CICD Caribbean Integration Community Development

Planning Office *for* Urban Affairs

December 14, 2015

Brian Golden
Director
Boston Redevelopment Authority
One City Hall Square, 9th Floor
Boston, MA 02201

Dear Director Golden:

Cote Village LLC is excited to submit this Expanded Project Notification Form (PNF) to the Boston Redevelopment Authority (BRA) in accordance with Article 80B (Large Project Review) of the Boston Zoning Code.

Cote Village LLC is a unique partnership between two non-profit organizations who share a commitment and vision to increase the affordable housing inventory and generate economic benefits in the development of residential and mixed-used projects in Boston's neighborhoods. The partnership is comprised of the Planning Office for Urban Affairs, Inc. (POUA), an organization that has a long history and significant track record in the successful development of affordable housing, and the Caribbean Integration Community Development (CICD), an organization that was created to build a stronger Caribbean Diaspora through the provision of economic opportunity, educational programs and services, and the development of housing in Boston's minority neighborhoods. We have come together to combine our collective expertise and vision in re-developing the former Cote Ford Dealership into a vibrant and welcoming destination. Cote Village LLC is also excited about our association with the AFL-CIO Housing Investment Trust to offer financing to support the successful development of the project.

Based on our commitment and vision to meet the continuing demand for affordable and market-rate housing in the City of Boston, Cote Village LLC is proposing to construct a mixed-use residential and commercial project on the 2.3 acre former Cote Ford site that has stood vacant and neglected for a number of years in a stable residential area of Mattapan. We are confident that Cote Village will serve as an anchor in the neighborhood, and as a catalyst for future redevelopment in the Mattapan community. It is also important to note that the project site's close proximity to the future Cummins Highway Commuter Rail stop will serve as a model for transit-oriented development projects, which supports one of the City Administration's key goals of building housing near transit stations in densely-populated neighborhoods in order to provide convenient, low-cost public transit access to jobs in downtown Boston.

The approximately $29.6m Cote Village project has a total gross square footage of 94,031 and includes the following components:

Residential and Related Uses

- A total of 76 one, two, and three-bedroom units (divided between flats and townhouses).
- Rental Office
- Community Room

- Laundry Room
- Fitness Room
- Bicycle Storage
- 84 Parking Spaces split between structured parking under the public plaza and main residential building podium, and outdoor parking off of Regis Road.

Commercial Space

- A total of approximately 4,172 square feet of ground-floor commercial space will be located immediately adjacent to the entry area of the new MBTA station, thereby enlivening the street front and providing residents with convenient access to retail goods and services.

Public Space

- Behind the main building on Cummins Highway and the townhouses on Regis Road , there will be an approximately 12,000 square foot public plaza/courtyard which will include landscaped areas providing passive and active recreational space for residents of the complex, and for occasional community gatherings.

We look forward to working with the BRA to advance the Cote Village Project through the permitting phase and groundbreaking.

Sincerely,

Lisa Alberghini
President
Planning Office for Urban Affairs

Donald Alexis
Executive Director
Caribbean Integration Community Development

Cote Village Expanded PNF
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Cote Village Expanded PNF
Chapter One
Project Summary

1.0 PROJECT SUMMARY

1.1 Project Overview

The Cote Village Limited Liability Corporation (LLC) (the "Proponent") proposes to construct a mixed-use residential and commercial project on the site of the former Cote Ford Dealership, a 2.3 acre site located in the Mattapan community. The project has a total square footage of 94, 031 and is comprised of 76, one, two, and three-bedroom residential units (divided between flats and townhouse units), with an accessory rental office and community room, comprising approximately 956 square feet of space; 4,172 square feet of ground-floor commercial space; a 12,000 square foot public plaza; and a total of approximately 84 parking spaces split between structured parking under the public plaza and main residential building podium, and outdoor parking which will be built behind the townhouses on a lot on Regis Road. The existing structure on the Regis Road lot will be demolished during project construction.

Site amenities are located on the plaza deck and on land between Regis Road and the MBTA Commuter Rail Tracks, including play areas, landscaped areas, passive recreation spaces and a dog park. Also included in the program, as indicated below, are auxiliary project components that will be located in the re-purposed underground parking structure:

- Laundry Room
- Fitness Room
- Bicycle Storage
- Trash and Recycling Areas

This Expanded Project Notification Form (PNF) is being submitted to the Boston Redevelopment Authority (BRA) to initiate review of the Project under Article 80B, Large Project Review, of the Boston Zoning Code.

1.2 Preliminary Project Schedule

Construction of Cote Village is expected to begin in the Fall of 2016 and will run approximately 15 months, with a projected February 2018 completion.

COTE VILLAGE PROJECT SCHEDULE

Article 80 PNF	Dec 2015
DND/NHT Funding Application	Dec 2015
DHCD Funding Application	Mar 2016
Article 80/Zoning Approval	Mar 2016
Funding Committed	July 2016
Initial Closing	Nov 2016
Construction Start	Nov 2016
Construction Completion	May 2018
Initial CO	Feb 2018
Final CO	May 2018
Sustained Occupancy	Aug 2018
Final Closing	Nov 2018

1.3 Project Financing

Cote Village will be financed by a combination of Low Income Housing Tax Credits; permanent mortgage and bridge financing; grants and soft loans from the Commonwealth of Massachusetts and the City of Boston; and possibly Federal Home Loan Bank or other funds.

The sale of Federal and State Low Income Housing Tax Credits will provide equity financing for the project. In order to expedite the project schedule, the developer will be seeking 4% tax credits through MassHousing, and debt financing will be provided by the AFL-CIO Housing Investment Trust (HIT) working through MassHousing as well. A permanent loan will be supplemented by bridge financing during the construction and rent up period. Because of the mission and legal status of the AFL-CIO HIT, the project will be afforded very favorable rates and terms.

1.4 Development Team

Project Name:	Cote Village, 820 Cummins Highway, Mattapan, MA 02126
Proponent:	Cote Village LLC 84 State Street, Suite 600, Boston, MA 02109 Lisa Alberghiini lba@poua.org (617) 350-8885 Donald Alexis - dalexis@cicdofboston (617)792-1245

Construction Manager	BiltRite Construction 150 Shirley Street, Boston MA 02119 Matthew Robbins – mrobbins@biltriteconstruction.com (617) 541-9777
Architect	Davis Square Architects, 240A Elm Street, Somerville, MA 02144 Cliff Boehmer – (617) 628-5700 cboehmer@davissquarearchitects.com Artan Sadiku – (617) 628-5700 asadiku@davissquarearchitects.com
Landscape Architect	Ulrich Bachand Landscape Architecture, 156 Cabot Street, Unit 2A, Beverly, MA 01915 Rebecca Bachand – Rebecca@ub-la.com – (781) 686-4486
Surveyors	Feldman Land Surveyors, 112 Shawmut Avenue, Boston, MA 02118 Damien Raffle – draffle@feldmansurveyors.com

Attorneys	Nixon Peabody LLP 100 Summer Street, Boston, MA 02110 Paul Bouton – (617) 345-1000 pbouton@nixonpeabody.com Ruth Silman – rsilman@nixonpeabody.com (617) 345-1000
Permitting Consultant	Bevco Associates, 202 West Selden Street, Boston, MA 02126 Beverley Johnson – bjohnson@bevcoassociates.comcastbiz.net (617) 438-2767
Transportation/Parking	VHB Inc, 99 High Street, Boston, MA 02210 David Black – Dblack@VHB.com – (617) 607-2906
Civil Engineer	Nitsch Engineering, 2 Center Plaza, Suite 430, Boston, MA 02108 Deborah Danik – ddanik@nitscheng.com – (617) 338-0063

Noise/Vibration	Acentech, 33 Moulton Street, Cambridge, MA 02138 Jeff Fullerton – jfullerton@ACENTECH.com (617) 499-8058
Geotechnical & Environmental	GZA, 5 Commerce Park North, Suite 202 Bedford, NH 03110 David Lamothe – david.lamothe@gza.com (603) 232-8716 Amy Doherty – amy.doherty@gza.com (603) 232-8700
Development Consultant	Eisenberg Consulting LLC Four Ashford Road, Newton Centre, MA 02459 Charles Eisenberg – (617) 901-3378 ceisenberg@comcast.net
Financing Partner	AFL-CIO Housing Investment Trust Ten Post Office Square, Boston, MA 02109 Thomas O'Malley – (617) 901-3378 tomalley@aflcio-hit.com (617) 850-9071

Market Analyst	Kirk & Company 99 Summer Street, Boston, MA 02110 Brett Pelletier – bpelletier@kirkco.com – (617) 261-7100

1.5 Local Economic and Community Benefits

1.5.1 Economic and Community Benefits

As the designated developers of the former COTE Ford site, the Planning Office for Urban Affairs, Inc. (POUA), and the Caribbean Integration Community Development, Inc. (CICD) are committed to leveraging the project to the maximum extent possible to achieve their goal of generating economic opportunity and community benefits for residents of Mattapan and local Minority and Women Business Enterprises (M/WBE), and further developing CICD into a thriving local non-profit organization.

1.5.2 Wealth Creation/Economic Benefits

Our approach and vision involves the creation of a range of economic opportunities that will support wealth creation within the local business and residential community. Key economic benefits/wealth creation goals identified by our team include:

A. Minority Equity Ownership in the Project-

A major component of our wealth-creation plan is structured around the unique partnership between CICD and POUA as co-owners and co-developers of the Cote Ford site. The CICD, a minority-

controlled organization established to promote economic opportunity within Mattapan, has an equity ownership interest in the project. This equity ownership interest will lay the groundwork for the CICDC to begin building a substantial asset base that will generate wealth within the minority community through the organization's future development projects, spinning off construction and permanent employment opportunities as well as professional service contracts.

B. Contract Opportunities for Minority/Women Business Enterprises
POUA and the CICD are deeply committed to generating wealth-creation in the minority business community. Toward that end, we are implementing a M/WBE Business Utilization Plan that is structured around maximizing diversity and inclusion during all project phases (pre-construction, construction, and post-construction).

1. Pre-Construction Contracts Awarded to M/WBEs-The following contracts have been awarded to M/WBEs during the pre-construction phase of the project:

   A. Sustainable design
   B. Permitting Consultant

   As the project advances to the construction and post-construction phases, our goal is to conduct a comprehensive level of outreach in an effort to identify qualified businesses in advance of contracting opportunities for both construction and post-construction property operations, in order to broaden the pool of M//WBEs competing for the work. Key M/WBE opportunities that are currently under evaluation include:

2. Construction Contracts-Subcontractors who have expertise in a particular trade will be recruited to get contracts to perform work on the project. Opportunities will also be offered to vendors who provide construction-related goods and services.

3. Post-Construction Contracts-Opportunities that are currently under consideration for M/WBE contracts during the operational phase include:

   A. Landscaping Services
   B. Janitorial Services
   C. Property Management Services

C. Economic Impact of Site Redevelopment-

As the developers of a property that has been vacant and unused for over 20 years, we are excited that the upcoming redevelopment of the site will have a positive impact on overall property values of the residential community and on the quality of life in the surrounding area. We also anticipate that the development of Cote Village will serve as a catalyst for future investment in the neighborhood, leading to an even greater impact beyond the boundaries of this one development.

D. Construction Jobs-

In the construction phase of the project, we anticipate that approximately 117 construction jobs will be generated by the project and an additional 140 indirect jobs will be created as a result of the project. We will explore every opportunity to achieve local workforce levels that will exceed City of Boston goals.

Toward this end, the POUA/CICD team will work with the City of Boston and the community to design a comprehensive outreach program to ensure to the greatest extent possible that local residents have opportunities to work on the project.

3. Community Benefits

The Cote Village community room and the site amenities on the Public Plaza will be made available to the community for meetings, celebrations, and other public gatherings. Additionally, the Cote Village project will reinvigorate the street scape, re-engage the property with the community, increase property values, and the commercial space will provide opportunities for local residents to get goods and services.

1.6 Community Engagement

Over the past 6-9 months, the Proponent has scheduled approximately 13 meetings with the broader residential, business, civic, and political community located in close proximity to the Project Site. On the basis of these outreach activities, the project has generated broad community and political support.

1.7 Zoning Approach

Consistency with Zoning

The Project Site is located within the Gateway Development Overlay District of the Greater Mattapan Neighborhood District, as set forth in Article 60 of the Boston Zoning Code ("the Code").

The Project Site is also located within the 2F-6000 Two-Family Residential Subdistrict. Given the Project's location within the Gateway Development Overlay District, the multi-family uses in the Project are allowed as-of-right; the commercial uses in the Project are not allowable under the Code. Since the Project involves new construction in excess of 50,000 square feet of gross floor area, the Project is subject to Large Project review by the Boston Redevelopment Authority under Article 80 of the Code. The features of the Project are compared to the zoning requirements as set forth in Table 1.7.1. The Proponent will seek the zoning deviations for the Project as noted in Table 1.7.1 under Chapter 121A.

Table 1.7.1 Zoning Comparison

Parameter	Zoning Requirement[1]	Project	Deviation
Uses	Multi-family permitted. Community uses allowed by conditional use permit. Commercial uses prohibited.	Mixed-use: Multi-family residential, commercial and community	Yes, for community and commercial uses
Minimum Lot Area	6,000 sf	Complies	No
Minimum Lot Width	45 ft	Complies	No
Minimum Lot Frontage	45 ft	Complies	No
Floor area ratio (Maximum)	0.8 Gateway Overlay allows up to 2.0 Large Project/Article 80 allows up to 4.0	Complies	No
Building Height (Maximum)			
Stories	2½ stories	n/a	n/a
Height	35 ft Gateway Overlay allows up to 45 ft Large Project/Article 80 allows up to 55 ft	Complies	No
Usable open space per dwelling unit (maximum)	800 sf/unit	Does not comply	Yes
Front Yard Setback (minimum)	15 ft	Does not comply; pre-existing building will be rehabilitated	Yes
Side Yard Setback (minimum)	10 ft	Complies	No
Rear Yard Setback (minimum)	30 ft	Does not comply; pre-existing building will be rehabilitated	Yes
Rear Yard Occupancy by Accessory Uses (maximum)	25%	Complies	No
Parking			
Residential (spaces/dwelling unit)	Note 2	To be determined through Article 80	No
Community (spaces/1,000 sf)	Note 2	To be determined through Article 80	No

1. *Boston Zoning Code, Article 60, Multifamily dwelling in 2F-6000 sub-district and Article 60-33, Gateway Development Area Overlay District.*
2. *BZC Article 60, Section 60-40 provides that for projects subject to Article 80 Large Project Review, off-street parking requirements and off-street loading requirements will be determined through the Article 80 review process.*

List of Permits and Approvals

Provided below on Table 1.7.2 is a preliminary list of permits and other approvals based on Project information currently available. It is possible that not all the permits or actions will be required, or that additional permits or actions may be introduced later in the process.

Table 1.7.2 List of Permits and Approvals[1]

Agency Name	Permit or Action
Federal	
U.S. Environmental Protection Agency	-National Pollutant Discharge Elimination System (NPDES) Construction General Permit
State	
Massachusetts Historical Commission Massachusetts Department of Environmental Protection	Finding of No Adverse Effect Notification Prior to Construction or Demolition – Form BWP AQ06
Local	
Boston Redevelopment Authority	Article 80 Approval Article 85 Design Review Cooperation Agreement Boston Resident Jobs Agreement 121A Approval
Boston Water and Sewer Commission	Utility connection permits
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Department of Inspectional Services	Building Permits; Certificates of Occupancy; other construction-related permits
Boston Department of Public Work/Boston Public Improvement Commission	Curb cut permit; Specific repairs, line and grade approval, where appropriate

1. The list of permits and approvals is preliminary based on current Project information. Not all of these permits or actions may be required and additional required permits may be identified.

1.8 Legal Information

1.8.1 *Legal Judgments Adverse to the Proposed Project*

The Proponent is not aware of any legal judgments or actions pending concerning the Project or the Project site.

1.8.2 *History of Tax Arrears on Property Owned in Boston by the Proponent*

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

1.8.3 Site Control/Public Easements

The Proponent is the designated developer of the Project site, in accordance with the letter received from the City of Boston Department of Neighborhood Development dated June 4, 2015 and attached as Exhibit 1.8.3.1.

1.9 Regulatory Controls and Permits

As noted above, Table 1.7.2 presents a preliminary list of local, state, and federal permits and approvals that the Proponent expects may be required for the proposed Project. The list is based on current information about the Project, and is subject to change as the design of the project advances.

CITY OF BOSTON • MASSACHUSETTS

DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT
MARTIN J. WALSH, MAYOR

June 4, 2015

Re: 820 Cummins Highway, 30-32 Regis Road, Cummins Highway & Regis Road, Mattapan
Ward 18 Parcels 01058000, 01054000, 01091000 & 01092000

To Whom It May Concern:

At a meeting of the Public Facilities Commission of the Department of Neighborhood Development on **May 21, 2015** the **development team consisting of the Caribbean Integration Community Development, Inc. and Planning Office for Urban Affairs, Inc.** was tentatively designated as the developer of the City of Boston parcels located at **820 Cummins Highway, 30-32 Regis Road, Cummins Highway & Regis Road (Ward 18, Parcel Numbers 01058000, 01054000, 01091000 & 01092000)** in **Mattapan.**

The Department of Neighborhood Development of the City of Boston authorizes the **development team consisting of the Caribbean Integration Community Development, Inc. and Planning Office for Urban Affairs, Inc.**, and its attorneys & consultants, to act as our agent with authority to apply for any zoning variances or permits associated with the development of the aforementioned site.

If there are questions regarding this authorization, please call me at 617-635-0493. Thank you.

Sincerely,

Christopher Rooney

Christopher Rooney
Project Manager
Real Estate Management and Sales
Department of Neighborhood Development

Cote Village Expanded PNF
Chapter Two
Project Description

2.0 PROJECT DESCRIPTION

This chapter describes the proposed Project in detail, including the location, project site plan, and proposed building program.

2.1 Project Setting and Site

The Project Site consists of two lots, one at 820 Cummins Highway, and the other at 30-32 Regis Road, both in the Mattapan neighborhood of Boston. The Site was formerly an auto dealership, and the existing buildings on it have been abandoned for many years. The most prominent lot fronts onto Cummins Highway for approximately 222 feet between Regis Road and the MBTA tracks, and on Regis Road for 195 feet. The second lot fronts onto Regis Road for 397 feet. The rear (Northwest side) of both lots is bounded by the MBTA Fairmont Line tracks. The majority of the existing site (both lots) is impervious, covered by existing structures and pavement.

There is significant grade change, approximately six feet, from the corner of the Cummins Highway lot, down to the second lot along Regis Road. The grade change along Cummins Highway, east to west towards the railway bridge, is even more significant (approximately 8 feet). The original car dealership building on Cummins Highway has a footprint of 16,006 square feet, and is constructed on top of a concrete and steel podium. Its entry grade is set at approximately the highest level of the site. The design intent for the proposed new housing is to retain the podium structure (that fills most of the site), and utilize the massive enclosed space below as a parking structure.

The second lot along Regis Road is relatively flat for most of its length along the railroad tracks. The northern end of the site slopes steeply up to an adjacent residential property, and is vegetated with woods. For most of the length of the Regis lot, there is only a very small grade change between the developable area of the lot and the railroad bed. The existing building facing Regis Road, which is in very poor condition, has a footprint of 14,872 square feet.

The site is ideally located between Mattapan Square (less than ¼ mile to the southeast), and the soon-to-be-constructed MBTA train stop (immediately adjacent to the west) that will bridge between Cummins Highway and Blue Hill Avenue. As such, the residents of the site will have excellent access to commuter line trains, MBTA trolley, bus lines, and the numerous amenities along Blue Hill Avenue to the north.

Most of the nearby residential context is small scale structures on narrow streets that are perpendicular to Cummins Highway. One larger scale apartment community, Fairlawn Apartments, is virtually across Cummins Highway from the Cote site (but on the other side of the railroad tracks). It consists of 347 garden style apartments in 13 structures.

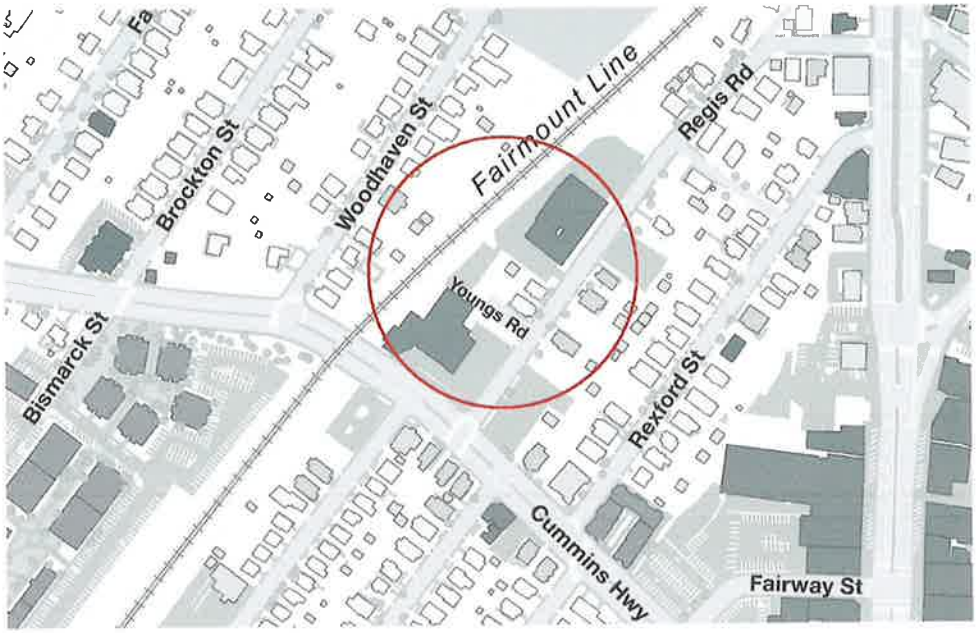
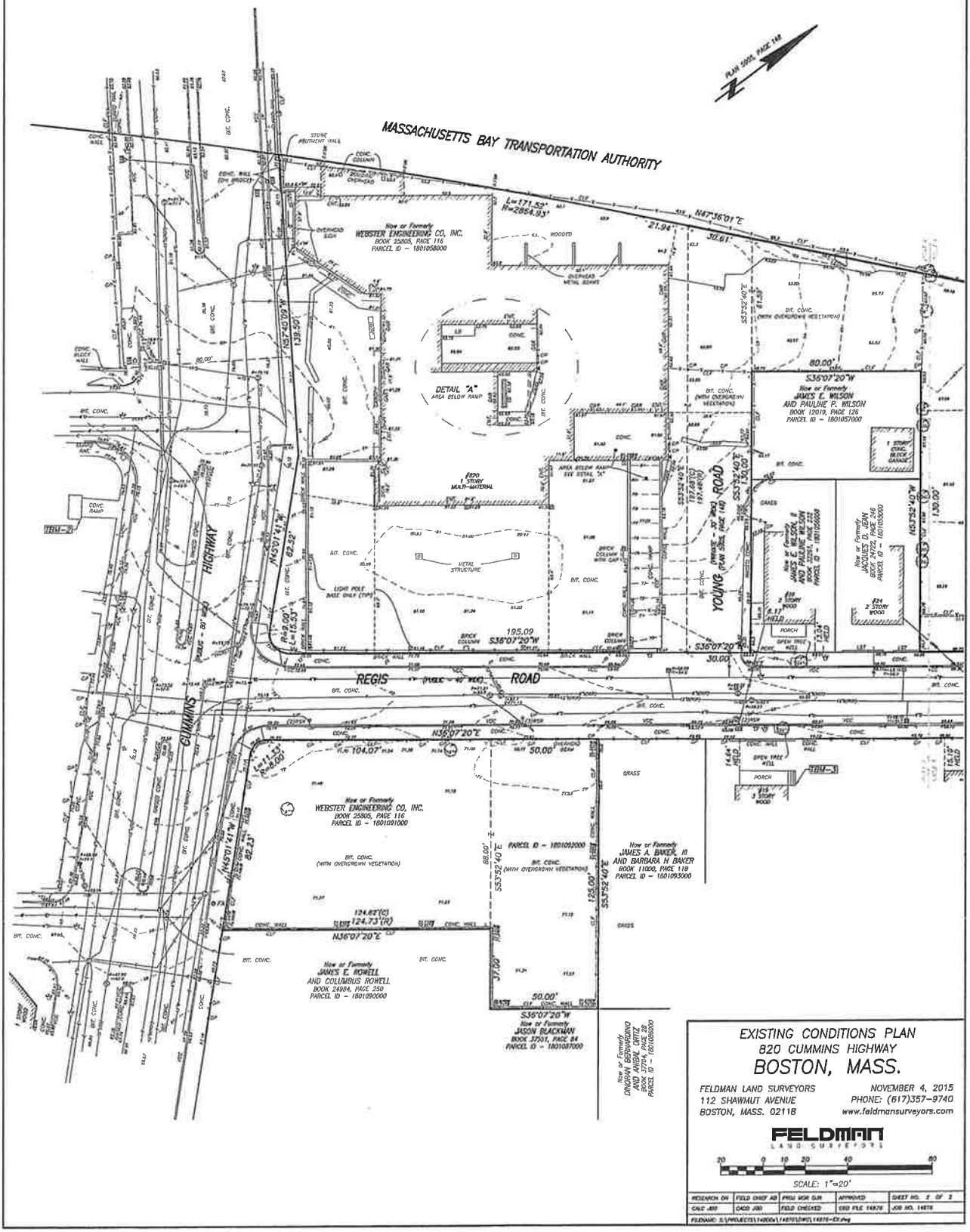
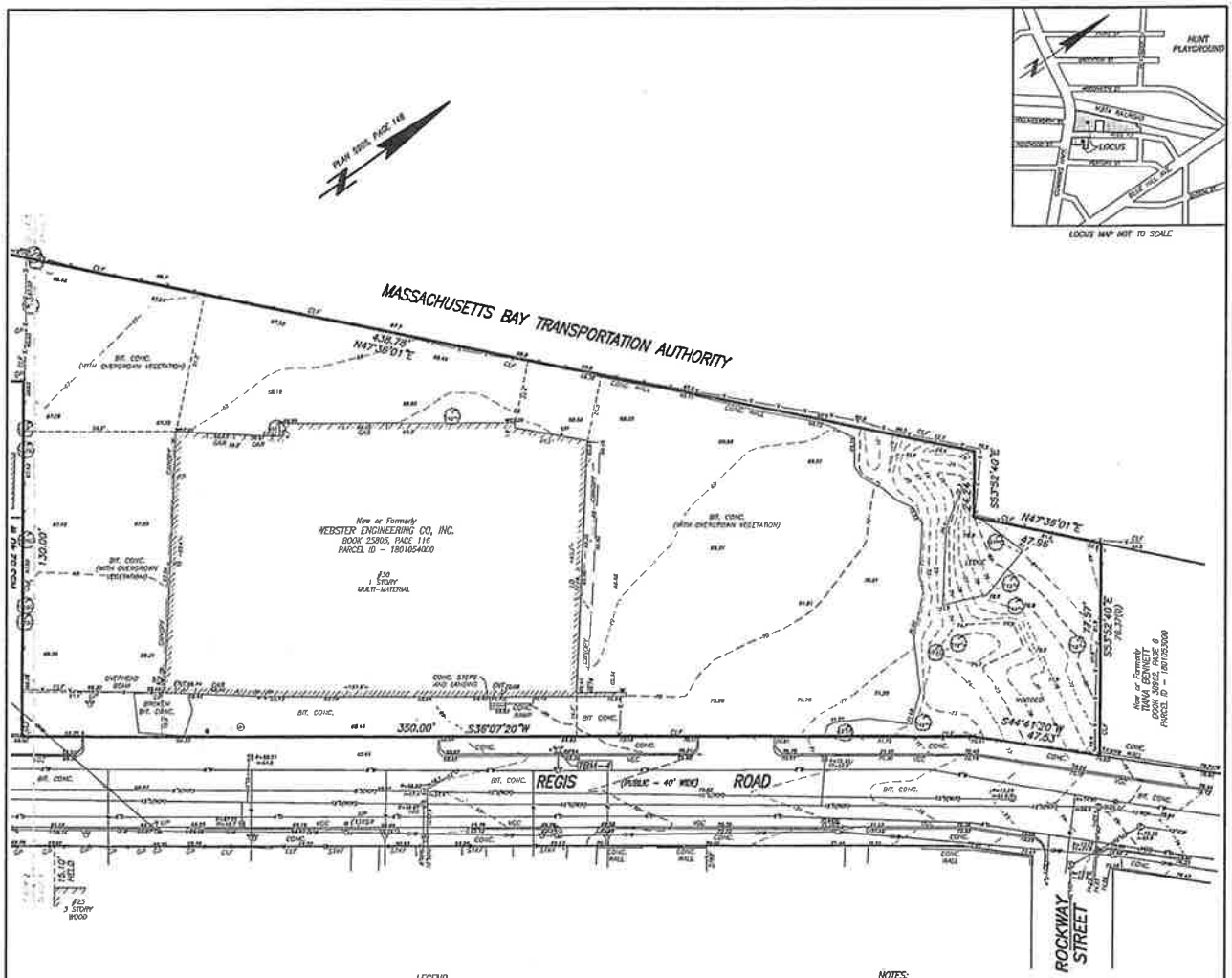


Figure 2.1.1 LOCUS MAP

Figure 2.1.2 USGS Map

Figure 2.1.3


MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
PLAN 5955, PAGE 148
Now or Formerly
WEBSTER ENGINEERING CO, INC.
BOOK 25805, PAGE 116
PARCEL ID – 1801058000
L=171.52'
R=2854.93'
N47°36'01"E
21.94'
30.61'
S53°52'40"E
81.42'
BIT. CONC.
(WITH OVERGROWN VEGETATION)
80.00'
S36°07'20"W
Now or Formerly
JAMES E. WILSON
AND PAULINE P. WILSON
BOOK 12019, PAGE 126
PARCEL ID – 1801057000
DETAIL "A"
AREA BELOW RAMP
820
1 STORY
MULTI-MATERIAL
N53°52'40"W
130.00'
S53°52'40"E
130.00'
YOUNG ROAD
(PAVE – 30' WIDE)
(PLAN 5955, PAGE 148)
Now or Formerly
JAMES E. WILSON, II
AND PAULINE WILSON
BOOK 32018, PAGE 232
PARCEL ID – 1801056000
Now or Formerly
JACQUES D. JEAN
BOOK 24722, PAGE 216
PARCEL ID – 1801055000
N53°52'40"W
130.00'
METAL STRUCTURE
BRICK COLUMN WITH CAP
LIGHT POLE
BASE ONLY (TYP.)
CONC. RAMP
CUMMINS HIGHWAY
(PAVE – 80' WIDE)
N53°41'41"W
62.32'
R=8.00'
L=16.53'
195.09
S36°07'20"W
30.00'
N36°07'20"E
REGIS ROAD
(PAVE – 40' WIDE)
104.07'
50.00'
PORCH
OPEN TREE WELL
GRASS
Now or Formerly
WEBSTER ENGINEERING CO, INC.
BOOK 25805, PAGE 116
PARCEL ID – 1801091000
N53°41'41"W
62.23'
PARCEL ID – 1801092000
88.00'
S53°52'40"E
Now or Formerly
JAMES A. BAKER, III
AND BARBARA H. BAKER
BOOK 11000, PAGE 118
PARCEL ID – 1801093000
125.00'
124.62'(C)
124.73'(R)
N36°07'20"E
37.00'
50.00'
S36°07'20"W
Now or Formerly
JAMES E. ROWELL
AND COLUMBUS ROWELL
BOOK 24984, PAGE 250
PARCEL ID – 1801090000
Now or Formerly
JASON BLACKMAN
BOOK 37501, PAGE 84
PARCEL ID – 1801087000
Now or Formerly
DINORAH BERNARDINO
AND ARTHUR ORTIZ
BOOK 32704, PAGE 88
PARCEL ID – 1801086000
EXISTING CONDITIONS PLAN
820 CUMMINS HIGHWAY
BOSTON, MASS.
FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118
NOVEMBER 4, 2015
PHONE: (617)357-9740
www.feldmansurveyors.com
FELDMAN
LAND SURVEYORS
20 0 10 20 40 80
SCALE: 1"=20'
RESEARCH BH
FIELD CHIEF AB
FIELD WORK DJR
APPROVED
SHEET NO. 1 OF 2
CALC JBD
CADD JBD
FIELD CHECKED
CAD FILE 14878
JOB NO. 14878
FILENAME: S:\PROJECTS\14800's\14878\DWG\14878-EX.dwg



LEGEND

SEWER MANHOLE	BC — BOTTOM OF CURB
DRAIN MANHOLE	BCB — BIT. CONC. BERM
ELECTRIC MANHOLE	BIT — BITUMINOUS
TELEPHONE MANHOLE	BK — BACK
CABLE TV MANHOLE	BW — BOTTOM OF WALL
MANHOLE	(C) — CALCULATED
HYDRANT	CLF — CHAIN LINK FENCE
WATER SHUT OFF/WATER GATE	CONC — CONCRETE
GAS SHUT OFF/GAS GATE	ENT — ENTRANCE
BOSTON WATER VALVE	FOW — FULL OF WATER
CATCH BASIN	GAR — GARAGE DOOR
UTILITY POLE	I= — INVERT ELEVATION
LIGHT POLE	JBAR — JERSEY BARRIER
ELECTRIC HANDHOLE	L= — ARC LENGTH
BOLLARD	LCC — LAND COURT CASE
SIGN	LD — LOADING DOCK
ROOF DRAIN	LST — LANDSCAPE TIMBER
OBSERVATION WELL	MLS — MULCH & SHRUBS
STAND PIPE/SIAMESE CONNECTION	NVP — NO VISIBLE PIPES
FLOOD LIGHT	OV — OVER
UTILITY POLE W/ LIGHT	R= — RADIUS OR RIM ELEVATION
GATE POST	(R) — RECORD
VENT PIPE	SQ. FT. — SQUARE FEET
AIR CONDITIONING UNIT	STKF — STOCKADE FENCE
DECIDUOUS TREE	TBM — TEMPORARY BENCH MARK
INDICATES COMMON OWNERSHIP	TC — TOP OF CURB
	TD — TRENCH DRAIN
	TF — TOP OF TOAP
	TW — TOP OF WALL
	TYP — TYPICAL
	VGC — VERTICAL GRANITE CURB

C	CABLE TELEVISION
D	DRAIN
E	ELECTRIC
G	GAS
OHW	OVERHEAD WIRES
S	SEWER
T	TELEPHONE
W	WATER
12"D(CI)	PIPE SIZE AND MATERIAL
CI	CAST IRON
PVC	POLY VINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
VCP	VITRIFIED CLAY PIPE
X — X	METAL FENCE
	WOOD FENCE
	EDGE OF WOODS
	GUARD RAIL

NOTES:

1) BENCH MARK INFORMATION: CITY OF BOSTON BENCH MARKS.

   BENCH MARK USED:
   LEFT OUTER CORNER OF LOWEST CONCRETE STEP LOCATED AT 24 REXFORD STREET.
   ELEVATION = 68.59

   RIGHT OUTER CORNER OF LOWEST CONCRETE STEP LOCATED AT 49 REXFORD STREET.
   ELEVATION = 64.45

   TEMPORARY BENCH MARKS SET:
   TBM-1: X-MARK ON RIGHT FRONT HYDRANT BONNET BOLT LOCATED ON THE NORTHEASTERLY SIDE OF CUMMINS HIGHWAY APPROXIMATELY 60' NORTHWESTERLY OF REXFORD ST.
   ELEVATION = 67.51

   TBM-2: LEFT OUTER CORNER OF LANDING FOR RAMP AT 821 CUMMINS HIGHWAY AS SHOWN ON PLAN.
   ELEVATION = 78.41

   TBM-3: LEFT OUTER CORNER OF LOWEST CONCRETE STEP LOCATED AT 19 REGIS ROAD AS SHOWN ON PLAN.
   ELEVATION = 71.17

   TBM-4: X-MARK ON HYDRANT BONNET BOLT ACROSS FROM 43 REGIS ROAD AS SHOWN ON PLAN.
   ELEVATION = 71.97

2) ELEVATIONS REFER TO BOSTON CITY BASE.

3) CONTOUR INTERVAL EQUALS ONE (1) FOOT.

9) UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFOREMENTIONED RECORD PLANS AND ARE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS. SINCE SUB-SURFACE UTILITIES CANNOT BE VISIBLY VERIFIED, BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUB-SURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL, TOLL FREE, THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION.

PLAN REFERENCES

SUFFOLK COUNTY REGISTRY OF DEEDS

PLAN BOOK 3693, PAGE 434
PLAN BOOK 6082, PAGE 221
PLAN BOOK 5905, PAGE 148
PLAN BOOK 2060, PAGE END
PLAN BOOK 1192, PAGE END
PLAN BOOK 5905, PAGE 148

MASSACHUSETTS LAND COURT

LCC 373044

CITY BOSTON ENGINEERING DEPARTMENT

FIELD BOOK 800, PAGE 38
FIELD BOOK 795, PAGE 2-9

PLAN NO. L-3950
PLAN NO. L-8527
PLAN NO. L-3947
PLAN NO. L-6189
PLAN NO. L-6705

MASSACHUSETTS HIGHWAY DEPARTMENT

LAYOUT NO. 7083

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MBTA PLAN NO 110 - 15404-36
MBTA VALUATION PLAN FOR AREA

I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND THE LATEST PLANS AND DEEDS OF RECORD.

FOR FELDMAN LAND SURVEYORS

PROGRESS-11-6-2015

DAMIEN J. RAFFLE, PLS (MA# 49629) — DATE
draffle@feldmansurveyors.com

EXISTING CONDITIONS PLAN
820 CUMMINS HIGHWAY
BOSTON, MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118

NOVEMBER 4, 2015

PHONE: (617)357-9740
www.feldmansurveyors.com

FELDMAN LAND SURVEYORS

20 0 10 20 40 80
SCALE: 1"=20'

RESEARCH DH	FIELD CHIEF AB	PROJ MGR DJR	APPROVED	SHEET NO. 1 OF 2	
CALC JBD	CADD JBD	FIELD CHECKED	CAD FILE 14878	JOB NO. 14878	

FILENAME: S:\PROJECTS\14800s\14878\DWG\14878-EX.dwg

- Figure 2.1.4 Existing Conditions Photos

2.2 Project Design Overview

The project will be developed to create a residential urban community that will transform the current vacant site into a vibrant mixed-use space. The proposed Site Plan for the entire project includes 4,172 square feet of commercial space; 76 residential units, comprising approximately 94,031 square feet of space; a 12,000 square-foot public plaza; and a total of approximately 84 parking spaces. The semi-underground part of the Cummins Highway building will be retained and adapted to accommodate parking and auxiliary spaces for the new development. The Floor Area Ratio (FAR) for the entire Project is approximately 0.95. Figure 2-7 at the end of this Section presents the conceptual Site Master Plan. As shown on Figure 2-7, a new driveway will be created through the Project Site connecting Regis Road and Young Road. Parking for the proposed residential units will be comprised of spaces located in the underground garage and along this new roadway, thereby allowing the new buildings to be pulled closer to the existing street network and to create a pedestrian friendly streetscape that encourages walkability around the Site.

The table below details the program of the buildings as shown on the site plan.

Table 2.1 Development Program

Building	Gross Square Footage	Commercial SQ.FT.	Residential Units	Parking Spaces
A	58949	4172	52	59
B	11748	0	8	25
C	17492	0	12	
D	5842	0	4	
TOTAL	94,031	4172	76	84

2.3 Project Site Plan, Building Plans and Elevations

All related plans are attached to this chapter for BRA review.

2.4 Massachusetts Environmental Policy Act (MEPA)

Based upon review, it has been determined that the project does not trigger any MEPA threshold review requirements.

2.5 Site Permitting History

The former Cote Ford site was vacant for many years and when previously developed in the 1950's, the City of Boston did not require a Development Impact review.


Planning Office for Urban Affairs
CICD
AFL-CIO
Housing
Investment
Trust
DAVIS
SQUARE

Cote Village
Enhanced PNF
Conceptual Master Plan

Cote Village Development

Cummins Highway, Mattapan, Massachusetts

ubla
Ulrich Bachand Landscape Architecture, LLC
www.ub-la.com * 156 Cabot Street, Unit 2A, Beverly, MA

DAVIS SQUARE ARCHITECTS

Cote Village Expanded PNF
Plans & Elevations
Building A

COTE VILLAGE

BUILDING A - 820 CUMMINS HW

DRAWING LIST

UNIT LIST

101	3 BED	1056
102	3 BED	1055
103	3 BED	1050
104	2 BED	848
105	1 BED	620
106	2 BED	982
107	2 BED	848
108	3 BED	1084
201	2 BED	871
202	2 BED	871
203	2 BED	871
204	2 BED	871
205	2 BED	871
206	1 BED	641
207	2 BED	889
208	2 BED	871
209	2 BED	885
210	1 BED	645
211	1 BED	645
212	1 BED	645
213	1 BED	643
214	2 BED	988
215	2 BED	848
301	2 BED	871
302	2 BED	871
303	2 BED	871
304	2 BED	871
305	2 BED	871

306	1 BED	641
307	2 BED	889
308	2 BED	871
309	2 BED	885
310	1 BED	645
311	1 BED	645
312	1 BED	645
313	1 BED	643
314	2 BED	988
315	2 BED	848
401	2 BED	848
402	2 BED	792
403	2 BED	848
404	1 BED	641
405	2 BED	889
406	2 BED	848
407	2 BED	862
408	1 BED	645
409	1 BED	645
410	1 BED	645
411	1 BED	642
412	2 BED	986
413	1 BED	620
414	2 BED	848
NET UNITS GSF		42412

GROSS SQUARE FOOTAGE

01 FIRST FLOOR	15704	SQ. FT.
02 SECOND FLOOR	14978	SQ. FT.
03 THIRD FLOOR	14978	SQ. FT.
04 FOURTH FLOOR	12289	SQ. FT.
BUILDING A TOTAL	58949	SQ. FT.

PLANNING OFFICE FOR URBAN AFFAIRS, INC.
84 State Street, Suite 600, Boston, MA 02109
617-350-8885
www.poua.org

CARIBBEAN INTEGRATION COMMUNITY DEVELOPMENT, INC.
1601-1603 Blue Hill Avenue, Malapan, MA 02126
617-942-3591
cicdofboston.org

Architect:
Davis Square Architects
240A Elm Street, Somerville, MA 02144
617.628.5700
http://davissquarearchitects.com/

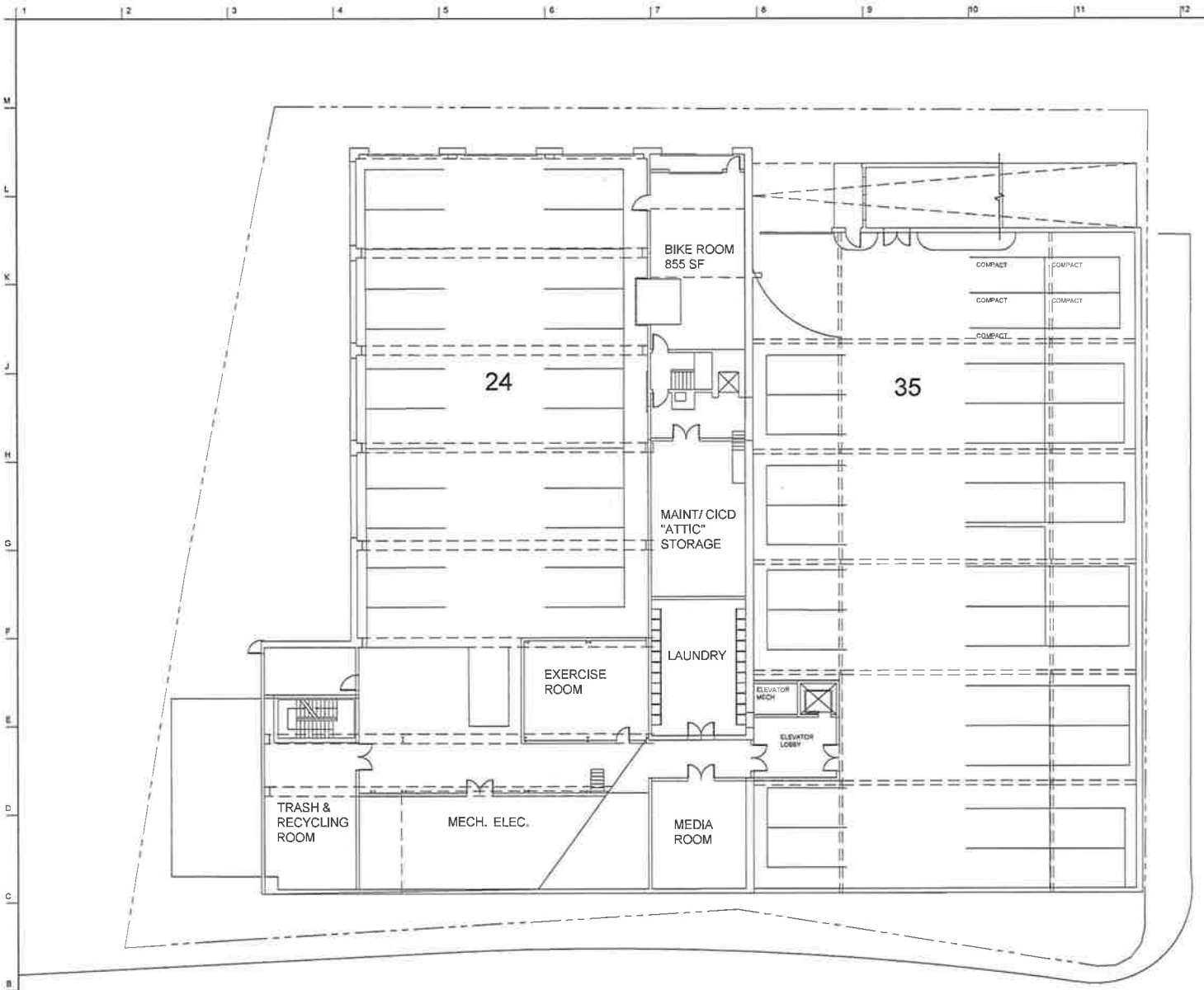
Structural Engineer:
Souza, True and Partners, Inc.
265 Winter Street, Third Floor, Waltham, MA 02451
617-926-6100
www.souzatrue.com

LOCATION MAP

12/08/2015

DAVIS SQUARE ARCHITECTS

PROJECT NO.
15044.00



A-1 BUILDING A PARKING LEVEL PLAN

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

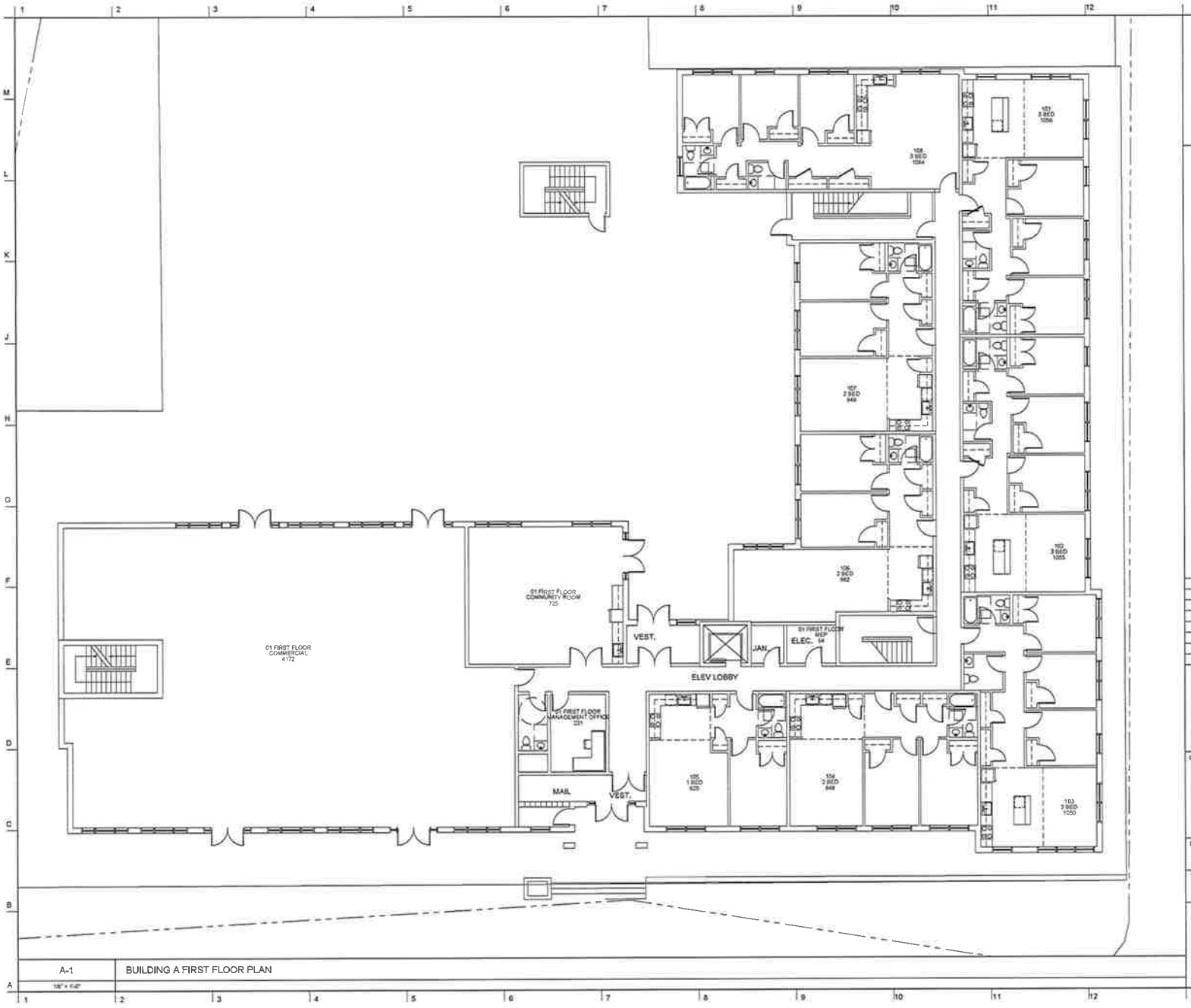
Consultant

Project
COTE VILLAGE
Mattapan

Title
PARKING LEVEL PLAN

Designed: SA
Checked:
Project No: 15044.00
Scale: AS NOTED
Date: 12/08/2015

A100



A-1 BUILDING A FIRST FLOOR PLAN

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

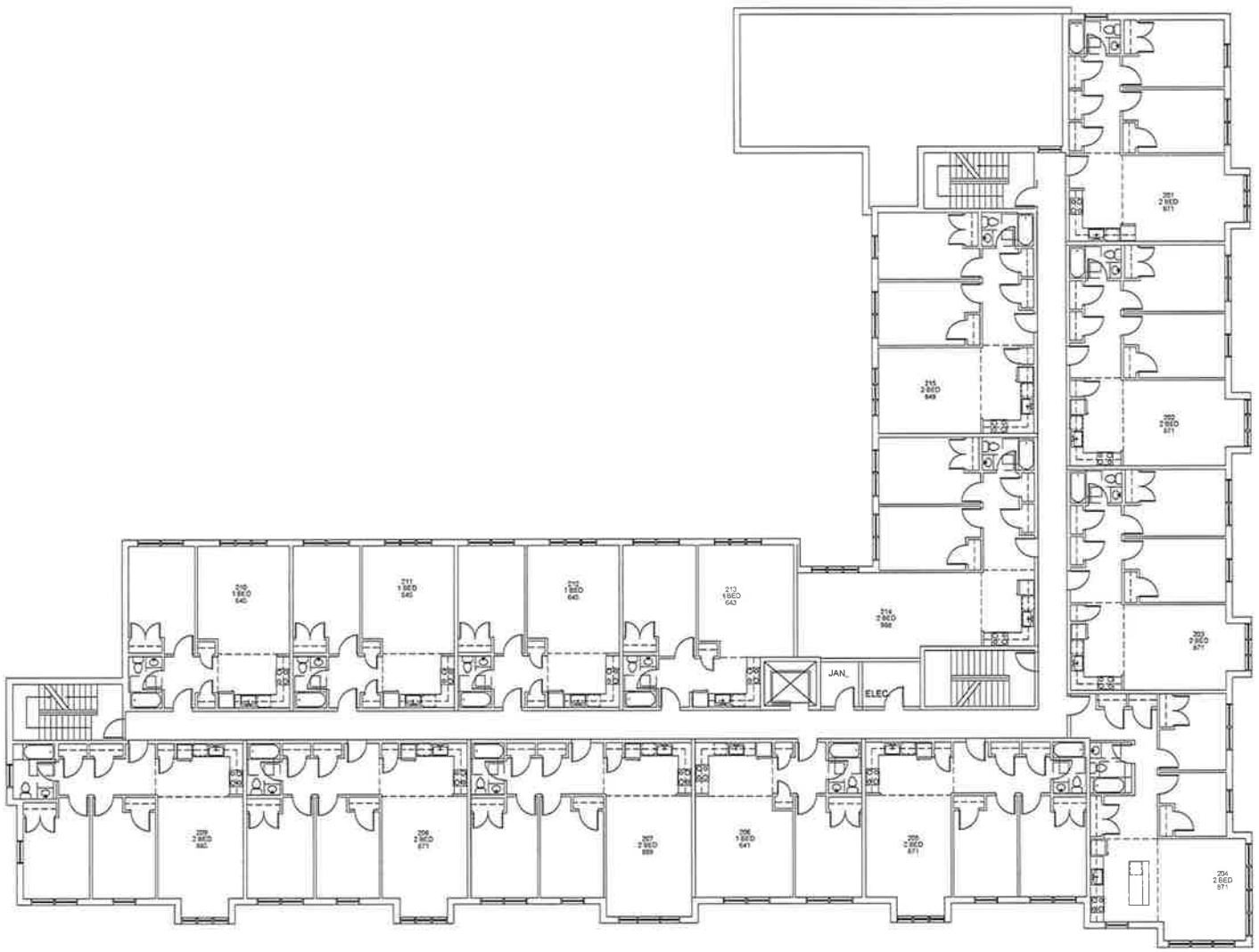
Consultant

Project: COTE VILLAGE
Mattapan

Title: FIRST FLOOR PLAN

Designed	SA
Checked	
Project No.	15044.00
Scale	AS NOTED
Date	12/08/2015

A101



A-1 | BUILDING A SECOND FLOOR PLAN

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No. | REVISIONS/SUBMISSIONS | Date

DAVIS SQUARE ARCHITECTS
240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissqarearch@mcle.com

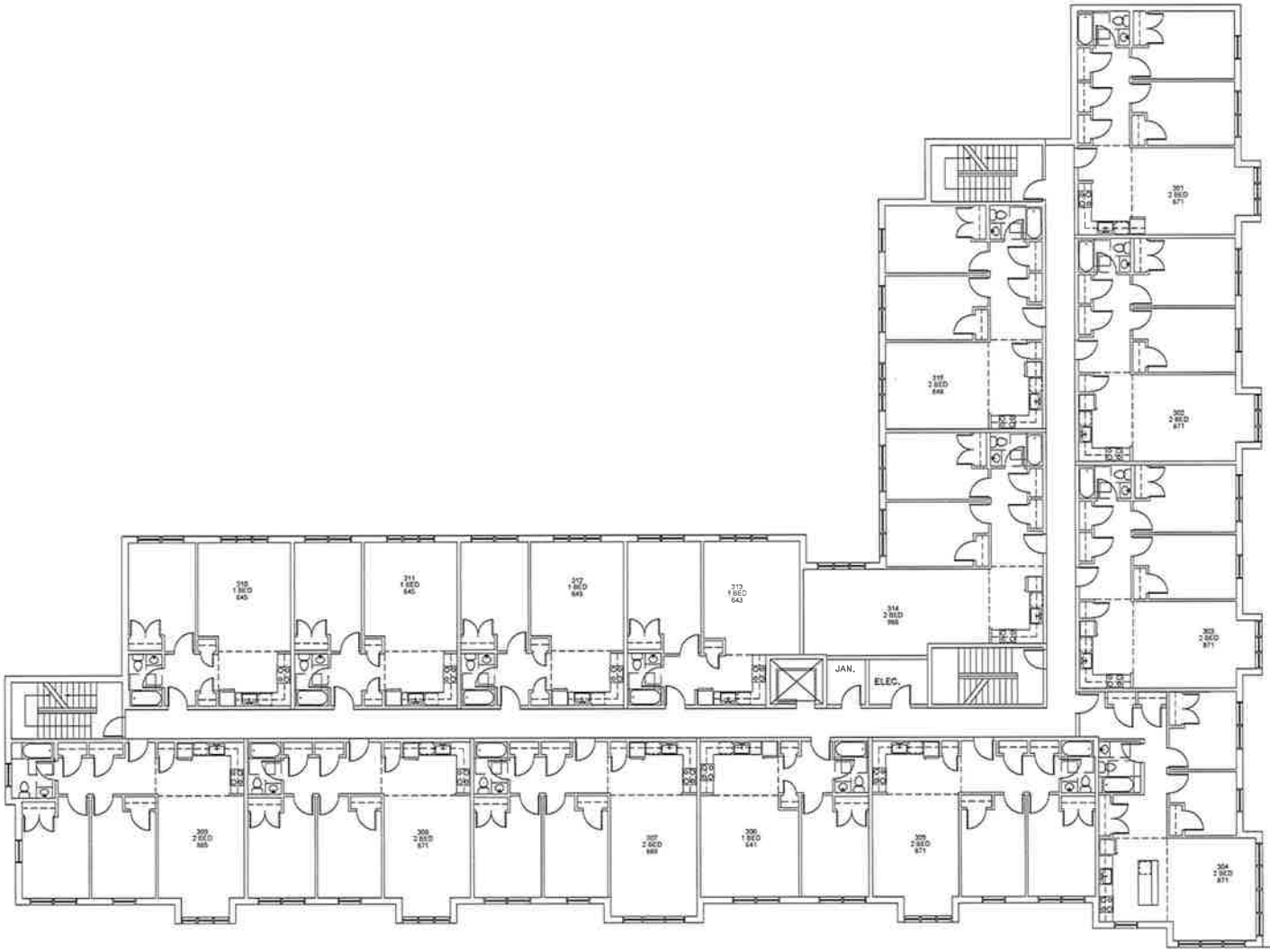
Consultant

Project: COTE VILLAGE
Mattapan

Title: SECOND FLOOR

Designed: SA
Checked:
Project No.: 15044.B0
Scale: AS NOTED
Date: 12/08/2018

Drawing No.: A102



A-1 | BUILDING A THIRD FLOOR PLAN

1/8" = 1'-0"

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

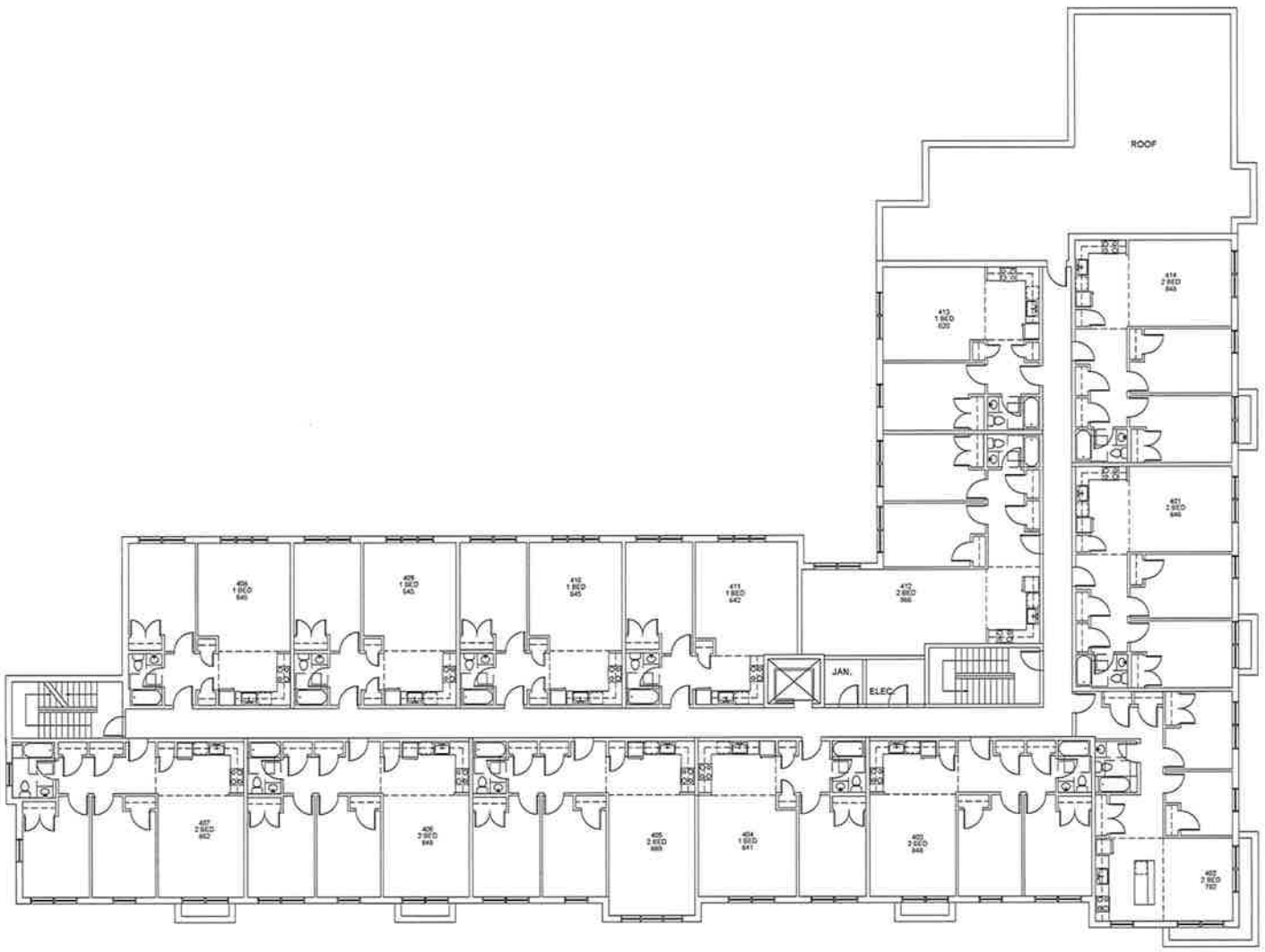
Consultant

Project: COTE VILLAGE
Mattapan

Title: THIRD FLOOR PLAN

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A103



A-1 BUILDING A FOURTH FLOOR PLAN

1/8" = 1'-0"

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: FOURTH FLOOR PLAN

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A104

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project
COTE VILLAGE
Mattapan

Title
CUMMINS HWY ELEVATION

Designed: SA
Checked:
Proj. No.: 15044.00
Scale: AS NOTED
Date: 12/22/2015

Drawing No.
A201

A-1 BUILDING A CUMMINS HWY ELEVATION

1/8" = 1'-0"

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project
COTE VILLAGE
Mattapan

Title
REGIS STREET ELEVATION

Designed: SA
Checked:
Project No: 10044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.
A202

A-1	BUILDING A REGIS ST ELEVATION
1/8" = 1'-0"	

A-1 | BUILDING A WEST SIDE ELEVATION

3/8" = 1'-0"

Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

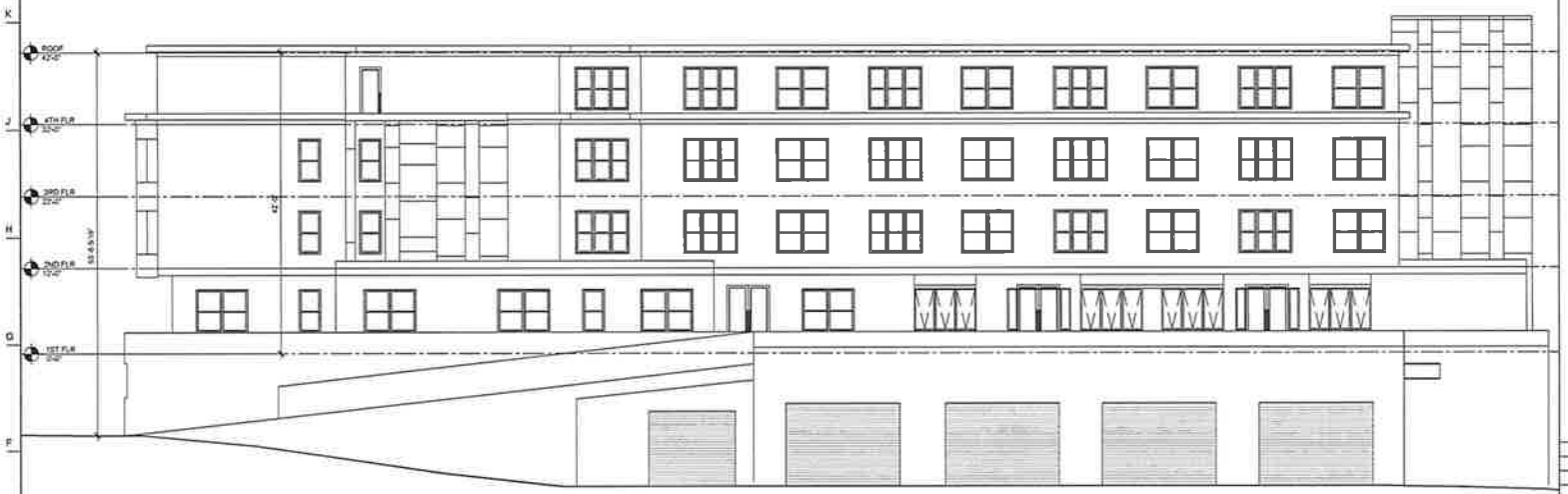
Consultant

Project: COTE VILLAGE
Mixed-use

Title: WEST SIDE ELEVATION

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A203



Building A - 820 CUMMINS HW

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: YOUNG STREET ELEVATION

Designed: SA
Checked:
Project No.: 13044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A204

A-1	BUILDING A YOUNG STREET ELEVATION
1/8" = 1'-0"	

Cote Village Expanded PNF
Plans & Elevations
Building B

COTE VILLAGE

BUILDING B - 30-32 REGIS ROAD

DRAWING LIST

UNIT LIST

UNIT	TYPE	AREA/FLOOR	UNIT AREA	
101 L	3 BED	524	1048	SQ. FT.
101 U	2 BED	524		
102	2 BED	1134	1134	SQ. FT.
103 L	2 BED	524	1048	SQ. FT.
103 U	2 BED	524		
201	3 BED	1161	1161	SQ. FT.
301 L	2 BED	535	1070	SQ. FT.
301 U	2 BED	535		
302 L	3 BED	563	1309	SQ. FT.
302 U	3 BED	746		
303 L	3 BED	563	1309	SQ. FT.
303 U	3 BED	746		
304 L	2 BED	535	1070	SQ. FT.
304 U	2 BED	535		
TOTAL UNITS NET SF			9149	SQ. FT.

GROSS SQUARE FOOTAGE

01 FIRST FLOOR	2913	SQ. FT.
02 SECOND FLOOR	2948	SQ. FT.
03 THIRD FLOOR	2971	SQ. FT.
04 FOURTH FLOOR	2916	SQ. FT.
BUILDING B TOTAL	11748	SQ. FT.

PLANNING OFFICE FOR URBAN AFFAIRS, INC.
84 State Street, Suite 600, Boston, MA 02109
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CARIBBEAN INTEGRATION COMMUNITY DEVELOPMENT, INC.
1601-1603 Blue Hill Avenue, Mattapan, MA 02126
617-942-3521
cicdofboston.org

Architect:
Davis Square Architects
240A Elm Street, Somerville, MA 02144
617.628.5700
http://davissquarearchitects.com/

Structural Engineer:
Souza, True and Partners, Inc.
265 Winter Street, Third Floor, Waltham, MA 02451
617-926-6100
www.souzatrue.com

LOCATION MAP

12/08/2015

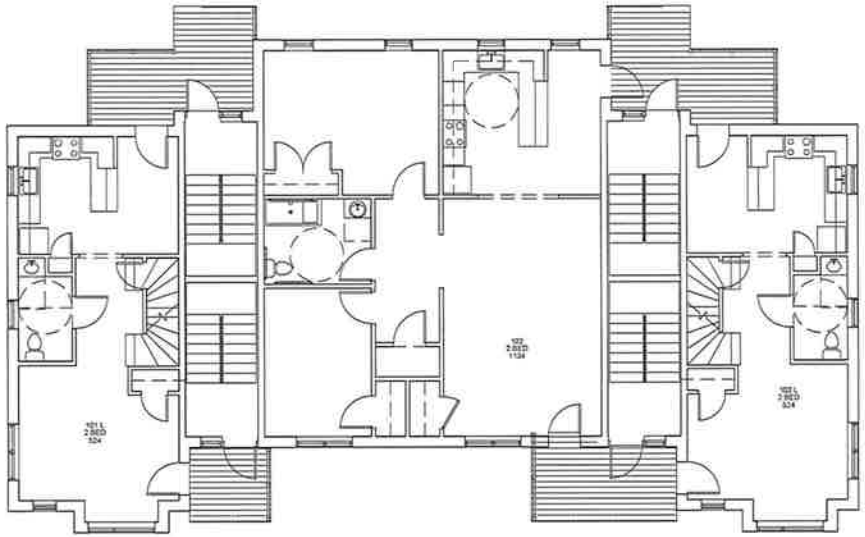
DAVIS SQUARE ARCHITECTS

PROJECT NO.
15044.00

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project
COTE VILLAGE
Mattapan

Title
FIRST FLOOR PLAN

Designed	SA
Checked	
Project No.	15044.00
Scale	AS NOTED
Date	1/26/2016

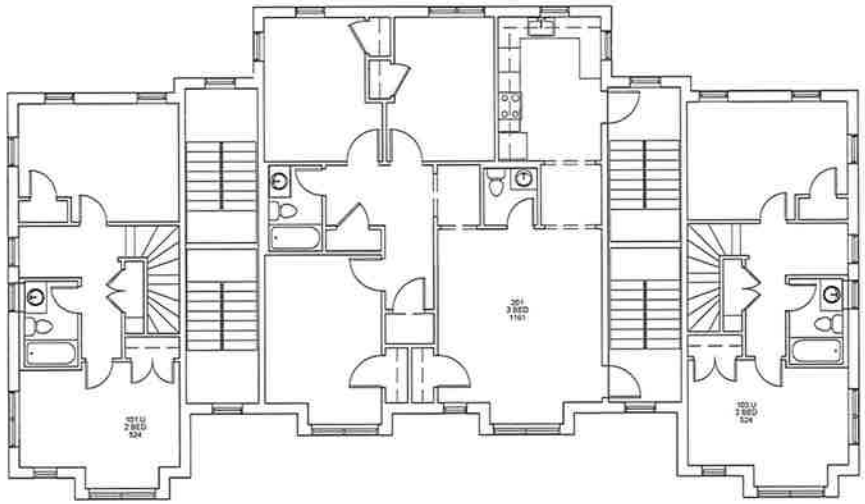
Drawing No.
A101

A-1	BUILDING B FIRST FLOOR PLAN
3/16" = 1'-0"	

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: SECOND FLOOR PLAN

Drawn: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 10/30/2015

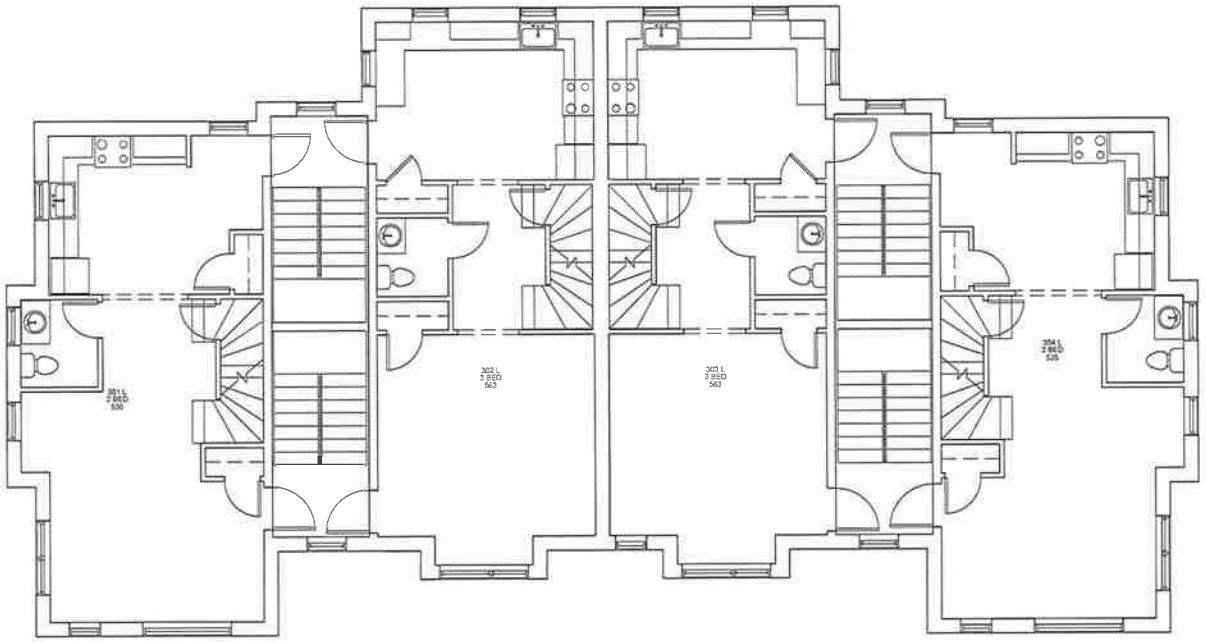
Drawing No.: A102

A-1 | BUILDING B SECOND FLOOR PLAN
3/16" = 1'-0"

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

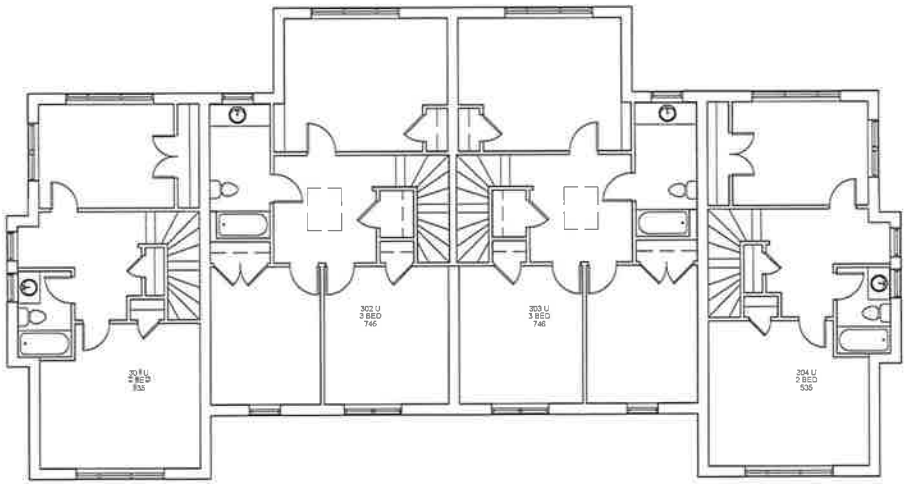
Project: COTE VILLAGE
Mattapan

Title: THIRD FLOOR PLAN

Designer: SA
Checker:
Project No.: 13044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A103

A-1	BUILDING B THIRD FLOOR PLAN
1/8" = 1'-0"	



A-1 | BUILDING B FOURTH FLOOR PLAN

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissqarchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: FOURTH FLOOR PLAN

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A104

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissqarchitects.com

Consultant

Project
COTE VILLAGE
Mattapan

Title
REGIS STREET ELEVATION

Designed	SA
Drawn by	
Project No.	15044.00
Scale	AS NOTED
Date	12/08/2015

A201

A-1	BUILDING B REGIS ST ELEVATION
3/16" = 1'-0"	

Building B - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

A-1 BUILDING B REAR ELEVATION

3/16" = 1'-0"

No. | REVISIONS/SUBMISSIONS | Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: REAR ELEVATION

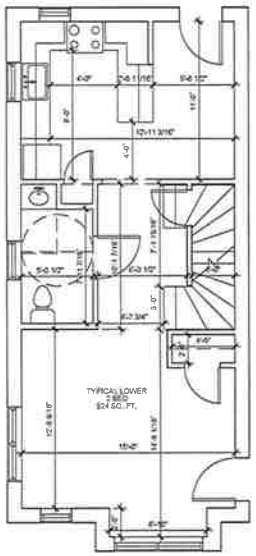
Designer: SA
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

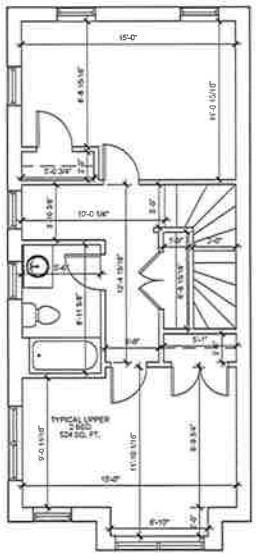
A202

Building B - 30-32 REGIS ROAD

COTE VILLAGE

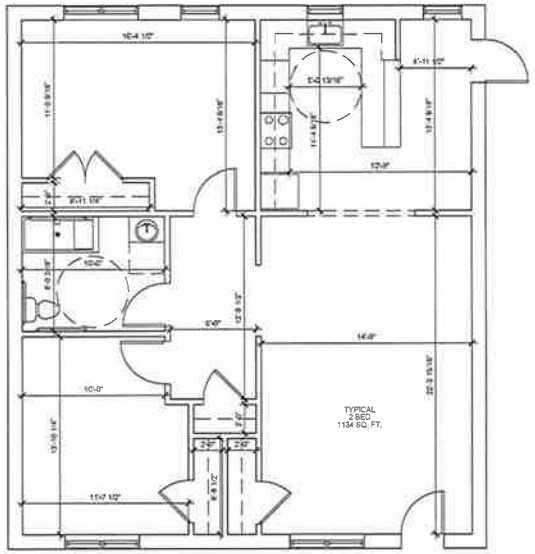
CUMMINS HIGHWAY @ REGIS ROAD





A-1 TYPICAL 2 BED UNIT

1/8" = 1'-0"



A-7 TYPICAL 2 BED UNIT

1/8" = 1'-0"

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mashpee

Title: TYPICAL UNITS

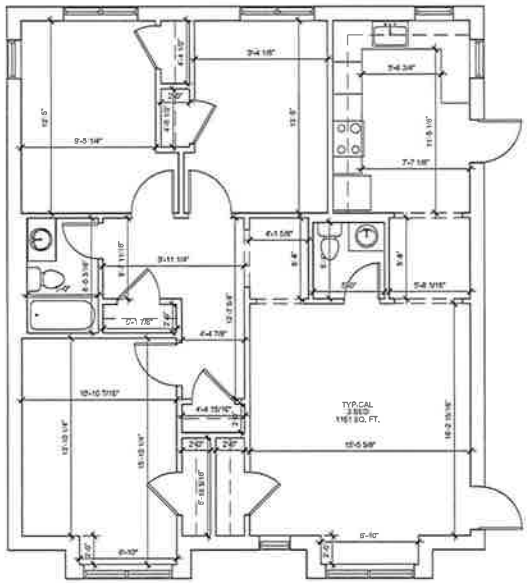
Designed	SA
Checked	
Project no.	15044.00
Scale	AS NOTED
Date	12/28/2015

Drawing No. A601

Building B - 30-32 REGIS ROAD

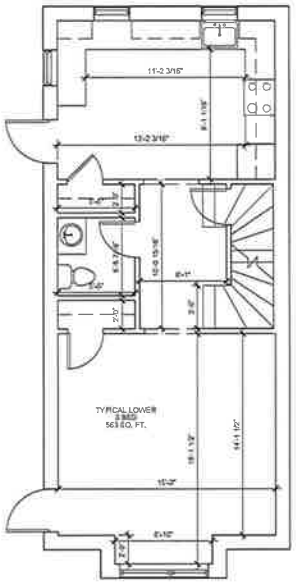
COTE VILLAGE

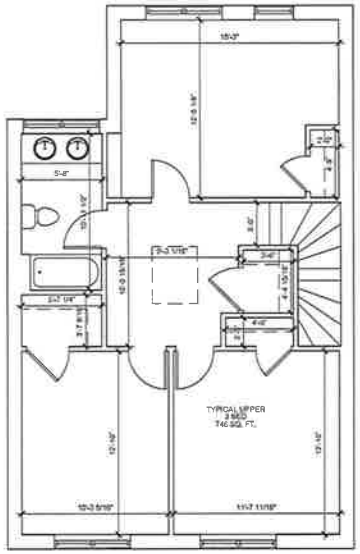
CUMMINS HIGHWAY @ REGIS ROAD



A-1 TYPICAL 3 BED UNIT

1/4" = 1'-0"





A-6 TYPICAL 3 BED UNIT

1/4" = 1'-0"

No.	REVISIONS/SUBMISSIONS	Date

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240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: TYPICAL UNITS

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A602

Cote Village Expanded PNF
Plans & Elevations
Building C

COTE VILLAGE

BUILDING C - 30-32 REGIS ROAD

DRAWING LIST

UNIT LIST

UNIT	TYPE	AREA / FLOOR	UNIT AREA	
101 L	2 BED	524	1048	SQ. FT.
101 U	2 BED	524		
102 L	2 BED	547	1109	SQ. FT.
102 U	2 BED	562		
103 L	2 BED	547	1109	SQ. FT.
103 U	2 BED	562		
104	3 BED	1098	1098	SQ. FT.
105 L	2 BED	524	1047	SQ. FT.
105 U	2 BED	523		
201	3 BED	1097	1097	SQ. FT.
301 L	2 BED	528	1056	SQ. FT.
301 U	2 BED	528		
302 L	3 BED	562	1332	SQ. FT.
302 U	3 BED	770		
303 L	3 BED	562	1332	SQ. FT.
303 U	3 BED	770		
304 L	2 BED	541	1086	SQ. FT.
304 U	2 BED	545		
305 L	3 BED	541	1307	SQ. FT.
305 U	3 BED	766		
306 L	2 BED	528	1056	SQ. FT.
306 U	2 BED	528		
TOTAL UNITS NET SF			13677	SQ. FT.

GROSS SQUARE FOOTAGE

01 FIRST FLOOR	4345	SQ. FT.
02 SECOND FLOOR	4379	SQ. FT.
03 THIRD FLOOR	4402	SQ. FT.
04 FOURTH FLOOR	4366	SQ. FT.
BUILDING C TOTAL	17492	SQ. FT.

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1601-1603 Blue Hill Avenue, Mattapan, MA 02126
617-942-3591
cicdofboston.org

Architect:
Davis Square Architects
240A Elm Street, Somerville, MA 02144
617.628.5700
http://davissquarearchitects.com/

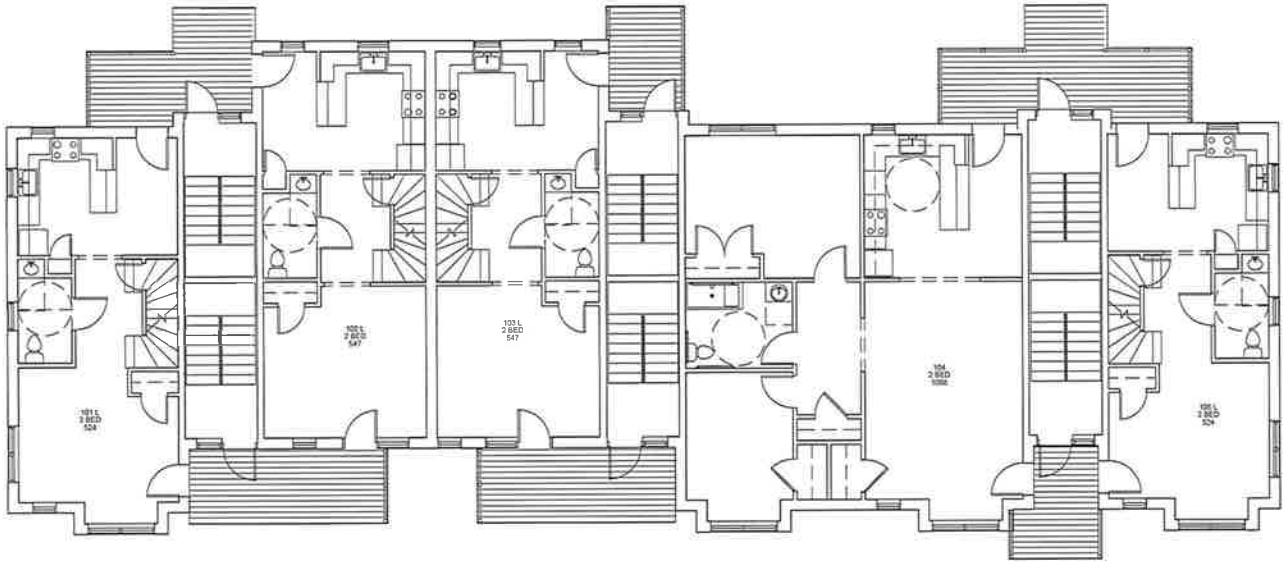
Structural Engineer:
Souza, True and Partners, Inc.
265 Winter Street, Third Floor, Waltham, MA 02451
617-926-6100
www.souzatrue.com

LOCATION MAP

12/08/2015

DAVIS SQUARE ARCHITECTS

PROJECT NO.
15044.00



A-1	BUILDING C FIRST FLOOR PLAN
3/16" = 1'-0"	

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

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Consultant

Project: COTE VILLAGE
Mattapan

Title: FIRST FLOOR PLAN

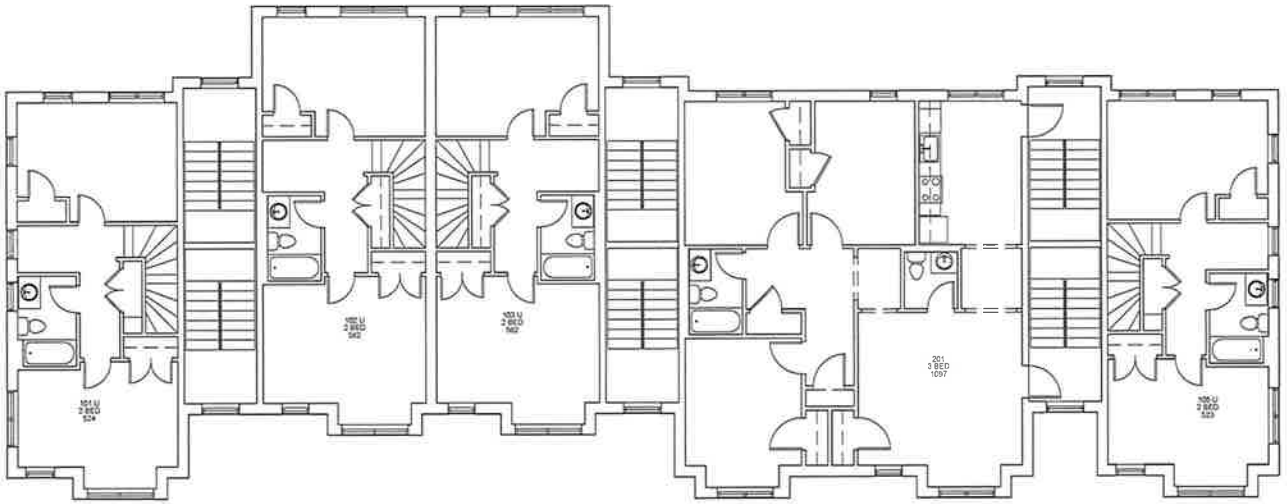
Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/04/2015

Drawing No.: A101

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

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Project: COTE VILLAGE
Mattapan

Title: SECOND FLOOR PLAN

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A102

A-1	BUILDING C FIRST FLOOR PLAN
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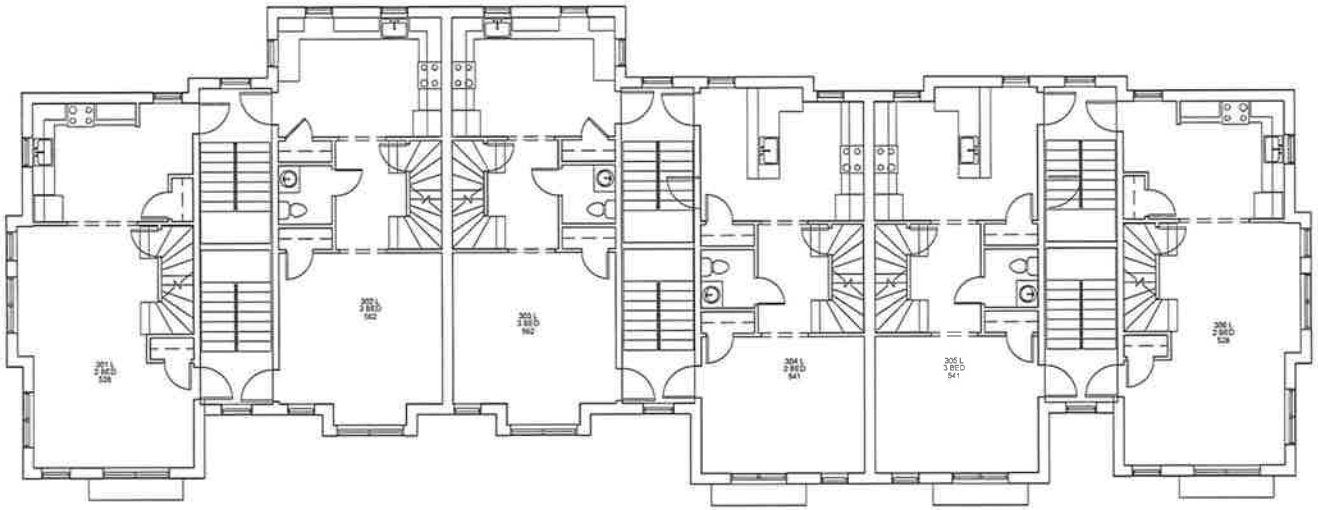

A-1 BUILDING C THIRD FLOOR PLAN

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
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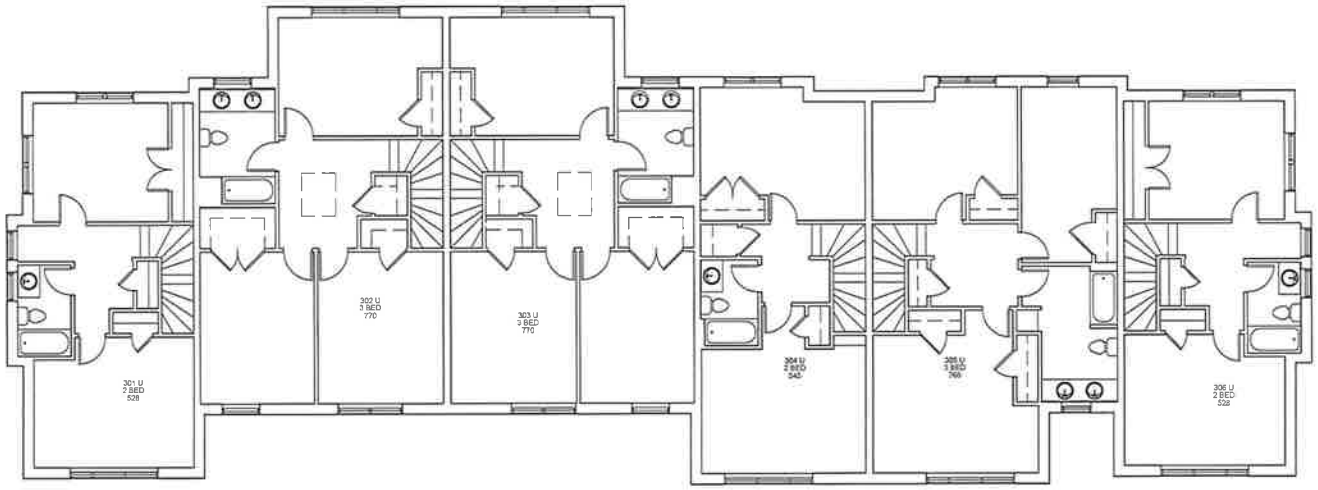
Consultant

Project: COTE VILLAGE
Mattapan

Title: THIRD FLOOR PLAN

SA | 13044.00 | AS NOTED | 12/08/2015

A103



Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
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Consultant

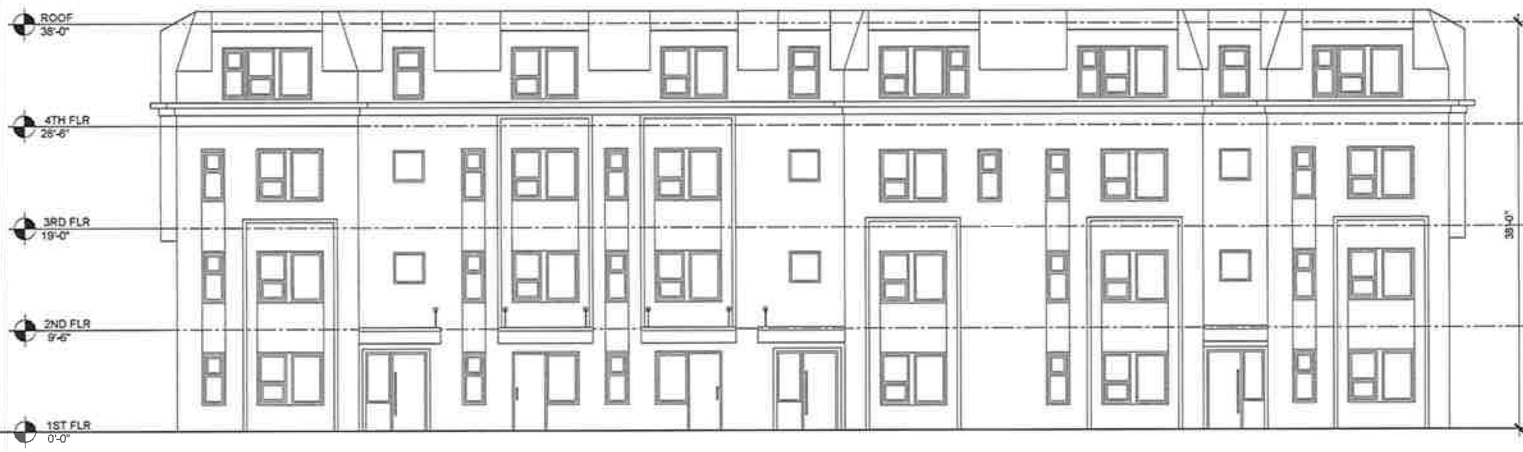
Project: COTE VILLAGE
Mattapan

Title: FOURTH FLOOR PLAN

Designed:	SA
Checked:	
Project No:	15044.00
Date:	AS NOTED
Date:	12/08/2015

Drawing No.: A104

A-1	BUILDING C FOURTH FLOOR PLAN
3/16" = 1'-0"	



A-1 BUILDING C REGIS ST ELEVATION

3/16" = 1'-0"

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

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Consultant

Project: COTE VILLAGE
Mattapan

Title: REGIS STREET ELEVATION

Designer: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A201

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

A-1 BUILDING C REAR ELEVATION

3/16" = 1'-0"

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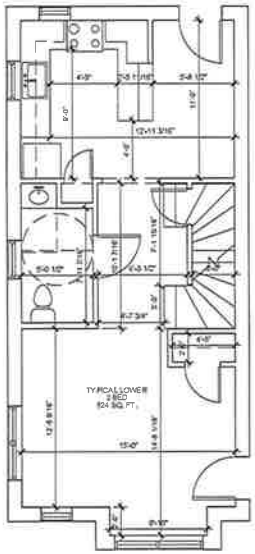
Consultant

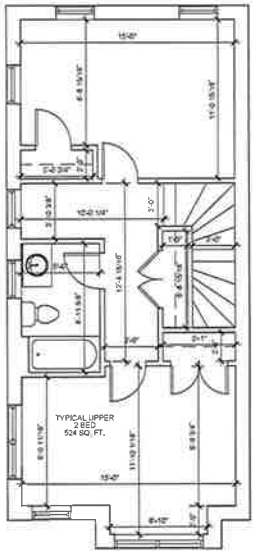
Project: COTE VILLAGE
Mattapan

Title: REAR ELEVATION

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

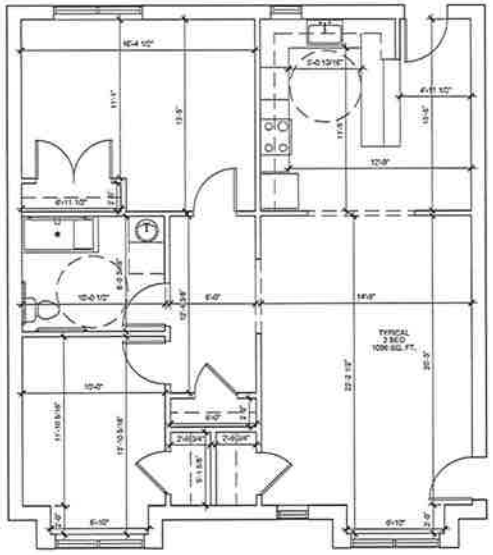
Drawing No.: A202





A-1 TYPICAL 2 BED UNIT

1/8" = 1'-0"



D-7 TYPICAL 2 BED UNIT

1/8" = 1'-0"

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

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Somerville, MA 02144
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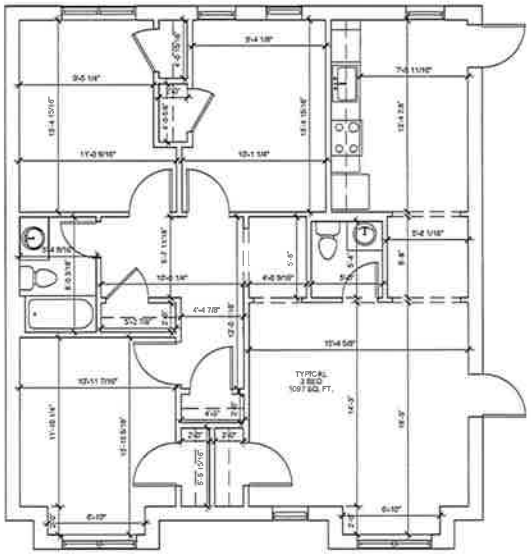
Consultant

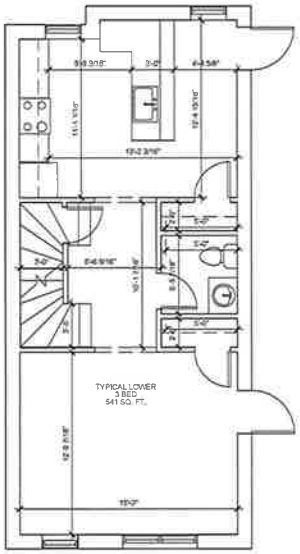
Project
COTE VILLAGE
Mattapan

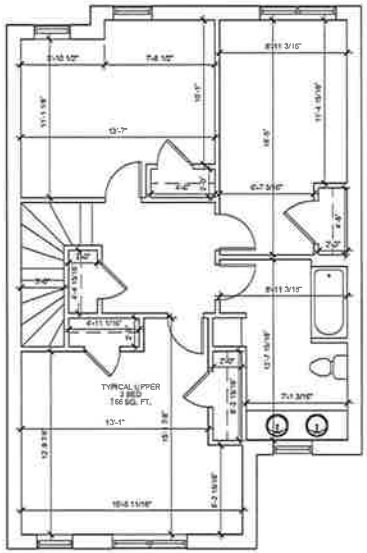
Title
TYPICAL UNITS

Designed SR
Checked
Project No. 15044.00
Scale AS NOTED
Date 12/08/2015

Drawing No.
A601







A-1	TYPICAL 3 BED UNIT	A-6	TYPICAL 3 BED UNIT
1/4" = 1'-0"		1/4" = 1'-0"	

Building C - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

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240A Elm St.,
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Consultant

Project: COTE VILLAGE
Mattapan

Title: TYPICAL UNITS

Designer: SA
Checked:
Project no.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing no.: A602

Cote Village Expanded PNF
Plans & Elevations
Building D

COTE VILLAGE

BUILDING D - 30-32 REGIS ROAD

DRAWING LIST

UNIT LIST

UNIT	TYPE	AREA / FLOOR	UNIT AREA	
101 L	2 BED	524	1048	SQ. FT.
101 U	2 BED	524		
102 L	2 BED	524	1048	SQ. FT.
102 U	2 BED	524		
301 L	2 BED	535	1069	SQ. FT.
301 U	2 BED	534		
302 L	3 BED	530	1277	SQ. FT.
302 U	3 BED	747		
TOTAL UNITS NET SF			4442	SQ. FT.

GROSS SQUARE FOOTAGE

01 FIRST FLOOR	1452	SQ. FT.
02 SECOND FLOOR	1452	SQ. FT.
03 THIRD FLOOR	1469	SQ. FT.
04 FOURTH FLOOR	1469	SQ. FT.
BUILDING D TOTAL	5842	SQ. FT.

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1601-1603 Blue Hill Avenue, Matapan, MA 02126
617-942-3591
cicdofboston.org

Architect:
Davis Square Architects
240A Elm Street, Somerville, MA 02144
617.628.5700
http://davissquarearchitects.com/

Structural Engineer:
Souza, True and Partners, Inc.
265 Winter Street, Third Floor, Waltham, MA 02451
617-926-6100
www.souzatrue.com

LOCATION MAP

12/08/2015

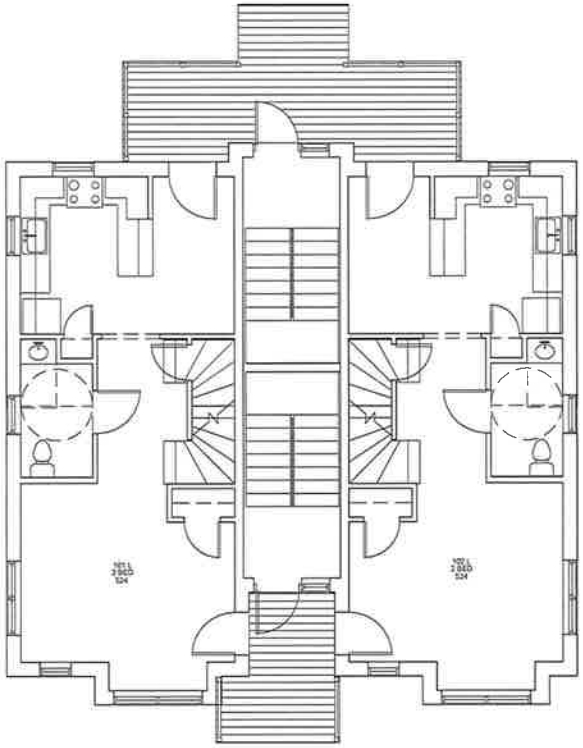
DAVIS SQUARE ARCHITECTS

PROJECT NO.
15044.00

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

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Somerville, MA 02144
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Consultant

Project: COTE VILLAGE
Mattapan

Title: FIRST FLOOR PLAN

Designed: SA
Checked:
Project No.: 150404.00
Scale: AS NOTED
Date: 12/08/2015

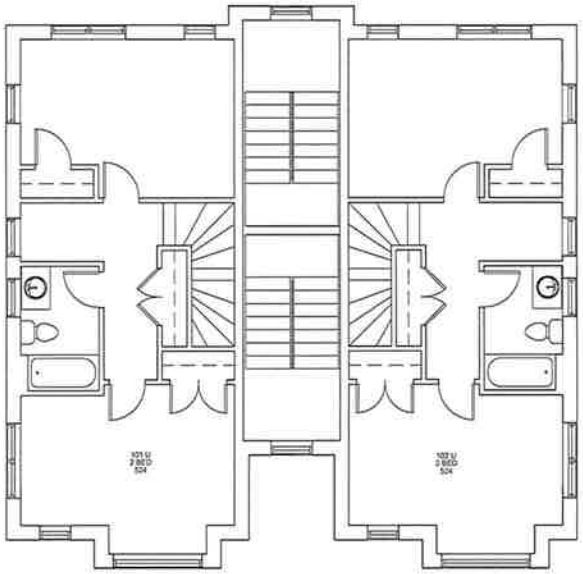
Drawing No.: A101

A-1 | BUILDING D FIRST FLOOR PLAN

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.
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Consultant

Project: COTE VILLAGE
Mattapan

Title: SECOND FLOOR PLAN

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/08/2015

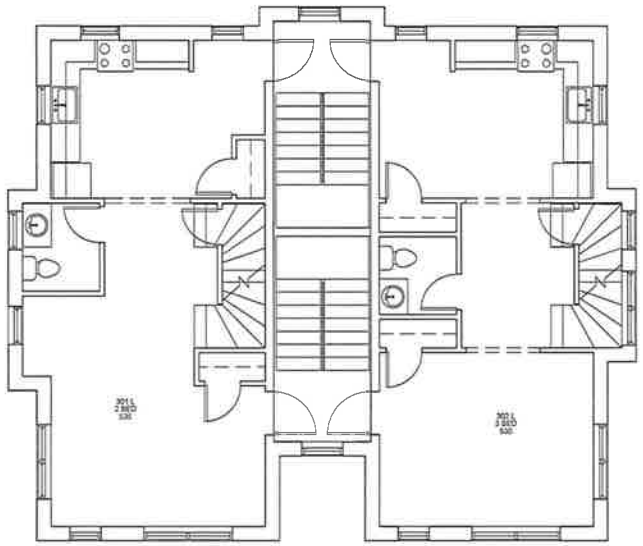
Drawing No.: A102

A-1	BUILDING D SECOND FLOOR PLAN
1/8" = 1'-0"	

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD



No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.
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Consultant

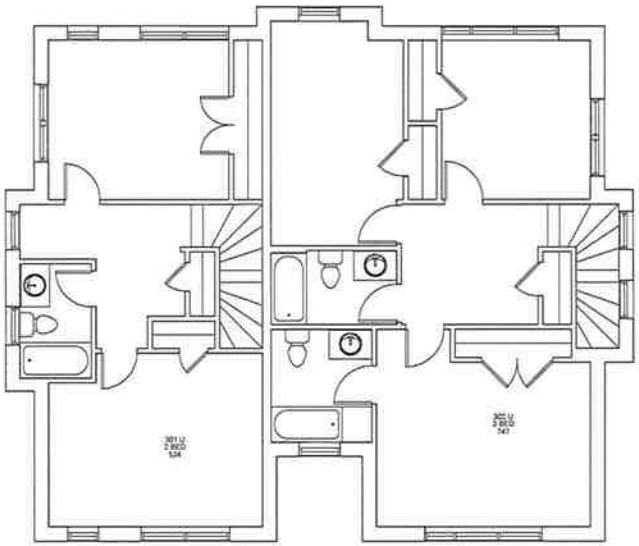
Project
COTE VILLAGE
Mattapan

Title
THIRD FLOOR PLAN

Designed	SA
Checked	
Project no.	15044.00
Scale	AS NOTED
Date	12/08/2016

Drawing no.
A103

A-1 BUILDING D THIRD FLOOR PLAN
1/4" = 1'-0"



Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS

240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project
COTE VILLAGE
Mattapan

Title
FOURTH FLOOR PLAN

Designer	SA
Checked	
Project No.	15044.00
Scale	AS NOTED
Date	12/08/2015

Drawing No.
A104

A-1	BUILDING D FOURTH FLOOR PLAN
1/4" = 1'-0"	

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.
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Consultant

Project: COTE VILLAGE
Mattapan

Title: REGIS STREET ELEVATION

Designed: SA
Checked:
Project No.: 15044.00
Scale: AS NOTED
Date: 12/06/2018

Drawing No.: A201

A-1	BUILDING D REGIS ST ELEVATION
3/16" = 1'-0"	

A-1	BUILDING D REAR ELEVATION
3/16" = 1'-0"	

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

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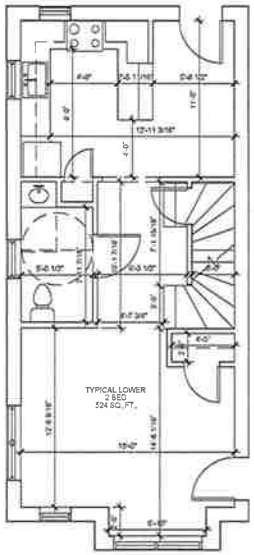
Consultant

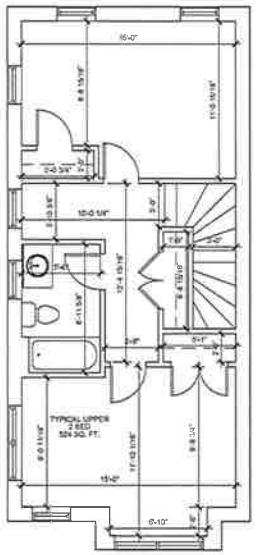
Project: COTE VILLAGE
Mattapan

Title: REAR ELEVATION

Designed	SA
Checked	
Project No.	15044.00
Scale	AS NOTED
Date	12/08/2015

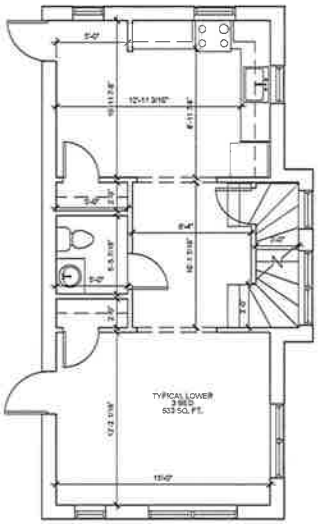
Drawing No. A202

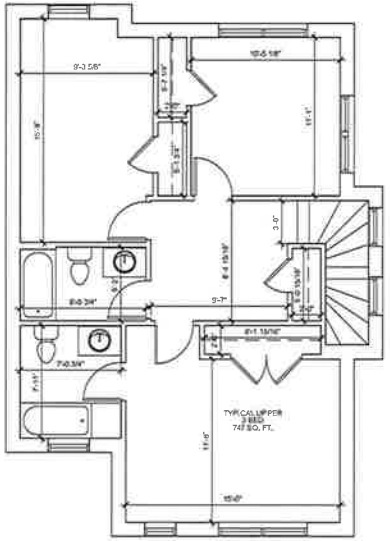




A-1 TYPICAL 2 BED UNIT

1/4" = 1'-0"





A-6 TYPICAL 3 BED UNIT

1/4" = 1'-0"

Building D - 30-32 REGIS ROAD

COTE VILLAGE

CUMMINS HIGHWAY @ REGIS ROAD

No.	REVISIONS/SUBMISSIONS	Date

DAVIS SQUARE ARCHITECTS
240A Elm St.,
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Consultant

Project: COTE VILLAGE
Mattapan

Title: TYPICAL UNIT

Designed: SA
Checked:
Project No.: 13044.00
Scale: AS NOTED
Date: 12/08/2015

Drawing No.: A601

Cote Village Expanded PNF
Chapter Three
Transportation

3.0 TRANSPORTATION

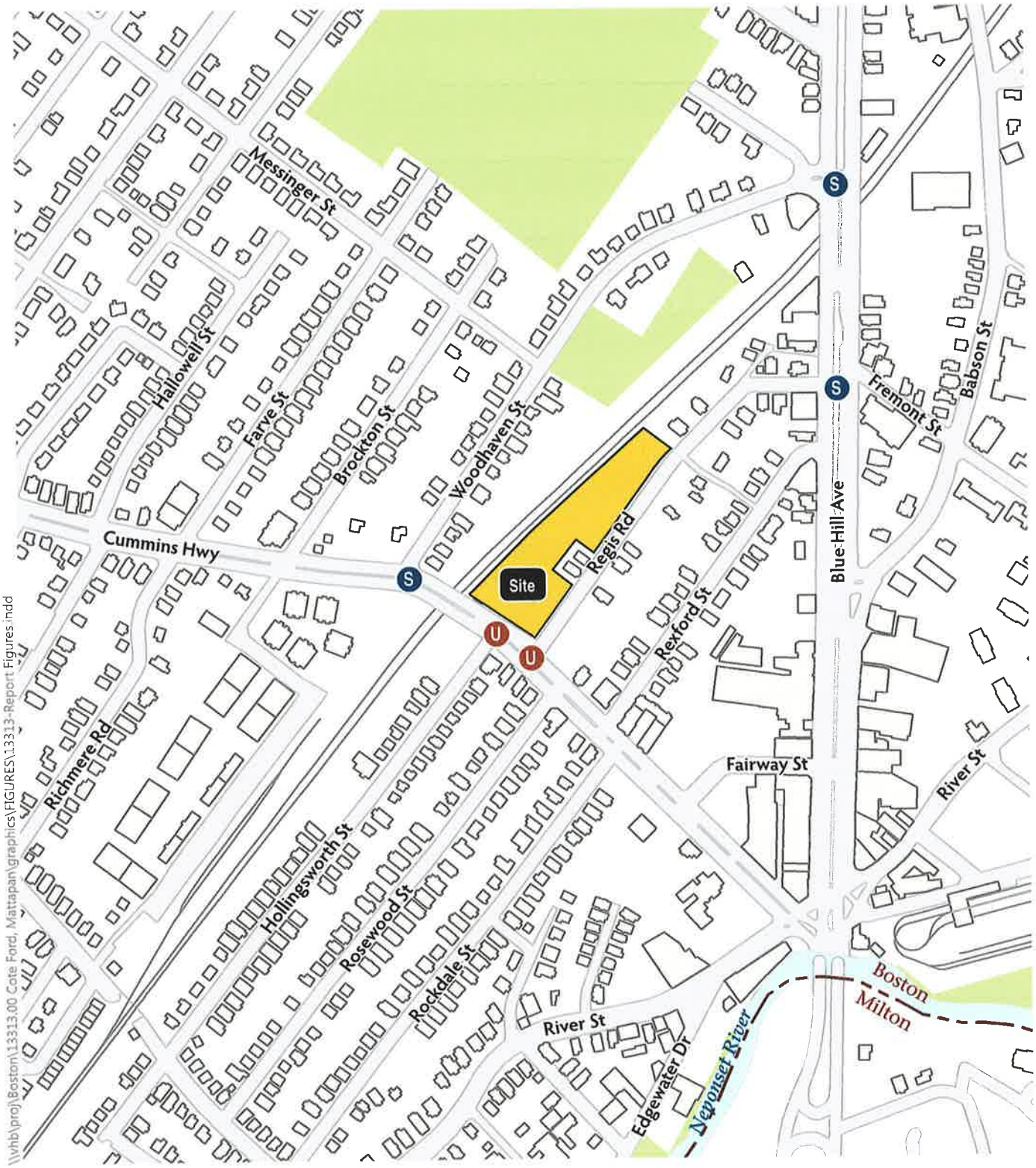
3.1 Introduction

This chapter provides a comprehensive evaluation of existing and projected future transportation conditions relative to the Project site, and identifies potential transportation impacts as a result of the Project. The analysis captures in detail the operational characteristics of the Project, and provides a basis for determining to what extent, if any, Project-related traffic is likely to affect the wider transportation network. The Project site is located on Regis Road in the Mattapan neighborhood of Boston, as shown in **Figure 3-1**.

3.1.1 Project Description

The Project site is bordered by Cummins Highway to the south, Regis Road to the east, and the MBTA Fairmont and Franklin Commuter Rail tracks to the west. The site is currently un-used, but was once home to an auto dealership, and two abandoned one-story large buildings remain on the site. Also, long curbs cuts remain on both the Cummins Highway and Regis Road frontages. The existing site plan/survey is shown previously in Section 2.

The Proponent proposes to redevelop the 2.3-acre site to create a mixed use development comprising a 52-apartment residential building with approximately 4,172 of ground floor retail on the Cummins Highway frontage and 24 townhouses



\\vhb\proj\Boston\13313.00 Cote Ford, Mattapan\graphics\FIGURES\13313-Report Figures.indd

Cote Ford | Mattapan, Massachusetts

Site Location and Study Area

Source: BWCS basemap & MassGIS

with a community garden, tot lot and picnic area on the Regis Road frontage. The apartments and retail will be supported by 59 below-grade parking spaces, and the townhouses will be supported by 25 surface parking spaces, for a total of 84 parking spaces. There are two existing houses (one residential and one converted to business use) on Regis Road which will remain, and are excluded from the project site. The proposed conceptual design and site plan for the Project are shown previously in Section 2.

A summary of the proposed uses for the Project is presented in Table 3-1.

Table 3-1 Project Development Program

Land Use	Size
Apartments	52units
Retail/Commercial Space	4,172 SF
Parking	59 spaces
Town Houses	24 units
Parking	25 spaces

SF Square Feet

3.1.2 Site and Access Improvements

The proposed Project will substantially improve site access conditions as a result of the permanent closing of the existing very long curb cuts on Cummins Highway and Regis Road. Vehicle access on Cummins Highway will be eliminated entirely, and vehicle access for the new development will

be provided on Regis Road via the exiting private road (Young Road) and the existing single curb-cut near the north end of the site. The accesses on Regis Road will be connected by a new two-way loop road through the site, which will provide access to the on-site surface parking spaces and parking spaces under the Building A podium.

3.1.3 Summary of Findings

The Project site benefits from good public transportation service and is within easy walking distance of local retail and other supporting neighborhood services. The retail component of the Project will contribute to its neighborhood context, and is not itself expected to be a vehicle trip generation destination. The Project is projected to generate relatively modest numbers of vehicle trips, with approximately one vehicle trip every two minutes in the morning peak hour and approximately one vehicle trip every minute in the evening peak hour. Project trips will be dispersed in multiple directions, and are expected to have minimal impact to study area traffic operations. The Project will benefit the pedestrian environment in the vicinity of the site as a result of the elimination of long curb cuts and the reconstruction of sidewalks on both frontages.

3.1.4 Study Methodology

The Transportation analysis presented in this chapter of the Expanded Project Notification Form (PNF) conforms to the Boston Transportation Department (BTD) Transportation Access Plans

Guidelines. The transportation analysis includes the projection of Project-related trips based on Institute of Transportation Engineers (ITE) trip generation rates and the application of local travel characteristics established through the *Access Boston 2000-2010* initiative. Synchro 8 software was used to facilitate the evaluation of traffic operations based on Highway Capacity Manual[1] (HCM) methodologies.

The transportation analysis considers the following analysis scenarios:

- **2015 Existing Conditions** – based on traffic data collection conducted within the study area in June 2014.
- **2020 No-Build Conditions** – Future conditions for a five-year time horizon as expected to occur if the Project was not constructed.
- **2020 Build Conditions** – Future conditions for a five-year time horizon assuming construction and full occupancy of the Project.

3.1.5 Study Area

Based on a review of the local transportation context, vehicular traffic associated with the Project is expected to be widely dispersed throughout the roadway network. However, for consistency with a previous traffic study prepared for a potential Commuter Rail Station[2] in the vicinity, the study area

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1 Highway Capacity Manual; Transportation Research Board; Washington D.C.; 2000

2 Traffic Impact Study, Blue Hill Avenue Commuter Rail Station, Boston/Mattapan, MA, Nitsch Engineering, September 2014

was expanded to include all intersections in that study. The following intersections are included in the study area for the analysis:

1. Blue Hill Avenue (Route 28) at Woodhaven Street
2. Blue Hill Avenue (Route 28) at Regis Road
3. Cummins Highway at Woodhaven Street
4. Cummins Highway at Hollingsworth Street
5. Cummins Highway at Regis Road

3.2 Existing Roadway Network

This section describes existing roadway conditions, including data collection and parking facilities. Subsequent sections describe existing transit, pedestrian and bicycle facilities.

3.2.1 Roadways

The Project site is located on the corner bordered by Cummins Highway to the south, Regis Road to the east and the MBTA Fairmont and Franklin Commuter Rail tracks to the west.

Blue Hill Avenue also known as Route 28, is a major arterial through the study area that runs in a north-south direction connecting Milton and Hyde Park in the south through Mattapan to Roxbury and Downtown Boston in the north. Near the Project site, the roadway is divided by a 16 foot median, and there is a variety of on-street parking including unregulated and 2-hour metered parking.

Cummins Highway is a principal arterial that runs in a general northwest-southeast direction through the study area. The roadway connects Blue Hill Avenue at Mattapan Square to Roslindale and West Roxbury to the west. Near the Project site, the roadway is divided by a 6 foot median and there is unregulated parking.

3.2.2 Intersections

The study area includes five study intersections shown previously in **Figure 3-1** and described below. Traffic operations and level of service (LOS) analysis are presented later in this chapter.

1. **Blue Hill Avenue at Woodhaven Street**
   Blue Hill Avenue intersects Woodhaven Street northeast of the Project site. The intersection is signalized with Blue Hill Avenue running north/south and Woodhaven running east. The Blue Hill Avenue southbound approach provides one left-turn only lane, one through lane and one through/right turn lane. The Blue Hill Avenue northbound approach provides

one left turn only lane and two through lanes. The Woodhaven Street eastbound approach provides one left turn lane and one right turn lane. Bus lanes, with designated turnouts, are located on the Blue Hill Avenue northbound approach and the southbound receiving leg. A bicycle lane is provided on the southbound approach of Blue Hill Avenue while shared-lane markings (sharrows) are provided on the northbound approach of Blue Hill Avenue. No bicycle accommodations are provided on Woodhaven Street. On-street parking is provided on the Blue Hill Avenue southbound approach.

2. **Blue Hill Avenue at Regis Road**

   The intersection of Blue Hill Avenue and Regis Road is a signalized intersection northeast of the project site. Blue Hill Avenue runs north/south and Regis Road runs east. Regis Road is a right turn only approach with a median preventing left turns onto Blue Hill Avenue northbound. The Blue Hill Avenue southbound approach provides one through lane and one through/right turn lane. Blue Hill Avenue northbound approach provides one through lane and one though/right turn lane. Regis Road provides one right turn only lane. A bicycle lane is provided on the southbound approach of Blue Hill Avenue while shared-lane marking (sharrows) are provided on the northbound approach. No bicycle accommodations are provided on Regis Road. On-street parking is provided on all approaches.

3. **Cummins Highway at Woodhaven Street**
   The intersection of Cummins Highway at Woodhaven Street is a signalized intersection west of the Project site. Cummins Highway runs northwest/southeast and Woodhaven Street runs north. Woodhaven Street southbound approach provides one left/right turn lane. Cummins Highway northwest approach provides one through lane and one through/right turn lane. Cummins Highway southeast provides one left turn lane and one through lane. There are no bicycle accommodations, and on-street parking is provided on all approaches.

4. **Cummins Highway at Hollingsworth Street**
   The intersection of Cummins Highway at Hollingsworth Street is an unsignalized intersection on the south-west frontage of the Project site. Cummins Highway runs northwest/southeast and Hollingsworth Street runs south. Cummins Highway northeast and southwest approaches provide two general use lanes in each direction separated by a 5-foot median. Hollingsworth Street is one-way southbound away from the intersection. MBTA bus stops are present on both approaches on Cummins Highway. There are no bicycle accommodations, and there is on-street parking on all approaches.

5. **Cummins Highway at Regis Road.**
   The intersection of Cummins Highway at Regis Road is an unsignalized intersection at the south east corner of the Project site. Cummins Highway runs northwest/southeast and Regis Road, which is Stop controlled, runs northeast/southwest. Cummins Highway provides two general purpose lanes in each direction separated by a 6-foot median. Regis Road southbound approach provides one general use lane. MBTA bus stops are present on both sides of Cummins Highway, and there is on-street parking on the north side of Regis Road along the Project site frontage. No bicycle accommodations are provided.

3.2.3 Traffic Data

To assess the traffic conditions of the surrounding street network, peak period manual turning movement counts (TMCs) collected at the five study area intersections for the previously mentioned Commuter Rail Station study were used. The TMCs were collected on Thursday June 5, 2014 during a typical weekday morning peak period (7:00 AM – 9:00 AM) and evening peak period (4:00 PM – 6:00 PM). No seasonal adjustments were applied to the TMCs collected in June 2014. The data collection sheets are included in the Transportation Appendix.

The TMCs were used to establish the study area network peak hour volumes for the 2015 Existing Condition analysis. The weekday morning peak hour was determined to be 7:30 AM to 8:30 AM and the weekday evening peak hour from 4:45 PM to 5:45 PM. Existing morning peak hour traffic volumes and existing evening peak hour traffic volumes are shown in **Figure 3-2 and Figure 3-3**, respectively.

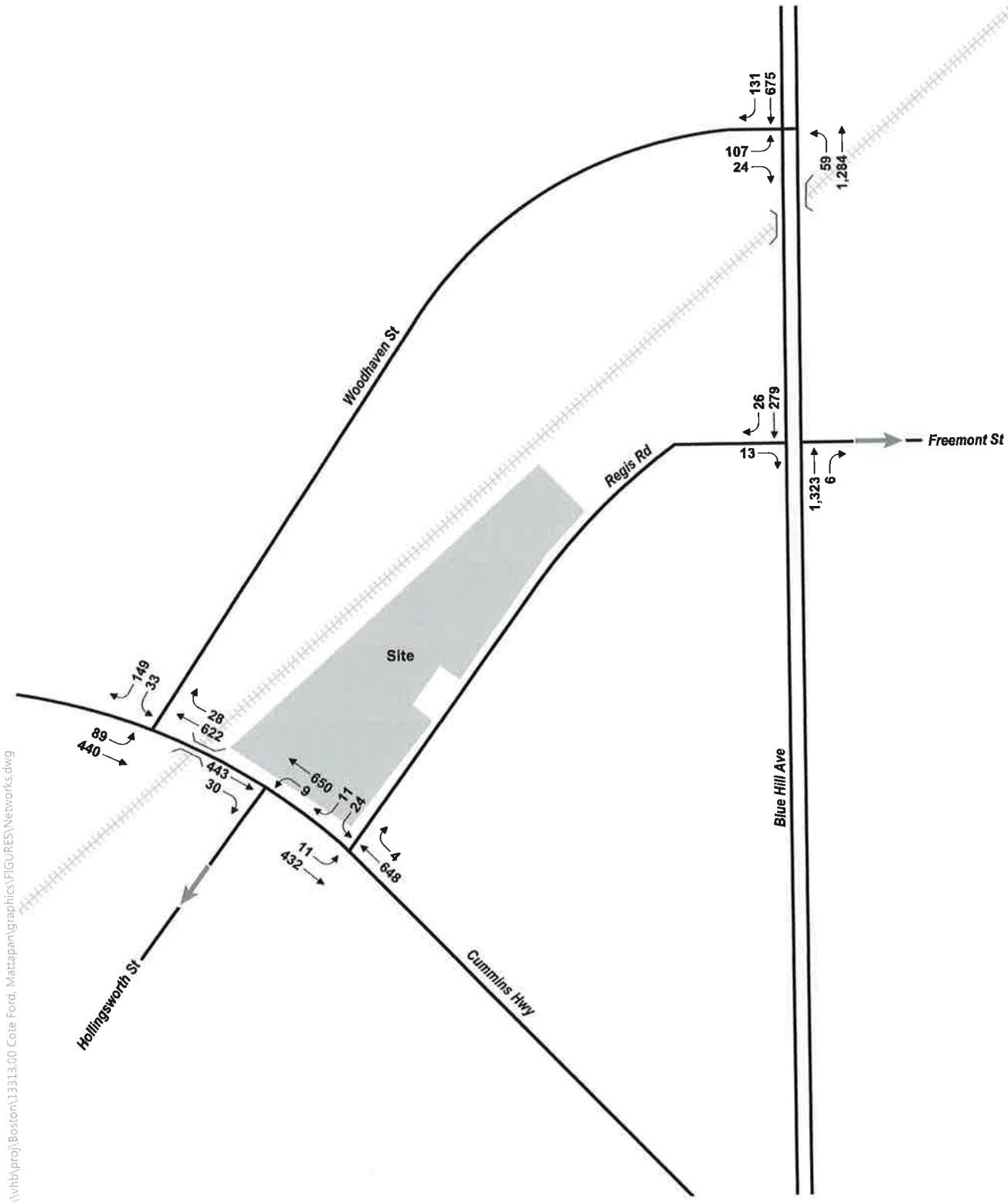
3.2.4 Parking

Parking within a ¼ mile radius of the Project site is presented in **Figure 3-4**. As shown, on-street parking within a quarter mile radius of the Project site is largely unrestricted, although there is some two-hour parking supporting the commercial district on Blue Hill Avenue. There are also several large off-street parking lots at the rear of major retail/commercial uses on Blue Hill Avenue, and an MBTA parking lot for the Mattapan Station on River Street. In addition, there is a City of Boston off-street parking lot with two-hour parking at the corner of Cummins Highway and Fairway Street.

Immediately opposite the Project site, at the corner of Cummins Highway and Hollingsworth Road and at the corner of Cummins Highway and Regis Road, there are two City of Boston owned paved parcels which appear to have been used previously for parking, but both of which are currently fenced-off and gated.

3.3 Pedestrians and Bicycles

Pedestrian and bicycle volumes at the study area intersections were collected in conjunction with the TMCs on June 5, 2014 as part of the previously referenced Commuter Rail Station study.



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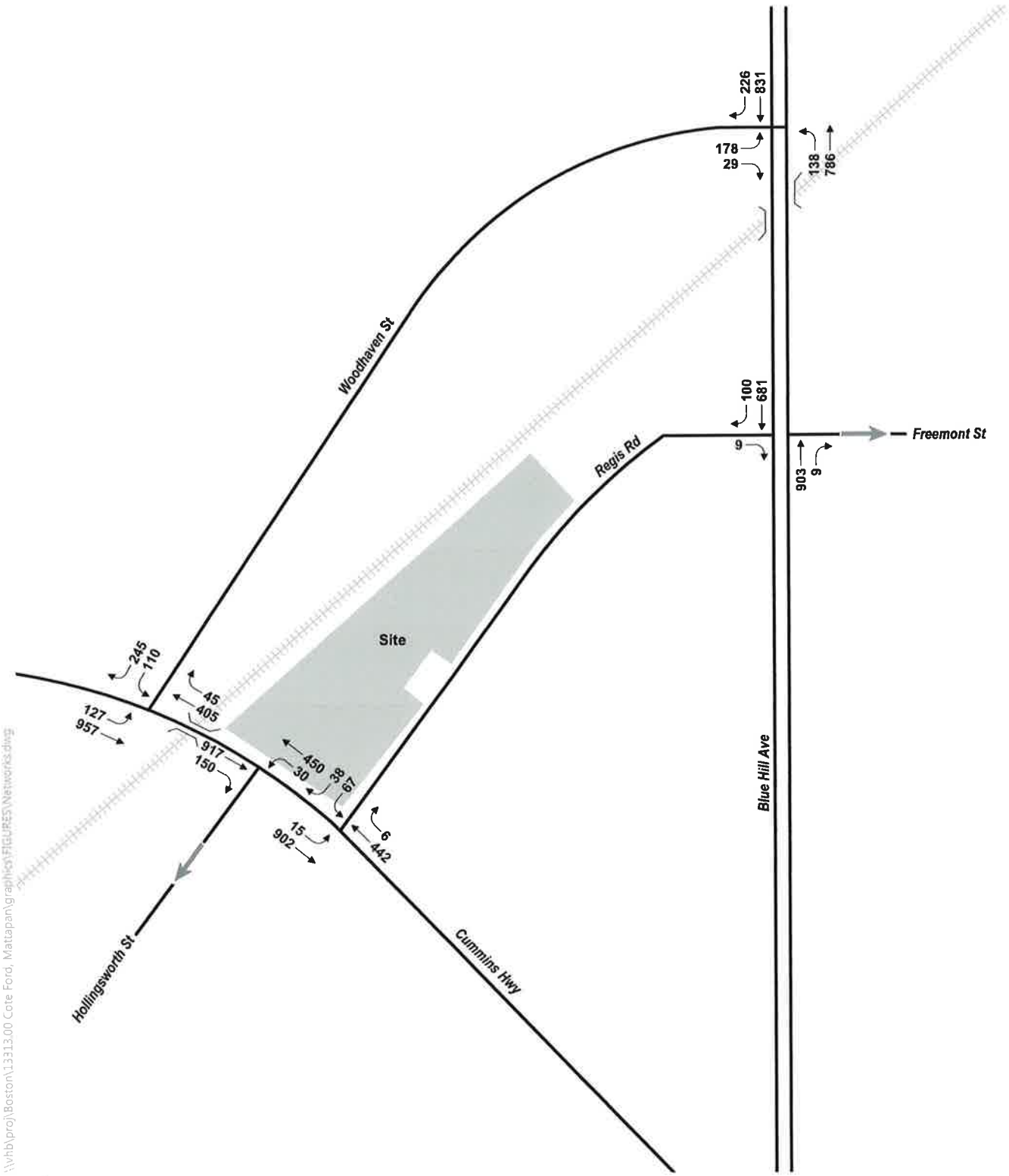
Not to Scale

Cote Ford | Mattapan, Massachusetts

Existing Traffic Volumes
Morning Peak Hour
7:30 - 8:30 AM



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Existing Traffic Volumes
Evening Peak Hour
4:45 - 5:45 PM

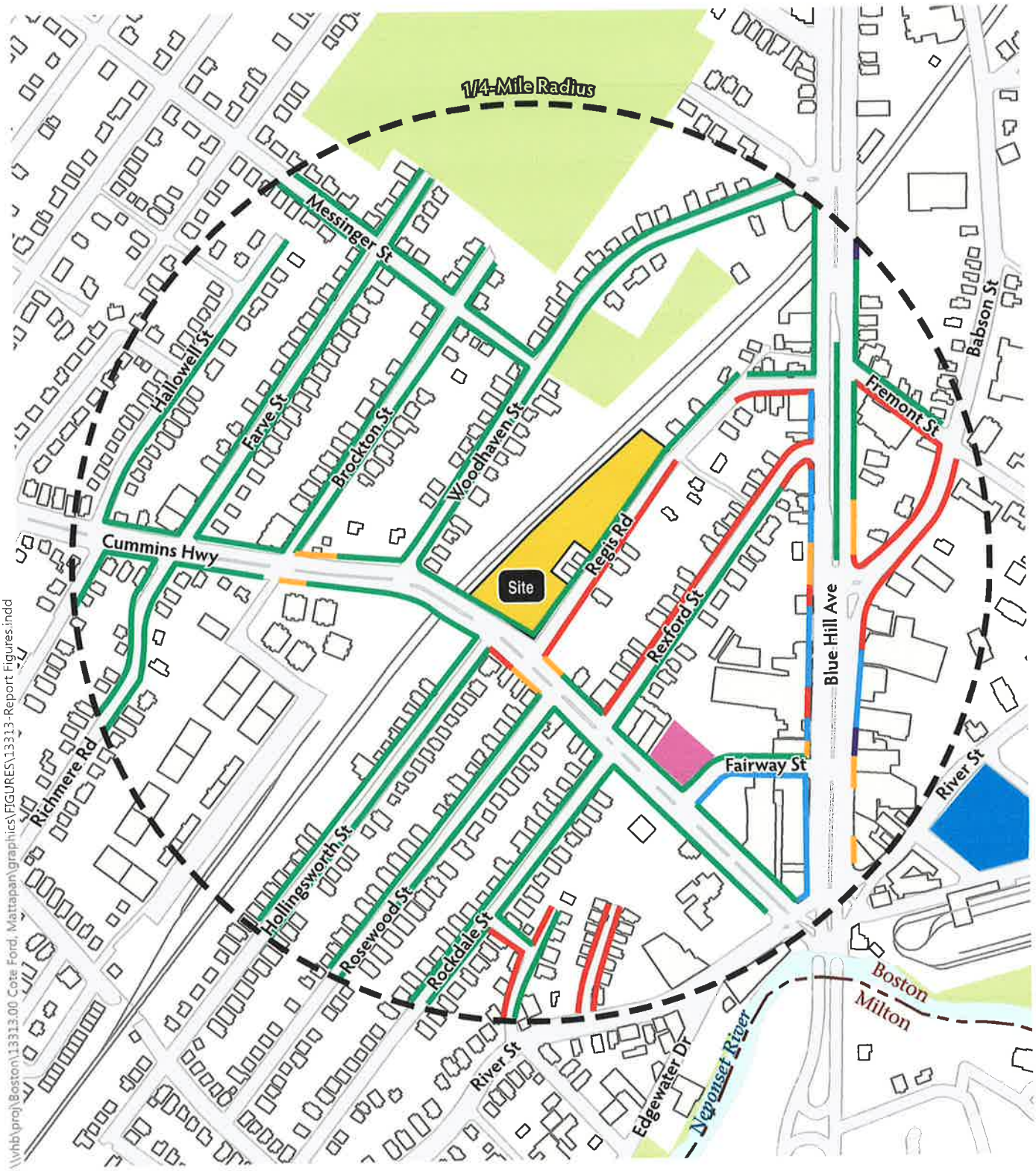
Figure 3-5 and Figure 3-6 present the morning peak hour and evening peak hour pedestrian volumes, respectively. **Figure 3-7 and Figure 3-8** present the morning and evening peak hour bicycle volumes, respectively.

In general, sidewalks are provided throughout the study area, and crosswalks are provided at most intersections. However, as noted previously, the sidewalks along the Project site frontages on Cummins Highway and Regis Road are interrupted by the existing lengthy curb-cuts, albeit that the curb-cuts are not in use. Crosswalks are provided on all approaches at the Regis Road/Cummins Highway intersection. Pedestrian phases are included in both of the nearby signalized intersection on Cummins Highway at Woodhaven Street to the north and Rexford Road/Rockdale Street to the south.

While bicycle lanes are provided on Blue Hill Avenue, there are no specific bicycle accommodations on Cummins Highway or the surrounding roadway network. Hubway bike-sharing is not available in this section of the City of Boston. Within the study area, bicycle accommodations are provided on Blue Hill Avenue as designated bicycle lanes, and on Cummins Highway as shared use lanes or "Sharrows."

3.4 Public Transportation

MBTA services are presented in **Figure 3-9,** and a summary of the bus and rail routes and services is presented in Table 3-2. A detailed description of each service is also provided in



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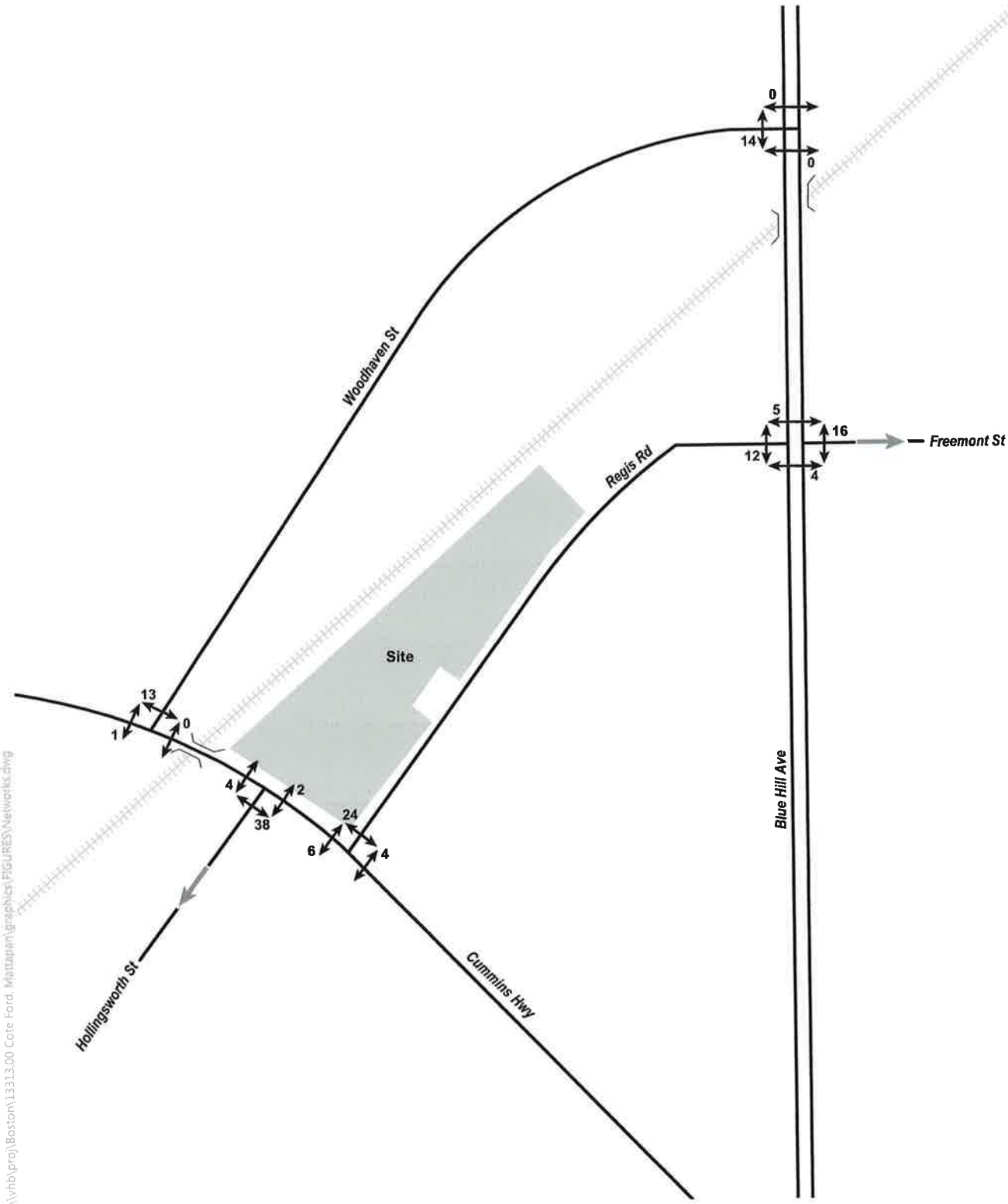
Study Area Parking

Source: BWCS basemap & MassGIS



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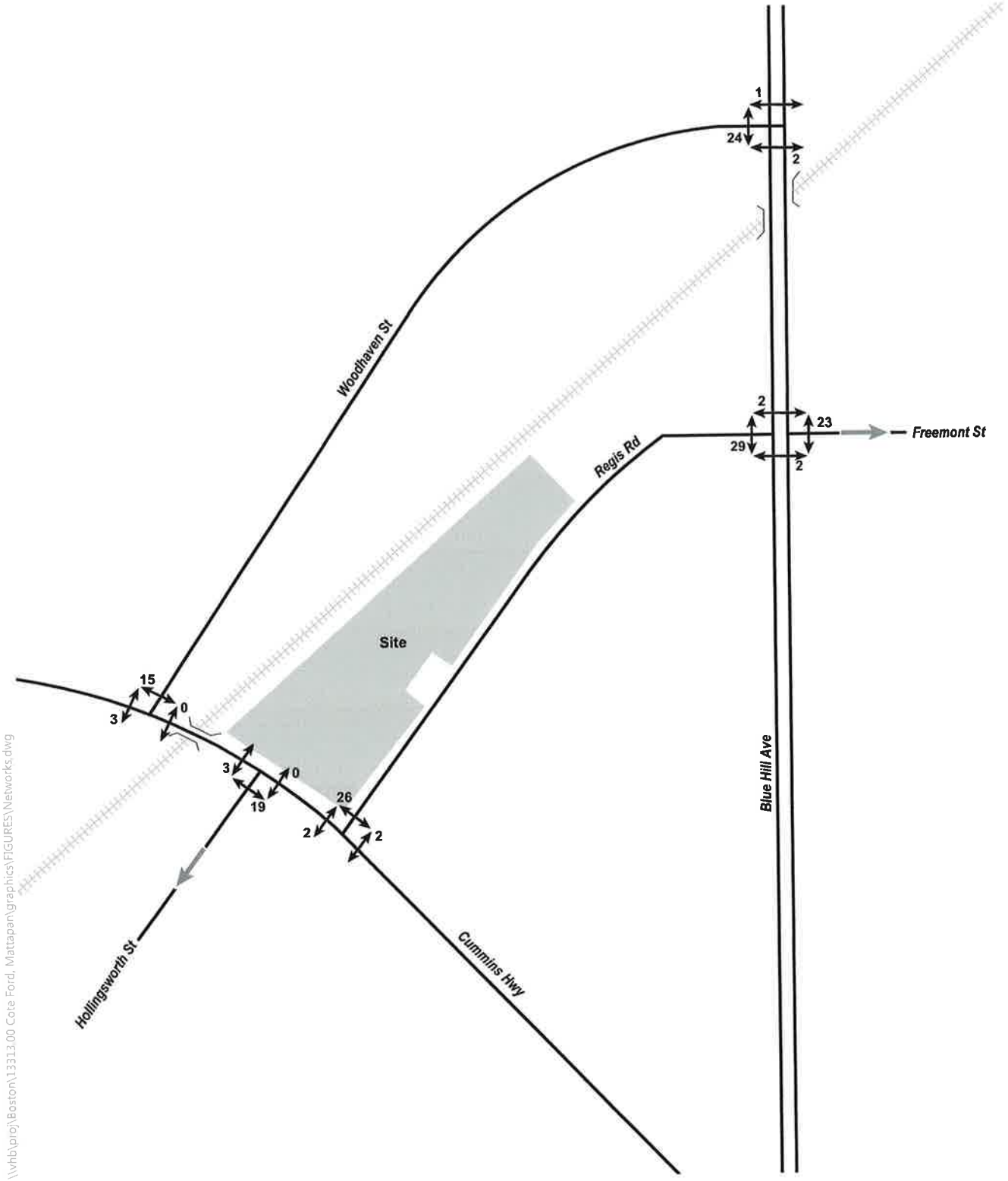
Existing Pedestrian Volumes
Morning Peak Hour
7:30 - 8:30 AM



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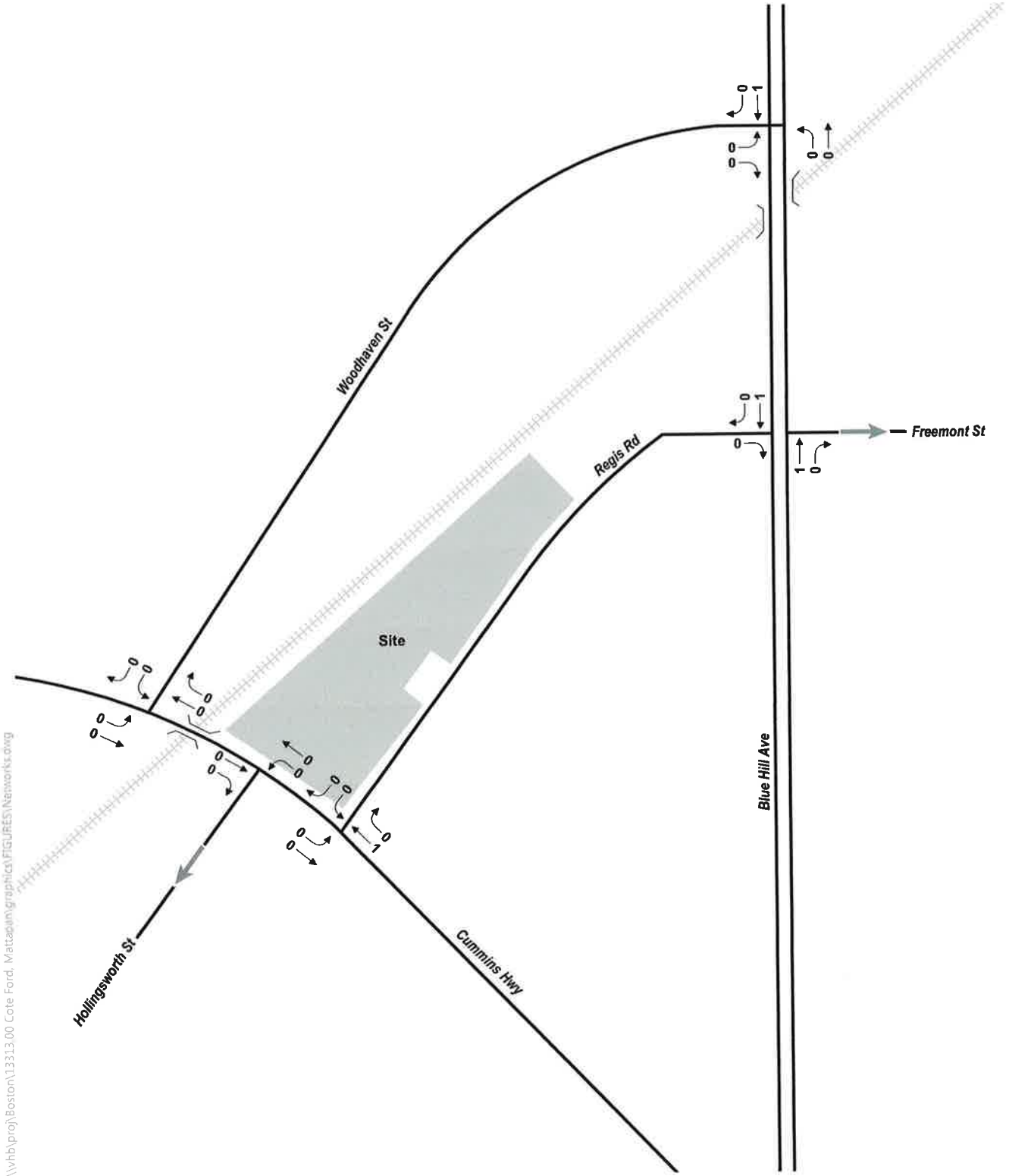
Existing Pedestrian Volumes
Evening Peak Hour
4:45 - 5:45 PM



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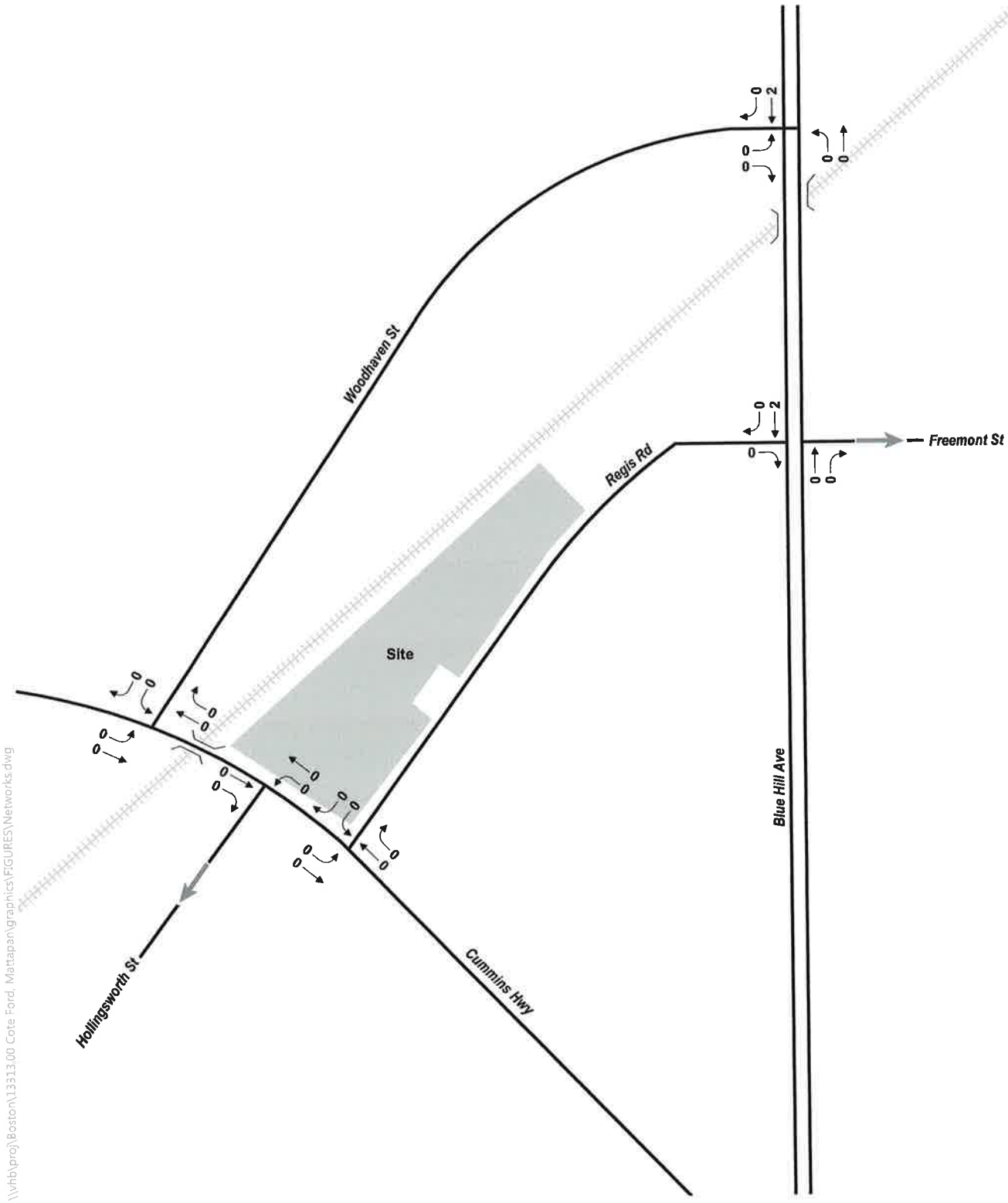
Existing Bicycle Volumes
Morning Peak Hour
7:30 - 8:30AM



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Existing Bicycle Volumes
Evening Peak Hour
4:45 - 5:45 PM

section 3.4.1. While the Fairmont and Franklin Commuter Rail line passes along the Project site boundary, there are no stations in the study area. It is noted, however, that the MBTA is currently studying the possible Commuter Rail station on Cummins Highway in the vicinity of the Project site.

Table 3-2 MBTA Services

Service	Origin / Destination	Peak-hour Frequency	Closest Stop (distance in miles)
Bus Route 15	Kene Sq or Fields Corner Station / Ruggles Station	Limited Service	Mattapan Station (0.3 miles)
Bus Route 24	Wakefield Ave & Truman Hwy / Mattapan or Ashmont Station	20-30 minutes	Mattapan Station (0.3 miles)
Bus Route 27	Mattapan Station / Ashmont Station	30-35 minutes	Mattapan Station (0.3 miles)
Bus Route 28	Mattapan Station / Ruggles Station	6-8 minutes	Blue Hill Ave & Mattapan Square (0.2 miles)
Bus Route 29	Mattapan Station / Jackson Square Station	Limited Service	1624 Blue Hill Ave (0.2 miles)
Bus Route 30	Mattapan Station / Forest Hills Station	15-20 minutes	Cummins Hwy @ Rosewood St (300 feet)
Bus Route 31	Mattapan Station / Forest Hills Station	5 minutes	1624 Blue Hill Ave (0.2 miles)
Bus Route 33	Dedham Line / Mattapan Station	30-35 minutes	River St @ Blue Hill Ave (0.25 miles)
Bus Route 245	Quincy Center Station / Mattapan Station	20-35 minutes	Blue Hill Ave @ River St (0.3 miles)
Red Line – Mattapan Line	Ashmont Station / Mattapan Station	5 minutes	Mattapan Station (0.3 miles)

Source: MBTA Ridership and Service Statistics, Fourteenth Edition (2014)

3.4.1 MBTA Services

Route #15 – Kene Square or Fields Corner – Ruggles Station

This route travels from Kene Square in Dorchester to Ruggles Station in Roxbury via Malcolm X Boulevard and

Dudley Street. The Project site is approximately a third of a mile from the Mattapan Station stop. This route starts at Mattapan Station once a day at 4:47 AM on weekdays and Saturdays and once a day at 5:33 AM on Sundays and travels via Ashmont to Dudley for continuing service to downtown Boston.

Route #24/27 – Wakefield Avenue & Truman Highway – Mattapan Square or Mattapan Square

This route travels from Wakefield Avenue & Truman Highway in Hyde Park to Mattapan Square. During specific times the route continues past Mattapan Station and terminates in Ashmont Station. The Project site is approximately a third of a mile away from the Mattapan Station stop. The route operates form 4:28 AM to 1:28 AM during weekdays with 20-30 minute headways during peak hours. Weekend service is provided from 4:28 AM to 1:29 AM on Saturdays and from 5:21 AM to 9:48 PM on Sundays.

Route #28 – Mattapan Station – Ruggles Station

This route travels from Mattapan Station to Ruggles Station in Roxbury via Blue Hill Avenue. The Project site is approximately a quarter mile from the Blue Hill Avenue stop at Mattapan Square. The route operates from 3:20 AM to 1:40 AM during weekdays with 6-8 minute

headways during peak hours. With the implementation of the MBTA Late Night Service, this service is extended on Fridays until 2:36 AM. Weekend service is provided from 3:20 AM to 2:40 AM on Saturdays and from 3:20 AM to 1:37 AM on Sundays.

Route #31 – Mattapan Station – Forest Hills Station
This route travels from Mattapan Station to Forest Hills Station in Roxbury via Morton Street. The Project site is a quarter mile from the Blue Hill Avenue at Mattapan Station stop. The route operates from 4:38 AM until 1:18 AM during weekdays with 5 minute headways during the peak hours. Weekend service is provided from 4:47 AM to 1:16 AM on Saturdays and from 5:10 AM to 1:19 AM on Sundays.

Route #33 – Dedham Line – Mattapan Station
This route travels from River & West Milton Street in Dedham to Mattapan Square via River Street. The Project site is approximately a third of a mile away from the Mattapan Station stop. The route operates from 5:20 AM to 7:29 PM on weekdays with 30-35 minute headways during peak hours. Saturday service is provided from 6:20 AM to 7:50 PM and no service is provided on Sundays.

Route #245 – Quincy Center – Mattapan Station
This route travels from Quincy Center Station to Mattapan Station via the Town of Milton. The Project site is

approximately a third of a mile away from the Mattapan Station stop. The route operates from 6:05 AM to 8:13 AM on weekdays with 20-35 minute headways during peak hours. No service is provided on weekends.

Red Line – Mattapan Station – Ashmont Station
The Mattapan trolley is an extension of the MBTA Ashmont Red Line. It travels from Ashmont Station in Dorchester to Mattapan Station. The Project site is approximately a third of a mile away from the Mattapan Station stop. The trolley operates from 5:05 AM to 1:14 AM on Weekdays with 5-minute headways during the peak hours. With the implementation of the MBTA Late Night Service, service is extended on Fridays until 2:29 AM. Saturday service is provided from 5:05 AM to 2:28 AM on Saturdays and from 5:51 AM to 1:13 AM on Sundays.

3.4.2 Car Sharing

While not publicly operated, it is noted that two companies have car sharing facilities within, or close to, the study area. These include two ZipCar locations on River Street in the parking lot at the rear of Blue Hill Avenue retail premises and in the MBTA parking lot, and an Enterprise car-sharing location on Blue Hill Avenue just over ½ mile north of the Project site. These locations are included in Figure 3-9.

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0 400 800 Feet

Car Sharing:

Z ZipCar

E Enterprise

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Public Transportation

Source: BWCS basemap & MassGIS

3.5 No-Build (2020) Traffic Volumes

The 2020 No-Build Condition was developed to evaluate projected future traffic conditions in the study area without implementation of the Project. In accordance with BTD guidelines, this future analysis year represents a five-year horizon (2020) from existing conditions (2015). The No-Build condition provides insight to future traffic conditions resulting from regional growth as well as traffic generated by specific projects that are expected to affect the local roadway network.

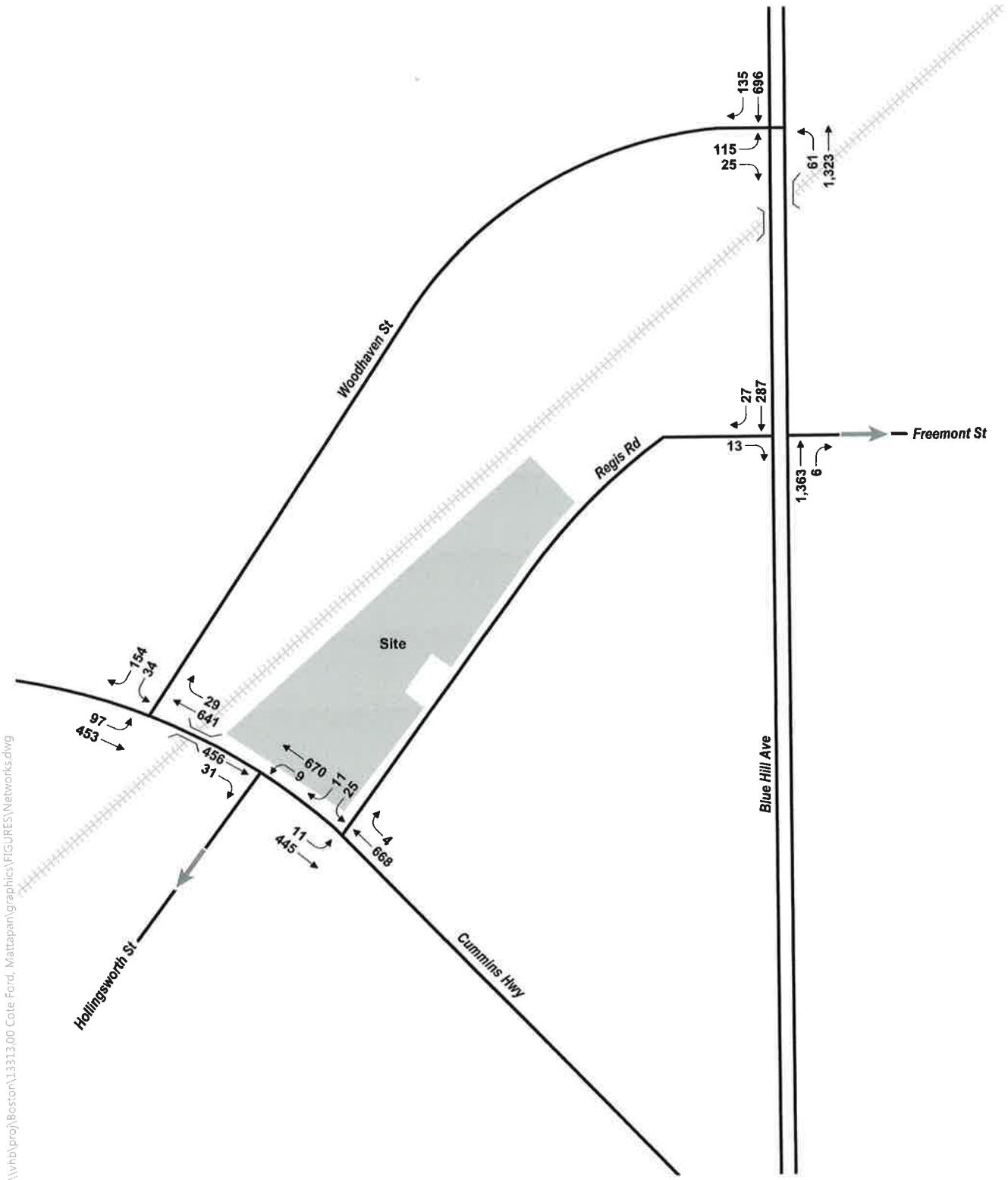
3.5.1 Traffic Growth

A background growth rate of one-half (0.5) percent per year was applied to the existing traffic volumes. The growth rate is consistent with recent traffic studies for other developments within the City of Boston.

In addition to the background growth rate, specific projects and infrastructure changes will affect future traffic conditions. There are no infrastructure projects currently planned that will significantly impact the study area, but traffic volumes are expected to change as a result of the 53,000 SF KIPP Academy Boston Charter School to be built at 1464 Blue Hill Avenue.

3.5.2 2020 No-Build Traffic Volumes

Figure 3-10 and **Figure 3-11** present the projected 2020 morning and evening No-Build Condition traffic volumes,



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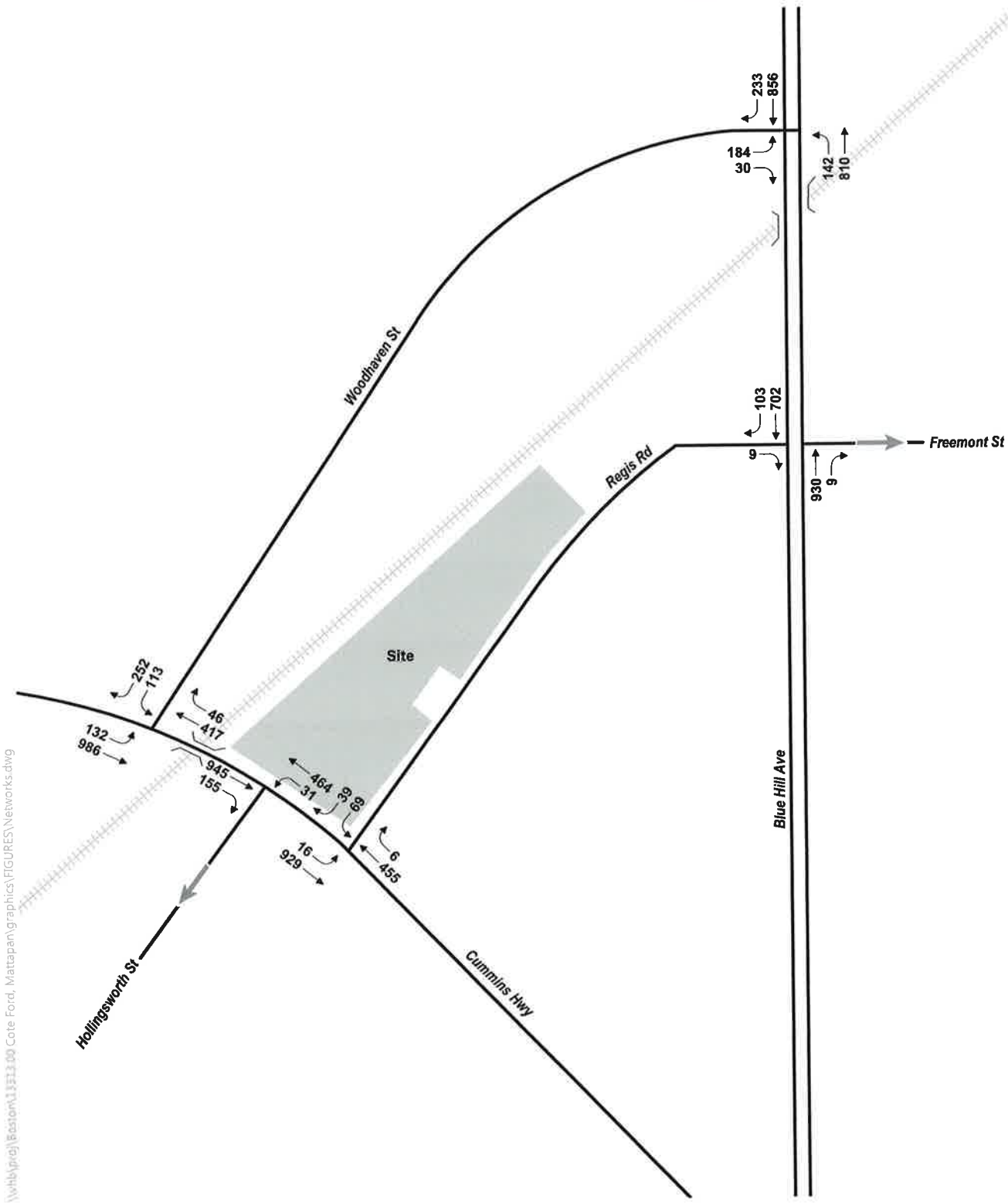
No-Build (2020) Traffic Volumes
Morning Peak Hour
7:30 - 8:30AM



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No-Build (2020) Traffic Volumes
Evening Peak Hour
4:45 - 5:45 PM

respectively, accounting for both background growth and the planned school project.

3.6 Build (2020) Traffic Volumes

The Build conditions represent the projected conditions with the implementation of the proposed Project. The Build traffic volumes are created by the addition of projected Project traffic to the No-Build volumes described above. The Project traffic projections are derived by the application of trip generation rates for the specific types of Project land use, the application of typical mode share and vehicle occupancy factors for the Project site location, the geographic distribution of Project trips based on the site location, and assignment of Project trips to the local roadway network.

3.6.1 Project Trip Generation

Project trip estimates were based on standard rates from the ITE Trip Generation Handbook[3]. Trip generation for the proposed mixed-use building and town houses was estimated based on ITE Land Use Codes as shown in Table 3-3 below.

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[3] Trip Generation; Ninth Edition; Institute of Transportation Engineers; Washington, D.C.; 2012.

Table 3-3 Trip Generation Land Use Codes

Land Use	ITE Land Use Code (LUC)	Independent Variable
Residential	220 – Apartments	Dwelling Units
Retail/Commercial	820 – Shopping Center	Square Feet

Source: ITE Trip Generation Handbook

3.6.2 Mode Share and Vehicle Occupancy Ratios

To account for alternative modes of transportation, mode shares for the area, based on BTD guidelines, were applied to the unadjusted ITE trip results. Mode shares used are shown in Table 3-4 below.

Table 3-4 Mode Split by Land Use Category

	Residential	Retail
Daily		
Automobile	68%	68%
Public Transit	14%	13%
Walk/Bike/Other	18%	19%
AM/PM Peak		
Automobile	63%	61%
Public Transit	11%	12%
Walk/Bike/Other	26%	27%

Source: BTD Zone 14 Mode Split

Prior to application of the mode shares, Vehicle Occupancy Ratios (VOR) were applied to the un-adjusted ITE trips to convert them to person trips. The VOR's were based on the

2009 National Household Travel Survey. For residential trips, 1.13 persons per vehicle was used, and for retail trips 1.78 persons per vehicle was used, yielding the number of Project person trips by each mode. Finally, Project person vehicle trips were converted to Project vehicle trips by again applying a VOR. The resulting adjusted Project Generated Trips are presented in Table 3-5.

Table 3-5 Total Project Trip Generation

Time Period /	Public	Walk/Bike/Other	Vehicle Trips
Weekday Daily			
Enter	67	89	294
Exit	67	89	294
Total	134	178	588
Weekday Morning			
Enter	2	3	7
Exit	4	11	22
Total	6	14	29
Weekday Evening			
Enter	7	15	32
Exit	5	10	21
Total	12	25	53

Source: Trip Generation, 9th Edition, Institute of Transportation Engineers, Washington D.C. (2012), Land Use Codes (LUC) 220 – Apartment and 820 – Shopping Center.
Mode share based on BTD guidelines for Zone 14.

As shown in Table 3-5, the Project is estimated to generate approximately 588 daily weekday vehicle trips (total entering and exiting), and approximately 29 (7 entering, 22 exiting) and 53 vehicle trips (32 entering, 21 exiting) during the morning and evening peak hours, respectively. The breakdown of

vehicle trips between the residential and retail components of the Project is presented in Table 3-6. As shown, the residential components are expected to generate more vehicle trips than the retail component.

Table 3-6 Project Vehicle Trips by Land Use

Time Period /	Residential	Retail
Weekday Daily		
Enter	199	95
Exit	199	95
Total	398	190
Weekday Morning		
Enter	5	2
Exit	21	1
Total	26	3
Weekday Evening		
Enter	24	8
Exit	13	8
Total	37	16

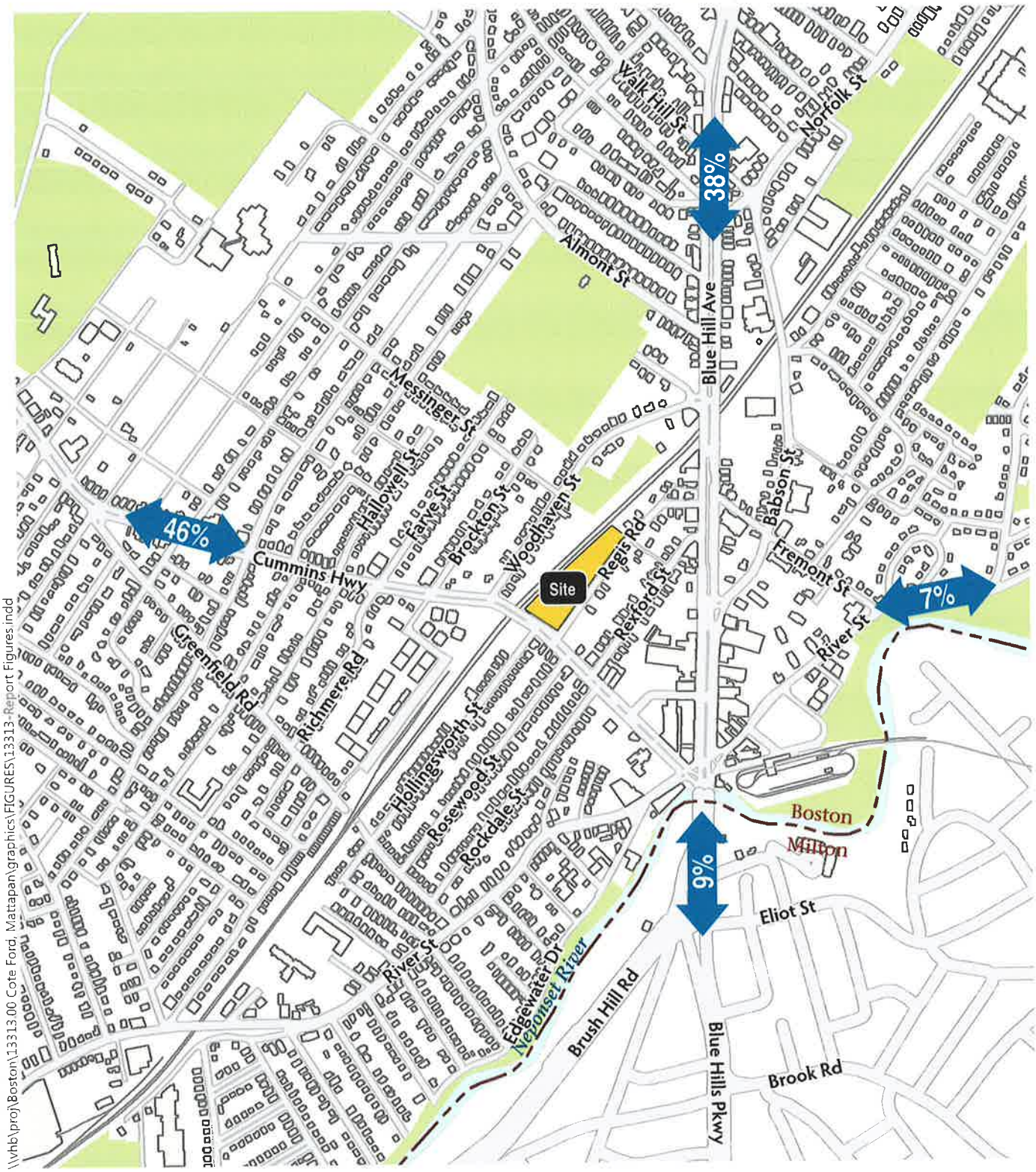
3.6.3 Vehicle Trip Distribution and Assignment

Geographic trip distribution was based on BTD's guidelines for Area 14 (where Project site is located) which are based on 2000 census data. The geographic distribution is reflected in Table 3-7 and shown graphically in **Figure 3-12**.

Table 3-7 Geographic Trip Distribution

Corridor	
Blue Hill Avenue North	38%
Blue Hill Avenue South	9%
Cummins Highway West	46%
River Street East	7%
Total	100%

Source: BTD Zone 5 Trip Distribution



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Project Trip Distribution

Source: BWCS basemap & MassGIS

Project trips were assigned to the roadway network based on this geographic distribution and the local roadway network supporting the Project site. The resulting Project vehicle trip networks are presented in **Figures 3-13 and 3-14** for the morning and evening peak hours, respectively.

3.6.4 Build (2020) Traffic Volumes

The Project trips were added to the No-Build (2020) volumes, yielding the projected Build (2020) morning and evening peak hour traffic volumes presented in **Figure 3-15 and Figure 3-16**, respectively. A comprehensive operational and capacity analysis of the study area intersections for all scenarios is presented in the next section of this chapter.

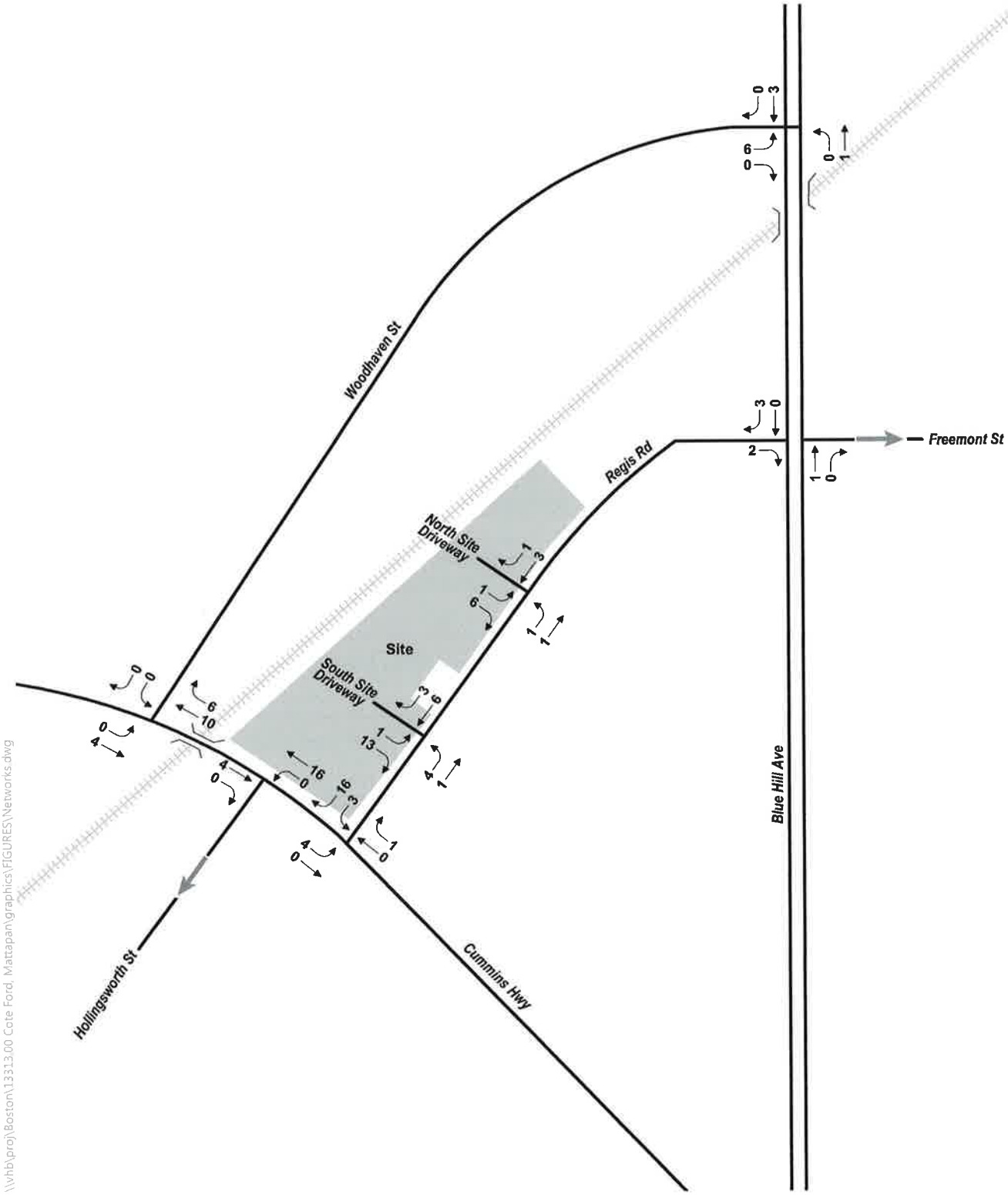
3.7 Traffic Operations Analysis

This section describes the detailed analysis of traffic operations in the study area under Existing (2015), No-Build (2020) and Build (2020) conditions.

3.7.1 Level of Service Criteria

LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection.

LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the



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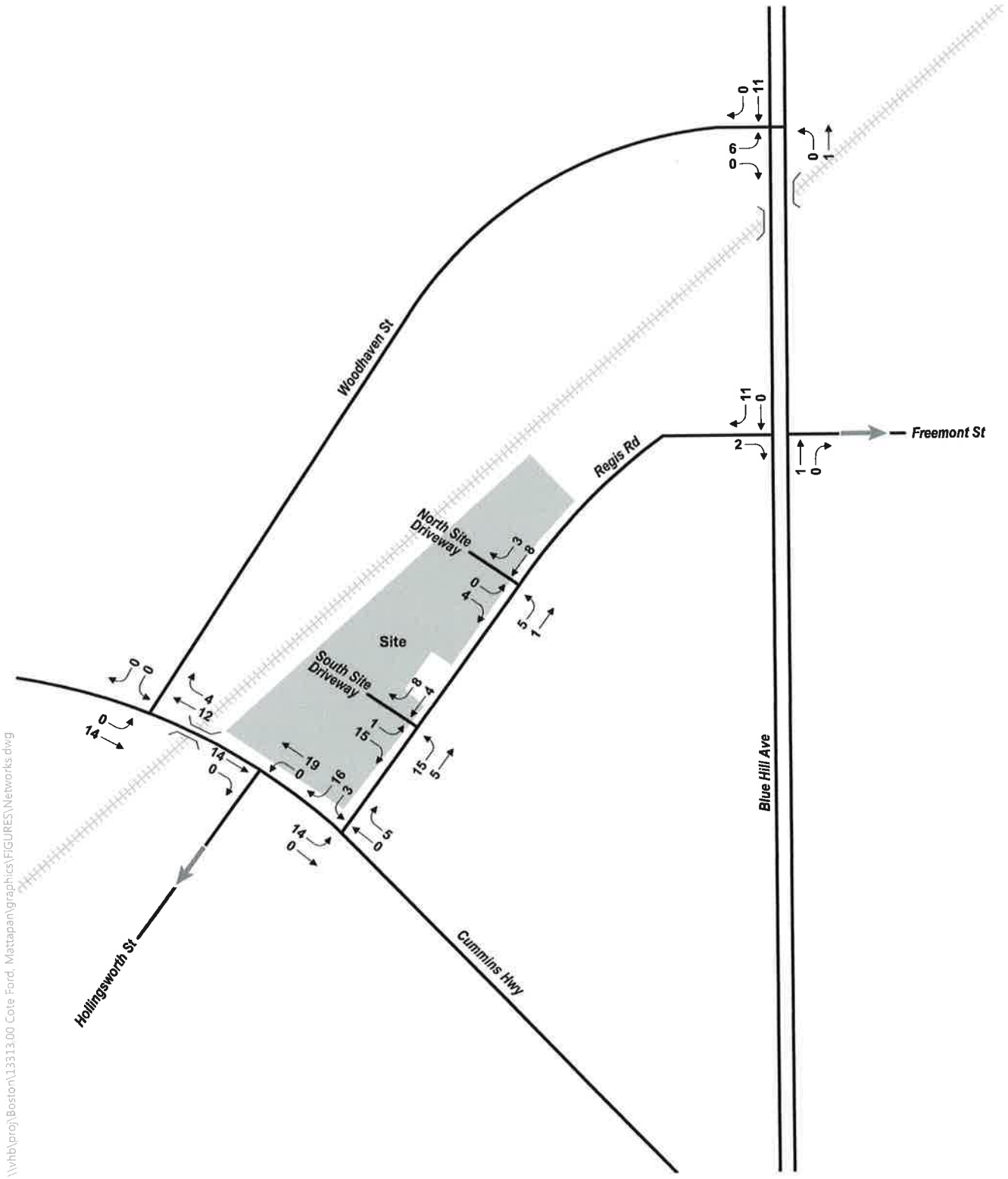
Project Generated Traffic Volumes
Morning Peak Hour



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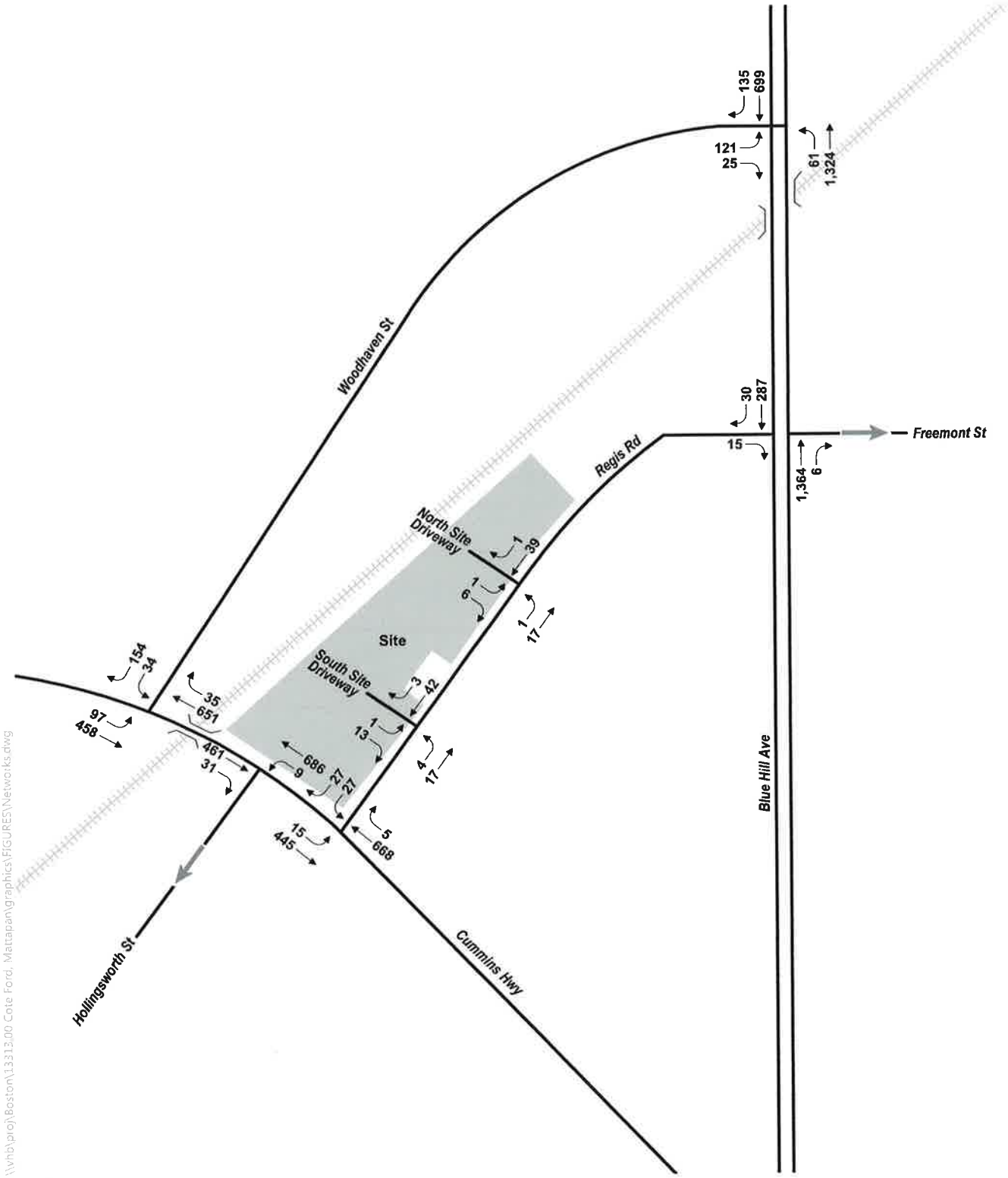
Project Generated Traffic Volumes
Evening Peak Hour



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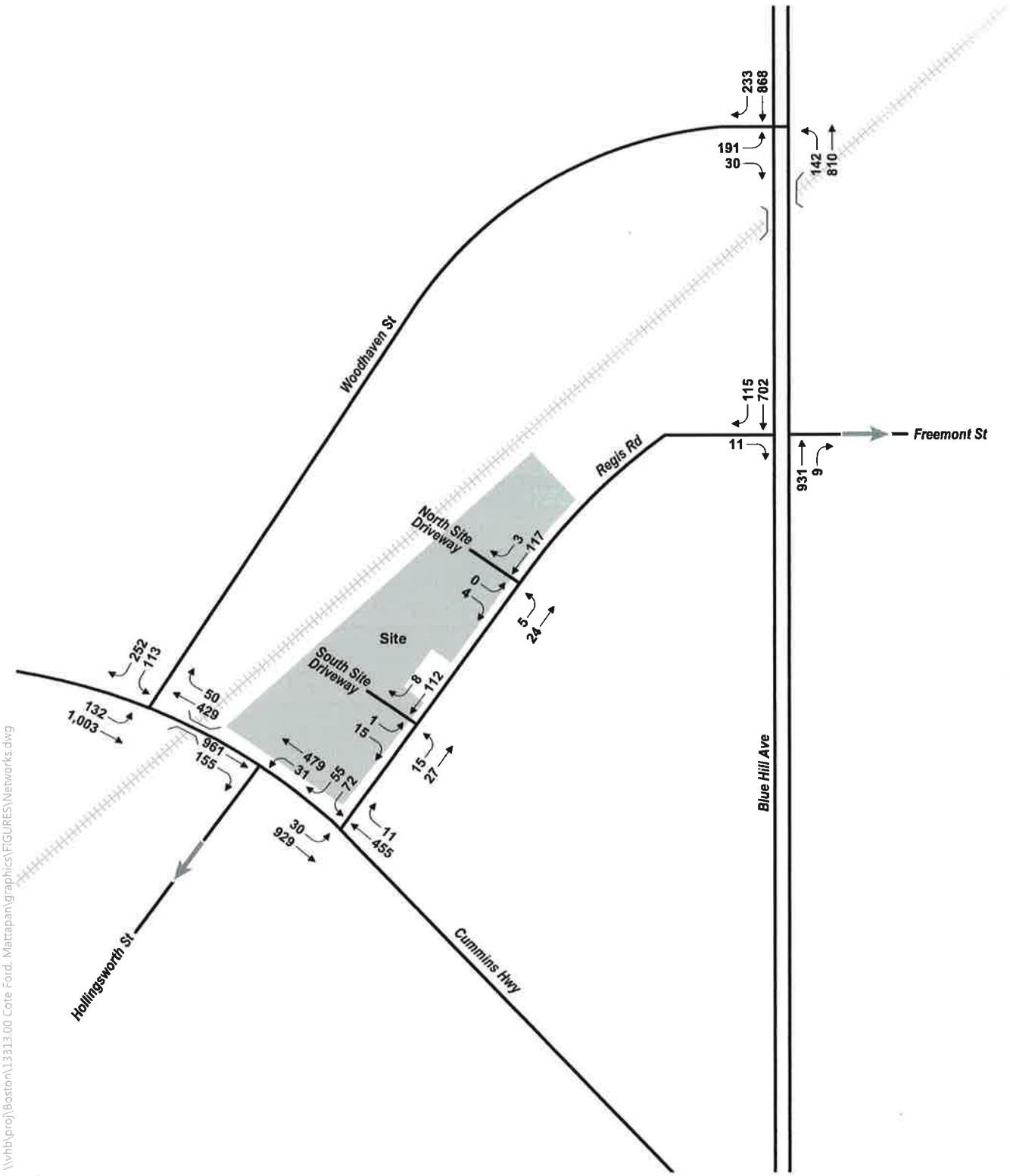
Build (2020) Traffic Volumes
Morning Peak Hour
7:30 - 8:30 AM



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Cote Ford | Mattapan, Massachusetts

Build (2020) Traffic Volumes
Evening Peak Hour
4:45 - 5:45 PM

worst operating conditions. LOS D is considered acceptable. LOS E indicates vehicles experience significant delay while LOS F suggests unacceptable delay for the average vehicle. LOS thresholds differ for signalized and unsignalized intersections. Longer delays at signalized intersections than at unsignalized intersections are perceived as acceptable.

The level of service delay threshold criteria as defined in the 2000 Highway Capacity Manual (HCM) are presented in Table 3-8.

Table 3-8 Level of Service Criteria

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

Source: 2000 HCM

3.7.2 Intersection Capacity Analysis

Consistent with MassDOT and BTD guidelines, Synchro 8 software was used to model level of service (LOS) operations at the study area intersections. Signal phasing and timings observed and measured in the field were used in the Synchro model

Adjustments were made to the Synchro model to include characteristics of the study area such as heavy vehicles, bus operations, parking activity, and pedestrian crossings. The capacity analysis results are summarized in the following sections.

3.7.3 Signalized Capacity Analysis

The LOS results for the signalized capacity analyses are summarized in Tables 3-9 and 3-10 for the morning and evening peak hours, respectively. For comparison purposes, each table presents the Existing, No-Build, and Build conditions. Detailed Synchro results are presented in the Transportation Appendix.

3-9 Signalized Intersection Level of Service (LOS) Summary - Morning Peak Hour

	2015 Existing Conditions					2020 No-Build Conditions					2020 Build Conditions				
				Vehicle Queue					Vehicle Queues					Vehicle Queues	
Location	v/c[1]	Delay[2]	LOS[3]	50th[4]	95th[5]	v/c	Delay	LOS	50th	95th	v/c	Delay	LOS	50th	95th
Blue Hill Ave at Woodhaven St	**0.68**	**14.1**	**B**	-	-	**0.70**	**14.9**	**B**	-	-	**0.71**	**15.3**	**B**	-	-
Woodhaven St EB Left	0.66	59.9	E	82	181	0.68	61.5	E	88	191	0.70	62.5	E	93	201
Woodhaven St EB Right	0.02	47.8	D	0	30	0.02	47.6	D	0	31	0.02	47.4	D	0	31
Blue Hill Ave NB Left	0.21	8.1	A	9	51	0.23	8.6	A	9	53	0.23	8.7	A	10	53
Blue Hill Ave NB Through	0.69	11.1	B	185	711	0.71	11.8	B	205	754	0.71	12.1	B	211	755
Blue Hill Ave SB Through/Right	0.56	12.6	B	138	410	0.58	13.2	B	150	429	0.58	13.4	B	153	430
Blue Hill Ave at Regis Rd	**0.59**	**2.6**	**A**	-	-	**0.61**	**2.6**	**A**	-	-	**0.61**	**2.7**	**A**	-	-
Regis Rd EB Right	0.02	42.8	D	0	0	0.02	42.8	D	0	0	0.03	42.0	D	0	0
Blue Hill Ave NB Through/Right	0.59	1.8	A	0	350	0.61	1.9	A	0	375	0.61	1.9	A	0	375
Blue Hill Ave SB Through/Right	0.17	2.2	A	11	65	0.17	2.3	A	11		0.17	2.3	A	11	67
Cummins Hwy at Woodhaven	**0.35**	**8.3**	**A**	-	-	**0.37**	**8.4**	**A**	-	-	**0.37**	**8.4**	**A**	-	-
Cummins Hwy EB Left/Through	0.38	5.8	A	26	164	0.40	5.9	A	27	175	0.40	6.0	A	28	177
Cummins Hwy WB	0.34	5.4	A	32	183	0.35	5.4	A	33	190	0.36	5.5	A	34	196
Woodhaven St SB Left/Right	0.32	26.1	C	12	69	0.33	26.2	C	12	69	0.33	26.2	C	12	69

1. Volume to capacity ratio
2 delay in seconds
3 level of service
4 50th percentile queue
5 95th percentile queue
~ Volume exceeds capacity, queue is theoretically infinite.
# 95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

Table 3-10 Signalized Intersection Level of Service (LOS) Summary - Evening Peak Hour

	2015 Existing Conditions					2020 No-Build Conditions					2020 Build Conditions				
				Vehicle Queues					Vehicle Queues					Vehicle Queues	
Location	v/c[1]	Delay[2]	LOS[3]	50th[4]	95th[5]	v/c	Delay	LOS	50th	95th	v/c	Delay	LOS	50th	95th
Blue Hill Ave at Woodhaven St	**0.73**	**24.6**	**C**	-	-	**0.76**	**25.8**	**C**	-	-	**0.77**	**26.9**	**C**	-	-
Woodhaven St EB Left	0.85	73.3	E	170	#325	0.88	78.2	E	177	#341	0.91	85.1	F	185	#360
Woodhaven St EB Right	0.03	44.8	D	0	26	0.03	44.8	D	0	26	0.03	44.8	D	0	26
Blue Hill Ave NB Left	0.54	19.5	B	31	107	0.58	21.1	C	31	109	0.58	21.7	C	31	#112
Blue Hill Ave NB Through	0.44	10.4	B	116	318	0.45	10.5	B	122	331	0.45	10.5	B	122	332
Blue Hill Ave SB Through/Right	0.77	25.7	C	291	#676	0.80	26.8	C	306	#712	0.81	27.2	C	313	#727
Blue Hill Ave at Regis Rd	**0.42**	**2.2**	**A**	-	-	**0.43**	**2.3**	**A**	-	-	**0.44**	**2.4**	**A**	-	-
Regis Rd EB Right	0.01	47.2	D	0	0	0.01	47.2	D	0	0	0.01	45.8	D	0	0
Blue Hill Ave NB Through/Right	0.42	1.1	A	0	183	0.43	1.1	A	0	192	0.44	1.1	A	0	192
Blue Hill Ave SB Through/Right	0.40	2.7	A	0	196	0.41	2.8	A	0	206	0.42	2.9	A	0	210
Cummins Hwy at Woodhaven	**0.71**	**17.4**	**B**	-	-	**0.73**	**18.3**	**B**	-	-	**0.74**	**18.5**	**B**	-	-
Cummins Hwy EB Left/Through	0.73	15.0	B	140	#451	0.76	16.1	B	148	#477	0.77	16.5	B	153	#491
Cummins Hwy WB	0.25	8.7	A	41	127	0.26	8.8	A	42	131	0.27	8.9	A	44	135
Woodhaven St SB Left/Right	0.79	35.6	D	102	#347	0.80	36.9	D	107	#360	0.80	36.9	D	107	#360

1 volume to capacity ratio
2 delay in seconds
3 level of service
4 50th percentile queue
5 95th percentile queue
~ Volume exceeds capacity, queue is theoretically infinite.
# 95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

The results of the LOS analysis indicate that all signalized intersections operate at an overall level of service of C or better for all scenarios. LOS D or better is generally considered to be acceptable in an urban area. There are no projected degradations in overall LOS at any of the signalized intersections under Build conditions. Any increase in average delay under Build conditions is limited to less than half a second, with the exception of the Blue Hill Avenue/Woodhaven Street intersection during the evening peak hour, where the average delay is projected to increase by 1.1 seconds. However, an overall LOS C is still maintained for that location.

3.7.4 Unsignalized Capacity Analysis

The capacity analysis results for the unsignalized study area intersections are summarized in Table 3-14. Detailed Synchro worksheets are presented in the Transportation Appendix.

Table 3-11 Unsignalized Intersection Level of Service (LOS) Summary

Location	Critical Side Street Movement	Peak Period	2015 Existing Conditions				2022 No-Build Conditions				2022 Build Conditions			
			v/c[1]	Del[2]	LOS[3]	Queue[4]	v/c	Del	LOS	Queue[4]	v/c	Del	LOS	Queue[4]
Cummins Hwy at Hollingsworth St	Cummins Hwy WB Left	Weekday AM	0.01	0.4	A	1	0.01	0.4	A	1	0.01	0.4	A	1
		Weekday PM	0.05	2.3	A	4	0.05	2.3	A	4	0.05	2.3	A	4
Cummins Highway at Regis Road	Regis Rd SB Left	Weekday AM	0.17	21.5	C	15	0.18	22.6	C	16	0.24	21.0	C	23
		Weekday PM	0.30	18.3	C	31	0.31	18.8	C	33	0.37	19.8	C	41
North Driveway at Regis Road	Site Driveway EB Left	Weekday AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01	8.6	A	0
		Weekday PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	8.9	A	0
South Driveway at Regis Road	Site Driveway EB Left	Weekday AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.02	8.6	A	1
		Weekday PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.02	9.1	A	2

1 volume to capacity ratio
2 delay
3 level of service
4 95th percentile queue
- not analyzed under condition

The results for the capacity show that all unsignalized intersections operate at LOS C or better for all conditions, with minimal increase in delay due to Project trips under Build conditions. Both site driveways on Regis Road are projected to operate at LOS A with average delays of 8.6 seconds in the morning peak hour and delays of 8.9 - 9.1 seconds in the evening peak hour.

3.8 Proposed Site Plan

The proposed conceptual design and site plan for the Project are presented previously in Section 2. As shown, all vehicular site access will be provided on Regis Road where two driveways connected by a two way loop road will provide access to 25 surface parking spaces and 59 parking spaces under the Building A podium.

Vehicular access on Cummins Highway will be eliminated completely, yielding a much improved pedestrian environment along the site frontage. While the transportation analysis has not identified a need for any off-site improvements/mitigation, the sidewalks abutting the site will be re-constructed to ADA compliant standards and integrated with the new on-site pathways/sidewalks as and when the proposed commuter rail station is built, the Project will benefit from additional transit service adjacent to the site.

Servicing and loading, including trash collection, for each building will be accommodated on the loop road, and there will be a centralized trash storage and pick-up area for Building A under the podium. A bike parking room is also located under the podium. Long- and short-term bicycle parking will be provided in accordance with zoning requirements.

3.9 Transportation Demand Management

The Project will include a series of Transportation Demand Management (TDM) measures to encourage alternative modes of transportation and discourage vehicle trips. The Proponent is considering the following measures:

- The Proponent will designate a Transportation Coordinator to oversee management of transportation, parking and loading operations and coordinate the use of alternative transportation measures and carpooling.
- The Proponent will provide transit information such as maps and schedules to new residents in an orientation package and provide this information in the residential lobby.
- The Proponent will provide residents (upon each new lease) with a one month MBTA Transit Pass.
- Covered and secure bicycle storage and outdoor short-term bicycle spaces will be provided in accordance with zoning requirements.

The TDM measures/strategies, along with sire-related improvements, will be included in a Transportation Access Plan Agreement to be executed by the Proponent and the Boston Transportation Department (BTD) as required prior to advancing the Project to the Public Improvement Commission (PIC).

3.10 Construction Management

The Proponent will develop a detailed evaluation of potential short-term construction-related transportation impacts including construction vehicle traffic, parking supply and demand, and pedestrian access. Detailed Construction Management Plans (CMP) will be developed and submitted to the BTD for their approval. These plans will detail construction vehicle routing and staging.

Construction vehicles will be necessary to move construction materials to and from the Project site. Every effort will be made to reduce the noise, control fugitive dust, and minimize other disturbances associated with construction traffic. Truck staging and lay-down areas for the Project will be carefully planned. The need for street occupancy (lane closures) along roadways adjacent to the project site is not known at this time.

Contractors will be encouraged to devise access plans for their personnel that de-emphasize auto use (such as seeking off-site parking), provide transit subsidies, on-site lockers, etc. Construction workers will also be encouraged to use public transportation to access the Project site because no new parking will be provided for them.

During the construction period, pedestrian activity adjacent to the site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary walkways, appropriate lighting, and new directional and informational signage to direct pedestrians

around the construction site will be provided. After construction is complete, finished pedestrian sidewalks will be permanently reconstructed to meet ADA standards around the new building. Any damage as a result of construction vehicles or otherwise will be repaired

Cote Village Expanded PNF
Chapter Four
Environmental Review

4.1 Shadow Impacts

4.1.1 Introduction and Methodology

To assess the shadow impacts associated with the Project, a shadow impact analysis was conducted for the hours of 9:00 am, 12:00 noon, and 3:00 pm during the vernal equinox (March 21), summer solstice (June 21), autumnal equinox (September 21), and the winter solstice (December 21). Impacts at 6:00 pm during the summer and autumn were also examined. The study used the applicable Altitude and Azimuth data for Boston presented in Appendix B of the BRA's 2006 Development Review Guidelines.

The analysis presents the existing shadow and new shadow that would be created by the Project, illustrating the incremental impact of the Project. The study focuses on nearby open spaces and the sidewalks adjacent to and in the vicinity of the Project Site. Results of the shadow impact study are discussed in the following sections, and are supported by Figures 01 through 14.
New Shadow will generally be limited to the immediately surrounding streets and sidewalks. Cummins Highway and the nearby bus stop will not be impacted by new shadow from the Project during any of the time periods studied.

Vernal Equinox (March 21)

At 9:00 am during the vernal equinox, shadow from the Project will be cast in the West direction. The majority of new shadow will be cast on the Project Site and a very minor portion on the MBTA tracks. No new shadow will impact the nearby bus stop.

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

DAVIS SQUARE ARCHITECTS
240A Elm St.
Somerville, MA 02144
617.628.5700
www.davissquarearchitects.com

Project: COTE VILLAGE

Title: MARCH 21 - 9.00 A.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

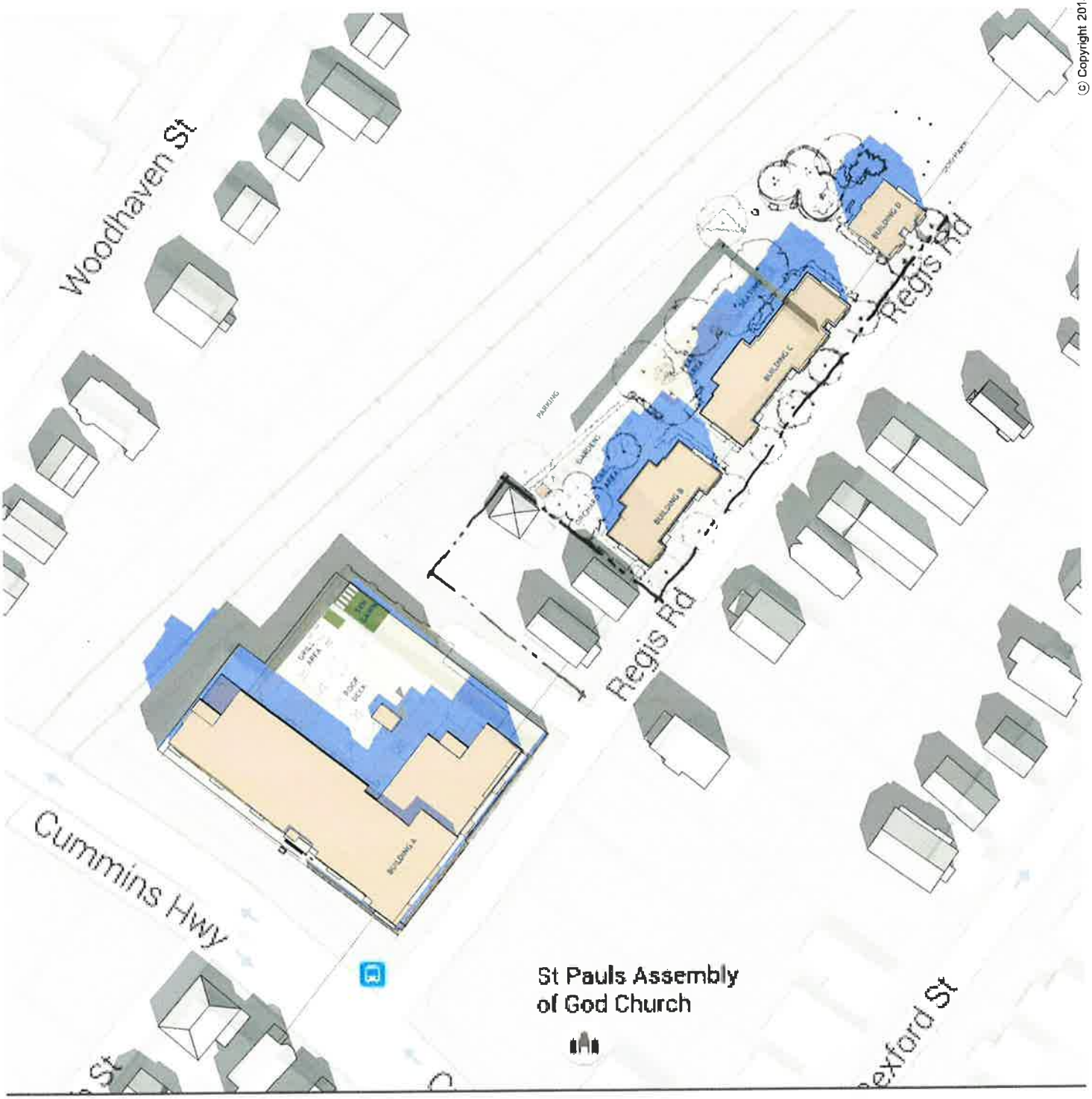
Sheet No.: 01

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Project: COTE VILLAGE

Title: MARCH 21 - 12.00 P.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

Sheet No.: 02

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Project
COTE VILLAGE

Title
MARCH 21 - 3.00 P.M

Drawing Reference

Scale
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Project No.
14058

Date
11/24/2015

Sheet No.
03
SHADOW STUDY

As the day progresses, the shadows become shorter, falling to the North. At 12:00 pm, new shadow from the Project will be cast across a minor portion of the MBTA tracks. No new shadow will impact the nearby bus stop.
At 3:00 pm shadow will extend to the Northeast. New shadow from the Project will fall on a small portion of Young rd. No new shadow will impact the nearby bus stop.

Summer Solstice (June 21)

At 9:00 am during the summer solstice, shadow will be cast in a westerly direction. New shadow from the Project will be cast across small portions of the Project Site. No new shadows will impact the nearby bus stop.
As the day progresses, the shadows become shorter and swings to the north. At noon, all of the new shadow from the Project will fall within the Project Site. No new shadows will impact the nearby bus stop.

At 3:00 pm, shadow will extend to the northeast. New shadow from the Project will fall on a small portion of the sidewalks of Regis Rd adjacent to the Project Site. No new shadow will impact the nearby bus stop.
At 6:00 pm, shadow will be cast to the east. Minimal new shadows from the Project will be cast across portions of Regis Rd. No new shadow will impact the nearby bus stop.

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Project: COTE VILLAGE

Title: JUNE 21 - 9.00 A.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

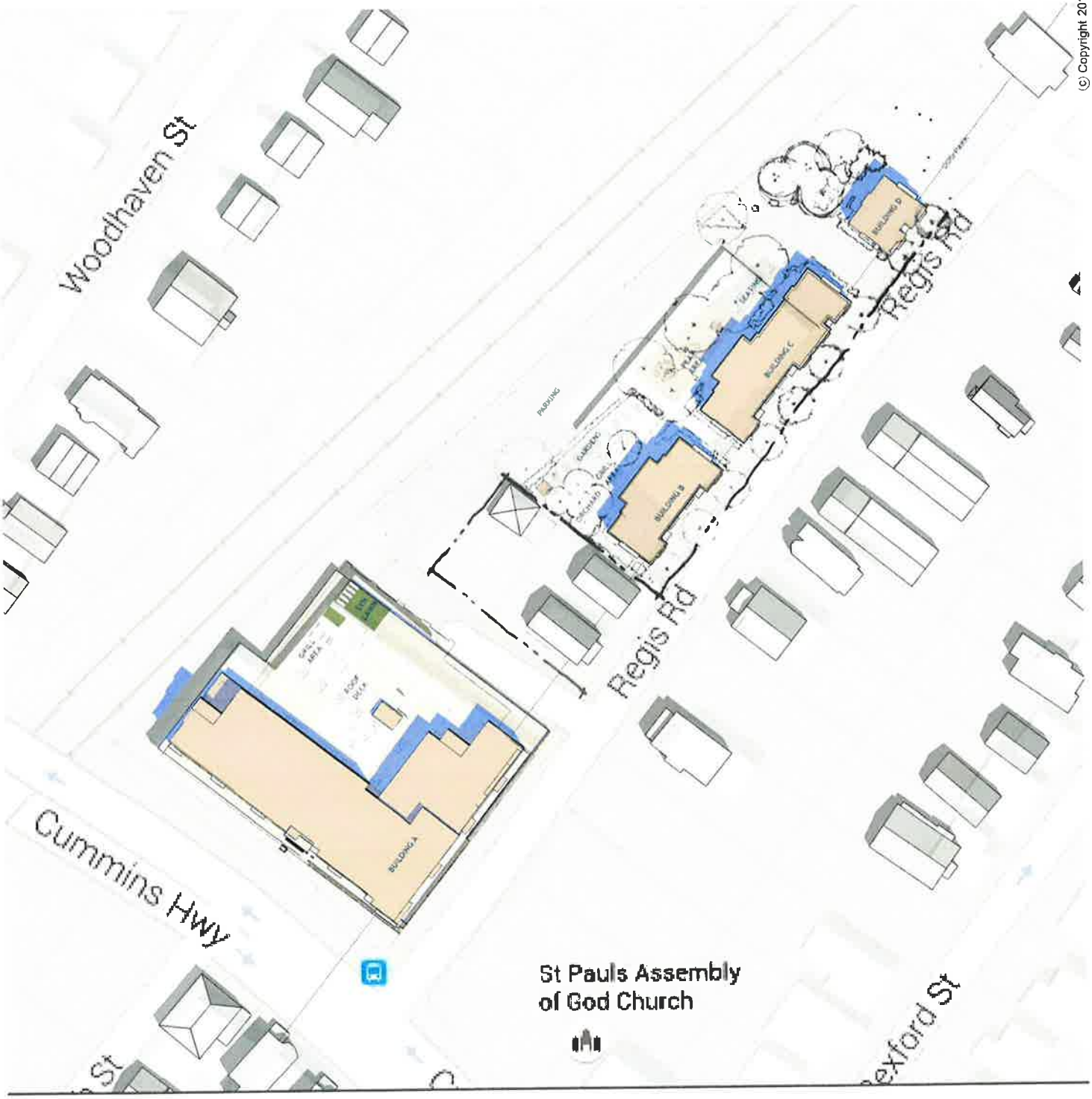
Sheet No.: 04

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

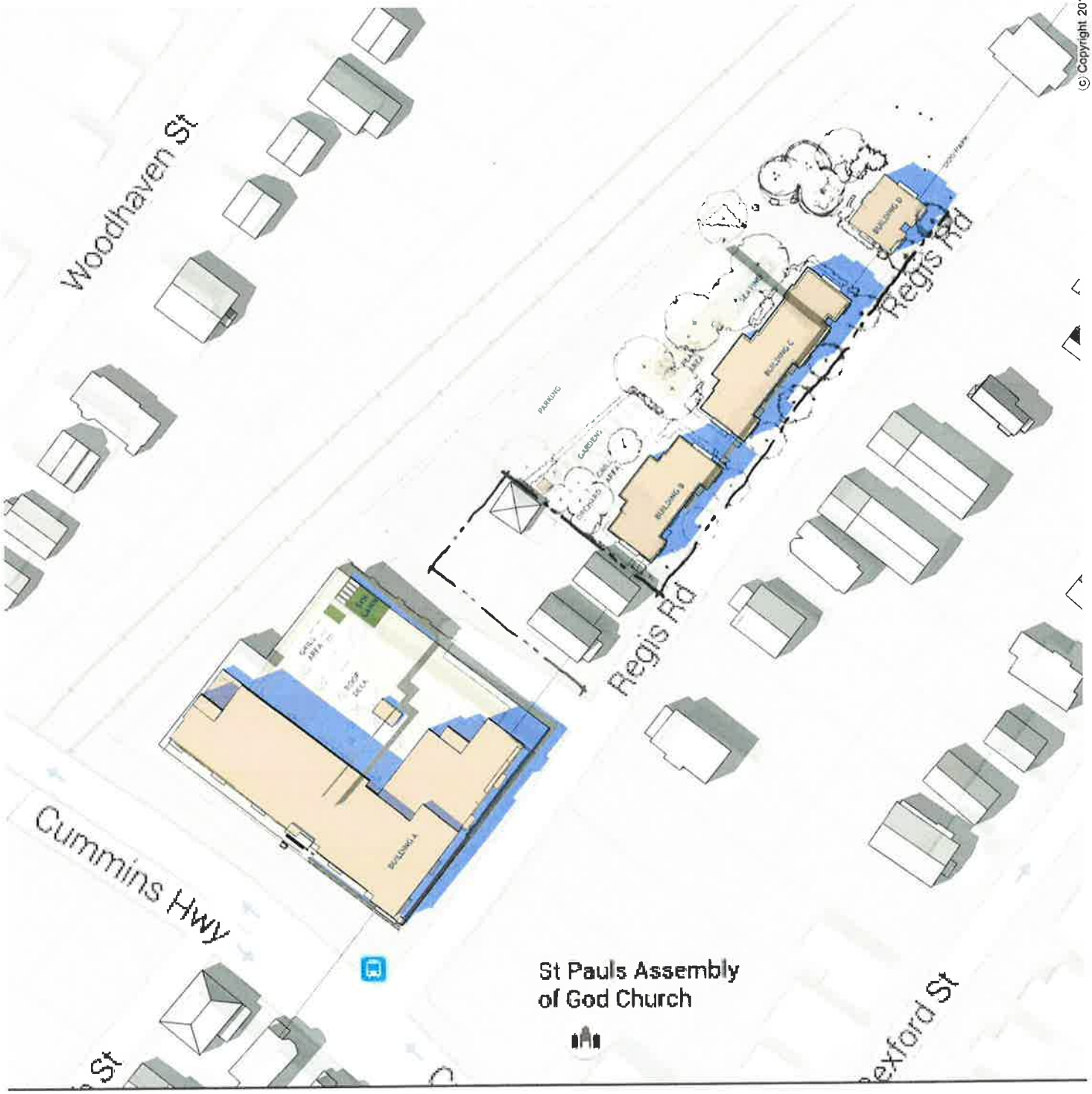
Sheet No.: 05

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Project: COTE VILLAGE

Title: JUNE 21 - 3.00 P.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

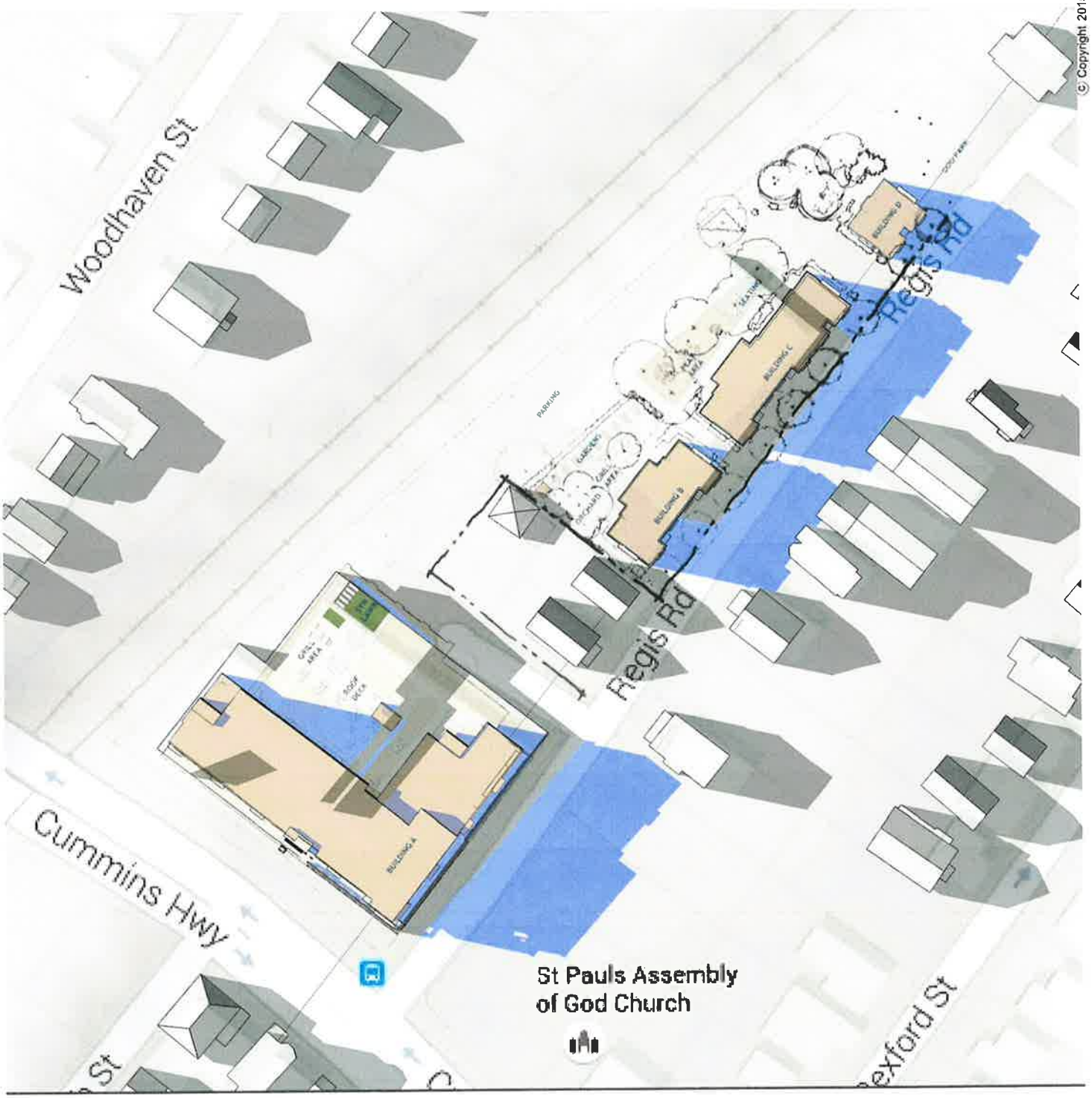
Sheet No.: 06

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Project
COTE VILLAGE

Title
JUNE 21 - 6.00 P.M

Drawing Reference

Scale
AS NOTED

Project No.
14058

Date
11/24/2015

Sheet No.
07
SHADOW STUDY

Autumnal Equinox (September 21)

At 9:00 am during the autumnal equinox, shadow from the Project will be cast in the West direction. The majority of new shadow will be cast on the Project Site and a very minor portion on the MBTA tracks. No new shadow will impact the nearby bus stop.

As the day progresses, the shadows become shorter, falling to the North. At 12:00 pm, new shadow from the Project will be cast across a minor portion of the MBTA tracks. No new shadow will impact the nearby bus stop. At 3:00 pm shadow will extend to the Northeast. New shadow from the Project will fall on a small portion of Young rd. No new shadow will impact the nearby bus stop. By 6:00 pm, much of the area is in existing shadow. New shadow from the Project will be cast to the east. The new shadows will also extend over portions of Regis Rd. No new shadow will impact the nearby bus stop.

Winter Solstice (December 21)

At 9:00 am, the morning sun will cast new shadow from the Project to the north, falling across portions of MBTA tracks, as well some of the properties beyond the tracks. No new shadows are expected to impact bus stop. At noon, shadow will extend to the north. New shadow will fall on a small portion of the tracks as well as neighboring properties on Young Rd. No new shadows are expected to impact the nearby bus stop.
At 3:00 pm, shadows elongate and extend northeast. The Project will cast shadow along the Regis Rd and neighboring properties on it. No new shadows are expected to impact bus stop.

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Title: SEPTEMBER 21 - 9.00 A.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

Sheet No.: 08

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Title: SEPTEMBER 21 - 12.00 P.M

Drawing Reference:

Scale: AS NOTED

Project No.: 14058

Date: 11/24/2015

Sheet No.: 09

SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Project
COTE VILLAGE

Title
SEPTEMBER 21 - 3.00 P.M

Drawing Reference

Scale
AS NOTED

Project No.
14058

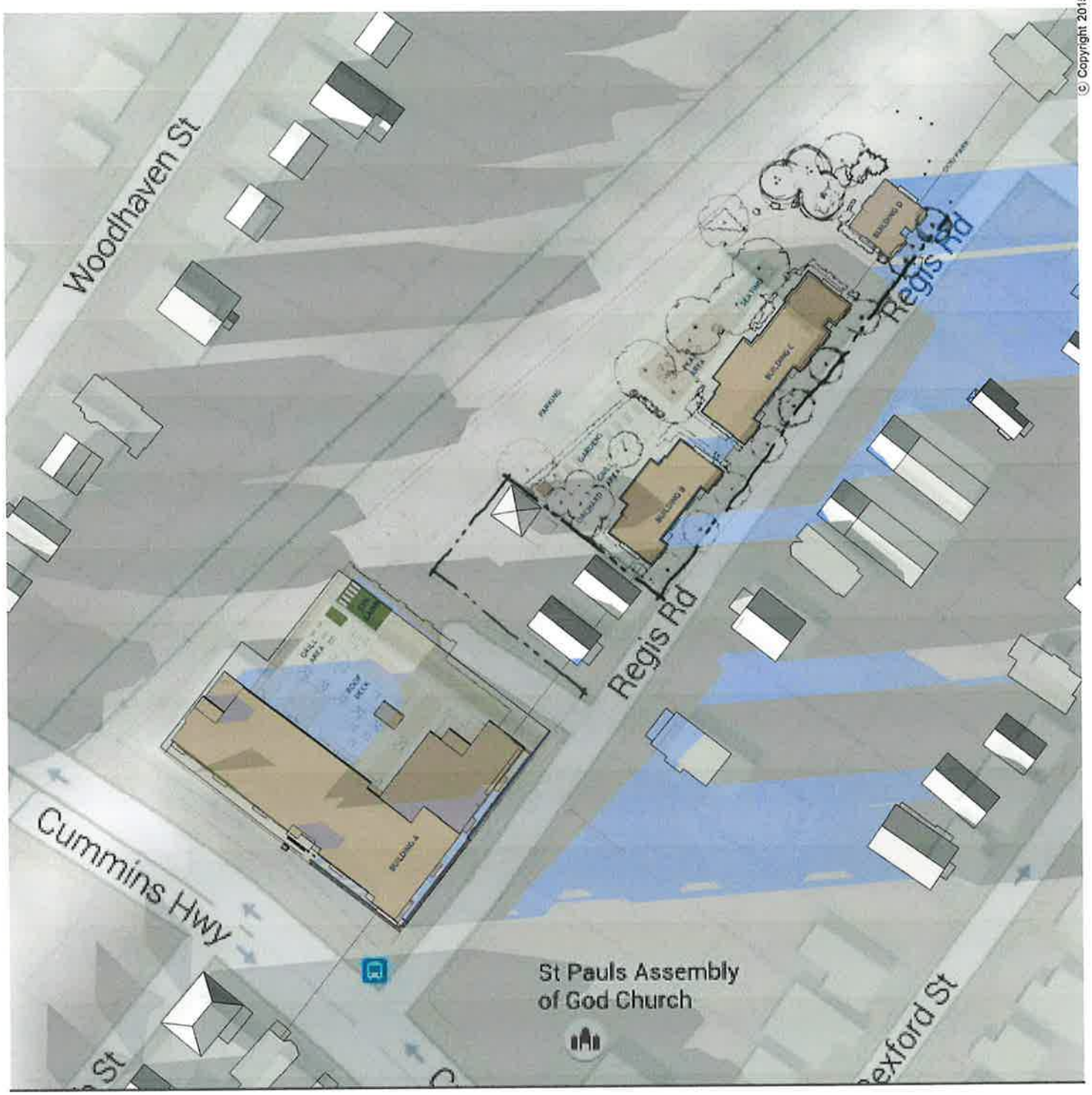
Date
11/24/2015

Sheet No.
10
SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Project
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Title
SEPTEMBER 21 - 6.00 P.M

Drawing Reference

Scale
AS NOTED

Project No.
14058

Date
11/24/2015

Sheet No.
11
SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Project
COTE VILLAGE

Title
DECEMBER 21 - 9.00 A.M

Drawing Reference

Scale
AS NOTED

Project No.
14058

Date
11/24/2015

Sheet No.
12
SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW

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Project
COTE VILLAGE

Title
DECEMBER 21 - 12.00 P.M

Drawing Reference

Scale
AS NOTED

Project No.
14058

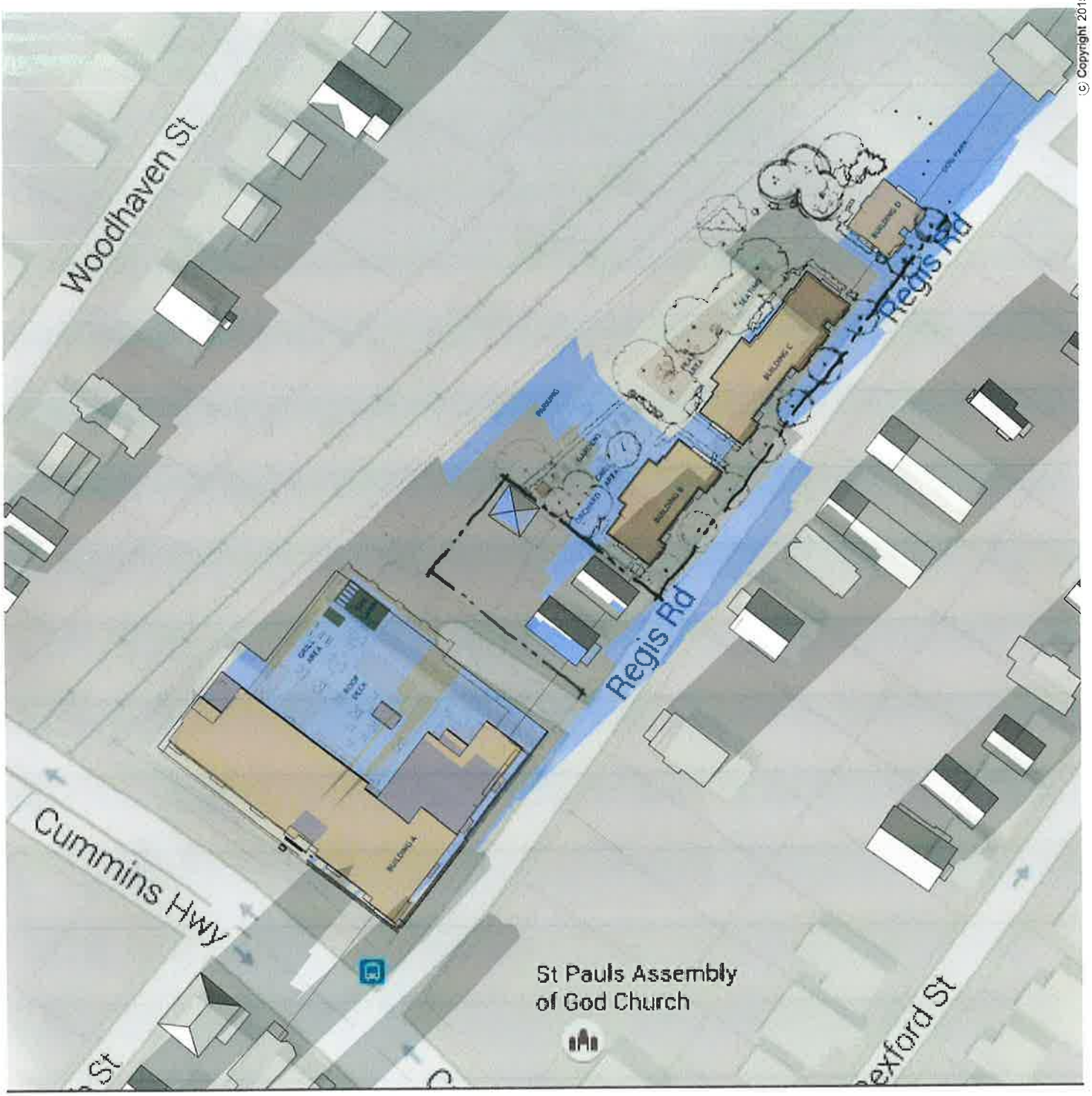
Date
11/24/2015

Sheet No.
13
SHADOW STUDY

PROPOSED BUILDINGS

EXISTING SHADOW

NEW SHADOW



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Project
COTE VILLAGE

Title
DECEMBER 21 - 3.00 P.M

Drawing Reference

Scale
AS NOTED

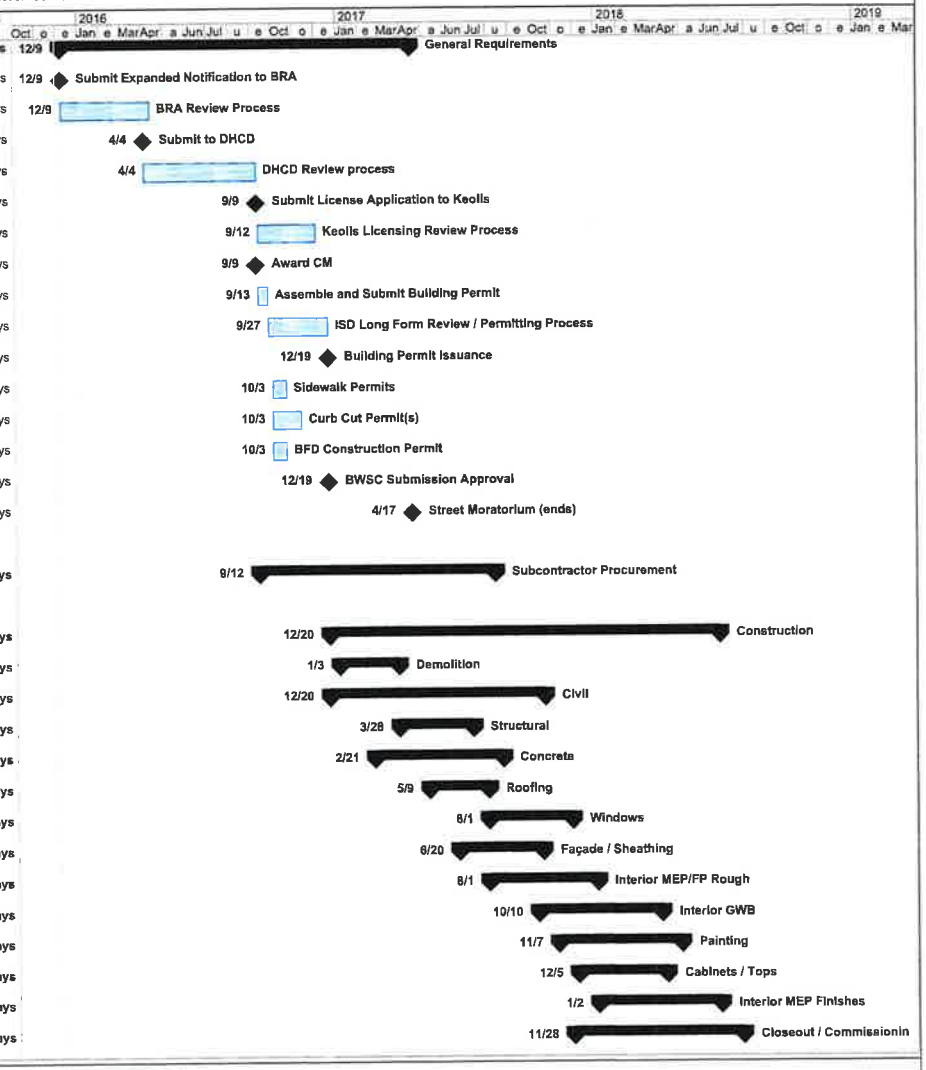
Project No.
14058

Date
11/24/2015

Sheet No.
14
SHADOW STUDY

Bilt-Rite Construction
Copley Village Development
820 Cummins Highway, Mattapan
Preliminary Procurement and Construction Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Free Slack
1	**General Requirements**	**353 days**	**Wed 12/9/15**	**Mon 4/17/17**			**83 days**
2	Submit Expanded Notification to BRA	0 days	Wed 12/9/15	Wed 12/9/15			0 days
3	BRA Review Process	90 days	Wed 12/9/15	Tue 4/12/16	2		597 days
4	Submit to DHCD	0 days	Mon 4/4/16	Mon 4/4/16			0 days
5	DHCD Review process	115 days	Mon 4/4/16	Fri 9/9/16	4		0 days
6	Submit License Application to Keolis	0 days	Fri 9/9/16	Fri 9/9/16	5		0 days
7	Keolis Licensing Review Process	60 days	Mon 9/12/16	Fri 12/2/16	6		429 days
8	Award CM	0 days	Fri 9/9/16	Fri 9/9/16	5		0 days
9	Assemble and Submit Building Permit	10 days	Tue 9/13/16	Mon 9/26/16	8FS+1 day		0 days
10	ISD Long Form Review / Permitting Process	60 days	Tue 9/27/16	Mon 12/19/16	9		0 days
11	Building Permit Issuance	0 days	Mon 12/19/16	Mon 12/19/16	10		0 days
12	Sidewalk Permits	15 days	Mon 10/3/16	Fri 10/21/16	8FS+15 days		459 days
13	Curb Cut Permit(s)	30 days	Mon 10/3/16	Fri 11/11/16	8FS+15 days		444 days
14	BFD Construction Permit	15 days	Mon 10/3/16	Fri 10/21/16	8FS+15 days		459 days
15	BWSC Submission Approval	0 days	Mon 12/19/16	Mon 12/19/16	11SS		418 days
16	Street Moratorium (ends)	0 days	Mon 4/17/17	Mon 4/17/17			0 days
17							
18	**Subcontractor Procurement**	**240 days**	**Mon 9/12/16**	**Fri 8/11/17**			**51 days**
92							
93	**Construction**	**395 days**	**Tue 12/20/16**	**Mon 6/25/18**			**0 days**
94	**Demolition**	**60 days**	**Tue 1/3/17**	**Mon 3/27/17**			**0 days**
97	**Civil**	**219 days**	**Tue 12/20/16**	**Fri 10/20/17**			**0 days**
108	**Structural**	**75 days**	**Tue 3/28/17**	**Mon 7/10/17**			**0 days**
113	**Concrete**	**130 days**	**Tue 2/21/17**	**Mon 8/21/17**			**55 days**
121	**Roofing**	**60 days**	**Tue 5/9/17**	**Mon 7/31/17**			**258 days**
126	**Windows**	**85 days**	**Tue 8/1/17**	**Mon 11/27/17**			**168 days**
131	**Façade / Sheathing**	**85 days**	**Tue 6/20/17**	**Mon 10/16/17**			**0 days**
136	**Interior MEP/FP Rough**	**110 days**	**Tue 8/1/17**	**Mon 1/1/18**			**0 days**
141	**Interior GWB**	**125 days**	**Tue 10/10/17**	**Mon 4/2/18**			**0 days**
146	**Painting**	**125 days**	**Tue 11/7/17**	**Mon 4/30/18**			**0 days**
151	**Cabinets / Tops**	**90 days**	**Tue 12/5/17**	**Mon 4/9/18**			**78 days**
156	**Interior MEP Finishes**	**125 days**	**Tue 1/2/18**	**Mon 6/25/18**			**0 days**
161	**Closeout / Commissioning**	**173 days**	**Tue 11/28/17**	**Thu 7/26/18**			**0 days**



Project: Cote Village Preliminary Procu
Date: Mon 11/30/15

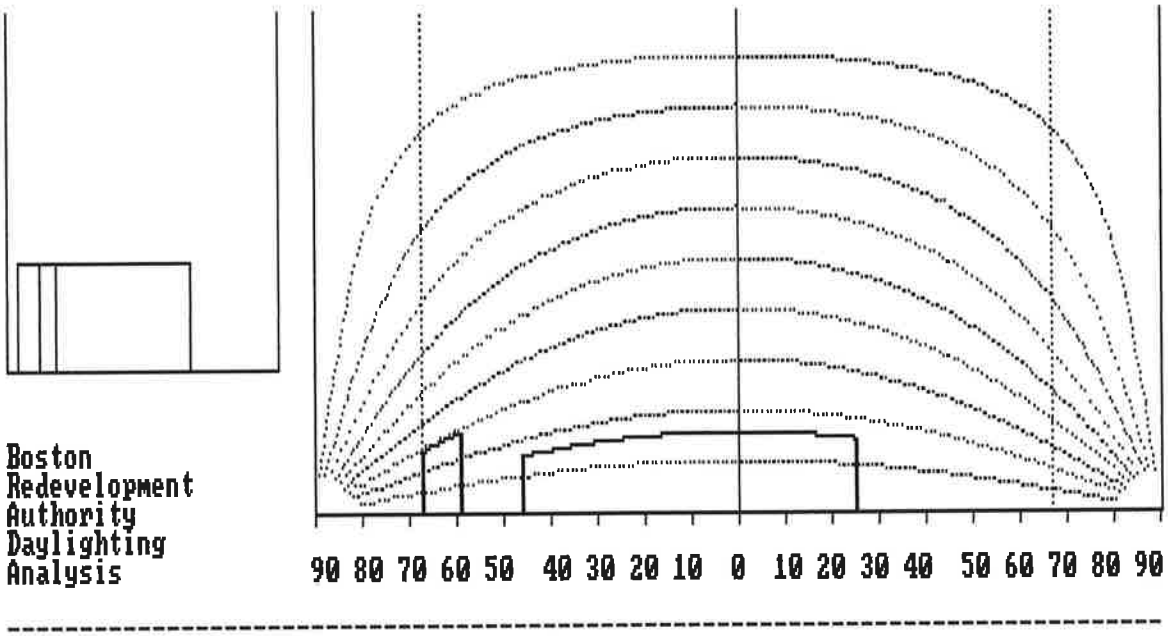
Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

4.1.2 Conclusions

Given that the Project consists of structures of a relatively low height, shadow impacts associated with the Project are minimal. Typical of a densely built urban area, some new shadow will be cast on the surrounding streetscapes and may also be periodically cast on two local bus stops along Washington Street. No new shadow from the Project will fall on the existing nearby bus stop.

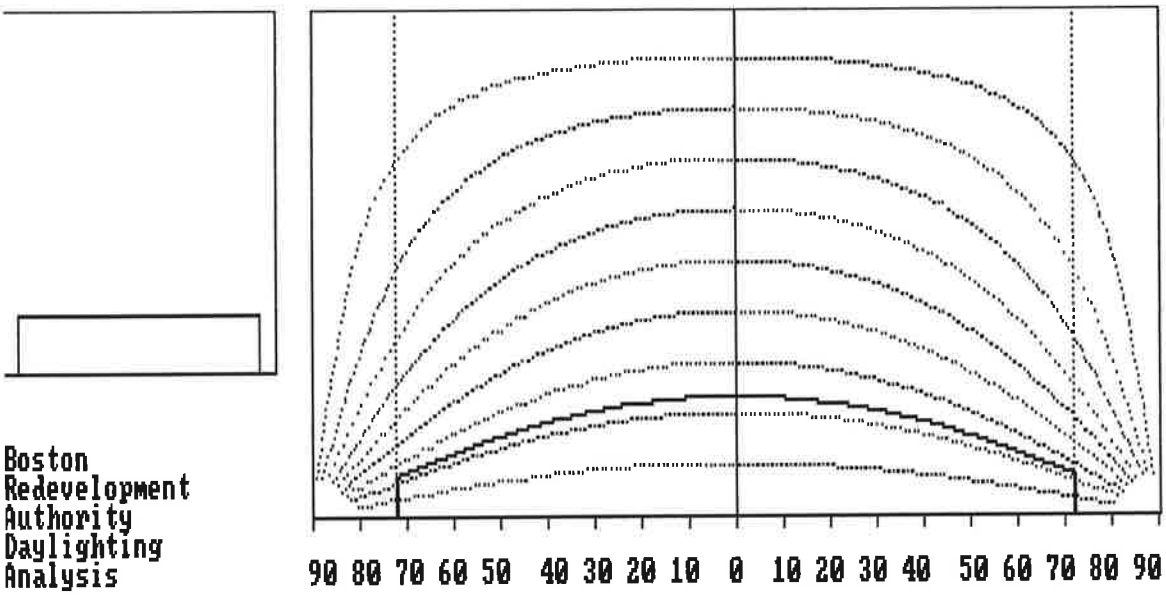
Existing

Viewpoint 1



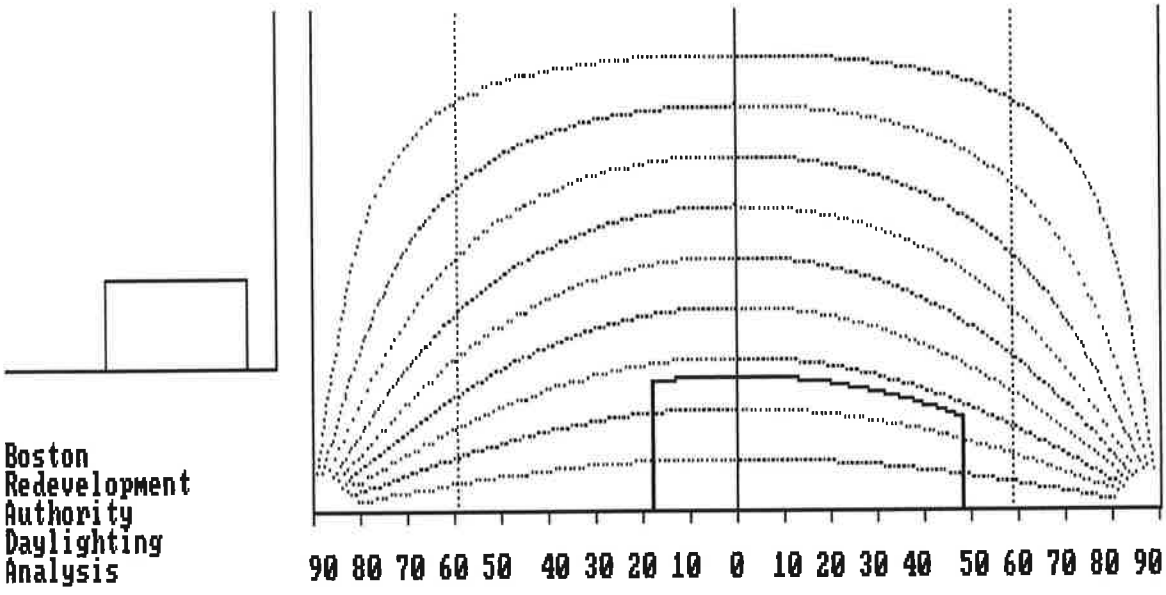
Obstruction of daylight by the building is 11.5 %

Viewpoint 2



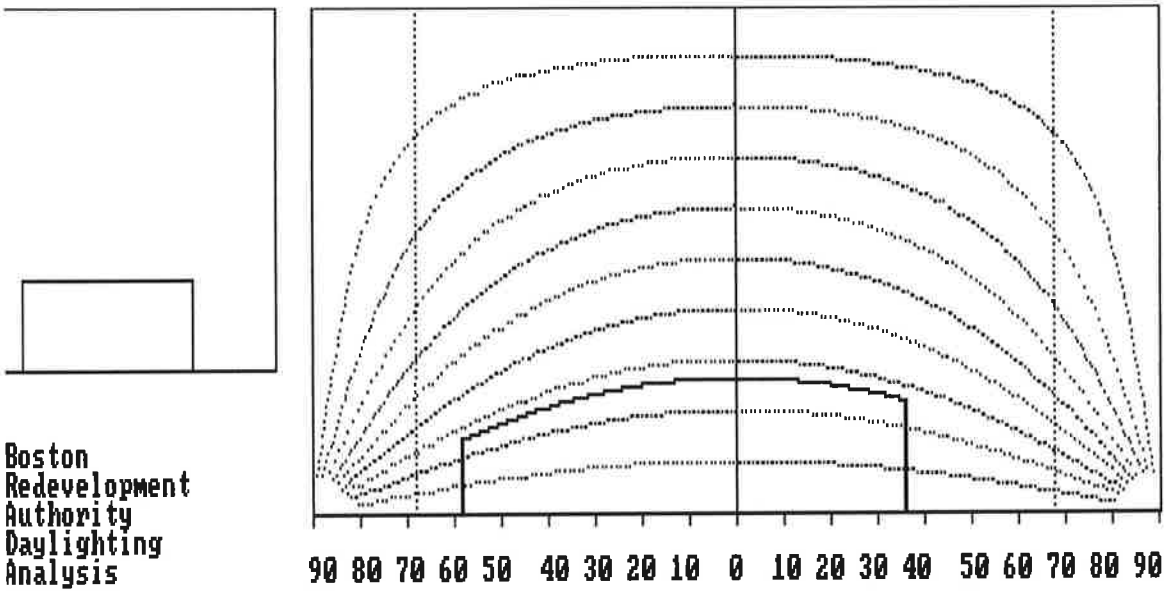
Obstruction of daylight by the building is 23.3 %

Viewpoint 3



Obstruction of daylight by the building is 14.9 %

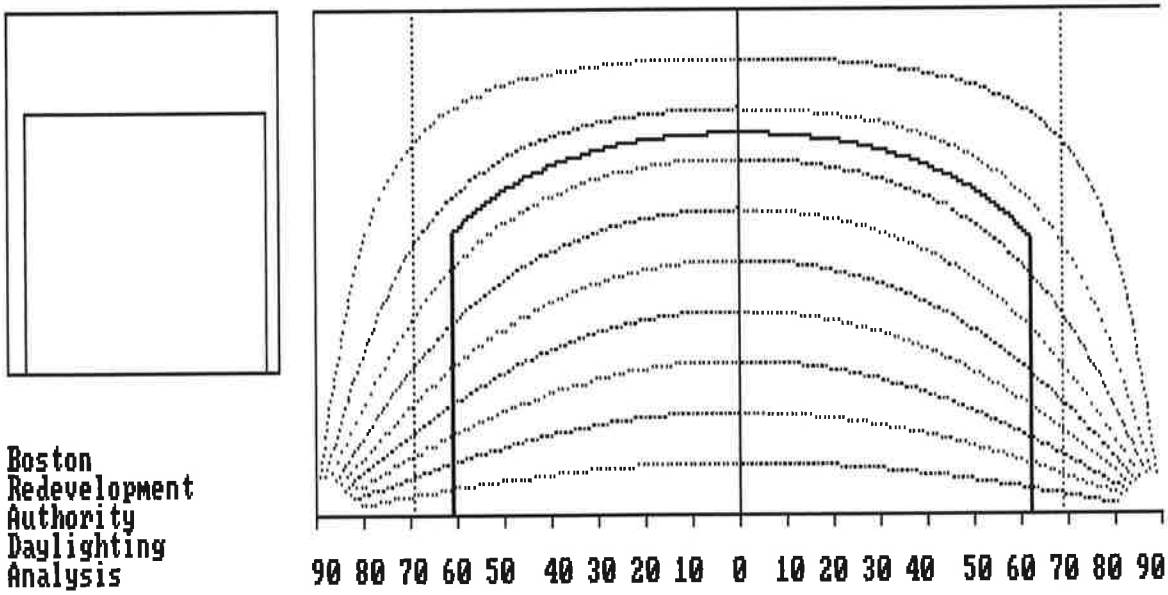
Viewpoint 4



Obstruction of daylight by the building is 18.5 %

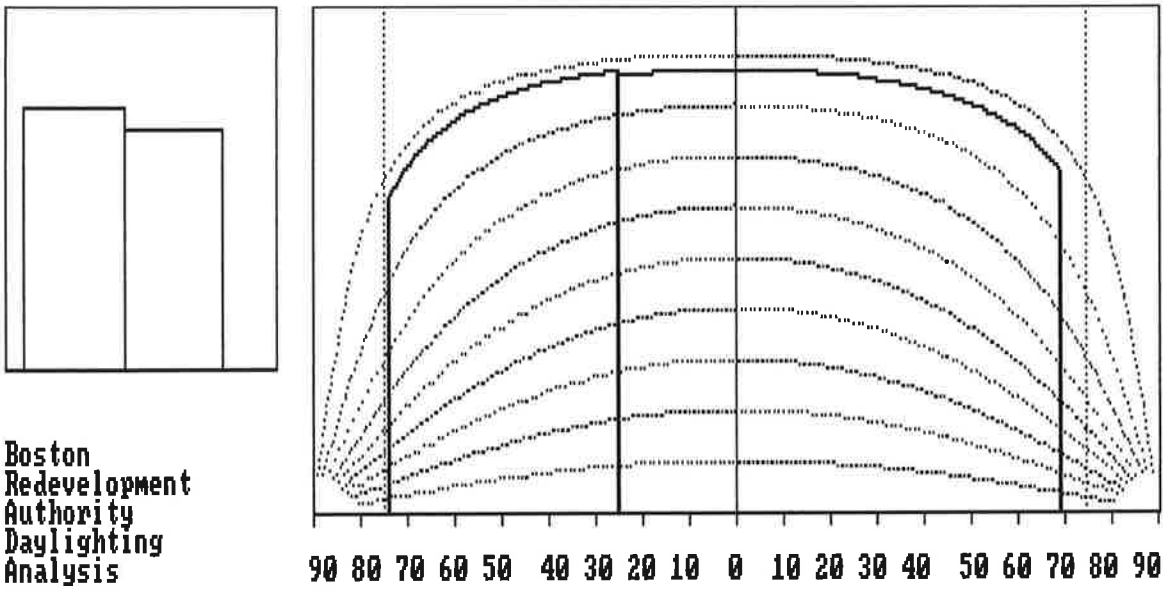
Proposed:

Viewpoint 1



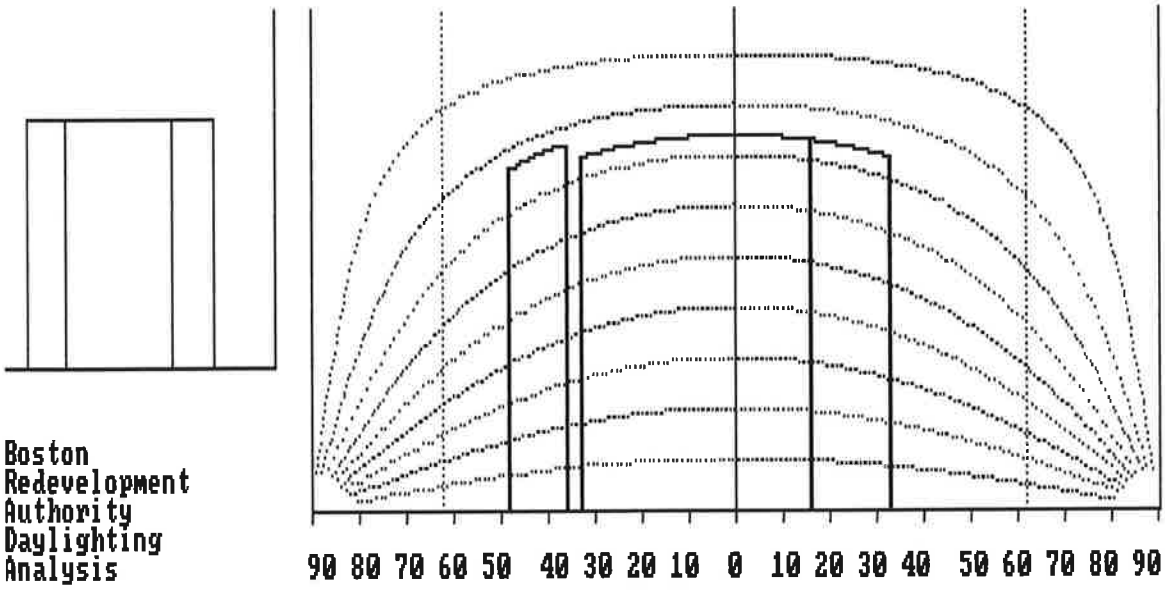
Obstruction of daylight by the building is 67.6 %

Viewpoint 2



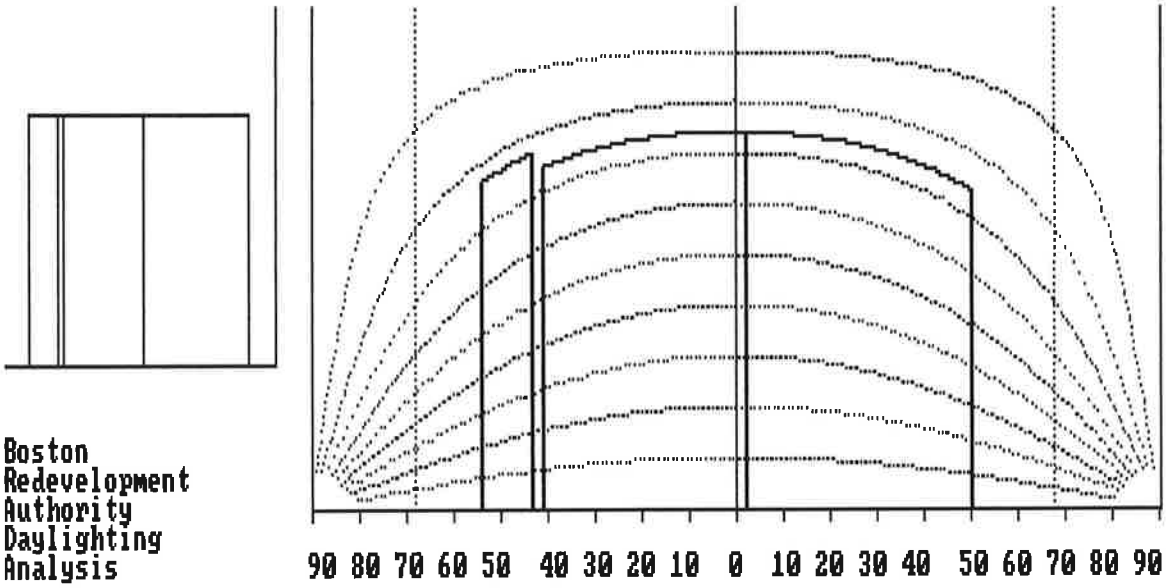
Obstruction of daylight by the building is 84.2 %

Viewpoint 3



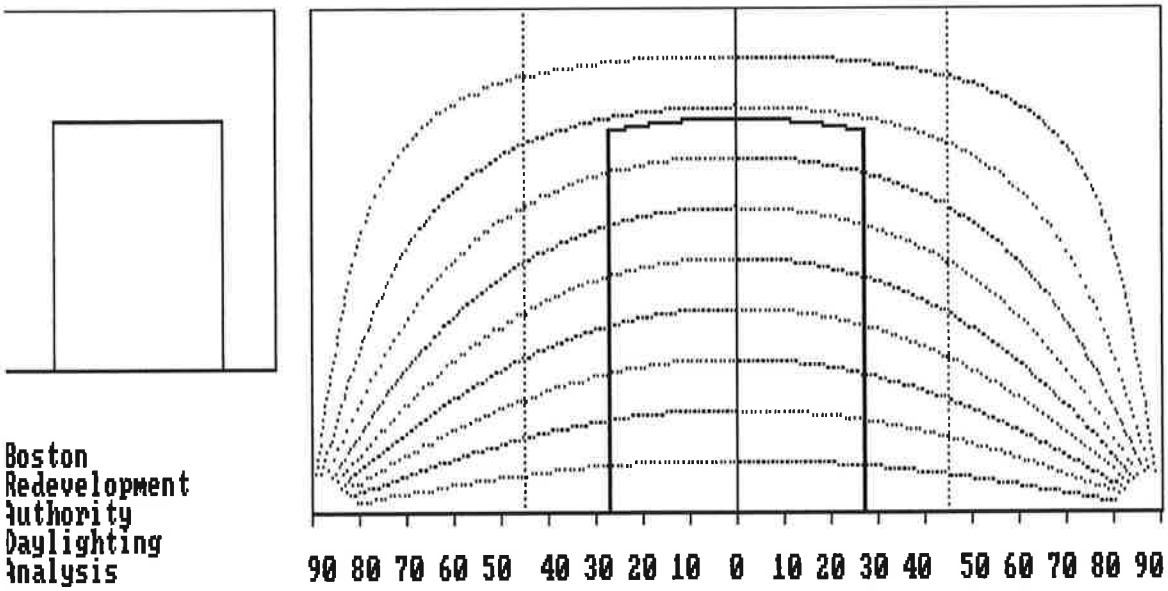
Obstruction of daylight by the building is 56.0 %

Viewpoint 4



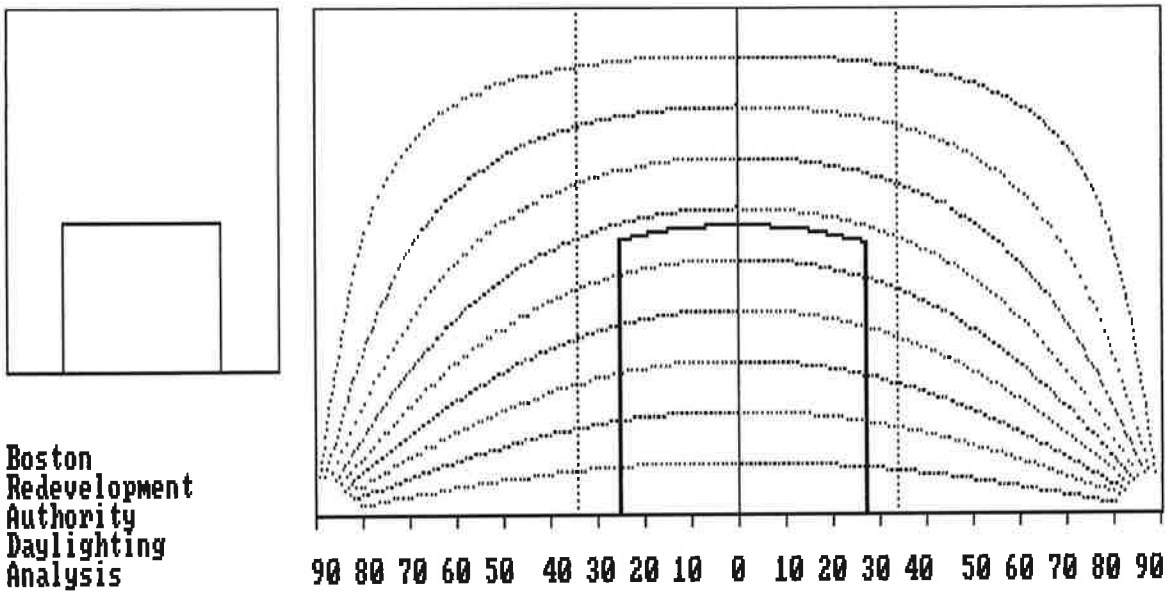
Obstruction of daylight by the building is 66.1 %

Viewpoint 5



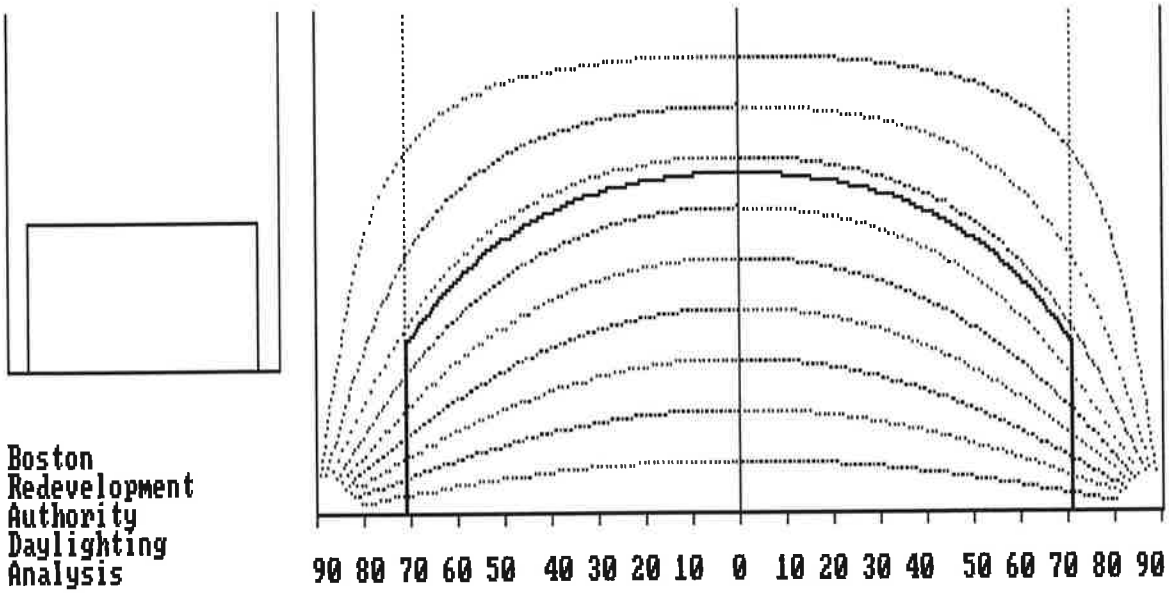
Obstruction of daylight by the building is 46.9 %

AC 1



Obstruction of daylight by the building is 43.9 %

AC2



Obstruction of daylight by the building is 66.9 %

4.2. Solar Glare

Less than 40 percent of the proposed new south-facing mixed use structure on Cummins Highway office building's exterior elevations will be glazed. No reflective glass will be used, however, so the Proposed Project is not expected to cause any solar glare impacts on the roadway or any surrounding buildings or pedestrian areas. Other proposed materials are low reflectance metal panels and other painted siding materials. The townhouse structures on Regis Road will be primarily clad in cementitious panel and clapboard siding, which is also very low reflectance.

Building details and design elements will be presented to the BRA and the Boston Civic Design Commission as the design schedule progresses. Should there be a design change toward using more reflective materials, then a solar glare analysis will be undertaken to evaluate whether this glazing will have any negative impacts on the surrounding areas.

4.3 Daylight Analysis

4.3.1 Introduction

The purpose of the daylight analysis is to estimate the extent to which a proposed project will affect the amount of daylight reaching the streets and the sidewalks in the immediate vicinity of a project site.

4.3.2 Methodology

The daylight analysis was performed using the Boston Redevelopment Authority Daylight Analysis (BRADA) computer program[4]. This program measures the percentage of sky-dome that is obstructed by a project and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site.

[4] Method developed by Harvey Bryan and Susan Stuebing, computer program developed by Ronald Fergle, Massachusetts Institute of Technology, Cambridge, MA, September 1984.

Using BRADA, a silhouette view of the building is taken at ground level from the middle of the adjacent city streets or pedestrian ways centered on the proposed building. The façade of the building facing the viewpoint, 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 analysis compares three conditions: Existing Conditions; Proposed Conditions; and the context of the area, including heights, setbacks, corners and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the building in the "sky dome" from the viewpoint chosen. The BRADA program calculates the percentage of daylight that will be obstructed on a scale of 0 to 100 percent based on the width of the view, the distance between the viewpoint and the

Five viewpoints were chosen to evaluate the daylight obstruction for the Existing and Proposed Conditions. Two area context points were considered to provide a basis of comparison to existing conditions in the surrounding area. The viewpoint and area context viewpoints were taken in the following locations and are shown on Figure 4.3-1.

- **Viewpoint 1:** View from Cummins Highway facing northeast toward the site of Building A.
- **Viewpoint 2:** View from Regis Road facing northwest toward the site of Building A.
- **Viewpoint 3:** View from Regis Road facing northwest toward the site of Building B.
- **Viewpoint 4:** View from Regis Road facing northwest toward the site of Building C.

- **Viewpoint 5:** View from Regis Road facing northwest toward the site of Building D.
- **Area Context Viewpoint AC1:** View from Regis Road facing southeast toward a residential building.
- **Area Context Viewpoint AC2:** View from Rexford Street facing southeast toward a residential building.

4.3.3 Results

The results for each viewpoint are described in Table 4.3-1. Figures 4.3-3 through 4.3-7 illustrate the BRADA results for each analysis.

Table 4.3-1 Daylight Obstruction Values

Viewpoint Locations		Existing Conditions	Proposed Conditions
Viewpoint 1	View from Cummins Highway facing northeast toward the site of Building A.	11.5%	67.6%
Viewpoint 2	View from Regis Road facing northwest toward the site of Building A.	23.3%	84.2%
Viewpoint 3	View from Regis Road facing northwest toward the site of Building B.	14.9%	56.0%
Viewpoint 4	View from Regis Road facing northwest toward the site of Building C.	18.5%	66.1%
Viewpoint 5	View from Regis Road facing northwest toward the site of Building D.	N/A	46.9%
Area Context Points			
AC1	View from Regis Road facing southeast toward a residential building.	43.9%	N/A
AC2	View from Rexford Street facing southeast toward a residential building.	66.9%	N/A

Cummins Highway – Viewpoint 1

Viewpoint 1 was taken from Cummins Highway looking northeast toward the site of Building A. The existing condition includes a one-story building that occupies a portion of the site with the remainder of the site undeveloped, which results in a low daylight obstruction value of 11.5%. In the proposed condition, the taller portion of Building A will occupy the entire site along Cummins Highway, resulting in a daylight obstruction value higher than existing conditions at 67.6%. Although Building A will be taller than the buildings in the surrounding area, the daylight obstruction value will similar to the surrounding area context.

Regis Road – Viewpoints 2-6

Viewpoints 2 through 6 were taken from Regis Road looking northwest toward the sites of Buildings A, B, C and D. The existing condition along Regis Road consists of several one and two-story buildings, with large portions of the site undeveloped, resulting in low daylight obstruction values ranging from 14.9% at viewpoint 3, which is looking toward the site of Building B, to 23.3% at Viewpoint 2, which is looking toward the site of Building A. At Viewpoint 5, which is facing toward the site of Building D, the site is undeveloped and there is no daylight obstruction under the existing condition. In the proposed condition, the daylight obstruction values range from 46.9% at Viewpoint 3 to 84.2% at Viewpoint 2. Overall, the daylight obstruction values of the proposed conditions will be similar to the surrounding area, with the exception of Viewpoint 2, which will be higher than the surrounding context.

Area Context

Three area context points were chosen in the area as shown in Figure 4.3-1. These viewpoints are generally representative of the area, and have daylight obstruction values ranging from 43.9% to 66.9%.

4.3.4 Conclusion

The Project will replace one and two-story buildings surrounded by pavement with four new buildings, surrounded by new open spaces. The development will create new spaces between buildings, creating views of the sky, but also includes taller structures than the existing buildings. The existing daylight obstruction values range from 0% to 23.3%. The proposed development will result in daylight obstruction values ranging from 46.9% to 84.2%. These daylight obstruction values are not inconsistent with the surrounding area and similarly developed areas around Boston.

4.4 Air Quality

Given the size of the project and anticipated minimal traffic impacts, the Proponent has made a preliminary determination that an Air Quality analysis is not required.

4.5 Soil and Hazardous Waste

GZA GeoEnvironmental, Inc. (GZA) completed a Phase I Environmental Site Assessment (ESA) of the Cote Village project during September 2015 in general accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Phase I Environmental Site Assessments, E 1527-13 (ASTM 1527-13). The objective of the Phase I ESA was to render an opinion as to whether surficial or historical evidence indicates the presence of recognized environmental conditions which could result in the presence of hazardous materials in the environment, as defined in the ASTM 1527-13. Background information regarding the Site history and compliance with the Massachusetts Contingency Plan (MCP) is included in the following subsections.

4.5.1 Hazardous Waste

At the time of GZA's Site reconnaissance during September 2015, no areas of active chemical use or storage were observed. Chemical use and storage common of auto repair shops would have included various types of petroleum products, lubricants, antifreeze, degreasers (solvents)/cleaners, etc.

Historic information indicated that 30-32 Regis Road previously utilized a 1,000-gallon fuel oil underground storage tank (UST) that was removed during 1997 and a 1,000-gallon gasoline UST that was removed during 1986. Information further indicated that 820 Cummins Highway previously utilized a 5,000-gallon waste oil UST, a 2,000-gallon No. 2 heating oil UST, and a 1,000-gallon gasoline UST, all of which were removed during 1995.

An apparent UST fill port and two apparent vent ports were observed by GZA during the September 2015 Phase I ESA proximate to the southern corner of the 30-32 Regis Road building in the vicinity of the former USTs. An apparent UST vent port was also observed on the outer edge of the automobile ramp located on the northeastern side of the 820 Cummins Highway building. No historical information was identified by GZA that documented USTs in these areas; however, based on the observations, GZA concluded that additional USTs of unknown contents may be present. Further evaluation of the potential for additional USTs may be necessary at the Site. Therefore, the Proponent proposes that GZA will evaluate all results of the 2002 Rizzo Associates Assessment and the TRC

Assessment of 2013/2014, and work with the Project Architect to incorporate other necessary remedial measures that may be required into the project design and construction documents on the basis of their evaluation. To the extent that any additional areas of contamination are uncovered, the BRA and/or MassDEP (based on the applicable requirements of the MCP) will be notified as appropriate.

4.5.1.1 Site History and Compliance with the Massachusetts Contingency Plan

Historical sources indicate that 30-32 Regis Road was first developed prior to 1908 with the Mattapan Express depot, and then with an automobile service garage circa 1930. 820 Cummins Highway and the Cummins Highway and Regis Road parcels were undeveloped until 1950 when an automobile sales and service building was constructed on 820 Cummins Highway and a parking lot for vehicle storage was constructed on the other two parcels. The garage addition with street-level parking on the roof at 820 Cummins Highway was constructed during 1968. Activities at
the Site have included automobile sales, service, display, and storage and bus parking and service. Ownership of the Site parcels was combined between 1960 and 1965, and the Site was vacated circa 1993. The City of Boston acquired the title to the Site parcels during 2010 and 2011 through tax title taking.

The environmental releases at the Site historically have been identified by two Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Numbers (RTNs) including:

- RTN 3-13055 associated with a release of petroleum constituents to soil and groundwater that were identified during the removal of three USTs northwestern side of 820 Cummins Highway between the building and the railroad to the 820 Cummins Highway building; and
- RTN 3-13582 associated with a release of petroleum constituents to soil that were identified during an investigation east of the 30-32 Regis Road building.

RTN 3-13055 was closed on October 24, 1996 by linking it with RTN 3-13852. RTN 3-13852 was closed with a Class A-3 Response Action Outcome (RAO) Statement and Activity and Use Limitation (AUL) initially submitted on August, 13 1997 and amended by a Licensed Site Professional (LSP) Opinion in 2002. The AUL presents restricted activities, acceptable activities and obligations in three distinct areas of the property. Under the revised Massachusetts Contingency Plan (MCP), an A-3 RAO is now referred to as a Permanent Solution with Conditions.

The following provides a brief summary of the historical impacts to Site soil and groundwater and the remedial measures taken to protect human health and the environment.

- Numerous investigations have taken place at the Site since the mid-1980s. Subsurface investigation analyses identified variable concentrations of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH) in soils and groundwater, the source of which included the former USTs and Site operations. Soil contamination from petroleum hydrocarbons and PAHs appeared to be limited to localized areas immediately north and west of the 820 Cummins Highway building and immediately south and east of the 30-32 Regis Road building. Groundwater contamination by petroleum hydrocarbons was identified in these same areas and also beneath the 820 Cummins Highway building.
- Remedial actions have included targeted petroleum-contaminated soil excavation and off-Site disposal in impacted areas. It was concluded that residual contamination present in the subsurface was not homogeneously distributed, but limited within the boundaries of three distinct areas (A through C) at the Site. It was further concluded that these areas were not readily amenable to standard in-situ remediation techniques and that an AUL was an appropriate institutional control to manage the potential risk of exposure to residual contamination based on anticipated future uses of the Site.

AUL Area A is located in the southwestern corner of 30-32 Regis Street, encompassing the location of the removed USTs. AUL Area B is located proximate to the northeastern corner of the 820 Cummins Highway building, encompassing the location of the removed USTs. AUL Area C is located in the southern corner of 820 Cummins Highway, beneath the two-level garage portion of the building. Refer to **Figure 4.5.1** for an illustration of restricted areas designated by the AULs.

- An "Amended Licensed Site Professional Opinion for Activity and Use Limitation" was prepared by Rizzo Associates, Inc., (Rizzo) and dated May 31, 2002 in which it was concluded that *"[t]he results of a Method 3 Risk Characterization indicate that restrictions on activities and uses of the three designated AUL areas are required to achieve and maintain a condition of No Significant Risk."* According to Rizzo, *"[r]estricted activities and uses within the three AUL areas at the Site apply to the subsurface soils between the pavement and the groundwater table, which are approximately four feet below the ground surface. Restricted activities and uses included those that involve direct contact with subsurface soils or result in transport of contaminants in soil to other media via excavation of soils or removal of the existing asphalt or concrete foundation/floors which will result in sub-chronic exposures of petroleum hydrocarbon vapors to construction workers."*

- The City of Boston conducted Phase II Environmental Site Assessments in 2013 and 2014 in order to assess current conditions. Soil, groundwater, and soil gas were tested at the Site, focusing on the three AUL areas. The purpose of the investigations was to provide an understanding of remedial measures that may be required in order to eliminate or modify the AUL for redevelopment of the Site.

  The data is presented in two Phase II Site Assessment Reports prepared by TRC Environmental Corporation (TRC) dated February 2013 and February 2014. After resampling of nine groundwater monitoring wells at the Site in December 2012, TRC concluded that *"[c]oncentrations of analyzed constituents were not detected above MCP GW-2 or GW-3 standards."* However, since TRC's groundwater sampling event in 2012, some of the MCP GW-2 standards were revised including trichloroethylene (TCE). The GW-2 standard for TCE was revised in 2014, and at one location, the 2012 groundwater monitoring results were below the standards in effect at the time, but would exceed the current standard for TCE. Further evaluation of groundwater quality relative to TCE is ongoing.

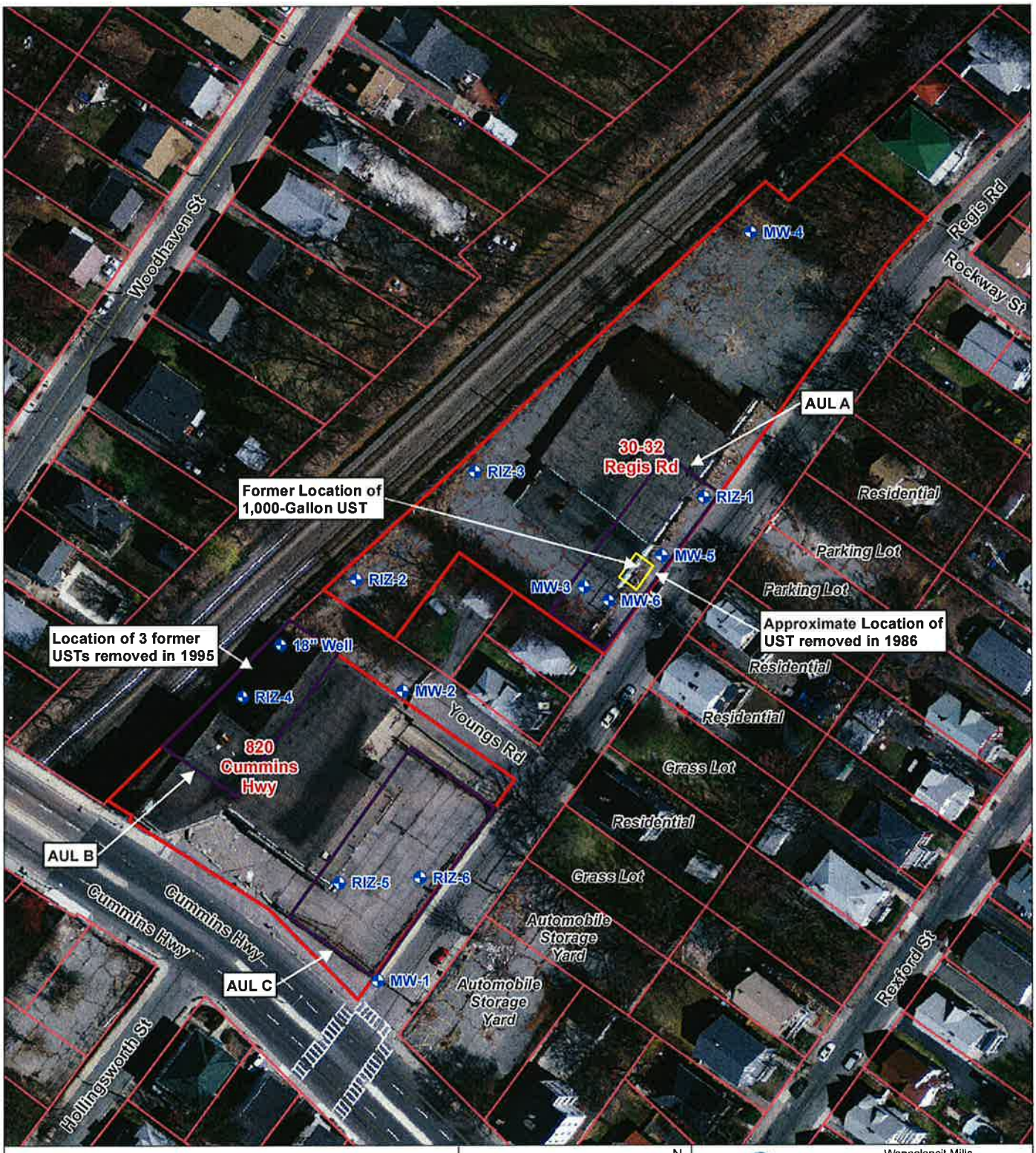
  In January 2014, TRC conducted an evaluation of soil and sub-slab soil gas conditions at the Site. Several volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbon (EPH) constituents were detected at

Image Provided By DigitalGlobe

GZA GeoEnvironmental, Inc.

FIGURE 4.5.1 - SITE PLAN
COTE FORD SITE
820 Cummings Highway and 30-32 Regis Road
Boston, Massachusetts

PREPARED FOR: POUA
PROJ. MGR: TPJ
DRAWN BY: TPJ
DATE: August 2015
PROJ. #: 04.0190309.01



Approximate Site Boundary
Area of RAM Excavation
Existing Monitoring Well
Parcel Boundary
Approximate AUL Boundaries

Orthophotography: MassGIS/USGS, 2009

0 25 50 75 Feet

N

MASSACHUSETTS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

SITE PLAN

FORMER COTE FORD SITE
820 CUMMINS HIGHWAY
AND 30-32 REGIS ROAD
MATTAPAN, MA

FIGURE 2 | **JANUARY 2013**

R:\Projects\GIS_2012\178226_CoteFord_Mattapan\mxd\Fig2_SitePlan_CumminsHwy_2013_01_08.mxd

concentrations exceeding the MCP Method 1 S-1 standards in several of the soil samples. In addition, naphthalene was detected above its respective MCP residential screening criteria, but below commercial/industrial standards in one of the three sub-slab soil vapor samples. No other analyzed constituents were detected above residential and commercial/industrial screening criteria. Consideration of the potential for and mitigation of vapor intrusion into buildings at the Site is being addressed as part of the construction design phase.

As part of Site redevelopment and in accordance with the AUL for the Site, a soil and groundwater management plan will be required that outlines procedures for managing soils and groundwater anticipated to be disturbed during construction. Depending upon the final construction plans, phasing and sequencing, possible additional remedial actions by the owner may be taken.

4.5.2 Solid and Hazardous Waste Generation

At the time of GZA's Site reconnaissance, no areas of active chemical use or storage, or waste generation areas were observed. Chemical use and storage common of auto repair shops would have

included various types of petroleum products, lubricants, antifreeze, degreasers (solvents)/cleaners, waste paint, etc. Typical waste streams generated at automotive repair facilities would have included waste oil and used oil filters, waste antifreeze, spent brake washing solvent/brake pads, equipment cleaning / spent solvents, spent batteries, and used shop rags/towels.

4.6 Noise & Vibration

The findings of the Noise Impact Analysis conducted by Acentech (attached as Appendix C) indicate that the project site will experience significant noise impacts based on its close proximity to the MBTA Commuter Rail. The Proponent plans to confer with the MBTA and MassDOT regarding collaborative efforts to mitigate noise impacts primarily by evaluating design measures to upgrade select facades (walls and windows) in compliance with HUD requirements. It is anticipated that these discussions will take place throughout the design process. The Proponent further commits to take all action necessary to ensure that mitigation measures are included in the final design so as not to delay advancement of the project to construction, even if this requires funding the mitigation upfront and seeking reimbursement from the MBTA and MassDOT subsequent to construction start.

The findings of the Vibration Analysis conducted by Acentech (attached as Appendix D) indicate that the operation of the MBTA Commuter Rail Trains will have minimal vibration impacts on the site and the project.

4.7 Storm Drainage System

The existing Project site consists primarily of impervious area including paved parking lots and two buildings. The existing closed drainage systems discharges to the Boston Water and Sewer Commission (BWSC) storm drain mains in Cummins Highway and Regis Road. The proposed project is expected to slightly increase the amount of impervious area on site. The site is tributary to the Neponset River. The proposed stormwater management system will collect site runoff and recharge 1-inch over the project's impervious area to the greatest extent practicable and in accordance with the BWSC's current stormwater requirements.

Refer to section 8.3 for a more detailed overview of the existing condition and proposed impacts to the storm drainage system.

4.8 Flood Hazard Zones/Wetlands

Floodplain information for the Project site was obtained from the Flood Insurance Rate Map (FIRM) community map number 25025C0088G, effective date September 25, 2009. The site is within a Zone X, which is identified as an area outside the 100-year floodplain. Therefore there are no permits required with respect to the floodplain. See Figure 4-8-1 for the FEMA Flood Map.

4.9 Geotechnical Impacts

A site-specific boring program and accompanying geotechnical engineering report has been completed by GZA prior to this filing, and an overview of the overall project site has been included in this document. Background information regarding the geotechnical characteristics of the site is included in the following subsections.


APPROXIMATE PROJECT AREA
MAP SCALE 1" = 500'
250 0 500 1000
FEET
METE
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0088G
FIRM
FLOOD INSURANCE RATE MAP
SUFFOLK COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)
PANEL 88 OF 151
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
BOSTON, CITY OF 250286 0088 G
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
25025C0088G
EFFECTIVE DATE
SEPTEMBER 25, 2009
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FIGURE 4-~~3~~1

4.9.1 Subsurface Soil and Bedrock Conditions

Based on a review of the subsurface soils data collected by GZA, the generalized subsurface profile in the area of the proposed development (outside of the limits of the existing buildings) is anticipated to consist of about 2 to 4 inches of asphalt or concrete, underlain by greater than 2.2 feet to 24 feet of sand and gravel (loose to very dense, fine to coarse sand with varying amounts of gravel and silt), underlain by glacial till/weathered rock overlying bedrock.

Bedrock was cored in two test borings and poor quality (extremely fractured) Argillite and Granite was encountered, consistent with the United States Geological Survey maps of the area.

Bedrock was inferred in eight of the test borings (B-101, B-102, B-104, B-105, and B-107 through B-110) at depths ranging from 5.5 to 19 feet below existing grades.

Bedrock outcrops are visible at the north corner of the Site along Regis Road and along the railroad corridor. Based on this information and previous and current test boring findings, bedrock is likely at or very close to the ground surface across the Site and it appears that the bedrock elevation rises from the south to the north.

4.9.2 Groundwater

The depth-to-groundwater measurements performed by TRC in December 2012 ranged from about 2.8 to greater than 14 feet below ground surface (bgs) in the vicinity of proposed Building A, and about 4 to 9.2 feet bgs in the vicinity of proposed Buildings B through D. The closest well to proposed Building E is MW-1, where groundwater was not encountered to the bottom of the well at 14 feet bgs.

The depth to groundwater measured by GZA field personnel in existing groundwater monitoring well MW-5 was about 10.4 feet bgs. The water level reported in MW-5 in December 2012 was at 5.8 feet bgs, about 4.6 feet higher than the current observed water level. The difference is likely due to the dry conditions experienced in the summer of 2015.

Groundwater levels will be influenced by rainfall, surface runoff, season, temperature, and other factors. As a result, groundwater levels observed during and following construction may vary from those observed in the explorations.

4.9.3 Project Impacts and Foundation Considerations

The sand and gravel, glacial till, and bedrock are considered competent bearing material for support of shallow foundations. Special considerations will need to be taken for the construction of foundations transitioning from bearing on soil to bearing directly on bedrock.

The existing building at 30-32 Regis Road is present over a portion of the proposed locations of Buildings B and C, and a layer of asphalt is present over much of the proposed 7-17 and 30-32 Regis Road Sites. The existing 30-32 Regis Road building foundations and asphalt should be fully removed from the areas of proposed Buildings B through E prior to constructing new foundations. Asphalt and concrete may be recycled or crushed on site and reused as subbase course below paved areas, provided it is performed in accordance with all applicable permits and regulations.

Bedrock is relatively shallow in the northeastern portion of the Site but was not encountered shallower than about 5.5 feet bgs within the proposed building limits. It should be noted that the bedrock surface is likely very irregular in elevation. Assuming the current development concept of shallow foundations, no basements or below-grade structures, and slab-on-grade construction, bedrock removal is not currently anticipated to be required for buildings but may be necessary for the installation of deeper subsurface utilities.

The depth to groundwater measured by TRC in 2012 across the Site ranged from about 2.8 to 6.5 feet bgs. Wide fluctuations in the elevation of the groundwater table are common in glacial till and bedrock because it is typically poorly drained. Although groundwater is shallow at the site, the shallowest depths recorded were in the vicinity of proposed Building A along Youngs Road where the current plan

is to incorporate the existing garage structure into the new buildings and new foundations are not currently anticipated. Typically, groundwater was observed at least 4 feet bgs across the remainder of the Site. Therefore, permanent foundation and underslab drainage is not anticipated to be required. The need for foundation drainage should be reevaluated in final design when site grades have been established.

Soil gas concentrations (see Section 4.5.1, above) were noted by TRC to exceed residential thresholds in the vicinity of proposed Buildings B through D. The need for a soil gas vapor barrier and sub-slab depressurization to limit soil gas intrusion into these buildings should be evaluated further.

4.10 Construction Impacts

4.10.1 Introduction

Cote Village is a proposed mixed-use development of 76 units of affordable housing and 4,172 square feet of commercial space, on what is currently an abandoned and dilapidated property. The project entails demolition of the existing superstructure of the former Cote Ford Dealership, and construction of a new (4) story residential building on the existing foundation, plus an additional (3) ground-up residential buildings, and associated hardscape and infrastructure improvements.

Proper pre-planning with the City and neighborhood will be essential to the successful construction of the Project. Construction methodologies, which ensure public safety and protect adjacent residences and businesses, will be employed. Techniques such as barricades, walkways and signage will be used.

During the construction phase of the Project, the Proponent will provide contact information, including a specific email address for abutters to communicate any issues they have as related to construction activity(s). This email can be configured to be delivered to multiple team members which will decrease the chances of issue(s) being overlooked.

The Proponent intends to follow the guidelines of the City of Boston and the MassDEP, which direct the evaluation and mitigation of construction impacts.

4.10.2 Construction Methodology / Public Safety

The site will be secured around the entire perimeter with a combination of temporary 6' foot high chain link fence, and / or existing fencing. During the day, fences will be configured for trucks and equipment to access the work. Cones, barrels, other and soft barriers will be employed to prevent pedestrians from accidentally entering the construction site. At night and during nonworking hours, the fences will be secured.

As the design of the Project progresses, the Proponent will meet with the Boston Transportation Department (BTD) to discuss the specific location of barricades, the need for lane closures, pedestrian walkways, and truck queuing areas. Secure fencing, signage and covered walkways may be employed to ensure the safety and efficiency of all pedestrian and vehicular traffic flows. In addition, sidewalk areas and walkways near construction activities will be well marked and lighted to protect pedestrians and ensure their safety. Public safety for pedestrians on abutting sidewalks will also covered pedestrian walkways when appropriate. If required by BTD and the Boston Police Department, police details will be provided to facilitate traffic flow. These measures will be incorporated into the Construction Management Plan (CMP) which will be submitted to BTD for approval prior to the commencement of construction work.

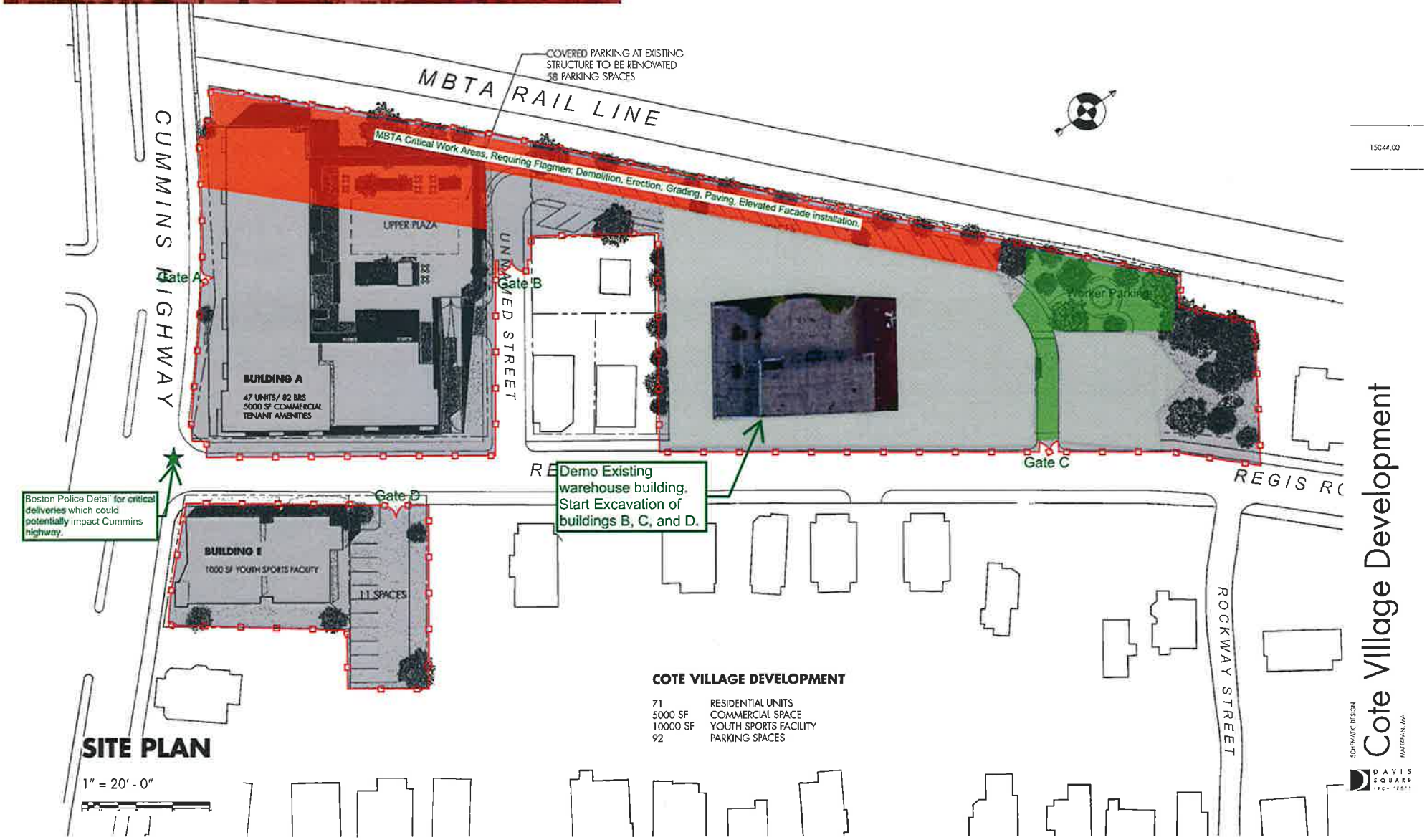
4.10.3 Construction Schedule

This project should entail roughly (18) months of active construction activity Presently, that period is scheduled to begin in the 4th quarter of 2016, which would allow for project completion approximately May of 2018.

Typical construction hours will be from 7:00am to 6:00 pm, Monday through Friday, with most shifts ordinarily ending at 3:30 pm. No substantial sound-generating activity will occur before 7:00 am. If longer hours, additional shifts, or Saturday work is required

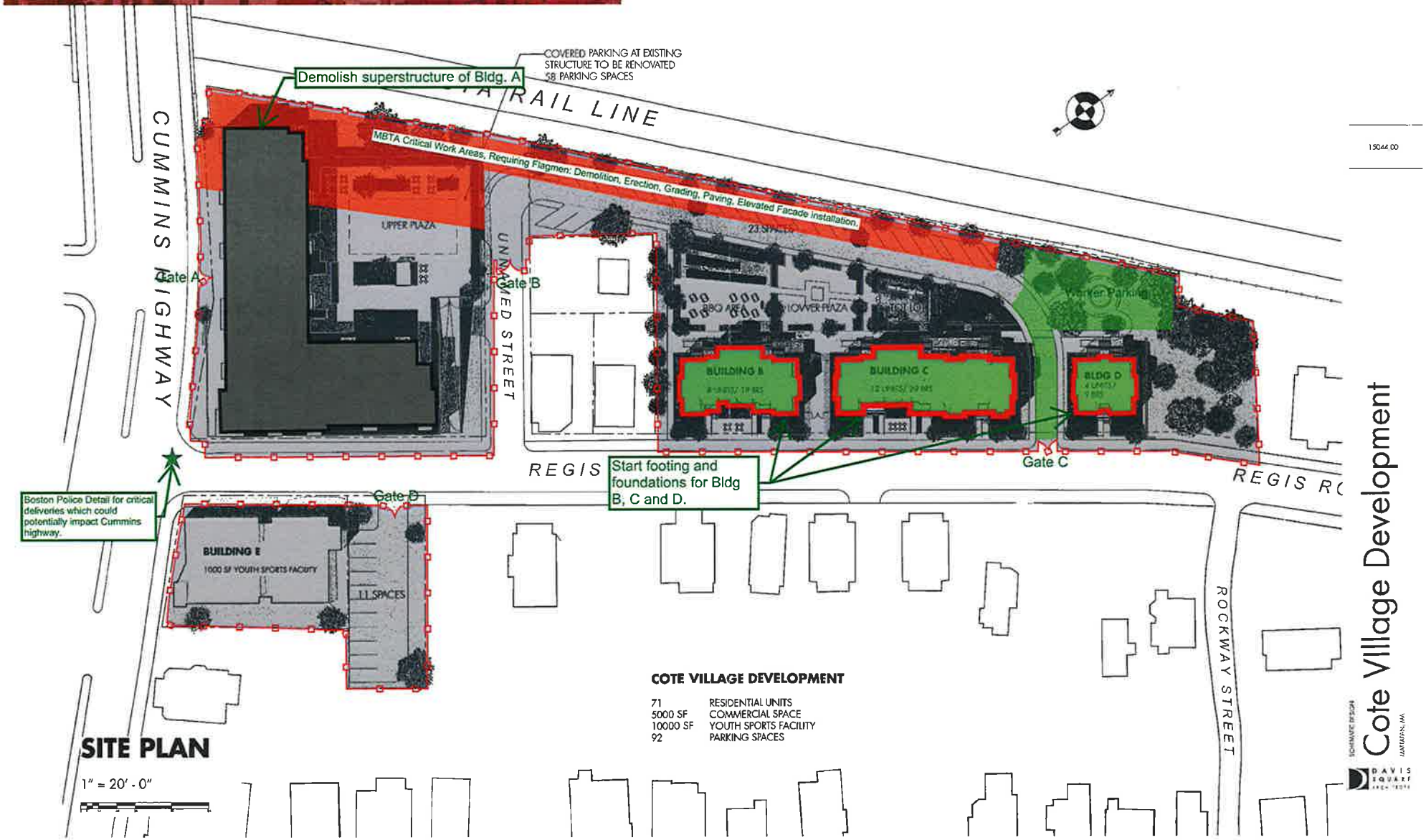
BILT-RITE
SINCE 1982

COTE VILLAGE DEVELOPMENT
Initial Mobilization and Demo



BILT-RITE
SINCE 1932

COTE VILLAGE DEVELOPMENT
Foundations and Demo



COTE VILLAGE DEVELOPMENT

71	RESIDENTIAL UNITS
5000 SF	COMMERCIAL SPACE
10000 SF	YOUTH SPORTS FACILITY
92	PARKING SPACES

SITE PLAN

1" = 20' - 0"

SCHEMATIC DESIGN
Cote Village Development
HAVERHILL, MA
DAVIS SQUARE ARCHITECTS

COTE VILLAGE DEVELOPMENT
Erect New Structures

Modify / Prepare existing Bldg A FDTN for new superstructure.

COVERED PARKING AT EXISTING STRUCTURE TO BE RENOVATED 58 PARKING SPACES

MBTA RAIL LINE

CUMMINS HIGHWAY

UNNAMED STREET

UPPER PLAZA

23 SPACES

BBQ AREA

LOWER PLAZA

BUILDING B

BUILDING C

BLDG D

Gate A

Gate B

Gate C

Gate D

REGIS ROAD

REGIS RO

Boston Police Detail for critical deliveries which could potentially impact Cummins highway.

Erect structure for Bldg B, C and D.

BUILDING E

1000 SF YOUTH SPORTS FACILITY

11 SPACES

ROCKWAY STREET

COTE VILLAGE DEVELOPMENT

71	RESIDENTIAL UNITS
5000 SF	COMMERCIAL SPACE
10000 SF	YOUTH SPORTS FACILITY
92	PARKING SPACES

SITE PLAN

1" = 20' - 0"

15044.00

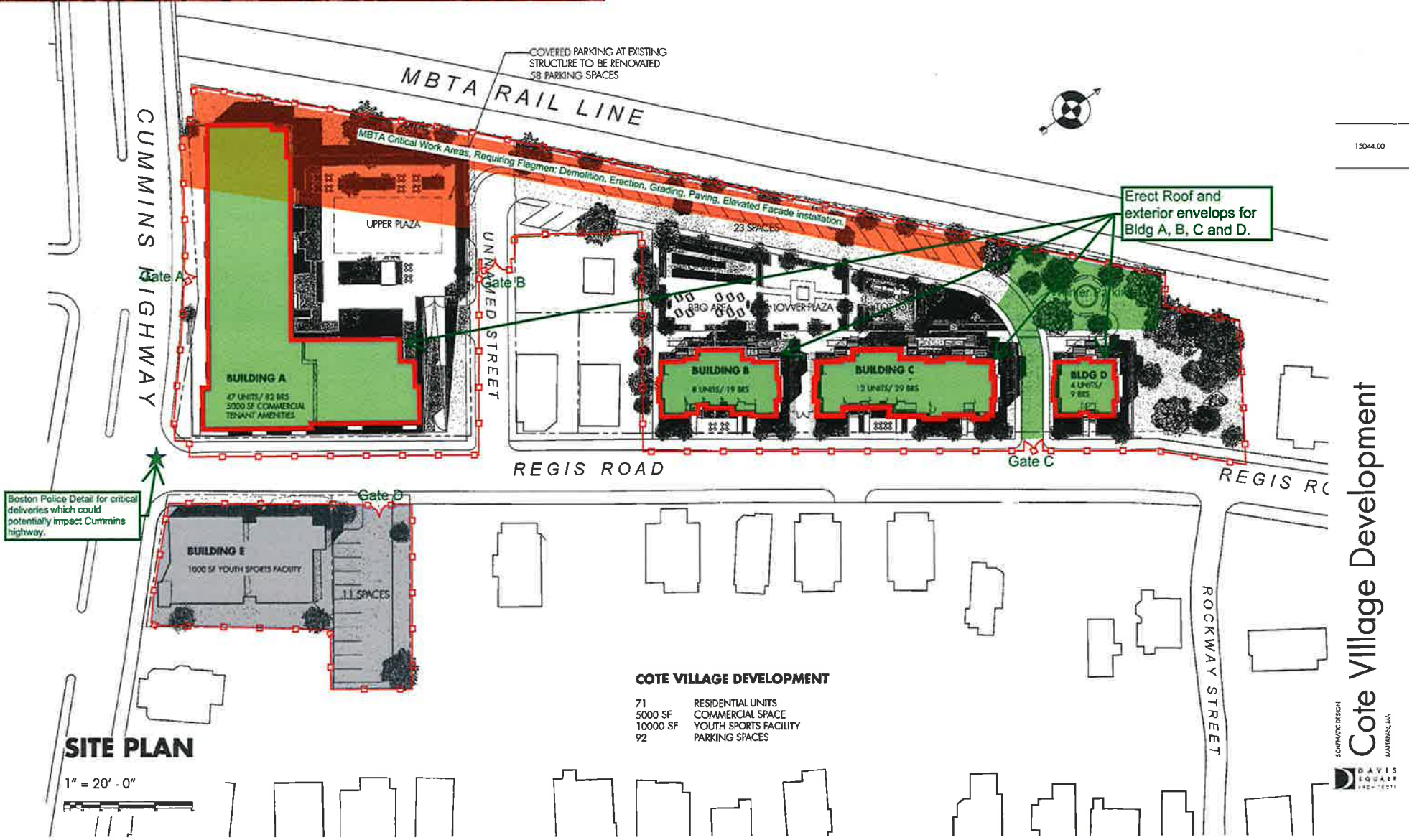
SCHEMATIC DESIGN

Cote Village Development

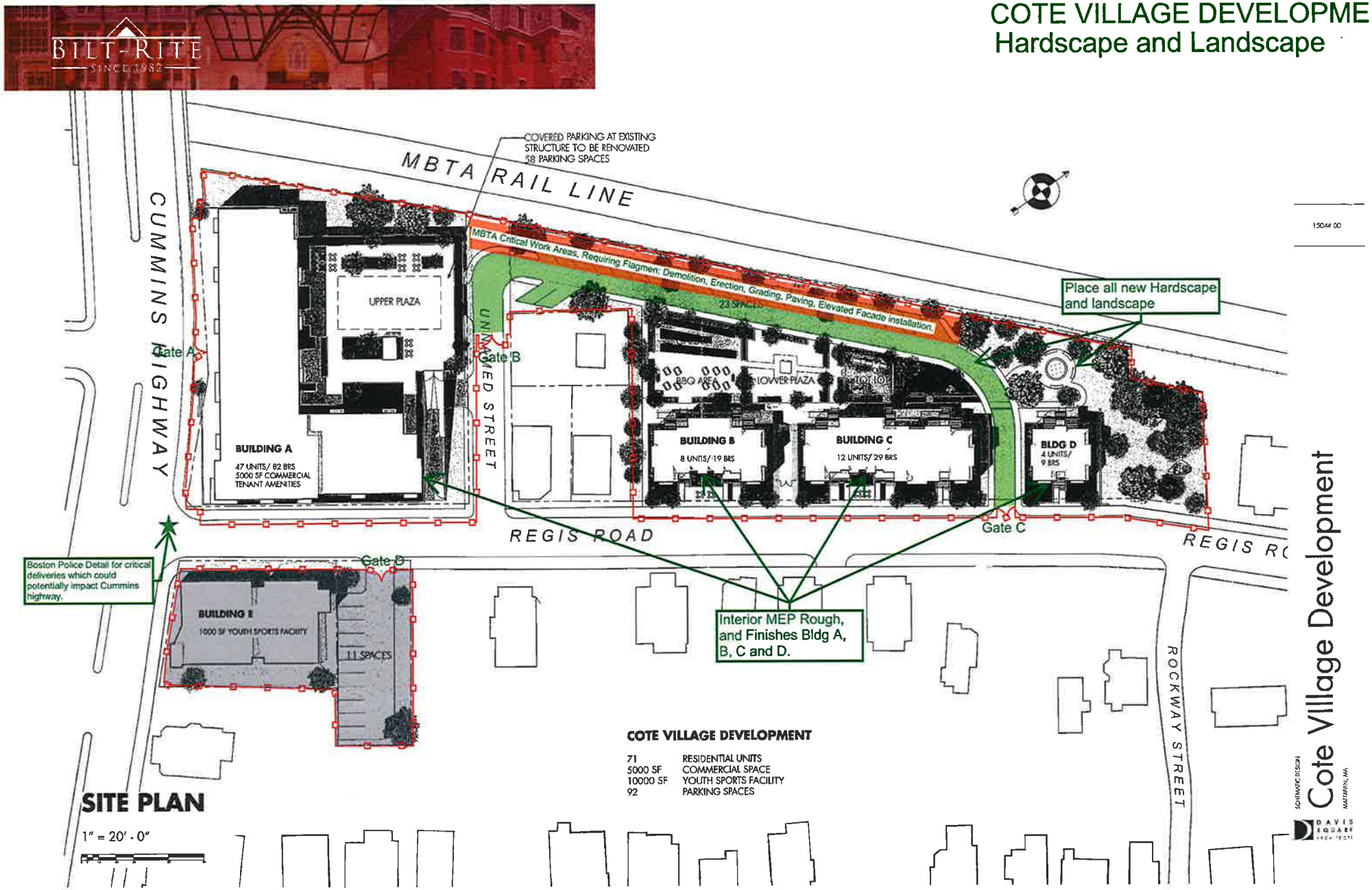
MATTAPAN, MA

DAVIS SQUARE ARCHITECTS

COTE VILLAGE DEVELOPMENT
Erect Facade and Envelope



COTE VILLAGE DEVELOPMENT
Hardscape and Landscape



the construction manager will place a work permit request to the City of Boston Inspectional Services Department in advance. Notification will occur during normal business hours, Monday through Friday. It must be noted that some activities such as finishing activities could run beyond 6:00 pm to ensure the structural integrity of the finished product, including certain components that must be completed in a single pour and placement of concrete, which cannot be interrupted.

4.10.4 Construction Staging / Access

Access to the site and construction staging areas will be included in the CMP. Although specific construction and staging details have not been finalized, the Proponent and the Construction Manager will work to ensure that staging areas will minimize impacts to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic adjacent to the site. Construction procedures will be designed to meet all Occupational Safety and Health Administration (OSHAS) safety standards for specific site construction activities.

4.10.5 Construction Mitigation

The Proponent will follow City of Boston and MassDEP guidelines which will direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent and construction team will evaluate the Commonwealth's Clean Air Construction Initiative.

A CMP will be submitted to BTD for review and approval prior to issuance of a Building Permit in accordance with City of Boston requirements. The CMP will provide detailed information on specific construction mitigation measures and construction methodologies to minimize impacts to abutters and the local community. The CMP will also define truck routes which will help to minimize the impact of truck traffic on neighborhood streets.

Also, "Don't Dump – Drains to Charles River" plaques will be installed at storm drains that are replaced or installed as part of the Project.

4.10.6 Construction Employment and Worker Transportation

The number of workers required during the construction period will vary with an estimated work force ranging from 10 workers during the foundation phase to as many as 40 workers during the peak of construction. Because the construction workers will be arriving and departing during off peak traffic periods, they are not expected to significantly affect traffic conditions in the project area. No project personnel will be allowed to park vehicles on public streets in the immediate area of the project. If needed, the project team will explore the option of a nearby off site parking area.

4.10.7 Construction Truck Routes and Deliveries

Truck traffic will vary throughout the construction period depending on the various phases of construction. Truck access to and from the project site will primarily utilize Cummins Highway, River Street, Adams Street, and I-93. Boston Police details will be utilized at the

corner of Cummins Highway and Regis Road for all activities and deliveries that could potentially inhibit traffic flow on Cummins Highway. All of these activities and deliveries will be coordinated to avoid morning rush hour between 7am and 9 am.

4.10.8 Construction Air Quality

Construction activities will potentially generate fugitive dust, which could result in localized increase in airborne particulate levels. Fugitive emissions from construction activities will depend upon a multitude of factors such as ambient humidity, recent weather patterns, and phase of construction. To mitigate dust emissions, the CM and all site related contractors will utilize the following measures:

- Water sprayers will be used regularly to control and suppress dust that may come from exposed excavations, chipping, sawing, etc.
- All trucks for transportation of construction debris will be tarped prior to departing the site. If trucks ever leave an asphalt surface, a wheel wash method will be established.
- No storage of construction debris will be allowed on site, other than in Dumpsters, which will be tarped over during non-working hours.

- Street cleaning will be provided on as needed basis. The frequency will vary through the different stages of work. The earlier stages of the project will require the highest frequency of street sweeping (demolition and excavation).

There is some potential that the project will create nuisance odors. The following methods will be used the CM to control nuisance odor emissions associated with earthwork:

- Pumping collected groundwater to sump locations.
- Covering stockpiles of excavated material with plastic sheeting.
- Maintaining the construction site free of trash, garbage, and debris.
- Turning off construction equipment not in active use for several minutes.

4.10.9 Construction Noise

Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures to be undertaken will include:

- Heavy and / or noisy equipment will not be started or utilized prior to 7:00 AM.
- Using appropriate mufflers on all equipment and on-going maintenance of intake and exhaust mufflers.

- Muffling enclosures on continuously running equipment, such as air compressors and welding generators.
- Using less noisy specific construction operations and techniques where feasible (e.g., mixing concrete off-site instead of on-site).
- Scheduling equipment operations to keep average levels low, synchronize noisiest operations with times of highest ambient levels, and maintain relatively uniform noise levels.
- Turn off idling equipment.
- Locating noisy equipment as far as possible from sensitive areas.

4.10.10 Construction Vibration

The potential for demolition or foundation activities to be disruptive to adjacent properties will be evaluated prior to construction starting. All activities will be limited to allowable hours, per Boston city ordinances.

4.10.11 Construction Waste

The project will actively work to minimize construction waste through a combination of methods, including, but not limited to:

- Recycling, reusing, or salvaging as much material as possible.
- Source separating waste materials on site, to the greatest practical extent.

- All various dumpsters will be clearly labeled.
- The project will engage with a waste hauler who is accustomed to supporting and documenting projects with goals of minimizing and managing waste.

A system will be established so that materials that may be recycled are segregated from those materials not recyclable to enable disposal at an approved solid waste facility. As more detail is developed in the project plans, and subcontractors are hired, project specific waste management plans will be developed by key trades.

The disposal contract will include specific requirements that will ensure that construction procedures allow for the necessary segregation, reprocessing, reuse, and recycling of materials when possible. For those materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility, per MassDEP Regulations for Solid Waste Facilities, 310 CMR

4.10.12 Protection of Utilities and Adjacent Infrastructure

All utility work required for Cote Village will involve a dig safe survey prior to excavation, per Mass General Law. Excavation in the area of existing water, sewer, and drain lines will proceed with caution.

The installation of proposed utilities within the public way will be carried out in accordance with the MWRA, BWSC, Boston Public Works, Dig Safe and the governing utility company requirements. All necessary permits will be obtained before the commencement of the

specific utility installation. Cote Village is directly adjacent to MBTA Commuter Line Rail Road Tracks. The demolition, structural erection, and façade installation in closest proximity to the railroad tracks on Building A and the Upper Plaza will require the presence of Keolis flagman to ensure safe passage of all train service.

The project will be required to attain a license from Mass Realty Group, which is a property management entity associated with Keolis. This process should be started at least (8) weeks prior to any intended demolition activity on Building A.

As part of the licensing process with Mass Realty Group, the project will be required to attain a Railroad Protection Insurance policy. All personnel operating heavy equipment with any potential to foul the railroad tracks will be required to attend a Keolis safety seminar, which will train those individuals how and when to interact with the Keolis flagmen, and general safety procedures for working on or near RR tracks.

4.10.13 Rodent Control

The Contractor will develop a rodent control program for the project prior to the groundbreaking. The program will be developed in conjunction with a licensed rodent control vendor and will conform to Massachusetts State Sanitary Code (Chapter 11; 105 Section 108.6).

4.10.14 Wildlife Habitat

Given the urban setting of this project, the Proponent and the Contractor do not anticipate there will be any appreciable impact on wildlife of any sort, other typical urban rodents, which are addressed in section 4.11.13.

Cote Village Expanded PNF
Chapter Five
Sustainable Design & Climate Change

5.0 SUSTAINABLE DESIGN&CLIMATE CHANGE PREPAREDNESS

5.1 Sustainable Design Project Setting and Site

To comply with Article 37 of the Code, the Proponent intends to measure the results of their sustainability initiatives using the framework of the Leadership in Energy and Environmental Design (LEED) rating systems. As new construction of a mixed-use commercial and residential project, the Project will use. LEED for Residential/Commercial rating systems to show compliance with Article 37. The LEED rating systems track the sustainable features of a project by achieving points in various categories.

LEED Checklists and narratives backing up the points are included in this section and show the credits the Project anticipates achieving. One checklist is for the mid-rise structure on Cummins Highway, the other is for the townhouse type buildings on Regis Road.

The checklist(s) will be updated regularly as the design develops and engineering assumptions are finalized.

LEED Checklist
And
Certification Letter
Building A

LEED for Homes Mid-rise Simplified Project Checklist

for Homes

Builder Name:	*Carribean Integration Community Development*
Project Team Leader (if different):	*Gregory Minott, DREAM Collaborative*
Home Address (Street/City/State):	*820 Cummins Highway, Boston, MA*

Project Description:

Building type: *Mid-rise multi-family* # of stories: *4*

# of units: *48* Avg. Home Size Adjustment: *-9.5*

Adjusted Certification Thresholds

Certified: *35.5* Gold: *65.5*

Silver: *50.5* Platinum: *80.5*

Project Point Total

Prelim: *57.5 + 17 maybe pts* Final: *57.5*

Certification Level

Prelim: *Silver* Final: *Silver*

Final Credit Category Total Points

ID: 3 *SS: 18* *EA: 2* *EQ: 12*

LL: 8 *WE: 8* *MR: 5.5* *AE: 1*

date last updated :

last updated by :

					Max Pts	Project Points Preliminary Y/Pts	Maybe	No	Final Y/Pts
Innovation and Design Process (ID)			(No Minimum Points Required)		Max				
1. Integrated Project Planning		1.1	Preliminary Rating		Prereq	Y			Y
		1.2	Energy Expertise for MID-RISE		Prereq	Y			Y
		1.3	Professional Credentialed with Respect to LEED for Homes		1	1	0		1
		1.4	Design Charrette		1	1	0		1
		1.5	Building Orientation for Solar Design		1	0	0	N	0
		1.6	Trades Training for MID-RISE		1	0	0	N	0
2. Durability Management Process		2.1	Durability Planning		Prereq	Y			Y
		2.2	Durability Management		Prereq	Y			Y
		2.3	Third-Party Durability Management Verification		3	0	3		0
3.Innovative or Regional Design	✎	3.1	Innovation #1 _____		1	1	0		1
	✎	3.2	Innovation #2 _____		1	0	1		0
	✎	3.3	Innovation #3 _____		1	0	1		0
	✎	3.4	Innovation #4		1	0	1		0
				Sub-Total for ID Category:	**11**	**3**	**6**		**3**
Location and Linkages (LL)			(No Minimum Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. LEED ND		1	LEED for Neighborhood Development	**LL2-6**	10	0	0	N	0
2. Site Selection	✎	2	Site Selection		2	2	0		2
3. Preferred Locations		3.1	Edge Development		1	0	0	N	0
		3.2	Infill	**LL 3.1**	2	2	0		2
		3.3	Brownfield Redevelopment for MID-RISE		1	0	1		0
4. Infrastructure		4	Existing Infrastructure		1	1	0		0
5. Community Resources/ Transit		5.1	Basic Community Resources for MID-RISE		1	0	0	N	0
		5.2	Extensive Community Resources for MID-RISE	**LL 5.1, 5.3**	2	0	0	N	0
		5.3	Outstanding Community Resources for MID-RISE	**LL 5.1, 5.2**	3	3	0		3
6. Access to Open Space		6	Access to Open Space		1	1	0		1
				Sub-Total for LL Category:	**10**	**9**	**1**		**8**
Sustainable Sites (SS)			(Minimum of 5 SS Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Site Stewardship		1.1	Erosion Controls During Construction		Prerequisite	Y			Y
		1.2	Minimize Disturbed Area of Site for MID-RISE		1	1	0		1
2. Landscaping	✎	2.1	No Invasive Plants		Prerequisite	Y			Y
	✎	2.2	Basic Landscape Design	**SS 2.5**	1	1	0		1
	✎	2.3	Limit Conventional Turf for MID-RISE	**SS 2.5**	2	2	0		2
	✎	2.4	Drought Tolerant Plants for MID-RISE	**SS 2.5**	1	1	0		1
	✎	2.5	Reduce Overall Irrigation Demand by at Least 20% for MID-RISE		3	0	0	N	0
3. Local Heat Island Effects	✎	3.1	Reduce Site Heat Island Effects for MID-RISE		1	1	0		1
	✎	3.2	Reduce Roof Heat Island Effects for MID-RISE		1	1	0		1
4. Surface Water Management	✎	4.1	Permeable Lot for MID-RISE		2	0	0		0
		4.2	Permanent Erosion Controls		1	1	0		1
	✎	4.3	Stormwater Quality Control for MID-RISE		2	2	0		2
5. Nontoxic Pest Control		5	Pest Control Alternatives		2	2	0		2
6. Compact Development		6.1	Moderate Density for MID-RISE		2	2	0		2
		6.2	High Density for MID-RISE	**SS 6.1, 6.3**	3	0	0	N	0
		6.3	Very High Density for MID-RISE	**SS 6.1, 6.2**	4	0	0	N	0
7. Alternative Transportation		7.1	Public Transit for MID-RISE		2	2	0		2
		7.2	Bicycle Storage for MID-RISE		1	1	0		1
		7.3	Parking Capacity/Low-Emitting Vehicles for MID-RISE		1	1	0		1
				Sub-Total for SS Category:	**22**	**18**	**0**		**18**

LEED for Homes Mid-rise Pilot Simplified Project Checklist (continued)

					Max Pts	Project Points Preliminary			Final
Water Efficiency (WE)			(Minimum of 3 WE Points Required)	OR	Max	Y/Pts	Maybe	No	Y/Pts
1. Water Reuse		1	Water Reuse for MID-RISE		5	0	0	N	0
2. Irrigation System		2.1	High Efficiency Irrigation System for MID-RISE	WE 2.2	2	0	1		0
		2.2	Reduce Overall Irrigation Demand by at Least 45% for MID-RISE		2	0	0		0
3. Indoor Water Use		3.1	High-Efficiency Fixtures and Fittings		3	0	0	N	0
		3.2	Very High Efficiency Fixtures and Fittings		6	6	0		6
		3.3	Water Efficient Appliances for MID-RISE		2	2	0		2
				Sub-Total for WE Category:	**15**	8	1		8
Energy and Atmosphere (EA)			(Minimum of 0 EA Points Required)	OR	Max	Y/Pts	Maybe	No	Y/Pts
1. Optimize Energy Performance		1.1	Minimum Energy Performance for MID-RISE		Prereq	Y			Y
		1.2	Testing and Verification for MID-RISE		Prereq	Y			Y
		1.3	Optimize Energy Performance for MID-RISE		34	0	7		0
7. Water Heating		7.1	Efficient Hot Water Distribution		2	0	0	N	0
		7.2	Pipe Insulation		1	1	0		1
11. Residential Refrigerant Management		11.1	Refrigerant Charge Test		Prereq	Y			
		11.2	Appropriate HVAC Refrigerants		1	1	0		1
				Sub-Total for EA Category:	**38**	2	7		2
Materials and Resources (MR)			(Minimum of 2 MR Points Required)	OR	Max	Y/Pts	Maybe	No	Y/Pts
1. Material-Efficient Framing		1.1	Framing Order Waste Factor Limit		Prereq	Y			Y
		1.2	Detailed Framing Documents	MR 1.5	1	0	0	N	0
		1.3	Detailed Cut List and Lumber Order	MR 1.5	1	0	0	N	0
		1.4	Framing Efficiencies	MR 1.5	3	0	0	N	0
		1.5	Off-site Fabrication		4	4	0		4
2. Environmentally Preferable Products		2.1	FSC Certified Tropical Wood		Prereq	Y			Y
		2.2	Environmentally Preferable Products		8	0	0		0
3. Waste Management		3.1	Construction Waste Management Planning		Prereq	Y			Y
		3.2	Construction Waste Reduction		3	1.5	0		1.5
				Sub-Total for MR Category:	**16**	5.5	0		5.5
Indoor Environmental Quality (EQ)			(Minimum of 6 EQ Points Required)	OR	Max	Y/Pts	Maybe	No	Y/Pts
2. Combustion Venting		2	Basic Combustion Venting Measures		Prereq	Y			Y
3. Moisture Control		3	Moisture Load Control		1	0	1		1
4. Outdoor Air Ventilation		4.1	Basic Outdoor Air Ventilation for MID-RISE		Prereq	Y			Y
		4.2	Enhanced Outdoor Air Ventilation for MID-RISE		2	2	0		2
		4.3	Third-Party Performance Testing for MID-RISE		1	1	0		1
5. Local Exhaust		5.1	Basic Local Exhaust		Prerequisite	Y			Y
		5.2	Enhanced Local Exhaust		1	1	0		1
		5.3	Third-Party Performance Testing		1	1	0		1
6. Distribution of Space Heating and Cooling		6.1	Room-by-Room Load Calculations		Prereq	Y			Y
		6.2	Return Air Flow / Room by Room Controls		1	0	0	N	0
		6.3	Third-Party Performance Test / Multiple Zones		2	0	0	N	0
7. Air Filtering		7.1	Good Filters		Prereq	Y			Y
		7.2	Better Filters	EQ 7.3	1	0	0	N	0
		7.3	Best Filters		2	0	0	N	0
8. Contaminant Control		8.1	Indoor Contaminant Control during Construction		1	1	0		1
		8.2	Indoor Contaminant Control for MID-RISE		2	0	0	N	0
		8.3	Preoccupancy Flush		1	1	0		1
9. Radon Protection		9.1	Radon-Resistant Construction in High-Risk Areas		Prereq	N/A			N/A
		9.2	Radon-Resistant Construction in Moderate-Risk Areas		1	1	0		1
10. Garage Pollutant Protection		10.1	No HVAC in Garage for MID-RISE		Prereq	Y			Y
		10.2	Minimize Pollutants from Garage for MID-RISE	EQ 10.3	2	2	0		2
		10.3	Detached Garage or No Garage for MID-RISE		3	0	0	N	0
11. ETS Control		11	Environmental Tobacco Smoke Reduction for MID-RISE		1	1	0		1
12. Compartmentalization of Units		12.1	Compartmentalization of Units		Prereq	Y			Y
		12.2	Enhanced Compartmentalization of Units		1	0	1		0
				Sub-Total for EQ Category:	**21**	11	2		12
Awareness and Education (AE)			(Minimum of 0 AE Points Required)		Max	Y/Pts	Maybe	No	Y/Pts
1. Education of the Homeowner or Tenant		1.1	Basic Operations Training		Prereq	Y			Y
		1.2	Enhanced Training		1	0	0	N	0
		1.3	Public Awareness		1	0	0	N	0
2. Education of Building Manager		2	Education of Building Manager		1	1	0		1
				Sub-Total for AE Category:	**3**	1	0		1

Cote Village Development

Buildings A
November 13th, 2015
LEED Certification: Certified
Points: 57.5

Mid-rise Multi-Family Checklist Items

Innovation & Design Process (ID) (Minimum 0 ID points required)

1. Integrated Project Planning (ID) (Minimum 0 points required)

ID 1.1 Preliminary Rating: (Prerequisite)

- DREAM Collaborative led the project team through LEED for Homes process November 13, 2015 and determined which credits were reasonable to be pursued at that point in design.
- Certified was determined to be a reasonable goal.

ID 1.2 Energy Expertise for MID-RISE: (Prerequisite)

- DREAM's principal Gregory Minott is familiar with mid-rise energy systems and components, including mechanical equipment, envelope upgrades, etc. He also has experience with green mid-rise or high-rise residential buildings, so this prerequisite will be met.
- An individual with experience preforming energy modeling per ASHRAE Standard. 90.1, Appendix G. Experience with LEED-NC energy modeling will be on the project team.

ID 1.3 Professional Credentialed with Respect to LEED Homes: (1 point)

- At least one principal member of the project team will be a professional who is credentialed with respect to LEED for Homes as determined by the U.S Green Building Council.

ID 1.4 Design Charrette: (1 point)

- No later than the design development phase and preferably during schematic design, at least 2 half day meetings integrated design workshops with the project team defined in ID 1.2 will be held. The workshops will strive to integrate green strategies across all aspects of the building design, drawing on the expertise of all participants. (can be webex or video conference but not just phone conference)

2. Quality Management for Durability

ID 2.1 Durability Planning: (Prerequisite)

- The durability evaluation form and inspection checklist will be created as design elements are finalized. This is a customized checklist for the project that is required prior to the beginning of construction.

ID 2.2 Durability Management (Prerequisite)

- The builder will use the durability inspection checklist throughout the construction as both an inspection tool and a project meeting item to be reviewed weekly, to ensure those measures are included.

3. Innovative or Regional Design

ID 3.1 Innovation 1 (1 point)

- SS 07-02 Exemplary Performance: proximity to transit. This is awarded to projects that have over 125 rides per day within ½ mile.

Location & Linkages (LL) (Minimum 0 LL points required)

2. Site Selection

LL 2 Site Selection (2 points)

- The building will be built above the 100-year flood plain defined by FEMA, and will not be built on habitat for threatened or endangered species, not built within 100 feet of water, not built on land that was public parkland prior to acquisition and not built on land with prime soils, unique soils, or soils of state significance.

3. Preferred Locations
LL 3.2 Infill (2 points)

- The project is bordered on three sides by 3 public roads, Cummings Highway, Regis Road and Youngs Road. To the northwest, the project is bordered by the commuter rail line. 75% or more of the perimeter immediately borders previously developed land.

4. Infrastructure
LL 4 Existing Infrastructure (1 point)

- The lot is within ½ mile of existing water and sewer service lines.

5. Community Resources/Transit
LL 5.3 Outstanding Community Resources for MID-RISE (3 points)

- Proximity to the Red Line Mattapan trolley terminal as well as several bus stops lining Cummins Highway and Blue Hill Avenue provide ample transportation to meet the three points for this item. In addition to the transportation resources there are more than 14 basic community resources within a ½ mile walking distance, including several restaurants, banks, retail, churches, gas stations, etc.

6. Access to Open Space
LL 6 Access to Open Space (1 point)

- From the Center of the project less than a ½ mile walk is Hunt Playground and Park which is open to the public and is greater than ¾ acre.

Sustainable Sites (SS) (Minimum 5 SS points required)
1. Site Stewardship
SS 1.1 Erosion Controls During Construction (Prerequisite)

- Project team will develop erosion control plan prior to start of construction.

SS 1.2 Minimize Disturbed Area for MID-RISE (1 point)

- The site was previously developed. The lot will be built on to achieve a density of 40 units per acre or more. Calculations of density allow for D to be met, 47 units in the midrise building, with .92 acres is 51 units per acre, surpassing the requirement of 40 units per acre.

2. Landscaping
SS 2.1 No Invasive Plants (Prerequisite)

- The landscape architect will provide list of plants to be installed and will cross reference a list of invasive plants for the area to ensure no invasive plants are used.

SS 2.3 Limit Conventional Turf for MID-RISE (2 points)

- The project is going to limit the overall designed softscape area to no more than 19% conventional turfs.

SS 2.4 Drought-Tolerant Plants for MID-RISE (1 point)

- The landscape architect will select drought tolerant plants (95% or more) for the landscaping plan. Lists of plants and their quantities of each plant and the percentage of drought tolerance will be calculated.

3. Reduce Local Heat Island Effect
SS 3.1 Reduce Site Heat Island Effects for MID-RISE (1 point)

- We will install light-colored, high-albedo materials for 50% of sidewalks, patios, and driveways.

SS 3.2 Reduce Roof Heat Island Effects for MID-RISE (1 point)
- The roof will be installed with high albedo material on 75% or more of the roof area.

4. Surface Water Management
SS 4.1 Permeable Lot for MID-RISE (.5 points)
- At least 70% of the built environment, not including area under the roof, will be permeable or designed to capture water runoff for infiltration on-site.

SS 4.2 Permanent Erosion Controls (1 point)
- The landscaping plan will reflect the goal of replanting disturbed areas following LEED algorithm of one tree, four 5-gallon shrubs, or 50 square feet of native groundcover per 500 square feet of disturbed lot area (including area under roof).

SS 4.3 Stormwater Quality Control for MID-RISE (2 points)
- Stormwater management plan designed in accordance with local program.

5. Nontoxic Pest Control
SS 5 Pest Control Alternatives (2 points)
- All exterior wood will be kept 12" or more above the soil, external cracks, joints, etc. will be sealed with caulking and permanent pest-proof screens will be installed, there will be no wood-to-concrete connections and all planting will be located so the mature plant will be at least 24" from the homes.

6. Compact Development
SS 6.1 Moderate Density for MID-RISE (2 points) 48 Units on .92 acres of lot calculates to 52 units per acre. This meets the moderate density requirement of 40 or more dwelling units per acre of buildable land.

7. Alternative Transportation
SS 7.1 Public Transit for MID-RISE (2 points)
- The number of transit rides available within ½ mile of the mid-rise is currently in excess of the credit stipulated 60 rides per day.

SS 7.2 Bicycle Storage for MID-RISE (1 point)
- The building will have 20 secure bicycle storage places which meet the requirement for greater than 15% of the building occupants.

SS 7.3 Parking Capacity/Low-Emitting Vehicles for MID-RISE (1 point)
- The parking garage will have alternative-fuel refueling stations/plugins for 3% of total vehicle capacity.

Water Efficiency (WE) (Minimum 3 WE points required)
3. Indoor Water Use
WE 3.2 Very High-Efficiency Fixtures and Fittings (6 points)
- Shower heads with 1.75 or less GPM, toilets equal to or less than 1.1 gallons per flush and lavatory faucets will use 1.5 or less GPM.

WE 3.3 Water Efficiency Appliances for MID-RISE (2points)
- The project will be using highly efficient clothes washers as well as dishwashers in the units.

Energy & Atmosphere (EA) (Minimum 0 EA points required)

1. Optimize Energy Performance in Mid-rise buildings

EA 1.1 Minimum Energy Performance for MID-RISE (Prerequisite)

- The project will meet the 15% or greater reduction in energy use according to the ASHRAE with EPA simulation modeling.

EA 1.2 Testing and Verification for MID-RISE (Prerequisite)

- The project intends to comply with Option 2, performing commissioning of the buildings fundamental systems.

EA 1.3 Optimize Energy Performance for MID-RISE (7 points, Max 34 points)

- The project intends to reach at least 20% better than reference in the ASHRAE with EPA simulation modeling.

EA 7.2 Pipe Insulation (1 point)

- All domestic hot water piping shall have R-4 insulation. Insulation shall be properly installed on all piping elbows to adequately insulate the 90-degree bend.

11. Residential Refrigerant Management

EA 11 Refrigerant Charge Test (Prerequisite)

- All refrigerant lines for air conditioning will be charge tested per manufacturer's standards.

EA 11 Appropriate HVAC Refrigerants (1 point)

- R410A refrigerant is anticipated to be used.

Material & Resources (MR) (Minimum 2 MR points required)

1. Material-Efficient Framing (Cannot be awarded MR 1.2 or MR 1.3 if awarded MR 1.5)

MR 1.1 Framing Order Waste Factor (Prerequisite)

- A calculation of the wood necessary to frame the building and orders of the amount of wood purchased will be made. Order must not exceed calculation by more than 10%.

MR 1.5 Off-site Fabrication (4 points)

- Modular, prefabricated construction will be used for this project.

2. Environmentally Preferable Products

MR 2.1 FSC Certified Tropical Wood (prerequisite)

- Suppliers will be sent a notice of preference for FSC products and a request for the country of manufacture for each wood product.
- No tropical wood will be installed.

3. Waste Management

MR 3.1 Construction Waste Management Planning (Prerequisite)

- The project will investigate any recycling opportunities in the area.
- Document the waste diverted from the landfill.

MR 3.2 Construction Waste Reduction (3 points)

- With stringent recycling protocols, the project will limit the total amounts of waste that will go to the land fill and that were diverted to 50% of the construction waste stream.

Indoor Environmental Quality (EQ) (Minimum 3 EQ points required)

2. Combustion Venting
EQ 2 Basic Combustion Venting Measures for MID-RISE (Prerequisite)

- The requirements are included in the design as requirements for basic code compliance in our area. There will be no fireplaces in any units. There will be electric ranges used in all units.

4. Outdoor Air Ventilation
EQ 4.1 Basic Outdoor Air Ventilation for MID-RISE (Prerequisite)

- Continuous ventilation will be provided to each unit to meet ASHRAE 62.2-2007 and ASHRAE 62.1-2007ventilation requirement.
-

EQ 4.2 Enhanced Outdoor Air Ventilation for MID-RISE (2 points)

- The ventilation in each unit will be provided by an energy-recovery ventilator (ERV).

EQ 4.3 Third Party Performance Testing for MID-RISE (1 point)

- The ventilation system in each unit will be tested by a third party to document the performance as meeting the ASHRAE 62.2-2007 standard.

5. Local Exhaust
EQ 5.1 Basic Local Exhaust for MID-RISE (Prerequisite)

- Bathroom and kitchen fans will meet ASHRAR+E 62.2-2007 air flow requirements.
- Fans and ducts designed and installed to ASHRAE standard 62.2.
- Air exhausted to outdoors through roof or outside wall.
- Bathroom exhaust fans will be labeled ENERGY STAR.
- Common bathrooms and kitchens will meet ASHRAE 62.1-2007 air flow requirements.

EQ 5.2 Enhanced Local Exhaust (1 point)

- The exhaust fans will run continuously and boost with occupancy sensors.

EQ 5.3 Third-Party Performance Testing for MID-RISE (1 point)

- The exhaust fans in each unit will be tested by a third party to document the performance as meeting the ASHRAE 62.2 air flow requirement.

6. Distribution of Space Heating and Cooling
EQ 6.1 Room-by-Room Load Calculations (Prerequisite)

- Room by room load calculations will be provided by the HVAC engineer or responsible party stating the calculations were performed according to ACCA Manual J and D.

7. Air Filtering (chose 7.1, 7.2 OR 7.3)
EQ 7.1 Good Filters (Prerequisite)

- Nonducted fan coils are exempt from any MERV level requirement.

8. Contaminant Control
EQ 8.1 Indoor Contaminant Control during Construction (1 point)

- Ductwork (including exhaust) will be sealed throughout construction so that debris doesn't contaminate.

EQ 8.3 Preoccupancy Flush (1 point)

- Each unit will be flushed with fresh air.

9. Radon Protection
EQ 9.1 Radon-Resistant Construction in High-Risk Areas (Prerequisite)

- The project is located in EPA Zone 3/low risk and is not required to install a radon resistant construction.

EQ 9.2 Radon-Resistant Construction in Moderate—Risk Areas
- Radon resistant construction techniques are planned.

10. Garage Pollutant Protection
EQ 10 No HVAC in Garage (Prerequisite)
- There will be no HVAC equipment in the garage.

EQ 10 Minimize Pollutants from Garage for MID-RISE (2 points)
- All penetrations, cracks at base of walls, as well as joist bays will be sealed.
- At conditioned spaces, all doors shall be weather-stripped.
- CO detectors shall be installed at stairwell leading from garage to living space.

11. Environmental Tobacco Smoke Control
EQ 11 Environmental Tobacco Reduction for MID-RISE (1 point)
- The building will prohibit smoking in all common areas, living units, less than 25ft from entries, air intakes and windows. All the prohibitions will be communicated through lease agreements, CC&Rs and signage.

12. Compartmentalization of Units
EQ 12 Compartmentalization of Units (Prerequisite)
- The building will have air-seals and/or weather-striped walls, chases, doors, windows, etc. and perform a blower door test to ensure that smoke transfer is minimized.(max leakage of 0.30 CFM50))

Awareness & Education (AE) (Minimum 0 AE points required)
1. Education of the Homeowner or Tenant
AE 1.1 Basic Operations Training (Prerequisite)
- A home owner's manual will be created and provided to all occupants.
- A one hour walk through will be conducted with the occupants in group training.

2. Education of the Building Manager
AE 2 Education of the Building Manager (1 point)
- An operations and training manual will be created and provided to building manager.
- A one hour walk through will be conducted with the building manager.

LEED Checklist
And
Certification Letter
Buildings B-D

LEED for Homes Mid-rise Simplified Project Checklist

for Homes

Builder Name:	*Carribean Integration Community Development*
Project Team Leader (if different):	*Gregory Minott, DREAM Collaborative*
Home Address (Street/City/State):	*820 Cummins Highway, Boston, MA*

Project Description:

Building type: *Mid-rise multi-family* # of stories: *4*

# of units: *24* Avg. Home Size Adjustment: *4.5*

Adjusted Certification Thresholds

Certified: *49.5* Gold: *79.5*

Silver: *64.5* Platinum: *94.5*

Project Point Total

Prelim: *54.5 + 17 maybe pts* Final: *54.5*

Certification Level

Prelim: *Certified* Final: *Certified*

Final Credit Category Total Points

ID: *3* SS: *14* EA: *2* EQ: *13*

LL: *8* WE: *8* MR: *5.5* AE: *1*

date last updated :

last updated by :

					Max Pts	Project Points Preliminary			Final
Innovation and Design Process (ID)			(No Minimum Points Required)		Max	Y/Pts	Maybe	No	Y/Pts
1. Integrated Project Planning		1.1	Preliminary Rating		Prereq	Y			Y
		1.2	Energy Expertise for MID-RISE		Prereq	Y			Y
		1.3	Professional Credentialed with Respect to LEED for Homes		1	1	0		1
		1.4	Design Charrette		1	1	0		1
		1.5	Building Orientation for Solar Design		1	0	0	N	0
		1.6	Trades Training for MID-RISE		1	0	0	N	0
2. Durability Management Process		2.1	Durability Planning		Prereq	Y			Y
		2.2	Durability Management		Prereq	Y			Y
		2.3	Third-Party Durability Management Verification		3	0	3		0
3.Innovative or Regional Design	☒	3.1	Innovation #1 _____		1	1	0		1
	☒	3.2	Innovation #2 _____		1	0	1		0
	☒	3.3	Innovation #3 _____		1	0	1		0
	☒	3.4	Innovation #4		1	0	1		0
				Sub-Total for ID Category:	**11**	3	6		**3**
Location and Linkages (LL)			(No Minimum Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. LEED ND		1	LEED for Neighborhood Development	**LL2-6**	10	0	0	N	0
2. Site Selection	☒	2	Site Selection		2	2	0		2
3. Preferred Locations		3.1	Edge Development		1	0	0	N	0
		3.2	Infill	**LL 3.1**	2	2	0		2
		3.3	Brownfield Redevelopment for MID-RISE		1	0	1		0
4. Infrastructure		4	Existing Infrastructure		1	1	0		0
5. Community Resources/ Transit		5.1	Basic Community Resources for MID-RISE		1	0	0	N	0
		5.2	Extensive Community Resources for MID-RISE	**LL 5.1, 5.3**	2	0	0	N	0
		5.3	Outstanding Community Resources for MID-RISE	**LL 5.1, 5.2**	3	3	0		3
6. Access to Open Space		6	Access to Open Space		1	1	0		1
				Sub-Total for LL Category:	**10**	9	1		**8**
Sustainable Sites (SS)			(Minimum of 5 SS Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Site Stewardship		1.1	Erosion Controls During Construction		Prerequisite	Y			Y
		1.2	Minimize Disturbed Area of Site for MID-RISE		1	0	0	N	0
2. Landscaping	☒	2.1	No Invasive Plants		Prerequisite	Y			Y
	☒	2.2	Basic Landscape Design	**SS 2.5**	1	1	0		1
	☒	2.3	Limit Conventional Turf for MID-RISE	**SS 2.5**	2	2	0		2
	☒	2.4	Drought Tolerant Plants for MID-RISE	**SS 2.5**	1	1	0		1
	☒	2.5	Reduce Overall Irrigation Demand by at Least 20% for MID-RISE		3	0	0	N	0
3. Local Heat Island Effects	☒	3.1	Reduce Site Heat Island Effects for MID-RISE		1	1	0		1
	☒	3.2	Reduce Roof Heat Island Effects for MID-RISE		1	1	0		1
4. Surface Water Management	☒	4.1	Permeable Lot for MID-RISE		2	0	0		0
		4.2	Permanent Erosion Controls		1	1	0		1
	☒	4.3	Stormwater Quality Control for MID-RISE		2	2	0		2
5. Nontoxic Pest Control		5	Pest Control Alternatives		2	2	0		2
6. Compact Development		6.1	Moderate Density for MID-RISE		2	0	0	N	0
		6.2	High Density for MID-RISE	**SS 6.1, 6.3**	3	0	0	N	0
		6.3	Very High Density for MID-RISE	**SS 6.1, 6.2**	4	0	0	N	0
7. Alternative Transportation		7.1	Public Transit for MID-RISE		2	2	0		2
		7.2	Bicycle Storage for MID-RISE		1	1	0		1
		7.3	Parking Capacity/Low-Emitting Vehicles for MID-RISE		1	0	0	N	0
				Sub-Total for SS Category:	**22**	14	0		**14**

LEED for Homes Mid-rise Pilot Simplified Project Checklist (continued)

					Max Pts	Project Points Preliminary			Final
Water Efficiency (WE)			(Minimum of 3 WE Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Water Reuse		1	Water Reuse for MID-RISE		5	0	0	N	**0**
2. Irrigation System		2.1	High Efficiency Irrigation System for MID-RISE	**WE 2.2**	2	0	1		**0**
		2.2	Reduce Overall Irrigation Demand by at Least 45% for MID-RISE		2	0	0		**0**
3. Indoor Water Use		3.1	High-Efficiency Fixtures and Fittings		3	0	0	N	**0**
		3.2	Very High Efficiency Fixtures and Fittings		6	6	0		**6**
		3.3	Water Efficient Appliances for MID-RISE		2	2	0		**2**
				Sub-Total for WE Category:	**15**	8	1		**8**
Energy and Atmosphere (EA)			(Minimum of 0 EA Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Optimize Energy Performance		1.1	Minimum Energy Performance for MID-RISE		Prereq	Y			**Y**
		1.2	Testing and Verification for MID-RISE		Prereq	Y			**Y**
		1.3	Optimize Energy Performance for MID-RISE		34	0	7		**0**
7. Water Heating		7.1	Efficient Hot Water Distribution		2	0	0	N	**0**
		7.2	Pipe Insulation		1	1	0		**1**
11. Residential Refrigerant Management		11.1	Refrigerant Charge Test		Prereq	Y			
		11.2	Appropriate HVAC Refrigerants		1	1	0		**1**
				Sub-Total for EA Category:	**38**	2	7		**2**
Materials and Resources (MR)			(Minimum of 2 MR Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Material-Efficient Framing		1.1	Framing Order Waste Factor Limit		Prereq	Y			**Y**
		1.2	Detailed Framing Documents	**MR 1.5**	1	0	0	N	**0**
		1.3	Detailed Cut List and Lumber Order	**MR 1.5**	1	0	0	N	**0**
		1.4	Framing Efficiencies	**MR 1.5**	3	0	0	N	**0**
		1.5	Off-site Fabrication		4	4	0		**4**
2. Environmentally Preferable Products		2.1	FSC Certified Tropical Wood		Prereq	Y			**Y**
		2.2	Environmentally Preferable Products		8	0	0		**0**
3. Waste Management		3.1	Construction Waste Management Planning		Prereq	Y			**Y**
		3.2	Construction Waste Reduction		3	1.5	0		**1.5**
				Sub-Total for MR Category:	**16**	5.5	0		**5.5**
Indoor Environmental Quality (EQ)			(Minimum of 6 EQ Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
2. Combustion Venting		2	Basic Combustion Venting Measures		Prereq	Y			**Y**
3. Moisture Control		3	Moisture Load Control		1	0	1		**1**
4. Outdoor Air Ventilation		4.1	Basic Outdoor Air Ventilation for MID-RISE		Prereq	Y			**Y**
		4.2	Enhanced Outdoor Air Ventilation for MID-RISE		2	2	0		**2**
		4.3	Third-Party Performance Testing for MID-RISE		1	1	0		**1**
5. Local Exhaust		5.1	Basic Local Exhaust		Prerequisite	Y			**Y**
		5.2	Enhanced Local Exhaust		1	1	0		**1**
		5.3	Third-Party Performance Testing		1	1	0		**1**
6. Distribution of Space Heating and Cooling		6.1	Room-by-Room Load Calculations		Prereq	Y			**Y**
		6.2	Return Air Flow / Room by Room Controls		1	0	0	N	**0**
		6.3	Third-Party Performance Test / Multiple Zones		2	0	0	N	**0**
7. Air Filtering		7.1	Good Filters		Prereq	Y			**Y**
		7.2	Better Filters	**EQ 7.3**	1	0	0	N	**0**
		7.3	Best Filters		2	0	0	N	**0**
8. Contaminant Control		8.1	Indoor Contaminant Control during Construction		1	1	0		**1**
		8.2	Indoor Contaminant Control for MID-RISE		2	0	0	N	**0**
		8.3	Preoccupancy Flush		1	1	0		**1**
9. Radon Protection		9.1	Radon-Resistant Construction in High-Risk Areas		Prereq	N/A			**N/A**
		9.2	Radon-Resistant Construction in Moderate-Risk Areas		1	1	0		**1**
10. Garage Pollutant Protection		10.1	No HVAC in Garage for MID-RISE		Prereq	Y			**Y**
		10.2	Minimize Pollutants from Garage for MID-RISE	**EQ 10.3**	2	0	0	N	**0**
		10.3	Detached Garage or No Garage for MID-RISE		3	3	0		**3**
11. ETS Control		11	Environmental Tobacco Smoke Reduction for MID-RISE		1	1	0		**1**
12. Compartmentalization of Units		12.1	Compartmentalization of Units		Prereq	Y			**Y**
		12.2	Enhanced Compartmentalization of Units		1	0	1		**0**
				Sub-Total for EQ Category:	**21**	12	2		**13**
Awareness and Education (AE)			(Minimum of 0 AE Points Required)		Max	Y/Pts	Maybe	No	Y/Pts
1. Education of the Homeowner or Tenant		1.1	Basic Operations Training		Prereq	Y			**Y**
		1.2	Enhanced Training		1	0	0	N	**0**
		1.3	Public Awareness		1	0	0	N	**0**
2. Education of Building Manager		2	Education of Building Manager		1	1	0		**1**
				Sub-Total for AE Category:	**3**	1	0		**1**

Cote Village Development

Buildings B - D
November 13th, 2015
LEED Certification: Certified
Points: 54.5

Mid-rise Multi-Family Checklist Items

Innovation & Design Process (ID) (Minimum 0 ID points required)

1. Integrated Project Planning (ID) (Minimum 0 points required)

ID 1.1 Preliminary Rating: (Prerequisite)

- DREAM Collaborative led the project team through LEED for Homes process November 13, 2015 and determined which credits were reasonable to be pursued at that point in design.
- Certified was determined to be a reasonable goal.

ID 1.2 Energy Expertise for MID-RISE: (Prerequisite)

- DREAM's principal Gregory Minott is familiar with mid-rise energy systems and components, including mechanical equipment, envelope upgrades, etc. He also has experience with green mid-rise or high-rise residential buildings, so this prerequisite will be met.
- An individual with experience preforming energy modeling per ASHRAE Standard. 90.1, Appendix G. Experience with LEED-NC energy modeling will be on the project team.

ID 1.3 Professional Credentialed with Respect to LEED Homes: (1 point)

- At least one principal member of the project team will be a professional who is credentialed with respect to LEED for Homes as determined by the U.S Green Building Council.

ID 1.4 Design Charrette: (1 point)

- No later than the design development phase and preferably during schematic design, at least 2 half day meetings integrated design workshops with the project team defined in ID 1.2 will be held. The workshops will strive to integrate green strategies across all aspects of the building design, drawing on the expertise of all participants. (can be webex or video conference but not just phone conference)

2. Quality Management for Durability

ID 2.1 Durability Planning: (Prerequisite)

- The durability evaluation form and inspection checklist will be created as design elements are finalized. This is a customized checklist for the project that is required prior to the beginning of construction.

ID 2.2 Durability Management (Prerequisite)

- The builder will use the durability inspection checklist throughout the construction as both an inspection tool and a project meeting item to be reviewed weekly, to ensure those measures are included.

3. Innovative or Regional Design

ID 3.1 Innovation 1 (1 point)

- SS 07-02 Exemplary Performance: proximity to transit. This is awarded to projects that have over 125 rides per day within ½ mile.

Location & Linkages (LL) (Minimum 0 LL points required)

2. Site Selection

LL 2 Site Selection (2 points)

- The building will be built above the 100-year flood plain defined by FEMA, and will not be built on habitat for threatened or endangered species, not built within 100 feet of water, not built on land that was public parkland prior to acquisition and not built on land with prime soils, unique soils, or soils of state significance.

3. Preferred Locations
LL 3.2 Infill (2 points)
- The project is bordered on three sides by 3 public roads, Cummings Highway, Regis Road and Youngs Road. To the northwest, the project is bordered by the commuter rail line. 75% or more of the perimeter immediately borders previously developed land.

4. Infrastructure
LL 4 Existing Infrastructure (1 point)
- The lot is within ½ mile of existing water and sewer service lines.

5. Community Resources/Transit
LL 5.3 Outstanding Community Resources for MID-RISE (3 points)
- Proximity to the Red Line Mattapan trolley terminal as well as several bus stops lining Cummins Highway and Blue Hill Avenue provide ample transportation to meet the three points for this item. In addition to the transportation resources there are more than 14 basic community resources within a ½ mile walking distance, including several restaurants, banks, retail, churches, gas stations, etc.

6. Access to Open Space
LL 6 Access to Open Space (1 point)
- From the Center of the project less than a ½ mile walk is Hunt Playground and Park which is open to the public and is greater than ¾ acre.

Sustainable Sites (SS) (Minimum 5 SS points required)
1. Site Stewardship
SS 1.1 Erosion Controls During Construction (Prerequisite)
- Project team will develop erosion control plan prior to start of construction.

2. Landscaping
SS 2.1 No Invasive Plants (Prerequisite)
- The landscape architect will provide list of plants to be installed and will cross reference a list of invasive plants for the area to ensure no invasive plants are used.

SS 2.3 Limit Conventional Turf for MID-RISE (2 points)
- The project is going to limit the overall designed softscape area to no more than 19% conventional turfs.

SS 2.4 Drought-Tolerant Plants for MID-RISE (1 point)
- The landscape architect will select drought tolerant plants (95% or more) for the landscaping plan. Lists of plants and their quantities of each plant and the percentage of drought tolerance will be calculated.

3. Reduce Local Heat Island Effect
SS 3.1 Reduce Site Heat Island Effects for MID-RISE (1 point)
- We will install light-colored, high-albedo materials for 50% of sidewalks, patios, and driveways.

SS 3.2 Reduce Roof Heat Island Effects for MID-RISE (1 point)
- The roof will be installed with high albedo material on 75% or more of the roof area.

4. Surface Water Management
SS 4.1 Permeable Lot for MID-RISE (.5 points)

- At least 70% of the built environment, not including area under the roof, will be permeable or designed to capture water runoff for infiltration on-site.

SS 4.2 Permanent Erosion Controls (1 point)

- The landscaping plan will reflect the goal of replanting disturbed areas following LEED algorithm of one tree, four 5-gallon shrubs, or 50 square feet of native groundcover per 500 square feet of disturbed lot area (including area under roof).

SS 4.3 Stormwater Quality Control for MID-RISE (2 points)

- Stormwater management plan designed in accordance with local program.

5. Nontoxic Pest Control
SS 5 Pest Control Alternatives (2 points)

- All exterior wood will be kept 12" or more above the soil, external cracks, joints, etc. will be sealed with caulking and permanent pest-proof screens will be installed, there will be no wood-to-concrete connections and all planting will be located so the mature plant will be at least 24" from the homes.

7. Alternative Transportation
SS 7.1 Public Transit for MID-RISE (2 points)

- The number of transit rides available within ½ mile of the mid-rise is currently in excess of the credit stipulated 60 rides per day.

SS 7.2 Bicycle Storage for MID-RISE (1 point)

- The building will have 12 secure bicycle storage places which meet the requirement for greater than 15% of the building occupants.

Water Efficiency (WE) (Minimum 3 WE points required)
3. Indoor Water Use
WE 3.2 Very High-Efficiency Fixtures and Fittings (6 points)

- Shower heads with 1.75 or less GPM, toilets equal to or less than 1.1 gallons per flush and lavatory faucets will use 1.5 or less GPM.

WE 3.3 Water Efficiency Appliances for MID-RISE (2points)

- The project will be using highly efficient clothes washers as well as dishwashers in the units.

Energy & Atmosphere (EA) (Minimum 0 EA points required)
1. Optimize Energy Performance in Mid-rise buildings
EA 1.1 Minimum Energy Performance for MID-RISE (Prerequisite)

- The project will meet the 15% or greater reduction in energy use according to the ASHRAE with EPA simulation modeling.

EA 1.2 Testing and Verification for MID-RISE (Prerequisite)

- The project intends to comply with Option 2, performing commissioning of the buildings fundamental systems.

EA 1.3 Optimize Energy Performance for MID-RISE (7 points, Max 34 points)

- The project intends to reach at least 20% better than reference in the ASHRAE with EPA simulation modeling.

EA 7.2 Pipe Insulation (1 point)

- All domestic hot water piping shall have R-4 insulation. Insulation shall be properly installed on all piping elbows to adequately insulate the 90-degree bend.

11. Residential Refrigerant Management
EA 11 Refrigerant Charge Test (Prerequisite)

- All refrigerant lines for air conditioning will be charge tested per manufacturer's standards.

EA 11 Appropriate HVAC Refrigerants (1 point)

- R410A refrigerant is anticipated to be used.

Material & Resources (MR) (Minimum 2 MR points required)
1. Material-Efficient Framing (Cannot be awarded MR 1.2 or MR 1.3 if awarded MR 1.5)
MR 1.1 Framing Order Waste Factor (Prerequisite)

- A calculation of the wood necessary to frame the building and orders of the amount of wood purchased will be made. Order must not exceed calculation by more than 10%.

MR 1.5 Off-site Fabrication (4 points)

- Modular, prefabricated construction will be used for this project.

2. Environmentally Preferable Products
MR 2.1 FSC Certified Tropical Wood (prerequisite)

- Suppliers will be sent a notice of preference for FSC products and a request for the country of manufacture for each wood product.
- No tropical wood will be installed.

3. Waste Management
MR 3.1 Construction Waste Management Planning (Prerequisite)

- The project will investigate any recycling opportunities in the area.
- Document the waste diverted from the landfill.

MR 3.2 Construction Waste Reduction (3 points)

- With stringent recycling protocols, the project will limit the total amounts of waste that will go to the land fill and that were diverted to 50% of the construction waste stream.

Indoor Environmental Quality (EQ) (Minimum 3 EQ points required)
2. Combustion Venting
EQ 2 Basic Combustion Venting Measures for MID-RISE (Prerequisite)

- The requirements are included in the design as requirements for basic code compliance in our area. There will be no fireplaces in any units. There will be electric ranges used in all units.

4. Outdoor Air Ventilation
EQ 4.1 Basic Outdoor Air Ventilation for MID-RISE (Prerequisite)

- Continuous ventilation will be provided to each unit to meet ASHRAE 62.2-2007 and ASHRAE 62.1-2007ventilation requirement.
-

EQ 4.2 Enhanced Outdoor Air Ventilation for MID-RISE (2 points)

- The ventilation in each unit will be provided by an energy-recovery ventilator (ERV).

EQ 4.3 Third Party Performance Testing for MID-RISE (1 point)
- The ventilation system in each unit will be tested by a third party to document the performance as meeting the ASHRAE 62.2-2007 standard.

5. Local Exhaust
EQ 5.1 Basic Local Exhaust for MID-RISE (Prerequisite)
- Bathroom and kitchen fans will meet ASHRAR+E 62.2-2007 air flow requirements.
- Fans and ducts designed and installed to ASHRAE standard 62.2.
- Air exhausted to outdoors through roof or outside wall.
- Bathroom exhaust fans will be labeled ENERGY STAR.
- Common bathrooms and kitchens will meet ASHRAE 62.1-2007 air flow requirements.

EQ 5.2 Enhanced Local Exhaust (1 point)
- The exhaust fans will run continuously and boost with occupancy sensors.

EQ 5.3 Third-Party Performance Testing for MID-RISE (1 point)
- The exhaust fans in each unit will be tested by a third party to document the performance as meeting the ASHRAE 62.2 air flow requirement.

6. Distribution of Space Heating and Cooling
EQ 6.1 Room-by-Room Load Calculations (Prerequisite)
- Room by room load calculations will be provided by the HVAC engineer or responsible party stating the calculations were performed according to ACCA Manual J and D.

7. Air Filtering (chose 7.1, 7.2 OR 7.3)
EQ 7.1 Good Filters (Prerequisite)
- Nonducted fan coils are exempt from any MERV level requirement.

8. Contaminant Control
EQ 8.1 Indoor Contaminant Control during Construction (1 point)
- Ductwork (including exhaust) will be sealed throughout construction so that debris doesn't contaminate.

EQ 8.3 Preoccupancy Flush (1 point)
- Each unit will be flushed with fresh air.

9. Radon Protection
EQ 9.1 Radon-Resistant Construction in High-Risk Areas (Prerequisite)
- The project is located in EPA Zone 3/low risk and is not required to install a radon resistant construction.

EQ 9.2 Radon-Resistant Construction in Moderate—Risk Areas
- Radon resistant construction techniques are planned.

10. Garage Pollutant Protection
EQ 10 No HVAC in Garage (Prerequisite)
- There will be no HVAC equipment in the garage.

EQ 10 Detached or No Garage (3 points)
- There will be no garage for the townhouse units.

11. Environmental Tobacco Smoke Control

EQ 11 Environmental Tobacco Reduction for MID-RISE (1 point)

- The building will prohibit smoking in all common areas, living units, less than 25ft from entries, air intakes and windows. All the prohibitions will be communicated through lease agreements, CC&Rs and signage.

12. Compartmentalization of Units
EQ 12 Compartmentalization of Units (Prerequisite)

- The building will have air-seals and/or weather-striped walls, chases, doors, windows, etc. and perform a blower door test to ensure that smoke transfer is minimized.(max leakage of 0.30 CFM50))

Awareness & Education (AE) (Minimum 0 AE points required)
1. Education of the Homeowner or Tenant
AE 1.1 Basic Operations Training (Prerequisite)

- A home owner's manual will be created and provided to all occupants.
- A one hour walk through will be conducted with the occupants in group training.

2. Education of the Building Manager
AE 2 Education of the Building Manager (1 point)

- An operations and training manual will be created and provided to building manager.
- A one hour walk through will be conducted with the building manager.

Cote Village Expanded PNF
Chapter Six
Urban Design

6.0 URBAN DESIGN

6.1 Design Goals and Context

The Project Site, particularly the Cummins Highway parcel, is in a prominent location, and has been vacant and in decay for many years. The original showroom building sits high on top of a concrete and steel podium, at an inflection point in Cummins Highway. It is therefore visible from a long distance when approached from either direction. The existing parking area in front of the building, as well as a large associated parking deck, are fully open to view from the street. Cummins Highway is four lanes wide at that point, and traffic moves quickly. As a result, the existing site creates a long, inhospitable stretch of sidewalk separating the dense residential fabric to the west from Mattapan Center (less than a quarter mile from the site to the southeast).

Similarly, on Regis Road, the existing garage structure is a break in the residential fabric, and is disruptive to the pedestrian environment, as well as to the neighbors across the street. The decrepit structure is surrounded by asphalt paving that extends all the way back to the railroad tracks, creating clear views back to the tracks.

The primary goals of the plan for Cote Village are therefore to integrate the Regis site into the dense residential fabric of the neighborhood, and through the development of the Cummins site, create a pedestrian friendly "bridge" to the consumer amenities and multi-modal transportation options in Mattapan Square. These goals take on even greater significance when the MBTA station between Cummins and Blue Hill Avenue is completed.

The development will improve the existing context by placing the more active, taller, mixed-use building along the Cummins Highway edge, and smaller townhouse style buildings along the residential Regis Road. The existing residents of Regis will benefit from significant screening (both visual and acoustical) from the railroad tracks, as well as well-kept landscape areas along the entire front of the new development. In addition, by placing active parking areas for the residents of Cote Village between the tracks and the new structures, large, unsecured areas will now be observable by the townhouse families from within their homes and from the active outdoor spaces associated with the buildings.

The commercial space in the Cummins building is immediately adjacent to the new MBTA entry area, which will enliven the street front and ensure a safer, well lit, active area. While the commercial tenant has not yet been identified, there is an opportunity for an amenity usable by future T-users.

In summary, with the completion of Cote Village, the following will be realized:

- Significant empty street edges along Cummins Highway and Regis Road will be activated with housing and commercial uses that reinforce the scale and character of surrounding uses.

- The commercial district of Mattapan Square will be better-linked to the residential neighborhoods to the west.

- Pedestrian connectivity to the new MBTA station, as well as between Cummins Highway and Blue Hill Avenue along Regis Road will be enhanced.

- A partial history of the site will be preserved through the re-purposing of the concrete podium structure (which will also provide many off-street parking spaces). The steeply sloped area that makes the transition to small scale residential on the north end of the site will be cleaned up and programmed.

- Active streets will be reinforced with variety of building types and multiple entries. The scale and pattern of the adjacent neighborhood will be reinforced by appropriately sized residential and commercial structures along the periphery of Cote Village.

- Active use of public and semi-private areas throughout many hours of the day is assured through lively streetscapes with multiple building entries, transparent commercial storefronts, outdoor seating, tot lot, dog park, and dispersed parking.

- The visual and acoustical impact on the existing neighborhood of the MBTA train traffic will be diminished through the placement of the new residential structures on Regis Road.

6.2 Height and Massing

The project is laid out to accentuate the edge of Cummins Highway at the southern end of the site, and the edge of Regis Road along the eastern boundary. The greatest height and mass of the building are at the corner of Regis and Cummins, where the building rises to four and two thirds stories (a four story residential mid-rise, sitting on top of an existing concrete and steel podium that houses structured parking for the development). Towards the north along Regis, the structure drops to three stories on the podium, which is designed to

blend into the existing smaller scale residential neighborhood. From Regis corner, towards the west on Cummins Highway, the road grade rises to cross the MBTA tracks, thereby cutting down on the visible height of the building. At that end, very near to the future entry to a new T-station, three residential floors are on top of an at-grade commercial space.

The "back side" of the primary L-shaped structure defines a 12,000SF courtyard space on the top of the podium (the roof of the parking structure beneath). The courtyard is large enough to afford both sunny and shady outdoor settings for the residents of the building. The elevation of the courtyard is well above the grade of the railroad tracks that run along the entire western border of the site. Entry to the structured parking is off of Young Road that is located at the bottom of the north face of the podium.

Proceeding along Regis Road towards the north, past Young Road, there are two existing, small scale wood frame, residential/commercial structures that are not part of the project. From that point north, three structures contain 12 additional residential units, most of which are townhouses on top of townhouses (total of four stories high). Six entries off of Regis Road serve the three buildings. The building facades are articulated to match the scale of the primarily one and two-family homes across the street, and they are set back from the sidewalk at a distance to ensure that impact on the view of the sky is no more significant than existing buildings.

The townhouse buildings are also entered from the west from a parking drive that fronts the MBTA right-of-way. Between the parking and the building are sunny, landscaped active and passive recreation outdoor spaces. The mass of the townhouse buildings will significantly diminish the visual and acoustical impact of the railroad on the neighborhood located on the east side of Regis Road, while creating a landscaped, well observed pedestrian environment on Regis Road that runs between Blue Hill Avenue and Cummins Highway.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Cote Village Development

Cummins Highway, Mattapan, Massachusetts

ubla
Ulrich Bachand Landscape Architecture, LLC
www.ub-la.com * 156 Cabot Street, Unit 2A, Beverly, MA

DAVIS SQUARE ARCHITECTS

Cote Village Expanded PNF
Chapter Seven
Historic & Archeological Resources

7.0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

7.1 Historic Resources within the Project Site

The project site is an approximately 2.3 acre site located on Cummins Highway in the Mattapan neighborhood of Boston. The project was constructed as a Ford Dealership in the early 1950's. Some of the buildings and foundations associated with the Ford Dealership are in total disrepair and will be demolished as part of the construction process.

A partial history of the site will be preserved through the re-purposing of the concrete podium structure (which will also provide many off-street parking spaces. The steeply sloped area that makes the transition to small-scale residential on the north end of the site will be cleaned up and programmed.

7.2 Historic Resources in the Vicinity of the Project Site

To our knowledge, there are no historic resources located in the immediate vicinity of the project site.

7.3 Archaeological Resources within the Project Site

There are no known archaeological resources listed in the State and National Registers of Historic Places or included in the Inventory within the project site. The project site consists of a previously developed urban site. Therefore, it is unlikely that the proposed Project will affect previously identified archaeological resources located within close proximity to the site.

Cote Village Expanded PNF
Chapter Eight
Infrastructure

8.0 INFRASTRUCTURE

The Infrastructure Systems Component outlines the existing utilities surrounding the Project site, the connections required to provide service to the Project, and any impacts on the existing utility systems that may result from the construction of the Project. The following utility systems are discussed herein:

- Wastewater
- Water Supply
- Stormwater
- Natural gas
- Electricity
- Telecommunications

The Project is located along Regis Road at the intersection of Cummins Highway, and the Project site is bounded by a Massachusetts Bay Transportation Authority (MBTA) rail line to the northwest, private property to the northeast, Regis Road to the southeast, and Cummins Highway to the southwest. The Project includes the partial demolition of an existing abandoned structure at 820 Cummins Highway and the demolition of an existing abandoned structure at 30-32 Regis Road. The new development will consist of the four residential buildings, a private roadway, and two parking lots.

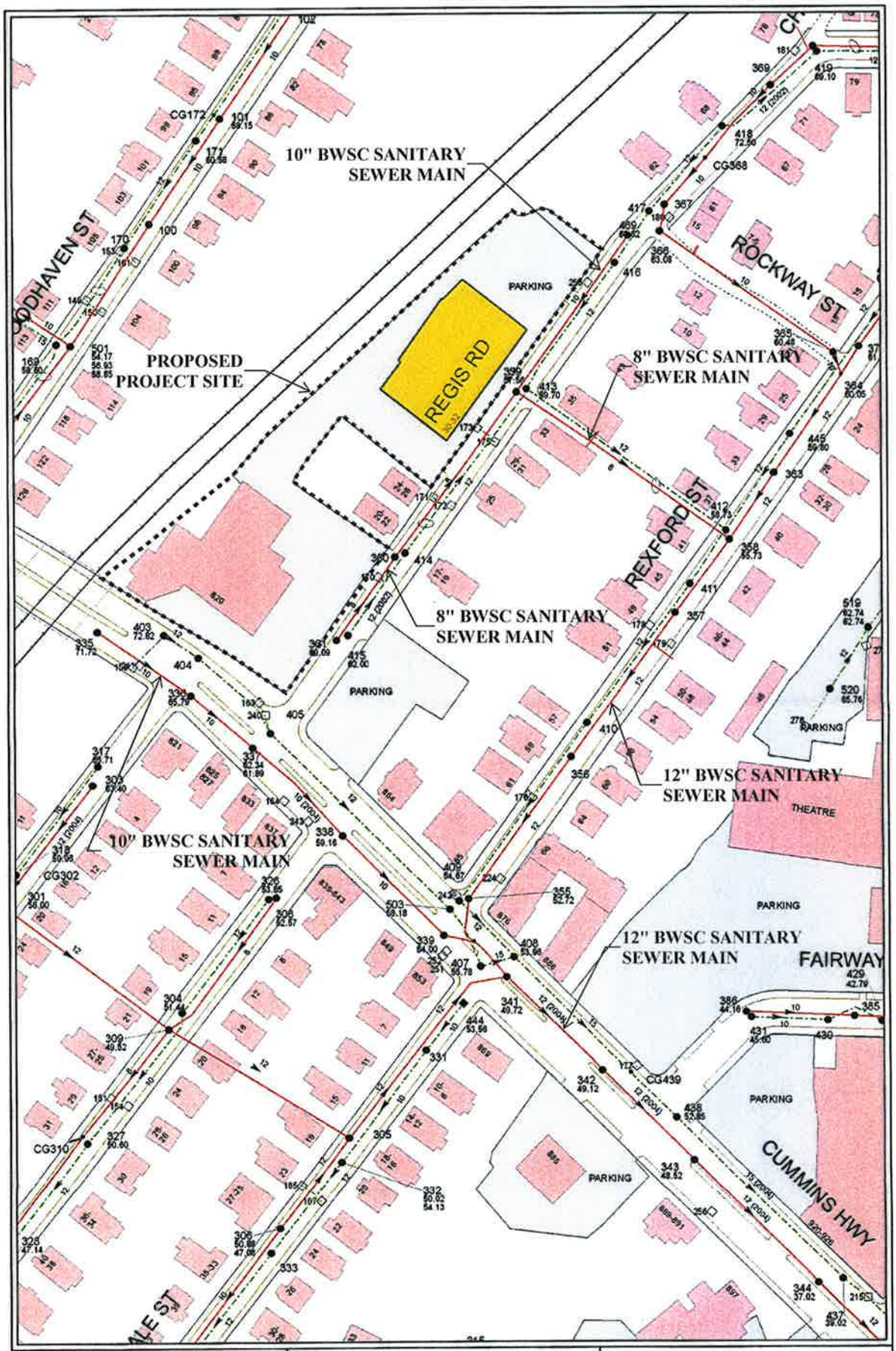
8.1 Wastewater

8.1.1 Existing Sewer System

Existing BWSC sanitary sewer mains are located in Regis Road, Rexford St, and Cummins Highway. There is an existing 10-inch sanitary sewer main in Cummins Highway that flows southeast until it increases to a 12-inch sanitary sewer main near the intersection with Rexford Street. There is an existing 8-inch sanitary sewer main flowing northeast in Regis Road, near the southern portion of the Site and a 10-inch sanitary sewer main flowing southwest in Regis Road near the northern portion of the Site. The 8-inch and 10-inch mains connect in Regis Road and flow to an 8-inch sanitary sewer main flowing southeast through the private property towards Rexford Street. The 8-inch sanitary sewer main discharges to a 12-inch sanitary sewer main in Rexford Street which flows southwest until it discharges into the aforementioned 12-inch sanitary sewer main in Cummins Highway. The 12-inch sanitary sewer main in Cummins Highway is collected by the Massachusetts Water Resources Authority (MWRA) Metropolitan High Level Sewer System which ultimately flows to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal. See Figure 8-1 for the Existing BWSC Sanitary Sewer System Map.

8.1.2 Project-Generated Sanitary Sewer Flow

The Project's sewage generation rates were estimated using the Department of Environmental Protection State Environmental Code (Title V) Section 310 CMR 15.00 and the proposed building program. 310 CMR 15.00 lists typical sewage generation values for the proposed building use, as shown in Table 8-1-1. Typical



BOSTON WATER AND SEWER

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EXISTING BWSC SANITARY SEWER SYSTEM MAP FIGURE 8-1

generation values are conservative values for estimating the sewage flows from new construction and are used to evaluate new sewage flows or an increase in flows to existing connections. The existing site consists of two abandoned existing buildings, so existing sewage flows from the Site will not be evaluated to use as an existing credit to the site. The Project includes the construction of four new buildings. Table 8-1-1 describes the increased sewage generation in gallons per day (gpd) due to the Project.

The total sanitary sewage flow as a result of the Project is estimated to be 16,647 gpd.

Table 8-1-1: Proposed Wastewater Generation

	Room Use	Size	310 CMR Value (gpd/unit)	Total Flow (gpd)
Proposed	Building A Commercial (General Commercial Space	4,172 Square Feet (SF)	75/1,000 SF	313
	Building A Commercial (First Floor Community Room)	725 Square Feet (SF)	75/1,000 SF	54
	Building A Residential	91 Bedrooms	110/Bedroom	10,010
	Building B Residential	19 Bedrooms	110/Bedroom	2,090
	Building C Residential	29 Bedrooms	110/Bedroom	3,190
	Building D Residential	9 Bedrooms	110/Bedroom	990
			Total	16,647

8.1.3 Sanitary Sewer Connection

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the existing BWSC sewer system. The Project is expected to generate an increase in wastewater flows of approximately 16,647 gallons per day. Approval for the increase in sanitary flow will come from BWSC.

The sewer services for the Project will connect to the existing BWSC sanitary sewer mains located in Regis Road and Cummins Highway. Proposed improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts.

8.1.4 Sewage Capacity

The Project's impact on the existing BWSC sanitary sewer mains in Regis Road and Cummins Highway were analyzed. The existing sewer system capacity calculations are presented in Table 8-1-2.

Table 8-1-2: Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Length (ft)	Inv. (up)	Inv. (down)	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Regis Road								
MH 361 to MH 360	113	60.0	58.7	1.2%	8	0.012	1.40	0.91
MH 360 to MH 359	231	58.7	57.6	0.5%	8	0.012	0.92	0.59
MH 469 to MH 359	215	62.6	57.6	2.3%	10	0.012	3.63	2.35
MH 359 to MH 358	294	58.7	57.6	0.4%	8	0.012	0.83	0.53
						Minimum Flow Analyzed:	0.83	0.53
Manhole (BWSC Number)	**Length (ft)**	**Inv. (up)**	**Inv. (down)**	**Slope (%)**	**Dia. (inches)**	**Manning's Number**	**Flow Capacity (cfs)**	**Flow Capacity (MGD)**
Cummins Highway								
MH 335 to MH 336	128	71.7	65.8	4.6%	10	0.012	1.96	1.27
MH 336 to MH 337	92	65.8	62.3	3.8%	10	0.012	1.77	1.14
MH 337 to MH 338	144	62.3	59.2	5.1%	10	0.012	1.35	0.88
MH 338 to MH 339	161	59.2	54.0	3.2%	10	0.012	1.63	1.05
						Minimum Flow Analyzed:	1.35	0.88

Notes:

1. Flow Calculations based on Manning Equation
2. Manhole numbers for Regis Road and Cummins Highway were taken from BWSC Sewer system Map.
3. Elevations refer to Boston City Base (BCB)

The adjacent roadway sewer systems in Regis Road and Cummins Highway were analyzed.

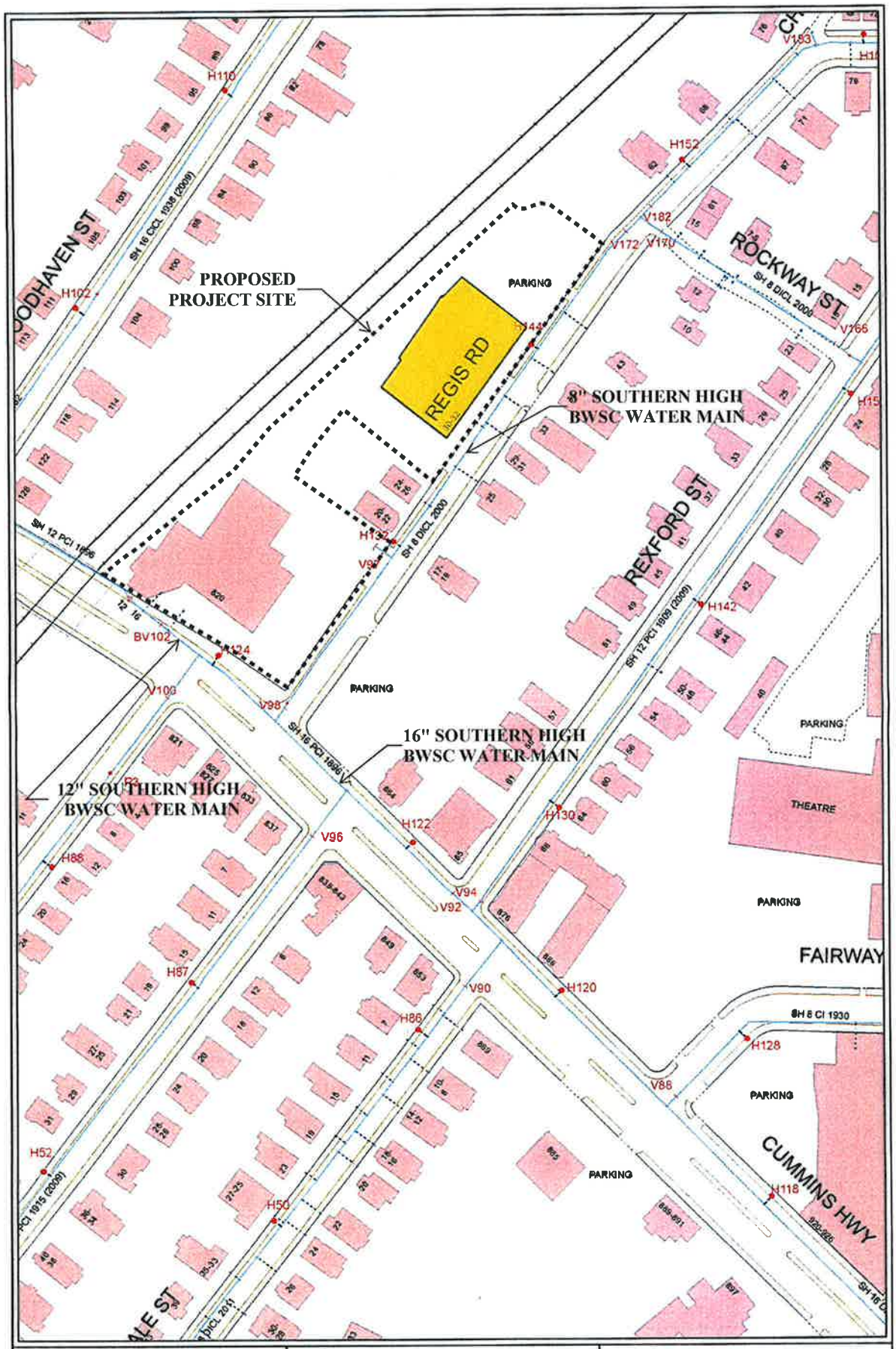
Table 8-1-2 indicates the hydraulic capacity of the 8-inch sanitary sewer in the southern section of Regis Road and the 10-inch sanitary sewer in the northern section of Regis Road, and the 10-inch sanitary sewer in Cummins Highway. The minimum hydraulic capacity is 0.53 million gallons per day (MGD) or 0.83 cubic feet per second (CFS) for the 8-inch main in Regis Road and 0.88 MGD or 1.35 CFS for the 10-inch main in Cummins Highway.

Based on an average daily flow estimate for the Project of 16,647 GPD or .017 MGD, an increase of 16,647 GPD or 0.017 MGD from the existing buildings; and with a factor of safety of 10 (total estimate = 0.017 MGD x 10 = 0.17 MGD), no capacity problems are expected within the BWSC sewer systems in Regis Road or Cummins Highway.

8.2 Water System

8.2.1 Existing Water Service

Water for the Project site will be provided by the BWSC. There are five water systems within the City which provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. Existing BWSC water mains are located in Regis Road and Cummins Highway. See Figure 8-2 for the BWSC Water System Map.



BOSTON WATER AND SEWER

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EXISTING BWSC WATER SYSTEM MAP FIGURE 8-2

BWSC owns and operates a 12-inch southern high water main in Cummins Highway which increases into a 16-inch southern high water main and connects to an 8-inch southern high water main in Regis Road. The existing water system information was obtained from the BWSC System Map (See Figure 8-2).

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project site was requested from BWSC by the Proponent. Hydrant flow data was not available. As the Project design progresses, the Proponent will request hydrant flow tests be conducted.

8.2.2 Anticipated Water Consumption

The Project's water demand estimate for domestic service is based on the Project's estimated sewage generation, described in the previous section. A conservative factor of 1.1 (110%) is applied to the estimated average daily wastewater flows to account for consumption, system losses, and other usages to estimate an average daily water demand for the Project. The water demand for the Proposed Project is estimated to be 18,312 gpd. The water for the Project will be supplied by the BWSC systems Regis Road and/or Cummins Highway.

8.2.3 Proposed Water Services

Domestic water and fire protection service connections will be required for the Project. New services will connect to the existing BWSC water mains in Regis Road and/or Cummins Highway. The

existing water mains surrounding the Project site will be protected and maintained during construction.

The domestic and fire protection water service connections required for the Project will meet the applicable BWSC, City, State, and Federal codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connection will be reviewed as part of BWSC's Site Plan Review process. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

8.2.4 Water Conservation

Measures to reduce water consumption will be incorporated into the Project's design. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed where possible.

The Project will comply with the Commonwealth's Stretch Energy Code and as such, will reduce energy use from the base energy code. The State Building Code requires the use of water-conserving fixtures. Water conservation measures such as low-flow toilets and restricted flow faucets will help reduce the domestic water demand on the existing distribution system. The installation of sensor-operated sinks with water conserving aerators and sensor-operated toilets in all non-residential restrooms will be incorporated into the design plans for the Project.

Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units ("MTU's") as part of the BWSC's Automatic Meter Reading ("AMR") system.

8.3 Stormwater

8.3.1 Existing Stormwater System

Existing BWSC storm drain mains are located in Regis Road, Rexford St, and Cummins Highway. There is an existing 12-inch drain main in Cummins Highway that flows southeast until it increases to a 15-inch drain main southeast of the intersection with Rexford Street. There is an existing 12-inch drain main flowing northeast in Regis Road near the southern portion of the Site and a 12-inch drain main flowing southwest in Regis Road near the northern portion of the Site. Both 12-inch mains connect into a 12-inch drain main flowing southeast through private property towards Rexford Street. The 12-inch drain main eventually discharges to a 12-inch drain main in Rexford Street which flows southwest until it discharges into a 12-inch drain main that connects to the aforementioned 15-inch storm drain main in Cummins Highway. See Figure 8-3 for the Existing BWSC Storm Drain System Map.

Table 8-1-3: Storm Drain Hydraulic Capacity Analysis

Manhole (BWSC Number)	Length (ft)	Inv. (up)	Inv. (down)	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Regis Road								
MH 415 to MH 414	115	62.1	60.4	1.5%	12	0.013	4.33	2.80
MH 414 to MH 413	233	60.4	59.7	0.3%	12	0.013	1.95	1.26
MH 417 to MH 413	247	66.6	59.7	2.8%	12	0.013	5.95	3.85
MH 413 to MH 412	277	59.7	58.7	0.4%	12	0.013	2.11	1.36
						Minimum Flow Analyzed:	1.95	1.26
Cummins Highway								
MH 403 to MH 405	167	72.8	71.4	0.9%	12	0.013	1.42	0.92
MH 405 to MH 503	286	71.4	58.2	4.6%	12	0.013	3.32	2.15
MH 503 to MH 407	74	58.2	54.0	5.6%	12	0.013	3.67	2.37
						Minimum Flow Analyzed:	1.42	0.92

Notes:

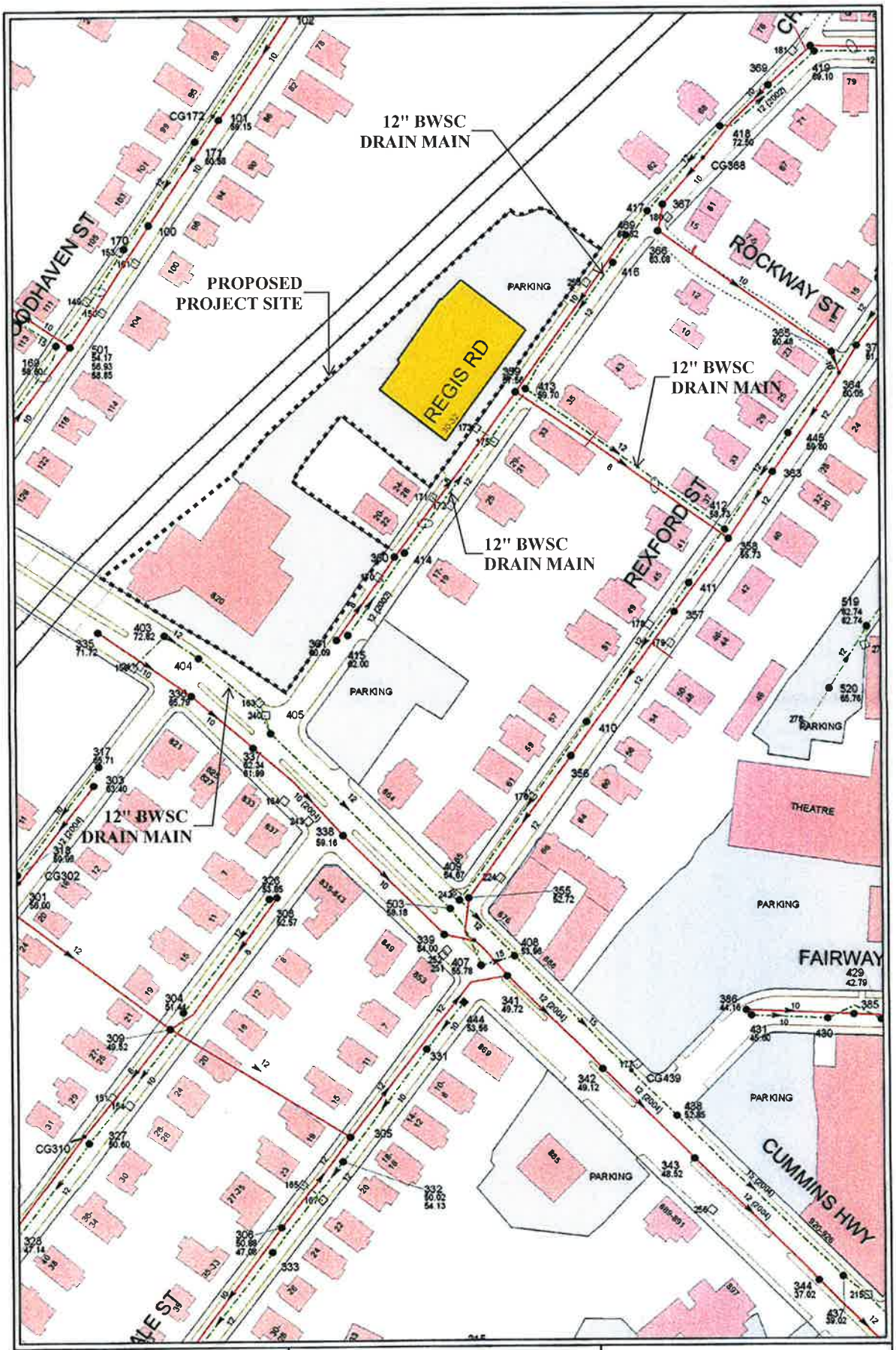
1. Flow Calculations based on Manning Equation
2. Manhole numbers for Regis Road and Cummins Highway were taken from BWSC Storm Drain System Map
3. Elevations refer to Boston City Base (BCB)

Table 8-1-3 indicates the hydraulic capacity of the 12-inch storm drain in the southern section of Regis Road and the 12-inch storm drain in the northern section of Regis Road, and the 12-inch storm drain in Cummins Highway. The minimum hydraulic capacity is 1.26 MGD or 1.95 CFS for the 12-inch system in Regis Road and 0.92 MGD or 1.42 CFS for the 10-inch system in Cummins Highway. The proposed Project will slightly increase impervious cover on the Site while incorporating an upgraded stormwater management system. The upgraded stormwater closed drainage collection and treatment system will recharge stormwater to the maximum extent practicable prior to overflowing to the BWSC system. Stormwater peak rates of runoff from the site will be reduced or meet existing rates of runoff. No storm main impacts are expected within the BWSC systems in Regis Road or Cummins Highway.

8.3.2 Proposed Storm Drainage System

Stormwater improvements will be reviewed as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of project demands and system capacity, and establishment of service accounts.

The site is tributary to the Neponset River. The Project is not located within the City of Boston Groundwater Conservation Overland District (GCOD) so the design will not be required to comply with Article 32 of the Boston Zoning Code. The proposed stormwater management system will collect site runoff and recharge 1-inch over the project's impervious area to the maximum extent practicable.



BOSTON WATER AND SEWER

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EXISTING BWSC STORM DRAIN SYSTEM MAP FIGURE 8-3

Site runoff will be collected by a closed drainage system and treated before overflowing to the BWSC storm drainage system. Stormwater runoff will be collected by a series of catch basins in the proposed parking lots which will then flow to a proposed treatment and/or recharge system. Roof runoff will flow to a proposed recharge system.

The stormwater management system will decrease or maintain the peak flow rate and volume of stormwater runoff from the site. New stormwater runoff will not be directed towards abutters.

8.3.3 Water Quality Impact

The Project will not adversely affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, straw bales and/or crushed stone, to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

If required, site dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies, as described below.

8.3.4 DEP Stormwater Management Policy Standards

In March 1997, MassDEP adopted a new Stormwater Management Policy to address non-point source pollution. In 1997, MassDEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the system compliance is provided below:

Standard #1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Compliance: The proposed design will comply with this Standard. No new untreated stormwater will be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the Project.

Standard #2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR.

Compliance: The proposed design will comply with this Standard. The post-development peak discharge rates will not exceed the pre-development peak discharge rates through methods involving infiltration and stormwater recharge on site.

Standard #3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmental sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project is a new development project; the Project will comply with this standard to the maximum extent practicable.

Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

a.Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;

b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and

c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

Compliance: The proposed design will comply with this standard. The Project will not have an impact on stormwater runoff quality. The Project storm drain service will not discharge to a combined sewer.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

Compliance: The proposed design will comply with this standard. The Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-6).

Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Compliance: The proposed design will comply with this Standard. The Project will not discharge untreated stormwater to a sensitive area or any other area.

Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Compliance: The proposed design is a new development and thus this standard is not applicable.

Standard #8: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

Compliance: The Project will comply with this standard. Sedimentation and erosion controls will be incorporated as part of the design of these projects and employed during construction.
Standard 9: A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

Compliance: The Project will comply with this standard. An O&M Plan including long-term BMP operation requirements will be prepared for the Proposed Project and will assure proper maintenance and functioning of the stormwater management system.

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

Compliance: The Project will comply with this standard. There will be no illicit connections associated with the Proposed Project.

8.4 Electrical Service

Eversource Energy owns the electrical system in the vicinity of the project site. It is expected that adequate service is available in the existing electrical systems in the surrounding streets to serve the Project. The Proponent will work with Eversource Energy to confirm adequate system capacity as the design is finalized.

8.5 Natural Gas

National Grid has gas services in the vicinity of the Project site. The Proponent will work with Eversource Energy to confirm adequate system capacity as the design is finalized.

8.6 Telecommunications Systems

The Proponent will selecte private telecommunications companies to provide telephone, cable, and data services. Upon selection of a provider or providers, the Proponent will coordinate service connection locations and obtain appropriate approvals.

8.7 Utility Protection During Construction

Existing public and private infrastructure located within nearby public rights-of-way will be protected during Project construction. The installation of proposed utility connections within public ways will be undertaken in accordance with the

BWSC, Boston Public Works Department, the Dig-Safe Program, and applicable utility company requirements. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by the BWSC as part of its Site Plan Review process.

All necessary permits will be obtained before the commencement of work. The Proponent will continue to work and coordinate with the BWSC and the utility companies to ensure safe and coordinated utility operations in connection with the Project.

Cote Village Expanded PNF
Chapter Nine
Coordination with other City Agencies

9.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

9.1 Department of Neighborhood Development

As the designated developer of the project site, COTE Village LLC continues to work with the Department of Neighborhood Development (DND) on issues related to project design, financing, and schedule.

9.2 Commonwealth of Massachusetts Funding Agencies

The Proponent is currently working to obtain financing from the following state and City funding agencies:

- ✓ MassHousing
- ✓ Massachusetts Department of Housing and Community Development (DHCD)
- ✓ City of Boston Department of Neighborhood Development
- ✓ City of Boston Neighborhood Housing Trust

9.3 Other City of Boston Regulatory Agencies

As the project progresses through the Article 80 Review Process, the Proponent will be working with other regulatory agencies as noted in Chapter 1, Figure 1.2

Cote Village Expanded PNF
Appendices

Appendix A-Transportation

The Transportation Appendix is Available Upon Request

Appendix B – Climate Change Preparedness Checklist

A.1 - Project Information

Project Name:	Cote Village Development
Project Address Primary:	820 Cummins Highway
Project Address Additional:	Boston, MA 02126
Project Contact (name / Title / Company / email / phone):	Gregory Minott / Principal / DREAM Collaborative / gminott@dreamcollaborative.com / 617.606.7029

A.2 - Team Description

Owner / Developer:	Caribbean Integration Community Development - Donald Alexis
Architect:	Davis Square Architects - Cliff Boehmer
Engineer (building systems):	TBD
Sustainability / LEED:	DREAM Collaborative - Gregory Minott
Permitting:	Bevco Associates - Beverly Johnson
Construction Management:	TBD
Climate Change Expert:	N/A

A.3 - Project Permitting and Phase

At what phase is the project – most recent completed submission at the time of this response?

PNF / Expanded PNF Submission	Draft / Final Project Impact Report Submission	BRA Board Approved	Notice of Project Change
Planned Development Area	BRA Final Design Approved	Under Construction	Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:	Multi-Family Mid-rise, Commercial, Office, Assembly
List the First Floor Uses:	Commercial, Residential, Assembly, Office

What is the principal Construction Type – select most appropriate type?

Wood Frame	**Masonry**	Steel Frame	**Concrete**

Describe the building?

Site Area:	94,415 *SF*	Building Area:	92,139 *SF*
Building Height:	38/42 *Ft.*	Number of Stories:	4/5 *Flrs.*
First Floor Elevation (reference Boston City Base):	73.25' *Elev.*	Are there below grade spaces/levels, if yes how many:	Yes *No / Number of Levels* One level

A.5 - Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems)?

Select by Primary Use:	New Construction	Core & Shell	Healthcare	Schools
	Retail	**Homes Midrise**	Homes	Other
Select LEED Outcome:	**Certified**	Silver	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified?

Registered:	Yes / **No**	Certified:	Yes / **No**

A.6 - Building Energy

What are the base and peak operating energy loads for the building?

Electric - base / peak:	/ *(kW)*	Heating – base / peak:	/ *(MMBtu/hr)*
What is the planned building Energy Use Intensity:	*(kbut/SF or kWh/SF)*	Cooling – base / peak:	/ *(Tons/hr)*

What are the peak energy demands of your critical systems in the event of a service interruption?

Electric:	*(kW)*	Heating:	*(MMBtu/hr)*
		Cooling:	*(Tons/hr)*

What is nature and source of your back-up / emergency generators?

Electrical Generation:	*(kW)*		Fuel Source:	
System Type and Number of Units:	Combustion Engine	Gas Turbine	Combine Heat and Power	*(Units)*

No MEP Engineers for this project yet, will update when given the information

B - Extreme Weather and Heat Events

Climate change will result in more extreme weather events including higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

B.1 - Analysis

What is the full expected life of the project?

Select most appropriate:	10 Years	25 Years	**50 Years**	75 Years

What is the full expected operational life of key building systems (e.g. heating, cooling, and ventilation)?

Select most appropriate:	10 Years	25 Years	**50 Years**	75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	10 Years	25 Years	**50 Years**	75 Years

Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

0 /100 *Deg.*	

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency?

100 *Deg.*	1 *Days*	24 *Events / yr.*

What Drought characteristics will be used for project planning – Duration and Frequency?

30-90 *Days*	.7 *Events / yr.*

What Extreme Rain Event characteristics will be used for project planning – Seasonal Rain Fall, Peak Rain Fall, and Frequency of Events per year?

55 *Inches / yr.*	6.65 *Inches*	8 *Events / yr.*

What Extreme Wind Storm Event characteristics will be used for project planning – Peak Wind Speed, Duration of Storm Event, and Frequency of Events per year?

105 *Peak Wind*	0.1 *Hours*	1 *Events / yr.*

B.2 - Mitigation Strategies

What will be the overall energy performance, based on use, of the project and how will performance be determined?

Building energy use below code:	20 %
How is performance determined:	Energy Modeling

What specific measures will the project employ to reduce building energy consumption?

Select all appropriate:				
	High performance building envelope	High performance lighting & controls	Building day lighting	EnergyStar equip. / appliances
	High performance HVAC equipment	Energy recovery ventilation	No active cooling	No active heating
Describe any added measures:				

What are the insulation (R) values for building envelope elements?

Roof:	*R* = 50	Walls / Curtain Wall Assembly:	*R* = 40
Foundation:	*R* = 30	Basement / Slab:	*R* = 40
Windows: DSA	*R* = / *U* =	Doors: DSA	*R* = / *U* =

What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure?

On-site clean energy / CHP system(s)	Building-wide power dimming	Thermal energy storage systems	Ground source heat pump
On-site Solar PV	On-site Solar Thermal	Wind power	None
Describe any added measures:	Project will be Solar PV ready		

Will the project employ Distributed Energy / Smart Grid Infrastructure and /or Systems?

Select all appropriate:			
Connected to a local electrical micro-grid	Building will be Smart Grid ready	Connected to distributed steam, hot, chilled water	Distributed thermal energy ready

Will the building remain operable without utility power for an extended period?

	Yes / No	If yes, for how long:	Days
If Yes, is building "Islandable?			
If Yes, describe strategies:			

Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:	Solar oriented – longer south walls	Prevailing winds oriented	External shading devices	Tuned glazing,
	Building cool zones	Operable windows	Natural ventilation	Building shading
	Potable water for drinking / food preparation	Potable water for sinks / sanitary systems	Waste water storage capacity	High Performance Building Envelope
Describe any added measures:				

What measures will the project employ to reduce urban heat-island effect?

Select all appropriate:	High reflective paving materials	Shade trees & shrubs	High reflective roof materials	Vegetated roofs
Describe other strategies:				

What measures will the project employ to accommodate rain events and more rain fall?

Select all appropriate:	On-site retention systems & ponds	Infiltration galleries & areas	vegetated water capture systems	Vegetated roofs
Describe other strategies:				

What measures will the project employ to accommodate extreme storm events and high winds?

Select all appropriate:	Hardened building structure & elements	Buried utilities & hardened infrastructure	Hazard removal & protective landscapes	Soft & permeable surfaces (water infiltration)
Describe other strategies:				

C - Sea-Level Rise and Storms

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

C.1 - Location Description and Classification:

Do you believe the building to susceptible to flooding now or during the full expected life of the building?

	Yes / No

Describe site conditions?

Site Elevation – Low/High Points:	Boston City Base 62'/82' Elev.(Ft.)

Building Proximity to Water: 1200 Ft.

Is the site or building located in any of the following?

Coastal Zone:	Yes / No	Velocity Zone:	Yes / No
Flood Zone:	Yes / No	Area Prone to Flooding:	Yes / No

Will the 2013 Preliminary FEMA Flood Insurance Rate Maps or future floodplain delineation updates due to Climate Change result in a change of the classification of the site or building location?

2013 FEMA Prelim. FIRMs:	Yes / No	Future floodplain delineation updates:	Yes / No

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding?

1175 Ft.

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

C - Sea-Level Rise and Storms

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

C.2 - Analysis

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise:	Ft.	Frequency of storms:	per year

C.3 - Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

What will be the Building Flood Proof Elevation and First Floor Elevation:

Flood Proof Elevation:	Boston City Base Elev.(Ft.)	First Floor Elevation:	Boston City Base Elev. (Ft.)

Will the project employ temporary measures to prevent building flooding (e.g. barricades, flood gates):

	Yes / No	If Yes, to what elevation	Boston City Base Elev. (Ft.)
If Yes, describe:			

What measures will be taken to ensure the integrity of critical building systems during a flood or severe storm event:

Systems located above 1st Floor.	Water tight utility conduits	Waste water back flow prevention	Storm water back flow prevention

Were the differing effects of fresh water and salt water flooding considered:

Yes / No

Will the project site / building(s) be accessible during periods of inundation or limited access to transportation:

	Yes / No	If yes, to what height above 100 Year Floodplain:	Boston City Base Elev. (Ft.)

Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

	Yes / No
If Yes, describe:	

Will the building remain occupiable without utility power during an extended period of inundation:

	Yes / No	If Yes, for how long:	*days*

Describe any additional strategies to addressing sea level rise and or sever storm impacts:

C.4 - Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand severe storm impacts and endure temporary inundation?

Select appropriate:	*Yes / No*	Hardened / Resilient Ground Floor Construction	Temporary shutters and or barricades	Resilient site design, materials and construction

Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:	*Yes / No*	Surrounding site elevation can be raised	Building ground floor can be raised	Construction been engineered
Describe additional strategies:				

Has the building been planned and designed to accommodate future resiliency enhancements?

Select appropriate:	*Yes / No*	Solar PV	Solar Thermal	Clean Energy / CHP System(s)
		Potable water storage	Wastewater storage	Back up energy systems & fuel
Describe any specific or additional strategies:				

Thank you for completing the Boston Climate Change Resilience and Preparedness Checklist!

For questions or comments about this checklist or Climate Change Resiliency and Preparedness best practices, please contact: John.Dalzell@boston.gov

Appendix C-Acentech Noise Report

ACENTECH

33 Moulton Street
Cambridge MA 02138
617 499 8000
acentech.com

November 23, 2015

Charles Eisenberg
Cote Village LLC
84 State Street, Suite 600
Boston, MA 02109

Subject: Acoustical Consulting Services
Cote Village Development
Mattapan, MA
Acentech Project No.: 626639

Dear Chuck:

We have reviewed and analyzed the conditions related to the HUD Noise Assessment for the Cote Ford Development site. For this analysis, we followed the recommended analysis procedure outlined in the Department of Housing and Urban Development (HUD) Noise Guidebook (HUD-953-CPD(1), September, 1991). Based on this guideline, we have the following findings, which indicate the sound levels are "Normally unacceptable" or "Unacceptable" by HUD's criteria for residential development based on the railway operations adjacent to the site.

HUD SITE ACCEPTABILITY STANDARDS

The HUD Noise Guidebook states that a site is acceptable for residential development provided that the day-night average sound level (abbreviated by L_{dn} and reported in decibels) does not exceed 65 dB. Sites with day-night average sound levels above 65 dB and not exceeding 75 dB are deemed "Normally Unacceptable" and require special approvals, environmental review, and attenuation. Site with day-night average sound levels above 75 dB are deemed "Unacceptable" and require special approvals, environmental review and attenuation that may be approved on a case-by-case basis.

AIRCRAFT CONDITIONS

The HUD Noise Guidebook requires analysis of aircraft operations within 15 miles of the residential development.

Logan International Airport (BOS) in Boston is located about 8 miles of this site. The airport provides noise contours of their aircraft operations, which show that this site is well outside of the L_{dn} 65 noise contour of their operations (see attached figure). Aircraft noise from this airport does not present any noise impact to this site.

Norwood Memorial Airport (OWD) is located about 7 miles from the site. The airport handles nearly 80% of their operations are general aviation, which are smaller private aircraft. The orientation of their runways (10/28 & 17/35) does not introduce flyovers in the direction of this development. While the airport maintains noise abatement procedures for the benefit of the immediate surrounding communities, the airport does not provide noise contours of their operations. Given these factors and the significant distance from their operations, we find that this airport does not have any significant noise impact to this development site.

ROADWAY CONDITIONS

The HUD Noise Guidebook requires analysis of significant roadways within 1,000 ft of the residential development. Within 1,000 feet of this site, there is Cummins Highway and State Road 28, which is also known as Blue Hill Avenue (see Figure 1). Given the size of the site, Cummins Highway has the greatest impact along the southwestern portion of the site, while the southeastern facing side of the site would have the greatest exposure to noise from traffic on State Road 28. The following roadway conditions were identified and are described in detail below.

Cummins Highway and State Road 28

The traffic conditions for these roadways are as follows:

- Cummins Highway is approximately 25 to 60 feet from the southwestern portion of the site, where Building A is located. State Road 28 is approximately 525 to 585 feet from the southeastern side of the site, which exposes all of the buildings (A, B, C & D) to the traffic sound.
- Average Daily Traffic information was obtained from the Massachusetts Department of Transportation website. The data are as follows:

Route	Location	Year	Average Daily Traffic
Cummins Highway	West of River St.	2007	12,000
Route 28	At Milton Town Line	2009	42,400

- The posted speed limit for Cummins Highway is 25 mph, while the posted speed limit for Route 28 is 30 mph.
- The roadway gradient was calculated based on the USGS Topographical maps for the area. The gradients are as follows:

Route	Rise (ft)	Distance (ft)	Calculated Gradient %
Cummins Highway	30	1,200	0%
Route 28	40	1,800	0%

- The traffic data does not provide a breakdown of the vehicular mix. The traffic on this roadway is assumed to be 95% passenger vehicles and 5% medium trucks. No indication of heavy truck traffic is provided.
- The traffic data does not provide a breakdown of day versus night traffic levels. For this analysis, the traffic is assumed to occur with 95% during daytime hours and 5% during nighttime hours.
- The nearest stoplight on State Road 28 is 580 feet from the Cote Ford site at the intersection of Route 28 and Babson St. There is no stop sign or traffic light on Cummins Highway within 600 feet.

Barrier Attenuation

Given the proximity of the building to Cummins Highway, there is no barrier effect for the southwest residences in Building A, which face the roadway. The residences to the east and north (Buildings B, C, & D) would experience a significant barrier effect (at least 5 dB), given that these buildings see only a small portion of the roadway around Building A.

There are numerous buildings that are 2 to 3 stories tall obstructing the line of sight from State Road 28 to the Cote Ford site. These buildings are estimated to provide at least 5 dB of attenuation for the Route 28 roadway noise.

Roadway Noise Predictions to Cote Ford Development

Based on the factors described above, we estimate the highest level of vehicular traffic noise to be 63 L_{dn} on the southwestern façade of Building A (see Figure 1 below). The sound levels at the other façades are

estimated to be significantly lower, given they are much further from the roadway and they are also shielded from the Cummins Highway and State Road 28. The parameters used in the Worksheet C Roadway Noise analysis of the HUD Noise Guidebook for the Building A southwestern façade are attached.

Figure 1: Roadway Noise Exposure to Cote Ford Site with most significant level (63 L_{DN}) along the southwestern façade of Building A (highlighted in **Green**).

RAILWAY CONDITIONS

The HUD Noise Guidebook requires analysis of any railway operations within 3,000 ft of the residential development. Within 3,000 feet of this site, there is one railroad line (see Figure 1). The railway lines are between 45 and 70 ft from the project site. The following railway operations were identified for this railway and are described in detail below.

MBCR Commuter Rail Trains

The railway is operated by the MBCR for Commuter Rail operations. For this source, we have assumed the following conditions:

- The trains for the Fairmount commuter rail with this site being located between the Fairmount and Morton Street stations.
- The distances of the inbound and outbound tracks for the various buildings on the site are listed below.

Building (Façade)	Distance to Inbound Tracks	Distance to Outbound Tracks
Building A (Northeast and northwest façades)	40	65
Building B	115	140
Building C	90	115
Building D	75	100

- Commuter rail trains that operate on this line incorporate 1 diesel locomotive and 6 passenger rail cars.

- The MBTA's published schedule for the Fairmount Line indicates that there are 22 inbound and 21 outbound trains each weekday and 17 inbound and 17 outbound trains on the weekends (the weekday schedule was used for the analysis).
- Of the 43 weekday trains, 5 of these trains passby the site between the hours of 10pm and 7am (nighttime hours).
- In the current conditions, the train is estimated to be moving at about 55 mph when these trains passby the Cote Ford Development site. We understand that a new station is planned to be constructed in the coming years adjacent to the site. This will reduce the speed of the trains to an average of about 10 mph. Both conditions have been analyzed for this site.

Freight Trains

We are not aware of any freight operations on these railway lines.

Track and Grade Crossing Assumptions

The sections of track are presumed to be welded (not bolted) together.

There are no grade crossings that would require the engineers of the trains to signal the trains' horn.

Barrier Attenuation

A majority of the façades have direct line of sight to the railway tracks. As a result, there is generally no barrier effect planned.

Railway Noise Predictions to Cote Ford Development

Based on the factors described above, we estimated the railway noise to the various façades at the Cote Ford Development site. The sound levels for the existing conditions (assuming the train passbys at 55 mph) are summarized in the table below.

Building (Façade)	L_{DN} of the Inbound Tracks	L_{DN} of the Outbound Tracks	Total L_{DN}
Building A (Northwest and northeast façades)	68	64	**70**
Building B (northwest façade)	61	59	63
Building C (northwest façade)	63	60	65
Building D (northwest façade)	64	62	**66**

We highlighted the values that exceed a total of 65 L_{DN} in bold red text, which would indicate sound levels that require mitigation. The results indicate that the existing conditions require mitigation for the Building A northwest and northeast façades and the Building D northwest façade.

We performed the same analysis of the railway noise for the future condition with the station in place (train passbys at 10 mph), which are summarized in the table below.

Building (Façade)	L_{DN} of the Inbound Tracks	L_{DN} of the Outbound Tracks	Total L_{DN}
Building A (Northeast and northwest façades)	75	71	**77**
Building B (northwest façade)	68	66	**70**
Building C (northwest façade)	70	68	**72**
Building D (northwest façade)	71	68	**73**

These results indicate that all of the northwest façades and the northeast façade of Building A require mitigation for the anticipated conditions with the future train station. This increased impact is due to the slow speed of the train, which introduces a longer and more significant noise exposure for the residences.

We note that the Building A façades are estimated to experience a sound level of 77 LDN, which falls in the Unacceptable Noise Zone category of the HUD Criteria.

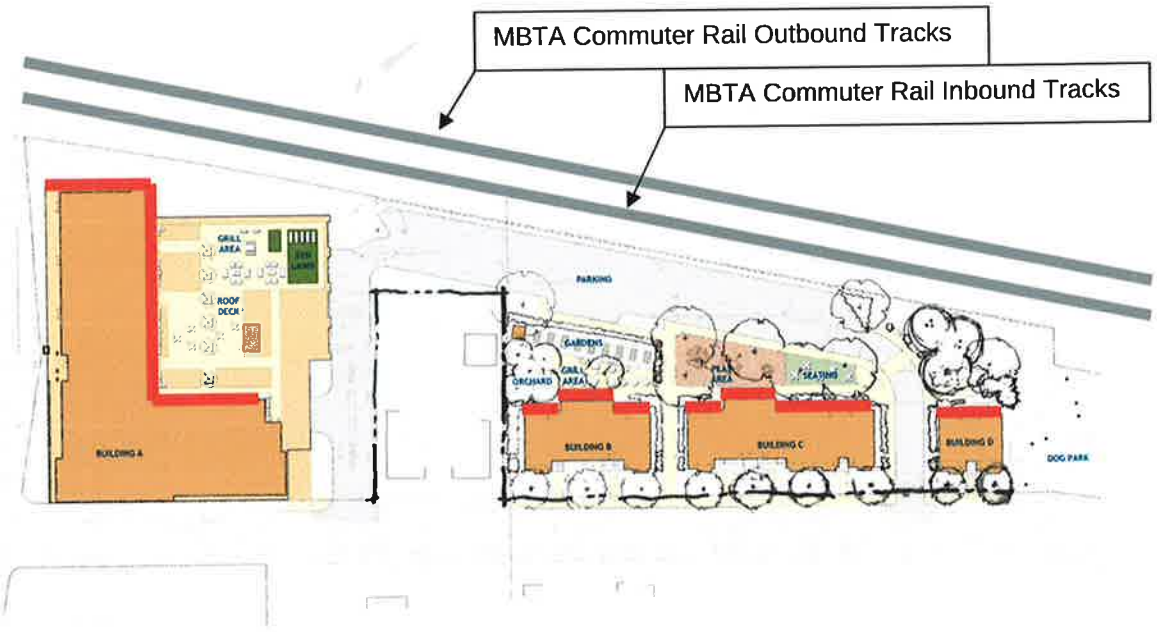


Figure 2: Railway Noise Exposure to Cote Ford Site (assuming a future train station condition) with the most significant levels on each building highlighted in **RED**.

NOISE ASSESSMENT SUMMARY

The results from the roadway and railway analyses are summarized below. On this relatively large site with several different buildings, the exposure to the surrounding noise is not equal to each of the buildings. It is also important to note that the sound levels from the railway and roadway are not additive, because these sound levels are exposed to different façades of the building.

For this reason, we have highlighted the façades that have the greatest exposure in the table below.

Transportation System	Building Façade(s)	Calculated DNL
Roadway (Cummins Highway and State Road 28)	A Southwestern	63
Railway (MBCR Commuter Rail Fairmount Line assuming a new station adjacent to the site)	Building A (Northeast and northwest façades)	**77**
	Building B (northwest façade)	**70**
	Building C (northwest façade)	**72**
	Building D (northwest façade)	**73**

Based the results, the sound levels at the site are "Normally Unacceptable" to "Unacceptable" for residential development based on the HUD environmental criteria. This finding requires that noise mitigation will be necessary to reduce the noise impact to the site. This is discussed below.

NOISE MITIGATION

The development of the site will require different levels of noise mitigation. The façades that are exposed to levels of greater than 65 L_{DN} to 70 L_{DN} will require 5 dB of mitigation, while the façades that are exposed to levels greater than 70 L_{DN} to 75 L_{DN} require 10 dB of mitigation. These levels of mitigation are described below.

5 dB Mitigation

This level of mitigation can be achieve either by the use of a noise barrier that effectively blocks the line of sight from the train or upgrade façade components. We will need to discuss how these options are applied to the buildings on this project.

10 dB Mitigation

This level of mitigation may require both a noise barrier and upgrade façade components. These components would be similar to those described above, but may need to be used together to achieve this level of isolation. This will need to be reviewed as the design develops.

Noise Barriers

The noise barrier would need several key components to provide at least 5 dB of noise control. First, the barrier must be constructed such that it is taller than the commuter rail engines, so that the residences are blocked from seeing the noise source. This will be important for the top floor residences, which have the highest elevation.

Second, the barrier needs to be long enough to block the light of sight to the train as it rolls down the tracks. This will mean the barrier needs to start at the Cummins Highway overpass and extend to the far end of the site.

Third, the barrier material must be sufficiently massive to block the sound from the commuter rail trains. Typically barriers of this type are made from pre-cast masonry, heavy timbers, or metal panels to provide sufficient noise control.

Finally, it will need to be constructed in a manner that achieves an airtight barrier so that sound does not pass through the construction, reducing the ability of the barrier to block the train noise.

These details will need to be developed to determine how these are met for achieving the noise reduction with this type of mitigation.

Upgraded Façades

Upgrading the façade of a residence typically focuses on the windows of the construction first, followed by the wall construction. This is due to the fact that most wall constructions perform far more effectively for blocking sound compared with the windows. Each of these components is discussed below.

Windows

A typical exterior window construction for thermal performance is anticipated to achieve about STC 25. To improve the construction by 5 dB it is often possible to modify the glazing to include the following components:

- thicker lites (for example, ¼-inch rather than ⅛-inch);
- laminated pane(s)

With these upgrades, the windows tend to achieve ratings of about STC 30 to 35.

To achieve a reduction of 10 dB or more, it will be necessary to incorporate an interior storm panel that is spaced at least 2 inches from the exterior glazing. An example of this type of window is available from Harvey Building Products (see their Acoustic Vinyl Double Hung Window), which achieves STC 40 or higher.

Walls

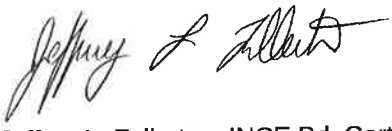
Wall upgrades of 5 dB can be accomplished using additional layers of exterior sheathing and interior drywall with a porous insulation.

Wall upgrades of 10 dB or more will require the use of separated constructions, such as a staggered stud, or a masonry exterior to provide the increased noise reduction.

* * * * * *

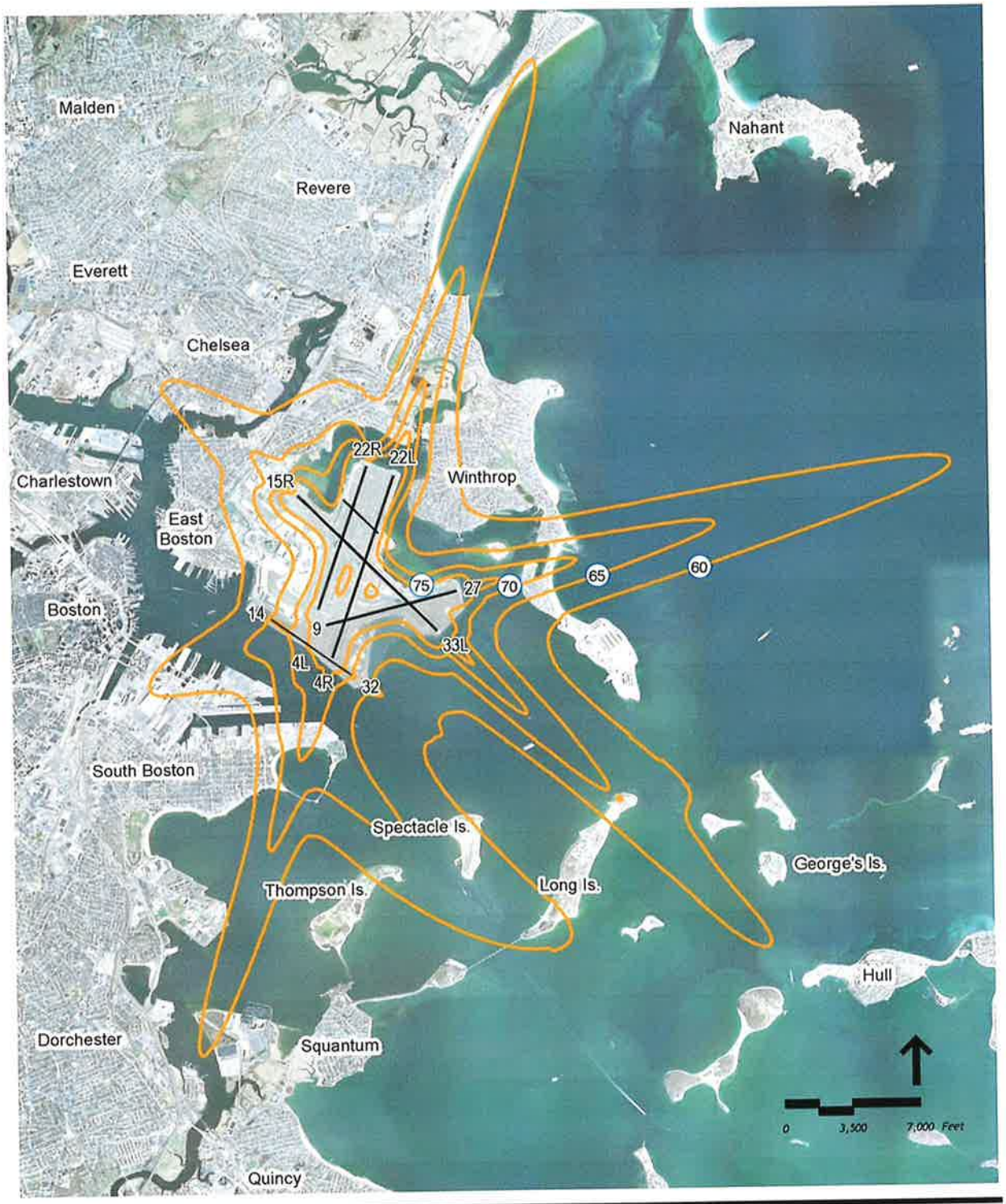
We trust this provides the feedback that you need for this project. Please call if you have questions or need additional information; my direct line is 617-499-8058.

Sincerely,



Jeffrey L. Fullerton, INCE Bd. Cert., LEED AP_{BD+C}
Principal Consultant in Acoustics

Enclosures: Boston-Logan International Airport 2012/2013 Noise Contours
Worksheet C Roadway Noise
Worksheet D Railway (55 mph passby) Noise at Building A
Worksheet D Railway (10 mph passby) Noise at Building A



Source: HMMH, MassGIS, USDA NAIP 2010

60-75 DNL Contours for 2013 Operations Using INM 7.0d

Figure 6-12

2013 DNL Contour (INM 7.0d)

HUD Noise Assessment Guidelines: Worksheet C - Roadway Noise

Residential Redevelopment
Cote Village LLC
Mattapan, MA

List all significant roadways within 1,000 feet of the site:

1 Cummins Highway
2 State Road 28
3 None

Worksheet C - Page 1

	Necessary Information	Roadway No. 1 - Cummins Highway	Roadway No. 2 - State Road 28	Roadway No. 3 - None	Comments
1a	Distance in ft from NAL to nearest edge of road:	25	525		
1b	Distance in ft from NAL to farthest edge of road:	60	585		
1c	Distance in ft from NAL to Road (average):	42.5	555		
2	Distance to stop sign	1000	585		
3	Road Gradient in percentage	0.0	0.0		
4a	Average Speed in mph - Automobiles	25	30		
4b	Average Speed in mph - Heavy Trucks uphill	25	30		
4c	Average Speed in mph - Heavy Trucks downhill	25	30		
	Average Daily Traffic	12,000	42,400		
5a	24 Hr average number of automobiles in both directions (ADT)	11,400	40,280		95 % Automobiles
5b	24 Hr average number of medium trucks in both directions (ADT)	600	2,120		5 % Medium Trucks
5c	Effective ADT (= 5a + 5b * 10)	17,400	61,480		
6a	24 Hr average number of heavy trucks uphill (ADT)	0	0		
6b	24 Hr average number of heavy trucks downhill (ADT)	0	0		
6c	Total heavy trucks	0	0		0 % Heavy Trucks
7	Fraction of night traffic (10pm to 7am):	0.05	0.05		5 % Nighttime
8	Traffic count for what year?	2007	2009		

Worksheet C - Page 2

	9		10		11		12		13			14		15		16
Adjustments for Automobile Traffic	Stop and Go Table 3		Average Speed Table 4		Nighttime Table 5		Auto ADT		Adjusted Auto ADT			DNL Workchart 1		Barrier Attenuation		Partial DNL
Roadway No. 1 - Cummins Highway	1	x	0.21	x	0.62	x	17,400	=	2,218		*X=42.5 ft & Y=2218 Ops*	63	-	0	=	63
Roadway No. 2 - State Road 28	0.9775	x	0.30	x	0.62	x	61,480	=	11,032		*X=555 ft & Y=11032 Ops*	53	-	5	=	48
Roadway No. 3 - None		x		x		x		=					-		=	

	17		18		19		20	21		22		23		24	25		26		27
Adjustments for Heavy Trucks	Gradient Table 6		Average Speed Table 7		Truck ADT/2		Uphill/ Downhill Truck ADT	Effective Truck ADT		Stop and Go Table 8		Nighttime Table 5		Adjusted Truck ADT	DNL Workchart 2		Barrier Attenuation		Partial DNL
Roadway No. 1 - Cummins Highway Uphill	1.0	x	0.81	x	0	=	0	0	x	1.80	x	0.62	=	0		-			0
Roadway No. 1 - Cummins Highway Downhill			0.81		0	=	0												
Roadway No. 2 - State Road 28 Uphill	1.0	x	0.81	x	0	=	0	0	x	1.80	x	0.62	=	0		-			0
Roadway No. 2 - State Road 28 Downhill			0.81		0	=	0												
Roadway No. 3 - None Uphill		x		x		=			x		x		=			-			
Roadway No. 3 - None Downhill						=													

Combined Automobiles and Trucks DNL	
Roadway No. 1 - Cummins Highway	63
Roadway No. 2 - State Road 28	48
Roadway No. 3 - None	

Total DNL for all Roadways = 63

HUD Noise Assessment Guidelines: Worksheet D - Railway Noise

Residential Redevelopment
Cote Village LLC
Mattapan, MA

List all railways within 3,000 feet of the site:

1 MBCR Commuter Rail (Fairmont Line Inbound)
2 MBCR Commuter Rail (Fairmont Line Outbound)
3 None

Worksheet D - Page 1

	Necessary Information	Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	Railway No. 3 - None	Comments
1	Distance in ft from NAL to track:	40	65		
2a	Number of Trains in 24 Hours - Diesel or Electrified:	22	21		
2b	Number of trains at night (10pm to 7am):	3	2		
3	Fraction of operations occurring at night (10pm to 7am):	0.14	0.10		
4	Number of diesel locomotives per train:	1	1		
5	Number of rail cars per train:	6	6		
6	Average train speed (mph):	55	55		
7	Track (Welded or bolted)	Welded	Welded		
8	Are whistles or horns required for grade crossings?	No	No		

Worksheet D - Page 2

	9		10		11		12		13		14		15		16		17
Adjustments for Diesel Locomotives	No. of Locomotives divided by 2	x	Average Speed - Table 9	x	Horns (enter 10)	x	Nighttime (Table 5)	x	No. of Trains (Line 2a)	=	Adjustment for No. of Operations		DNL (Workchart 3)	-	Barrier Attenuation	=	Partial DNL
Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	0.5	x	0.55	x	1	x	0.95	x	22	=	6	*X=40 ft & Y=6 Ops*	68	-	0	=	68
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	0.5	x	0.55	x	1	x	0.79	x	21	=	5	*X=65 ft & Y=5 Ops*	64	-	0	=	64
Railway No. 3 - None		x		x		x		x		=				-		=	

	18		19		20		21		22		23		24		25		26
Adjustments for Railway Cars or Rapid Transit Trains	No. of Cars divided by 50	x	Average Speed - Table 10	x	Bolted Rails (enter 4)	x	Nighttime (Table 5)	x	No. of Trains (Line 2a or 2b)	=	Adjustment for No. of Operations		DNL (Workchart 4)	-	Barrier Attenuation		Partial DNL
Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	0.12	x	0.55	x	1	x	0.95	x	22	=	1	*X=40 ft & Y=1 Ops*	55	-	0		55
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	0.12	x	0.55	x	1	x	0.79	x	21	=	1	*X=65 ft & Y=1 Ops*	50	-	0		50
Railway No. 3 - None		x		x		x		x		=				-			

Combined Locomotive and Railway Car DNL	
Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	68
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	64
Railway No. 3 - None	

Total DNL for all Railways = 70 **Building A**

HUD Noise Assessment Guidelines: Worksheet D - Railway Noise

Residential Redevelopment
Cote Village LLC
Mattapan, MA

List all railways within 3,000 feet of the site:

1 MBCR Commuter Rail (Fairmont Line Inbound)
2 MBCR Commuter Rail (Fairmont Line Outbound)
3 None

Worksheet D - Page 1

	Necessary Information	Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	Railway No. 3 - None	Comments
1	Distance in ft from NAL to track:	40	65		
2a	Number of Trains in 24 Hours - Diesel or Electrified:	22	21		
2b	Number of trains at night (10pm to 7am):	3	2		
3	Fraction of operations occurring at night (10pm to 7am):	0.14	0.10		
4	Number of diesel locomotives per train:	1	1		
5	Number of rail cars per train:	6	6		
6	Average train speed (mph):	10	10		
7	Track (Welded or bolted)	Welded	Welded		
8	Are whistles or horns required for grade crossings?	No	No		

Worksheet D - Page 2

	9		10		11		12		13		14		15		16		17
Adjustments for Diesel Locomotives	No. of Locomotives divided by 2		Average Speed - Table 9		Horns (enter 10)		Nighttime (Table 5)		No. of Trains (Line 2a)		Adjustment for No. of Operations		DNL (Workchart 3)		Barrier Attenuation		Partial DNL
Railway No. 1 - MBCR Commuter Rail (Fairmont LIne Inbound)	0.5	x	3.00	x	1	x	0.95	x	22	=	31	*X=40 ft & Y=31 Ops*	75	-	0	=	75
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	0.5	x	3.00	x	1	x	0.79	x	21	=	25	*X=65 ft & Y=25 Ops*	71	-	0	=	71
Railway No. 3 - None		x		x		x		x		=				-		=	

	18		19		20		21		22		23		24		25		26
Adjustments for Railway Cars or Rapid Transit Trains	No. of Cars divided by 50		Average Speed - Table 10		Bolted Rails (enter 4)		Nighttime (Table 5)		No. of Trains (Line 2a or 2b)		Adjustment for No. of Operations		DNL (Workchart 4)		Barrier Attenuation		Partial DNL
Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	0.12	x	3.00	x	1	x	0.95	x	22	=	8	*X=40 ft & Y=8 Ops*	57	-	0		57
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	0.12	x	3.00	x	1	x	0.79	x	21	=	6	*X=65 ft & Y=6 Ops*	53	-	0		53
Railway No. 3 - None		x		x		x		x		=				-			

Combined Locomotive and Railway Car DNL	
Railway No. 1 - MBCR Commuter Rail (Fairmont Line Inbound)	75
Railway No. 2 - MBCR Commuter Rail (Fairmont Line Outbound)	71
Railway No. 3 - None	
Total DNL for all Railways =	**77**

Building A

Appendix D – Acentech Vibration Study

ACENTECH

33 Moulton Street
Cambridge MA 02138
617 499 8000
acentech.com

November 11, 2015

Charles Eisenberg
Cote Village LLC
84 State Street, Suite 600
Boston, MA 02109

Subject: Acoustical Consulting Services
Cote Village Development – Site Vibration Study
Mattapan, MA
Acentech Project No. 626639

Dear Chuck:

From October 28th through October 30th, 2015 Acentech measured ground vibrations at the Cote Ford Development site in Mattapan, MA. The purpose of our study was to quantify the vibrations produced on the site by the adjacent Fairmont commuter rail line. This letter presents the results of our findings.

Vibration Criterion

The Federal Transit Administration (FTA) has established a criterion for assessing vibration impact of new rail lines on existing residences[1]. In this case we are assessing the potential impact of an existing rail line to a new residential development. The FTA criterion defines a residence as impacted if it receives vibrations in excess of 5,600 micro-in/sec (75 VdB) more often than 30 times per day. To give some perspective, the threshold for human perception is about 4,000 micro-in/sec (72 VdB). If more than 70 events are expected per day, then the criterion for the residence would be 72 VdB. For events that occur less than 30 times a day, the criterion increases to 80 VdB.

Ground-borne vibration can also cause structures to vibrate and create sound in a residence that cannot be treated with window or wall constructions in the way that airborne sound is treated. The FTA criterion for ground-borne noise is a level of 38 dBA for events in excess of 30 times per day.

Measurement Results

We placed an accelerometer to measure the vertical ground vibrations at a distance of approximately 40 feet from the nearest rail tracks at the location shown in Figure 1. This location was chosen because it will be the closest the planned residences will be to the train tracks. Vibrations were recorded at this site from approximately noon on Wednesday October 28th through 4:00 pm on Friday October 30th. During this period we captured a total of 96 train events. The rail tracks service the Fairmont Commuter line and there are 43 scheduled trains per day during the week and 34 each day on the weekends.

Ground-Borne Vibration

The maximum 1/3 octave vibration spectra from each recorded train pass is shown in Figure 2. This data shows that the peak vibration velocities occur in the 50 to 125 Hz frequency range, with amplitudes generally

[1] "Transit Noise and Vibration Assessment," FTA-VA-90-1003-06, Office of Planning and Environment, Federal Transit Administration, May 2006.
http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

in the 60 to 70 VdB range. From these spectra we calculated the overall vibration velocity level of each event and have plotted the distribution of train vibration levels in Figure 3. This shows that over the 2 day measurement period the trains produced vibrations predominantly between 65 and 75 VdB. There were only 3 occurrences where the vibrations exceeded 75 VdB and none above 80 VdB. The data in Figure 3 suggests that, according to the FTA criterion, ground-borne vibrations will not be excessive for the residents at this site.

Ground-Borne Noise

Ground-borne noise levels are predicted by applying A-weighting adjustments to the vibration velocity decibel values (VdB) and calculating an overall value. This approximates what the human ear can hear due to structures in the building vibrating. This was done for all 96 train pass events and the results are presented in Figure 4. The data show that the ground-borne noise levels predominantly occur in the 50-55 dBA range, which is above the FTA criterion of 38 dBA.

Subsequent research into the human response to ground-borne noise and vibration allows us to predict what percentage of the residential population may be highly annoyed by these conditions[2]. Ground-borne noise levels of 55 dBA occurring 30 to 40 times per day may be expected to be bothersome to about 15 percent of the residential population.

Discussion

The measurements at the Cote Ford site indicate that ground-borne vibrations will not be an issue for the residents. The ground-borne noise, however, is expected to be audible inside the buildings. These interior noise levels are expected to be about 55 dBA at the closest locations to the tracks. At these levels, the noise will be clearly audible, but will generally not interrupt conversation. At distances further from the tracks the estimated ground-borne noise levels will decrease. At the farthest resident locations near Regis Road (~ 150 away) the estimated noise will be about 43 dBA, which would correlate to an expected 7 percent of residents being bothered. Furthermore, we understand that a new train station is being planned near this area. If so, then the speed of the trains will likely be slower going past the Cote Ford site. If the speed of the trains was cut in half, then the resulting ground-borne noise would be another 6 dBA lower. This would put the levels at the far end of the site away from the tracks below the FTA ground-borne noise criterion of 38 dBA.

* * * * * *

I hope that this letter provides the information you need at this time. Please contact me at 617-499-8012 or at ebrush@acentech.com with any questions or if there is anything else we can do to be of service.

Sincerely,

ACENTECH INCORPORATED

Ethan R. Brush

Ethan R. Brush
Senior Consultant

\\acicsap057915\Jobs\626xxx\6266xx\626639 - POUA Cote Ford HUD\Vibration Measurements

[2] "Human Response to Groundborne Vibration and Noise and Vibration in Buildings Caused by Rail Transit," Zapfe J, Saurenman H, Fidell S, *Proceedings of the 10th International Workshop on Railway Noise*, Nagahama, Japan, 18-22 October 2010.

Figure 1: Vibration Measurement Location

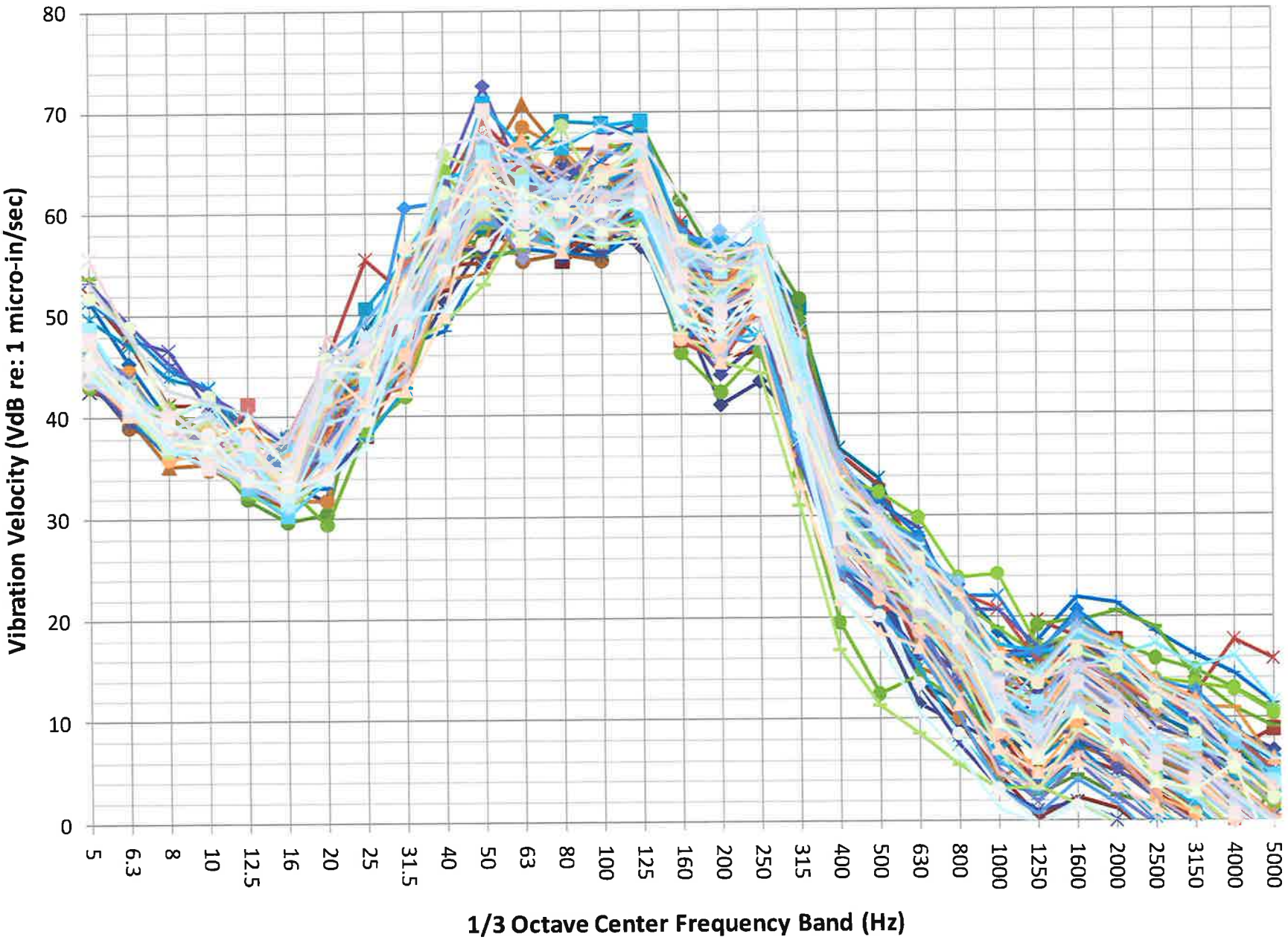


Figure 2: Vibration Velocity Spectra of all 96 Recorded Train Pass Events (10/28 – 10/30)

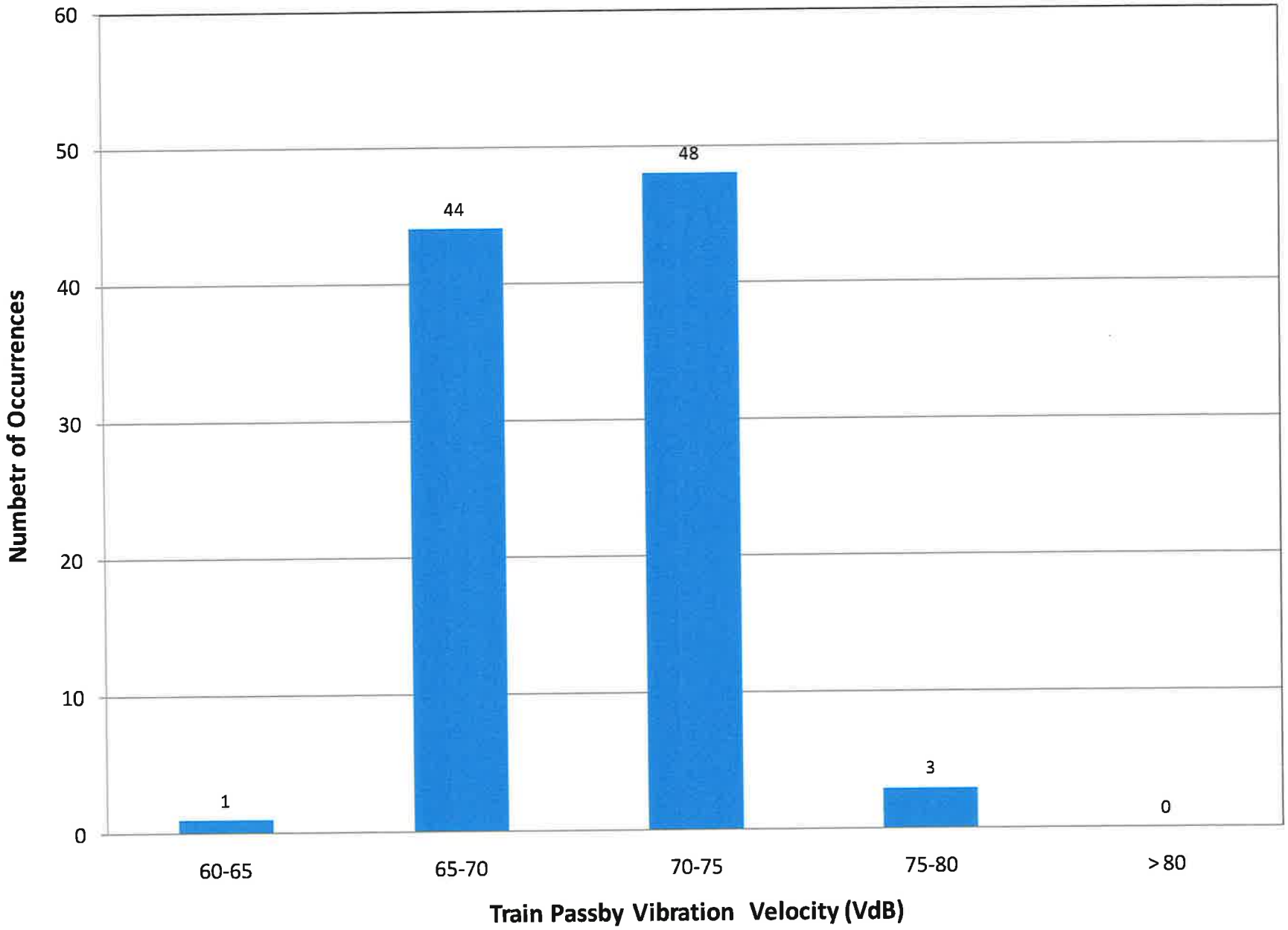


Figure 3: Distribution of Train Overall Vibration Levels During the Measurement Period (10/28 – 10/30)

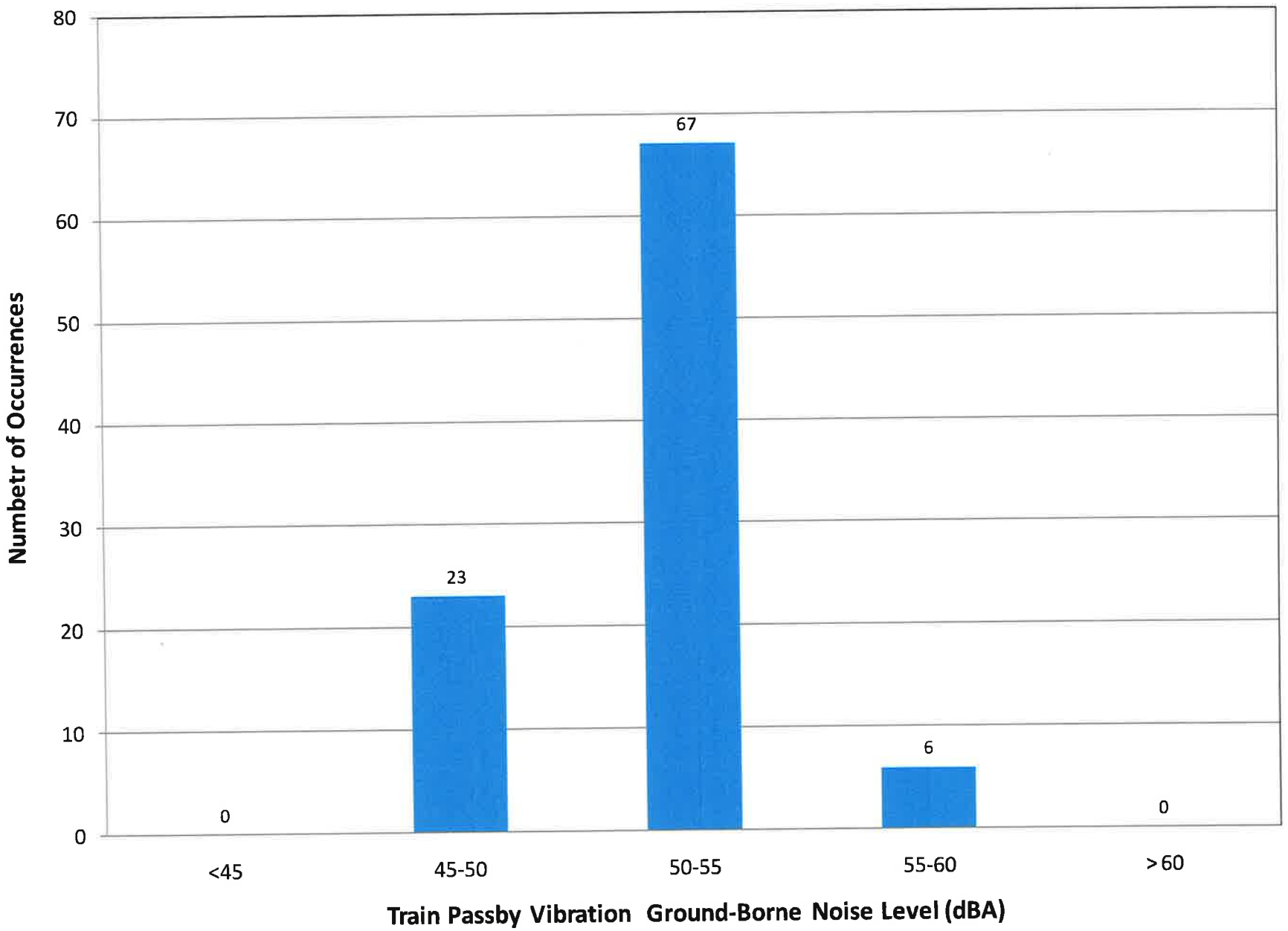


Figure 4: Distribution of Train Ground-Borne Noise Levels During the Measurement Period (10/28 – 10/30)

Appendix E – GZA Report – Groundwater Sampling

Laboratory Test Forms Available Upon Request

GZA

Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

5 Commerce Park North
Suite 201
Bedford, NH 03110
603.623.3600
www.gza.com

VIA EMAIL

December 1, 2015
File No. 04.0190309.04

Mr. William H. Grogan
Chief Operating Officer and General Counsel
Planning Office for Urban Affairs, Inc.
84 State Street, Suite 600
Boston, Massachusetts 02109

Re: Phase I Environmental Site Assessment (ESA) Addendum
Former Cote Ford Site
820 Cummins Highway and 30-32 Regis Road (Site)
Boston, Massachusetts

Dear Bill:

GZA GeoEnvironmental, Inc. (GZA) is pleased to provide the Planning Office for Urban Affairs (POUA) with this letter report summarizing recent groundwater sampling activities performed at the former Cote Ford Site located at 820 Cummins Highway and 30-32 Regis Road in the Mattapan neighborhood of Boston, Massachusetts (Site).

GZA completed a Phase I ESA of the Site in September 2015 in general accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Phase I Environmental Site Assessments, E 1527-13 (ASTM 1527-13). The study included a Site reconnaissance; a review of Site history; a review of selected local, state, and federal regulatory records; and interviews with persons and agencies familiar with the Site.

As part of the Phase I ESA, GZA reviewed data presented in a Phase II Site Assessment Report prepared by TRC Environmental Corporation (TRC) dated February 2013. After resampling of nine groundwater monitoring wells at the Site in December 2012, TRC concluded that *"[c]oncentrations of analyzed constituents were not detected above MCP* [Massachusetts Contingency Plan] *GW-2 or GW-3 standards."* However, in June of 2014 the Massachusetts Department of Environmental Protection (MassDEP) adopted revised risk-based numerical standards for certain contaminants including trichloroethylene (TCE). These updated standards are documented in the MCP at 310 CMR 40.0974(2): Table 1. Groundwater sampling activities were performed at the Site by TRC in 2012, prior to these updates.

Based on GZA's review of TRC's February 2013 report, the TCE concentration in groundwater detected at well RIZ-2 was below the standards in effect at the time; however, the concentration detected in 2012 exceeds the revised 2014 standard for TCE (30 parts per billion [ppb] versus 5 ppb standard). Based on this observation, GZA recommended the collection of groundwater samples to evaluate current conditions relative to the updated GW-2 standards.

Proactive by Design

The objective of GZA's Scope of Services and this Phase I ESA Addendum letter is to update information to reflect current groundwater quality conditions for consideration in the development of Site Soil and Groundwater Management Plans.

This letter report presents GZA's field observations, results, technical opinions, and recommendations. The opinions included in this letter report are subject to modification based on additional information obtained by GZA or provided to GZA by other parties and the Limitations presented in **Appendix A**.

SITE DESCRIPTION

The Site consists of four parcels of land totaling approximately 113,695 square feet and improved with two buildings, one each located on 820 Cummins Highway and 30-32 Regis Road (refer to **Figure 1** for a Locus Plan). The Site is currently vacant, but was previously used for the sale, service, and storage of automobiles. Other improvements within the Site included asphalt paved parking lots, access road ways, and chain link fencing surrounding both portions of the Site. Gated access to the Site was via Regis Road and Youngs Road; however, access to 820 Cummins Highway had also previously been available from Cummins Highway. Vegetated areas are present on the northwestern edge of the 820 Cummins Highway property between the building and the railroad, and along the northeastern edge of 30-32 Regis Road.

In general, the Site topography was relatively level across the southern parcels and 30-32 Regis Road with a rocky upland area observed on the northeastern edge of 30-32 Regis Road. The majority of the 820 Cummins Highway property is occupied by the building, which has the lower level partially exposed along Regis Road and completely exposed proximate to the end of Youngs Road and along the railroad. Surface water runoff from impervious surfaces at the Site is anticipated to be collected in catch basins located on Site and on Regis Road and Cummins Highway and discharged to the municipal stormwater system.

GZA understands that the current redevelopment plan includes partial/selective demolition of the two-story, reinforced concrete building and the attached one-story, reinforced concrete garage at 820 Cummins Highway that was historically used for automobile sales and repair, and full demolition of the one-story building at 30-32 Regis Road that was historically operated as an auto body and vehicle repair facility. Based on a Concept Plan provided in September 2015 by Davis Square Architects, the project architect, redevelopment will include mixed residential and commercial land uses.

SCOPE OF SERVICES

To update the current understanding of groundwater quality conditions at the Site, GZA completed the following Scope of Services:

- Collection of four shallow overburden groundwater samples from well locations RIZ-1 (assumed upgradient based on groundwater flow direction determined by others), RIZ-2 (historical TCE detections), RIZ-5 (interior well with historical volatile petroleum

Proactive by Design

hydrocarbon [VPH] detections), and RIZ-6 (interior well with historical extractable petroleum hydrocarbon [EPH] detections) using a peristaltic pump and dedicated polyethylene tubing[1] on November 20, 2015. Other wells proposed for sampling could not be located due to overgrown conditions at the Site.

Refer to **Figure 2** for an illustration of well locations. The sample collection depths were selected based on the middle of the saturated portion of the screen.

- Groundwater samples were submitted to ESS Laboratory (ESS) and analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260B, and EPH plus target analytes[2] and VPH carbon ranges (without targets; targets are covered by VOC analysis) by MCP Methods; and
- Preparation of this letter report summarizing our findings and recommendations.

OBSERVATIONS

The following observations were noted by GZA during groundwater sampling activities:

- The groundwater monitoring wells were purged dry prior to sampling and were slow to recharge. As a result, up to one well volume was purged at each well location. Samples for EPH analyses were not able to be obtained from RIZ-5 and RIZ-6 due to insufficient recharge of the wells during well sampling.
- Well RIZ-1 was located using a metal detector. The well cover and J-plug were not present, and the well was partially filled in with sediment. GZA was able to remove surficial sediment from the well riser; however, the sample collected may not be representative. Groundwater from this well location contained entrained sediment that did not appear to diminish during purging and sampling activities.
- Light non-aqueous phase liquid was not observed in any of the wells. No odors or sheens were observed in samples collected from the monitoring wells.

GROUNDWATER QUALITY FINDINGS

The depth to groundwater was measured concurrent with the groundwater sampling on November 20, 2015 and ranged between approximately 4.3 feet below ground surface (bgs [RIZ-2]) and 7.4 feet bgs (RIZ-5). Reference point elevations for the monitoring wells at the Site were not provided in previous environmental reports and a survey of well elevations was beyond the scope of GZA's Scope of Services. Therefore, groundwater elevations and flow direction using the November 2015 water level measurements was not evaluated. Historical groundwater elevation data presented in a 1996 Phase I report by Rizzo Associates, Inc. (Rizzo) indicates a southwest flow for the overburden groundwater direction on the Site.

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[1] The original Scope of Services included collection of a groundwater sample at well MW-6 (downgradient of former USTs removed in 1986); however, this well was not able to be located.

[2] EPH samples were not able to be collected from RIZ-5 and RIZ-6 due to insufficient recharge of the wells.

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The laboratory analytical reports for groundwater samples are provided in **Appendix B**. Refer to **Table 1** for a summary of analytical results. Groundwater results were compared to MCP Method 1 GW-2 and GW-3 risk-based standards. The following summarizes the groundwater analytical data results:

- Low concentrations of acetone were detected at two well locations (RIZ-1 and RIZ-6); however, acetone is a common laboratory contaminant. GZA notes that there has been no historical evidence documenting acetone use or prior acetone contamination of soil and/or groundwater at the Site.
- Chlorinated VOCs (cVOCs) including TCE and tetrachloroethylene (PCE) were detected at RIZ-2 at concentrations of 24.3 micrograms per liter (µg/L) and 12.3 µg/L, respectively. cVOCs were not detected in RIZ-5 or RIZ-6 above laboratory reporting limits. The concentration of TCE exceeds the GW-2 groundwater standard of 5 µg/L, while the detection of PCE was below the GW-2 standard for PCE (50 µg/L). GW-2 standards consider the potential for contaminants in groundwater to volatilize and migrate into indoor air.

  While the concentrations of both TCE and PCE at RIZ-2 appear to have declined since originally being detected in 1996, the concentrations are consistent with those detected by TRC in 2012 suggesting the potential for a source of cVOCs in the vicinity of RIZ-2 (refer to **Appendix C** for TRC's 2012 data table summary). In 1996, TCE was also detected in MW-2 which is located south of RIZ-2 adjacent to the 820 Cummins Highway building. TCE was not detected in MW-2 during the 2012 groundwater monitoring performed by TRC. MW-2 was not located during GZA's November sampling. The source of cVOCs is unclear at this time and was not assessed during prior work at the Site. The RIZ-2 area is not included within any of the three areas comprising the Activity and Use Limitation (AUL) at the Site.

  GZA notes a low concentration of TCE (0.07 milligrams per kilogram) was detected in a composite soil sample collected from a shallow test pit (TP-3 at a depth of 2 feet bgs), which was below both the reportable concentrations in effect at the time and the current reportable concentrations. The soil sample was collected as part of post-excavation confirmation soil sampling completed by Rizzo in 1995 that was associated with the removal of three underground storage tanks (USTs) in this area of the Site (refer to **Appendix C** for an excerpt from Rizzo's 1995 report). This soil sample was collected less than 75 feet south-southeast of RIZ-2 in the area of a former waste oil UST. Based on historical data collected by TRC in 2012 and Rizzo in 1995, TCE has not been detected in overburden groundwater in the upgradient well RIZ-3, and downgradient wells RIZ-4 and "18-in Well." As cited above, TCE was detected in 1995 (but not detected in 2012) in MW-2 at 7 µg/l; MW-2 was located south and cross-gradient/down-gradient of RIZ-2.
- Elevated concentrations of certain EPH fractions and certain EPH target analytes were detected in groundwater at RIZ-1. All concentrations were below the applicable GW-2 and GW-3 standards with the exception of pyrene, which was detected at 76.7 µg/L (there is no GW-2 standard for pyrene, however the GW-3 standard for pyrene is

20 µg/L). GZA notes groundwater quality at this location during 2012 indicated that there were no EPH fractions and EPH target analytes detected above laboratory reporting limits. Based on the groundwater sample quality (entrained sediment) and the impaired integrity of the monitoring well (cover and cap were missing and it was filled with sediment), the data results for RIZ-1 are likely biased high.

The 2012 groundwater data results at RIZ-1 indicated the presence of low concentrations (i.e., below MCP risk-based levels) of VPH fractions and certain VPH target analytes; however, it appears that residual VPH-related petroleum contamination in groundwater at this location is naturally attenuating.

Due to a lack of groundwater recharge into the wells, a sufficient volume of groundwater could not be obtained from RIZ-5 or RIZ-6 for EPH analyses. It is assumed that EPH-related groundwater impacts are still present in this area but have likely attenuated over time.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings presented above, GZA offers the following conclusions and recommendations to the POUA:

- A residual source of TCE contamination impacting shallow groundwater is present in the vicinity of well RIZ-2. Groundwater concentrations have been above the 2014 revised MCP standard since 1996. The source of the TCE has not been determined and the presence of cVOCs in this area is not addressed by the existing AUL implemented at the Site.
- Elevated concentrations of certain EPH fractions and certain EPH target analytes were detected in groundwater at RIZ-1. Based on the groundwater sample quality (entrained sediment) and the impaired integrity of the monitoring well, the data results in GZA's opinion are anomalous and attributable to entrained sediment in the sample. The 2012 groundwater data results at RIZ-1 indicated the presence of low concentrations (i.e., below MCP risk-based levels) of VPH fractions and certain VPH target analytes; however, it appears that residual petroleum contamination in groundwater is naturally attenuating.
- Groundwater quality data specific to EPH analyses at the interior wells RIZ-5 and RIZ-6 at 820 Cummins Highway were not able to be collected due to the insufficient recharge at these locations. However, EPH data results from 2012 indicate the presence of residual petroleum contamination in shallow overburden groundwater beneath this building. EPH concentrations at the time were below GW-2 and GW-3 standards and had appeared to have naturally attenuated since 1996. In addition, in January 2014, TRC conducted a limited evaluation of soil and sub-slab soil gas conditions at the Site. Several VPH and EPH constituents were detected in soil and in soil vapor proximate to RIZ-5 and RIZ-6 (TRC B-7 through B-9 soil samples and SG-3 for soil vapor) on the eastern end of the 820 Cummins Highway building; however, none exceeded the applicable screening values. GZA notes that exceedances of the MassDEP soil vapor residential screening values for naphthalene were observed at SG-1 proximate to the

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former 4,000-gallon UST located near the southern corner of the 30-32 Regis Road building.

Residual petroleum-related impacts to soil and groundwater in the area of RIZ-5 and RIZ-6 appear to be adequately addressed by the existing AUL. Soil and groundwater will be managed during construction under the Site Soil and Groundwater Management Plan(s) and a Release Abatement Release Abatement Measure Plan, if required.

If you have any questions regarding this report, please do not hesitate to contact the undersigned at (603) 623-3600.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

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ATD/KDB/JCM:tmd
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Attachments: Figures
Table
Appendix A – Limitations
Appendix B – Laboratory Data Package
Appendix C – Historical Laboratory Data Summaries

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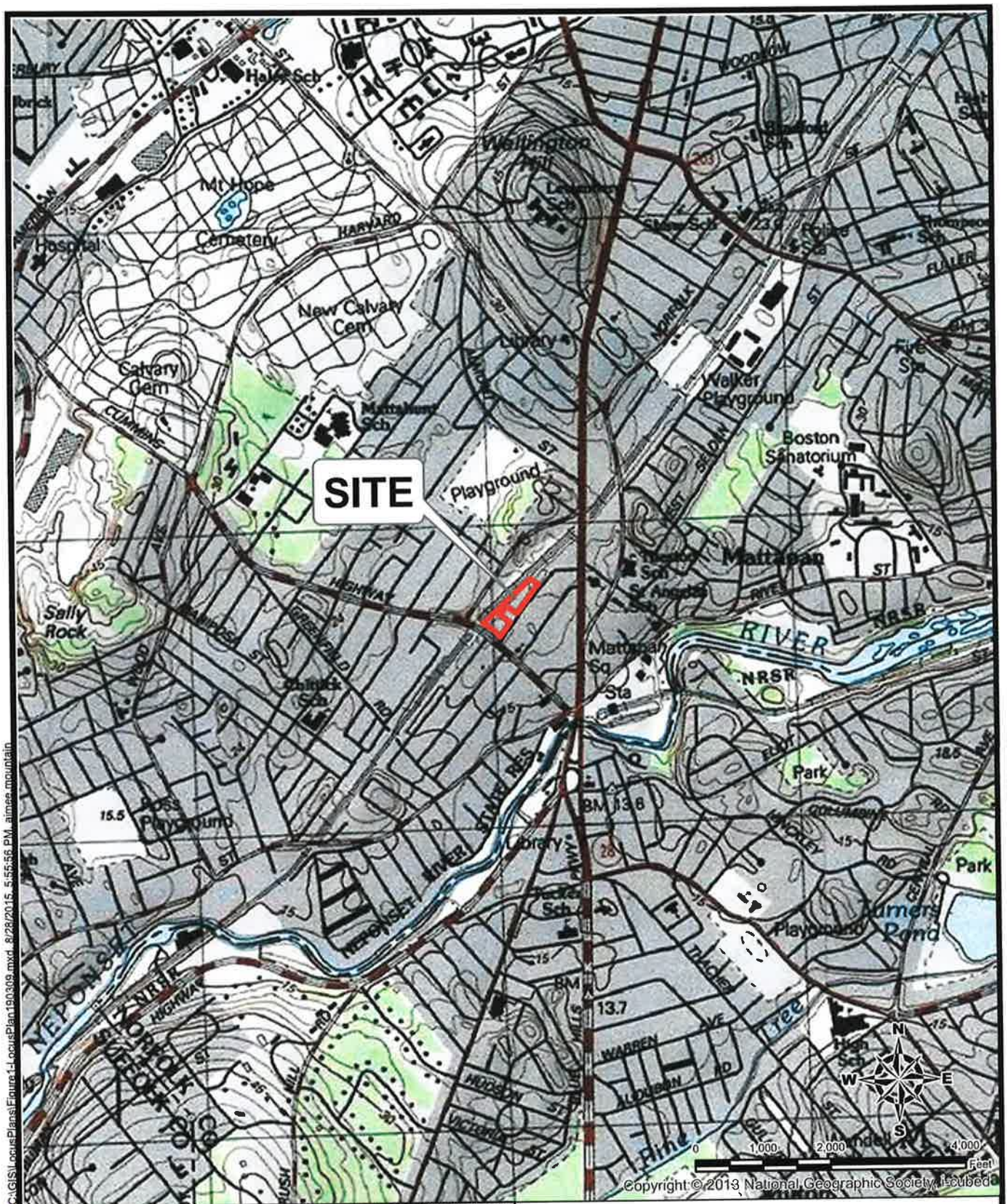
FIGURES



SOURCE : THIS MAP CONTAINS THE ESRI ARCGIS ONLINE USA TOPOGRAPHIC MAP SERVICE, PUBLISHED DECEMBER 12, 2009 BY ESRI ARCIMS SERVICES AND UPDATED AS NEEDED. THIS SERVICE USES UNIFORM NATIONALLY RECOGNIZED DATUM AND CARTOGRAPHY STANDARDS AND A VARIETY OF AVAILABLE SOURCES FROM SEVERAL DATA PROVIDERS

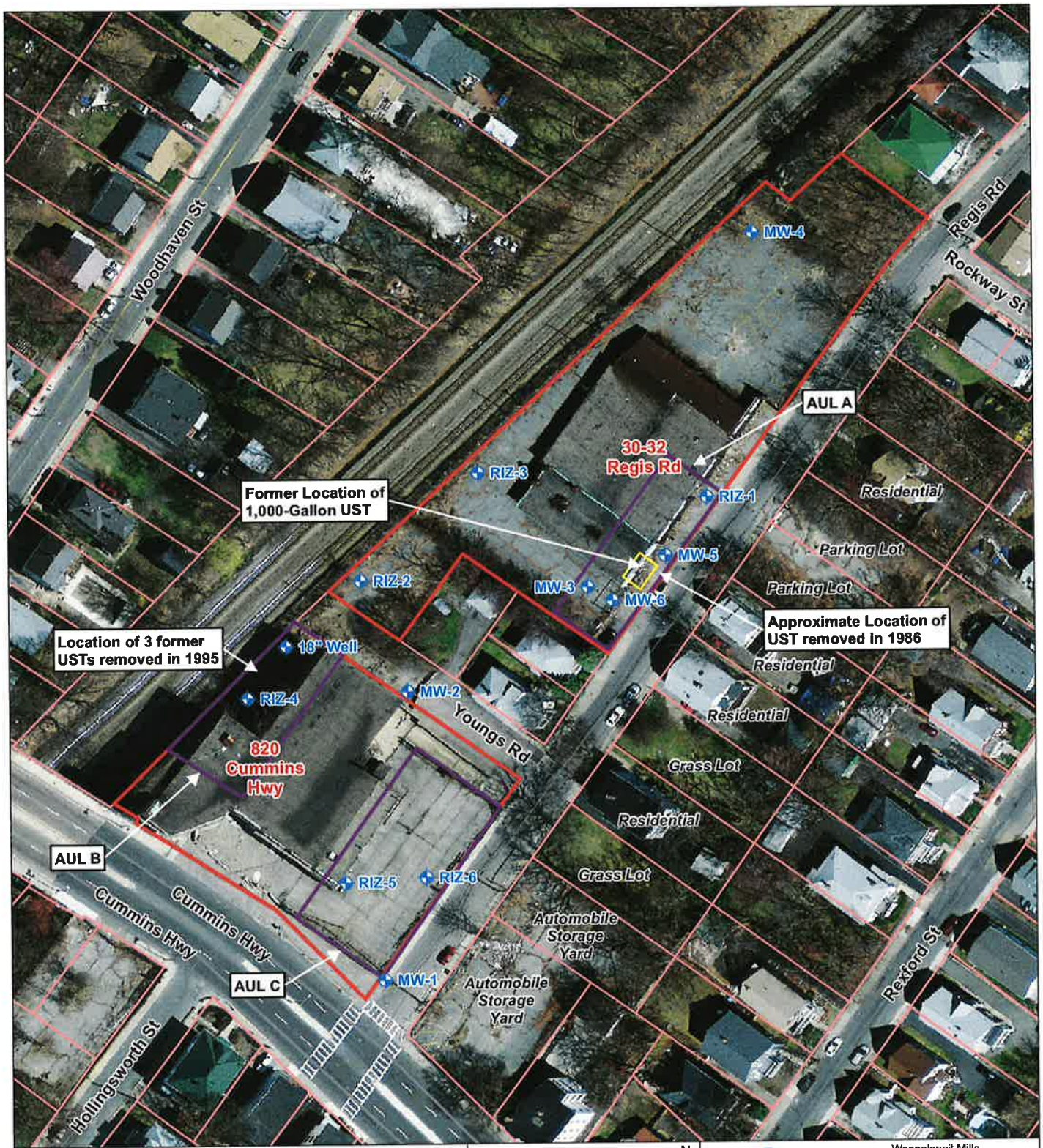
FORMER COTE FORD SITE
820 CUMMINS HIGHWAY AND 30-32 REGIS ROAD
MATTAPAN, MASSACHUSETTS

LOCUS PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
PLANNING OFFICE FOR URBAN AFFAIRS, INC.
84 STATE STREET, SUITE 600
BOSTON, MASSACHUSETTS

PROJ MGR: TPJ	REVIEWED BY: KDB	CHECKED BY: JCM	FIGURE 1
DESIGNED BY: TPJ	DRAWN BY: ADM	SCALE: 1 in = 2,000 ft	
DATE: 8/28/2015	PROJECT NO. 04.0190309	REVISION NO.	



TRC

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SITE PLAN

FORMER COTE FORD SITE
820 CUMMINS HIGHWAY
AND 30-32 REGIS ROAD
MATTAPAN, MA

FIGURE 2	JANUARY 2013

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TABLE

Table 1 - Summary of Detected Concentrations in Groundwater Above Laboratory Reporting Limits
Former Cote Ford Site
Boston, Massachusetts

Sample ID	MCP-GW2	MCP-GW3	RIZ-1			RIZ-2			RIZ-5				RIZ-6				
Sample Date			1/29/1996	12/19/2012	11/20/2015	1/29/1996	12/19/2012	11/20/2015	1/29/1996	7/25/1996	12/19/2012	11/20/2015	1/29/1996	2/7/1997	5/2/1997	12/19/2012	11/20/2015
8260B Volatile Organic Compounds (ug/L)																	
Acetone	50,000	50,000	-	< 5	**10.4**	≤ 5	≤ 10	< 10	≤ 5	-	< 10	≤ 10	≤ 5	≤ 10	-	< 10	**11.4**
cis-1,2-Dichloroethene	20	50,000	-	≤ 1	< 1	**32**	**1.7**	≤ 1	≤ 5	-	< 1	< 1	< 5	≤ 1	-	≤ 1	< 1
Tetrachloroethene	50	30,000	-	≤ 1	≤ 1	**24**	**3.1**	**2.3**	≤ 5	-	≤ 1	≤ 1	< 5	< 1.5	-	≤ 1	≤ 1
Trichloroethene	5	5,000	-	< 1	≤ 1	**150**	**30**	**24.3**	< 5	-	≤ 1	≤ 1	< 5	< 1	-	≤ 1	< 1
Xylenes (Total)	3,000	5,000	-	-	< 2	-	**4 J**	≤ 2	< 5	-	-	≤ 2	≤ 5	≤ 1	-	-	< 2
MADEP-EPH Extractable Petroleum Hydrocarbons (ug/L)																	
2-Methylnaphthalene	2,000	20,000	-	< 2	≤ 1.4	-	< 2	< 0.47	-	≤ 50	≤ 2.2	-	-	< 50	-	≤ 2	-
Acenaphthene	NA	10,000	-	< 2	**3.29**	-	< 2	< 0.19	-	< 20	< 2.2	-	-	≤ 20	-	< 2	-
Acenaphthylene	10,000	40	-	≤ 2	< 0.56	-	< 2	< 0.19	-	≤ 20	< 2.2	-	-	≤ 20	-	≤ 2	-
Anthracene	NA	30	-	≤ 2	**7.88**	-	< 2	< 0.19	-	≤ 20	≤ 2.2	-	-	**33.6**	-	≤ 2	-
Benzo(a)anthracene	NA	1,000	-	< 2	**35.5**	-	≤ 2	< 0.19	-	≤ 20	< 2.2	-	-	**130**	-	≤ 2	-
Benzo(a)pyrene	NA	500	-	< 2	**31.2**	-	≤ 2	< 0.09	-	< 50	< 2.2	-	-	**53**	-	< 2	-
Benzo(b)fluoranthene	NA	400	-	≤ 2	**50.7**	-	< 2	< 0.19	-	≤ 50	< 2.2	-	-	≤ 50	-	≤ 2	-
Benzo(g,h,i)perylene	NA	20	-	≤ 2	**19.2**	-	< 2	< 0.19	-	< 50	< 2.2	-	-	< 50	-	≤ 2	-
Benzo(k)fluoranthene	NA	100	-	< 2	**16**	-	≤ 2	< 0.19	-	< 50	≤ 2.2	-	-	< 50	-	≤ 2	-
C11-C22 Aromatics1,2	50,000	5,000	-	<100	**686**	-	<100	< 93.5	-	< 20	< 110	-	-	**91,000**	**1,940**	**870**	-
C11-C22 Unadjusted Aromatics1	50,000	5,000	-	-	**1,170**	-	-	< 93.5	-	-	-	-	-	-	-	-	-
C19-C36 Aliphatics1	NA	50,000	-	<100	**2,090**	-	<100	< 93	-	< 20	< 110	-	-	**320,000**	**4,970**	**1,700**	-
C9-C18 Aliphatics1	5,000	50,000	-	<100	< 280	-	<100	≤ 93	-	**27**	< 110	-	-	**42,000**	**384**	**250**	-
Chrysene	NA	70	-	≤ 2	**47.6**	-	< 2	< 0.19	-	≤ 50	< 2.2	-	-	**220**	-	< 2	-
Dibenzo(a,h)Anthracene	NA	40	-	< 2	**6.07**	-	≤ 2	< 0.19	-	≤ 50	≤ 2.2	-	-	< 50	-	≤ 2	-
Fluoranthene	NA	200	-	< 2	**98.7**	-	≤ 2	< 0.19	-	< 50	< 2.2	-	-	**460**	-	< 2	-
Fluorene	NA	40	-	≤ 2	**3.91**	-	≤ 2	< 0.19	-	< 50	< 2.2	-	-	< 50	-	< 2	-
Indeno(1,2,3-cd)Pyrene	NA	100	-	≤ 2	**23.7**	-	< 2	< 0.19	-	≤ 50	< 2.2	-	-	≤ 50	-	< 2	-
Naphthalene	700	20,000	-	< 2	< 1.4	-	≤ 2	< 0.47	-	≤ 50	≤ 2.2	-	-	< 50	-	< 2	-
Phenanthrene	NA	10,000	-	< 2	**66.4**	-	≤ 2	< 0.47	-	< 50	< 2.2	-	-	< 50	-	< 2	-
Pyrene	NA	20	-	≤ 2	**76.7**	-	< 2	< 0.19	-	≤ 50	≤ 2.2	-	-	**480**	-	< 2	-
MADEP-VPH Volatile Petroleum Hydrocarbon (ug/L)																	
Benzene	1,000	1,000	-	≤ 1	< 1.5	-	< 1	≤ 1.5	-	**2.80**	< 1	≤ 1.5	-	-	-	< 1	< 1.5
C5-C8 Aliphatics1,2	3,000	3,000	-	**190**	< 150	-	<100	< 150	-	< 2	< 100	< 150	-	-	-	< 100	< 150
C9-C10 Aromatics	4,000	4,000	-	<100	≤ 100	-	<100	< 100	-	**15.0**	< 100	< 100	-	-	-	< 100	< 100
C9-C12 Aliphatics2,3	5,000	5,000	-	**110**	< 150	-	<100	< 150	-	**69.0**	< 100	< 150	-	-	-	< 100	< 150
Ethylbenzene	20,000	20,000	-	**6.9**	< 5	-	< 1	< 5	-	**3.60**	≤ 1	< 5	-	-	-	≤ 1	< 5
Toluene	50,000	50,000	-	**1.9**	≤ 5	-	< 1	≤ 5	-	< 2	≤ 1	≤ 5	-	-	-	< 1	< 5
Xylene O	3,000	3,000	-	**7.3**	≤ 5	-	< 1	< 5	-	≤ 2	≤ 1	≤ 5	-	-	-	≤ 1	≤ 5
Xylene P,M	3,000	3,000	-	**3.7**	≤ 10	-	<2	≤ 10	-	≤ 2	< 2	≤ 10	-	-	-	≤ 2	≤ 10

Notes:

- Bold concentrations indicate a compound was detected above the laboratory reporting limit; shaded concentrations indicate an exceedance of the standard.
- "<" = Compound was analyzed for, but not detected above the laboratory reporting limit.
- "ug/L" = micrograms per Liter
- "MCP-GW2/GW3" = Massachusetts Contingency Plan (MCP) Method 1 Groundwater Standards included in 310 CMR 40.0361 (updated in 2014).
- EPH = Extractable Petroleum Hydrocarbons
- VPH = Volatile Petroleum Hydrocarbons
- "-" indicates data was not available for that compound