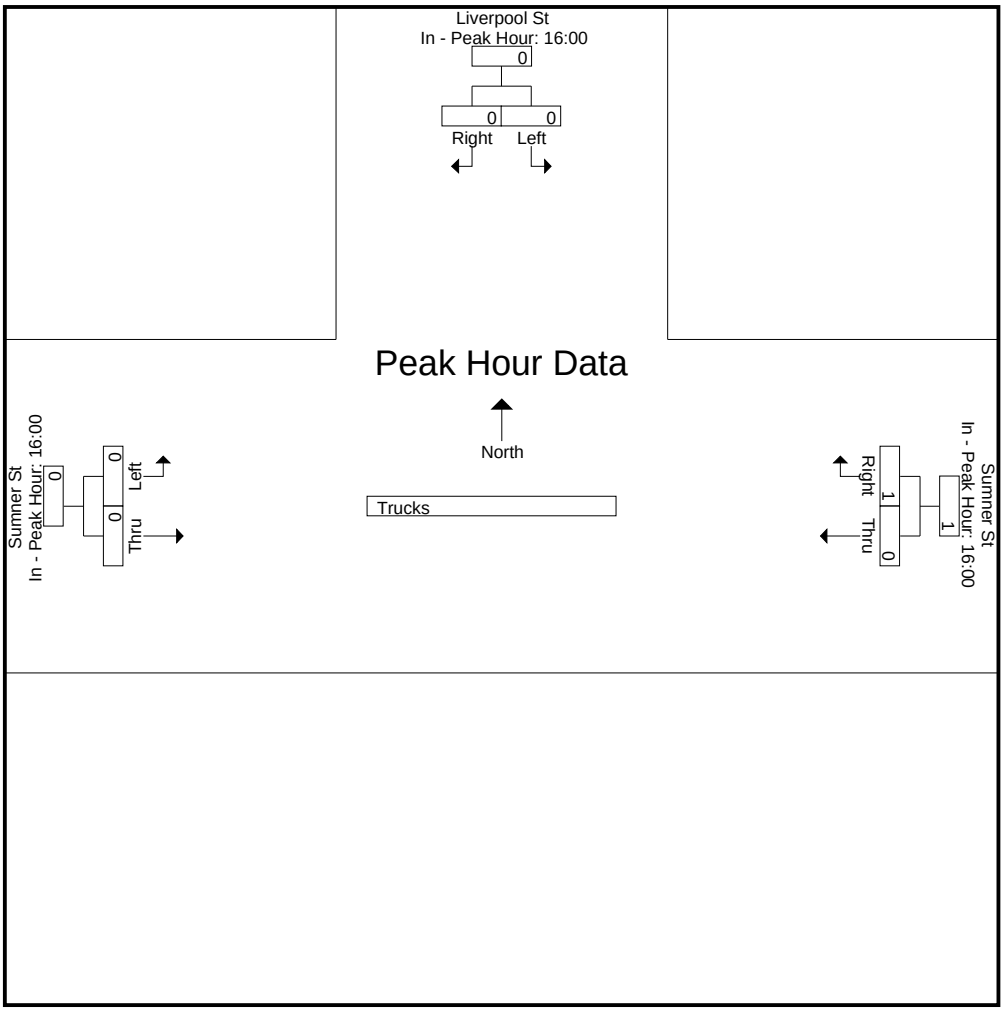


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:00		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0
% App. Total	0	0		0	100		0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000

File Name : 60830003
Site Code : 60830003
Start Date : 1/16/2008
Page No : 3



N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
Page No : 1

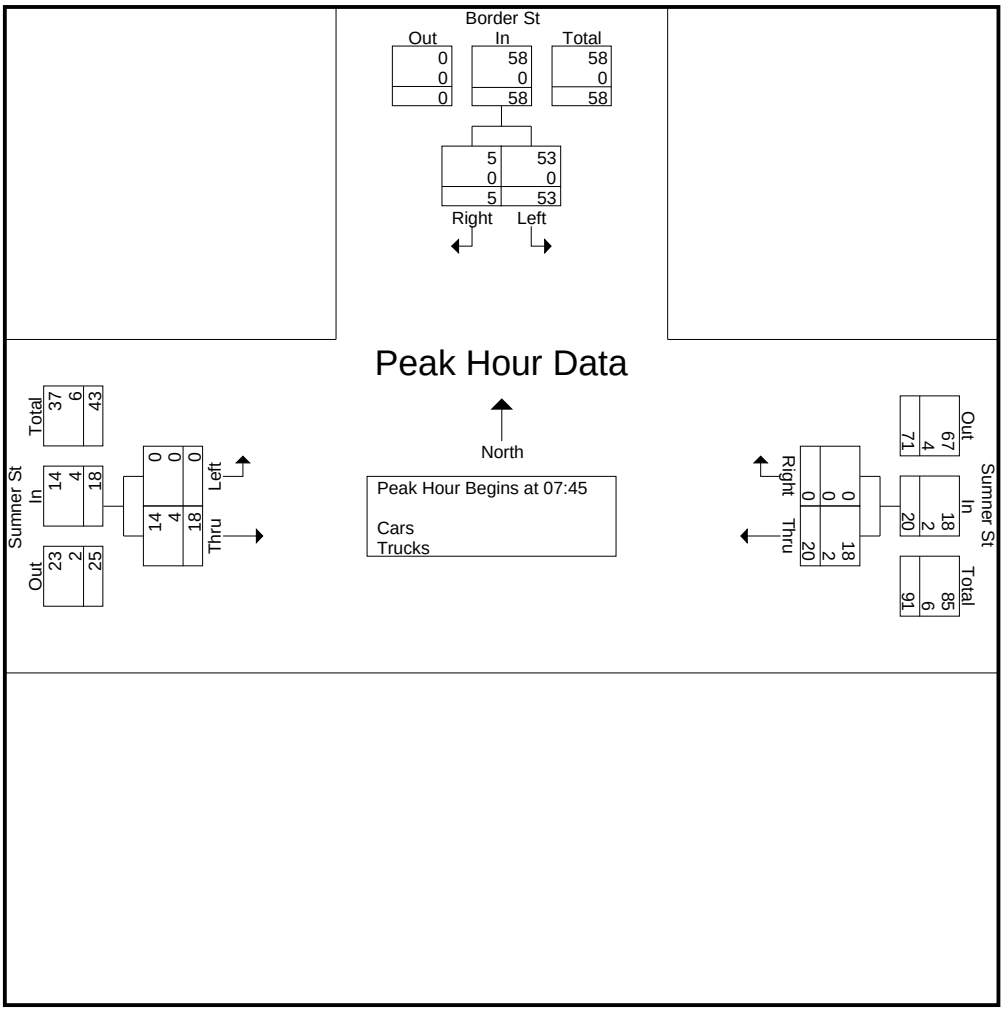
Groups Printed- Cars - Trucks

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	8	1	2	3	0	0	0	4	1	3	16	19
07:15	6	1	1	0	0	0	0	5	0	1	12	13
07:30	9	1	1	8	0	0	0	3	1	2	21	23
07:45	13	2	3	3	0	1	0	6	0	4	24	28
Total	36	5	7	14	0	1	0	18	2	10	73	83
08:00	11	3	1	9	0	0	0	5	0	1	28	29
08:15	13	0	5	2	0	1	0	2	0	6	17	23
08:30	16	0	6	6	0	0	0	5	0	6	27	33
08:45	15	2	0	4	1	0	0	2	1	1	24	25
Total	55	5	12	21	1	1	0	14	1	14	96	110
Grand Total	91	10	19	35	1	2	0	32	3	24	169	193
Apprch %	90.1	9.9		97.2	2.8		0	100				
Total %	53.8	5.9		20.7	0.6		0	18.9		12.4	87.6	
Cars	88	8		33	1		0	24		0	0	178
% Cars	96.7	80	100	94.3	100	100	0	75	100	0	0	92.2
Trucks	3	2		2	0		0	8		0	0	15
% Trucks	3.3	20	0	5.7	0	0	0	25	0	0	0	7.8

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	13	2	15	3	0	3	0	6	6	24
08:00	11	3	14	9	0	9	0	5	5	28
08:15	13	0	13	2	0	2	0	2	2	17
08:30	16	0	16	6	0	6	0	5	5	27
Total Volume	53	5	58	20	0	20	0	18	18	96
% App. Total	91.4	8.6		100	0		0	100		
PHF	.828	.417	.906	.556	.000	.556	.000	.750	.750	.857
Cars	53	5	58	18	0	18	0	14	14	90
% Cars	100	100	100	90.0	0	90.0	0	77.8	77.8	93.8
Trucks	0	0	0	2	0	2	0	4	4	6
% Trucks	0	0	0	10.0	0	10.0	0	22.2	22.2	6.3

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
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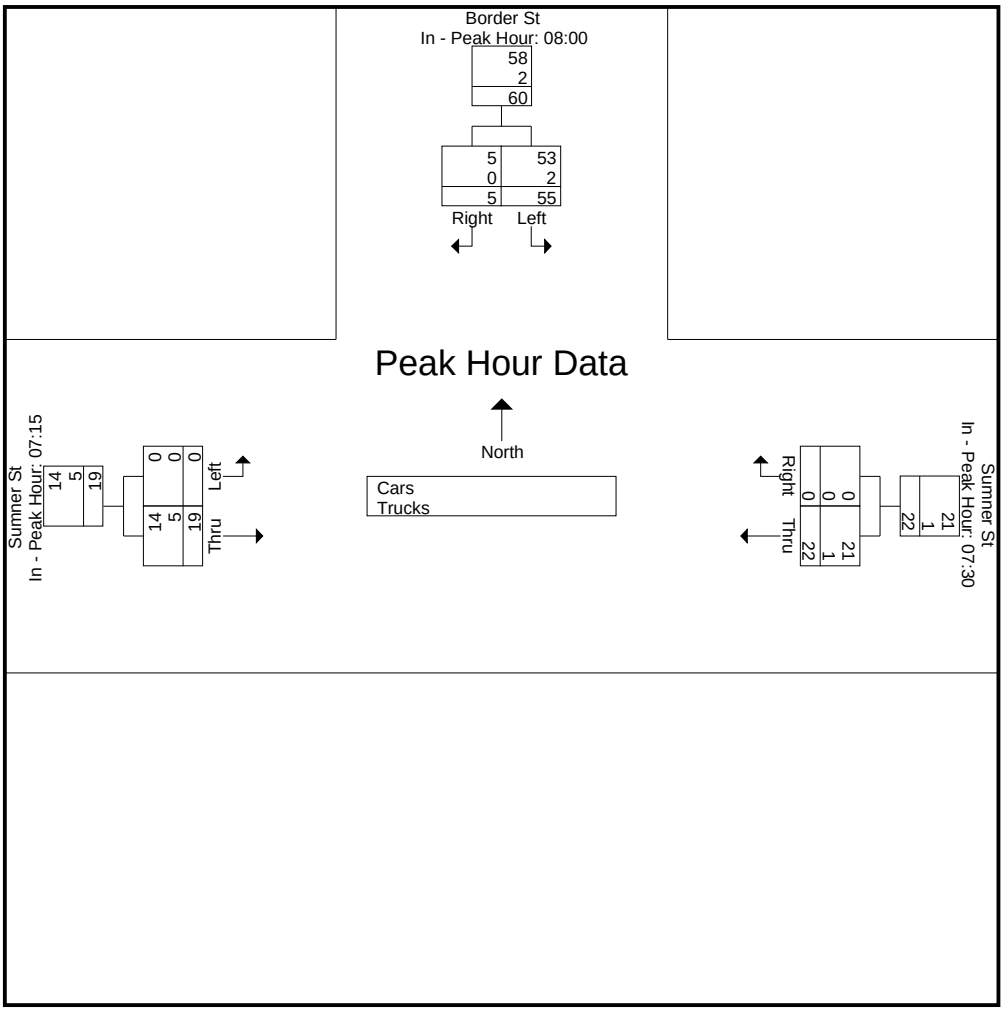
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00			07:30			07:15		
+0 mins.	11	3	14	8	0	8	0	5	5
+15 mins.	13	0	13	3	0	3	0	3	3
+30 mins.	16	0	16	9	0	9	0	6	6
+45 mins.	15	2	17	2	0	2	0	5	5
Total Volume	55	5	60	22	0	22	0	19	19
% App. Total	91.7	8.3		100	0		0	100	
PHF	.859	.417	.882	.611	.000	.611	.000	.792	.792
Cars	53	5	58	21	0	21	0	14	14
% Cars	96.4	100	96.7	95.5	0	95.5	0	73.7	73.7
Trucks	2	0	2	1	0	1	0	5	5
% Trucks	3.6	0	3.3	4.5	0	4.5	0	26.3	26.3

Accurate Counts
978-664-2565

File Name : 60830004
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Start Date : 1/16/2008
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N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
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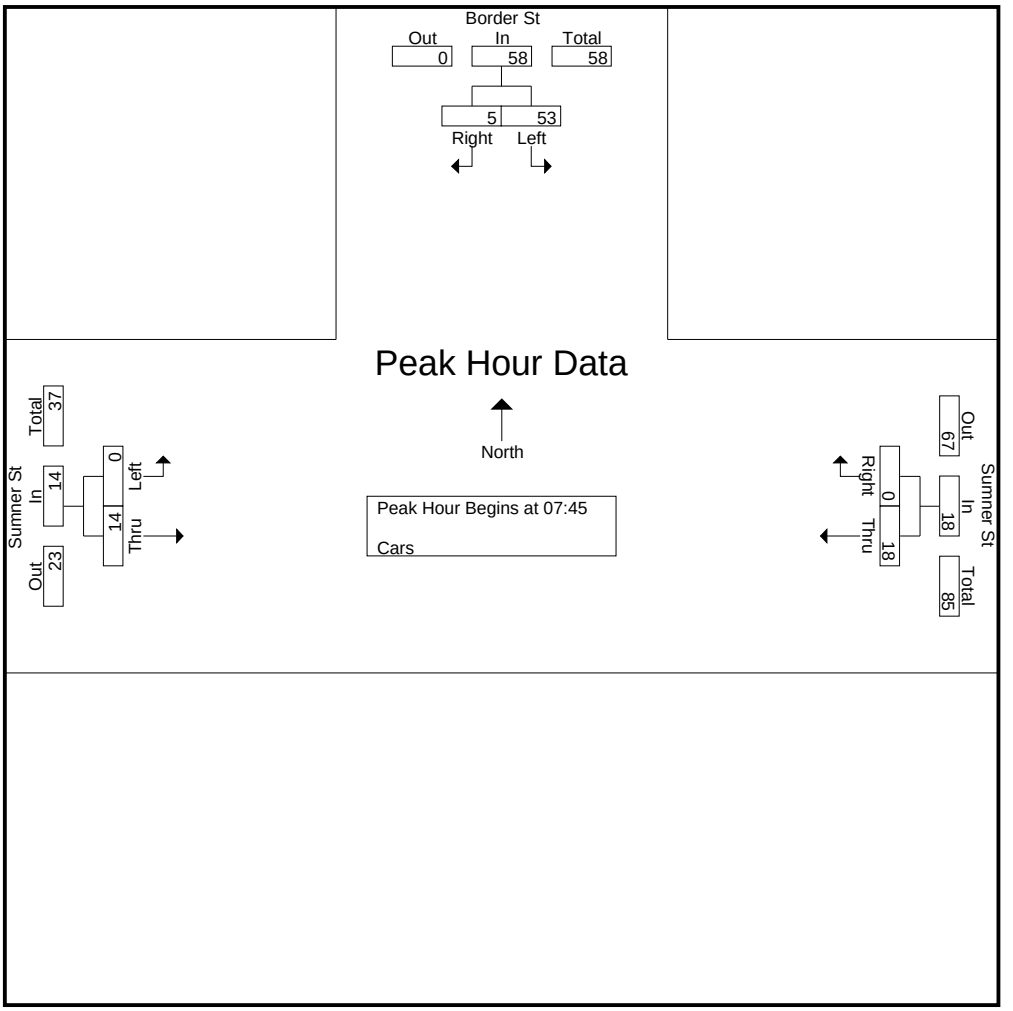
Groups Printed- Cars

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	7	1	2	3	0	0	0	3	1	3	14	17
07:15	6	0	1	0	0	0	0	3	0	1	9	10
07:30	9	0	1	8	0	0	0	2	1	2	19	21
07:45	13	2	3	3	0	1	0	5	0	4	23	27
Total	35	3	7	14	0	1	0	13	2	10	65	75
08:00	11	3	1	8	0	0	0	4	0	1	26	27
08:15	13	0	5	2	0	1	0	1	0	6	16	22
08:30	16	0	6	5	0	0	0	4	0	6	25	31
08:45	13	2	0	4	1	0	0	2	1	1	22	23
Total	53	5	12	19	1	1	0	11	1	14	89	103
Grand Total	88	8	19	33	1	2	0	24	3	24	154	178
Apprch %	91.7	8.3		97.1	2.9		0	100				
Total %	57.1	5.2		21.4	0.6		0	15.6		13.5	86.5	

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	13	2	15	3	0	3	0	5	5	23
08:00	11	3	14	8	0	8	0	4	4	26
08:15	13	0	13	2	0	2	0	1	1	16
08:30	16	0	16	5	0	5	0	4	4	25
Total Volume	53	5	58	18	0	18	0	14	14	90
% App. Total	91.4	8.6		100	0		0	100		
PHF	.828	.417	.906	.563	.000	.563	.000	.700	.700	.865

Accurate Counts
978-664-2565

File Name : 60830004
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Start Date : 1/16/2008
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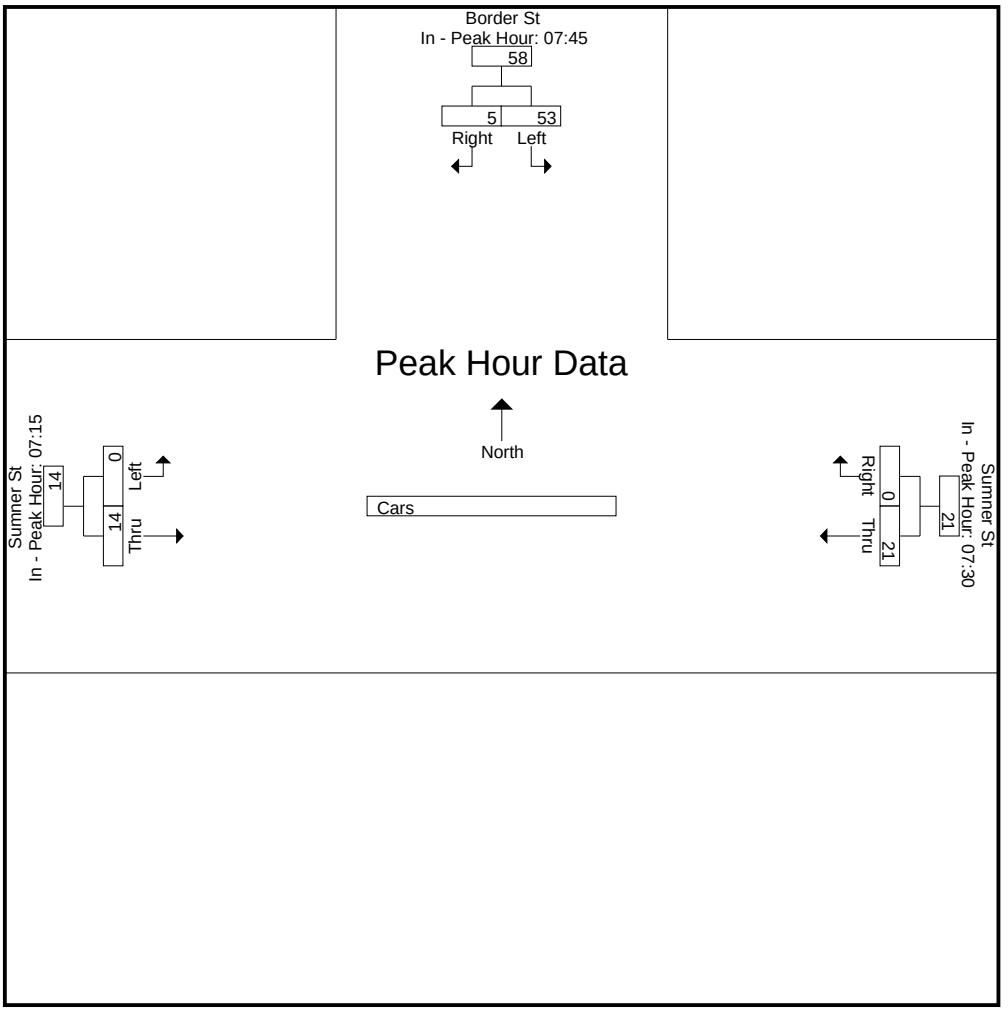
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45			07:30			07:15		
+0 mins.	13	2	15	8	0	8	0	3	3
+15 mins.	11	3	14	3	0	3	0	2	2
+30 mins.	13	0	13	8	0	8	0	5	5
+45 mins.	16	0	16	2	0	2	0	4	4
Total Volume	53	5	58	21	0	21	0	14	14
% App. Total	91.4	8.6		100	0		0	100	
PHF	.828	.417	.906	.656	.000	.656	.000	.700	.700

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
Page No : 3



N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830004
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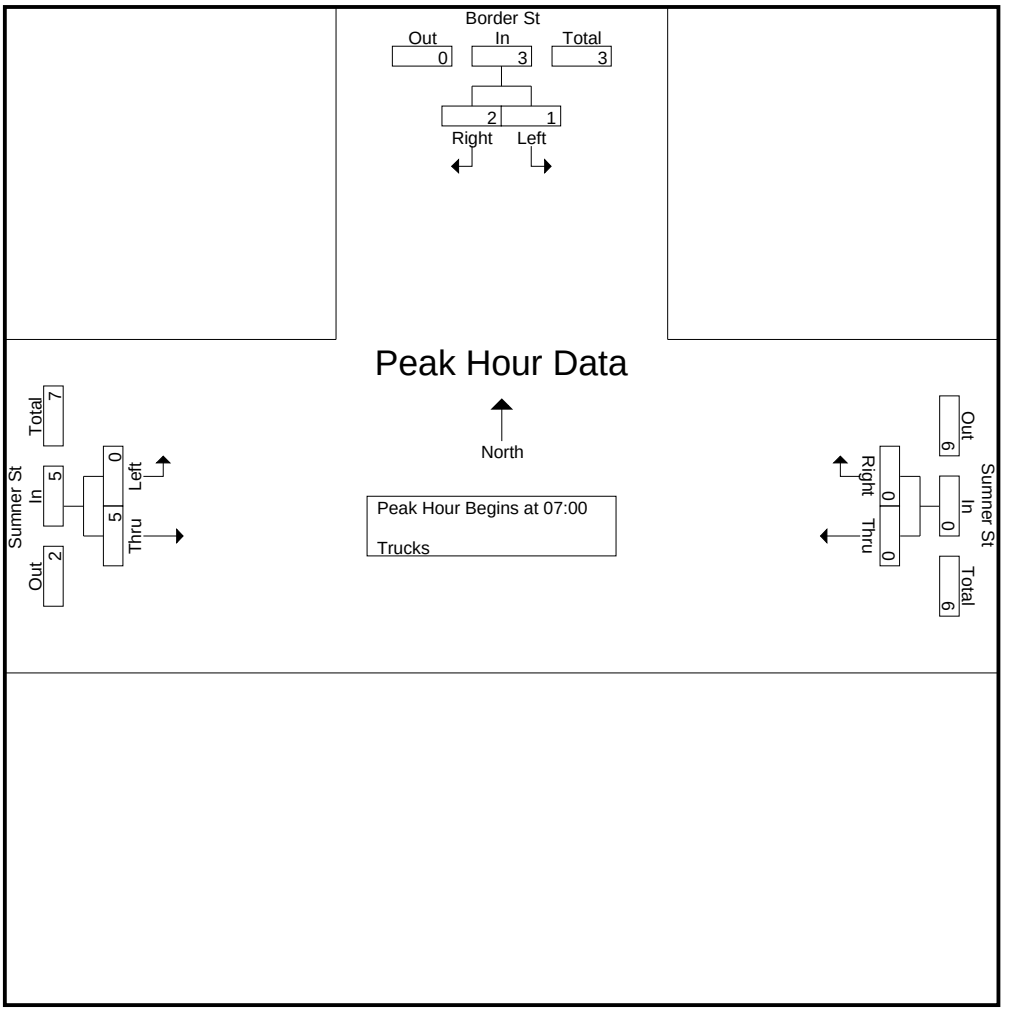
Groups Printed- Trucks

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	0	0	0	0	0	0	1	0	0	2	2
07:15	0	1	0	0	0	0	0	2	0	0	3	3
07:30	0	1	0	0	0	0	0	1	0	0	2	2
07:45	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	2	0	0	0	0	0	5	0	0	8	8
08:00	0	0	0	1	0	0	0	1	0	0	2	2
08:15	0	0	0	0	0	0	0	1	0	0	1	1
08:30	0	0	0	1	0	0	0	1	0	0	2	2
08:45	2	0	0	0	0	0	0	0	0	0	2	2
Total	2	0	0	2	0	0	0	3	0	0	7	7
Grand Total	3	2	0	2	0	0	0	8	0	0	15	15
Apprch %	60	40		100	0		0	100				
Total %	20	13.3		13.3	0		0	53.3		0	100	

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	1	0	1	0	0	0	0	1	1	2
07:15	0	1	1	0	0	0	0	2	2	3
07:30	0	1	1	0	0	0	0	1	1	2
07:45	0	0	0	0	0	0	0	1	1	1
Total Volume	1	2	3	0	0	0	0	5	5	8
% App. Total	33.3	66.7		0	0		0	100		
PHF	.250	.500	.750	.000	.000	.000	.000	.625	.625	.667

Accurate Counts
978-664-2565

File Name : 60830004
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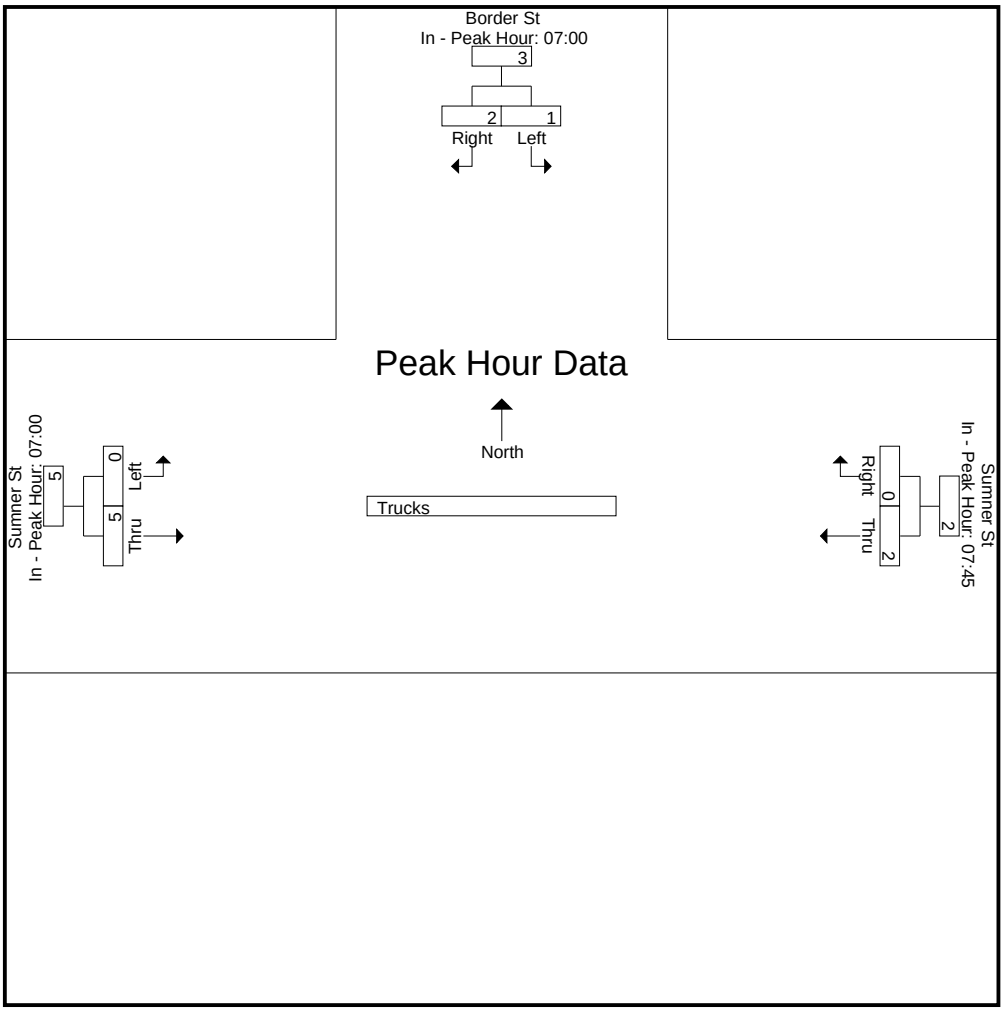
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:45			07:00		
+0 mins.	1	0	1	0	0	0	0	1	1
+15 mins.	0	1	1	1	0	1	0	2	2
+30 mins.	0	1	1	0	0	0	0	1	1
+45 mins.	0	0	0	1	0	1	0	1	1
Total Volume	1	2	3	2	0	2	0	5	5
% App. Total	33.3	66.7		100	0		0	100	
PHF	.250	.500	.750	.500	.000	.500	.000	.625	.625

Accurate Counts
978-664-2565

File Name : 60830004
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N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
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File Name : 60830004
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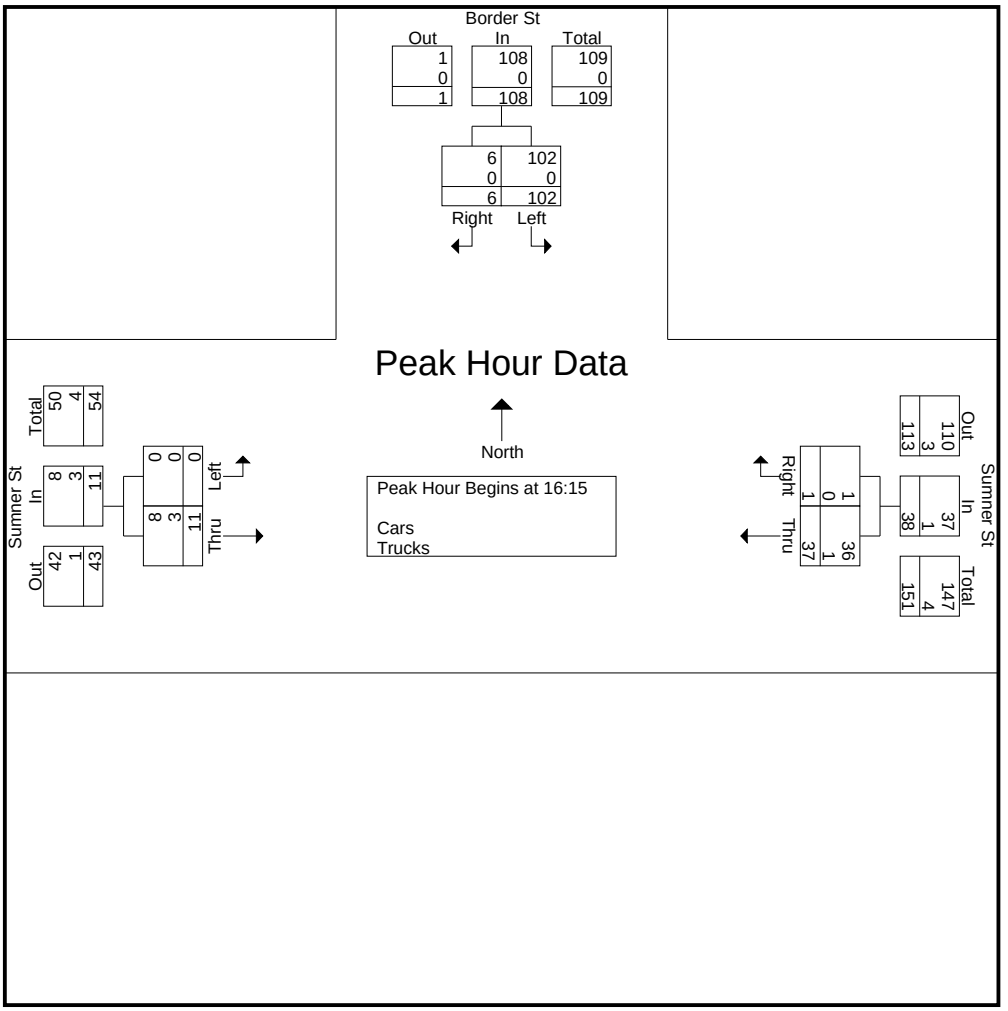
Groups Printed- Cars - Trucks

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	20	1	1	4	0	0	0	2	0	1	27	28
16:15	28	0	0	16	0	1	0	3	2	3	47	50
16:30	27	3	1	7	1	1	0	5	1	3	43	46
16:45	30	2	0	5	0	0	0	2	1	1	39	40
Total	105	6	2	32	1	2	0	12	4	8	156	164
17:00	17	1	1	9	0	0	0	1	0	1	28	29
17:15	19	1	3	11	0	3	0	3	0	6	34	40
17:30	27	1	2	9	0	0	0	5	1	3	42	45
17:45	23	1	3	3	0	2	0	4	0	5	31	36
Total	86	4	9	32	0	5	0	13	1	15	135	150
Grand Total	191	10	11	64	1	7	0	25	5	23	291	314
Apprch %	95	5		98.5	1.5		0	100				
Total %	65.6	3.4		22	0.3		0	8.6		7.3	92.7	
Cars	191	10		63	1		0	20		0	0	308
% Cars	100	100	100	98.4	100	100	0	80	100	0	0	98.1
Trucks	0	0		1	0		0	5		0	0	6
% Trucks	0	0	0	1.6	0	0	0	20	0	0	0	1.9

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	28	0	28	16	0	16	0	3	3	47
16:30	27	3	30	7	1	8	0	5	5	43
16:45	30	2	32	5	0	5	0	2	2	39
17:00	17	1	18	9	0	9	0	1	1	28
Total Volume	102	6	108	37	1	38	0	11	11	157
% App. Total	94.4	5.6		97.4	2.6		0	100		
PHF	.850	.500	.844	.578	.250	.594	.000	.550	.550	.835
Cars	102	6	108	36	1	37	0	8	8	153
% Cars	100	100	100	97.3	100	97.4	0	72.7	72.7	97.5
Trucks	0	0	0	1	0	1	0	3	3	4
% Trucks	0	0	0	2.7	0	2.6	0	27.3	27.3	2.5

Accurate Counts
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File Name : 60830004
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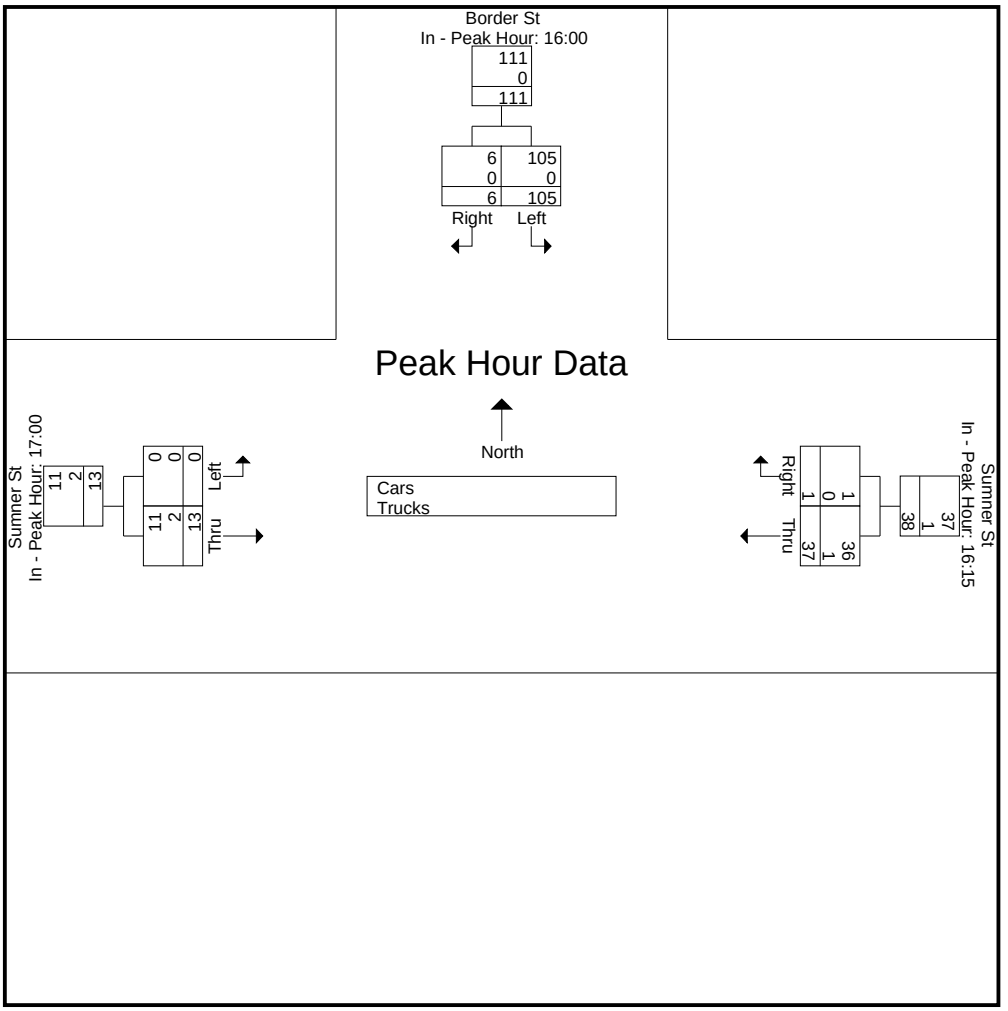
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:15			17:00		
+0 mins.	20	1	21	16	0	16	0	1	1
+15 mins.	28	0	28	7	1	8	0	3	3
+30 mins.	27	3	30	5	0	5	0	5	5
+45 mins.	30	2	32	9	0	9	0	4	4
Total Volume	105	6	111	37	1	38	0	13	13
% App. Total	94.6	5.4		97.4	2.6		0	100	
PHF	.875	.500	.867	.578	.250	.594	.000	.650	.650
Cars	105	6	111	36	1	37	0	11	11
% Cars	100	100	100	97.3	100	97.4	0	84.6	84.6
Trucks	0	0	0	1	0	1	0	2	2
% Trucks	0	0	0	2.7	0	2.6	0	15.4	15.4

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
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N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
Page No : 1

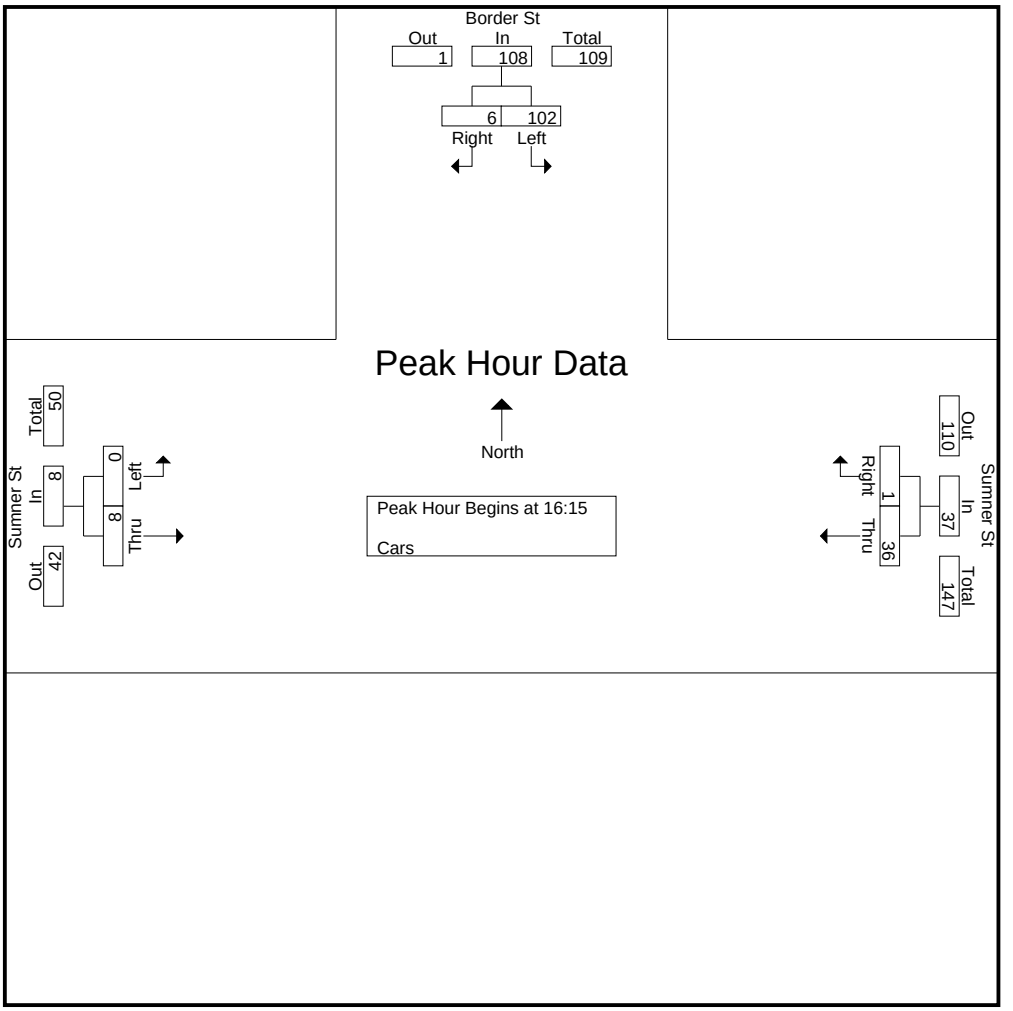
Groups Printed- Cars

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	20	1	1	4	0	0	0	2	0	1	27	28
16:15	28	0	0	16	0	1	0	2	2	3	46	49
16:30	27	3	1	6	1	1	0	4	1	3	41	44
16:45	30	2	0	5	0	0	0	1	1	1	38	39
Total	105	6	2	31	1	2	0	9	4	8	152	160
17:00	17	1	1	9	0	0	0	1	0	1	28	29
17:15	19	1	3	11	0	3	0	3	0	6	34	40
17:30	27	1	2	9	0	0	0	4	1	3	41	44
17:45	23	1	3	3	0	2	0	3	0	5	30	35
Total	86	4	9	32	0	5	0	11	1	15	133	148
Grand Total	191	10	11	63	1	7	0	20	5	23	285	308
Apprch %	95	5		98.4	1.6		0	100				
Total %	67	3.5		22.1	0.4		0	7		7.5	92.5	

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	28	0	28	16	0	16	0	2	2	46
16:30	27	3	30	6	1	7	0	4	4	41
16:45	30	2	32	5	0	5	0	1	1	38
17:00	17	1	18	9	0	9	0	1	1	28
Total Volume	102	6	108	36	1	37	0	8	8	153
% App. Total	94.4	5.6		97.3	2.7		0	100		
PHF	.850	.500	.844	.563	.250	.578	.000	.500	.500	.832

Accurate Counts
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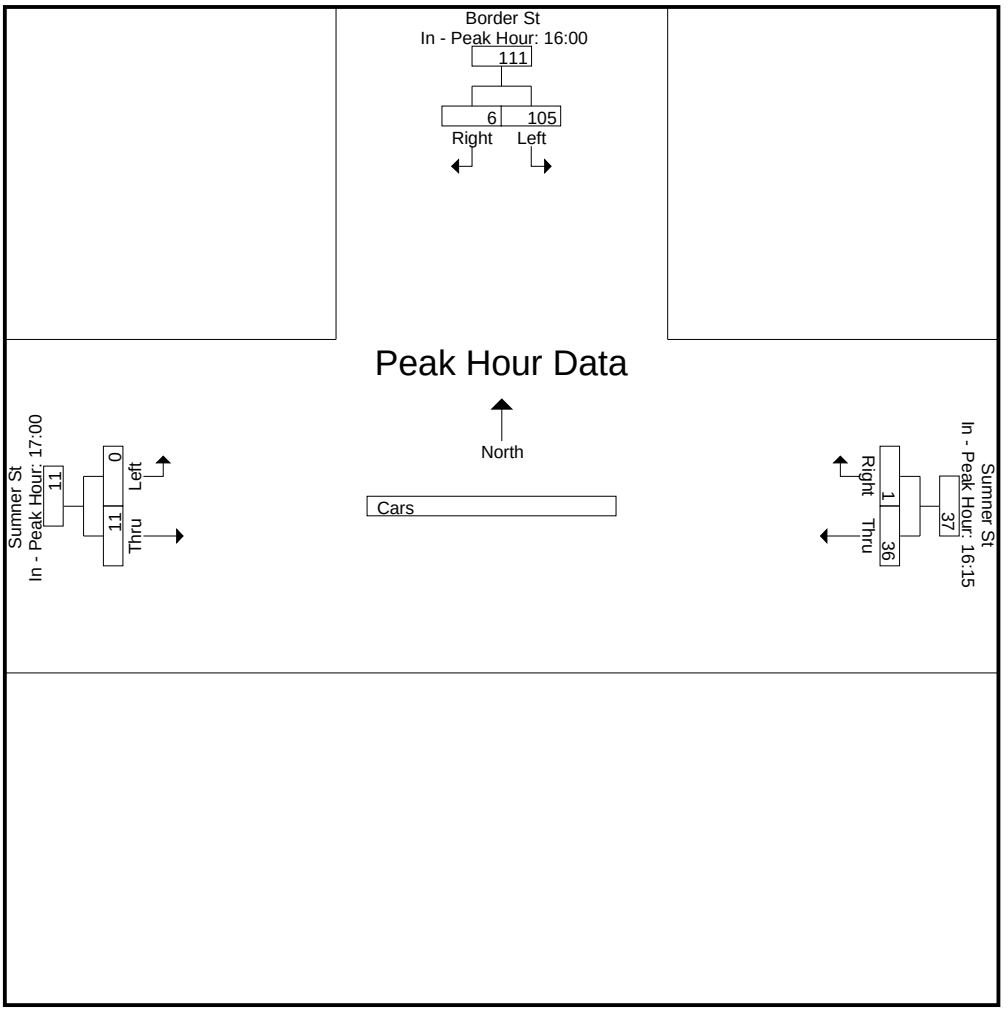
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:15			17:00		
+0 mins.	20	1	21	16	0	16	0	1	1
+15 mins.	28	0	28	6	1	7	0	3	3
+30 mins.	27	3	30	5	0	5	0	4	4
+45 mins.	30	2	32	9	0	9	0	3	3
Total Volume	105	6	111	36	1	37	0	11	11
% App. Total	94.6	5.4		97.3	2.7		0	100	
PHF	.875	.500	.867	.563	.250	.578	.000	.688	.688

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
Page No : 3



N/S Street : Border Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
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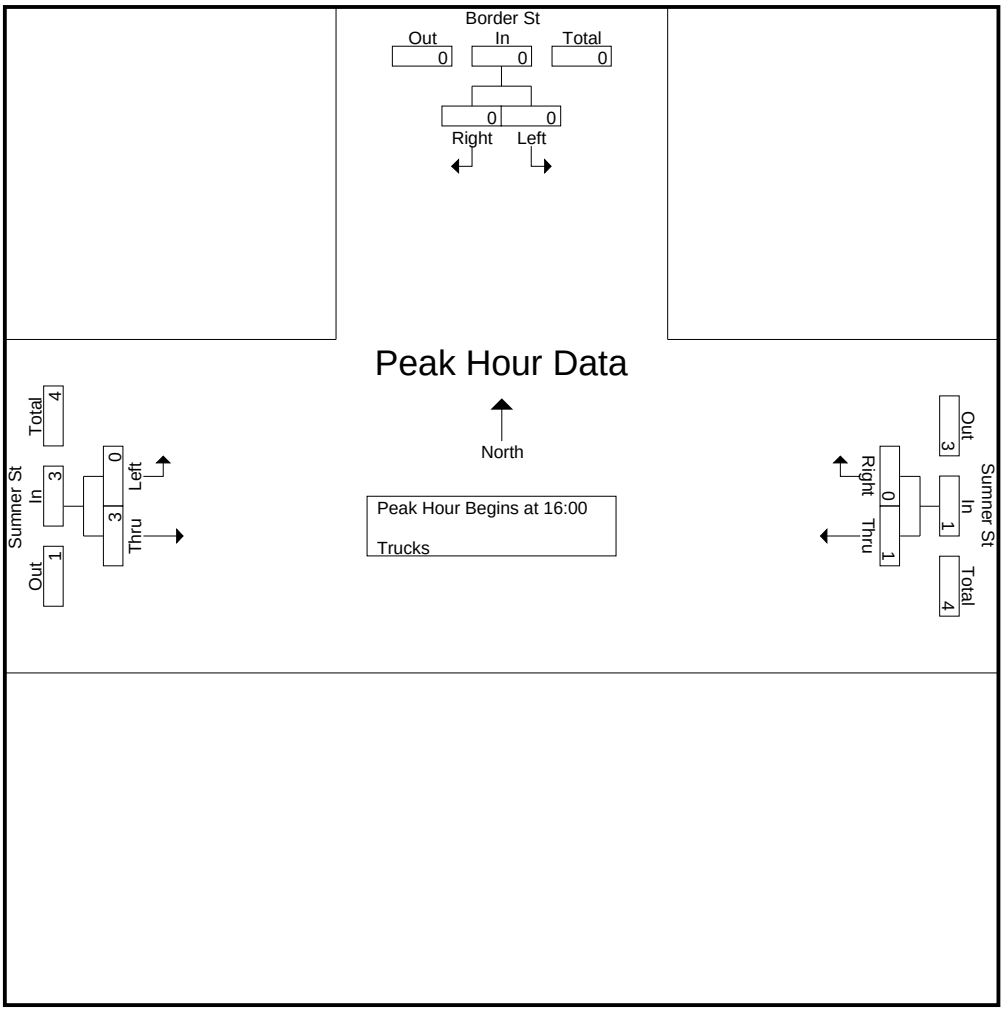
Groups Printed- Trucks

	Border St From North			Sumner St From East			Sumner St From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	1	0	0	1	1
16:30	0	0	0	1	0	0	0	1	0	0	2	2
16:45	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	1	0	0	0	3	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	0	0	0	0	0	0	0	1	0	0	1	1
17:45	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	0	0	0	1	0	0	0	5	0	0	6	6
Apprch %	0	0		100	0		0	100				
Total %	0	0		16.7	0		0	83.3		0	100	

	Border St From North			Sumner St From East			Sumner St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0
16:15	0	0	0	0	0	0	0	1	1	1
16:30	0	0	0	1	0	1	0	1	1	2
16:45	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	1	0	1	0	3	3	4
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.750	.750	.500

Accurate Counts
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File Name : 60830004
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Start Date : 1/16/2008
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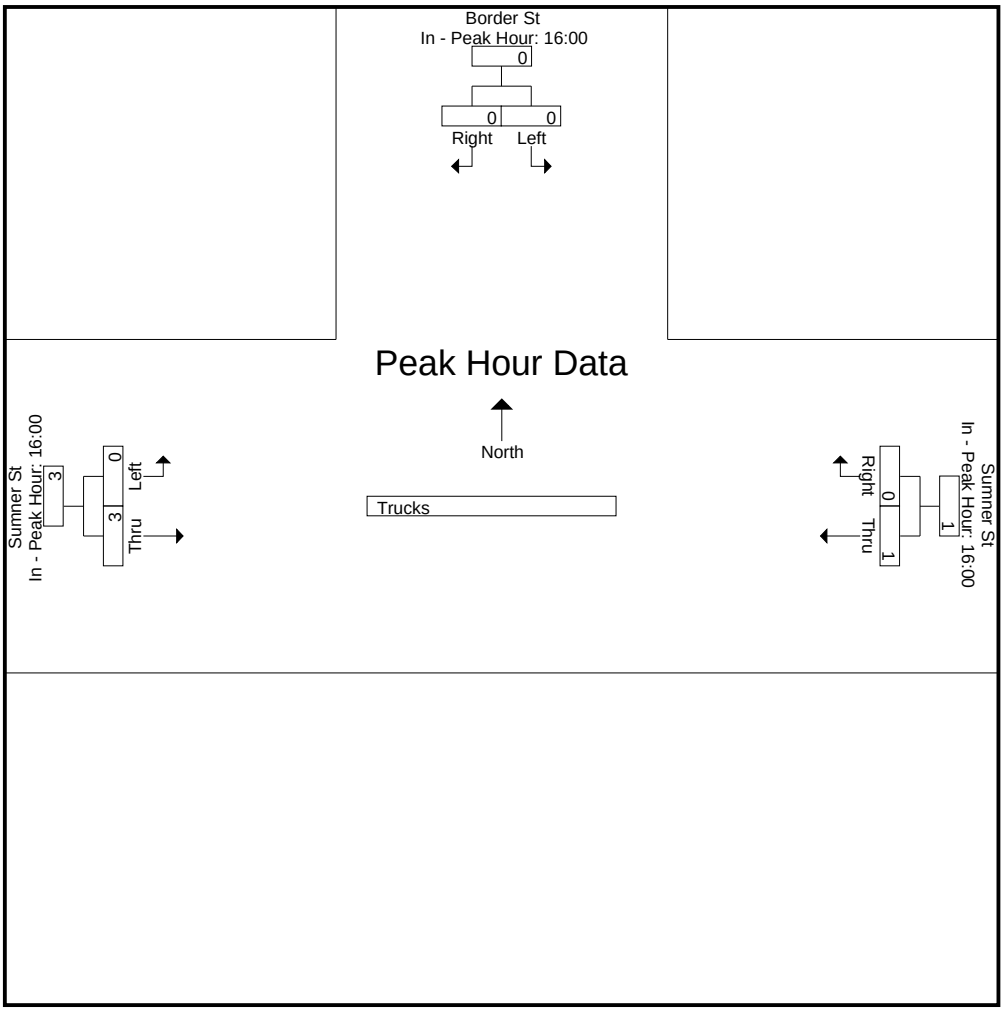


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:00		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	1	0	1	0	3	3
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.250	.000	.250	.000	.750	.750

File Name : 60830004
Site Code : 60830004
Start Date : 1/16/2008
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N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
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File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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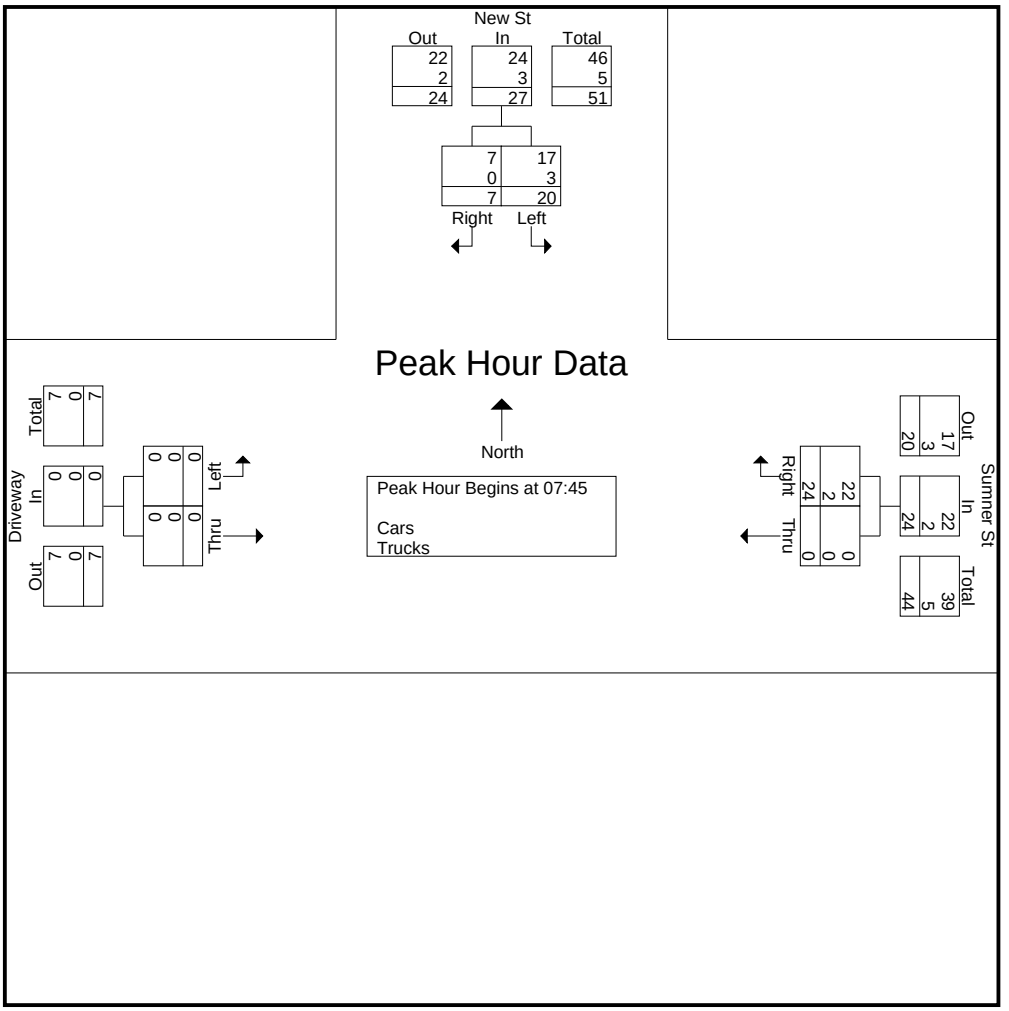
Groups Printed- Cars - Trucks

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	3	0	0	0	3	0	0	0	0	0	6	6
07:15	6	0	0	0	1	0	0	0	0	0	7	7
07:30	2	1	0	0	9	0	0	0	1	1	12	13
07:45	6	0	0	0	4	0	0	0	0	0	10	10
Total	17	1	0	0	17	0	0	0	1	1	35	36
08:00	6	1	0	0	12	1	0	0	1	2	19	21
08:15	3	4	0	0	2	1	0	0	0	1	9	10
08:30	5	2	0	0	6	0	0	0	0	0	13	13
08:45	1	3	0	0	3	0	1	0	0	0	8	8
Total	15	10	0	0	23	2	1	0	1	3	49	52
Grand Total	32	11	0	0	40	2	1	0	2	4	84	88
Apprch %	74.4	25.6		0	100		100	0				
Total %	38.1	13.1		0	47.6		1.2	0		4.5	95.5	
Cars	25	11		0	36		1	0		0	0	77
% Cars	78.1	100	0	0	90	100	100	0	100	0	0	87.5
Trucks	7	0		0	4		0	0		0	0	11
% Trucks	21.9	0	0	0	10	0	0	0	0	0	0	12.5

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	6	0	6	0	4	4	0	0	0	10
08:00	6	1	7	0	12	12	0	0	0	19
08:15	3	4	7	0	2	2	0	0	0	9
08:30	5	2	7	0	6	6	0	0	0	13
Total Volume	20	7	27	0	24	24	0	0	0	51
% App. Total	74.1	25.9		0	100		0	0		
PHF	.833	.438	.964	.000	.500	.500	.000	.000	.000	.671
Cars	17	7	24	0	22	22	0	0	0	46
% Cars	85.0	100	88.9	0	91.7	91.7	0	0	0	90.2
Trucks	3	0	3	0	2	2	0	0	0	5
% Trucks	15.0	0	11.1	0	8.3	8.3	0	0	0	9.8

Accurate Counts
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File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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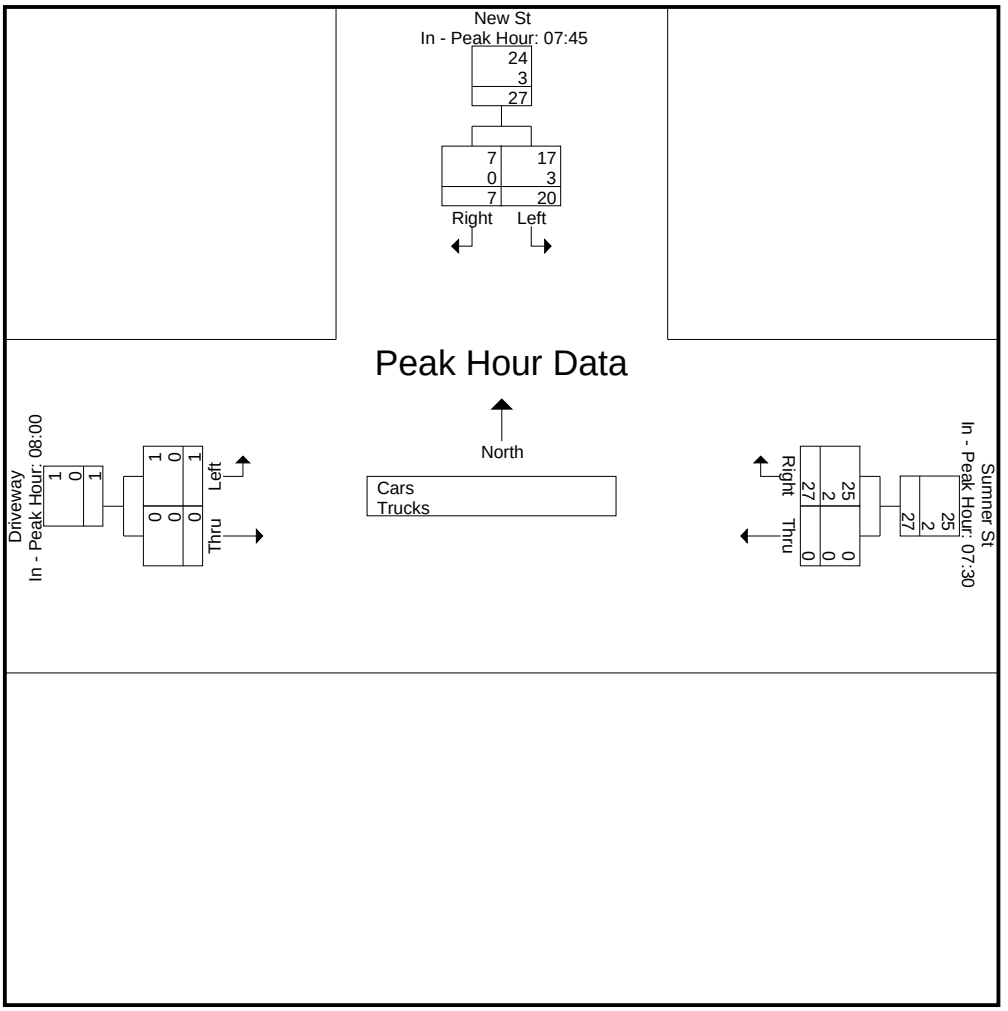
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45			07:30			08:00		
+0 mins.	6	0	6	0	9	9	0	0	0
+15 mins.	6	1	7	0	4	4	0	0	0
+30 mins.	3	4	7	0	12	12	0	0	0
+45 mins.	5	2	7	0	2	2	1	0	1
Total Volume	20	7	27	0	27	27	1	0	1
% App. Total	74.1	25.9		0	100		100	0	
PHF	.833	.438	.964	.000	.563	.563	.250	.000	.250
Cars	17	7	24	0	25	25	1	0	1
% Cars	85	100	88.9	0	92.6	92.6	100	0	100
Trucks	3	0	3	0	2	2	0	0	0
% Trucks	15	0	11.1	0	7.4	7.4	0	0	0

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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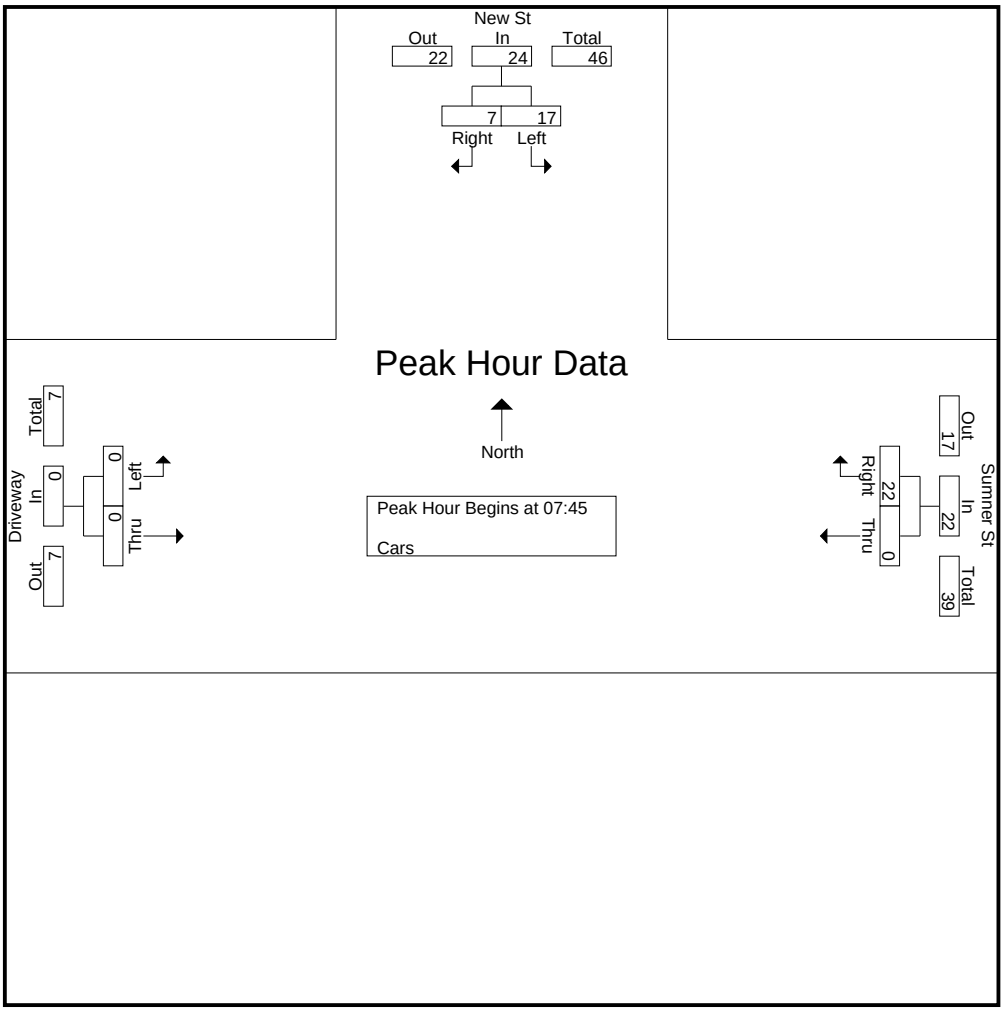
Groups Printed- Cars

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	2	0	0	0	3	0	0	0	0	0	5	5
07:15	4	0	0	0	0	0	0	0	0	0	4	4
07:30	1	1	0	0	8	0	0	0	1	1	10	11
07:45	6	0	0	0	4	0	0	0	0	0	10	10
Total	13	1	0	0	15	0	0	0	1	1	29	30
08:00	5	1	0	0	11	1	0	0	1	2	17	19
08:15	2	4	0	0	2	1	0	0	0	1	8	9
08:30	4	2	0	0	5	0	0	0	0	0	11	11
08:45	1	3	0	0	3	0	1	0	0	0	8	8
Total	12	10	0	0	21	2	1	0	1	3	44	47
Grand Total	25	11	0	0	36	2	1	0	2	4	73	77
Apprch %	69.4	30.6		0	100		100	0				
Total %	34.2	15.1		0	49.3		1.4	0		5.2	94.8	

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	6	0	6	0	4	4	0	0	0	10
08:00	5	1	6	0	11	11	0	0	0	17
08:15	2	4	6	0	2	2	0	0	0	8
08:30	4	2	6	0	5	5	0	0	0	11
Total Volume	17	7	24	0	22	22	0	0	0	46
% App. Total	70.8	29.2		0	100		0	0		
PHF	.708	.438	1.000	.000	.500	.500	.000	.000	.000	.676

Accurate Counts
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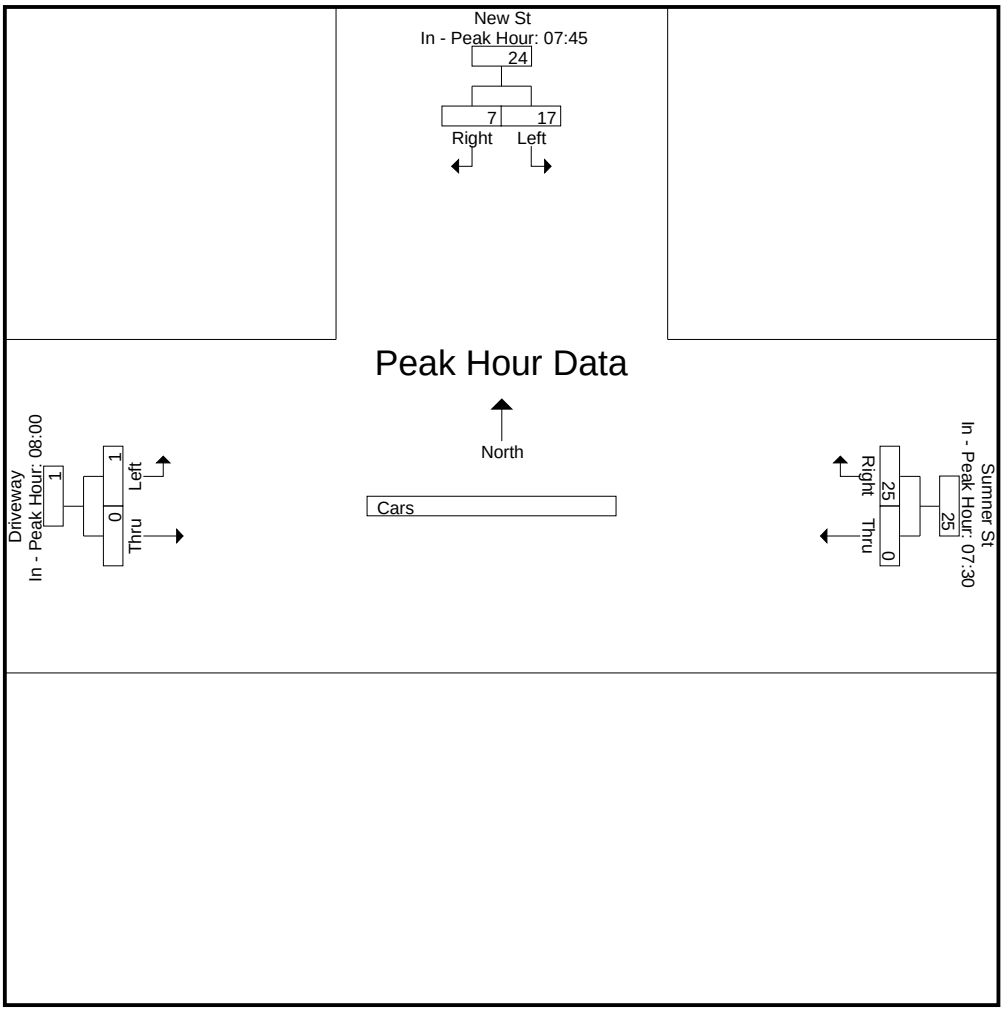
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45			07:30			08:00		
+0 mins.	6	0	6	0	8	8	0	0	0
+15 mins.	5	1	6	0	4	4	0	0	0
+30 mins.	2	4	6	0	11	11	0	0	0
+45 mins.	4	2	6	0	2	2	1	0	1
Total Volume	17	7	24	0	25	25	1	0	1
% App. Total	70.8	29.2		0	100		100	0	
PHF	.708	.438	1.000	.000	.568	.568	.250	.000	.250

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830005
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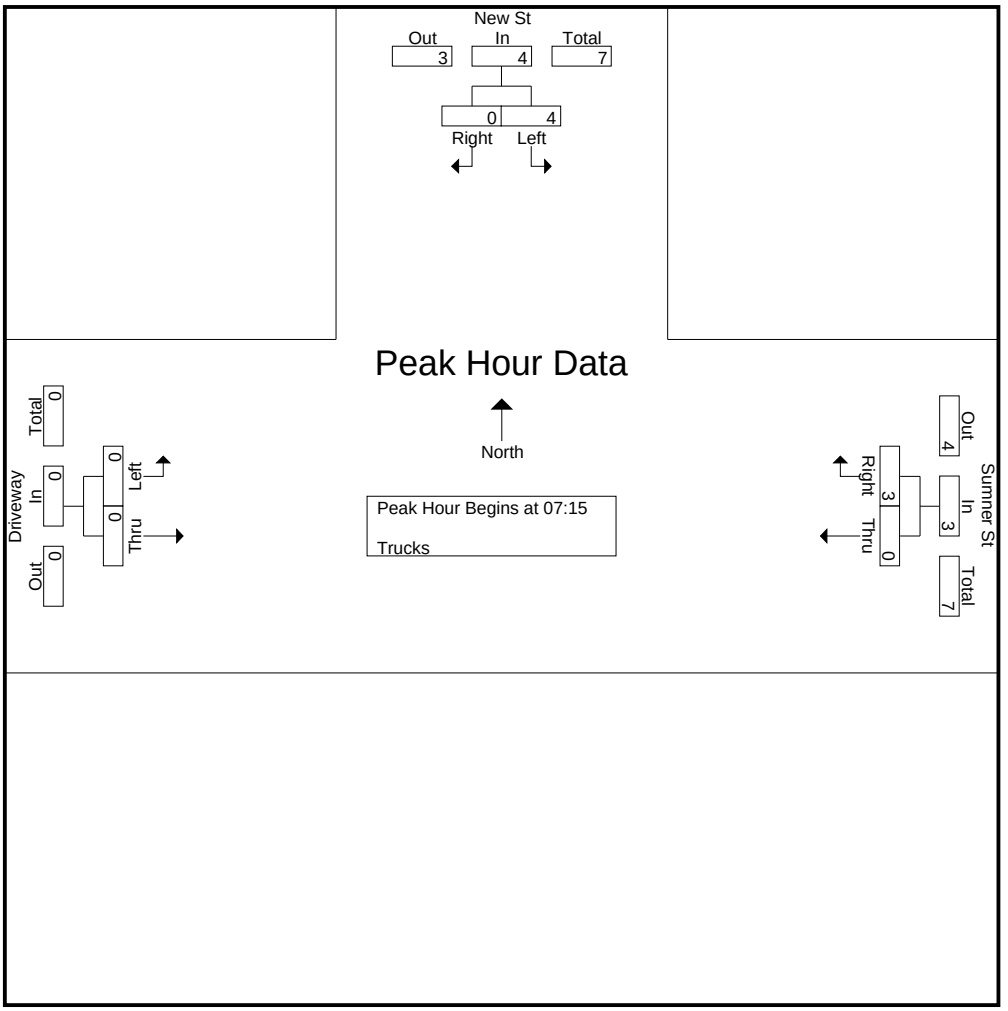
Groups Printed- Trucks

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
07:00	1	0	0	0	0	0	0	0	0	0	1	1
07:15	2	0	0	0	1	0	0	0	0	0	3	3
07:30	1	0	0	0	1	0	0	0	0	0	2	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	0	0	0	2	0	0	0	0	0	6	6
08:00	1	0	0	0	1	0	0	0	0	0	2	2
08:15	1	0	0	0	0	0	0	0	0	0	1	1
08:30	1	0	0	0	1	0	0	0	0	0	2	2
08:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	2	0	0	0	0	0	5	5
Grand Total	7	0	0	0	4	0	0	0	0	0	11	11
Apprch %	100	0		0	100		0	0				
Total %	63.6	0		0	36.4		0	0		0	100	

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	0	2	0	1	1	0	0	0	3
07:30	1	0	1	0	1	1	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0
08:00	1	0	1	0	1	1	0	0	0	2
Total Volume	4	0	4	0	3	3	0	0	0	7
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.750	.750	.000	.000	.000	.583

Accurate Counts
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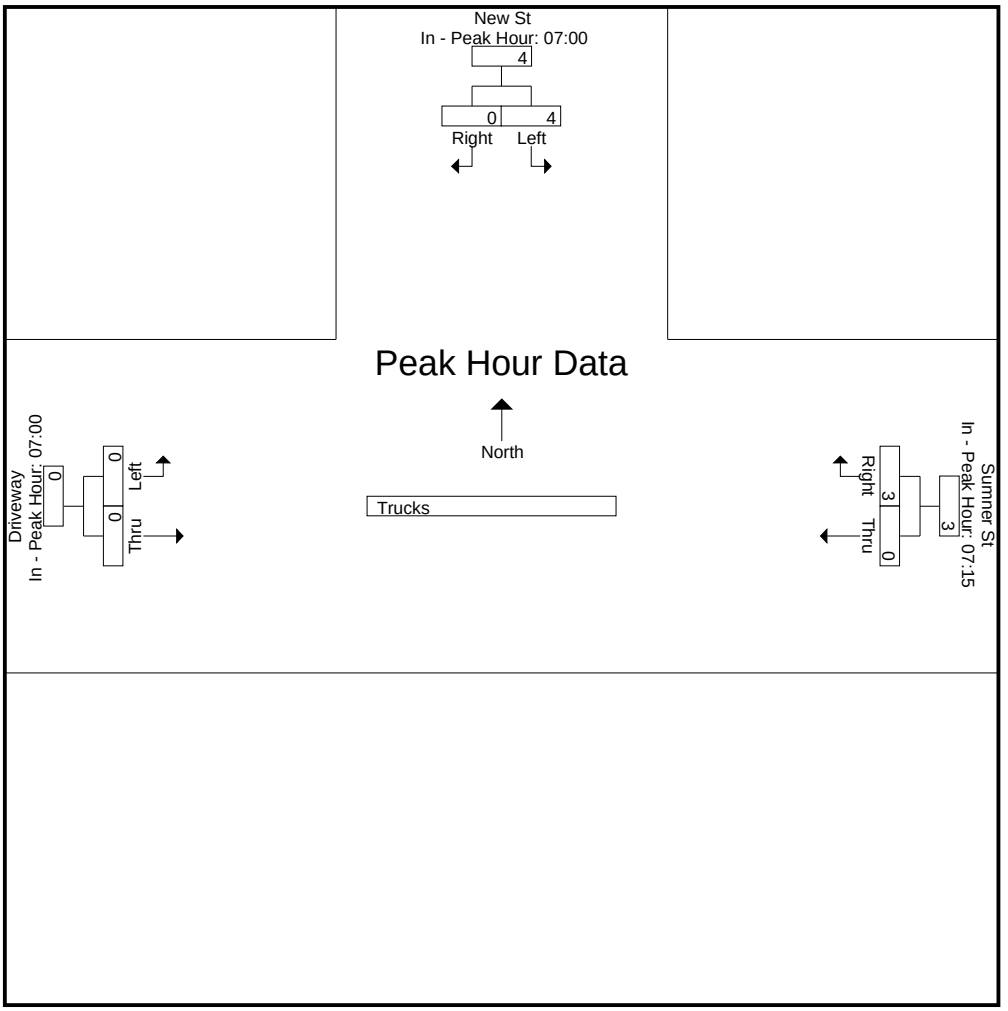
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:15			07:00		
+0 mins.	1	0	1	0	1	1	0	0	0
+15 mins.	2	0	2	0	1	1	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	4	0	4	0	3	3	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.750	.750	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830005
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N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
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File Name : 60830005
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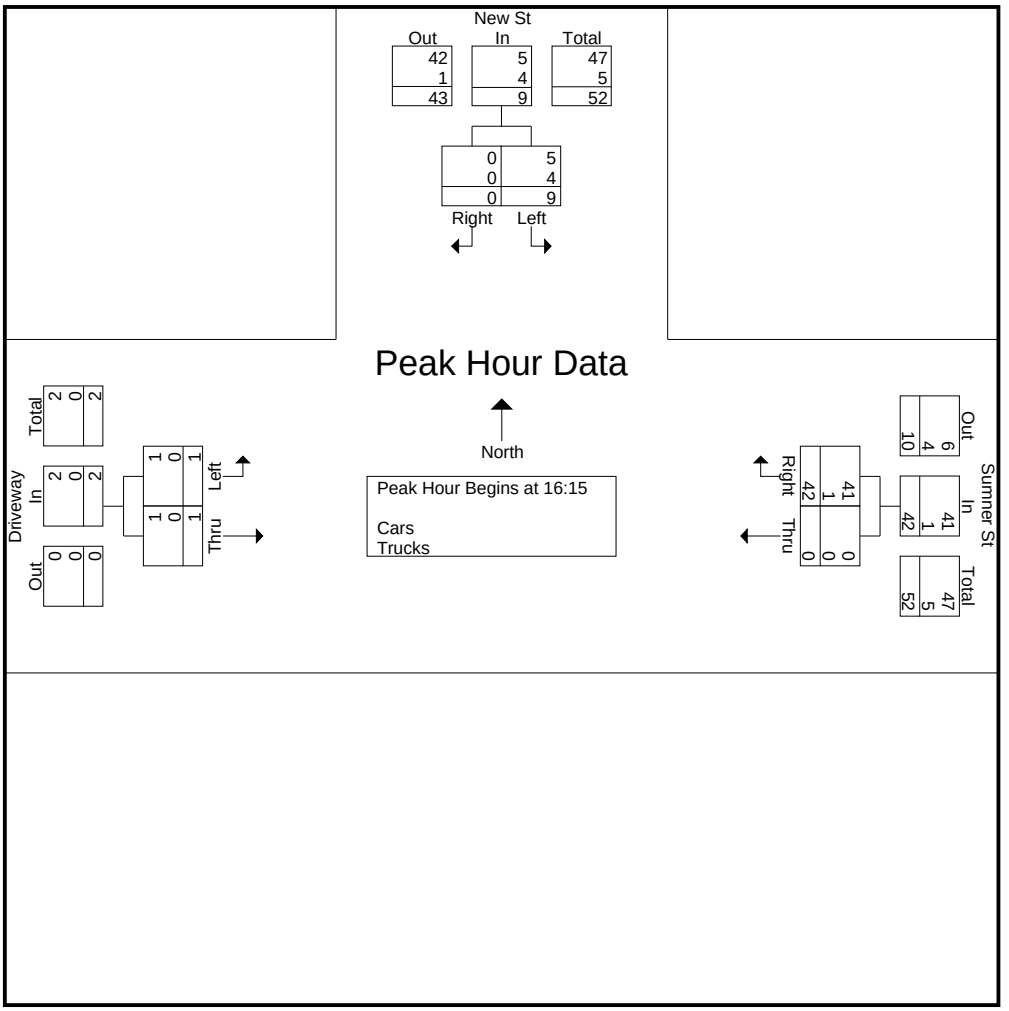
Groups Printed- Cars - Trucks

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	2	0	0	0	4	1	0	0	0	1	6	7
16:15	3	0	0	0	14	0	1	1	0	0	19	19
16:30	3	0	0	0	9	0	0	0	0	0	12	12
16:45	2	0	0	0	9	0	0	0	0	0	11	11
Total	10	0	0	0	36	1	1	1	0	1	48	49
17:00	1	0	0	0	10	0	0	0	0	0	11	11
17:15	3	0	0	0	11	0	0	0	0	0	14	14
17:30	4	0	0	0	10	2	1	0	0	2	15	17
17:45	2	0	0	0	4	0	0	1	0	0	7	7
Total	10	0	0	0	35	2	1	1	0	2	47	49
Grand Total	20	0	0	0	71	3	2	2	0	3	95	98
Apprch %	100	0		0	100		50	50				
Total %	21.1	0		0	74.7		2.1	2.1		3.1	96.9	
Cars	14	0		0	70		2	2		0	0	91
% Cars	70	0	0	0	98.6	100	100	100	0	0	0	92.9
Trucks	6	0		0	1		0	0		0	0	7
% Trucks	30	0	0	0	1.4	0	0	0	0	0	0	7.1

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	3	0	3	0	14	14	1	1	2	19
16:30	3	0	3	0	9	9	0	0	0	12
16:45	2	0	2	0	9	9	0	0	0	11
17:00	1	0	1	0	10	10	0	0	0	11
Total Volume	9	0	9	0	42	42	1	1	2	53
% App. Total	100	0		0	100		50	50		
PHF	.750	.000	.750	.000	.750	.750	.250	.250	.250	.697
Cars	5	0	5	0	41	41	1	1	2	48
% Cars	55.6	0	55.6	0	97.6	97.6	100	100	100	90.6
Trucks	4	0	4	0	1	1	0	0	0	5
% Trucks	44.4	0	44.4	0	2.4	2.4	0	0	0	9.4

Accurate Counts
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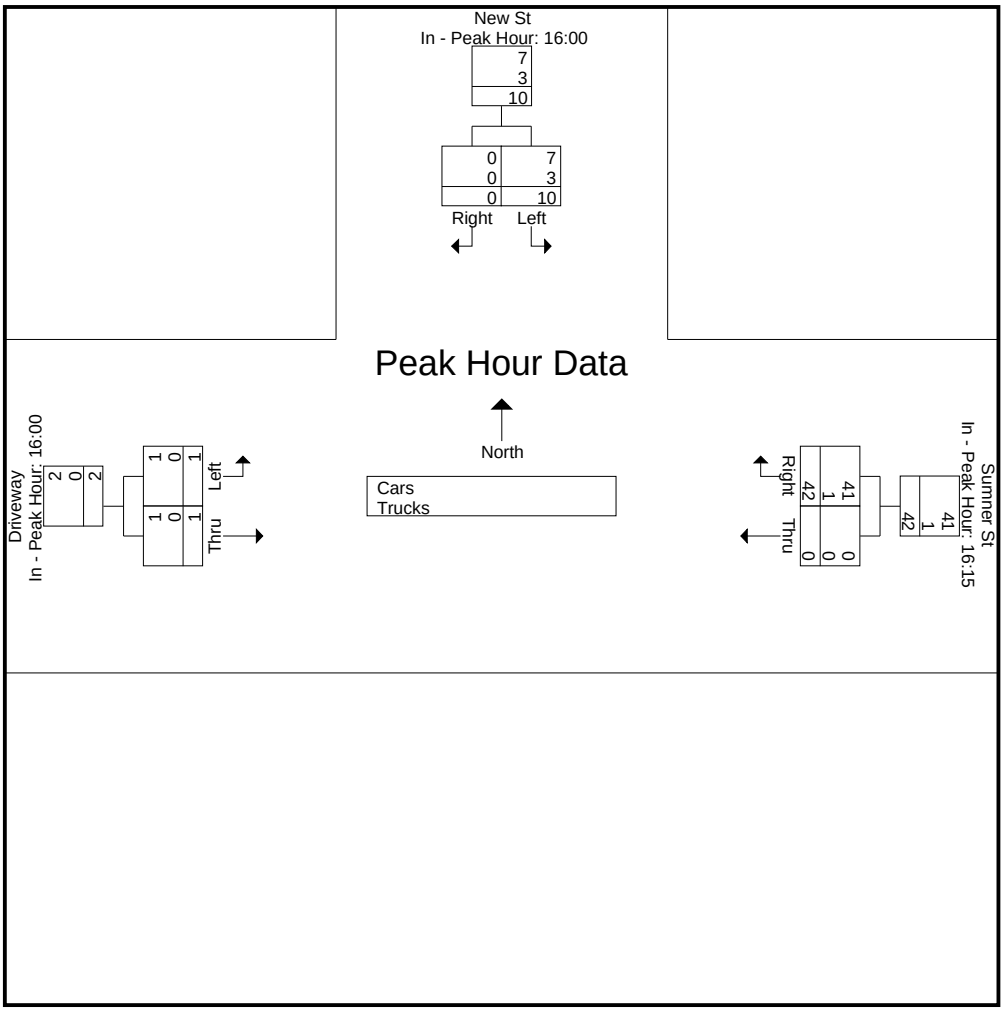


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:15			16:00		
+0 mins.	2	0	2	0	14	14	0	0	0
+15 mins.	3	0	3	0	9	9	1	1	2
+30 mins.	3	0	3	0	9	9	0	0	0
+45 mins.	2	0	2	0	10	10	0	0	0
Total Volume	10	0	10	0	42	42	1	1	2
% App. Total	100	0		0	100		50	50	
PHF	.833	.000	.833	.000	.750	.750	.250	.250	.250
Cars	7	0	7	0	41	41	1	1	2
% Cars	70	0	70	0	97.6	97.6	100	100	100
Trucks	3	0	3	0	1	1	0	0	0
% Trucks	30	0	30	0	2.4	2.4	0	0	0

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
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N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 1

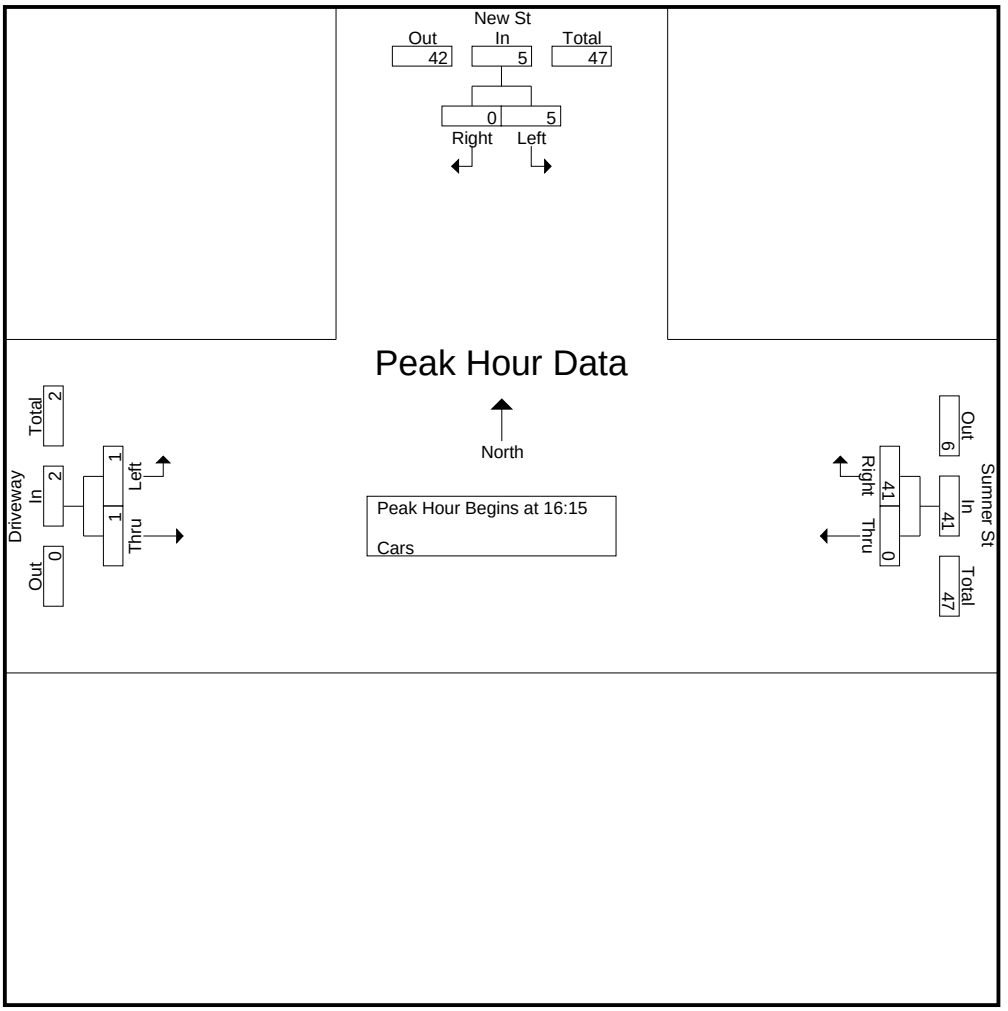
Groups Printed- Cars

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	2	0	0	0	4	1	0	0	0	1	6	7
16:15	2	0	0	0	14	0	1	1	0	0	18	18
16:30	2	0	0	0	8	0	0	0	0	0	10	10
16:45	1	0	0	0	9	0	0	0	0	0	10	10
Total	7	0	0	0	35	1	1	1	0	1	44	45
17:00	0	0	0	0	10	0	0	0	0	0	10	10
17:15	3	0	0	0	11	0	0	0	0	0	14	14
17:30	3	0	0	0	10	2	1	0	0	2	14	16
17:45	1	0	0	0	4	0	0	1	0	0	6	6
Total	7	0	0	0	35	2	1	1	0	2	44	46
Grand Total	14	0	0	0	70	3	2	2	0	3	88	91
Apprch %	100	0		0	100		50	50				
Total %	15.9	0		0	79.5		2.3	2.3		3.3	96.7	

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	2	0	2	0	14	14	1	1	2	18
16:30	2	0	2	0	8	8	0	0	0	10
16:45	1	0	1	0	9	9	0	0	0	10
17:00	0	0	0	0	10	10	0	0	0	10
Total Volume	5	0	5	0	41	41	1	1	2	48
% App. Total	100	0		0	100		50	50		
PHF	.625	.000	.625	.000	.732	.732	.250	.250	.250	.667

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 2



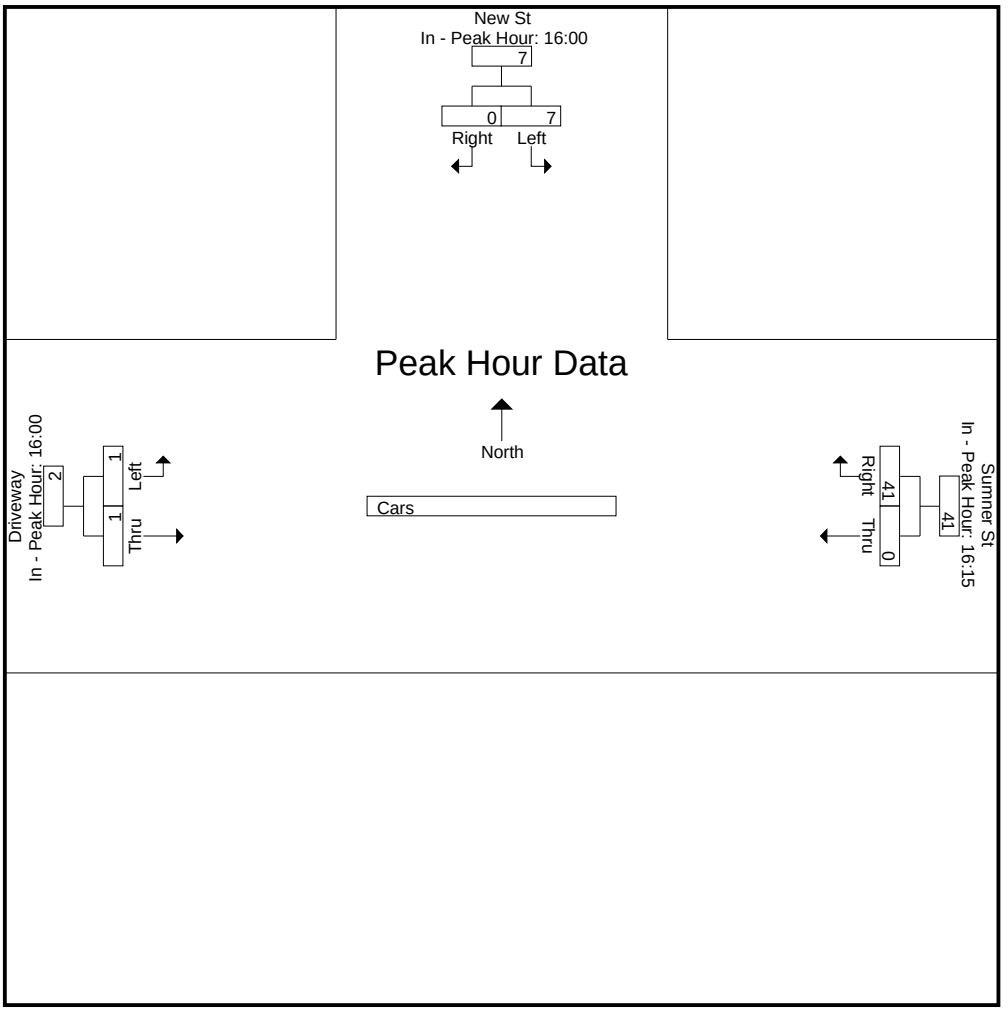
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:15			16:00		
+0 mins.	2	0	2	0	14	14	0	0	0
+15 mins.	2	0	2	0	8	8	1	1	2
+30 mins.	2	0	2	0	9	9	0	0	0
+45 mins.	1	0	1	0	10	10	0	0	0
Total Volume	7	0	7	0	41	41	1	1	2
% App. Total	100	0		0	100		50	50	
PHF	.875	.000	.875	.000	.732	.732	.250	.250	.250

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 3



N/S Street : New Street
E/W Street: Sumner Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 1

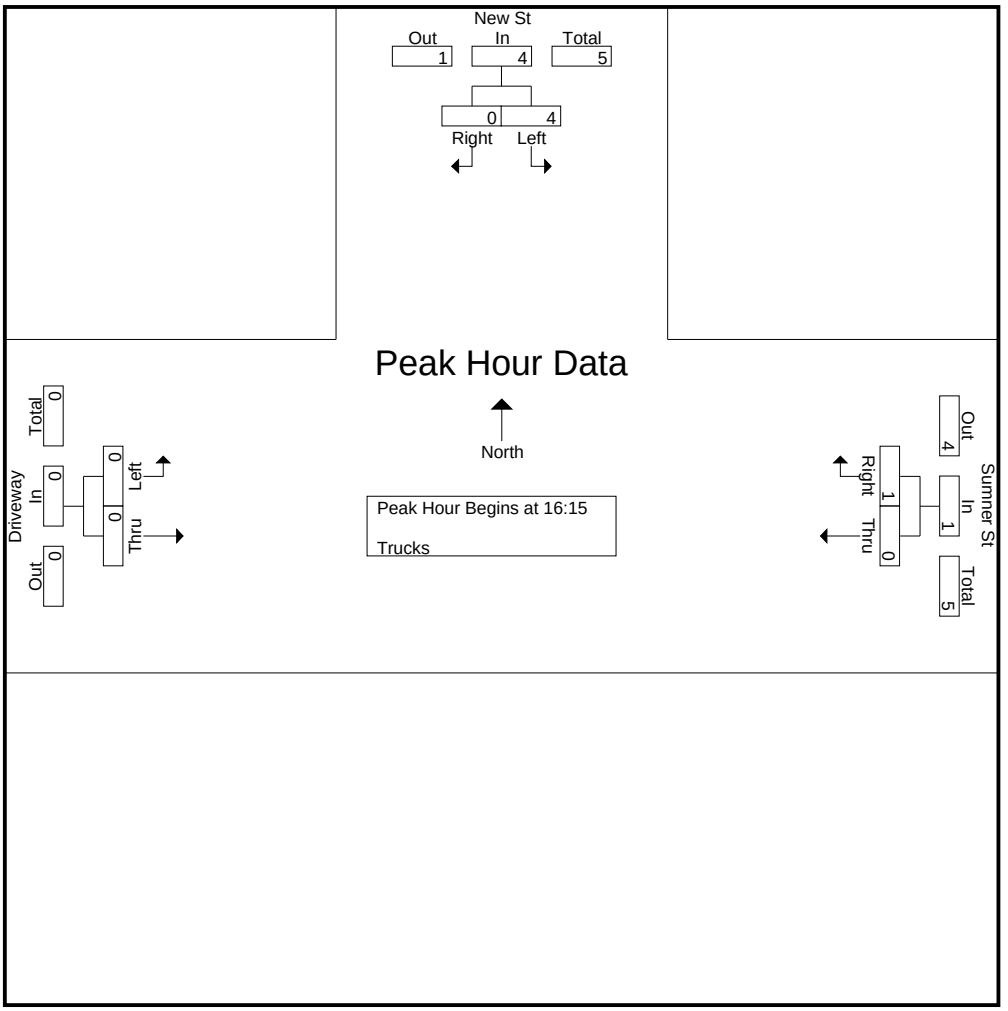
Groups Printed- Trucks

	New St From North			Sumner St From East			Driveway From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0	0	0	1	1
16:30	1	0	0	0	1	0	0	0	0	0	2	2
16:45	1	0	0	0	0	0	0	0	0	0	1	1
Total	3	0	0	0	1	0	0	0	0	0	4	4
17:00	1	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0	0	0	1	1
17:45	1	0	0	0	0	0	0	0	0	0	1	1
Total	3	0	0	0	0	0	0	0	0	0	3	3
Grand Total	6	0	0	0	1	0	0	0	0	0	7	7
Apprch %	100	0		0	100		0	0				
Total %	85.7	0		0	14.3		0	0		0	100	

	New St From North			Sumner St From East			Driveway From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	1	0	1	0	0	0	0	0	0	1
16:30	1	0	1	0	1	1	0	0	0	2
16:45	1	0	1	0	0	0	0	0	0	1
17:00	1	0	1	0	0	0	0	0	0	1
Total Volume	4	0	4	0	1	1	0	0	0	5
% App. Total	100	0		0	100		0	0		
PHF	1.000	.000	1.000	.000	.250	.250	.000	.000	.000	.625

Accurate Counts
978-664-2565

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 2

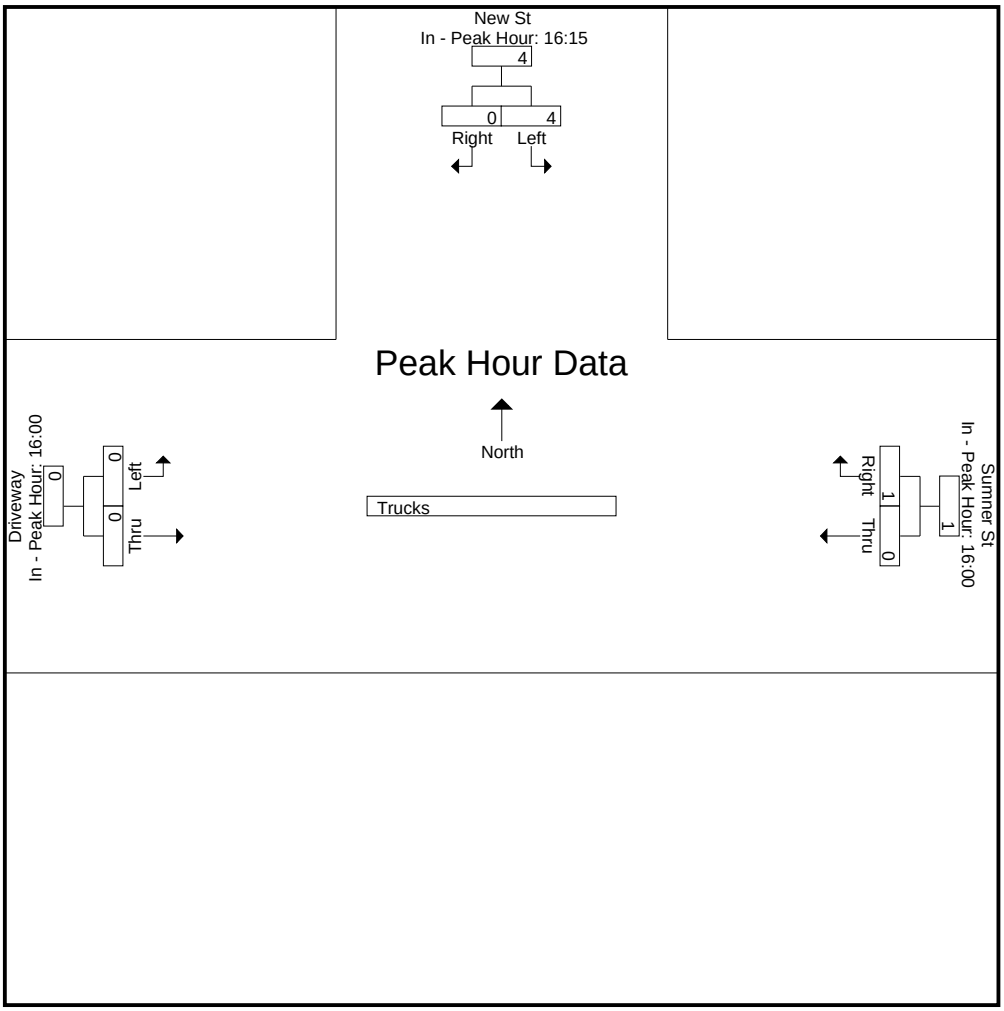


Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15			16:00			16:00		
+0 mins.	1	0	1	0	0	0	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	4	0	4	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	1.000	.000	1.000	.000	.250	.250	.000	.000	.000

File Name : 60830005
Site Code : 60830005
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 1

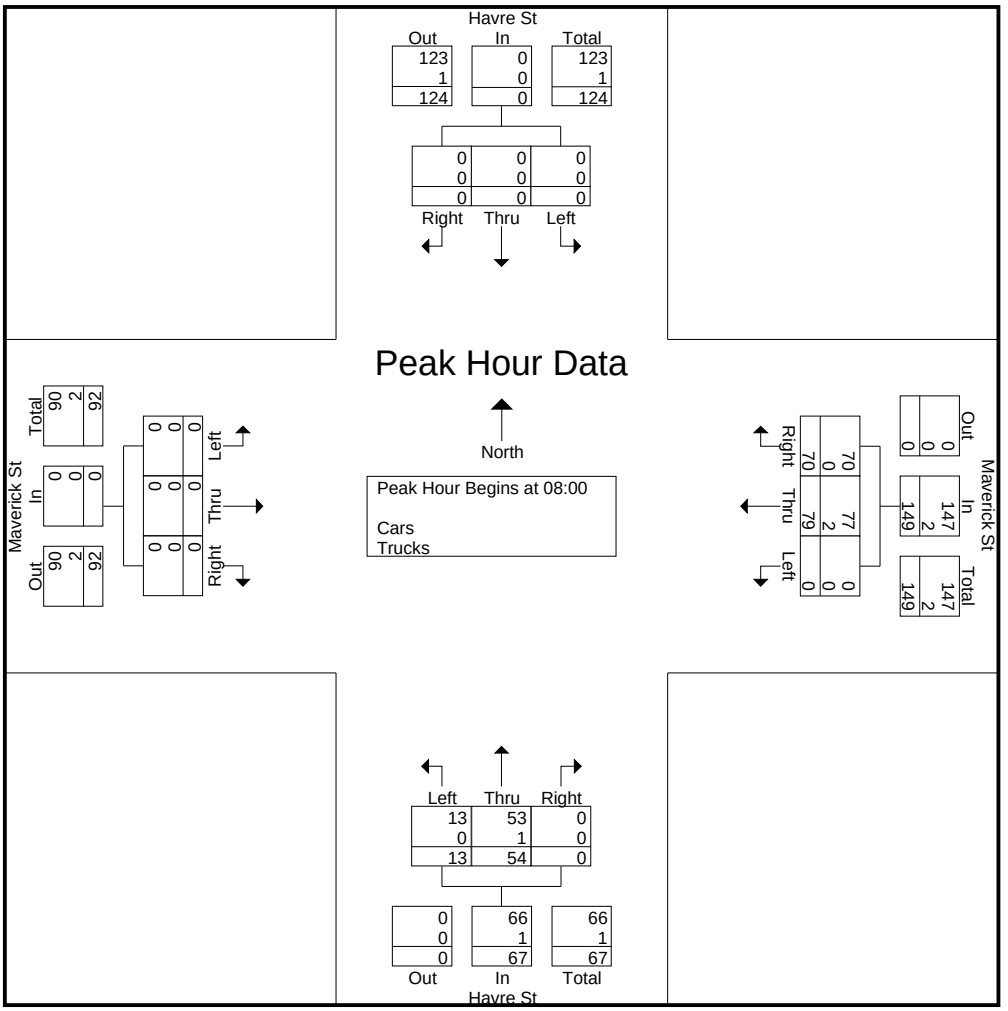
Groups Printed- Cars - Trucks

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	3	0	14	7	2	4	8	0	6	0	0	0	0	11	33	44
07:15	0	0	0	0	0	14	5	2	2	8	0	1	0	0	0	0	3	29	32
07:30	0	0	0	4	0	17	9	1	2	7	0	3	0	0	0	0	8	35	43
07:45	0	0	0	1	0	13	9	1	4	16	0	0	0	0	0	0	2	42	44
Total	0	0	0	8	0	58	30	6	12	39	0	10	0	0	0	0	24	139	163
08:00	0	0	0	2	0	28	30	2	4	16	0	3	0	0	0	0	7	78	85
08:15	0	0	0	1	0	22	11	3	7	14	0	5	0	0	0	0	9	54	63
08:30	0	0	0	0	0	14	13	5	0	11	0	8	0	0	0	0	13	38	51
08:45	0	0	0	4	0	15	16	9	2	13	0	9	0	0	0	0	22	46	68
Total	0	0	0	7	0	79	70	19	13	54	0	25	0	0	0	0	51	216	267
Grand Total	0	0	0	15	0	137	100	25	25	93	0	35	0	0	0	0	75	355	430
Apprch %	0	0	0		0	57.8	42.2		21.2	78.8	0		0	0	0				
Total %	0	0	0		0	38.6	28.2		7	26.2	0		0	0	0		17.4	82.6	
Cars	0	0	0		0	135	98		25	92	0		0	0	0		0	0	425
% Cars	0	0	0	100	0	98.5	98	100	100	98.9	0	100	0	0	0	0	0	0	98.8
Trucks	0	0	0		0	2	2		0	1	0		0	0	0		0	0	5
% Trucks	0	0	0	0	0	1.5	2	0	0	1.1	0	0	0	0	0	0	0	0	1.2

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	28	30	58	4	16	0	20	0	0	0	0	78
08:15	0	0	0	0	0	22	11	33	7	14	0	21	0	0	0	0	54
08:30	0	0	0	0	0	14	13	27	0	11	0	11	0	0	0	0	38
08:45	0	0	0	0	0	15	16	31	2	13	0	15	0	0	0	0	46
Total Volume	0	0	0	0	0	79	70	149	13	54	0	67	0	0	0	0	216
% App. Total	0	0	0		0	53	47		19.4	80.6	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.705	.583	.642	.464	.844	.000	.798	.000	.000	.000	.000	.692
Cars	0	0	0	0	0	77	70	147	13	53	0	66	0	0	0	0	213
% Cars	0	0	0	0	0	97.5	100	98.7	100	98.1	0	98.5	0	0	0	0	98.6
Trucks	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
% Trucks	0	0	0	0	0	2.5	0	1.3	0	1.9	0	1.5	0	0	0	0	1.4

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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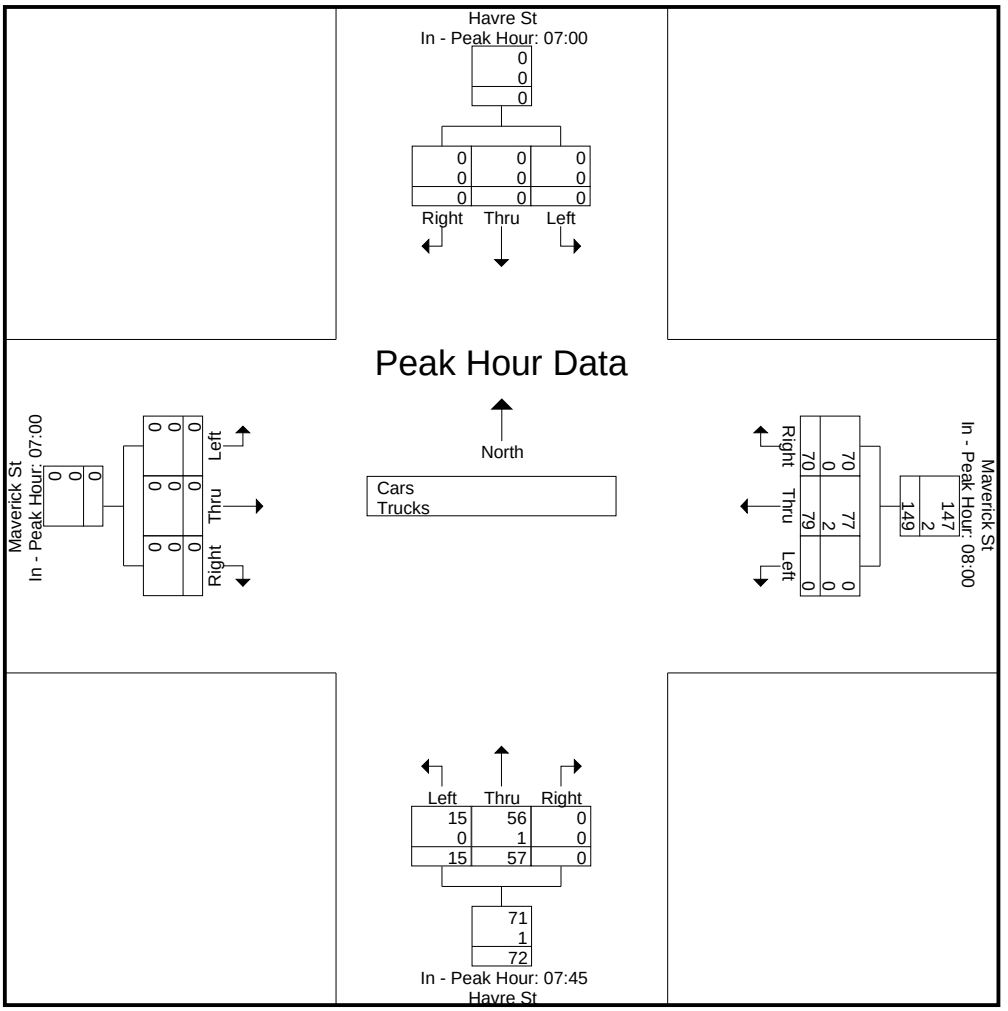
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				08:00				07:45				07:00			
+0 mins.	0	0	0	0	0	28	30	58	4	16	0	20	0	0	0	0
+15 mins.	0	0	0	0	0	22	11	33	4	16	0	20	0	0	0	0
+30 mins.	0	0	0	0	0	14	13	27	7	14	0	21	0	0	0	0
+45 mins.	0	0	0	0	0	15	16	31	0	11	0	11	0	0	0	0
Total Volume	0	0	0	0	0	79	70	149	15	57	0	72	0	0	0	0
% App. Total	0	0	0		0	53	47		20.8	79.2	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.705	.583	.642	.536	.891	.000	.857	.000	.000	.000	.000
Cars	0	0	0	0	0	77	70	147	15	56	0	71	0	0	0	0
% Cars	0	0	0	0	0	97.5	100	98.7	100	98.2	0	98.6	0	0	0	0
Trucks	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0
% Trucks	0	0	0	0	0	2.5	0	1.3	0	1.8	0	1.4	0	0	0	0

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 1

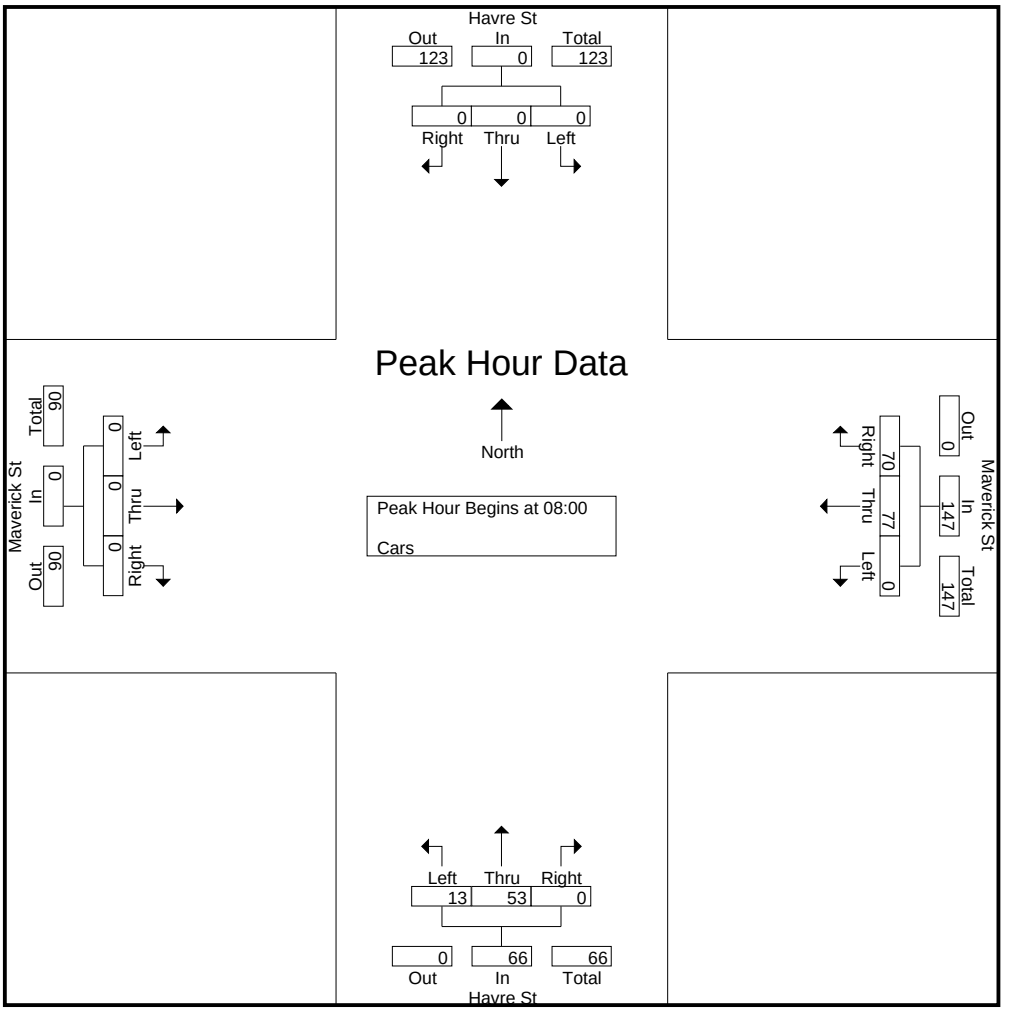
Groups Printed- Cars

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	3	0	14	7	2	4	8	0	6	0	0	0	0	11	33	44
07:15	0	0	0	0	0	14	3	2	2	8	0	1	0	0	0	0	3	27	30
07:30	0	0	0	4	0	17	9	1	2	7	0	3	0	0	0	0	8	35	43
07:45	0	0	0	1	0	13	9	1	4	16	0	0	0	0	0	0	2	42	44
Total	0	0	0	8	0	58	28	6	12	39	0	10	0	0	0	0	24	137	161
08:00	0	0	0	2	0	27	30	2	4	15	0	3	0	0	0	0	7	76	83
08:15	0	0	0	1	0	22	11	3	7	14	0	5	0	0	0	0	9	54	63
08:30	0	0	0	0	0	13	13	5	0	11	0	8	0	0	0	0	13	37	50
08:45	0	0	0	4	0	15	16	9	2	13	0	9	0	0	0	0	22	46	68
Total	0	0	0	7	0	77	70	19	13	53	0	25	0	0	0	0	51	213	264
Grand Total	0	0	0	15	0	135	98	25	25	92	0	35	0	0	0	0	75	350	425
Apprch %	0	0	0		0	57.9	42.1		21.4	78.6	0		0	0	0				
Total %	0	0	0		0	38.6	28		7.1	26.3	0		0	0	0		17.6	82.4	

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	27	30	57	4	15	0	19	0	0	0	0	76
08:15	0	0	0	0	0	22	11	33	7	14	0	21	0	0	0	0	54
08:30	0	0	0	0	0	13	13	26	0	11	0	11	0	0	0	0	37
08:45	0	0	0	0	0	15	16	31	2	13	0	15	0	0	0	0	46
Total Volume	0	0	0	0	0	77	70	147	13	53	0	66	0	0	0	0	213
% App. Total	0	0	0		0	52.4	47.6		19.7	80.3	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.713	.583	.645	.464	.883	.000	.786	.000	.000	.000	.000	.701

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 2



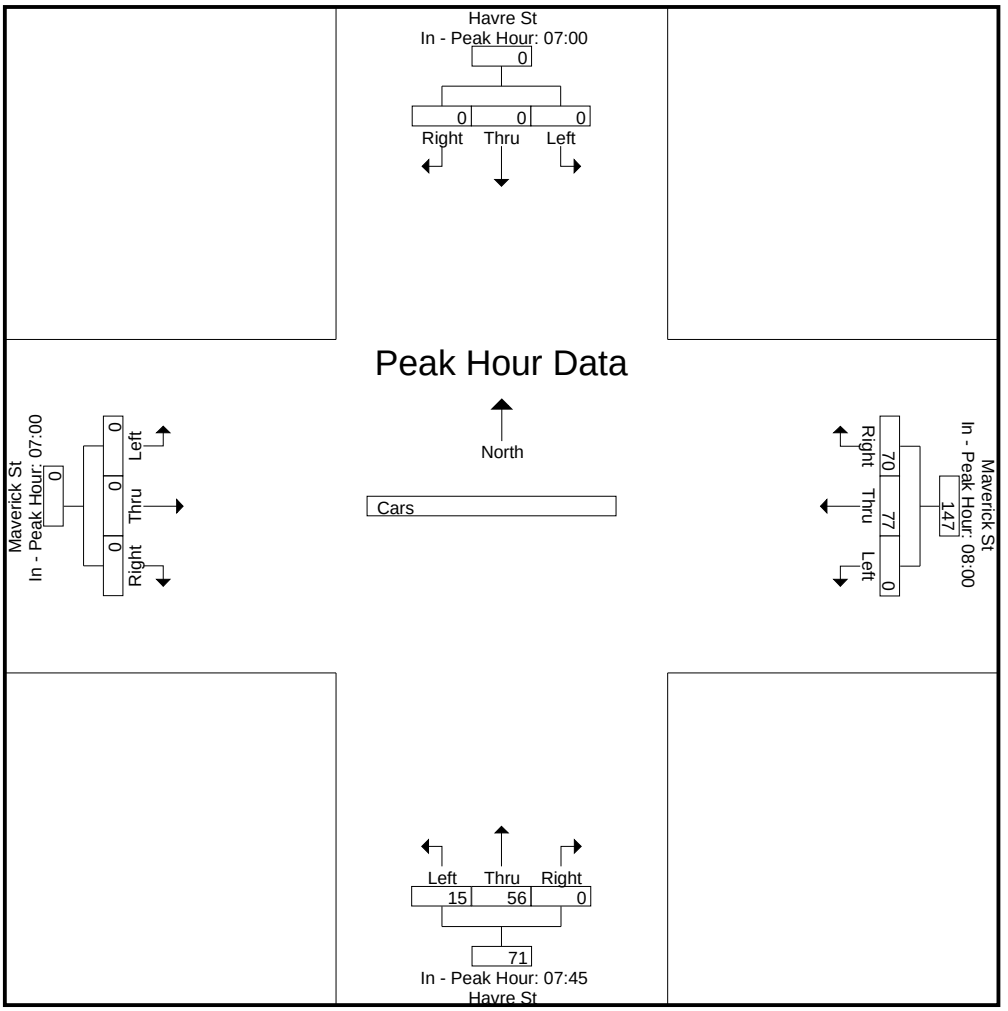
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				08:00				07:45				07:00			
+0 mins.	0	0	0	0	0	27	30	57	4	16	0	20	0	0	0	0
+15 mins.	0	0	0	0	0	22	11	33	4	15	0	19	0	0	0	0
+30 mins.	0	0	0	0	0	13	13	26	7	14	0	21	0	0	0	0
+45 mins.	0	0	0	0	0	15	16	31	0	11	0	11	0	0	0	0
Total Volume	0	0	0	0	0	77	70	147	15	56	0	71	0	0	0	0
% App. Total	0	0	0		0	52.4	47.6		21.1	78.9	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.713	.583	.645	.536	.875	.000	.845	.000	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 1

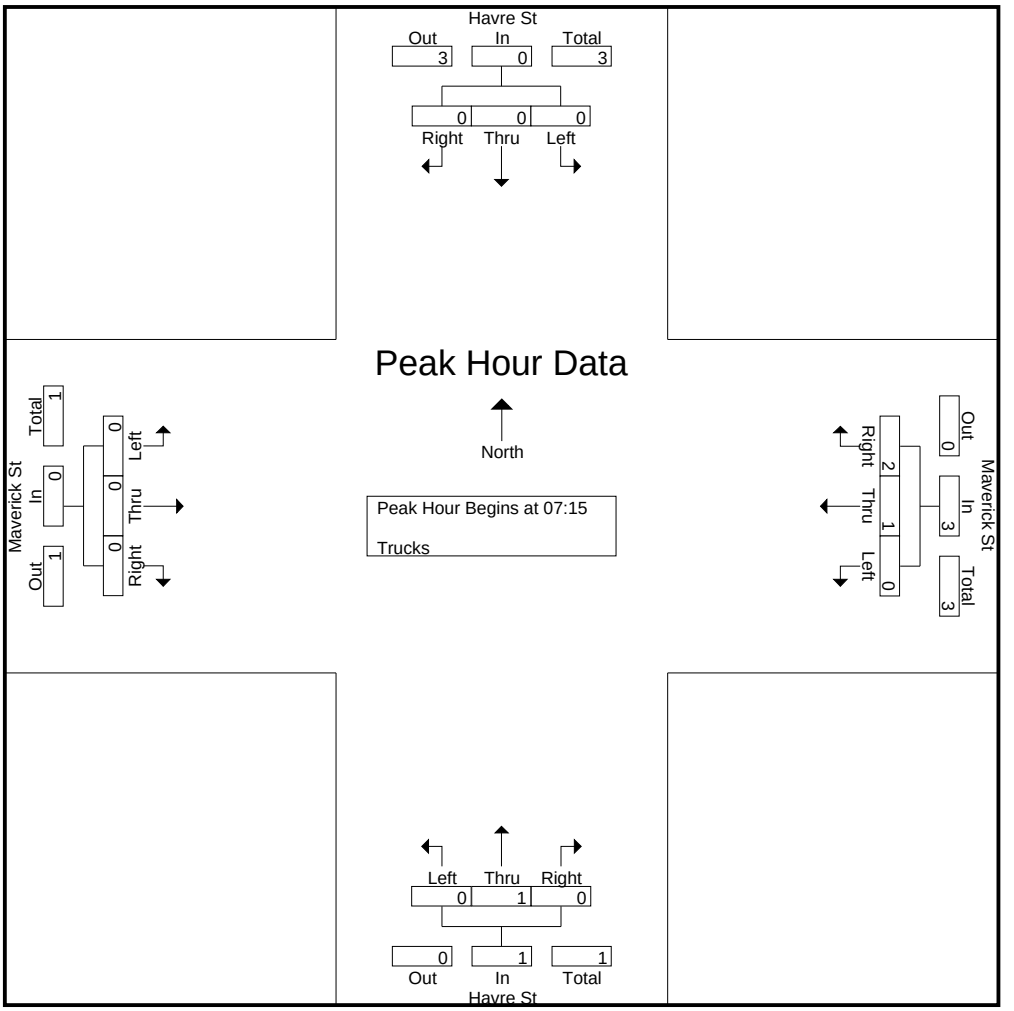
Groups Printed- Trucks

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	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	2	0	0	0	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	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	2
08:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	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	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	3	3
Grand Total	0	0	0	0	0	2	2	0	0	1	0	0	0	0	0	0	0	5	5
Apprch %	0	0	0		0	50	50		0	100	0		0	0	0				
Total %	0	0	0		0	40	40		0	20	0		0	0	0		0	100	

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
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	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	2
Total Volume	0	0	0	0	0	1	2	3	0	1	0	1	0	0	0	0	4
% App. Total	0	0	0		0	33.3	66.7		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.250	.375	.000	.250	.000	.250	.000	.000	.000	.000	.500

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 2



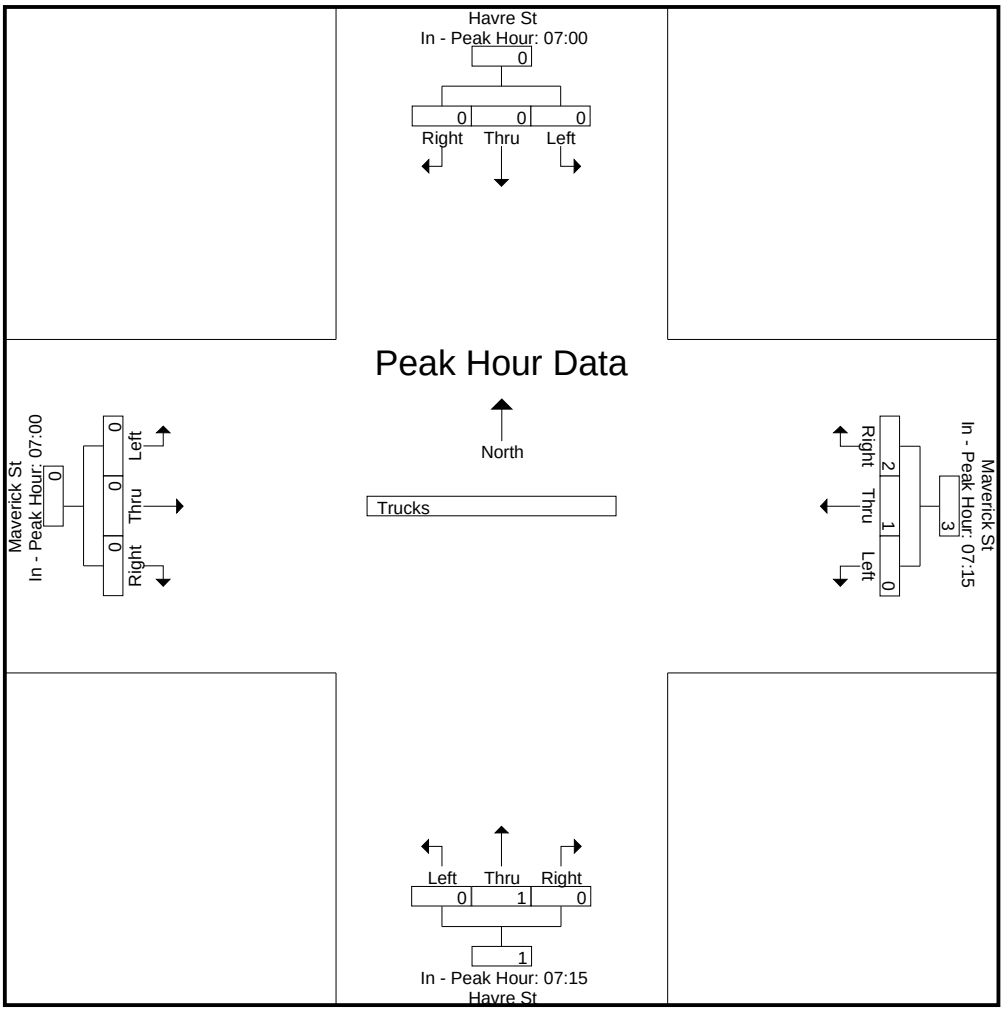
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:15				07:15				07:00			
+0 mins.	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	1	2	3	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	33.3	66.7		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.250	.375	.000	.250	.000	.250	.000	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 1

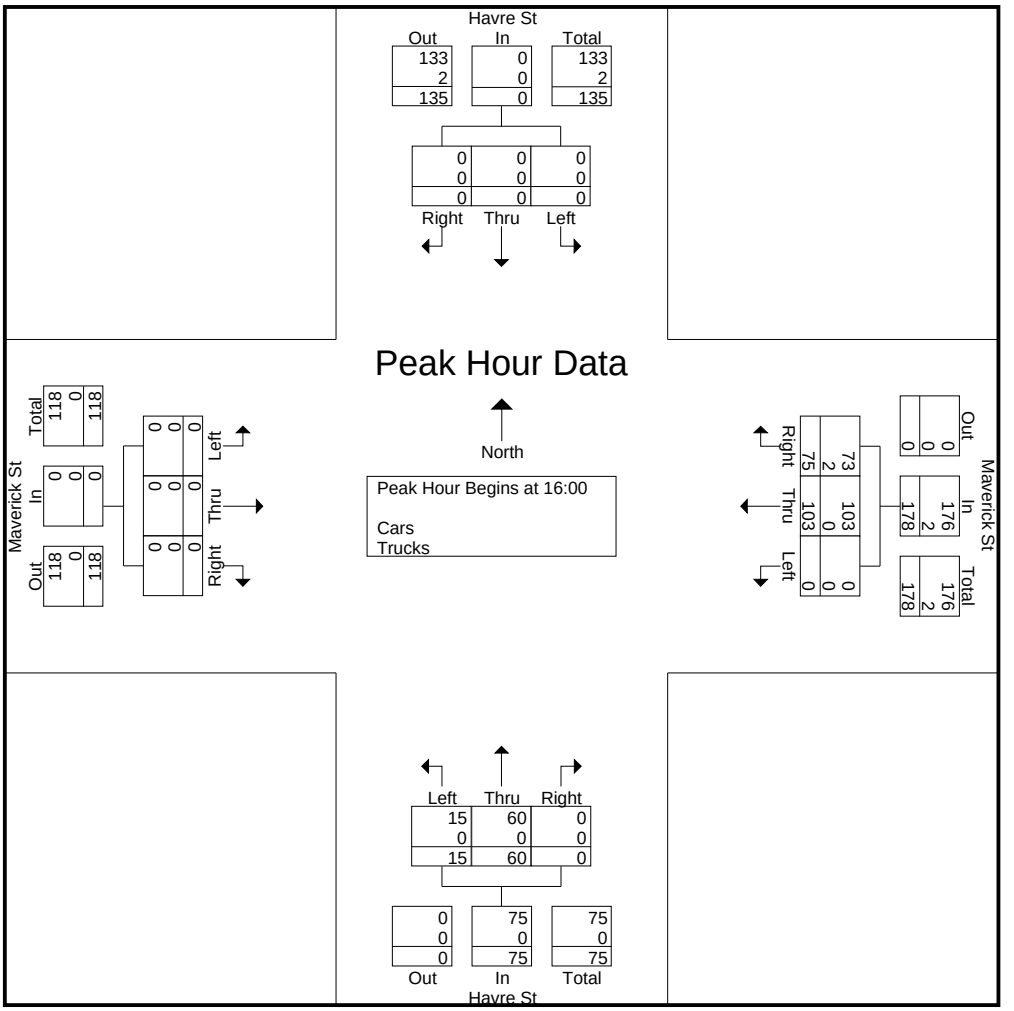
Groups Printed- Cars - Trucks

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	13	0	26	20	1	4	11	0	14	0	0	0	0	28	61	89
16:15	0	0	0	1	0	25	17	4	5	19	0	9	0	0	0	0	14	66	80
16:30	0	0	0	5	0	24	21	2	4	17	0	2	0	0	0	0	9	66	75
16:45	0	0	0	11	0	28	17	5	2	13	0	7	0	0	0	0	23	60	83
Total	0	0	0	30	0	103	75	12	15	60	0	32	0	0	0	0	74	253	327
17:00	0	0	0	2	0	17	6	0	8	12	0	3	0	0	0	0	5	43	48
17:15	0	0	0	1	0	18	9	1	4	8	0	4	0	0	0	0	6	39	45
17:30	0	0	0	0	0	26	11	4	5	14	0	8	0	0	0	0	12	56	68
17:45	0	0	0	1	0	14	8	2	7	11	0	0	0	0	0	0	3	40	43
Total	0	0	0	4	0	75	34	7	24	45	0	15	0	0	0	0	26	178	204
Grand Total	0	0	0	34	0	178	109	19	39	105	0	47	0	0	0	0	100	431	531
Apprch %	0	0	0		0	62	38		27.1	72.9	0		0	0	0				
Total %	0	0	0		0	41.3	25.3		9	24.4	0		0	0	0		18.8	81.2	
Cars	0	0	0		0	178	107		39	105	0		0	0	0		0	0	529
% Cars	0	0	0	100	0	100	98.2	100	100	100	0	100	0	0	0	0	0	0	99.6
Trucks	0	0	0		0	0	2		0	0	0		0	0	0		0	0	2
% Trucks	0	0	0	0	0	0	1.8	0	0	0	0	0	0	0	0	0	0	0	0.4

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	26	20	46	4	11	0	15	0	0	0	0	61
16:15	0	0	0	0	0	25	17	42	5	19	0	24	0	0	0	0	66
16:30	0	0	0	0	0	24	21	45	4	17	0	21	0	0	0	0	66
16:45	0	0	0	0	0	28	17	45	2	13	0	15	0	0	0	0	60
Total Volume	0	0	0	0	0	103	75	178	15	60	0	75	0	0	0	0	253
% App. Total	0	0	0		0	57.9	42.1		20	80	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.920	.893	.967	.750	.789	.000	.781	.000	.000	.000	.000	.958
Cars	0	0	0	0	0	103	73	176	15	60	0	75	0	0	0	0	251
% Cars	0	0	0	0	0	100	97.3	98.9	100	100	0	100	0	0	0	0	99.2
Trucks	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
% Trucks	0	0	0	0	0	0	2.7	1.1	0	0	0	0	0	0	0	0	0.8

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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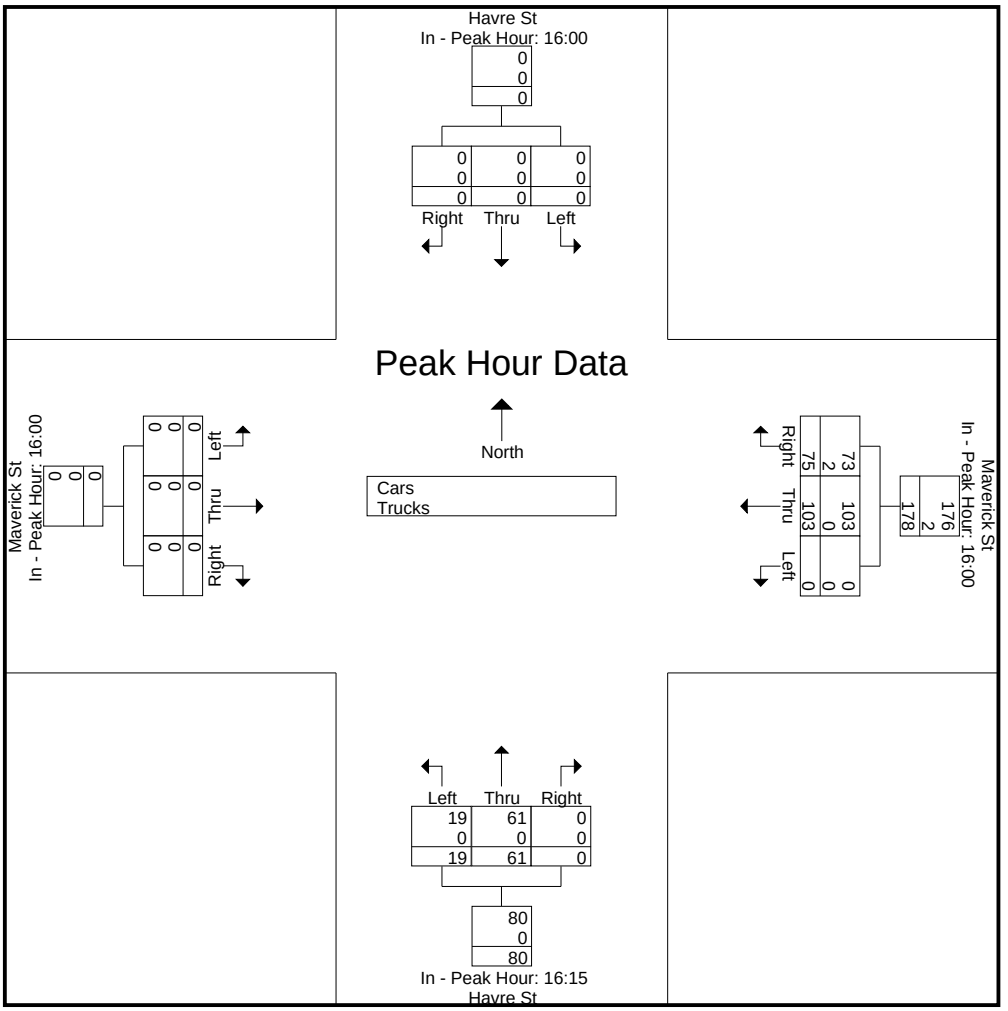
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:15				16:00			
+0 mins.	0	0	0	0	0	26	20	46	5	19	0	24	0	0	0	0
+15 mins.	0	0	0	0	0	25	17	42	4	17	0	21	0	0	0	0
+30 mins.	0	0	0	0	0	24	21	45	2	13	0	15	0	0	0	0
+45 mins.	0	0	0	0	0	28	17	45	8	12	0	20	0	0	0	0
Total Volume	0	0	0	0	0	103	75	178	19	61	0	80	0	0	0	0
% App. Total	0	0	0		0	57.9	42.1		23.8	76.2	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.920	.893	.967	.594	.803	.000	.833	.000	.000	.000	.000
Cars	0	0	0	0	0	103	73	176	19	61	0	80	0	0	0	0
% Cars	0	0	0	0	0	100	97.3	98.9	100	100	0	100	0	0	0	0
Trucks	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	2.7	1.1	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 1

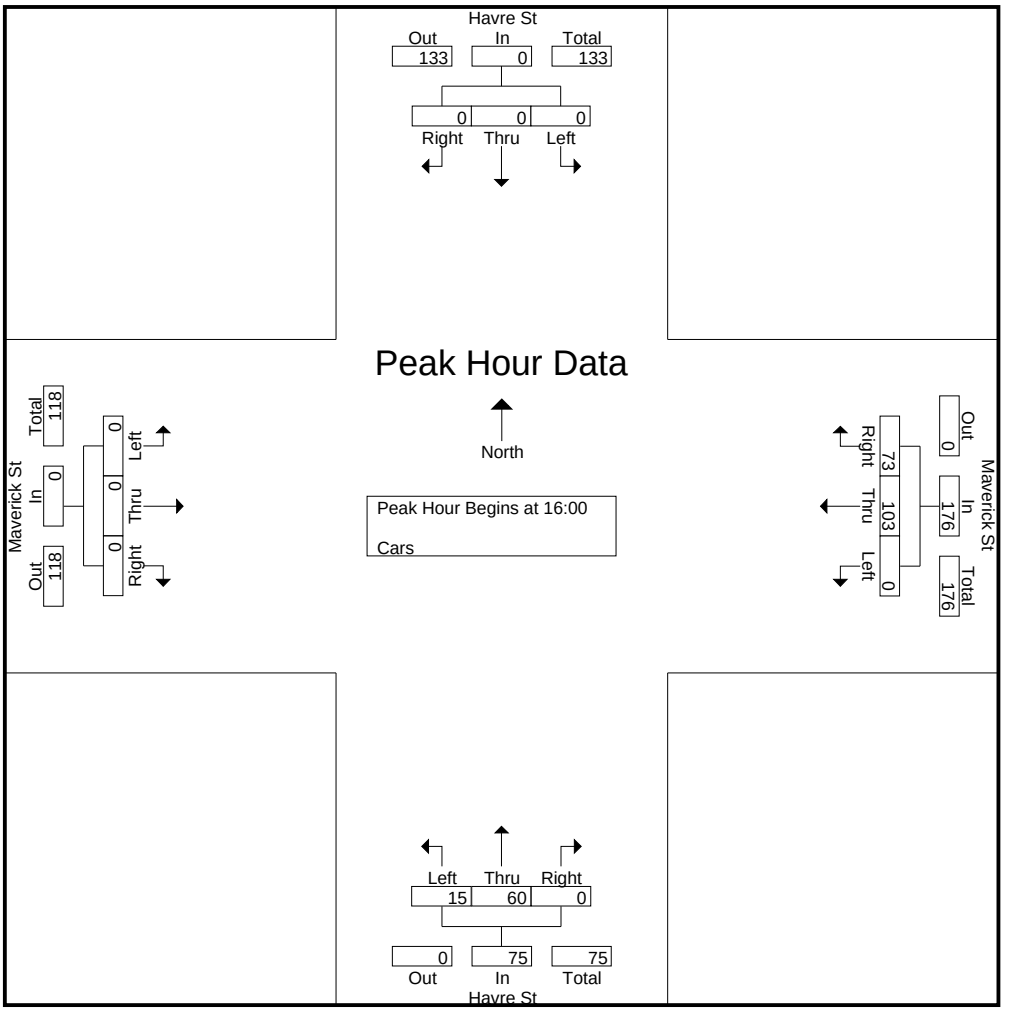
Groups Printed- Cars

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	13	0	26	19	1	4	11	0	14	0	0	0	0	28	60	88
16:15	0	0	0	1	0	25	17	4	5	19	0	9	0	0	0	0	14	66	80
16:30	0	0	0	5	0	24	21	2	4	17	0	2	0	0	0	0	9	66	75
16:45	0	0	0	11	0	28	16	5	2	13	0	7	0	0	0	0	23	59	82
Total	0	0	0	30	0	103	73	12	15	60	0	32	0	0	0	0	74	251	325
17:00	0	0	0	2	0	17	6	0	8	12	0	3	0	0	0	0	5	43	48
17:15	0	0	0	1	0	18	9	1	4	8	0	4	0	0	0	0	6	39	45
17:30	0	0	0	0	0	26	11	4	5	14	0	8	0	0	0	0	12	56	68
17:45	0	0	0	1	0	14	8	2	7	11	0	0	0	0	0	0	3	40	43
Total	0	0	0	4	0	75	34	7	24	45	0	15	0	0	0	0	26	178	204
Grand Total	0	0	0	34	0	178	107	19	39	105	0	47	0	0	0	0	100	429	529
Apprch %	0	0	0		0	62.5	37.5		27.1	72.9	0		0	0	0				
Total %	0	0	0		0	41.5	24.9		9.1	24.5	0		0	0	0		18.9	81.1	

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	26	19	45	4	11	0	15	0	0	0	0	60
16:15	0	0	0	0	0	25	17	42	5	19	0	24	0	0	0	0	66
16:30	0	0	0	0	0	24	21	45	4	17	0	21	0	0	0	0	66
16:45	0	0	0	0	0	28	16	44	2	13	0	15	0	0	0	0	59
Total Volume	0	0	0	0	0	103	73	176	15	60	0	75	0	0	0	0	251
% App. Total	0	0	0		0	58.5	41.5		20	80	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.920	.869	.978	.750	.789	.000	.781	.000	.000	.000	.000	.951

Accurate Counts
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File Name : 60830006
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Start Date : 1/16/2008
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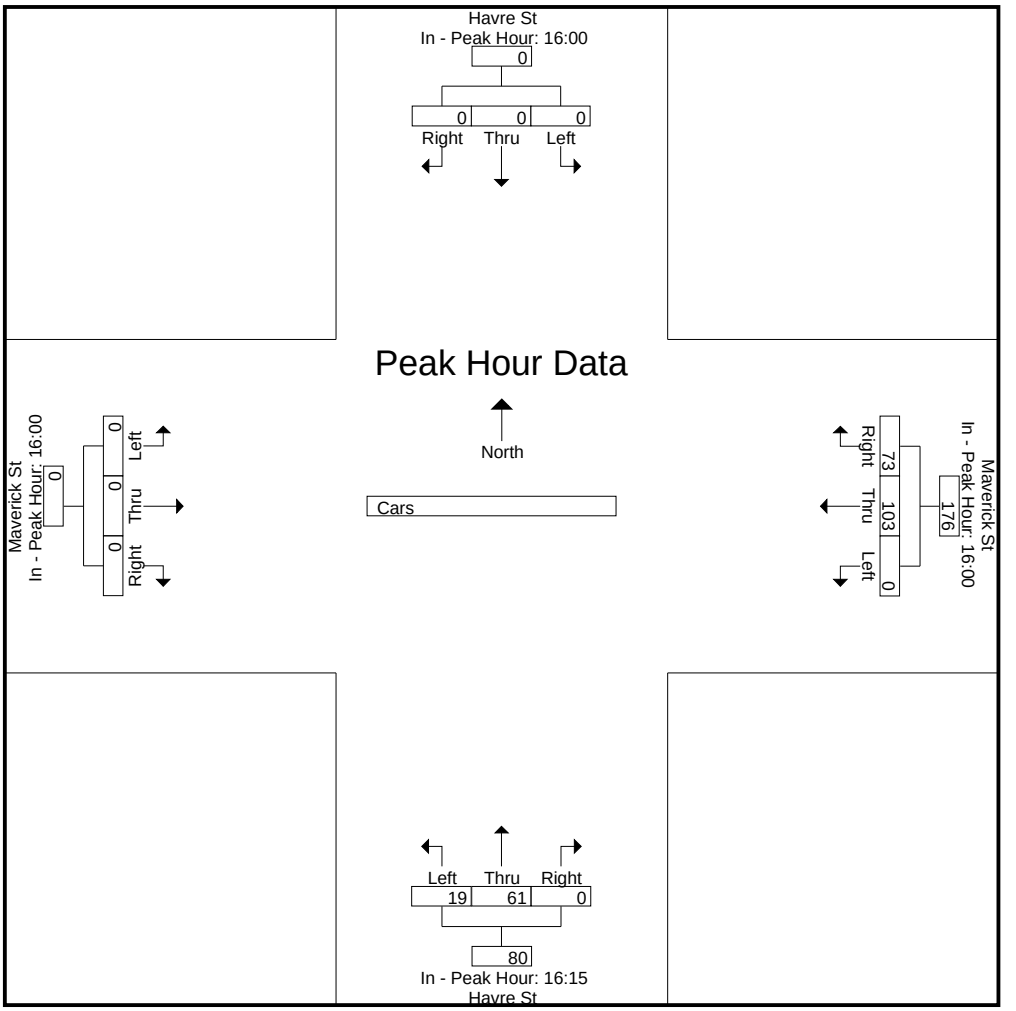
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:15				16:00			
+0 mins.	0	0	0	0	0	26	19	45	5	19	0	24	0	0	0	0
+15 mins.	0	0	0	0	0	25	17	42	4	17	0	21	0	0	0	0
+30 mins.	0	0	0	0	0	24	21	45	2	13	0	15	0	0	0	0
+45 mins.	0	0	0	0	0	28	16	44	8	12	0	20	0	0	0	0
Total Volume	0	0	0	0	0	103	73	176	19	61	0	80	0	0	0	0
% App. Total	0	0	0		0	58.5	41.5		23.8	76.2	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.920	.869	.978	.594	.803	.000	.833	.000	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
Page No : 3



N/S Street : Havre Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
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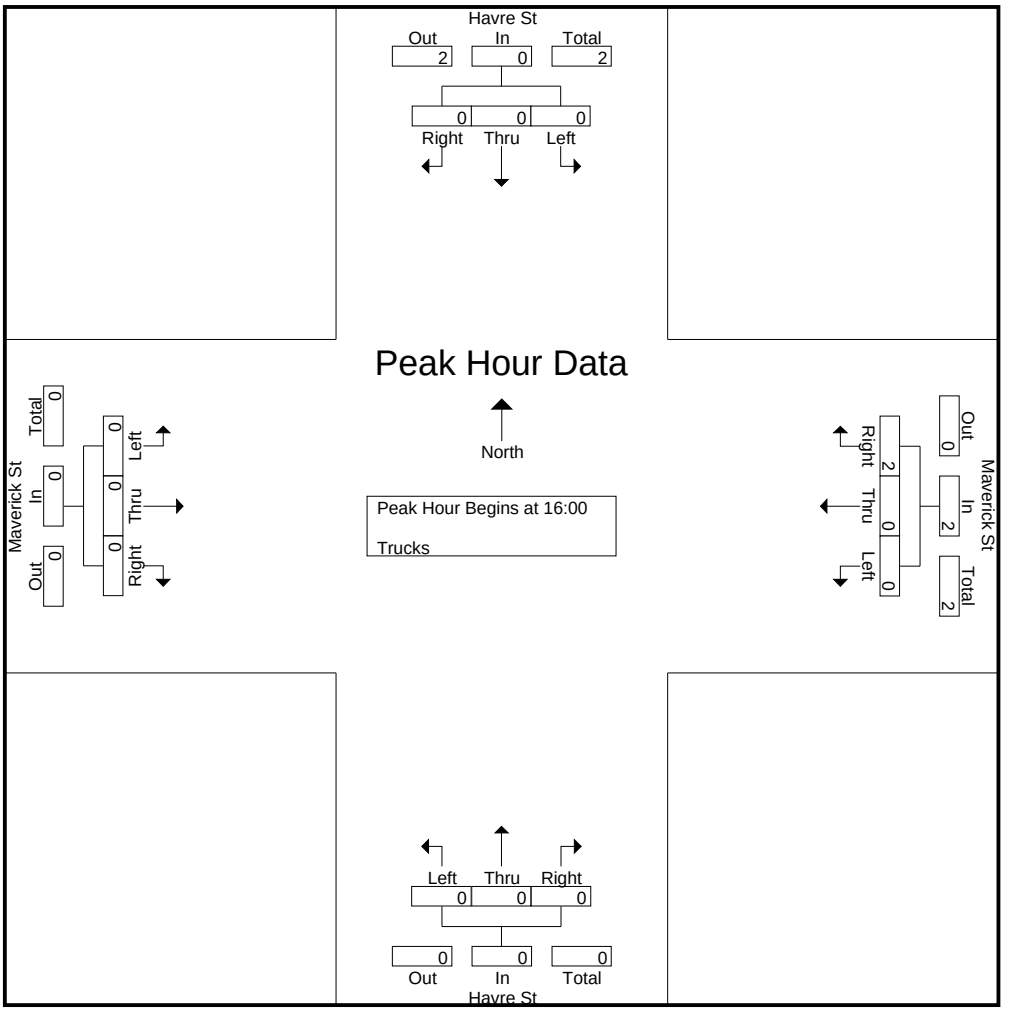
Groups Printed- Trucks

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	1	0	0	0	0	0	0	0	0	0	0	1	1
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	1	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	2	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	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	2
Apprch %	0	0	0		0	0	100		0	0	0		0	0	0				
Total %	0	0	0		0	0	100		0	0	0		0	0	0		0	100	

	Havre St From North				Maverick St From East				Havre St From South				Maverick St 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	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
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	1	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	0	100		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.500

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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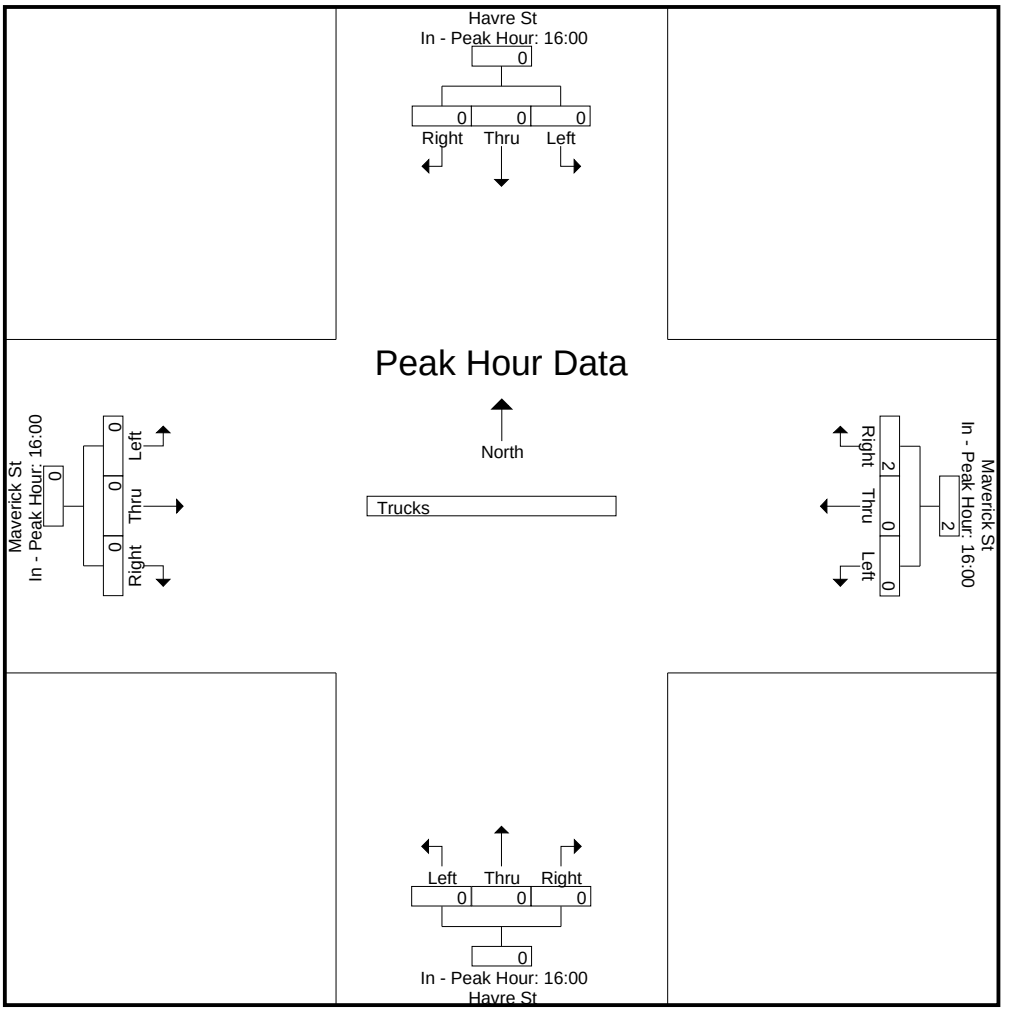
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:00			
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	100		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830006
Site Code : 60830006
Start Date : 1/16/2008
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N/S Street : London Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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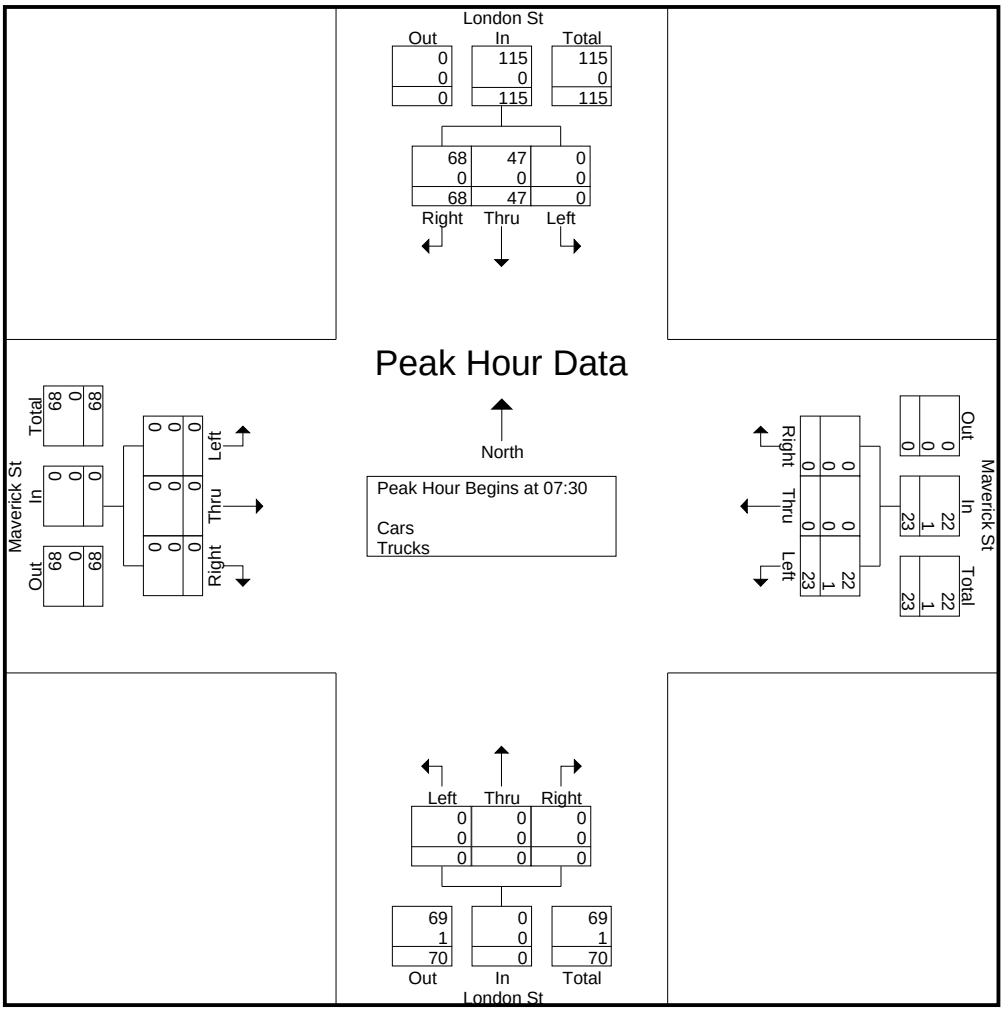
Groups Printed- Cars - Trucks

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	3	3	7	0	0	0	0	0	0	6	0	0	0	1	10	13	23
07:15	0	8	1	0	6	0	0	0	0	0	0	1	0	0	0	2	3	15	18
07:30	0	7	6	4	6	0	0	0	0	0	0	3	0	0	0	4	11	19	30
07:45	0	5	10	1	7	0	0	0	0	0	0	0	0	0	0	2	3	22	25
Total	0	23	20	8	26	0	0	0	0	0	0	10	0	0	0	9	27	69	96
08:00	0	23	34	2	5	0	0	0	0	0	0	3	0	0	0	5	10	62	72
08:15	0	12	18	1	5	0	0	0	0	0	0	5	0	0	0	3	9	35	44
08:30	0	1	1	0	1	0	0	0	0	0	0	8	0	0	0	3	11	3	14
08:45	0	3	2	4	0	0	0	0	0	0	0	9	0	0	0	7	20	5	25
Total	0	39	55	7	11	0	0	0	0	0	0	25	0	0	0	18	50	105	155
Grand Total	0	62	75	15	37	0	0	0	0	0	0	35	0	0	0	27	77	174	251
Apprch %	0	45.3	54.7		100	0	0		0	0	0		0	0	0				
Total %	0	35.6	43.1		21.3	0	0		0	0	0		0	0	0		30.7	69.3	
Cars	0	62	73		36	0	0		0	0	0		0	0	0		0	0	248
% Cars	0	100	97.3	100	97.3	0	0	0	0	0	0	100	0	0	0	100	0	0	98.8
Trucks	0	0	2		1	0	0		0	0	0		0	0	0		0	0	3
% Trucks	0	0	2.7	0	2.7	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2

	London St From North				Maverick St From East				London St From South				Maverick St 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 07:30																	
07:30	0	7	6	13	6	0	0	6	0	0	0	0	0	0	0	0	19
07:45	0	5	10	15	7	0	0	7	0	0	0	0	0	0	0	0	22
08:00	0	23	34	57	5	0	0	5	0	0	0	0	0	0	0	0	62
08:15	0	12	18	30	5	0	0	5	0	0	0	0	0	0	0	0	35
Total Volume	0	47	68	115	23	0	0	23	0	0	0	0	0	0	0	0	138
% App. Total	0	40.9	59.1		100	0	0		0	0	0		0	0	0		
PHF	.000	.511	.500	.504	.821	.000	.000	.821	.000	.000	.000	.000	.000	.000	.000	.000	.556
Cars	0	47	68	115	22	0	0	22	0	0	0	0	0	0	0	0	137
% Cars	0	100	100	100	95.7	0	0	95.7	0	0	0	0	0	0	0	0	99.3
Trucks	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	4.3	0	0	4.3	0	0	0	0	0	0	0	0	0.7

Accurate Counts
978-664-2565

File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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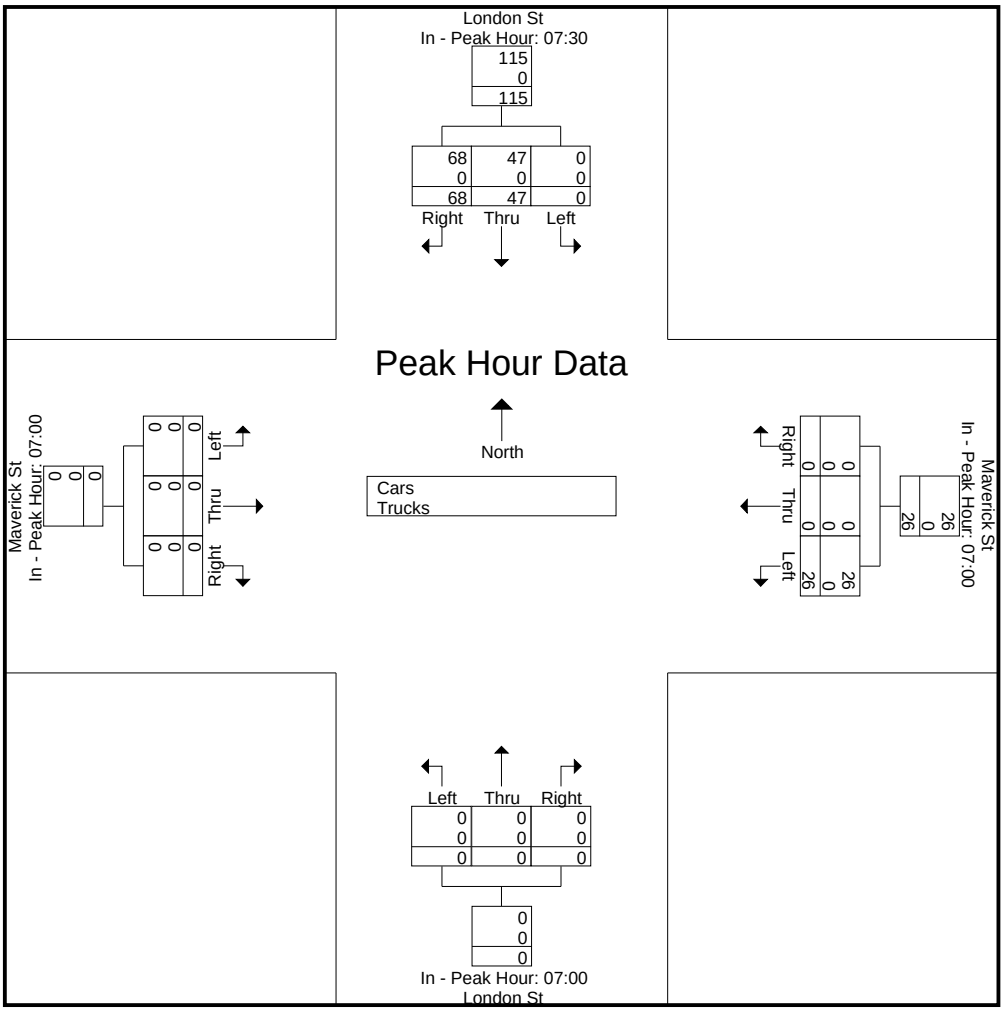
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				07:00				07:00			
+0 mins.	0	7	6	13	7	0	0	7	0	0	0	0	0	0	0	0
+15 mins.	0	5	10	15	6	0	0	6	0	0	0	0	0	0	0	0
+30 mins.	0	23	34	57	6	0	0	6	0	0	0	0	0	0	0	0
+45 mins.	0	12	18	30	7	0	0	7	0	0	0	0	0	0	0	0
Total Volume	0	47	68	115	26	0	0	26	0	0	0	0	0	0	0	0
% App. Total	0	40.9	59.1		100	0	0		0	0	0		0	0	0	
PHF	.000	.511	.500	.504	.929	.000	.000	.929	.000	.000	.000	.000	.000	.000	.000	.000
Cars	0	47	68	115	26	0	0	26	0	0	0	0	0	0	0	0
% Cars	0	100	100	100	100	0	0	100	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
Page No : 3



N/S Street : London Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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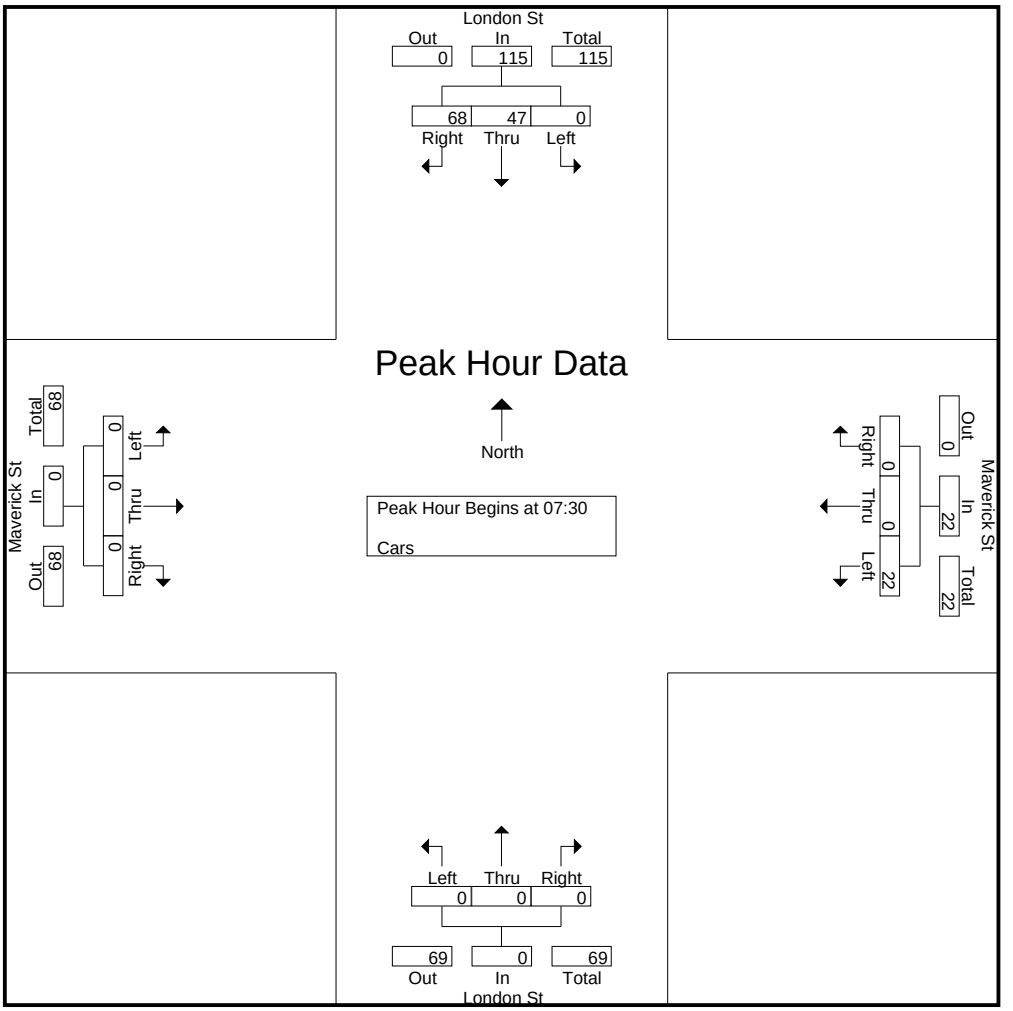
Groups Printed- Cars

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	2	3	7	0	0	0	0	0	0	6	0	0	0	1	10	12	22
07:15	0	8	1	0	6	0	0	0	0	0	0	1	0	0	0	2	3	15	18
07:30	0	7	6	4	6	0	0	0	0	0	0	3	0	0	0	4	11	19	30
07:45	0	5	10	1	7	0	0	0	0	0	0	0	0	0	0	2	3	22	25
Total	0	23	19	8	26	0	0	0	0	0	0	10	0	0	0	9	27	68	95
08:00	0	23	34	2	4	0	0	0	0	0	0	3	0	0	0	5	10	61	71
08:15	0	12	18	1	5	0	0	0	0	0	0	5	0	0	0	3	9	35	44
08:30	0	1	1	0	1	0	0	0	0	0	0	8	0	0	0	3	11	3	14
08:45	0	3	1	4	0	0	0	0	0	0	0	9	0	0	0	7	20	4	24
Total	0	39	54	7	10	0	0	0	0	0	0	25	0	0	0	18	50	103	153
Grand Total	0	62	73	15	36	0	0	0	0	0	0	35	0	0	0	27	77	171	248
Apprch %	0	45.9	54.1		100	0	0		0	0	0		0	0	0				
Total %	0	36.3	42.7		21.1	0	0		0	0	0		0	0	0		31	69	

	London St From North				Maverick St From East				London St From South				Maverick St 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 07:30																	
07:30	0	7	6	13	6	0	0	6	0	0	0	0	0	0	0	0	19
07:45	0	5	10	15	7	0	0	7	0	0	0	0	0	0	0	0	22
08:00	0	23	34	57	4	0	0	4	0	0	0	0	0	0	0	0	61
08:15	0	12	18	30	5	0	0	5	0	0	0	0	0	0	0	0	35
Total Volume	0	47	68	115	22	0	0	22	0	0	0	0	0	0	0	0	137
% App. Total	0	40.9	59.1		100	0	0		0	0	0		0	0	0		
PHF	.000	.511	.500	.504	.786	.000	.000	.786	.000	.000	.000	.000	.000	.000	.000	.000	.561

Accurate Counts
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File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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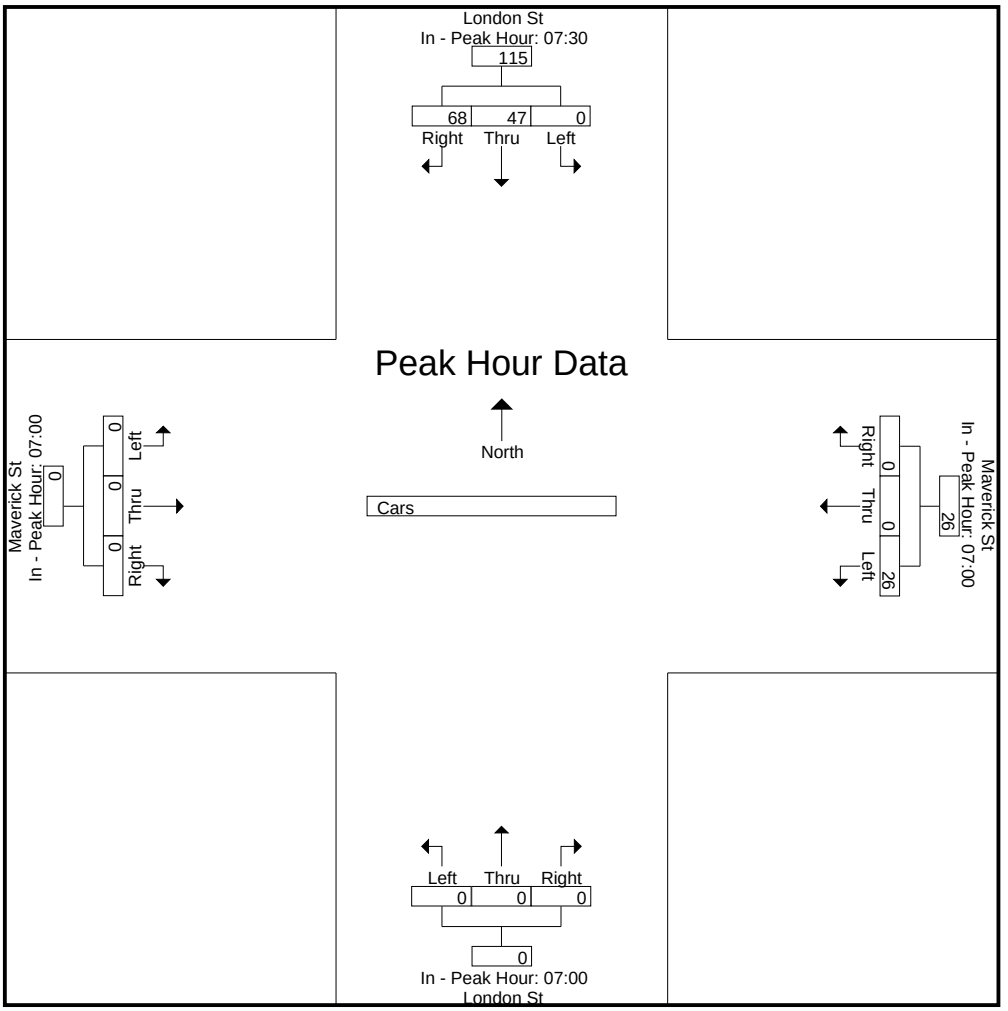
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				07:00				07:00			
+0 mins.	0	7	6	13	7	0	0	7	0	0	0	0	0	0	0	0
+15 mins.	0	5	10	15	6	0	0	6	0	0	0	0	0	0	0	0
+30 mins.	0	23	34	57	6	0	0	6	0	0	0	0	0	0	0	0
+45 mins.	0	12	18	30	7	0	0	7	0	0	0	0	0	0	0	0
Total Volume	0	47	68	115	26	0	0	26	0	0	0	0	0	0	0	0
% App. Total	0	40.9	59.1		100	0	0		0	0	0		0	0	0	
PHF	.000	.511	.500	.504	.929	.000	.000	.929	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts
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N/S Street : London Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
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File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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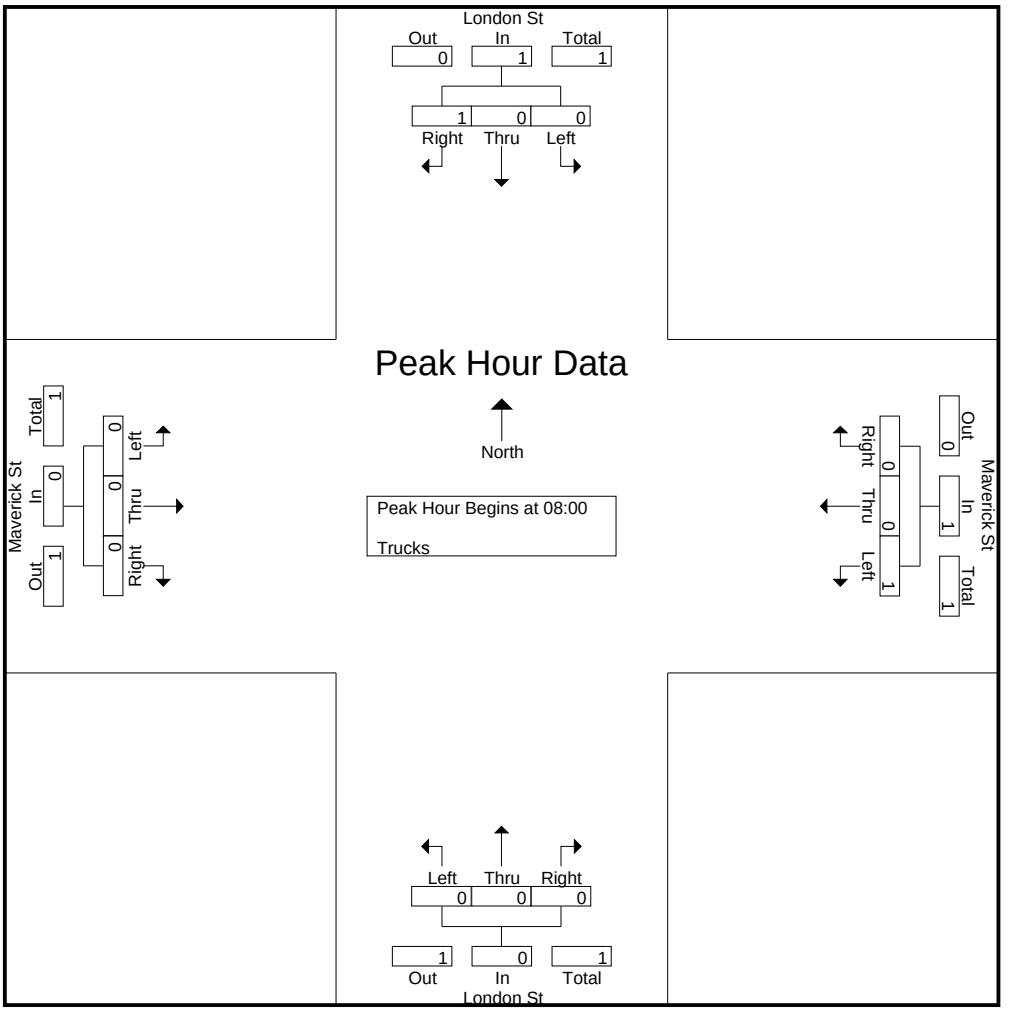
Groups Printed- Trucks

	London St From North				Maverick St From East				London St From South				Maverick St 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	0	1	0	0	0	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	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:00	0	0	0	0	1	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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Grand Total	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Apprch %	0	0	100		100	0	0		0	0	0		0	0	0				
Total %	0	0	66.7		33.3	0	0		0	0	0		0	0	0		0	100	

	London St From North				Maverick St From East				London St From South				Maverick St 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	0	0	0	1	0	0	1	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	1	1	1	0	0	1	0	0	0	0	0	0	0	0	2
% App. Total	0	0	100		100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.250	.250	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

Accurate Counts
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Start Date : 1/16/2008
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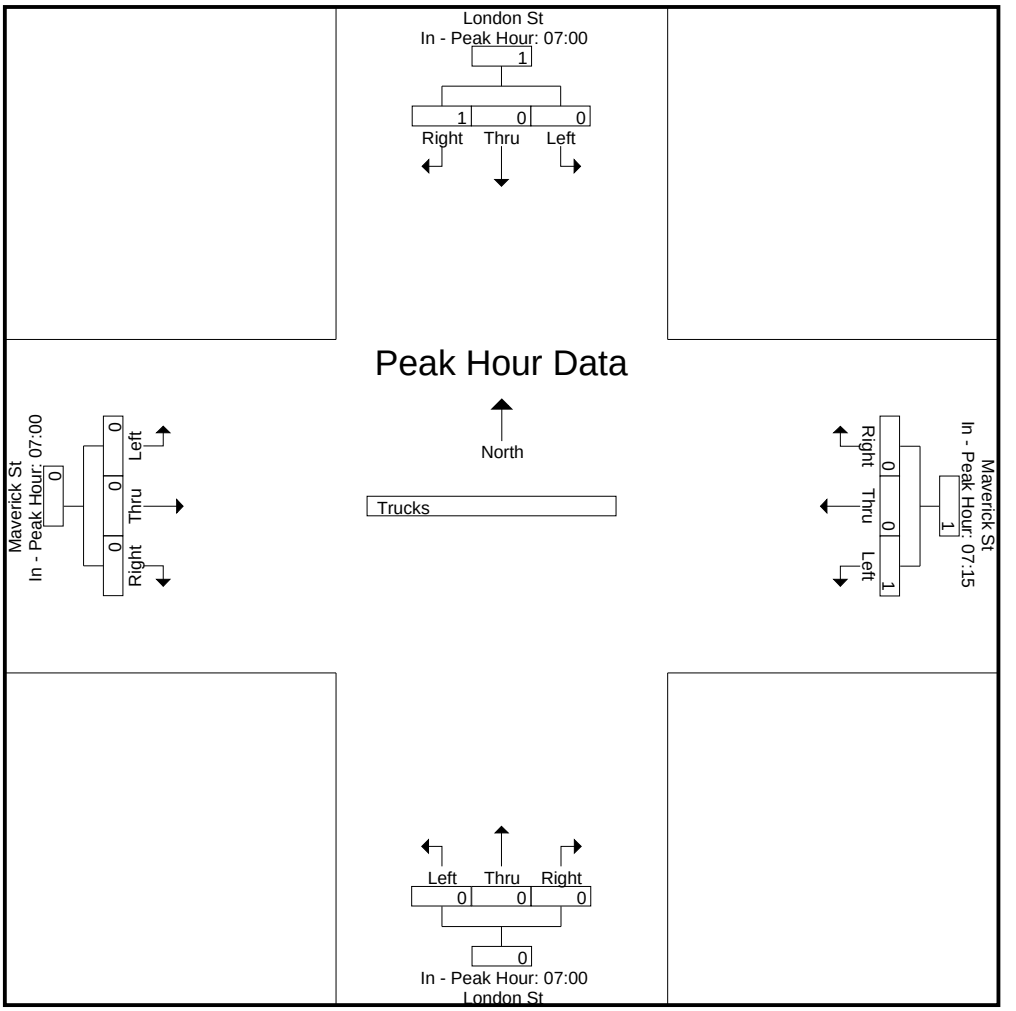
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:15				07:00				07:00			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	100		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.250	.250	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts
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File Name : 60830007
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N/S Street : London Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830007
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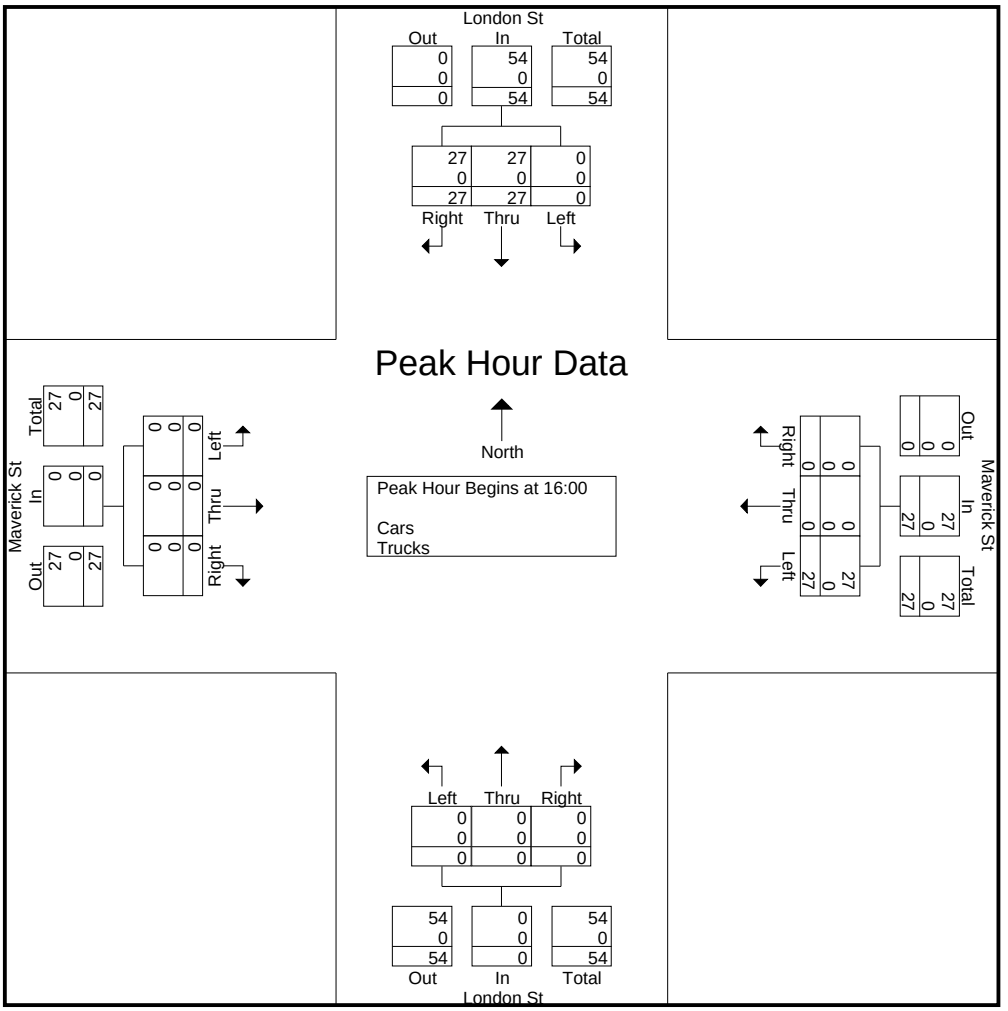
Groups Printed- Cars - Trucks

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	4	13	4	0	0	0	0	0	0	14	0	0	0	13	40	11	51
16:15	0	10	7	1	9	0	0	0	0	0	0	9	0	0	0	6	16	26	42
16:30	0	9	10	5	6	0	0	0	0	0	0	2	0	0	0	7	14	25	39
16:45	0	5	6	11	8	0	0	0	0	0	0	7	0	0	0	11	29	19	48
Total	0	27	27	30	27	0	0	0	0	0	0	32	0	0	0	37	99	81	180
17:00	0	3	2	2	6	0	0	0	0	0	0	3	0	0	0	1	6	11	17
17:15	0	10	1	1	3	0	0	0	0	0	0	4	0	0	0	7	12	14	26
17:30	0	10	0	0	4	0	0	0	0	0	0	8	0	0	0	5	13	14	27
17:45	0	8	3	1	4	0	0	0	0	0	0	0	0	0	0	8	9	15	24
Total	0	31	6	4	17	0	0	0	0	0	0	15	0	0	0	21	40	54	94
Grand Total	0	58	33	34	44	0	0	0	0	0	0	47	0	0	0	58	139	135	274
Apprch %	0	63.7	36.3		100	0	0		0	0	0		0	0	0				
Total %	0	43	24.4		32.6	0	0		0	0	0		0	0	0		50.7	49.3	
Cars	0	58	33		44	0	0		0	0	0		0	0	0		0	0	274
% Cars	0	100	100	100	100	0	0	0	0	0	0	100	0	0	0	100	0	0	100
Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	4	7	4	0	0	4	0	0	0	0	0	0	0	0	11
16:15	0	10	7	17	9	0	0	9	0	0	0	0	0	0	0	0	26
16:30	0	9	10	19	6	0	0	6	0	0	0	0	0	0	0	0	25
16:45	0	5	6	11	8	0	0	8	0	0	0	0	0	0	0	0	19
Total Volume	0	27	27	54	27	0	0	27	0	0	0	0	0	0	0	0	81
% App. Total	0	50	50		100	0	0		0	0	0		0	0	0		
PHF	.000	.675	.675	.711	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.779
Cars	0	27	27	54	27	0	0	27	0	0	0	0	0	0	0	0	81
% Cars	0	100	100	100	100	0	0	100	0	0	0	0	0	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
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File Name : 60830007
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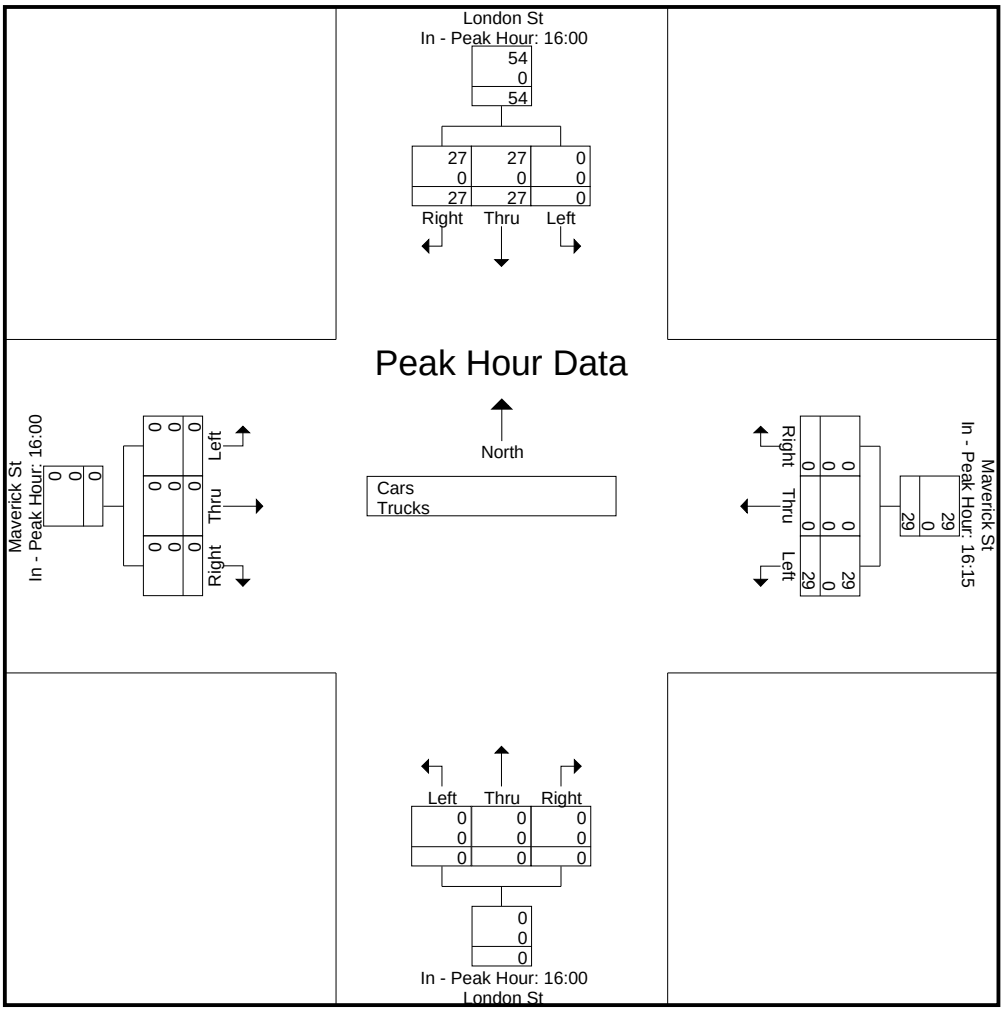
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:15				16:00				16:00			
+0 mins.	0	3	4	7	9	0	0	9	0	0	0	0	0	0	0	0
+15 mins.	0	10	7	17	6	0	0	6	0	0	0	0	0	0	0	0
+30 mins.	0	9	10	19	8	0	0	8	0	0	0	0	0	0	0	0
+45 mins.	0	5	6	11	6	0	0	6	0	0	0	0	0	0	0	0
Total Volume	0	27	27	54	29	0	0	29	0	0	0	0	0	0	0	0
% App. Total	0	50	50		100	0	0		0	0	0		0	0	0	
PHF	.000	.675	.675	.711	.806	.000	.000	.806	.000	.000	.000	.000	.000	.000	.000	.000
Cars	0	27	27	54	29	0	0	29	0	0	0	0	0	0	0	0
% Cars	0	100	100	100	100	0	0	100	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accurate Counts
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File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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N/S Street : London Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
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File Name : 60830007
Site Code : 60830007
Start Date : 1/16/2008
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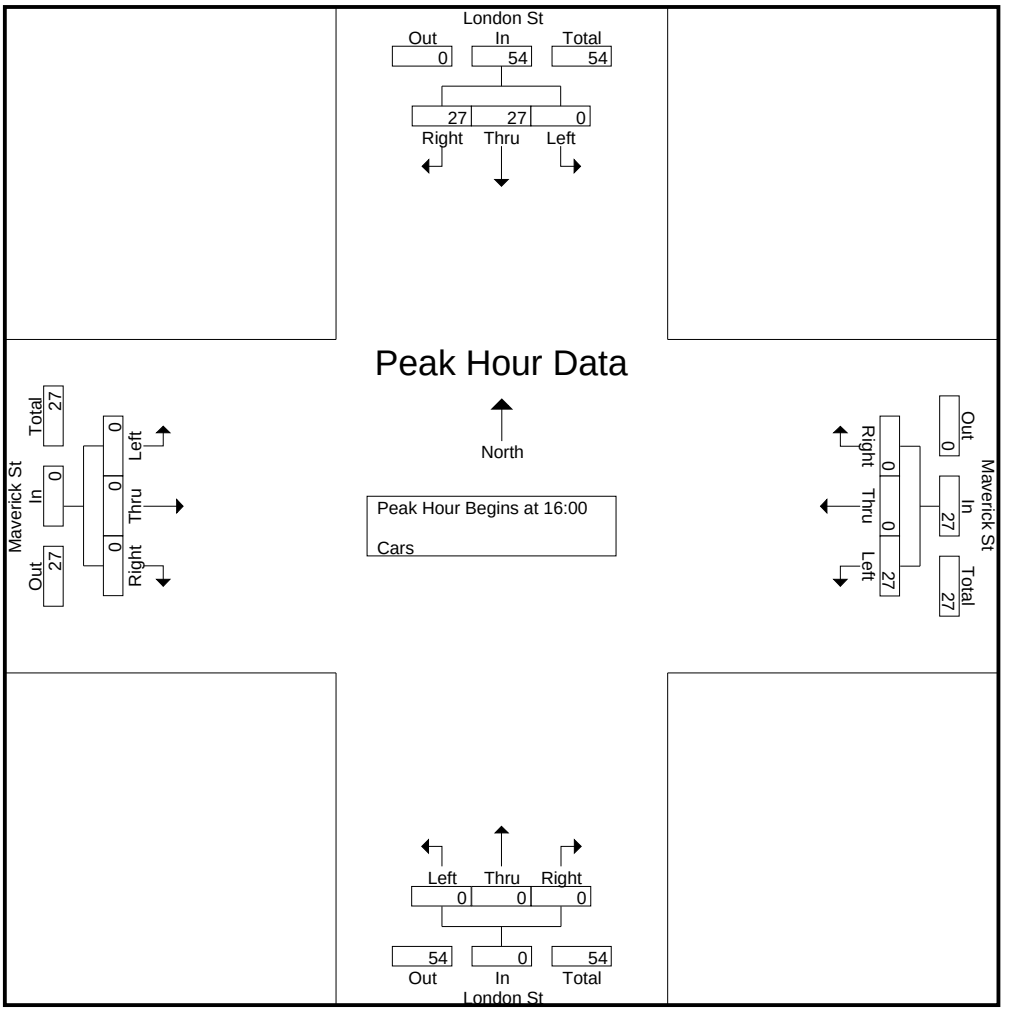
Groups Printed- Cars

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	4	13	4	0	0	0	0	0	0	14	0	0	0	13	40	11	51
16:15	0	10	7	1	9	0	0	0	0	0	0	9	0	0	0	6	16	26	42
16:30	0	9	10	5	6	0	0	0	0	0	0	2	0	0	0	7	14	25	39
16:45	0	5	6	11	8	0	0	0	0	0	0	7	0	0	0	11	29	19	48
Total	0	27	27	30	27	0	0	0	0	0	0	32	0	0	0	37	99	81	180
17:00	0	3	2	2	6	0	0	0	0	0	0	3	0	0	0	1	6	11	17
17:15	0	10	1	1	3	0	0	0	0	0	0	4	0	0	0	7	12	14	26
17:30	0	10	0	0	4	0	0	0	0	0	0	8	0	0	0	5	13	14	27
17:45	0	8	3	1	4	0	0	0	0	0	0	0	0	0	0	8	9	15	24
Total	0	31	6	4	17	0	0	0	0	0	0	15	0	0	0	21	40	54	94
Grand Total	0	58	33	34	44	0	0	0	0	0	0	47	0	0	0	58	139	135	274
Apprch %	0	63.7	36.3		100	0	0		0	0	0		0	0	0				
Total %	0	43	24.4		32.6	0	0		0	0	0		0	0	0		50.7	49.3	

	London St From North				Maverick St From East				London St From South				Maverick St 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	3	4	7	4	0	0	4	0	0	0	0	0	0	0	0	11
16:15	0	10	7	17	9	0	0	9	0	0	0	0	0	0	0	0	26
16:30	0	9	10	19	6	0	0	6	0	0	0	0	0	0	0	0	25
16:45	0	5	6	11	8	0	0	8	0	0	0	0	0	0	0	0	19
Total Volume	0	27	27	54	27	0	0	27	0	0	0	0	0	0	0	0	81
% App. Total	0	50	50		100	0	0		0	0	0		0	0	0		
PHF	.000	.675	.675	.711	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.779

Accurate Counts
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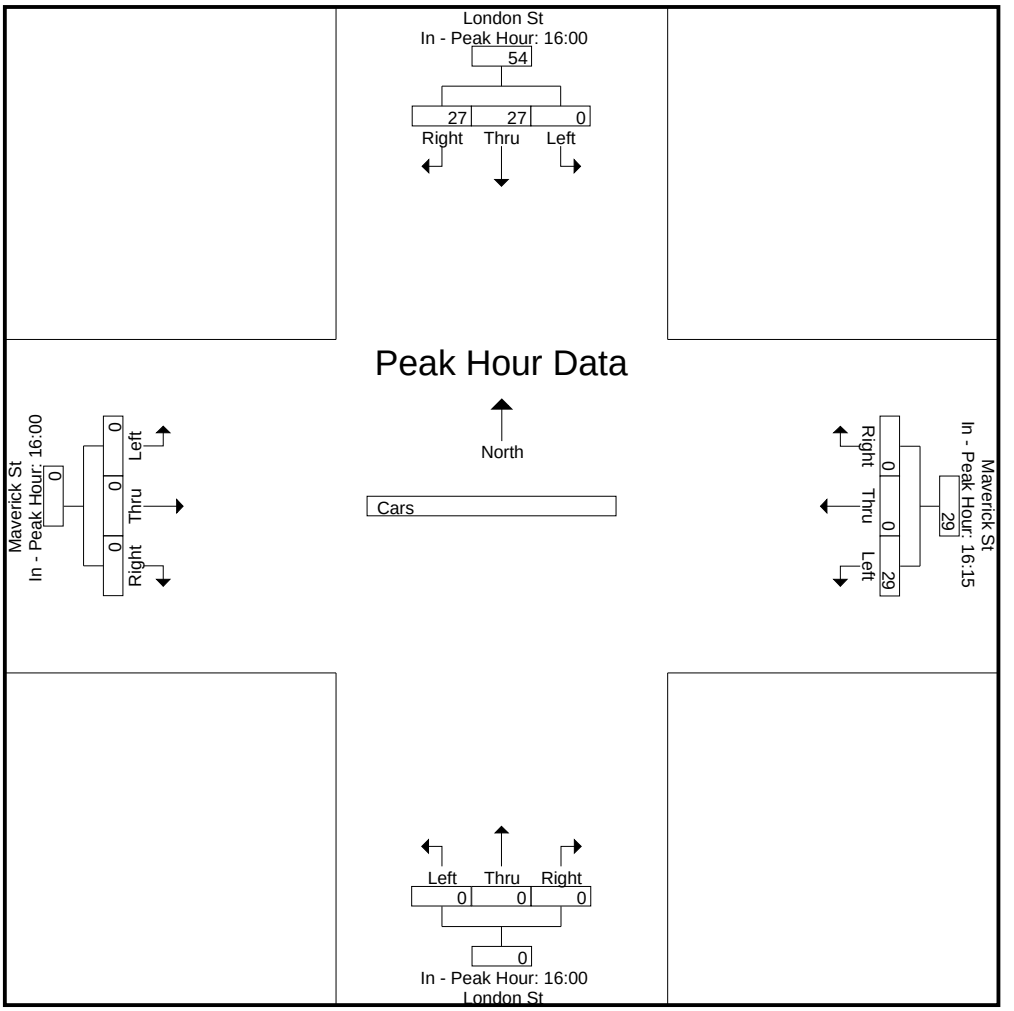
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:15				16:00				16:00			
+0 mins.	0	3	4	7	9	0	0	9	0	0	0	0	0	0	0	0
+15 mins.	0	10	7	17	6	0	0	6	0	0	0	0	0	0	0	0
+30 mins.	0	9	10	19	8	0	0	8	0	0	0	0	0	0	0	0
+45 mins.	0	5	6	11	6	0	0	6	0	0	0	0	0	0	0	0
Total Volume	0	27	27	54	29	0	0	29	0	0	0	0	0	0	0	0
% App. Total	0	50	50		100	0	0		0	0	0		0	0	0	
PHF	.000	.675	.675	.711	.806	.000	.000	.806	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts
978-664-2565

File Name : 60830007
Site Code : 60830007
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N/S Street : Liverpool Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

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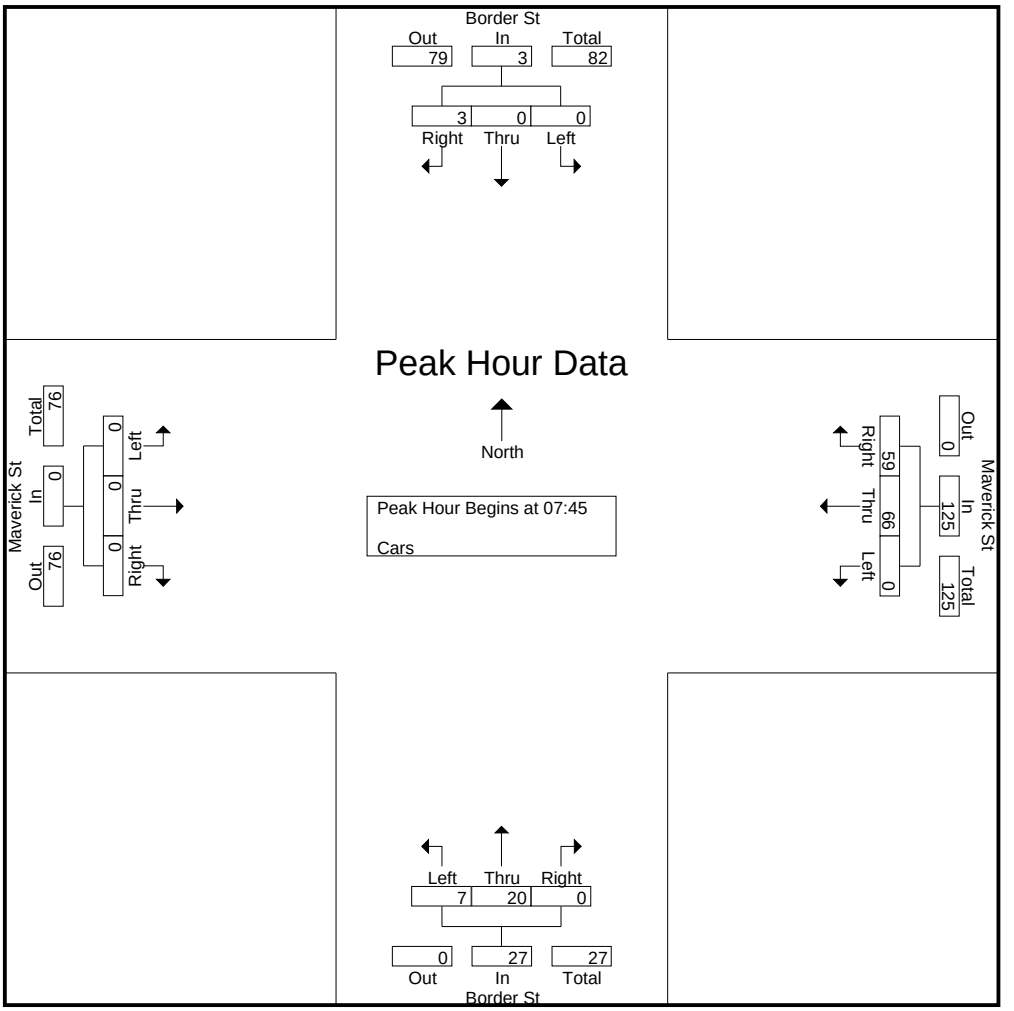
Groups Printed- Cars

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	2	2	0	6	6	0	0	4	0	6	0	0	0	1	9	18	27
07:15	0	0	4	7	0	9	3	7	2	8	0	3	0	0	0	1	18	26	44
07:30	0	0	1	4	0	9	6	3	0	4	0	1	0	0	0	1	9	20	29
07:45	0	0	2	0	0	9	8	1	2	6	0	0	0	0	0	0	1	27	28
Total	0	0	9	13	0	33	23	11	4	22	0	10	0	0	0	3	37	91	128
08:00	0	0	1	3	0	28	24	2	3	5	0	1	0	0	0	1	7	61	68
08:15	0	0	0	2	0	15	22	14	0	4	0	10	0	0	0	0	26	41	67
08:30	0	0	0	2	0	14	5	8	2	5	0	5	0	0	0	3	18	26	44
08:45	0	0	2	8	0	13	2	8	2	3	0	2	0	0	0	1	19	22	41
Total	0	0	3	15	0	70	53	32	7	17	0	18	0	0	0	5	70	150	220
Grand Total	0	0	12	28	0	103	76	43	11	39	0	28	0	0	0	8	107	241	348
Apprch %	0	0	100		0	57.5	42.5		22	78	0		0	0	0				
Total %	0	0	5		0	42.7	31.5		4.6	16.2	0		0	0	0		30.7	69.3	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	2	2	0	9	8	17	2	6	0	8	0	0	0	0	27
08:00	0	0	1	1	0	28	24	52	3	5	0	8	0	0	0	0	61
08:15	0	0	0	0	0	15	22	37	0	4	0	4	0	0	0	0	41
08:30	0	0	0	0	0	14	5	19	2	5	0	7	0	0	0	0	26
Total Volume	0	0	3	3	0	66	59	125	7	20	0	27	0	0	0	0	155
% App. Total	0	0	100		0	52.8	47.2		25.9	74.1	0		0	0	0		
PHF	.000	.000	.375	.375	.000	.589	.615	.601	.583	.833	.000	.844	.000	.000	.000	.000	.635

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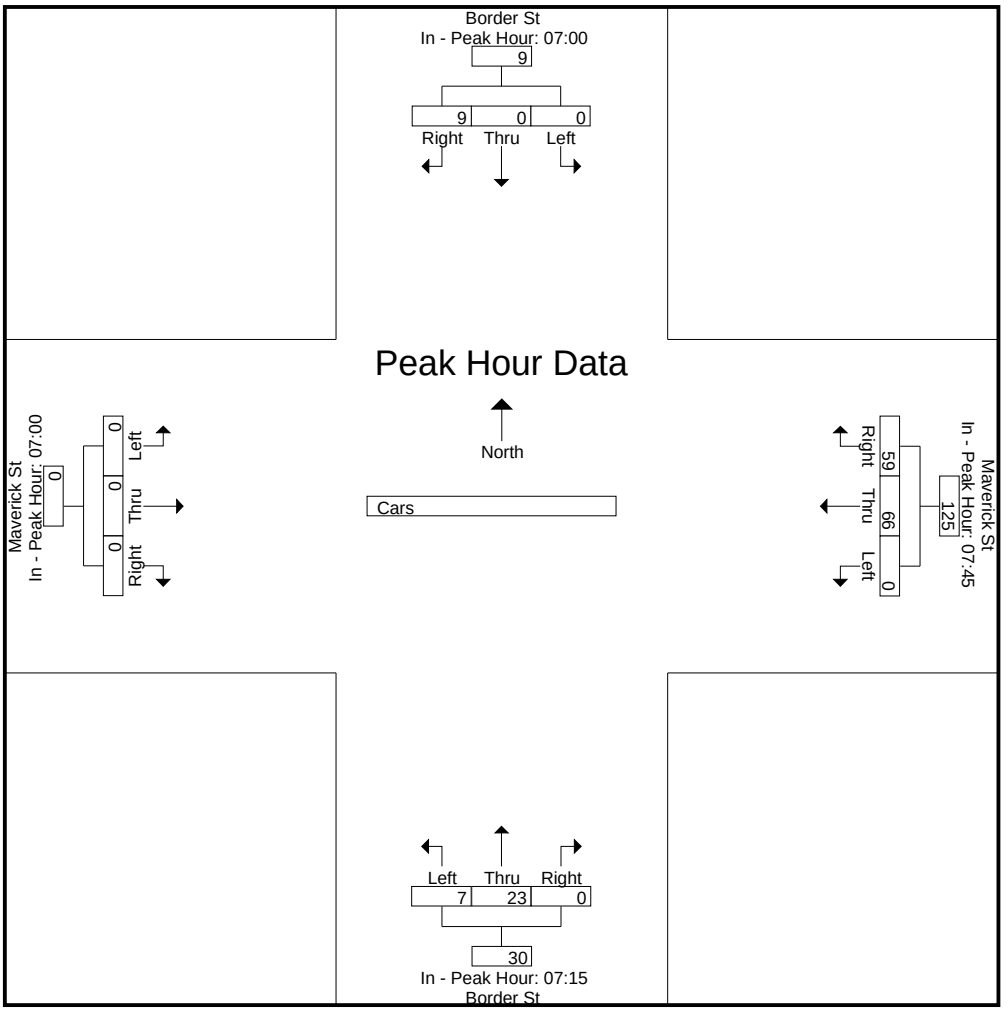
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:45				07:15				07:00			
+0 mins.	0	0	2	2	0	9	8	17	2	8	0	10	0	0	0	0
+15 mins.	0	0	4	4	0	28	24	52	0	4	0	4	0	0	0	0
+30 mins.	0	0	1	1	0	15	22	37	2	6	0	8	0	0	0	0
+45 mins.	0	0	2	2	0	14	5	19	3	5	0	8	0	0	0	0
Total Volume	0	0	9	9	0	66	59	125	7	23	0	30	0	0	0	0
% App. Total	0	0	100		0	52.8	47.2		23.3	76.7	0		0	0	0	
PHF	.000	.000	.563	.563	.000	.589	.615	.601	.583	.719	.000	.750	.000	.000	.000	.000

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N/S Street : Liverpool Street
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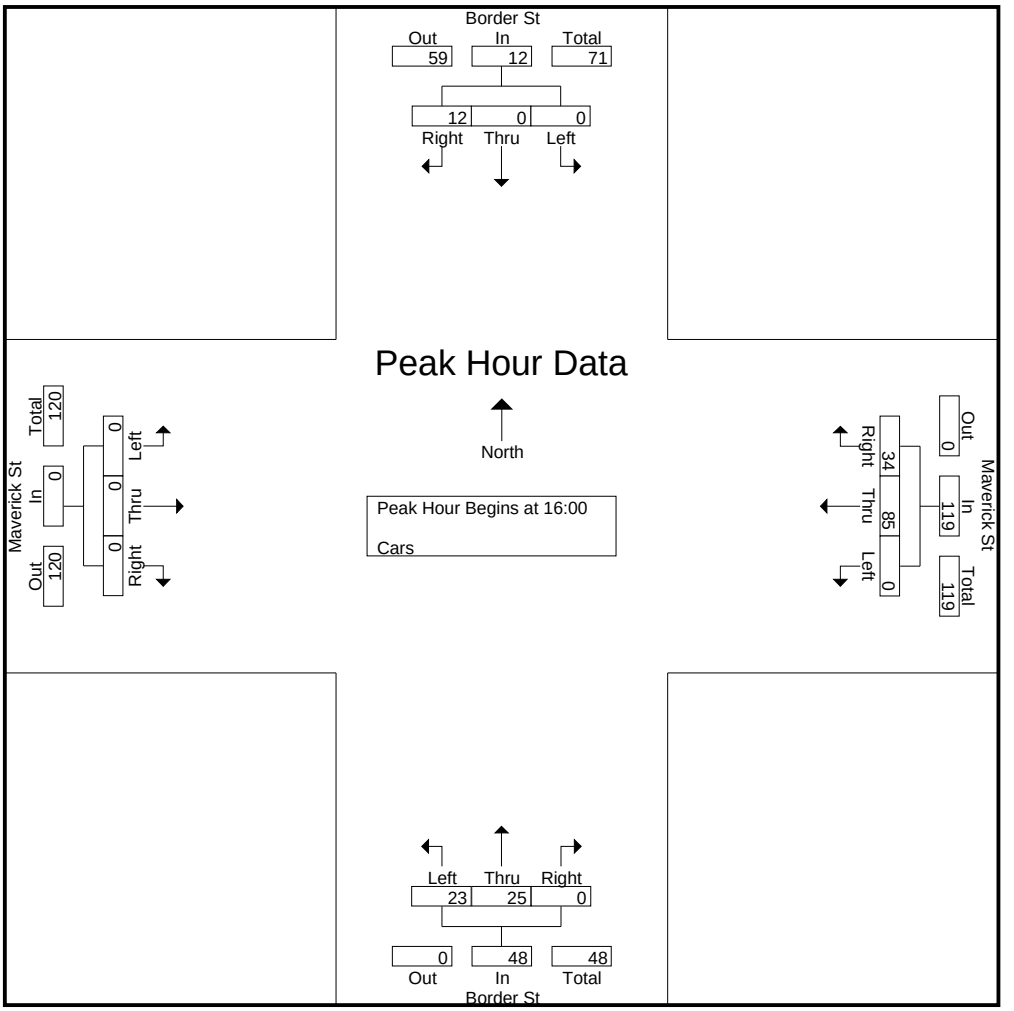
Groups Printed- Cars

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	1	0	0	26	7	8	5	6	0	9	0	0	0	2	19	45	64
16:15	0	0	3	11	0	21	6	4	4	3	0	6	0	0	0	3	24	37	61
16:30	0	0	4	12	0	20	12	19	7	5	0	10	0	0	0	2	43	48	91
16:45	0	0	4	7	0	18	9	3	7	11	0	5	0	0	0	4	19	49	68
Total	0	0	12	30	0	85	34	34	23	25	0	30	0	0	0	11	105	179	284
17:00	0	0	1	9	0	16	5	9	3	3	0	10	0	0	0	5	33	28	61
17:15	0	0	2	4	0	14	4	18	7	2	0	8	0	0	0	7	37	29	66
17:30	0	0	2	6	0	16	5	0	3	12	0	11	0	0	0	2	19	38	57
17:45	0	0	2	1	0	19	7	5	5	4	0	0	0	0	0	1	7	37	44
Total	0	0	7	20	0	65	21	32	18	21	0	29	0	0	0	15	96	132	228
Grand Total	0	0	19	50	0	150	55	66	41	46	0	59	0	0	0	26	201	311	512
Apprch %	0	0	100		0	73.2	26.8		47.1	52.9	0		0	0	0				
Total %	0	0	6.1		0	48.2	17.7		13.2	14.8	0		0	0	0		39.3	60.7	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	1	1	0	26	7	33	5	6	0	11	0	0	0	0	45
16:15	0	0	3	3	0	21	6	27	4	3	0	7	0	0	0	0	37
16:30	0	0	4	4	0	20	12	32	7	5	0	12	0	0	0	0	48
16:45	0	0	4	4	0	18	9	27	7	11	0	18	0	0	0	0	49
Total Volume	0	0	12	12	0	85	34	119	23	25	0	48	0	0	0	0	179
% App. Total	0	0	100		0	71.4	28.6		47.9	52.1	0		0	0	0		
PHF	.000	.000	.750	.750	.000	.817	.708	.902	.821	.568	.000	.667	.000	.000	.000	.000	.913

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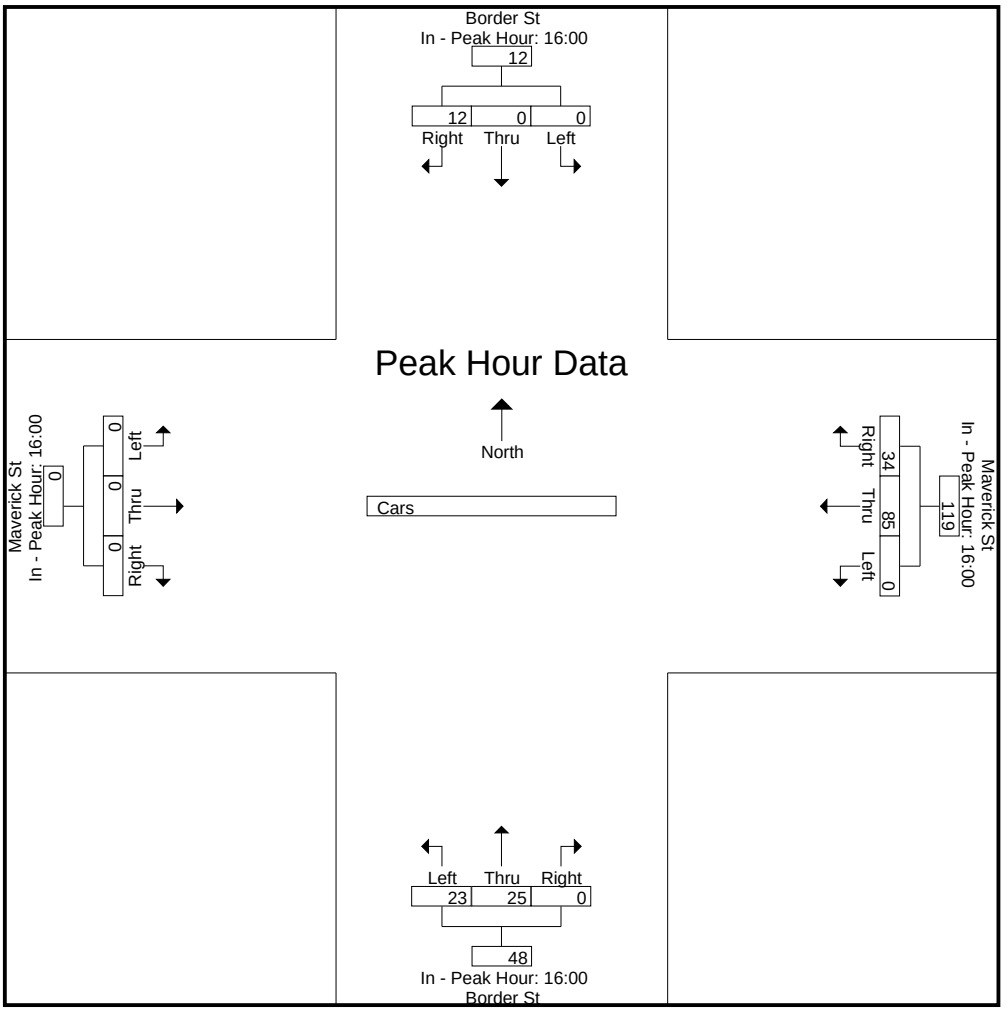
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:00			
+0 mins.	0	0	1	1	0	26	7	33	5	6	0	11	0	0	0	0
+15 mins.	0	0	3	3	0	21	6	27	4	3	0	7	0	0	0	0
+30 mins.	0	0	4	4	0	20	12	32	7	5	0	12	0	0	0	0
+45 mins.	0	0	4	4	0	18	9	27	7	11	0	18	0	0	0	0
Total Volume	0	0	12	12	0	85	34	119	23	25	0	48	0	0	0	0
% App. Total	0	0	100		0	71.4	28.6		47.9	52.1	0		0	0	0	
PHF	.000	.000	.750	.750	.000	.817	.708	.902	.821	.568	.000	.667	.000	.000	.000	.000

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N/S Street : Border Street
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City/State : Boston, MA
Weather : Clear

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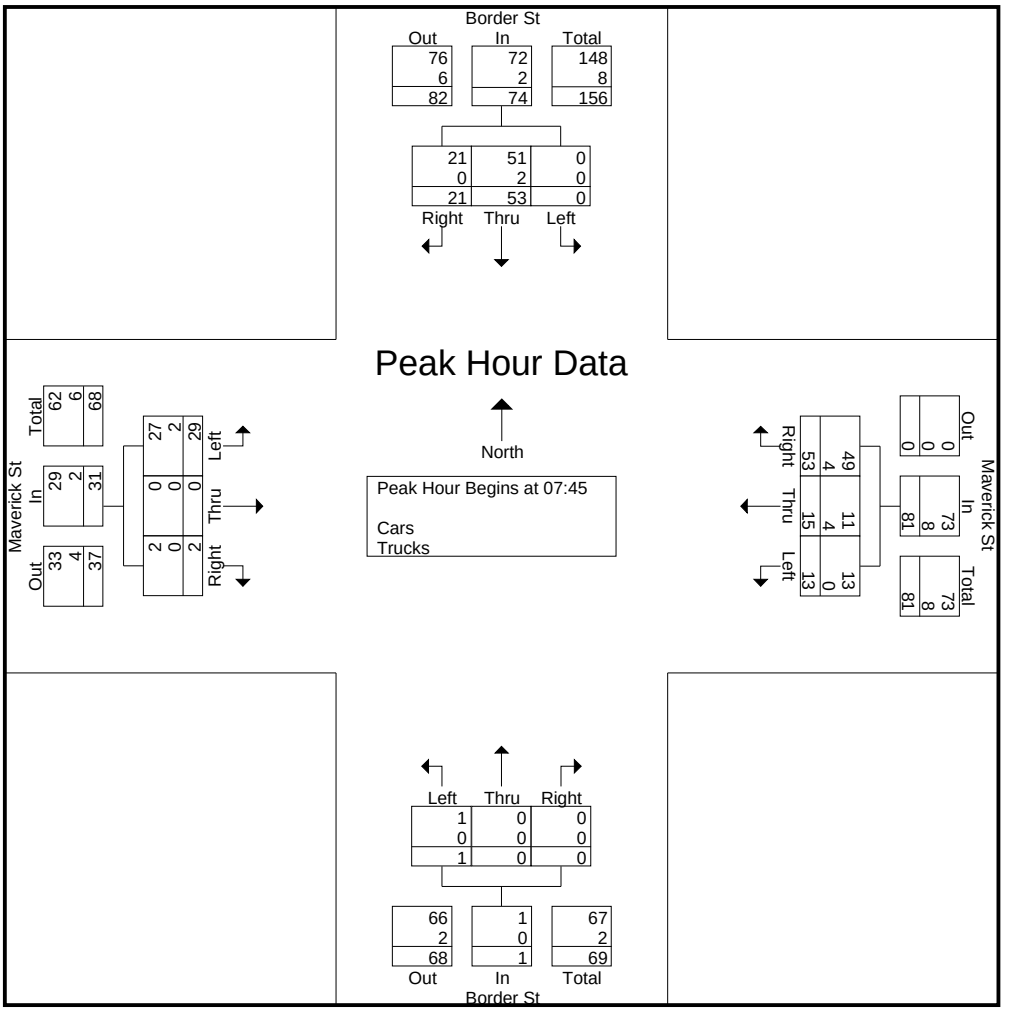
Groups Printed- Cars - Trucks

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	3	5	1	2	2	3	5	0	0	0	1	3	0	0	0	7	18	25
07:15	0	6	7	1	3	4	8	4	0	0	0	0	3	0	0	0	5	31	36
07:30	0	7	1	0	1	2	7	2	0	0	0	1	12	0	0	3	6	30	36
07:45	0	15	7	1	3	4	10	2	0	0	0	1	9	0	0	4	8	48	56
Total	0	31	20	3	9	12	28	13	0	0	0	3	27	0	0	7	26	127	153
08:00	0	10	4	0	5	6	21	2	0	0	0	2	9	0	1	1	5	56	61
08:15	0	9	4	2	2	2	12	5	0	0	0	7	4	0	0	2	16	33	49
08:30	0	19	6	2	3	3	10	2	1	0	0	1	7	0	1	2	7	50	57
08:45	0	8	2	5	3	4	13	12	0	0	0	0	3	0	1	2	19	34	53
Total	0	46	16	9	13	15	56	21	1	0	0	10	23	0	3	7	47	173	220
Grand Total	0	77	36	12	22	27	84	34	1	0	0	13	50	0	3	14	73	300	373
Apprch %	0	68.1	31.9		16.5	20.3	63.2		100	0	0		94.3	0	5.7				
Total %	0	25.7	12		7.3	9	28		0.3	0	0		16.7	0	1		19.6	80.4	
Cars	0	73	36		20	18	76		1	0	0		46	0	3		0	0	346
% Cars	0	94.8	100	100	90.9	66.7	90.5	100	100	0	0	100	92	0	100	100	0	0	92.8
Trucks	0	4	0		2	9	8		0	0	0		4	0	0		0	0	27
% Trucks	0	5.2	0	0	9.1	33.3	9.5	0	0	0	0	0	8	0	0	0	0	0	7.2

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	15	7	22	3	4	10	17	0	0	0	0	9	0	0	9	48
08:00	0	10	4	14	5	6	21	32	0	0	0	0	9	0	1	10	56
08:15	0	9	4	13	2	2	12	16	0	0	0	0	4	0	0	4	33
08:30	0	19	6	25	3	3	10	16	1	0	0	1	7	0	1	8	50
Total Volume	0	53	21	74	13	15	53	81	1	0	0	1	29	0	2	31	187
% App. Total	0	71.6	28.4		16	18.5	65.4		100	0	0		93.5	0	6.5		
PHF	.000	.697	.750	.740	.650	.625	.631	.633	.250	.000	.000	.250	.806	.000	.500	.775	.835
Cars	0	51	21	72	13	11	49	73	1	0	0	1	27	0	2	29	175
% Cars	0	96.2	100	97.3	100	73.3	92.5	90.1	100	0	0	100	93.1	0	100	93.5	93.6
Trucks	0	2	0	2	0	4	4	8	0	0	0	0	2	0	0	2	12
% Trucks	0	3.8	0	2.7	0	26.7	7.5	9.9	0	0	0	0	6.9	0	0	6.5	6.4

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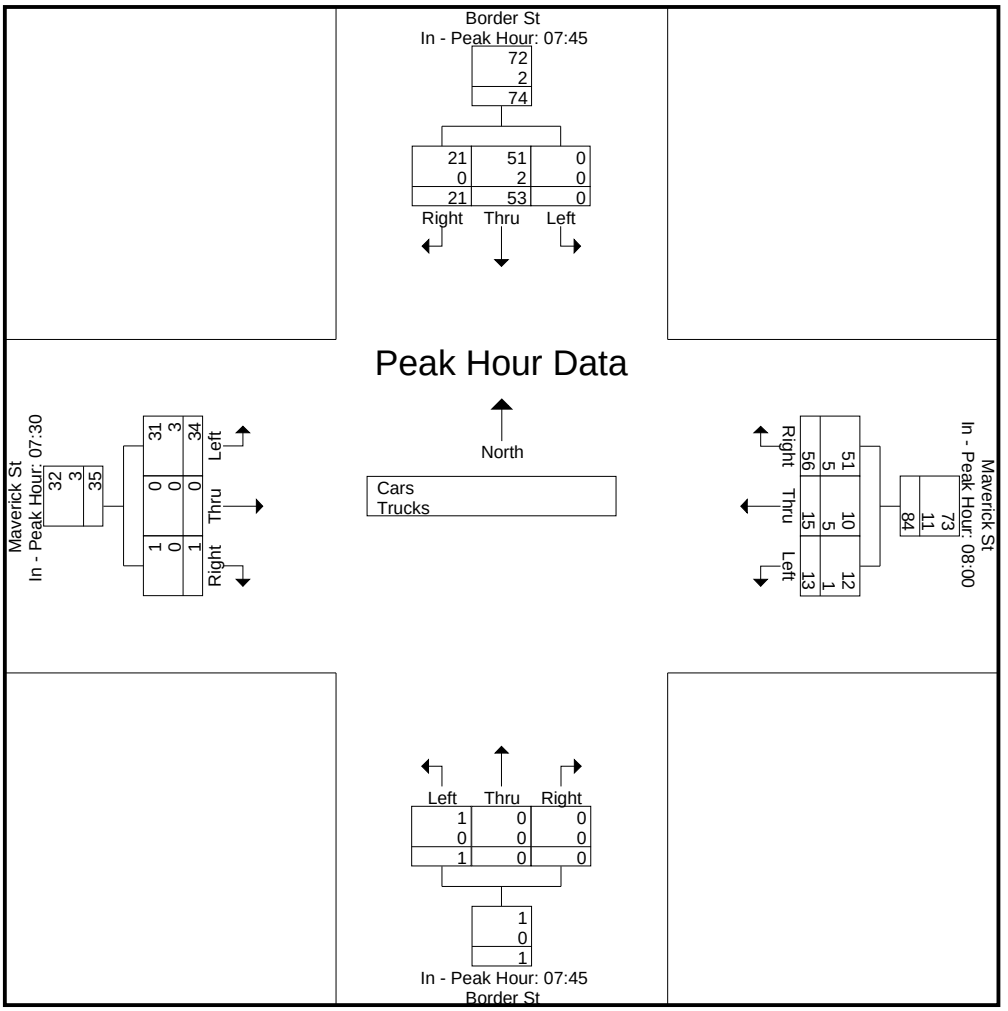
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				08:00				07:45				07:30			
+0 mins.	0	15	7	22	5	6	21	32	0	0	0	0	12	0	0	12
+15 mins.	0	10	4	14	2	2	12	16	0	0	0	0	9	0	0	9
+30 mins.	0	9	4	13	3	3	10	16	0	0	0	0	9	0	1	10
+45 mins.	0	19	6	25	3	4	13	20	1	0	0	1	4	0	0	4
Total Volume	0	53	21	74	13	15	56	84	1	0	0	1	34	0	1	35
% App. Total	0	71.6	28.4		15.5	17.9	66.7		100	0	0		97.1	0	2.9	
PHF	.000	.697	.750	.740	.650	.625	.667	.656	.250	.000	.000	.250	.708	.000	.250	.729
Cars	0	51	21	72	12	10	51	73	1	0	0	1	31	0	1	32
% Cars	0	96.2	100	97.3	92.3	66.7	91.1	86.9	100	0	0	100	91.2	0	100	91.4
Trucks	0	2	0	2	1	5	5	11	0	0	0	0	3	0	0	3
% Trucks	0	3.8	0	2.7	7.7	33.3	8.9	13.1	0	0	0	0	8.8	0	0	8.6

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N/S Street : Border Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

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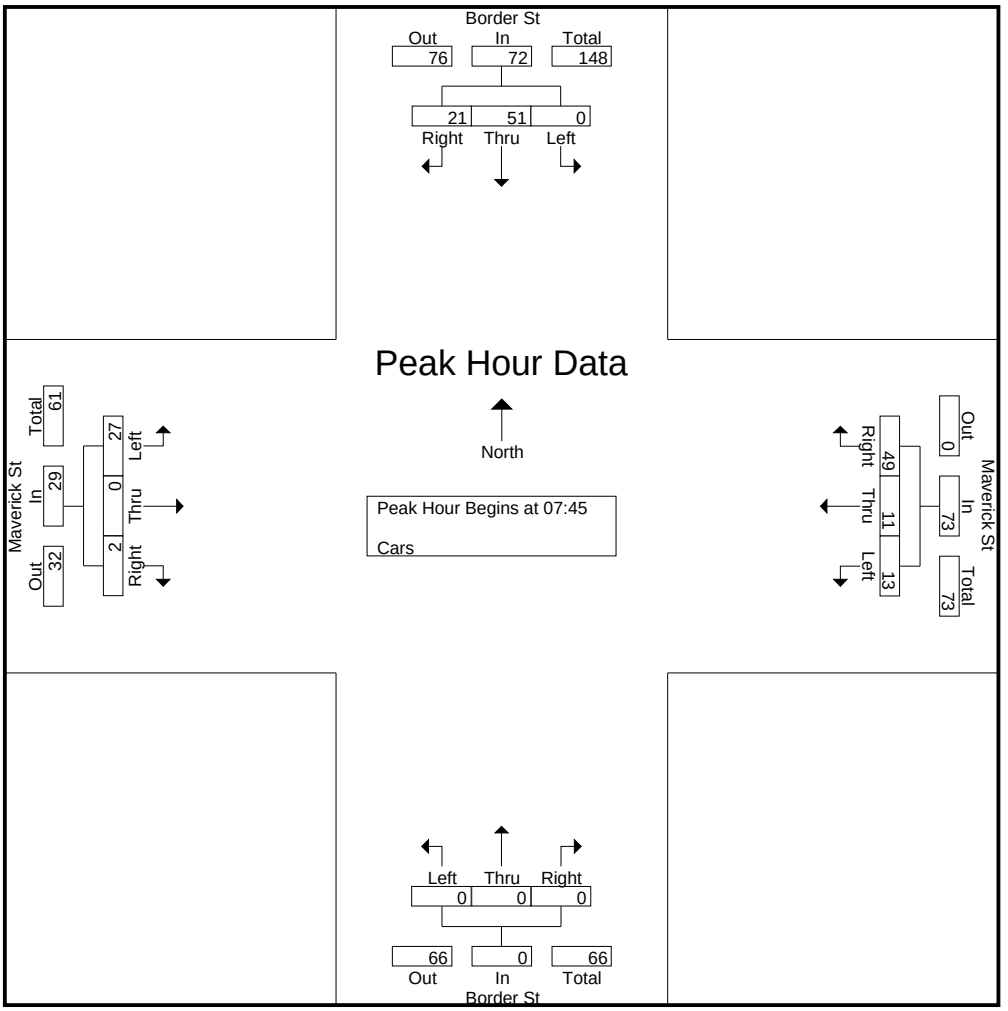
Groups Printed- Cars

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	3	5	1	1	1	3	5	0	0	0	1	3	0	0	0	7	16	23
07:15	0	5	7	1	3	2	7	4	0	0	0	0	2	0	0	0	5	26	31
07:30	0	7	1	0	1	2	6	2	0	0	0	1	11	0	0	3	6	28	34
07:45	0	15	7	1	3	3	9	2	0	0	0	1	9	0	0	4	8	46	54
Total	0	30	20	3	8	8	25	13	0	0	0	3	25	0	0	7	26	116	142
08:00	0	10	4	0	5	5	19	2	0	0	0	2	8	0	1	1	5	52	57
08:15	0	9	4	2	2	1	12	5	0	0	0	7	3	0	0	2	16	31	47
08:30	0	17	6	2	3	2	9	2	0	0	0	1	7	0	1	2	7	45	52
08:45	0	7	2	5	2	2	11	12	0	0	0	0	3	0	1	2	19	28	47
Total	0	43	16	9	12	10	51	21	0	0	0	10	21	0	3	7	47	156	203
Grand Total	0	73	36	12	20	18	76	34	0	0	0	13	46	0	3	14	73	272	345
Apprch %	0	67	33		17.5	15.8	66.7		0	0	0		93.9	0	6.1				
Total %	0	26.8	13.2		7.4	6.6	27.9		0	0	0		16.9	0	1.1		21.2	78.8	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	15	7	22	3	3	9	15	0	0	0	0	9	0	0	9	46
08:00	0	10	4	14	5	5	19	29	0	0	0	0	8	0	1	9	52
08:15	0	9	4	13	2	1	12	15	0	0	0	0	3	0	0	3	31
08:30	0	17	6	23	3	2	9	14	0	0	0	0	7	0	1	8	45
Total Volume	0	51	21	72	13	11	49	73	0	0	0	0	27	0	2	29	174
% App. Total	0	70.8	29.2		17.8	15.1	67.1		0	0	0		93.1	0	6.9		
PHF	.000	.750	.750	.783	.650	.550	.645	.629	.000	.000	.000	.000	.750	.000	.500	.806	.837

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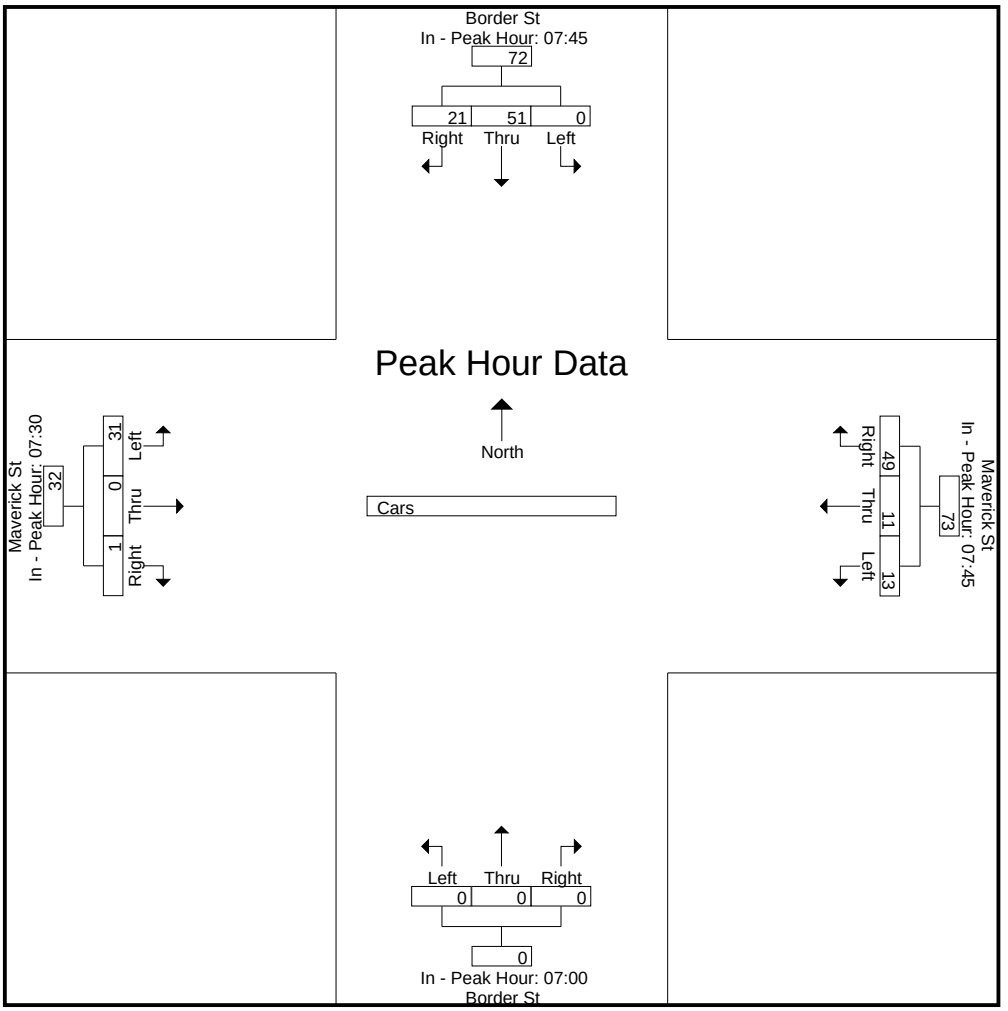
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:45				07:00				07:30			
+0 mins.	0	15	7	22	3	3	9	15	0	0	0	0	11	0	0	11
+15 mins.	0	10	4	14	5	5	19	29	0	0	0	0	9	0	0	9
+30 mins.	0	9	4	13	2	1	12	15	0	0	0	0	8	0	1	9
+45 mins.	0	17	6	23	3	2	9	14	0	0	0	0	3	0	0	3
Total Volume	0	51	21	72	13	11	49	73	0	0	0	0	31	0	1	32
% App. Total	0	70.8	29.2		17.8	15.1	67.1		0	0	0		96.9	0	3.1	
PHF	.000	.750	.750	.783	.650	.550	.645	.629	.000	.000	.000	.000	.705	.000	.250	.727

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N/S Street : Border Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

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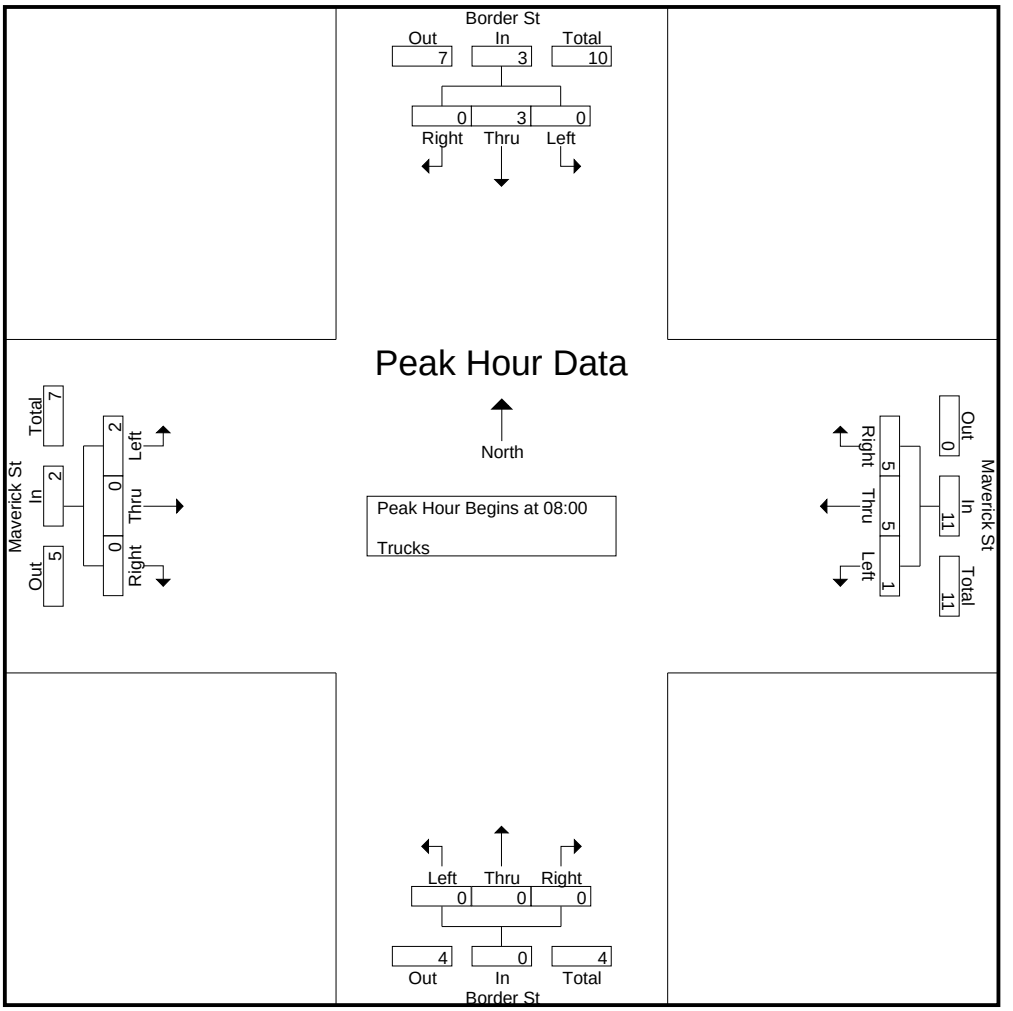
Groups Printed- Trucks

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	2
07:15	0	1	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	5	5
07:30	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	2
07:45	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	1	0	0	1	4	3	0	0	0	0	0	2	0	0	0	0	11	11
08:00	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	0	0	4	4
08:15	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
08:30	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	4
08:45	0	1	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	6	6
Total	0	3	0	0	1	5	5	0	0	0	0	0	2	0	0	0	0	16	16
Grand Total	0	4	0	0	2	9	8	0	0	0	0	0	4	0	0	0	0	27	27
Apprch %	0	100	0		10.5	47.4	42.1		0	0	0		100	0	0				
Total %	0	14.8	0		7.4	33.3	29.6		0	0	0		14.8	0	0		0	100	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	0	0	0	1	2	3	0	0	0	0	1	0	0	1	4
08:15	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
08:30	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
08:45	0	1	0	1	1	2	2	5	0	0	0	0	0	0	0	0	6
Total Volume	0	3	0	3	1	5	5	11	0	0	0	0	2	0	0	2	16
% App. Total	0	100	0		9.1	45.5	45.5		0	0	0		100	0	0		
PHF	.000	.375	.000	.375	.250	.625	.625	.550	.000	.000	.000	.000	.500	.000	.000	.500	.667

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
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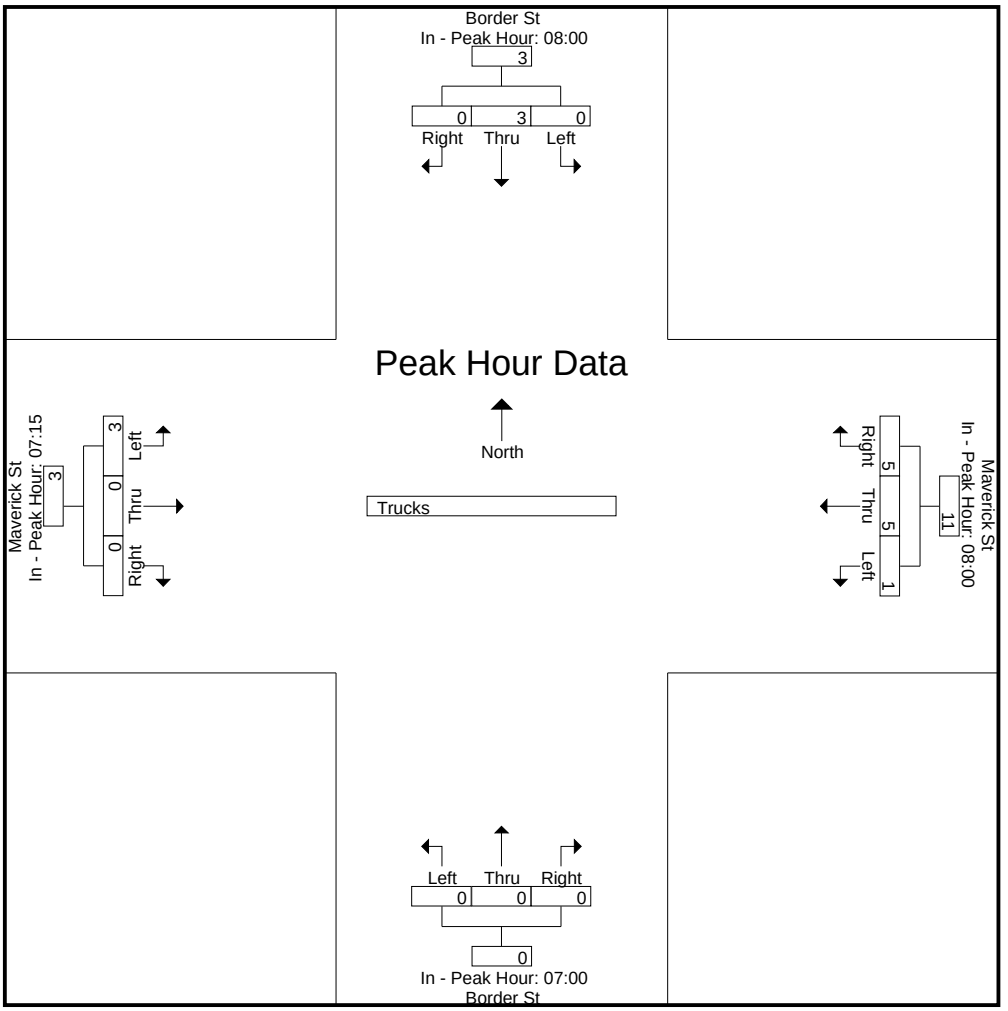
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00				08:00				07:00				07:15			
+0 mins.	0	0	0	0	0	1	2	3	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1
+30 mins.	0	2	0	2	0	1	1	2	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	1	2	2	5	0	0	0	0	1	0	0	1
Total Volume	0	3	0	3	1	5	5	11	0	0	0	0	3	0	0	3
% App. Total	0	100	0		9.1	45.5	45.5		0	0	0		100	0	0	
PHF	.000	.375	.000	.375	.250	.625	.625	.550	.000	.000	.000	.000	.750	.000	.000	.750

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
Page No : 3



N/S Street : Border Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
Page No : 1

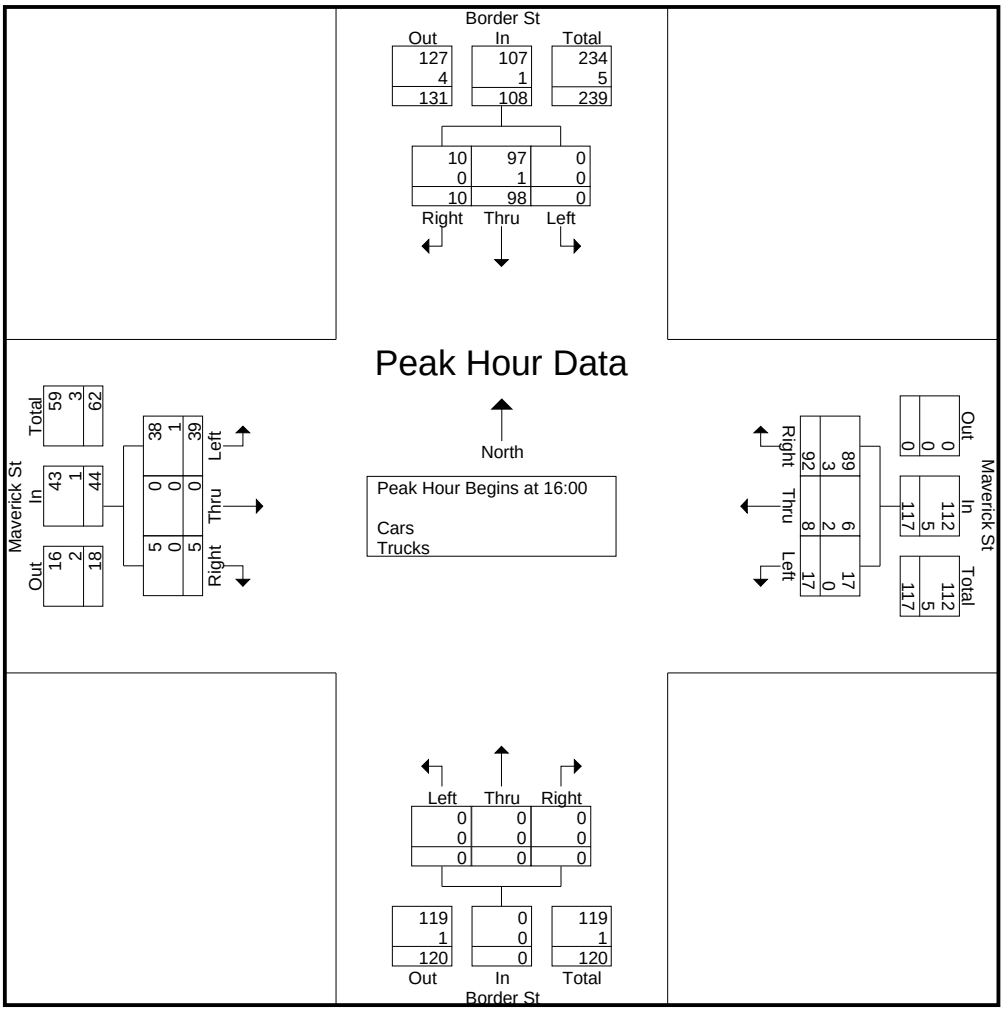
Groups Printed- Cars - Trucks

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	19	5	1	3	1	25	5	0	0	0	2	10	0	5	6	14	68	82
16:15	0	22	2	1	3	2	26	6	0	0	0	4	11	0	0	6	17	66	83
16:30	0	27	1	3	3	1	23	9	0	0	0	5	10	0	0	5	22	65	87
16:45	0	30	2	0	8	4	18	15	0	0	0	1	8	0	0	3	19	70	89
Total	0	98	10	5	17	8	92	35	0	0	0	12	39	0	5	20	72	269	341
17:00	0	11	4	0	1	2	18	2	0	0	0	6	13	0	2	3	11	51	62
17:15	0	31	2	0	2	5	20	1	0	0	0	2	12	0	1	3	6	73	79
17:30	0	14	3	0	2	4	15	3	0	0	0	4	14	0	0	2	9	52	61
17:45	0	15	5	0	5	1	16	3	0	0	0	0	5	0	0	1	4	47	51
Total	0	71	14	0	10	12	69	9	0	0	0	12	44	0	3	9	30	223	253
Grand Total	0	169	24	5	27	20	161	44	0	0	0	24	83	0	8	29	102	492	594
Apprch %	0	87.6	12.4		13	9.6	77.4		0	0	0		91.2	0	8.8				
Total %	0	34.3	4.9		5.5	4.1	32.7		0	0	0		16.9	0	1.6		17.2	82.8	
Cars	0	168	24		27	15	158		0	0	0		82	0	8		0	0	584
% Cars	0	99.4	100	100	100	75	98.1	100	0	0	0	100	98.8	0	100	100	0	0	98.3
Trucks	0	1	0		0	5	3		0	0	0		1	0	0		0	0	10
% Trucks	0	0.6	0	0	0	25	1.9	0	0	0	0	0	1.2	0	0	0	0	0	1.7

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	19	5	24	3	1	25	29	0	0	0	0	10	0	5	15	68
16:15	0	22	2	24	3	2	26	31	0	0	0	0	11	0	0	11	66
16:30	0	27	1	28	3	1	23	27	0	0	0	0	10	0	0	10	65
16:45	0	30	2	32	8	4	18	30	0	0	0	0	8	0	0	8	70
Total Volume	0	98	10	108	17	8	92	117	0	0	0	0	39	0	5	44	269
% App. Total	0	90.7	9.3		14.5	6.8	78.6		0	0	0		88.6	0	11.4		
PHF	.000	.817	.500	.844	.531	.500	.885	.944	.000	.000	.000	.000	.886	.000	.250	.733	.961
Cars	0	97	10	107	17	6	89	112	0	0	0	0	38	0	5	43	262
% Cars	0	99.0	100	99.1	100	75.0	96.7	95.7	0	0	0	0	97.4	0	100	97.7	97.4
Trucks	0	1	0	1	0	2	3	5	0	0	0	0	1	0	0	1	7
% Trucks	0	1.0	0	0.9	0	25.0	3.3	4.3	0	0	0	0	2.6	0	0	2.3	2.6

Accurate Counts
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File Name : 60830009
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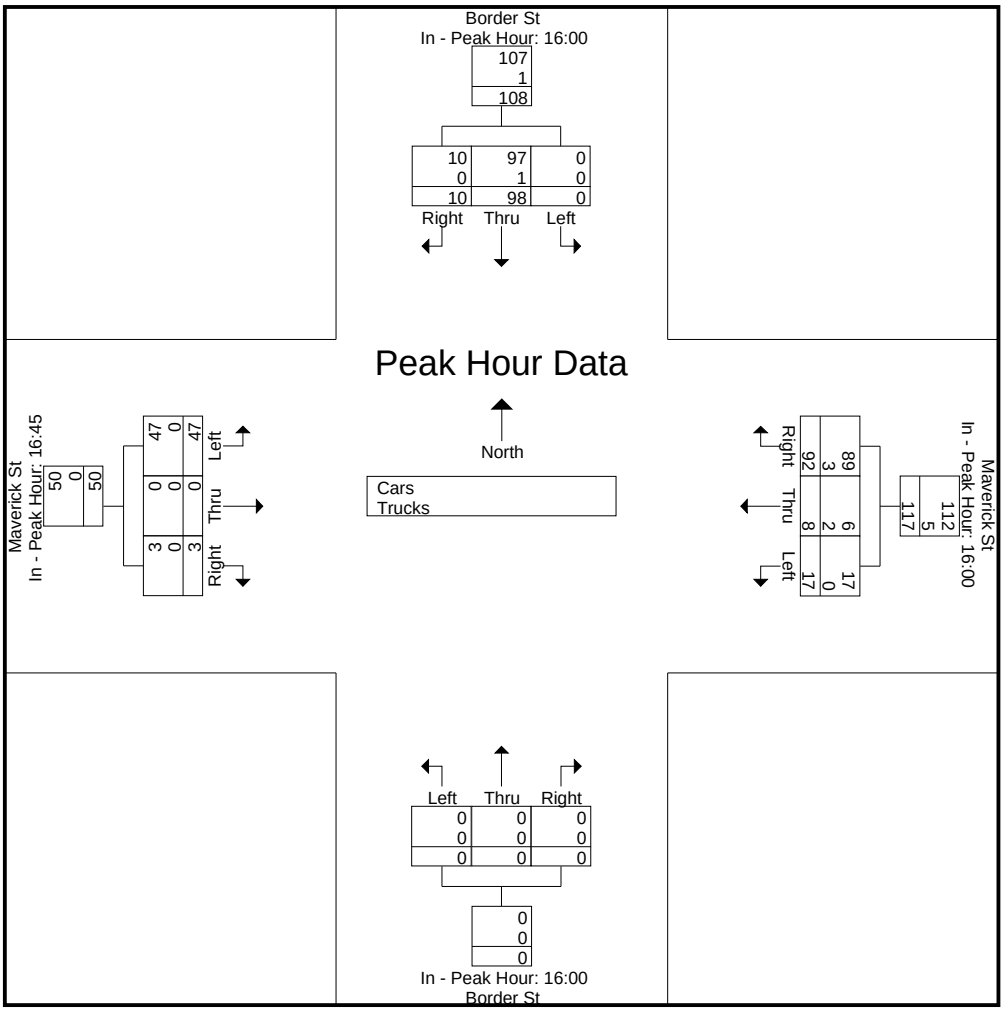
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:45			
+0 mins.	0	19	5	24	3	1	25	29	0	0	0	0	8	0	0	8
+15 mins.	0	22	2	24	3	2	26	31	0	0	0	0	13	0	2	15
+30 mins.	0	27	1	28	3	1	23	27	0	0	0	0	12	0	1	13
+45 mins.	0	30	2	32	8	4	18	30	0	0	0	0	14	0	0	14
Total Volume	0	98	10	108	17	8	92	117	0	0	0	0	47	0	3	50
% App. Total	0	90.7	9.3		14.5	6.8	78.6		0	0	0		94	0	6	
PHF	.000	.817	.500	.844	.531	.500	.885	.944	.000	.000	.000	.000	.839	.000	.375	.833
Cars	0	97	10	107	17	6	89	112	0	0	0	0	47	0	3	50
% Cars	0	99	100	99.1	100	75	96.7	95.7	0	0	0	0	100	0	100	100
Trucks	0	1	0	1	0	2	3	5	0	0	0	0	0	0	0	0
% Trucks	0	1	0	0.9	0	25	3.3	4.3	0	0	0	0	0	0	0	0

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
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N/S Street : Border Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
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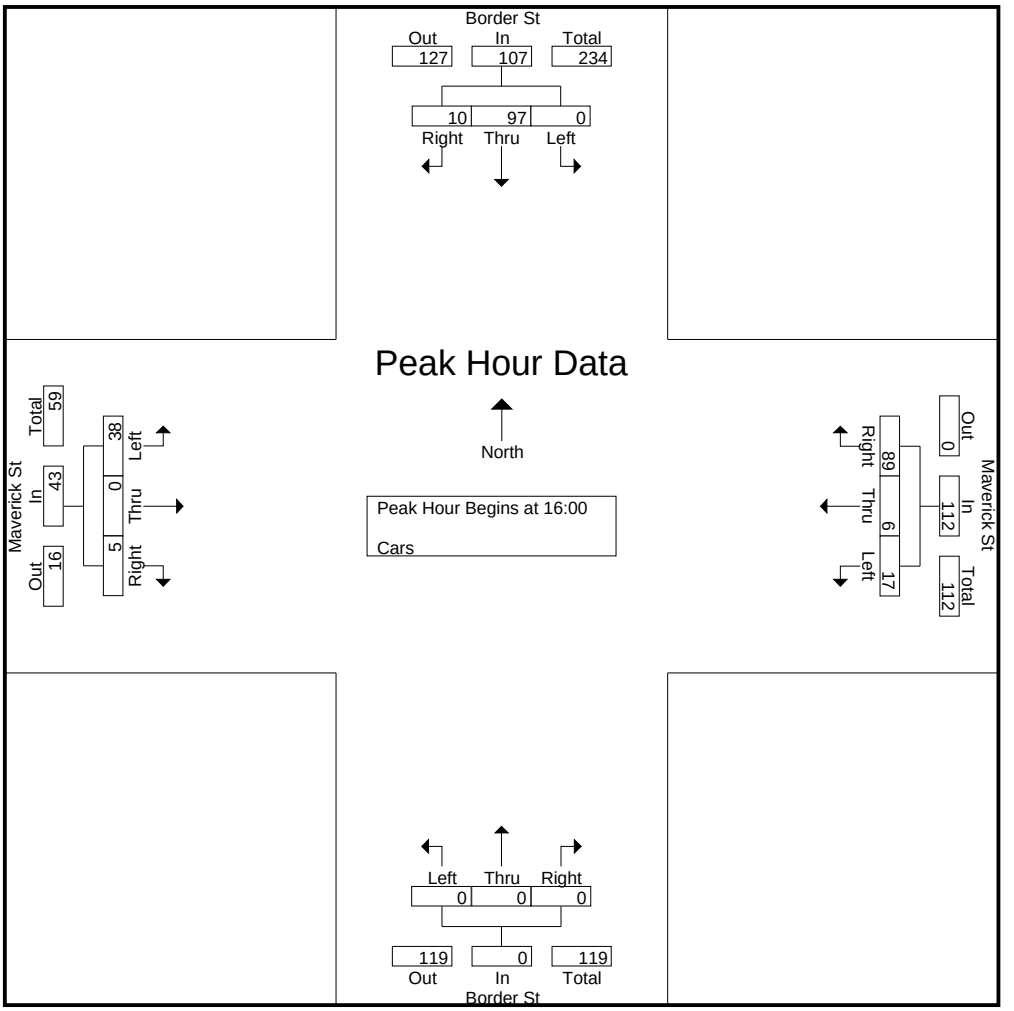
Groups Printed- Cars

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	19	5	1	3	1	25	5	0	0	0	2	10	0	5	6	14	68	82
16:15	0	22	2	1	3	1	25	6	0	0	0	4	11	0	0	6	17	64	81
16:30	0	27	1	3	3	1	22	9	0	0	0	5	9	0	0	5	22	63	85
16:45	0	29	2	0	8	3	17	15	0	0	0	1	8	0	0	3	19	67	86
Total	0	97	10	5	17	6	89	35	0	0	0	12	38	0	5	20	72	262	334
17:00	0	11	4	0	1	1	18	2	0	0	0	6	13	0	2	3	11	50	61
17:15	0	31	2	0	2	5	20	1	0	0	0	2	12	0	1	3	6	73	79
17:30	0	14	3	0	2	2	15	3	0	0	0	4	14	0	0	2	9	50	59
17:45	0	15	5	0	5	1	16	3	0	0	0	0	5	0	0	1	4	47	51
Total	0	71	14	0	10	9	69	9	0	0	0	12	44	0	3	9	30	220	250
Grand Total	0	168	24	5	27	15	158	44	0	0	0	24	82	0	8	29	102	482	584
Apprch %	0	87.5	12.5		13.5	7.5	79		0	0	0		91.1	0	8.9				
Total %	0	34.9	5		5.6	3.1	32.8		0	0	0		17	0	1.7		17.5	82.5	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	19	5	24	3	1	25	29	0	0	0	0	10	0	5	15	68
16:15	0	22	2	24	3	1	25	29	0	0	0	0	11	0	0	11	64
16:30	0	27	1	28	3	1	22	26	0	0	0	0	9	0	0	9	63
16:45	0	29	2	31	8	3	17	28	0	0	0	0	8	0	0	8	67
Total Volume	0	97	10	107	17	6	89	112	0	0	0	0	38	0	5	43	262
% App. Total	0	90.7	9.3		15.2	5.4	79.5		0	0	0		88.4	0	11.6		
PHF	.000	.836	.500	.863	.531	.500	.890	.966	.000	.000	.000	.000	.864	.000	.250	.717	.963

Accurate Counts
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File Name : 60830009
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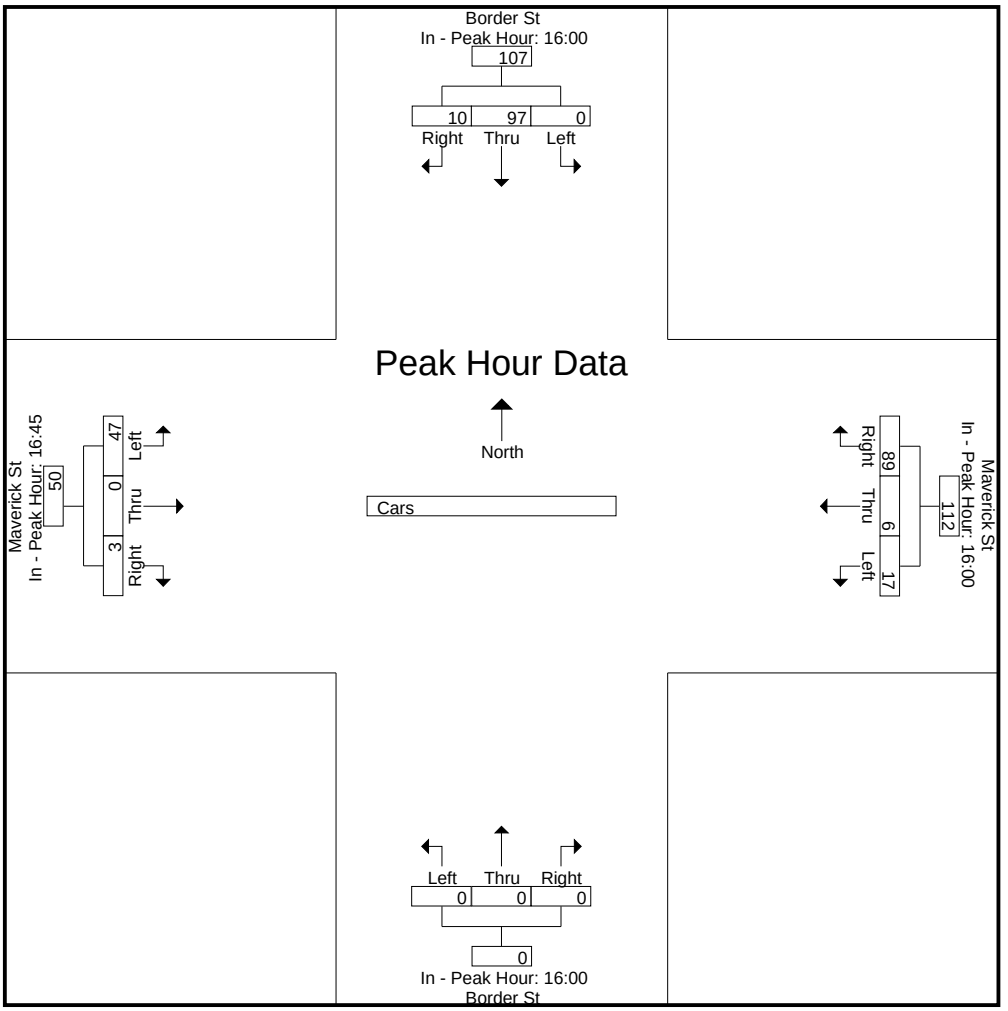
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:45			
+0 mins.	0	19	5	24	3	1	25	29	0	0	0	0	8	0	0	8
+15 mins.	0	22	2	24	3	1	25	29	0	0	0	0	13	0	2	15
+30 mins.	0	27	1	28	3	1	22	26	0	0	0	0	12	0	1	13
+45 mins.	0	29	2	31	8	3	17	28	0	0	0	0	14	0	0	14
Total Volume	0	97	10	107	17	6	89	112	0	0	0	0	47	0	3	50
% App. Total	0	90.7	9.3		15.2	5.4	79.5		0	0	0		94	0	6	
PHF	.000	.836	.500	.863	.531	.500	.890	.966	.000	.000	.000	.000	.839	.000	.375	.833

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
Page No : 3



N/S Street : Border Street
E/W Street: Maverick Street
City/State : Boston, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
Page No : 1

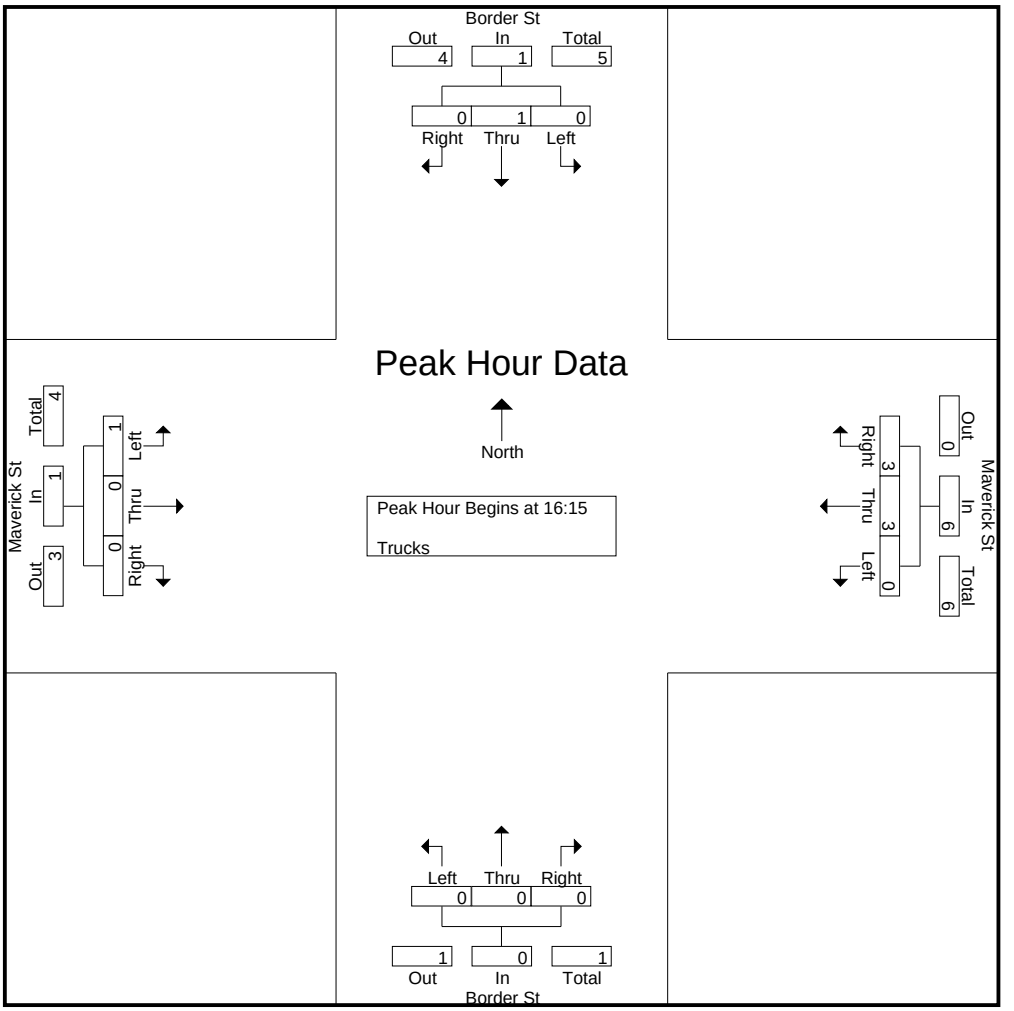
Groups Printed- Trucks

	Border St From North				Maverick St From East				Border St From South				Maverick St 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	0	0	0	0
16:15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2
16:30	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	2
16:45	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3	3
Total	0	1	0	0	0	2	3	0	0	0	0	0	1	0	0	0	0	7	7
17:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
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	2	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	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
Grand Total	0	1	0	0	0	5	3	0	0	0	0	0	1	0	0	0	0	10	10
Apprch %	0	100	0		0	62.5	37.5		0	0	0		100	0	0				
Total %	0	10	0		0	50	30		0	0	0		10	0	0		0	100	

	Border St From North				Maverick St From East				Border St From South				Maverick St 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 16:15																	
16:15	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
16:30	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	2
16:45	0	1	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
17:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	3	3	6	0	0	0	0	1	0	0	1	8
% App. Total	0	100	0		0	50	50		0	0	0		100	0	0		
PHF	.000	.250	.000	.250	.000	.750	.750	.750	.000	.000	.000	.000	.250	.000	.000	.250	.667

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
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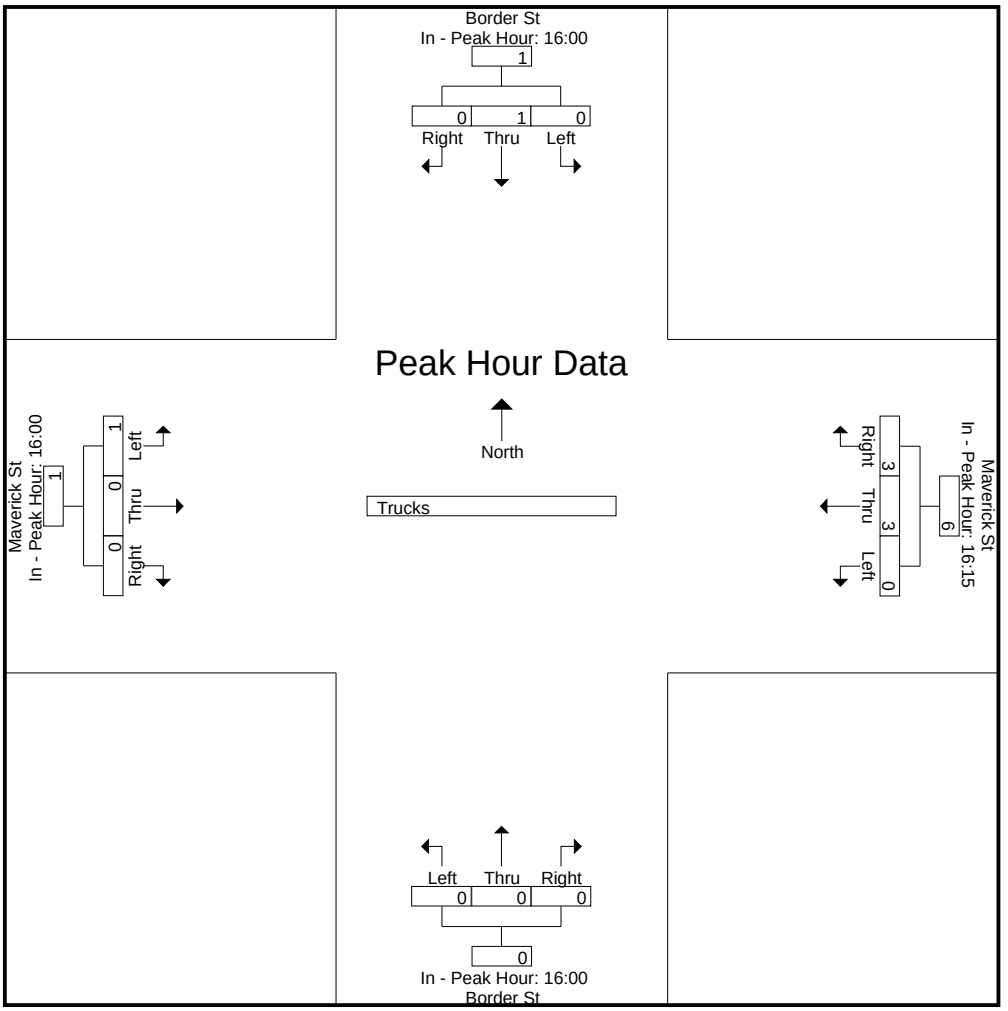
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

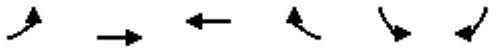
	16:00				16:15				16:00				16:00			
+0 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	1	2	0	0	0	0	1	0	0	1
+45 mins.	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	3	3	6	0	0	0	0	1	0	0	1
% App. Total	0	100	0		0	50	50		0	0	0		100	0	0	
PHF	.000	.250	.000	.250	.000	.750	.750	.750	.000	.000	.000	.000	.250	.000	.000	.250

Accurate Counts
978-664-2565

File Name : 60830009
Site Code : 60830009
Start Date : 1/16/2008
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APPENDIX 6-2-1 SYNCHRO REPORTS: EXISTING CONDITIONS



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	83	37	37	0	0
Peak Hour Factor	0.67	0.90	0.93	0.71	0.92	0.92
Hourly flow rate (vph)	24	92	40	52	0	0
Pedestrians		23	52		44	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	136				302	133
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136				302	133
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1424				645	901

Direction, Lane #	EB 1	WB 1
Volume Total	116	92
Volume Left	24	0
Volume Right	0	52
cSH	1424	1700
Volume to Capacity	0.02	0.05
Queue Length 95th (ft)	1	0
Control Delay (s)	1.7	0.0
Lane LOS	A	
Approach Delay (s)	1.7	0.0
Approach LOS		

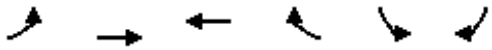
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	61	2	2	32	0	0	0	0	33	3	11
Peak Hour Factor	0.92	0.81	0.50	0.50	0.89	0.92	0.92	0.92	0.92	0.83	0.75	0.69
Hourly flow rate (vph)	0	75	4	4	36	0	0	0	0	40	4	16
Pedestrians		17			17			27			35	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	71			106			183	183	121	173	185	88
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	71			106			183	183	121	173	185	88
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	100			100			100	100	100	94	99	98
cM capacity (veh/h)	1501			1497			735	694	920	695	692	933

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	79	40	60
Volume Left	0	4	40
Volume Right	4	0	16
cSH	1700	1497	746
Volume to Capacity	0.05	0.00	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.8	10.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.2
Approach LOS			B

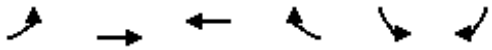
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	64	24	16	0	0
Peak Hour Factor	0.44	0.94	0.75	0.80	0.92	0.92
Hourly flow rate (vph)	16	68	32	20	0	0
Pedestrians		3	1		18	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	70				161	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70				161	63
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1544				825	1004

Direction, Lane #	EB 1	WB 1
Volume Total	84	52
Volume Left	16	0
Volume Right	0	20
cSH	1544	1700
Volume to Capacity	0.01	0.03
Queue Length 95th (ft)	1	0
Control Delay (s)	1.5	0.0
Lane LOS	A	
Approach Delay (s)	1.5	0.0
Approach LOS		

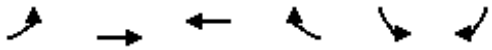
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	18	20	0	53	5
Peak Hour Factor	0.92	0.75	0.56	0.92	0.83	0.42
Hourly flow rate (vph)	0	24	36	0	64	12
Pedestrians			2		15	
Lane Width (ft)			15.0		11.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	51				77	51
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	51				77	51
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	99
cM capacity (veh/h)	1551				919	1011

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	36	76
Volume Left	0	0	64
Volume Right	0	0	12
cSH	1700	1700	932
Volume to Capacity	0.01	0.02	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	1	1	1	24	20	7
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.44
Hourly flow rate (vph)	1	1	1	48	24	16
Pedestrians		1	2			
Lane Width (ft)		16.0	14.0			
Walking Speed (ft/s)		4.0	4.0			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	106	59	67	2	2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	59	67	2	2	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	100	100	100	95	98	
cM capacity (veh/h)	825	820	812	1063	1536	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	2	49	40
Volume Left	1	0	24
Volume Right	0	48	16
cSH	823	1056	1536
Volume to Capacity	0.00	0.05	0.02
Queue Length 95th (ft)	0	4	1
Control Delay (s)	9.4	8.6	4.5
Lane LOS	A	A	A
Approach Delay (s)	9.4	8.6	4.5
Approach LOS	A	A	

Intersection Summary			
Average Delay		6.8	
Intersection Capacity Utilization		13.7%	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			Stop			Stop	
Volume (vph)	0	0	0	0	75	70	12	54	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.71	0.58	0.46	0.84	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	106	121	26	64	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	226	90
Volume Left (vph)	0	26
Volume Right (vph)	121	0
Hadj (s)	-0.30	0.08
Departure Headway (s)	3.8	4.4
Degree Utilization, x	0.24	0.11
Capacity (veh/h)	921	768
Control Delay (s)	8.0	8.0
Approach Delay (s)	8.0	8.0
Approach LOS	A	A

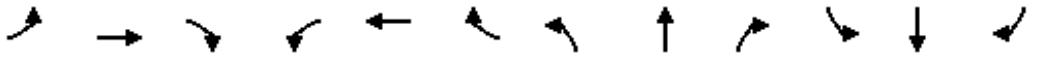
Intersection Summary				
Delay	8.0			
HCM Level of Service	A			
Intersection Capacity Utilization	24.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	60	0	0	0	0	0	47	68
Peak Hour Factor	0.92	0.92	0.92	0.82	0.69	0.92	0.92	0.92	0.92	0.92	0.51	0.50
Hourly flow rate (vph)	0	0	0	28	87	0	0	0	0	0	92	136
Pedestrians		14						11			8	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	95			11			350	162	11	151	162	109
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	95			11			350	162	11	151	162	109
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	87	86
cM capacity (veh/h)	1498			1595			460	715	1076	797	715	942

Direction, Lane #	WB 1	SB 1
Volume Total	115	228
Volume Left	28	0
Volume Right	0	136
cSH	1595	835
Volume to Capacity	0.02	0.27
Queue Length 95th (ft)	1	28
Control Delay (s)	1.9	10.9
Lane LOS	A	B
Approach Delay (s)	1.9	10.9
Approach LOS		B

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	27.9%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	66	59	7	20	0	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.59	0.62	0.58	0.83	0.92	0.92	0.92	0.38
Hourly flow rate (vph)	0	0	0	0	112	95	12	24	0	0	0	8
Pedestrians		4			25			16			7	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			2			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	214			16			187	230	41	203	182	170
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214			16			187	230	41	203	182	170
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	96	100	100	100	99
cM capacity (veh/h)	1363			1597			753	663	999	709	705	875

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	207	36	8
Volume Left	0	12	0
Volume Right	95	0	8
cSH	1700	691	875
Volume to Capacity	0.12	0.05	0.01
Queue Length 95th (ft)	0	4	1
Control Delay (s)	0.0	10.5	9.2
Lane LOS		B	A
Approach Delay (s)	0.0	10.5	9.2
Approach LOS		B	A

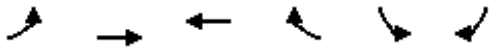
Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	32.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	29	0	2	13	15	53	0	0	0	0	53	21
Peak Hour Factor	0.81	0.92	0.50	0.65	0.63	0.63	0.25	0.92	0.92	0.92	0.70	0.75
Hourly flow rate (vph)	36	0	4	20	24	84	0	0	0	0	76	28
Pedestrians		9			11			11			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	113			15			265	238	24	195	197	80
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	113			15			265	238	24	195	197	80
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			100	100	100	100	89	97
cM capacity (veh/h)	1438			1616			590	639	1047	731	665	974

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	40	128	104
Volume Left	36	20	0
Volume Right	4	84	28
cSH	1438	1616	727
Volume to Capacity	0.02	0.01	0.14
Queue Length 95th (ft)	2	1	12
Control Delay (s)	6.8	1.2	10.8
Lane LOS	A	A	B
Approach Delay (s)	6.8	1.2	10.8
Approach LOS			B

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	22.5%	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)	15	118	63	53	0	0
Peak Hour Factor	0.75	0.82	0.69	0.74	0.92	0.92
Hourly flow rate (vph)	20	144	91	72	0	0
Pedestrians		12	44		55	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	218				410	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				410	194
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1364				566	842

Direction, Lane #	EB 1	WB 1
Volume Total	164	163
Volume Left	20	0
Volume Right	0	72
cSH	1364	1700
Volume to Capacity	0.01	0.10
Queue Length 95th (ft)	1	0
Control Delay (s)	1.0	0.0
Lane LOS	A	
Approach Delay (s)	1.0	0.0
Approach LOS		

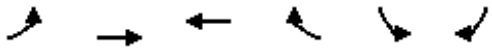
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	103	8	5	55	0	0	0	0	29	5	14
Peak Hour Factor	0.92	0.89	0.50	0.42	0.66	0.92	0.92	0.92	0.92	0.66	0.63	0.58
Hourly flow rate (vph)	0	116	16	12	83	0	0	0	0	44	8	24
Pedestrians		20			17			24			46	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	129			156			303	301	165	294	309	149
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	129			156			303	301	165	294	309	149
tC, single (s)	4.1			4.3			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	100			99			100	100	100	93	99	97
cM capacity (veh/h)	1417			1322			595	588	870	589	582	853

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	132	95	76
Volume Left	0	12	44
Volume Right	16	0	24
cSH	1700	1322	653
Volume to Capacity	0.08	0.01	0.12
Queue Length 95th (ft)	0	1	10
Control Delay (s)	0.0	1.0	11.2
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	11.2
Approach LOS			B

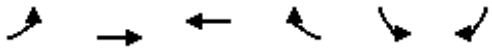
Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	110	40	28	0	0
Peak Hour Factor	0.42	0.88	0.59	0.58	0.92	0.92
Hourly flow rate (vph)	12	125	68	48	0	0
Pedestrians					22	
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)						
pX, platoon unblocked						
vC, conflicting volume	138				263	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138				263	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1458				725	944

Direction, Lane #	EB 1	WB 1
Volume Total	137	116
Volume Left	12	0
Volume Right	0	48
cSH	1458	1700
Volume to Capacity	0.01	0.07
Queue Length 95th (ft)	1	0
Control Delay (s)	0.7	0.0
Lane LOS	A	
Approach Delay (s)	0.7	0.0
Approach LOS		

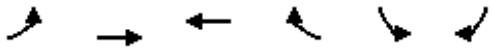
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	13.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	11	37	0	102	6
Peak Hour Factor	0.92	0.55	0.58	0.92	0.85	0.50
Hourly flow rate (vph)	0	20	64	0	120	12
Pedestrians		4	2		2	
Lane Width (ft)		14.0	15.0		11.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	66				88	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66				88	70
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				87	99
cM capacity (veh/h)	1547				915	993

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	20	64	132
Volume Left	0	0	120
Volume Right	0	0	12
cSH	1700	1700	921
Volume to Capacity	0.01	0.04	0.14
Queue Length 95th (ft)	0	0	12
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	1	1	1	42	9	1
Peak Hour Factor	0.25	0.25	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	4	4	1	56	12	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	81	25	25	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81	25	25	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.5	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.6	
p0 queue free %	100	100	100	95	99	
cM capacity (veh/h)	858	865	865	1085	1387	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	8	57	13
Volume Left	4	0	12
Volume Right	0	56	1
cSH	862	1080	1387
Volume to Capacity	0.01	0.05	0.01
Queue Length 95th (ft)	1	4	1
Control Delay (s)	9.2	8.5	7.0
Lane LOS	A	A	A
Approach Delay (s)	9.2	8.5	7.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	13.3%	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			Stop			Stop	
Volume (vph)	0	0	0	0	103	75	15	60	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.89	0.75	0.79	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	112	84	20	76	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	196	96
Volume Left (vph)	0	20
Volume Right (vph)	84	0
Hadj (s)	-0.24	0.04
Departure Headway (s)	3.9	4.3
Degree Utilization, x	0.21	0.12
Capacity (veh/h)	903	788
Control Delay (s)	7.9	7.9
Approach Delay (s)	7.9	7.9
Approach LOS	A	A

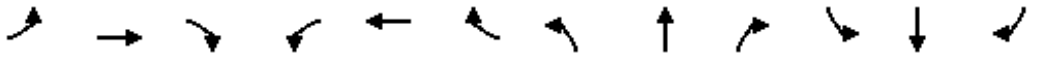
Intersection Summary				
Delay	7.9			
HCM Level of Service	A			
Intersection Capacity Utilization	26.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	91	0	0	0	0	0	27	27
Peak Hour Factor	0.92	0.92	0.92	0.75	0.88	0.92	0.92	0.92	0.92	0.92	0.68	0.68
Hourly flow rate (vph)	0	0	0	36	103	0	0	0	0	0	40	40
Pedestrians		37						32			30	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	133			32			304	237	32	205	237	170
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	133			32			304	237	32	205	237	170
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	94	95
cM capacity (veh/h)	1415			1593			567	630	1048	701	630	849

Direction, Lane #	WB 1	SB 1
Volume Total	139	79
Volume Left	36	0
Volume Right	0	40
cSH	1593	724
Volume to Capacity	0.02	0.11
Queue Length 95th (ft)	2	9
Control Delay (s)	2.0	10.6
Lane LOS	A	B
Approach Delay (s)	2.0	10.6
Approach LOS		B

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	30.7%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	85	34	23	25	0	0	0	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.82	0.71	0.82	0.57	0.92	0.92	0.92	0.75
Hourly flow rate (vph)	0	0	0	0	104	48	28	44	0	0	0	16
Pedestrians		11			34			30			30	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			3			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	182			30			185	212	64	214	188	169
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			30			185	212	64	214	188	169
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	93	100	100	100	98
cM capacity (veh/h)	1382			1563			729	664	952	656	684	866

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	152	72	16
Volume Left	0	28	0
Volume Right	48	0	16
cSH	1700	688	866
Volume to Capacity	0.09	0.10	0.02
Queue Length 95th (ft)	0	9	1
Control Delay (s)	0.0	10.8	9.2
Lane LOS		B	A
Approach Delay (s)	0.0	10.8	9.2
Approach LOS		B	A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		

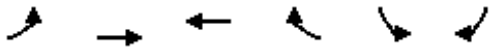


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	0	5	17	8	92	0	0	0	0	98	10
Peak Hour Factor	0.89	0.92	0.25	0.53	0.50	0.89	0.92	0.92	0.92	0.92	0.82	0.50
Hourly flow rate (vph)	44	0	20	32	16	103	0	0	0	0	120	20
Pedestrians		20			35			12			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	124			32			341	298	57	269	256	93
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	124			32			341	298	57	269	256	93
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			100	100	100	100	81	98
cM capacity (veh/h)	1448			1593			485	583	980	632	613	950

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	64	151	140
Volume Left	44	32	0
Volume Right	20	103	20
cSH	1448	1593	646
Volume to Capacity	0.03	0.02	0.22
Queue Length 95th (ft)	2	2	20
Control Delay (s)	5.3	1.7	12.1
Lane LOS	A	A	B
Approach Delay (s)	5.3	1.7	12.1
Approach LOS			B

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX 6-2-2 SYNCHRO REPORTS: NO-BUILD CONDITIONS



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	21	96	42	132	0	0
Peak Hour Factor	0.67	0.90	0.93	0.71	0.92	0.92
Hourly flow rate (vph)	31	107	45	186	0	0
Pedestrians		23	52		44	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				403	205
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				403	205
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1265				560	822

Direction, Lane #	EB 1	WB 1
Volume Total	138	231
Volume Left	31	0
Volume Right	0	186
cSH	1265	1700
Volume to Capacity	0.02	0.14
Queue Length 95th (ft)	2	0
Control Delay (s)	2.0	0.0
Lane LOS	A	
Approach Delay (s)	2.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	38.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	68	4	5	34	0	0	0	0	44	6	12
Peak Hour Factor	0.92	0.81	0.50	0.50	0.89	0.92	0.92	0.92	0.92	0.83	0.75	0.69
Hourly flow rate (vph)	0	84	8	10	38	0	0	0	0	53	8	17
Pedestrians		17			17			27			35	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			119			212	208	132	198	212	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			119			212	208	132	198	212	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	100			99			100	100	100	92	99	98
cM capacity (veh/h)	1498			1482			698	669	908	667	666	930

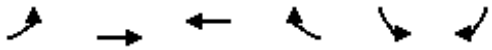
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	92	48	78
Volume Left	0	10	53
Volume Right	8	0	17
cSH	1700	1482	712
Volume to Capacity	0.05	0.01	0.11
Queue Length 95th (ft)	0	1	9
Control Delay (s)	0.0	1.6	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	10.7
Approach LOS			B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	29.4%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	69	0	0	25	17	1	17	4	0	0	0
Peak Hour Factor	0.44	0.94	0.92	0.92	0.75	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	73	0	0	33	21	1	18	4	0	0	0
Pedestrians		3			1						18	
Lane Width (ft)		14.0			15.0						0.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			73			152	178	74	182	167	65
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			73			152	178	74	182	167	65
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1540			1526			806	708	986	758	718	1002

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	89	55	24
Volume Left	16	0	1
Volume Right	0	21	4
cSH	1540	1700	751
Volume to Capacity	0.01	0.03	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	1.4	0.0	10.0
Lane LOS	A		A
Approach Delay (s)	1.4	0.0	10.0
Approach LOS			A

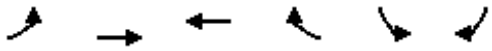
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	19	21	0	58	5
Peak Hour Factor	0.92	0.75	0.56	0.92	0.83	0.42
Hourly flow rate (vph)	0	25	38	0	70	12
Pedestrians			2		15	
Lane Width (ft)			15.0		11.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	52				80	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	52				80	52
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	99
cM capacity (veh/h)	1548				915	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	25	38	82
Volume Left	0	0	70
Volume Right	0	0	12
cSH	1700	1700	928
Volume to Capacity	0.01	0.02	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.3
Approach LOS			A

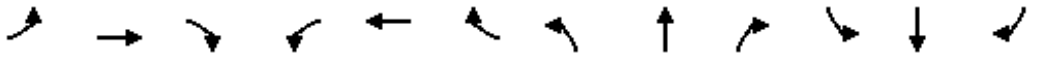
Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	1	1	1	25	21	7
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.44
Hourly flow rate (vph)	1	1	1	50	25	16
Pedestrians		1	2			
Lane Width (ft)		16.0	14.0			
Walking Speed (ft/s)		4.0	4.0			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	110	62	70	2	2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	62	70	2	2	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	100	100	100	95	98	
cM capacity (veh/h)	818	817	809	1063	1536	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	2	51	41
Volume Left	1	0	25
Volume Right	0	50	16
cSH	817	1056	1536
Volume to Capacity	0.00	0.05	0.02
Queue Length 95th (ft)	0	4	1
Control Delay (s)	9.4	8.6	4.6
Lane LOS	A	A	A
Approach Delay (s)	9.4	8.6	4.6
Approach LOS	A	A	

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	13.7%	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			Stop			Stop	
Volume (vph)	0	0	0	0	79	74	13	154	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.71	0.58	0.46	0.84	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	111	128	28	183	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	239	212
Volume Left (vph)	0	28
Volume Right (vph)	128	0
Hadj (s)	-0.30	0.06
Departure Headway (s)	4.1	4.5
Degree Utilization, x	0.27	0.26
Capacity (veh/h)	829	768
Control Delay (s)	8.7	9.1
Approach Delay (s)	8.7	9.1
Approach LOS	A	A

Intersection Summary			
Delay	8.9		
HCM Level of Service	A		
Intersection Capacity Utilization	27.5%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	24	63	0	0	0	0	0	61	71
Peak Hour Factor	0.92	0.92	0.92	0.82	0.69	0.92	0.92	0.92	0.92	0.92	0.51	0.50
Hourly flow rate (vph)	0	0	0	29	91	0	0	0	0	0	120	142
Pedestrians		14						11			8	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	99			11			377	169	11	158	169	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	99			11			377	169	11	158	169	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	83	85
cM capacity (veh/h)	1493			1595			423	708	1076	789	708	937

Direction, Lane #	WB 1	SB 1
Volume Total	121	262
Volume Left	29	0
Volume Right	0	142
cSH	1595	816
Volume to Capacity	0.02	0.32
Queue Length 95th (ft)	1	35
Control Delay (s)	1.9	11.5
Lane LOS	A	B
Approach Delay (s)	1.9	11.5
Approach LOS		B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	28.6%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	69	62	7	38	0	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.59	0.62	0.58	0.83	0.92	0.92	0.92	0.38
Hourly flow rate (vph)	0	0	0	0	117	100	12	46	0	0	0	8
Pedestrians		4			25			16			7	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			2			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	224			16			195	240	41	222	190	178
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224			16			195	240	41	222	190	178
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	93	100	100	100	99
cM capacity (veh/h)	1351			1597			745	655	999	672	698	867

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	217	58	8
Volume Left	0	12	0
Volume Right	100	0	8
cSH	1700	672	867
Volume to Capacity	0.13	0.09	0.01
Queue Length 95th (ft)	0	7	1
Control Delay (s)	0.0	10.9	9.2
Lane LOS		B	A
Approach Delay (s)	0.0	10.9	9.2
Approach LOS		B	A

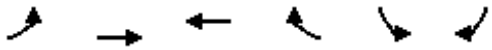
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	32.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	30	0	2	14	16	56	0	0	0	0	58	22
Peak Hour Factor	0.81	0.92	0.50	0.65	0.63	0.63	0.25	0.92	0.92	0.92	0.70	0.75
Hourly flow rate (vph)	37	0	4	22	25	89	0	0	0	0	83	29
Pedestrians		9			11			11			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	119			15			280	249	24	205	207	84
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			15			280	249	24	205	207	84
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			100	100	100	100	87	97
cM capacity (veh/h)	1430			1616			569	628	1047	720	656	969

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	41	136	112
Volume Left	37	22	0
Volume Right	4	89	29
cSH	1430	1616	716
Volume to Capacity	0.03	0.01	0.16
Queue Length 95th (ft)	2	1	14
Control Delay (s)	6.9	1.2	11.0
Lane LOS	A	A	B
Approach Delay (s)	6.9	1.2	11.0
Approach LOS			B

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	22.8%	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)	19	155	77	128	0	0
Peak Hour Factor	0.75	0.82	0.69	0.74	0.92	0.92
Hourly flow rate (vph)	25	189	112	173	0	0
Pedestrians		12	44		55	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	340				537	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340				537	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1231				475	769

Direction, Lane #	EB 1	WB 1
Volume Total	214	285
Volume Left	25	0
Volume Right	0	173
cSH	1231	1700
Volume to Capacity	0.02	0.17
Queue Length 95th (ft)	2	0
Control Delay (s)	1.1	0.0
Lane LOS	A	
Approach Delay (s)	1.1	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	37.4%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	111	15	16	58	0	0	0	0	61	14	15
Peak Hour Factor	0.92	0.89	0.50	0.42	0.66	0.92	0.92	0.92	0.92	0.66	0.63	0.58
Hourly flow rate (vph)	0	125	30	38	88	0	0	0	0	92	22	26
Pedestrians		20			17			24			46	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			179			385	374	181	367	389	154
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			179			385	374	181	367	389	154
tC, single (s)	4.1			4.3			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	100			97			100	100	100	82	96	97
cM capacity (veh/h)	1412			1295			504	524	853	519	514	848

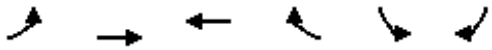
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	155	126	141
Volume Left	0	38	92
Volume Right	30	0	26
cSH	1700	1295	558
Volume to Capacity	0.09	0.03	0.25
Queue Length 95th (ft)	0	2	25
Control Delay (s)	0.0	2.5	13.6
Lane LOS		A	B
Approach Delay (s)	0.0	2.5	13.6
Approach LOS			B

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	36.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	123	0	0	42	29	1	14	3	0	0	0
Peak Hour Factor	0.42	0.88	0.92	0.92	0.59	0.58	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	140	0	0	71	50	1	15	3	0	0	0
Pedestrians											22	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143			140			260	307	140	293	282	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			140			260	307	140	293	282	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1452			1444			689	602	908	644	622	939

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	152	121	20
Volume Left	12	0	1
Volume Right	0	50	3
cSH	1452	1700	643
Volume to Capacity	0.01	0.07	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.7	0.0	10.8
Lane LOS	A		B
Approach Delay (s)	0.7	0.0	10.8
Approach LOS			B

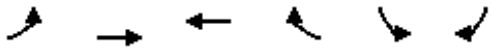
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	12	39	0	114	6
Peak Hour Factor	0.92	0.55	0.58	0.92	0.85	0.50
Hourly flow rate (vph)	0	22	67	0	134	12
Pedestrians		4	2		2	
Lane Width (ft)		14.0	15.0		11.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	69				93	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69				93	73
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				85	99
cM capacity (veh/h)	1542				908	989

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	22	67	146
Volume Left	0	0	134
Volume Right	0	0	12
cSH	1700	1700	915
Volume to Capacity	0.01	0.04	0.16
Queue Length 95th (ft)	0	0	14
Control Delay (s)	0.0	0.0	9.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	1	1	1	44	9	1
Peak Hour Factor	0.25	0.25	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	4	4	1	59	12	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84	25	25	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84	25	25	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.5	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.6	
p0 queue free %	100	100	100	95	99	
cM capacity (veh/h)	852	865	865	1085	1387	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	8	60	13
Volume Left	4	0	12
Volume Right	0	59	1
cSH	859	1080	1387
Volume to Capacity	0.01	0.06	0.01
Queue Length 95th (ft)	1	4	1
Control Delay (s)	9.2	8.5	7.0
Lane LOS	A	A	A
Approach Delay (s)	9.2	8.5	7.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	13.3%	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			Stop			Stop	
Volume (vph)	0	0	0	0	108	79	16	138	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.89	0.75	0.79	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	117	89	21	175	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	206	196
Volume Left (vph)	0	21
Volume Right (vph)	89	0
Hadj (s)	-0.24	0.02
Departure Headway (s)	4.1	4.4
Degree Utilization, x	0.24	0.24
Capacity (veh/h)	828	788
Control Delay (s)	8.4	8.7
Approach Delay (s)	8.4	8.7
Approach LOS	A	A

Intersection Summary				
Delay	8.6			
HCM Level of Service	A			
Intersection Capacity Utilization	29.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	28	96	0	0	0	0	0	68	28
Peak Hour Factor	0.92	0.92	0.92	0.75	0.88	0.92	0.92	0.92	0.92	0.92	0.68	0.68
Hourly flow rate (vph)	0	0	0	37	109	0	0	0	0	0	100	41
Pedestrians		37						32			30	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	139			32			344	246	32	214	246	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	139			32			344	246	32	214	246	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	84	95
cM capacity (veh/h)	1408			1593			491	623	1048	691	623	843

Direction, Lane #	WB 1	SB 1
Volume Total	146	141
Volume Left	37	0
Volume Right	0	41
cSH	1593	674
Volume to Capacity	0.02	0.21
Queue Length 95th (ft)	2	20
Control Delay (s)	2.0	11.7
Lane LOS	A	B
Approach Delay (s)	2.0	11.7
Approach LOS		B

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	31.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	89	36	24	40	0	0	0	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.82	0.71	0.82	0.57	0.92	0.92	0.92	0.75
Hourly flow rate (vph)	0	0	0	0	109	51	29	70	0	0	0	17
Pedestrians		11			34			30			30	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			3			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	189			30			192	219	64	233	194	175
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	189			30			192	219	64	233	194	175
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	89	100	100	100	98
cM capacity (veh/h)	1374			1563			720	657	952	616	679	859

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	159	99	17
Volume Left	0	29	0
Volume Right	51	0	17
cSH	1700	674	859
Volume to Capacity	0.09	0.15	0.02
Queue Length 95th (ft)	0	13	2
Control Delay (s)	0.0	11.3	9.3
Lane LOS		B	A
Approach Delay (s)	0.0	11.3	9.3
Approach LOS		B	A

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

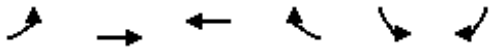


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	41	0	5	18	8	97	0	0	0	0	110	11
Peak Hour Factor	0.89	0.92	0.25	0.53	0.50	0.89	0.92	0.92	0.92	0.92	0.82	0.50
Hourly flow rate (vph)	46	0	20	34	16	109	0	0	0	0	134	22
Pedestrians		20			35			12			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	130			32			362	312	57	281	268	95
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	130			32			362	312	57	281	268	95
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			100	100	100	100	78	98
cM capacity (veh/h)	1441			1593			456	571	980	620	603	947

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	66	159	156
Volume Left	46	34	0
Volume Right	20	109	22
cSH	1441	1593	636
Volume to Capacity	0.03	0.02	0.25
Queue Length 95th (ft)	2	2	24
Control Delay (s)	5.4	1.7	12.5
Lane LOS	A	A	B
Approach Delay (s)	5.4	1.7	12.5
Approach LOS			B

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX 6-2-3 SYNCHRO REPORTS: BUILD CONDITIONS, PREFERRED ALTERNATIVE



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	96	42	132	0	0
Peak Hour Factor	0.67	0.90	0.93	0.71	0.92	0.92
Hourly flow rate (vph)	52	107	45	186	0	0
Pedestrians		23	52		44	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				445	205
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				445	205
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				100	100
cM capacity (veh/h)	1265				521	822

Direction, Lane #	EB 1	WB 1
Volume Total	159	231
Volume Left	52	0
Volume Right	0	186
cSH	1265	1700
Volume to Capacity	0.04	0.14
Queue Length 95th (ft)	3	0
Control Delay (s)	2.9	0.0
Lane LOS	A	
Approach Delay (s)	2.9	0.0
Approach LOS		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	39.0%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	82	4	5	34	0	0	0	0	44	6	12
Peak Hour Factor	0.92	0.81	0.50	0.50	0.89	0.92	0.92	0.92	0.92	0.83	0.75	0.69
Hourly flow rate (vph)	0	101	8	10	38	0	0	0	0	53	8	17
Pedestrians		17			17			27			35	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			136			229	225	149	215	229	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			136			229	225	149	215	229	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	100			99			100	100	100	92	99	98
cM capacity (veh/h)	1498			1460			680	655	888	650	651	930

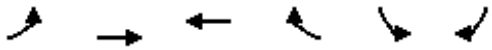
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	109	48	78
Volume Left	0	10	53
Volume Right	8	0	17
cSH	1700	1460	696
Volume to Capacity	0.06	0.01	0.11
Queue Length 95th (ft)	0	1	9
Control Delay (s)	0.0	1.6	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	10.8
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	29.4%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	83	0	0	25	17	1	17	4	0	0	0
Peak Hour Factor	0.44	0.94	0.92	0.92	0.75	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	88	0	0	33	21	1	18	4	0	0	0
Pedestrians		3			1						18	
Lane Width (ft)		14.0			15.0						0.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			88			167	193	89	197	182	65
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			88			167	193	89	197	182	65
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1540			1507			788	695	968	741	705	1002

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	55	24
Volume Left	16	0	1
Volume Right	0	21	4
cSH	1540	1700	737
Volume to Capacity	0.01	0.03	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.2	0.0	10.0
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	10.0
Approach LOS			B

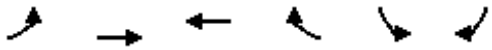
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	33	21	0	58	5
Peak Hour Factor	0.92	0.75	0.56	0.92	0.83	0.42
Hourly flow rate (vph)	0	44	38	0	70	12
Pedestrians			2		15	
Lane Width (ft)			15.0		11.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	52				98	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	52				98	52
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	99
cM capacity (veh/h)	1548				893	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	44	38	82
Volume Left	0	0	70
Volume Right	0	0	12
cSH	1700	1700	908
Volume to Capacity	0.03	0.02	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	13	7	1	25	28	6
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.44
Hourly flow rate (vph)	14	8	1	50	34	14
Pedestrians		1	2			
Lane Width (ft)		16.0	14.0			
Walking Speed (ft/s)		4.0	4.0			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	126	77	84	2	2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126	77	84	2	2	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	98	99	100	95	98	
cM capacity (veh/h)	795	796	790	1063	1536	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	22	51	47
Volume Left	14	0	34
Volume Right	0	50	14
cSH	796	1055	1536
Volume to Capacity	0.03	0.05	0.02
Queue Length 95th (ft)	2	4	2
Control Delay (s)	9.7	8.6	5.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	8.6	5.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	18.1%	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			Stop			Stop	
Volume (vph)	0	0	0	0	83	74	13	168	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.71	0.58	0.46	0.84	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	117	128	28	200	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	244	228
Volume Left (vph)	0	28
Volume Right (vph)	128	0
Hadj (s)	-0.29	0.05
Departure Headway (s)	4.2	4.5
Degree Utilization, x	0.28	0.29
Capacity (veh/h)	819	765
Control Delay (s)	8.8	9.3
Approach Delay (s)	8.8	9.3
Approach LOS	A	A

Intersection Summary			
Delay	9.0		
HCM Level of Service	A		
Intersection Capacity Utilization	28.1%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	24	67	0	0	0	0	0	61	75
Peak Hour Factor	0.92	0.92	0.92	0.82	0.69	0.92	0.92	0.92	0.92	0.92	0.51	0.50
Hourly flow rate (vph)	0	0	0	29	97	0	0	0	0	0	120	150
Pedestrians		14						11			8	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			11			390	175	11	164	175	119
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			11			390	175	11	164	175	119
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	83	84
cM capacity (veh/h)	1486			1595			409	703	1076	782	703	930

Direction, Lane #	WB 1	SB 1
Volume Total	126	270
Volume Left	29	0
Volume Right	0	150
cSH	1595	813
Volume to Capacity	0.02	0.33
Queue Length 95th (ft)	1	36
Control Delay (s)	1.8	11.6
Lane LOS	A	B
Approach Delay (s)	1.8	11.6
Approach LOS		B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	29.0%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	77	62	7	38	0	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.59	0.62	0.58	0.83	0.92	0.92	0.92	0.38
Hourly flow rate (vph)	0	0	0	0	131	100	12	46	0	0	0	8
Pedestrians		4			25			16			7	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			2			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	238			16			208	254	41	235	204	192
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	238			16			208	254	41	235	204	192
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	93	100	100	100	99
cM capacity (veh/h)	1336			1597			730	644	999	657	686	852

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	231	58	8
Volume Left	0	12	0
Volume Right	100	0	8
cSH	1700	660	852
Volume to Capacity	0.14	0.09	0.01
Queue Length 95th (ft)	0	7	1
Control Delay (s)	0.0	11.0	9.3
Lane LOS		B	A
Approach Delay (s)	0.0	11.0	9.3
Approach LOS		B	A

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	32.8%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	56	0	2	14	24	56	0	0	0	0	58	25
Peak Hour Factor	0.81	0.92	0.50	0.65	0.63	0.63	0.25	0.92	0.92	0.92	0.70	0.75
Hourly flow rate (vph)	69	0	4	22	38	89	0	0	0	0	83	33
Pedestrians		9			11			11			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	132			15			361	326	24	282	284	97
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	132			15			361	326	24	282	284	97
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			100	100	100	100	86	97
cM capacity (veh/h)	1415			1616			486	556	1047	630	580	953

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	73	149	116
Volume Left	69	22	0
Volume Right	4	89	33
cSH	1415	1616	654
Volume to Capacity	0.05	0.01	0.18
Queue Length 95th (ft)	4	1	16
Control Delay (s)	7.3	1.1	11.7
Lane LOS	A	A	B
Approach Delay (s)	7.3	1.1	11.7
Approach LOS			B

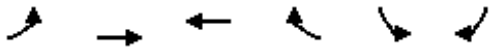
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	13	7	1	42	33	5
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.92
Hourly flow rate (vph)	14	8	1	84	40	5
Pedestrians	1			1	1	
Lane Width (ft)	12.0			16.0	16.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	131	44	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	44	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	866	1029	1573			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	22	85	45
Volume Left	14	1	0
Volume Right	8	0	5
cSH	917	1573	1700
Volume to Capacity	0.02	0.00	0.03
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.0	0.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	0.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
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)	28	155	77	128	0	0
Peak Hour Factor	0.75	0.82	0.69	0.74	0.92	0.92
Hourly flow rate (vph)	37	189	112	173	0	0
Pedestrians		12	44		55	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	340				561	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340				561	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1231				456	769

Direction, Lane #	EB 1	WB 1
Volume Total	226	285
Volume Left	37	0
Volume Right	0	173
cSH	1231	1700
Volume to Capacity	0.03	0.17
Queue Length 95th (ft)	2	0
Control Delay (s)	1.6	0.0
Lane LOS	A	
Approach Delay (s)	1.6	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.9%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	120	15	16	58	0	0	0	0	61	14	15
Peak Hour Factor	0.92	0.89	0.50	0.42	0.66	0.92	0.92	0.92	0.92	0.66	0.63	0.58
Hourly flow rate (vph)	0	135	30	38	88	0	0	0	0	92	22	26
Pedestrians		20			17			24			46	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			189			395	384	191	377	399	154
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			189			395	384	191	377	399	154
tC, single (s)	4.1			4.3			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	100			97			100	100	100	82	96	97
cM capacity (veh/h)	1412			1284			496	518	842	511	508	848

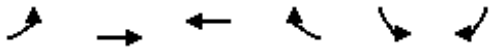
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	165	126	141
Volume Left	0	38	92
Volume Right	30	0	26
cSH	1700	1284	551
Volume to Capacity	0.10	0.03	0.26
Queue Length 95th (ft)	0	2	25
Control Delay (s)	0.0	2.6	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	13.8
Approach LOS			B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	132	0	0	42	29	1	14	3	0	0	0
Peak Hour Factor	0.42	0.88	0.92	0.92	0.59	0.58	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	150	0	0	71	50	1	15	3	0	0	0
Pedestrians											22	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143			150			270	317	150	303	292	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			150			270	317	150	303	292	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1452			1431			678	594	896	634	614	939

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	162	121	20
Volume Left	12	0	1
Volume Right	0	50	3
cSH	1452	1700	634
Volume to Capacity	0.01	0.07	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.6	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.9
Approach LOS			B

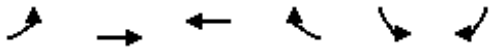
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	21	39	0	114	6
Peak Hour Factor	0.92	0.55	0.58	0.92	0.85	0.50
Hourly flow rate (vph)	0	38	67	0	134	12
Pedestrians		4	2		2	
Lane Width (ft)		14.0	15.0		11.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	69				109	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69				109	73
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				85	99
cM capacity (veh/h)	1542				889	989

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	38	67	146
Volume Left	0	0	134
Volume Right	0	0	12
cSH	1700	1700	897
Volume to Capacity	0.02	0.04	0.16
Queue Length 95th (ft)	0	0	15
Control Delay (s)	0.0	0.0	9.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	9	5	1	44	13	25
Peak Hour Factor	0.25	0.25	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	36	20	1	59	17	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	107	48	62	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	107	48	62	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.5	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.6	
p0 queue free %	96	98	100	95	99	
cM capacity (veh/h)	820	837	822	1085	1387	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	56	60	45
Volume Left	36	0	17
Volume Right	0	59	27
cSH	826	1079	1387
Volume to Capacity	0.07	0.06	0.01
Queue Length 95th (ft)	5	4	1
Control Delay (s)	9.7	8.5	3.0
Lane LOS	A	A	A
Approach Delay (s)	9.7	8.5	3.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	17.4%	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			Stop			Stop	
Volume (vph)	0	0	0	0	128	79	16	147	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.89	0.75	0.79	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	139	89	21	186	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	228	207
Volume Left (vph)	0	21
Volume Right (vph)	89	0
Hadj (s)	-0.21	0.02
Departure Headway (s)	4.2	4.4
Degree Utilization, x	0.26	0.26
Capacity (veh/h)	818	777
Control Delay (s)	8.7	9.0
Approach Delay (s)	8.7	9.0
Approach LOS	A	A

Intersection Summary				
Delay	8.8			
HCM Level of Service	A			
Intersection Capacity Utilization	29.9%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	28	116	0	0	0	0	0	68	45
Peak Hour Factor	0.92	0.92	0.92	0.75	0.88	0.92	0.92	0.92	0.92	0.92	0.68	0.68
Hourly flow rate (vph)	0	0	0	37	132	0	0	0	0	0	100	66
Pedestrians		37						32			30	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162			32			392	268	32	236	268	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162			32			392	268	32	236	268	199
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	83	92
cM capacity (veh/h)	1382			1593			439	605	1048	668	605	819

Direction, Lane #	WB 1	SB 1
Volume Total	169	166
Volume Left	37	0
Volume Right	0	66
cSH	1593	675
Volume to Capacity	0.02	0.25
Queue Length 95th (ft)	2	24
Control Delay (s)	1.8	12.1
Lane LOS	A	B
Approach Delay (s)	1.8	12.1
Approach LOS		B

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	32.6%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	126	36	24	40	0	0	0	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.82	0.71	0.82	0.57	0.92	0.92	0.92	0.75
Hourly flow rate (vph)	0	0	0	0	154	51	29	70	0	0	0	17
Pedestrians		11			34			30			30	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			3			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	234			30			237	264	64	278	239	220
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			30			237	264	64	278	239	220
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	89	100	100	100	98
cM capacity (veh/h)	1322			1563			672	620	952	573	641	811

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	204	99	17
Volume Left	0	29	0
Volume Right	51	0	17
cSH	1700	635	811
Volume to Capacity	0.12	0.16	0.02
Queue Length 95th (ft)	0	14	2
Control Delay (s)	0.0	11.7	9.5
Lane LOS		B	A
Approach Delay (s)	0.0	11.7	9.5
Approach LOS		B	A

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	38.4%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	59	0	5	18	45	97	0	0	0	0	110	23
Peak Hour Factor	0.89	0.92	0.25	0.53	0.50	0.89	0.92	0.92	0.92	0.92	0.82	0.50
Hourly flow rate (vph)	66	0	20	34	90	109	0	0	0	0	134	46
Pedestrians		20			35			12			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	204			32			500	426	57	395	382	169
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			32			500	426	57	395	382	169
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			100	100	100	100	74	95
cM capacity (veh/h)	1354			1593			341	484	980	515	511	861

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	86	233	180
Volume Left	66	34	0
Volume Right	20	109	46
cSH	1354	1593	571
Volume to Capacity	0.05	0.02	0.32
Queue Length 95th (ft)	4	2	34
Control Delay (s)	6.1	1.2	14.2
Lane LOS	A	A	B
Approach Delay (s)	6.1	1.2	14.2
Approach LOS			B

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

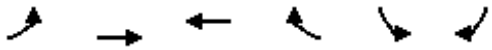


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	4	1	53	40	24
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	10	4	1	71	53	26
Pedestrians	1			1	1	
Lane Width (ft)	12.0			16.0	16.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	141	68	80			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	141	68	80			
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)	854	998	1529			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	14	72	79
Volume Left	10	1	0
Volume Right	4	0	26
cSH	894	1529	1700
Volume to Capacity	0.02	0.00	0.05
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.1	0.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	0.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX 6-2-4 SYNCHRO REPORTS: BUILD CONDITIONS, HOTEL/EXTENDED-STAY ALTERNATIVE



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	34	96	42	132	0	0
Peak Hour Factor	0.67	0.90	0.93	0.71	0.92	0.92
Hourly flow rate (vph)	51	107	45	186	0	0
Pedestrians		23	52		44	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				442	205
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				442	205
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				100	100
cM capacity (veh/h)	1265				523	822

Direction, Lane #	EB 1	WB 1
Volume Total	157	231
Volume Left	51	0
Volume Right	0	186
cSH	1265	1700
Volume to Capacity	0.04	0.14
Queue Length 95th (ft)	3	0
Control Delay (s)	2.8	0.0
Lane LOS	A	
Approach Delay (s)	2.8	0.0
Approach LOS		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	38.9%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	81	4	5	34	0	0	0	0	44	6	12
Peak Hour Factor	0.92	0.81	0.50	0.50	0.89	0.92	0.92	0.92	0.92	0.83	0.75	0.69
Hourly flow rate (vph)	0	100	8	10	38	0	0	0	0	53	8	17
Pedestrians		17			17			27			35	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			135			228	224	148	214	228	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			135			228	224	148	214	228	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	100			99			100	100	100	92	99	98
cM capacity (veh/h)	1498			1462			681	656	889	651	652	930

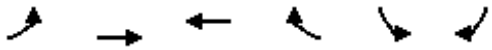
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	108	48	78
Volume Left	0	10	53
Volume Right	8	0	17
cSH	1700	1462	697
Volume to Capacity	0.06	0.01	0.11
Queue Length 95th (ft)	0	1	9
Control Delay (s)	0.0	1.6	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	10.8
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	29.4%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	82	0	0	25	17	1	17	4	0	0	0
Peak Hour Factor	0.44	0.94	0.92	0.92	0.75	0.80	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	87	0	0	33	21	1	18	4	0	0	0
Pedestrians		3			1						18	
Lane Width (ft)		14.0			15.0						0.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73			87			166	192	88	196	181	65
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73			87			166	192	88	196	181	65
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1540			1509			790	696	969	742	706	1002

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	103	55	24
Volume Left	16	0	1
Volume Right	0	21	4
cSH	1540	1700	738
Volume to Capacity	0.01	0.03	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.2	0.0	10.0
Lane LOS	A		B
Approach Delay (s)	1.2	0.0	10.0
Approach LOS			B

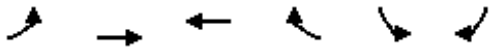
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	32	21	0	58	5
Peak Hour Factor	0.92	0.75	0.56	0.92	0.83	0.42
Hourly flow rate (vph)	0	43	38	0	70	12
Pedestrians			2		15	
Lane Width (ft)			15.0		11.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	52				97	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	52				97	52
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	99
cM capacity (veh/h)	1548				895	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	43	38	82
Volume Left	0	0	70
Volume Right	0	0	12
cSH	1700	1700	910
Volume to Capacity	0.03	0.02	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	13	7	1	25	27	11
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.44
Hourly flow rate (vph)	14	8	1	50	33	25
Pedestrians		1	2			
Lane Width (ft)		16.0	14.0			
Walking Speed (ft/s)		4.0	4.0			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	129	81	93	2	2	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	129	81	93	2	2	
tC, single (s)	7.1	6.5	6.5	6.3	4.2	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.3	
p0 queue free %	98	99	100	95	98	
cM capacity (veh/h)	792	794	781	1063	1536	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	22	51	58
Volume Left	14	0	33
Volume Right	0	50	25
cSH	793	1055	1536
Volume to Capacity	0.03	0.05	0.02
Queue Length 95th (ft)	2	4	2
Control Delay (s)	9.7	8.6	4.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	8.6	4.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	18.1%	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			Stop			Stop	
Volume (vph)	0	0	0	0	88	74	13	167	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.71	0.58	0.46	0.84	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	124	128	28	199	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	252	227
Volume Left (vph)	0	28
Volume Right (vph)	128	0
Hadj (s)	-0.28	0.05
Departure Headway (s)	4.2	4.5
Degree Utilization, x	0.29	0.29
Capacity (veh/h)	817	762
Control Delay (s)	8.9	9.3
Approach Delay (s)	8.9	9.3
Approach LOS	A	A

Intersection Summary				
Delay	9.1			
HCM Level of Service	A			
Intersection Capacity Utilization	28.3%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	24	72	0	0	0	0	0	61	79
Peak Hour Factor	0.92	0.92	0.92	0.82	0.69	0.92	0.92	0.92	0.92	0.92	0.51	0.50
Hourly flow rate (vph)	0	0	0	29	104	0	0	0	0	0	120	158
Pedestrians		14						11			8	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			11			406	182	11	171	182	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			11			406	182	11	171	182	126
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	83	83
cM capacity (veh/h)	1477			1595			394	696	1076	774	696	921

Direction, Lane #	WB 1	SB 1
Volume Total	134	278
Volume Left	29	0
Volume Right	0	158
cSH	1595	809
Volume to Capacity	0.02	0.34
Queue Length 95th (ft)	1	38
Control Delay (s)	1.7	11.8
Lane LOS	A	B
Approach Delay (s)	1.7	11.8
Approach LOS		B

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	29.3%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	86	62	7	38	0	0	0	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.59	0.62	0.58	0.83	0.92	0.92	0.92	0.38
Hourly flow rate (vph)	0	0	0	0	146	100	12	46	0	0	0	8
Pedestrians		4			25			16			7	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			2			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	253			16			224	269	41	251	219	207
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	253			16			224	269	41	251	219	207
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	93	100	100	100	99
cM capacity (veh/h)	1319			1597			713	631	999	642	673	836

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	246	58	8
Volume Left	0	12	0
Volume Right	100	0	8
cSH	1700	647	836
Volume to Capacity	0.14	0.09	0.01
Queue Length 95th (ft)	0	7	1
Control Delay (s)	0.0	11.1	9.3
Lane LOS		B	A
Approach Delay (s)	0.0	11.1	9.3
Approach LOS		B	A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	33.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	55	0	2	14	33	56	0	0	0	0	58	27
Peak Hour Factor	0.81	0.92	0.50	0.65	0.63	0.63	0.25	0.92	0.92	0.92	0.70	0.75
Hourly flow rate (vph)	68	0	4	22	52	89	0	0	0	0	83	36
Pedestrians		9			11			11			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	146			15			375	338	24	294	296	111
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	146			15			375	338	24	294	296	111
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			100	100	100	100	86	96
cM capacity (veh/h)	1398			1616			473	547	1047	619	572	936

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	72	163	119
Volume Left	68	22	0
Volume Right	4	89	36
cSH	1398	1616	648
Volume to Capacity	0.05	0.01	0.18
Queue Length 95th (ft)	4	1	17
Control Delay (s)	7.3	1.1	11.8
Lane LOS	A	A	B
Approach Delay (s)	7.3	1.1	11.8
Approach LOS			B

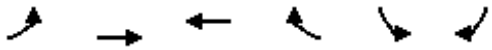
Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	24.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	6	1	42	38	11
Peak Hour Factor	0.92	0.92	0.92	0.50	0.83	0.92
Hourly flow rate (vph)	13	7	1	84	46	12
Pedestrians	1			1	1	
Lane Width (ft)	12.0			16.0	16.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140	54	59			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140	54	59			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	856	1017	1557			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	20	85	58
Volume Left	13	1	0
Volume Right	7	0	12
cSH	903	1557	1700
Volume to Capacity	0.02	0.00	0.03
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.1	0.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	0.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
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)	31	155	77	128	0	0
Peak Hour Factor	0.75	0.82	0.69	0.74	0.92	0.92
Hourly flow rate (vph)	41	189	112	173	0	0
Pedestrians		12	44		55	
Lane Width (ft)		14.0	15.0		0.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	5		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	340				569	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340				569	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1231				449	769

Direction, Lane #	EB 1	WB 1
Volume Total	230	285
Volume Left	41	0
Volume Right	0	173
cSH	1231	1700
Volume to Capacity	0.03	0.17
Queue Length 95th (ft)	3	0
Control Delay (s)	1.7	0.0
Lane LOS	A	
Approach Delay (s)	1.7	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	41.1%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	123	15	16	58	0	0	0	0	61	14	15
Peak Hour Factor	0.92	0.89	0.50	0.42	0.66	0.92	0.92	0.92	0.92	0.66	0.63	0.58
Hourly flow rate (vph)	0	138	30	38	88	0	0	0	0	92	22	26
Pedestrians		20			17			24			46	
Lane Width (ft)		15.0			14.0			0.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			0			4	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			192			398	387	194	380	402	154
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			192			398	387	194	380	402	154
tC, single (s)	4.1			4.3			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.4			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	100			97			100	100	100	82	96	97
cM capacity (veh/h)	1412			1280			494	515	838	508	505	848

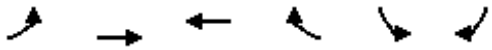
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	168	126	141
Volume Left	0	38	92
Volume Right	30	0	26
cSH	1700	1280	548
Volume to Capacity	0.10	0.03	0.26
Queue Length 95th (ft)	0	2	25
Control Delay (s)	0.0	2.6	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	13.8
Approach LOS			B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.2%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	135	0	0	42	29	1	14	3	0	0	0
Peak Hour Factor	0.42	0.88	0.92	0.92	0.59	0.58	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	153	0	0	71	50	1	15	3	0	0	0
Pedestrians											22	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143			153			273	320	153	306	295	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			153			273	320	153	306	295	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	97	100	100	100	100
cM capacity (veh/h)	1452			1427			675	592	893	631	611	939

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	121	20
Volume Left	12	0	1
Volume Right	0	50	3
cSH	1452	1700	631
Volume to Capacity	0.01	0.07	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.6	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.9
Approach LOS			B

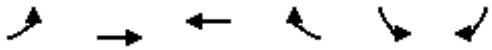
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	24	39	0	114	6
Peak Hour Factor	0.92	0.55	0.58	0.92	0.85	0.50
Hourly flow rate (vph)	0	44	67	0	134	12
Pedestrians		4	2		2	
Lane Width (ft)		14.0	15.0		11.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	69				115	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69				115	73
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				85	99
cM capacity (veh/h)	1542				883	989

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	44	67	146
Volume Left	0	0	134
Volume Right	0	0	12
cSH	1700	1700	891
Volume to Capacity	0.03	0.04	0.16
Queue Length 95th (ft)	0	0	15
Control Delay (s)	0.0	0.0	9.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Yield		Free	
Grade		0%	0%		0%	
Volume (veh/h)	11	6	1	44	15	26
Peak Hour Factor	0.25	0.25	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	44	24	1	59	20	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	113	54	68	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	113	54	68	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.5	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.6	
p0 queue free %	95	97	100	95	99	
cM capacity (veh/h)	812	829	814	1085	1387	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	68	60	48
Volume Left	44	0	20
Volume Right	0	59	28
cSH	818	1078	1387
Volume to Capacity	0.08	0.06	0.01
Queue Length 95th (ft)	7	4	1
Control Delay (s)	9.8	8.5	3.2
Lane LOS	A	A	A
Approach Delay (s)	9.8	8.5	3.2
Approach LOS	A	A	

Intersection Summary			
Average Delay	7.6		
Intersection Capacity Utilization	17.6%	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			Stop			Stop	
Volume (vph)	0	0	0	0	128	79	16	150	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.89	0.75	0.79	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	139	89	21	190	0	0	0	0

Direction, Lane #	WB 1	NB 1
Volume Total (vph)	228	211
Volume Left (vph)	0	21
Volume Right (vph)	89	0
Hadj (s)	-0.21	0.02
Departure Headway (s)	4.2	4.4
Degree Utilization, x	0.27	0.26
Capacity (veh/h)	816	777
Control Delay (s)	8.7	9.0
Approach Delay (s)	8.7	9.0
Approach LOS	A	A

Intersection Summary			
Delay	8.8		
HCM Level of Service	A		
Intersection Capacity Utilization	30.0%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	28	116	0	0	0	0	0	68	46
Peak Hour Factor	0.92	0.92	0.92	0.75	0.88	0.92	0.92	0.92	0.92	0.92	0.68	0.68
Hourly flow rate (vph)	0	0	0	37	132	0	0	0	0	0	100	68
Pedestrians		37						32			30	
Lane Width (ft)		0.0						0.0			16.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			3	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162			32			393	268	32	236	268	199
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162			32			393	268	32	236	268	199
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	100	83	92
cM capacity (veh/h)	1382			1593			438	605	1048	668	605	819

Direction, Lane #	WB 1	SB 1
Volume Total	169	168
Volume Left	37	0
Volume Right	0	68
cSH	1593	676
Volume to Capacity	0.02	0.25
Queue Length 95th (ft)	2	24
Control Delay (s)	1.8	12.1
Lane LOS	A	B
Approach Delay (s)	1.8	12.1
Approach LOS		B

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	32.7%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	127	36	24	40	0	0	0	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.82	0.71	0.82	0.57	0.92	0.92	0.92	0.75
Hourly flow rate (vph)	0	0	0	0	155	51	29	70	0	0	0	17
Pedestrians		11			34			30			30	
Lane Width (ft)		0.0			14.0			10.0			8.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			3			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	236			30			239	266	64	279	240	221
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	236			30			239	266	64	279	240	221
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	89	100	100	100	98
cM capacity (veh/h)	1321			1563			670	620	952	572	640	810

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	206	99	17
Volume Left	0	29	0
Volume Right	51	0	17
cSH	1700	634	810
Volume to Capacity	0.12	0.16	0.02
Queue Length 95th (ft)	0	14	2
Control Delay (s)	0.0	11.7	9.5
Lane LOS		B	A
Approach Delay (s)	0.0	11.7	9.5
Approach LOS		B	A

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	38.5%	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		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	62	0	5	18	46	97	0	0	0	0	110	24
Peak Hour Factor	0.89	0.92	0.25	0.53	0.50	0.89	0.92	0.92	0.92	0.92	0.82	0.50
Hourly flow rate (vph)	70	0	20	34	92	109	0	0	0	0	134	48
Pedestrians		20			35			12			5	
Lane Width (ft)		11.0			14.0			0.0			16.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	206			32			511	435	57	404	391	171
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			32			511	435	57	404	391	171
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			100	100	100	100	73	94
cM capacity (veh/h)	1352			1593			332	478	980	507	504	859

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	90	235	182
Volume Left	70	34	0
Volume Right	20	109	48
cSH	1352	1593	566
Volume to Capacity	0.05	0.02	0.32
Queue Length 95th (ft)	4	2	35
Control Delay (s)	6.2	1.2	14.4
Lane LOS	A	A	B
Approach Delay (s)	6.2	1.2	14.4
Approach LOS			B

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	10	6	1	55	41	25
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.92
Hourly flow rate (vph)	11	7	1	73	55	27
Pedestrians	1			1	1	
Lane Width (ft)	12.0			16.0	16.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	146	70	83			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	146	70	83			
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	99	100			
cM capacity (veh/h)	849	996	1526			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	17	74	82
Volume Left	11	1	0
Volume Right	7	0	27
cSH	899	1526	1700
Volume to Capacity	0.02	0.00	0.05
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.1	0.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	0.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX 6-3 TRIP GENERATION DATA

New Street Redevelopment

Trip Generation Estimation **Preferred Alternative**

Howard/Stein-Hudson Associates

April 10, 2008

Component	Size	Category	Directional Distribution	Trip Rates (Trips/ksf or unit)	Unadjusted Vehicle Trips	Capture Rate	Less capture trips	Assumed national vehicle occupancy rate[1]	**Converted to Person trips**	Transit Share[2]	**Transit Trips**	Walk/Bike/ Other Share[2]	**Walk/ Bike/ Other Trips**	Vehicle Share[2]	Vehicle Person Trips	Assumed local vehicle occupancy rate[3]	**Total Adjusted Vehicle Trips**
Daily																	
Residential - Condominiums [4]																	
	234	Total	100%	5.86	1371		1371	1.2	**1,645**	17%	**280**	29%	**477**	54%	889	1.2	**753**
	Units	In	50%	2.93	686		686	1.2	**823**	17%	**140**	29%	**239**	54%	444	1.2	**377**
		Out	50%	2.93	686		686	1.2	**823**	17%	**140**	29%	**239**	54%	444	1.2	**377**
Restaurant [5]																	
	6	Total	100%	89.95	540		540	2.1	**1,133**	6%	**68**	52%	**589**	42%	476	2.1	**227**
	KSF	In	50%	44.98	270		270	2.1	**567**	6%	**34**	52%	**295**	42%	238	2.1	**113**
		Out	50%	44.98	270		270	2.1	**567**	6%	**34**	52%	**295**	42%	238	2.1	**113**
Marina [6]																	
	36	Total	100%	13.30	479		479	2.1	**1,006**	6%	**60**	52%	**523**	42%	422	2.1	**201**
	Berths	In	50%	6.65	239		239	2.1	**503**	6%	**30**	52%	**261**	42%	211	2.1	**101**
		Out	50%	6.65	239		239	2.1	**503**	6%	**30**	52%	**261**	42%	211	2.1	**101**
Daily		Total			2,390		2,390		**3,784**		**408**		**1,589**		1,787		**1,181**
Total		In			1,195		1,195		**1,892**		**204**		**795**		893		**590**
		Out			1,195		1,195		**1,892**		**204**		**795**		893		**590**
AM Peak Hour																	
Residential - Condominiums [4]																	
	234	Total	100%	0.44	103		103	1.2	**124**		**29**		**38**		57	1.2	**48**
	Units	In	17%	0.07	18		18	1.2	**21**	15%	**3**	34%	**7**	51%	11	1.2	**9**
		Out	83%	0.37	85		85	1.2	**103**	25%	**26**	30%	**31**	45%	46	1.2	**39**
Restaurant [5]																	
	6	Total	100%	0.81	5		5	2.1	**10**		**1**		**6**		4	2.1	**2**
	KSF	In	82%	0.66	4		4	2.1	**8**	5%	**0**	58%	**5**	37%	3	2.1	**1**
		Out	18%	0.15	1		1	2.1	**2**	9%	**0**	56%	**1**	35%	1	2.1	**0**
Marina [7]																	
	36	Total	100%	0.08	3		3	2.1	**6**		**0**		**3**		2	2.1	**1**
	Berths	In	33%	0.03	1		1	2.1	**2**	5%	**0**	58%	**1**	37%	1	2.1	**0**
		Out	67%	0.05	2		2	2.1	**4**	9%	**0**	56%	**2**	35%	1	2.1	**1**
AM Peak Hour		Total			111		111		**140**		**30**		**47**		63		**51**
Total		In			22		22		**31**		**4**		**13**		15		**11**
		Out			88		88		**108**		**26**		**34**		48		**40**
PM Peak Hour																	
Residential - Condominiums [4]																	
	234	Total	100%	0.52	122		122	1.2	**146**	22%	**32**	31%	**46**	47%	69	1.2	**58**
	Units	In	67%	0.35	82		82	1.2	**98**	25%	**24**	30%	**29**	45%	44	1.2	**37**
		Out	33%	0.17	40		40	1.2	**48**	15%	**7**	34%	**16**	51%	25	1.2	**21**
Restaurant [5]																	
	6	Total	100%	7.49	45		45	2.1	**94**	8%	**7**	57%	**53**	36%	34	2.1	**16**
	KSF	In	67%	5.02	30		30	2.1	**63**	9%	**6**	56%	**35**	35%	22	2.1	**11**
		Out	33%	2.47	15		15	2.1	**31**	5%	**2**	58%	**18**	37%	12	2.1	**5**
Marina [7]																	
	36	Total	100%	0.19	7		7	2.1	**14**	7%	**1**	57%	**8**	36%	5	2.1	**2**
	Berths	In	60%	0.11	4		4	2.1	**9**	9%	**1**	56%	**5**	35%	3	2.1	**1**
		Out	40%	0.08	3		3	2.1	**6**	5%	**0**	58%	**3**	37%	2	2.1	**1**
PM Peak Hour		Total			173		173		**255**		**40**		**107**		107		**77**
Total		In			116		116		**170**		**31**		**70**		69		**49**
		Out			58		58		**85**		**9**		**38**		38		**27**

Notes:

1. 2001 National vehicle occupancy rates - 1.2: Home to work; 2.1: Social/Recreational
2. Mode shares based on BTD Mode Splits for Area 7.
3. Local vehicle occupancy rates based on 2000 Census Data.
4. ITE Trip Generation Equation, 7th Edition, LUC 230 (Condominium/Townhouse), Average Rate
5. ITE Trip Generation Equation, 7th Edition, LUC 931 (Quality Restaurant), Average Rate
6. ITE Trip Generation 7th Edition, LUC 420 (Marina), Equation
7. ITE Trip Generation 7th Edition, LUC 420 (Marina), Average Rate

New Street Redevelopment
Trip Generation Estimation **Hotel/Extended-Stay Alternative**
Howard/Stein-Hudson Associates
April 18, 2008

Component	Size	Category	Directional Distribution	Trip Rates (Trips/ksf or unit)	Unadjusted Vehicle Trips	Capture Rate	Less capture trips	Assumed national vehicle occupancy rate[1]	**Converted to Person trips**	Transit Share[2]	**Transit Trips**	Walk/Bike/ Other Share[2]	**Walk/ Bike/ Other Trips**	Vehicle Share[2]	Vehicle Person Trips	Assumed local vehicle occupancy rate[3]	**Total Adjusted Vehicle Trips**
Daily																	
Residential - Condominiums [4]																	
	175	Total	100%	5.86	1026		1026	1.2	**1,231**	17%	**209**	29%	**357**	54%	665	1.2	**563**
	Units	In	50%	2.93	513		513	1.2	**615**	17%	**105**	29%	**178**	54%	332	1.2	**282**
		Out	50%	2.93	513		513	1.2	**615**	17%	**105**	29%	**178**	54%	332	1.2	**282**
Restaurant [5]																	
	6	Total	100%	89.95	540		540	2.1	**1,133**	6%	**68**	52%	**589**	42%	476	2.1	**227**
	KSF	In	50%	44.98	270		270	2.1	**567**	6%	**34**	52%	**295**	42%	238	2.1	**113**
		Out	50%	44.98	270		270	2.1	**567**	6%	**34**	52%	**295**	42%	238	2.1	**113**
Hotel [6]																	
	106	Total	100%	8.14	863		863	2.1	**1,812**	6%	**109**	52%	**942**	42%	761	2.1	**362**
	Rooms	In	50%	4.07	431		431	2.1	**906**	6%	**54**	52%	**471**	42%	381	2.1	**181**
		Out	50%	4.07	431		431	2.1	**906**	6%	**54**	52%	**471**	42%	381	2.1	**181**
Marina [7]																	
	36	Total	100%	13.30	479		479	2.1	**1,006**	6%	**60**	52%	**523**	42%	422	2.1	**201**
	Berths	In	50%	6.65	239		239	2.1	**503**	6%	**30**	52%	**261**	42%	211	2.1	**101**
		Out	50%	6.65	239		239	2.1	**503**	6%	**30**	52%	**261**	42%	211	2.1	**101**
Daily		Total			2,907		2,907		**5,181**		**446**		2,411		2,324		**1,353**
Total		In			1,453		1,453		**2,591**		**223**		1,206		1,162		**677**
		Out			1,453		1,453		**2,591**		**223**		1,206		1,162		**677**
AM Peak Hour																	
Residential - Condominiums [4]																	
	175	Total	100%	0.44	77		77	1.2	**92**		**22**		**28**		43	1.2	**36**
	Units	In	17%	0.07	13		13	1.2	**16**	15%	**2**	34%	**5**	51%	8	1.2	**7**
		Out	83%	0.37	64		64	1.2	**77**	25%	**19**	30%	**23**	45%	35	1.2	**29**
Restaurant [5]																	
	6	Total	100%	0.81	5		5	2.1	**10**		**1**		**6**		4	2.1	**2**
	KSF	In	82%	0.66	4		4	2.1	**8**	5%	**0**	58%	**5**	37%	3	2.1	**1**
		Out	18%	0.15	1		1	2.1	**2**	9%	**0**	56%	**1**	35%	1	2.1	**0**
Hotel [6]																	
	106	Total	100%	0.56	59		59	2.1	**125**		**8**		**71**		45	2.1	**22**
	Rooms	In	61%	0.34	36		36	2.1	**76**	5%	**4**	58%	**44**	37%	28	2.1	**13**
		Out	39%	0.22	23		23	2.1	**49**	9%	**4**	56%	**27**	35%	17	2.1	**8**
Marina [8]																	
	36	Total	100%	0.08	3		3	2.1	**6**		**0**		**3**		2	2.1	**1**
	Berths	In	33%	0.03	1		1	2.1	**2**	5%	**0**	58%	**1**	37%	1	2.1	**0**
		Out	67%	0.05	2		2	2.1	**4**	9%	**0**	56%	**2**	35%	1	2.1	**1**
AM Peak Hour		Total			144		144		**233**		**31**		109		94		**60**
Total		In			54		54		**102**		**7**		55		40		**22**
		Out			90		90		**131**		**24**		54		54		**38**
PM Peak Hour																	
Residential - Condominiums [4]																	
	175	Total	100%	0.52	91		91	1.2	**109**	22%	**24**	31%	**34**	47%	51	1.2	**43**
	Units	In	67%	0.35	61		61	1.2	**73**	25%	**18**	30%	**22**	45%	33	1.2	**28**
		Out	33%	0.17	30		30	1.2	**36**	15%	**5**	34%	**12**	51%	18	1.2	**16**
Restaurant [5]																	
	6	Total	100%	7.49	45		45	2.1	**94**	8%	**7**	57%	**53**	36%	34	2.1	**16**
	KSF	In	67%	5.02	30		30	2.1	**63**	9%	**6**	56%	**35**	35%	22	2.1	**11**
		Out	33%	2.47	15		15	2.1	**31**	5%	**2**	58%	**18**	37%	12	2.1	**5**
Hotel [6]																	
	106	Total	100%	0.59	63		63	2.1	**131**	7%	**9**	57%	**75**	36%	47	2.1	**22**
	Rooms	In	53%	0.31	33		33	2.1	**70**	9%	**6**	56%	**39**	35%	24	2.1	**12**
		Out	47%	0.28	29		29	2.1	**62**	5%	**3**	58%	**36**	37%	23	2.1	**11**
Marina [8]																	
	36	Total	100%	0.19	7		7	2.1	**14**	7%	**1**	57%	**8**	36%	5	2.1	**2**
	Berths	In	60%	0.11	4		4	2.1	**9**	9%	**1**	56%	**5**	35%	3	2.1	**1**
		Out	40%	0.08	3		3	2.1	**6**	5%	**0**	58%	**3**	37%	2	2.1	**1**
PM Peak Hour		Total			205		205		**349**		**41**		171		137		**84**
Total		In			128		128		**215**		**31**		101		82		**51**
		Out			77		77		**135**		**10**		69		55		**33**

Notes:

1. 2001 National vehicle occupancy rates - 1.2: Home to work; 2.1: Social/Recreation
2. Mode shares based on BTD Mode Splits for Area 7.
3. Local vehicle occupancy rates based on 2000 Census Data.
4. ITE Trip Generation Equation, 7th Edition, LUC 230 (Condominium/Townhouse), Average Rate
5. ITE Trip Generation Equation, 7th Edition, LUC 931 (Quality Restaurant), Average Rate
6. ITE Trip Generation Equation, 7th Edition, LUC 310 (Hotel), Average Rate
7. ITE Trip Generation 7th Edition, LUC 420 (Marina), Equation
8. ITE Trip Generation 7th Edition, LUC 420 (Marina), Average Rate