I - Appendices

I - Corporate Articles of Organization

Secretary of State

Corporations Division
Suite 315, West Tower
2 Martin Luther King Jr., Dr.
Atlanta, Georgia 30334-1530

CONTROL NUMBER	:	9822300
EFFECTIVE DATE	:	06/09/1998
COUNTY	:	FULTON
REFERENCE	:	0033
PRINT DATE	:	06/11/1998
FORM NUMBER	:	356

SARA L. PARRAMORE
MORRIS, MANNING & MARTIN
3343 PEACHTREE RD, STE. 1600
ATLANTA GA 30326

CERTIFICATE OF ORGANIZATION

I, Lewis A. Massey, the Secretary of State of the State of Georgia, do hereby certify under the seal of my office that

WP EAST ACQUISITIONS, L.L.C.
A GEORGIA LIMITED LIABILITY COMPANY

has been duly organized under the laws of the State of Georgia on the effective date stated above by the filing of articles of organization in the office of the Secretary of State and by the paying of fees as provided by Title 14 of the Official Code of Georgia Annotated.

WITNESS my hand and official seal in the city of Atlanta and the State of Georgia on the date set forth above.

Lewis A. Massey
LEWIS A. MASSEY
SECRETARY OF STATE

ARTICLES OF ORGANIZATION
OF
WP EAST ACQUISITIONS, L.L.C.

I.

NAME. The name of the Limited Liability Company is WP East Acquisitions, L.L.C. (hereinafter the "Company").

II.

MANAGEMENT. The management of the Company is vested in one or more Managers.

IN WITNESS WHEREOF, the undersigned has executed these Articles of Organization, this 9th day of June, 1998.

Timothy S. Pollock, as Organizer

LEWIS A. MASSEY
Secretary of State

OFFICE OF SECRETARY OF STATE
CORPORATIONS DIVISION
Suite 315, West Tower, 2 Martin Luther King Jr., Drive
Atlanta, Georgia 30334-1530
(404) 656-2817
Registered agent, officer, entity status information on the Internet
http://www.sos.state.ga.us

CATHY COX
Assistant Secretary of State - Operations

WARREN H. RARY
Director

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TRANSMITTAL INFORMATION
GEORGIA LIMITED LIABILITY COMPANY

DOCKET #	981610221	PENDING #	P232609	CONTROL #	9822300
DOCKET CODE	356	DATE FILED	6/9/98	AMOUNT RECEIVED	75
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NOTICE TO APPLICANT: PRINT PLAINLY OR TYPE REMAINDER OF THIS FORM.

1. 981560267
LLC Name Reservation Number

WP East Acquisitions, L.L.C.
LLC Name

2. Sara L. Parramore/ Morris, Manning & Martin — 404-233-7000
Applicant/Attorney — Telephone Number

3343 Peachtree Road, Suite 1600
Address

Atlanta, — GA — 30326
City — State — Zip Code

3. 1308 E. Fourth Street, Suite 200
Principal Office Mailing Address

Charlotte, — NC — 28204
City — State — Zip Code

4. Timothy S. Pollock, Esq.
Name of Registered Agent in Georgia

3343 Peachtree Road. Suite 1600
Registered Office Street Address in Georgia

Atlanta — Fulton — GA — 30326
City — County — State — Zip Code

5. Name and Address of each organizer (Attach additional sheets if necessary)

Timothy S. Pollock, Esq. 3343 Peachtree Road, Suite 1600, Atlanta, GA 30326
Organizer — Address — City — State — Zip Code

Organizer — Address — City — State — Zip Code

6. Mail or deliver to the Secretary of State, at the above address, the following:
1) This transmittal form
2) The original and one copy of the Articles of Organization
3) A filing fee of $75.00 payable to Secretary of State. Filing fees are NON-refundable.

Timothy S. Pollock — 6/9/98

Authorized Signature Timothy S. Pollock, Esq., Organizer — Date
(Member, Manager or Organizer)

Registered agent, officer, entity status information on the Internet: http://www.sos.state.ga.us

FORM 231

II – LEED Narrative and Somerville Sustainability Questionnaire

NEW ECOLOGY

Community-Based Sustainable Development

Alta XMBLY
290 Revolution Drive
Somerville, MA

Wood Partners

Green Building Report

LEED v4 Midrise

July 2, 2018

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LEED FOR HOMES MULTIFAMILY MIDRISE VERSION 4

The Project Team will incorporate sustainable principles into its design, construction, and operation of the Alta XMBLY Project. The Project will meet its sustainability goals by achieving certifiability through the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) for Multifamily Midrise Version 4 (LEED MR) rating system. Implementation of LEED certifiability ensures the Project design includes the following sustainability principles:

- An integrated team, members of which will be in constant communication throughout the design and construction process;
- Environmentally friendly site design and consideration of landscaping that benefits both residents and the surrounding habitats;
- Efficient water use that minimizes waste and maximizes applicable technology;
- Energy efficiency through installation of high-efficiency equipment and a right-sized system design;
- Healthy materials and finishes throughout all interior spaces, reducing health effects on residents; and
- Effective ventilation and exhaust systems design to ensure continued health and air quality throughout the life of each building.

The narrative below details the strategies by which the Project will meet various prerequisite and credit requirements under LEED MR.

HOME SIZE ADJUSTMENT

Using the Home Size Adjustment Calculator, the average home size point adjustment is +9.5 points.

INTEGRATIVE PROCESS

The design team includes an architect, mechanical engineer, and sustainable design consultant. The team members have met monthly throughout the LEED planning, preliminary design, and design development stages of the planning process.

LOCATION AND TRANSPORTATION

The Location and Transportation (LT) category addresses reduction of urban sprawl and rewards development on and near previously existing infrastructure, public transportation, and developed land.

LLp Floodplain Avoidance

The site has been previously developed and is exempt from this prerequisite.

LTc Site Selection (7 points)

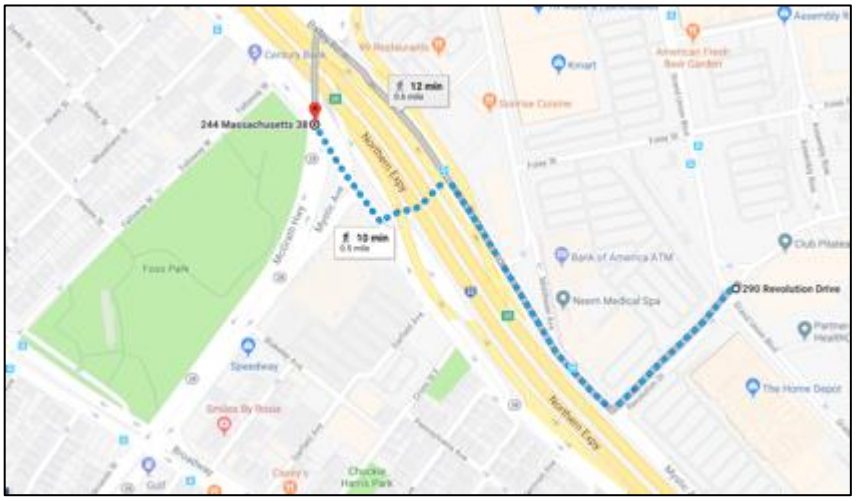
Previously Developed Land (4 pts). The Project is located on a lot that is at least 75% previously developed

Infill Land (2 pts). The Project is located on a lot with a perimeter of >75% previously developed land; this qualifies as infill land.

Existing Conditions demonstrating compliance with Previous Develop and Infill requirements can be seen on the Aerial Maps, below.

LTc Site Selection. Aerial Map of Existing Conditions at Alta XMBLY.

Access to Open Space (1 pt). Alta XMBLY residents have nearby (within ½-mile walking distance) access to open space at least ¾ acre in size, at Foss Park, which is 15 acres in size – see walking distance maps below.



LTc Site Selection – 1/2-mile walking distance to Open Space at Foss Park.

LTc Compact Development (3 points)

The Project is designed with the following site density:

- 329 units within 1.65 acres for a density of 199 units per acre

LLc Community Resources (2 points)

The Project is located within 1/2-mile walking distance of the following Community Resources. Both buildings meet the credit threshold of 12 accessible resources, for two (2) points:

Services and Walking Distances to Alta XMBLY:
Services

1. Restaurant: Sunrise Cuisine – 0.1 mile
2. Restaurant: American Fresh Beer Garden – 0.3 mile
3. Gym/ health club: Club Pilates – 0.3 mile
4. Gym/ health club: TITLE Boxing Club – 0.3 mile
5. Hair Salon: SoMa Salon and Spa – 0.3 mile

Food Retail

6. Supermarket: Trader Joes – 0.4 mile
7. Supermarket: Stop & Shop – 0.3 mile

Community-Serving Retail

8. Clothing Store: TJ Maxx – 0.3 mile
9. Clothing Store: Nike Factory Store – 0.3 mile
10. Hardware Store: Home Depot – 0.2 mile

Civic and Community Facilities

11. AMC Assembly Row 12 – 0.3 mile
12. Sylvester Baxter Riverfront Park – 0.4 mile

LTc Community Resources. Map).

LLc Access to Transit (2 points)

The Project is located 0.4-mile walking distance of the Assembly Square MBTA subway station. This station provides residents with 268 weekday trips and 214 weekend trips. The site is also 0.2 miles from the Grand Union Blvd @ Foley Street bus station which serves the 90 and 92 busses, which has 38 weekday and 26 weekend and 82 weekday and 54 weekend trips, respectively, qualifying for two (2) points via credit thresholds.

SUSTAINABLE SITES

The Sustainable Sites (SS) category addresses environmental issues related to landscape and site design, ensuring a seamless co-existence between the built environment and the natural environment.

SSp Construction Activity Pollution Prevention

The Project will provide a Stormwater Pollution Prevention Plan (SWPPP) to minimize runoff and wind erosion from the site throughout Construction. All members of the demolition and construction teams will adhere to the SWPPP. Daily, weekly, and monthly inspections will ensure that installed methodology is kept in good condition. Additionally, the plan will address the following requirements, as applicable:

1. Protection of stockpiles and disturbed soil during on-site storage for reuse,
2. Control of path and velocity of runoff from site,
3. Protection of on-site storm sewer inlets and water bodies,
4. Diversion of runoff from site hillsides,
5. Protection of erosion from site slopes 15%, or greater, and
6. Prevention of air pollution from dust and particulate matter.

SSp No Invasive Plants

The project team has committed to specifying no species listed on the National Association of Exotic Pest Plant Council's list of invasive plants for the state of Massachusetts.

SSc Nontoxic Pest Control (2 point)

The Project will include the following nontoxic pest-deterrent design methodology:

1. For below-grade walls, use solid concrete foundation walls, masonry walls with a course of solid block bond beam, or concrete-filled block.
2. Seal all external cracks, joints, penetrations, edges, and entry points with appropriate caulking. Install rodent- and corrosion-proof screens (e.g., copper or stainless steel mesh) on all openings greater than ¼ inch (6 millimeters), except where code prohibits their installation (e.g., dryer vents).
3. Design discharge points for rain gutters, air-conditioning condensation lines, steam vent lines, or any other moisture source such that discharge is at least 24 inches (600 millimeters) from the foundation
4. Design landscape features to provide a minimum 18-inch (450 millimeters) space between the exterior wall and any plantings.

At construction completion, the Project will also develop an integrated pest management policy for distribution to residents. This document will include information on the following:

1. Pesticide use,
2. Housekeeping, and
3. Prompt reporting of any observed pest problems within the building(s).

WATER EFFICIENCY

The Water Efficiency (WE) category addresses environmental degradation related to overuse of potable water within residential buildings and irrigation systems.

WEp Water Metering *LEED H and H Midrise*

The Project will include at least one whole-house water meter.

WEc Indoor Water Use (9 pts)

The Project will specify 1.0 gpm lavatory faucets, 1.5 gpm kitchen faucets, 1.5 gpm showerheads, 1.28 gpf toilets, and ENERGY STAR certified dishwashers and clothes washers to achieve a 45% reduction in water use.

ENERGY AND ATMOSPHERE

The Energy and Atmosphere (EA) category addresses ongoing energy usage and continued building performance.

EAp Minimum Energy Performance

The Project will meet all applicable requirements of the Massachusetts Stretch Energy Code. Energy modeling has not yet been completed but will be available prior to final permitting.

EAp Energy Metering

The Project will install individual electric and gas meters for each residential unit as well as a central meter for the building.

EAp Education of Homeowner, Tenant, or Building Manager

At construction completion, NEI will work with Wood Partners to develop an Operations Training Manual that describes the sustainable aspects of installed systems and assemblies. All operations staff will participate in a 1-hour training walk through to view and inspect installed equipment.

Additionally, NEI will work with Wood Partners to develop a Resident Green Guide to be distributed to applicable staff and/or residents at building occupancy. Distribution will be accompanied by copies of the LEED checklist as well as a 1-hour walk-through of the building and units to highlight installed LEED-related items.

EAc Annual Energy Use (5 pts)

The Project will meet all applicable requirements of the Massachusetts Stretch Energy Code. While Energy Modeling has not been completed at this time, we conservatively estimate a *minimum* 10% reduction in energy cost below the ASHRAE baseline.

MATERIALS AND RESOURCES

The Materials and Resources (MR) category addresses all installed materials, including framing and interior finishes, as well as diversion of waste from landfills.

MRp Certified Tropical Wood

The Project will utilize non-tropical wood products, or if necessary, Forestry Stewardship Council (FSC)-certificated products for necessary woods from tropical countries. The builder will provide a letter stating this preference to all relevant sub-contractors.

MRp Durability Management

Each building will meet the requirements of the ENERGY STAR for Certified Homes, version 3, Water Management System Builder Checklist. Additionally, the following interior water management measures will be installed:

1. Nonpaper-faced backer boards (or mold-resistant board) will be installed in all areas directly above the bathtub spa, or shower, as well as at any exposed wall or wall area behind fiberglass enclosures of tubs or showers – see specification excerpt below for more information.
2. Water-resistant flooring is specified in all kitchen, bathrooms, laundry, and spa areas and at all exterior doors.
3. Tankless gas-fired water heaters will be used for hot water heating
4. Install drain or drain pan under all clothes washers installed in, or over, living space, and
    a. Drain pans will be installed under all clothes washers.
5. Exhaust all conventional clothes dryers directly to the outdoors
    a. All dryers will be exhausted directly to the outdoors through rigid ductwork.

MRc Construction Waste Management (2 point)

The Project will implement a Construction Waste Management Plan which requires waste haulers to prioritize recycling of construction waste and diversion from landfills and incinerators to the greatest extent possible. The waste hauler shall provide documentation of all waste removed from the site at least monthly to show a diversion rate of 40% below the baseline or greater.

INDOOR ENVIRONMENTAL QUALITY

The Indoor Environmental Quality (IEQ) category addresses the exhaust and ventilation of all interior spaces within the building, ensuring a consistent healthy environment for building residents.

IEQp Ventilation

The Project will design and install a whole-unit ventilation system for each individual dwelling unit, complying with the mechanical ventilation requirements of ASHRAE 62.2-2010. Non-unit spaces will meet the minimum requirements of ASHRAE 62.1-2010.

This includes provision of direct exhaust air to each residential unit, and confirmation that all inlets are located at least 10-feet away from all known sources of contamination, including exhaust outlets.

IEQp Combustion Venting

The Project has designed the residential units without unvented combustion appliances, fireplaces, and with Carbon Monoxide (CO) monitors on each floor of all units.

IEQp Garage Pollutant Protection

The garage will be separated from the conditioned spaces with a monolithic concrete slab with all penetrations fully sealed. Stairwells and elevator lobbies shall have self-closing weather-stripped doors and shall be fully air sealed from the garage. Carbon monoxide detectors shall be installed in rooms adjacent to the garage.

IEQp Radon-Resistant Construction

The living spaces are separated from the ground with the garage, which will have active ventilation.

IEQp Air Filtering

All Project mechanical ventilation ductwork and equipment will include minimum MERV 8 filtration media to ensure that harmful particulates are filtered out of the air stream, prior to entry into the interior spaces.

IEQp Environmental Tobacco Smoke

Alta XMBLY will prohibit smoking within all areas of the building. This policy will be communicated to residents through rental agreements. Exterior designated smoking areas will be identified with signage and located at least 25-feet from all building entries, air intakes, and operable windows.

IEQp Compartmentalization

The Project will compartmentalize each residential unit to minimize leakage. Each unit will be tested for leakage and will demonstrate compliance with the maximum allowable leakage of 0.23 CFM50 via blower door testing at construction completion.

IEQc Enhanced Ventilation (3 points)

The Project will include a continuously operating exhaust fan in each unit of the building. Additionally, fresh air will be supplied to both the units and the common spaces of the building, providing balanced ventilation throughout.

IEQc Balancing of Heating and Cooling Distribution Systems (3 points)

1. The average unit size is less than 1,200 square feed and automatically meets the requirements of the credit.
2. Each units will be tested to confirm that supply air-flow rates are within 20% of ACCA calculated values.
3. Each bedroom will be tested to demonstrate a pressure difference of less than 3 Pa with respect to the main body of the when the air handler is running and doors are closed.

IEQc Enhanced Combustion Venting (1 point)

The Project will only install natural gas equipment listed by an approved safety testing facility. Any fireplaces installed will be in the amenity space and will have permanently fixed glass front and an electronic pilot with direct venting.

IEQc Enhanced Garage Pollutant Protection (1 point)

The garage exhaust will meet the requirements of ASHRAE 62.1-2010. The exhaust fan will run continuously with increased exhaust if CO levels are elevated.

IEQc Environmental Tobacco Smoke

Alta XMBLY will prohibit smoking within all areas of the building. This policy will be communicated to residents through rental agreements. Exterior designated smoking areas will be identified with signage and located at least 25-feet from all building entries, air intakes, and operable windows.

INNOVATION

The Innovation and Design Process (ID) category encourages project planning and design to improve the coordination and integration of the various elements in a green home.

IDp Preliminary Rating

The preliminary Project design indicated LEED Certifiability for the building. An updated checklist is attached in Appendix A, for review.

IDc LEED AP Homes (1pt)

Eli Herman, of NEI, holds a LEED AP Homes credential and is an integrated member of the Project Team; his credentialing certificate can be seen in Appendix C, attached.

REGIONAL PRIORITY

The Regional Priority (RP) category encourages projects to pursue existing checklist credits that have identified by the United States Green Building Council (USGBC) as "high-priority" for the project location and region.

The following credits have been identified for the building

1. Access to Transit (1pt)
2. Balancing of Heating and Cooling Distribution Systems (1 pt)
3. Nontoxic Pest Control (1 pt)

APPENDIX A: LEED CHECKLIST

LEED BD+C: Multifamily Midrise v4 - LEED v4

ALTA XMBLY Scorecard

Location: **290 Revolution Drive, Somerville, MA 2145, USA**

Note: The information on this tab is READ-ONLY. To edit this information, see the Credit Category tabs.

Integrative Process		**Preliminary**	Y	1 of 2	M	*0*	**Verified**	0
IPc	**Integrative Process**			1 of 2		*0*		
Location and Transportation		**Preliminary**	Y	14 of 15	M	*0*	**Verified**	0
LTp	Floodplain Avoidance			Required				Not Verified
Performance Path								
LTc	LEED for Neighborhood Development			0 of 15		*0*		
Prescriptive Path								
LTc	Site Selection			7 of 8		*0*		
LTc	Compact Development			3 of 3		*0*		
LTc	Community Resources			2 of 2		*0*		
LTc	Access to Transit			2 of 2		*0*		
Sustainable Sites		**Preliminary**	Y	4 of 7	M	*0*	**Verified**	0
SSp	Construction Activity Pollution Prevention			Required				Not Verified
SSp	No Invasive Plants			Required				Not Verified
SSc	Heat Island Reduction			2 of 2		*0*		
SSc	Rainwater Management			0 of 3		*0*		
SSc	Nontoxic Pest Control			2 of 2		*0*		
Water Efficiency		**Preliminary**	Y	8 of 12	M	*0*	**Verified**	0
WEp	Water Metering			Required				Not Verified
Performance Path								
WEc	Total Water Use			0 of 12		*0*		
Prescriptive Path								
WEc	Indoor Water Use			4 of 6		*0*		
WEc	Outdoor Water Use			4 of 4		*0*		
Energy and Atmosphere		**Preliminary**	Y	13.5 of 37	M	*3.5*	**Verified**	0
EAp	Minimum Energy Performance			Required				Not Verified
EAp	Energy Metering			Required				Not Verified
EAp	Education of the Homeowner, Tenant or Building Manager			Required				Not Verified
EAc	Annual Energy Use			13.5 of 30		*1.5*		
EAc	Efficient Hot Water Distribution System			0 of 5		*2*		
EAc	Advanced Utility Tracking			0 of 2		*0*		
Materials and Resources		**Preliminary**	Y	2 of 9	M	*3*	**Verified**	0
MRp	Certified Tropical Wood			Required				Not Verified
MRp	Durability Management			Required				Not Verified
MRc	Durability Management Verification			0 of 1		*0*		
MRc	Environmentally Preferable Products			0 of 5		*3*		
MRc	Construction Waste Management			2 of 3		*0*		
Indoor Environmental Quality		**Preliminary**	Y	9 of 18	M	*3.5*	**Verified**	0
EQp	Ventilation			Required				Not Verified
EQp	Combustion Venting			Required				Not Verified
EQp	Garage Pollutant Protection			Required				Not Verified
EQp	Radon-Resistant Construction			Required				Not Verified
EQp	Air Filtering			Required				Not Verified
EQp	Environmental Tobacco Smoke			Required				Not Verified

EQp	Compartmentalization	Required		Not Verified
EQc	Enhanced Ventilation	3 of 3	*0*	
EQc	Contaminant Control	0 of 2	*0.5*	
EQc	Balancing of Heating and Cooling Distribution Systems	3 of 3	*0*	
EQc	Enhanced Compartmentalization	0 of 3	*0*	
EQc	Combustion Venting	1 of 2	*0*	
EQc	Enhanced Garage Pollutant Protection	1 of 1	*0*	
EQc	Low-Emitting Products	0 of 3	*3*	
EQc	No Environmental Tobacco Smoke	1 of 1	*0*	

Innovation	**Preliminary**	Y	3 of 6	M	*0*	**Verified**	0

INp	Preliminary Rating	Required	Not Verified
INc	Innovation	2 of 5	*0*
INc	LEED Accredited Professional	1 of 1	*0*

Regional Priority	**Preliminary**	Y	3 of 4	M	*0*	**Verified**	0

RPc	Regional Priority	3 of 4	*0*

Point Floors

The project earned at least 8 points total in Location and Transportation and Energy and Atmosphere	No
The project earned at least 3 points in Water Efficiency	No
The project earned at least 3 points in Indoor Environmental Quality	No

Total	**Preliminary**	Y	57.5 of 110	M	10	**Verified**	0

Certification Thresholds Certified: 40-49, Silver: 50-59, Gold: 60-79, Platinum: 80-110

APPENDIX B: LEED ACCREDITED PROFESSIONAL CERTIFICATE

GREEN BUSINESS CERTIFICATION INC. CERTIFIES THAT

Eli Herman

HAS ATTAINED THE DESIGNATION OF

LEED AP® Homes

by demonstrating the knowledge and understanding of green building practices and principles needed to support the use of the LEED green building program.

10566540-AP-HOMES

CREDENTIAL ID

23 FEB 2018

ISSUED

22 FEB 2020

VALID THROUGH

Mahesh Ramanujan

MAHESH RAMANUJAN
PRESIDENT & CEO, U.S. GREEN BUILDING COUNCIL
PRESIDENT & CEO, GREEN BUSINESS CERTIFICATION INC.

APPENDIX C: MULTIFAMILY HOMESIZE ADJUSTMENT CALCULATOR

Multifamily Home Size Adjuster

This approach can be used to determine an overall home size adjuster for multifamily buildings.

Input the number of units and the average square footage for units with the corresponding bedroom number. For example, if the building has three 2-bedroom units that are 1300 sq ft, 1400 sq ft, and 1500 sq ft, insert "3" in cell G9 and "1400" in cell H9. Please leave zeroes or blanks where appropriate.

This approach can also be used to determine an overall home size adjuster for a complex with multiple residential buildings. If a project includes multiple residential buildings, add all the buildings together like it's a single-mega structure. For example, if building A has four 2-bedroom units and building B has six 2-bedroom units, insert "10" in cell G9. Average the square footage for all units in the complex with the corresponding bedroom quantity.

Building ID	0 Bedrooms		1 Bedroom		2 Bedrooms		3 Bedrooms		4 Bedrooms		5 Bedrooms		6 Bedrooms		
	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	
	48	499.55	198	655.26	71	993.80	12	1,126.00							
Home size adjustment	50%		34%		38%		49%		0%		0%		0%		
Point adjustment	12.5		8.6		9.5		12.2		0.0		0.0		0.0		
Total number of units															329
Average home size point adjustment															**9.5**

This document outlines development review application requirements in relation to the long-term environmental sustainability and climate resilience of buildings within Somerville. Development proposals that require Site Plan Approval by the Somerville Zoning Ordinance must include a completed Sustainable & Resilient Buildings Questionnaire with the required Development Review Application. A Development Review Application is considered incomplete unless a completed questionnaire is submitted with the application.

The purpose of this questionnaire is to ensure that the impacts of future climate conditions are carefully evaluated and to encourage reasonable efforts to reduce or eliminate greenhouse gas emissions and mitigate the impacts related to climate change in the design, construction, and occupancy of buildings. Completion of this questionnaire raises awareness of site specific vulnerability, ensures that future climate conditions are considered throughout the stages of development.

Please review the following documents before completing the questionnaire:

- **Somerville Climate Change Vulnerability Assessment**
- **Carbon Neutrality Pathway Assessment**

RESOURCES:

For information on net-zero and resilient building and site design, please review the following resources:

- **Architecture 2030 Palette (Net-zero design tools)**
- **Building Resilience in Boston**
- **Enhancing Resilience in Boston**
- **A Better City's Resiliency Toolkit**
- **Ready to Respond: Strategies for Multifamily Building Resilience**

For additional information visit www.somervillema.gov/sustainaville

PROCEDURE:

A completed Sustainable & Resilient Buildings Questionnaire must be submitted with a Development Review Application for all development proposals that require Site Plan Approval. New construction or alterations to existing structures of 25,000 square feet or more must also submit an updated questionnaire prior to the issuance of the first Building Permit and prior to the issuance of the first Certificate of Occupancy to identify any design changes made subsequent to Site Plan Approval or additional information determined as the development process unfolds.

BACKGROUND: CARBON NEUTRALITY

Understanding the global imperative to reduce greenhouse gas emissions in order to prevent extreme changes to the climate, Mayor Joseph A. Curtatone set a goal for Somerville to become carbon neutral by the year 2050. In 2017, the Somerville Board of Aldermen passed a resolution re-affirming the city's carbon neutrality goal. Carbon neutrality is defined as the net-zero release of carbon dioxide and other greenhouse gases (GHG) within Somerville's municipal boundary.

To achieve carbon neutrality by 2050, Somerville will need to drastically reduce greenhouse gas emissions from electricity, buildings, transportation, and waste disposal. Development within the city will need to be high performing and progressively improve its energy performance to become carbon neutral. Buildings should be designed to maximize energy efficiency, produce or procure renewable energy, and phase out fossil fuel use.

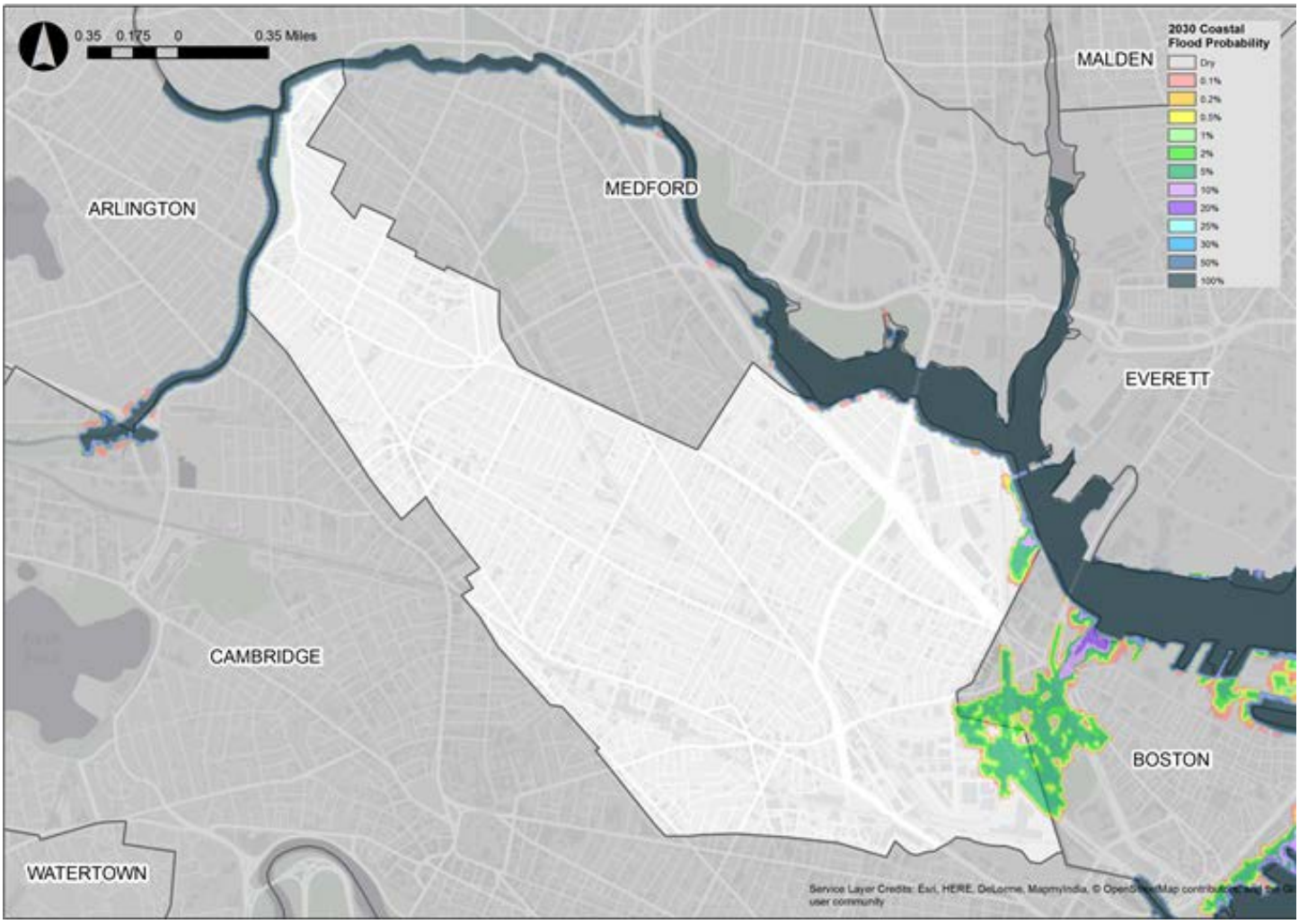
BACKGROUND: CLIMATE CHANGE VULNERABILITY

Despite efforts to minimize greenhouse gas emissions, climate change is already impacting the City of Somerville and changes to the climate will continue to intensify unless global emissions are swiftly and significantly reduced. The City of Somerville's Climate Change Vulnerability Assessment analyses vulnerabilities associated with Somerville's key climate stressors: increased precipitation, sea level rise and storm surge, and higher temperatures. The analysis recommends that new development consider these climate impacts and take appropriate measures to address the projected climatic conditions described in the assessment.

Sea level rise and storm surge are already potential concerns for areas of East Somerville. By 2035-2040, the Amelia Earhart Dam could be regularly flanked by strong storms resulting in flooding for areas of Assembly Square, Ten Hills, and Winter Hill. Additionally, future 100-year (1% annual chance of occurrence) 24-hour storm events are projected to have a more than 30% increase in rainfall. This increased storm water will put additional stress on Somerville's water infrastructure and is likely to worsen precipitation-based flooding across many areas of the city. As the climate continues to change, average seasonal temperatures are expected to increase and the number of days above 90 degrees Fahrenheit (currently about 10 a year) could rise to 40 days by 2030, a third of the summer, and 90 days by 2070, nearly the entire summer.

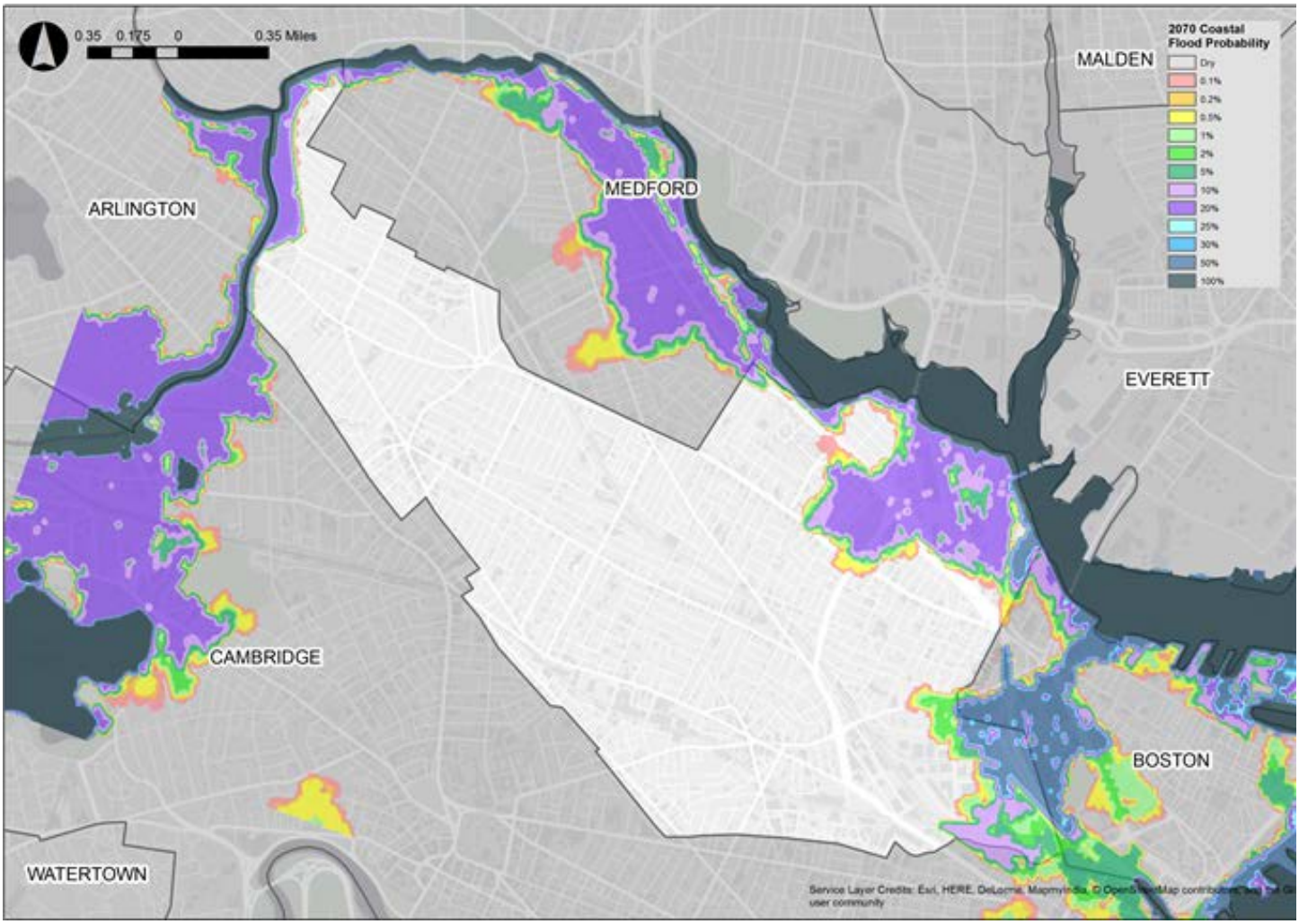
The following maps and figures provide an overview of projected climate exposure. Please review the Climate Change Vulnerability Assessment for more detailed analysis on Somerville's exposure, vulnerability, and risk to climate change.

2030 Coastal Flood Probability



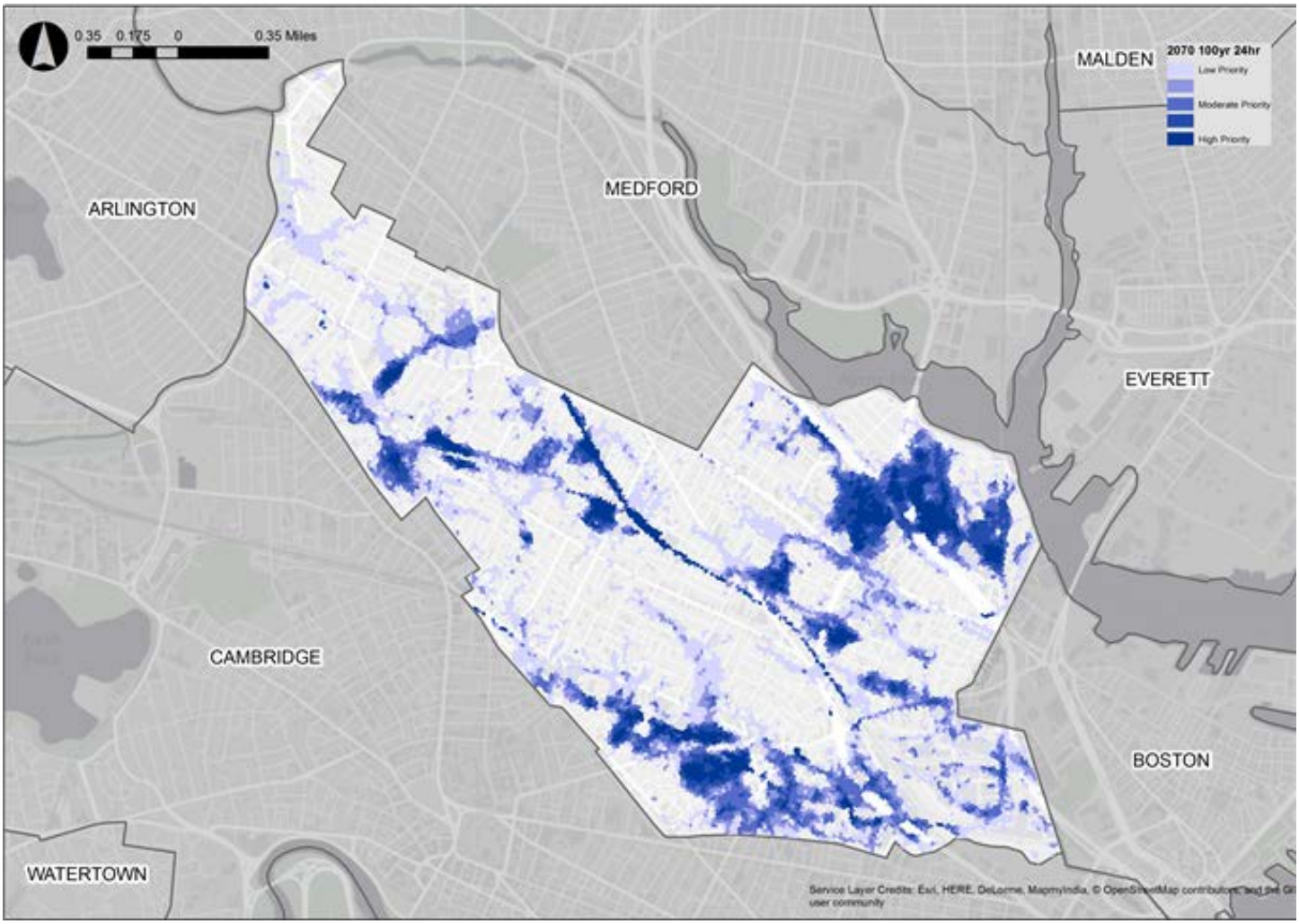
This map shows the annual chance of flooding from coastal storm events and sea level rise in 2030. A 100% chance of flooding means that area is very likely to flood that year, while a 50% chance means that there is an equal chance that it may or may not flood in a given year. A 1% chance of flooding corresponds with a '100-year event'. A 0.1% chance corresponds with a '1000-year event'. (Somerville Climate Change Vulnerability Assessment, 2017)

2070 Coastal Flood Probability



This map shows the annual chance of flooding from coastal storm events and sea level rise in 2070. A 100% chance of flooding means that area is very likely to flood that year, while a 50% chance means that there is an equal chance that it may or may not flood in a given year. A 1% chance of flooding corresponds with a 100-year event. A 0.1% chance corresponds with a 1000-year event. (Somerville Climate Change Vulnerability Assessment, 2017)

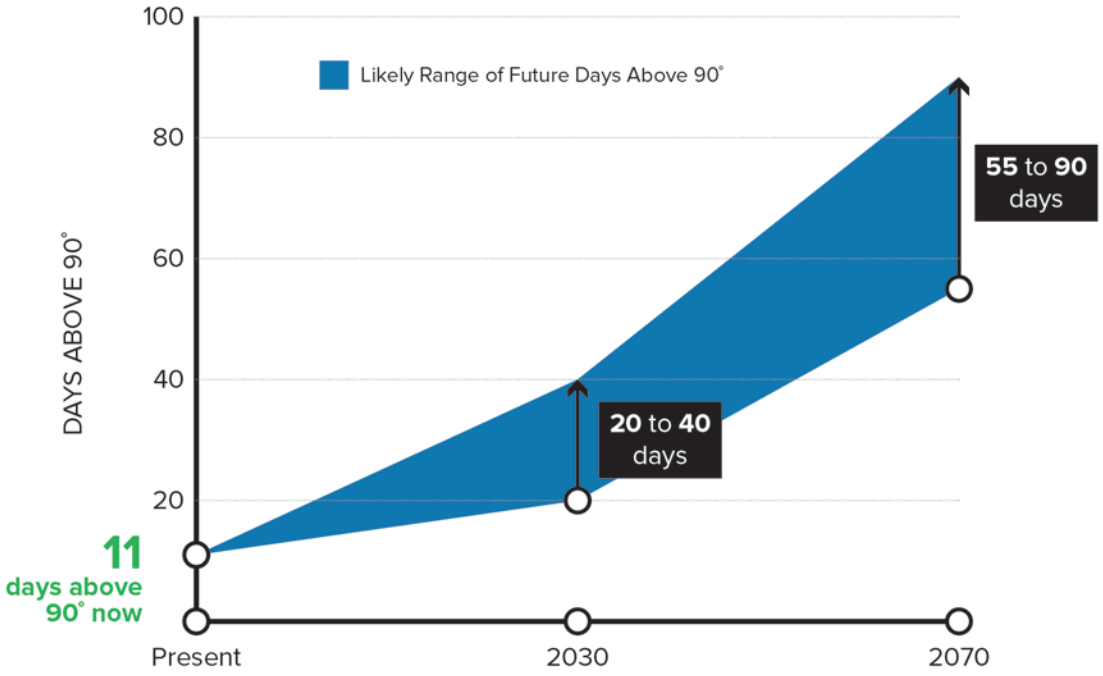
Precipitation Projections



2070 100-year, 24-hour Design Storm Priority Areas of Flood Concern
(Somerville Climate Change Vulnerability Assessment, 2017)

Storm Type	Present-day Rainfall	2030 Rainfall	2070 Rainfall
10-year (10%), 24-hour	4.9 in	5.6 in	6.4 in
100-year (01%), 24-hour	8.9 in	10.2 in	11.7 in

Temperature Projections



(Somerville Climate Change Vulnerability Assessment 2017)

Temperature	1971-2000 (average)	2030 (low)	2030 (high)	2070 (low)	2070 (high)
Annual	50.0° F	53.3° F	53.5° F	55.8° F	58.7° F
Summer	70.6° F	74.5° F	74.8° F	77.4° F	80.6° F
Winter	29.8° F	32.2° F	33.0° F	34.6° F	38.0° F

SUSTAINABLE & RESILIENT BUILDINGS QUESTIONNAIRE

Proposal Information	
Proposal Name	ALTA Xmbly (to be revised at a later date)
Address	290 Revolution Drive Somerville,MA 02129
Owner/Developer	WP East Acquisitions, L.L.C.
Business Address	3715 Northside Parkway NW,STE 4-600 Atlanta GA 30327
Designated Contact	Jim Lambert
Telephone Number	(781)-541-5822
Email Address	Jim.Lambert@woodpartners.com
Design Team	
Design Architect	The Architectural Team
Architect of Record	Michael D. Binette
Engineer	Wozny Barbar & Associates
Landscape Architect	Copley Wolff
Sustainability/LEED	New Ecology
Permitting	Nutter McLennen & Fish, LLP
Construction Management	WP East Builders, LLC
State Review	
Is MEPA Approval Required?	Yes/No; Why? Yes
Building & Site Details	
Building Type	Type IA / IIIA Construction
Gross Floor Area	425,758+/- GSF. (includes all occupied spaces, mechanical and garage areas)
Principal Uses	Assembly, Business, Mercantile, Residential, and Storage (Garage)
Ground Floor Uses	Assembly, Mercantile, Residential, and Storage
Site Elevation	Average Ground Level 13'-0"
Ground Story Elevation	13'-0"
Building Height	# of Stories (feet) 84'-11"
Below Grade Levels	# of Stories (feet) The building is slab on grade, no below grade levels
Ground Water Elevation	Ground water is located between -4'-0" and -5'-0" +/- below grade.
Parking Spaces	199 parking spaces provided (includes ADA, van and EV spaces)
EV Ready Spaces	10 EV spaces at occupancy, 20 additional spaces will be pre-wired for future installation
EV Charging Spaces	Number (by level) 5 @ Level One, 5 @ Level Two at occupancy
Climate Vulnerability Exposure (check all that apply)	☒ Sea Level Rise & Storm Surge ☒ Precipitation Induced Flooding ☒ Heat ☐ Other(s):

Green Building	
LEED Version	LEED for Homes Multifamily Mid-rise v4
LEED Certifiable	(Yes)/No
LEED Rating	Silver/Gold/Platinum Silver certifiable
LEED Point Score	57.5

Building Systems	
Expected Life of Building	Fifty Years
Critical Site Infrastructure	Water, Drainage, Sewer, Gas, Electrical, Telephone-Communications
Expected Life of Key Systems	Twenty Years
Type of Heating System(s)	High efficiency, dual-purpose, gas-fired heaters producing hot water for domestic usage and building heating; fan-coils with hot water coils and DX split systems.
Type of Cooling System(s)	Condensing units located on roof; environment-friendly refrigerant, R410a.

Building Energy Use & Continuity

Reducing greenhouse gas emissions is critical to avoiding the worst impacts of climate change. To achieve Somerville's 2050 carbon neutrality goal, new construction must be designed to maximize energy efficiency, produce or procure renewable energy, and phase out fossil fuel use. At the same time, new development should make efforts to improve resiliency to disruptions in utility services, which could become more frequent with more powerful storm events and heat waves.

1. Explain how building energy loads & performance were determined:

Energy loads & performance were determined using Energy Star Target Finder.

Annual Electric Load	5348	(kWh)	Peak Electric Load	2,125	(kW)
Annual Heating Load	8,870*	(MMbtu/hr)	Peak Heating Load	6.4*	(MMbtu)
Annual Cooling Load	266,000*	(Tons/hr)	Peak Cooling Load	539*	(tons)

Energy Use Intensity	107.4	(kBtu/SF)

2. Describe any strategies that will be implemented to support continued building operations during potential utility outages.

An emergency natural gas fired generator will be provided to support continued building operations during potential utility outages. The generator will have three output breakers and automatic transfer switches to support the fire pump, standby and life safety loads including emergency lighting and fire alarm system.

Back-Up/Emergency Power Systems

Electric Output	400 KW	Number of Power Units	1 unit
System Type	Generator	Fuel Source	Natural Gas

Emergency and Critical System Loads (in the event of service disruption)

Electric	5,000 (kWh)	Heating	0	(MMbtu/hr)
		Cooling	0	(Tons/hr)

2. How is the building designed to reduce energy usage? Please describe the key design features of the building including any active (equipment, controls, features, etc.) or passive (orientation, massing, systems, etc.) energy efficiency measures.

The building is designed to reduce energy by providing tankless hot water heaters, high efficiency (>93%+) fan coil heating units equipped with high efficiency EC motors, low flow plumbing fixtures, LED lighting and energy star appliances in all apartment units and common areas. Each apartment contains a seven day programmable thermostat. The building is designed to be LEED Silver certifiable and will exceed the MA Stretch code requirements. A solar ready, high albedo roof is provided to absorb minimal heat.

Energy Use below Mass Code	10 %	Energy Use below ASHRAE 90.1 (current edition)	10 %

3. Will the building use air or ground source heat pumps or solar thermal systems? Please describe any such system. If no, please explain the building's heating and cooling systems and whether high efficiency electric or renewable powered systems were considered.

The building will not use air or ground source heat pumps or solar thermal systems. The buildings heating and cooling system will be vertical fan-coil units for the individual apartments. However, the building system components will be of high efficiency (water heaters efficiency >93%+, high efficiency EC motors; R410a refrigerant.

4. Describe any existing or planned connections to distributed energy or district energy systems.

The Project will connect to existing electrical ductbanks provided in the adjacent roadways. The project will have (2) 2,500 amp, 120/208V, 3 phase service for the residential use and (1) 3,000 amp, 120/208V, 3 phase services for the house (garage/common areas), restaurant and retail spaces within the building.

5. Is on-site renewable energy generation feasible? Please describe your analysis and findings. If yes, will any renewable energy be produced onsite? If so, please describe (system type and capacity).

The project will provide conduits and structural upgrades to provide a 'solar ready' roof for the future installation of solar PV panels. The mechanical condensing units will be located in the center of the roof above the corridor allowing space for the future solar panels to be located around the perimeter of the roof

6. Describe any on-site energy storage systems.

As described in item 5 above, the project will provide conduits and structural upgrades to provide a 'solar ready' roof for the future installation of solar PV panels. The estimated future PV module quantity is 500 panels at 78" x 39" located between the mechanical units and 10 feet from the roof edge per OSHA guidelines. Estimated future DC power will be 147.5kW based on 500 panels with an average output of 295 watts.

7. Describe any other measures intended to reduce energy use and greenhouse gas emissions.

To reduce energy consumption project will be equipped with high efficiency LED lighting in all residential units and common areas. Low flow/flush WaterSense plumbing fixtures are specified as:1.28 GMP for toilets, 1.5 GPM for lavatory faucets, kitchen faucets and shower heads for a reduction in water usage of 30% compared to the baseline. Operable windows are provided in the residential units along with tankless, high efficiency (>93%+) hot water heaters, fan-coils with energy efficient motors (ECM), and seven day programmable thermostats.

8.Does the electric utility's infrastructure have enough capacity to support the addition of your

building's energy load? Please confirm that you have consulted with the local utility.

Eversource is the electrical energy provider for the project. We met with Eversource on 7/25/18 to review the proposed loads and requirements for this project and they confirmed the infrastructure has enough capacity to support the project. Please find attached the 'Will Serve' letter from Eversource.

9. Describe measures that will be implemented to reduce building energy demands on utilities and infrastructure, such as a demand response program.

>93% efficient hot water heater utilized for domestic hot water and hydronic heating coil in air handling unit within residential units, well as 90% efficient LED lighting and 7-day programmable thermostats will help reduce the energy demands on utilities.

The City of Somerville recognizes that as technology advances, incorporating design elements to mitigate carbon emissions and increase resilience may become more feasible. Applicants are encouraged to devise strategies that permit building systems to adapt and evolve over time to further reduce GHG emissions and to avoid path dependency that perpetuates reliance on fossil fuels. With this in mind, please answer the following questions:

10. Will the building be a net zero carbon building? A net zero carbon building is a highly energy efficient building that either produces or procures enough carbon-free renewable energy to meet building operations or offsets any remaining carbon emissions. If the building will not be a net zero carbon building, describe how the building's systems will be adapted over time to achieve net zero energy emissions. Changes could include, but are not limited to, additional renewable energy generation, energy storage, additional energy efficiency measures, or other measures that would further reduce greenhouse gas emissions.

The building will not be a net zero carbon building. As described in item 5 above, the project will provide conduits for a 'solar ready' roof for the future installation of solar PV panels. However, the project will be equipped with high efficiency LED lighting, low flow plumbing fixtures, operable windows, high efficiency (>93%) hot water heaters, fan-coils with ECM, and seven day programmable thermostats.

11. Will the building's roof include any sustainability features? These may include, but are not limited to, high albedo roof materials, solar panels, or vegetation. If no features are included in the design, please describe why and if any features could be added in the future.

The building upper roof will include two sustainable features: a high albedo roof to reflect sunlight and absorb less heat than a standard roof, and the roof will have pre-wired conduits to be 'solar ready' for the future installation of solar PV. The amenity courtyard provides over 3,000 sf of ornamental shrub, groundcover, and perennial plantings selected based on their ability to thrive in elevated growing conditions. The courtyard will be anchored by a central allee' of multi-stem birch planted in 6' x 6' x 4' raised planters. These trees are spaced at approximate 15' on center to allow the creation of a continuous canopy over the central dining/gathering hardscape area. All lighting within the Amenity Courtyard will be low-energy LED fixtures. Vegetable beds for residents will be incorporated into the courtyard landscaping.

12. Has the building been planned and designed to accommodate any additional future resiliency enhancements? Please describe if designs could accommodate future additions of any of the following:

- Solar PV (roof or site is solar ready)
- Solar Thermal
- Connection to district energy system
- Potable water storage
- Wastewater storage
- Back up energy systems & fuel
- Electric Vehicle Charging

- Green roof

The building will incorporate ten (10) electric vehicle charging stations (5% of total spaces) at occupancy with conduit provided to support twenty (20) future stations (15% of total spaces). The upper roof will be Solar PV ready and EverSource has confirmed the ability to connect to the existing utilities in the adjacent roadway. An emergency natural gas fired generator will be provided to support continued building operations, the fire pump, standby and life safety loads including emergency lighting and fire alarm system during potential utility outages.

Climate Change Risk and Vulnerability

13. How did you use climate change projections from Somerville's Climate Change Vulnerability Assessment (CCVA) to inform the building and site design of your project?

Alta XMBLY considered Somerville's key climate stressors: increased precipitation, seas level rise, storm surge and higher temperatures in the design of the building and Site. The project is located landward of the Amelia Earhart Dam and analyzed the regional impacts from these stressors as a basis of design for the building and Site design.

14. Based on the information in the Climate Exposure section of the CCVA, what are the projected climate change impacts that your site might vulnerable to? Please list and describe all relevant impacts from the CCVA.

The projected climate change impacts that this site might be vulnerable to include:

- Coastal flooding influenced by the tidal portion of the Mystic River below the Amelia Earhart Dam
- Riverine flooding influenced by the portion of the Mystic River above the Amelia Earhart Dam
- Local street drainage and ponding influenced by rainfall events.
- The effects of sea level rise on each of the three prior flood hazards listed above

The next two sections ask specific questions about how the project is designed to manage climate-related risks from heat, coastal and inland flooding.

Managing Heat Risks

As temperatures increase, Somerville will become more susceptible to the urban heat island effect which causes hotter temperatures due to paved surfaces and waste heat generated by energy use when compared to less developed areas. Open space, trees coverage, and impervious surfaces can help reduce heat exposure and the intensity of the urban heat island effect.

Increasing average temperatures can have wide-ranging impacts on human life, the built environment, and natural ecosystems. Rising temperatures and more intense heat waves present significant public health concerns and can contribute toward kidney, lung, and heart problems. Vulnerable populations are particularly susceptible to heat-induced illness and mortality. Buildings also demand greater electricity for cooling. Even small changes in average temperatures can significantly impact the natural environment.

15. Describe how the building and its energy systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heat waves, and longer lasting heat waves.

The HVAC systems being provided will have a 10% safety-factor to provide a system to meet future temperature fluctuations that are above average.

Temperature Design Conditions

Low Temperature	75	Degrees	High Temperature	72	Degrees
Annual Cooling Days	150	#	Annual Heating Days	215	#

There is no risk posed in the near term as evidenced in the 2030 flood map. The 2070 Coastal Flood high flood risk model shows that the Project Site has minimal risk of flooding (approximately 20 percent). Regardless of the minimal risk flood, the project is planning to locate critical building systems above grade. Additionally, at the appropriate time in the future, the project would consider implementing temporary flood barriers as necessary.

Days Above 90° | 11 current day | #

16. What design features will be implemented on site to minimize the site's contribution to the urban heat island effect? Please describe any and all design elements. Strategies could include, but are not be limited to, the following:

- High albedo pavement or roof materials
- Passive cooling or increased ventilation capacity
- Green roofs or walls
- Heat resistant trees and plants
- Additional landscaped areas

The project will include street trees selected from the City of Somerville Draft Urban Forestry Management Plan and approved by Vanessa Boukili, City Arborist, prior to installation. Trees will be selected based on their ability to withstand periods of drought and winter snow removal activities. They will be planted in 4"-6" raised planters with protective tree rails and structural soils in a manner which is consistent with established street tree plantings at Assembly Row. Spacing is also consistent with Assembly Row – typically 30' on center to allow the establishment of a consistent shade canopy when mature. Peripheral raised landscape beds are also provided at the streetscape. These beds will be planted with salt-tolerant shrubs and perennials consistent with the established planting design at Assembly Row. All concrete sidewalks shall be high albedo consistent with current LEED standards. A high albedo roof surface on the building will be provided.

17. What additional design and operations strategies will be implemented to protect building occupants during extreme heat events?

To protect building occupants during extreme heat events , all units will be provided with air conditioning from individual fan coil units. Each residential unit will also have operable windows. All common areas will be conditioned using rooftop and individual cooling systems.

Managing Flood Risks

Several areas of Somerville are already prone to flooding from intense precipitation. As part of a wet region, Somerville is projected to experience more than a 30% increase in rainfall during a 100-year 24-hour event. With climate change, precipitation events will become more intense—meaning that a greater volume of rain will fall in a shorter period of time. This can lead to flooding in areas where the drainage system does not have sufficient capacity. It will be further exacerbated by the presence of impervious surfaces, such as roads and parking lots, where the water cannot be absorbed into the ground, but rather is funneled into storm drains, nearby water bodies or other low-lying areas.

In addition to flooding from precipitation, sea level rise and storm surge are already potential concerns for areas of East Somerville and by 2035-2040 the Amelia Earhart Dam could be regularly flanked by storms. More information can be found in the complete Vulnerability Assessment.

18. How has the site and building been designed to manage storm water from rain event?

Much of the site today is covered by impervious parking or near-impervious surfaces with minimal landscape islands or green features. The Project as part of the larger Master Plan project will implement an environmentally sensitive site design that creates additional open space areas and significantly reduces the amount of on-site paved surface parking areas. This will serve to re-establish components of a natural water cycle allowing evapotranspiration, and groundwater recharge. Green infrastructure and LID BMPs are being used on site to reduce runoff and increase the time of concentration for the stormwater runoff on the project site. LID BMP's that can be utilized on site include: permeable paver's, rain gardens, tree box filters and proprietary separators to reduce runoff and improve runoff water quality.

19. Is the site susceptible to flooding from sea level rise and storm surge or rain events now or during its expected lifetime? Please refer to the Somerville Climate Change Vulnerability Assessment and restate your potential flood risks based on the CCVA.

There is no risk posed in the near term as evidenced in the 2030 flood map. The 2070 Coastal Flood high flood risk model shows that the Project Site has a risk of flooding at approximately 20%. The existing site will be filled by 2-3 feet to achieve a building first floor elevation of 13 feet.(NGVD29). This design elevation was established based on a flood analysis of the local area to which identified the most significant risk was the inundation local stormwater infrastructure by future precipitation and sea level rise overtopping the outfall. The design mitigated this risk by setting the elevation at 13 feet at which point the stormwater from the localized street flooding will find relief overland through the roadway to the Mystic River as the highest elevations within the roadway is 12.6 feet.

If you answered YES to the previous question, please complete the next section. Otherwise, you have completed the questionnaire. Thank you.

*All Elevation in NGVD29

Flooding Design Considerations

Site Elevation - Low	10.25 (ft)	Site Elevation - High	13.0 (ft)
Site Elevation - Avg.	Average Ground Level	Ground Level Elevation	13.0 (ft)
Is any portion of the site in a FEMA SFHA? (1% chance floodplain)	Yes No	What FEMA zone(s)	Zone X
Base Flood Elevation	10.3	Design Flood Elevation	13.8
2030 Flood Risk	0 (%)	2070 Flood Risk	20 (%)

20. What are the ground floor uses of the building? Are there any below ground stories of the building? If so, what uses are located below ground?

The ground floor uses of the building included assembly, mercantile, residential (five units), and storage/parking which are all located above grade. There are no below ground stories for this project.

21. Are there any flood-sensitive assets, utilities, mechanical equipment, or critical site infrastructure located in areas of the building that are at risk of flooding? What measures will protect building systems during a flood or severe storm? These might include, but may not be limited to, the following:

- Elevation of utilities and mechanical systems
- Water tight utility conduits
- Waste water back flow prevention
- Storm water back flow prevention
- Systems located above the ground floor
- Securing objects at risk of becoming dislodged

The project will provide backflow preventers in all major utility connections.

22. Will any flood-damage resistant materials be used in design and construction in flood risk areas?

The design will comply with the building code for flood resistant materials up to the DFE. The first (3) floors of the building is Type 1 construction - comprised of non combustible concrete structural systems, CMU, metal stud framing and masonry exterior cladding.

23. What flood control design elements will be used to mitigate a 2070 coastal flood event with a 10% chance to occur in any given year (a '10-year' event)? These might include, but may not be

limited to, the following:

- Elevation of the site
- Structural elevation of the building
- Non-structural elevation of the ground floor
- Wet flood-proofing (allowing water to flow through building envelope)
- Dry flood-proofing (preventing water from entering building)

Elevation of the site was raised from 11.00 feet +/- to 13.00 feet NGVD29 .

24. What is the recovery plan for a 2070 coastal flood event with a 1% chance to occur in any given year (a '100-year' event)? Summarize anticipated pre- and post-event policies, strategies, and actions necessary to facilitate post-flood recovery. These might include, but may not be limited to, the following:

- Flood mitigation design (see #23)
- Recovery management team
- Annual training & exercises
- Hazard evaluation & mitigation
- Damage assessment
- Demolition & debris removal
- Repair permitting
- Business resumption

Elevation of the site was raised from 11.00 feet +/- to 13.00 feet NGVD29 and will provide dry flood proofing to DFE of 13.8 feet at critical infrastructure and occupiable spaces.

25. Will hazardous or toxic material be stored on site? Where will it be stored? How will you protect hazardous or toxic material from flooding?

Hazardous or toxic materials will not be stored on site. Parking to be provided at ground level. Parking area will not be subject to flooding until later in the century, at that time, vehicles can be moved to the upper parking level in advance of a predicted flooding event.

26. Will the building employ any temporary measures to prevent flooding on site? These could include barricades, flood gates, and other measures. Please describe any temporary measures and include the elevation the measures are designed for.

Removable flood barriers such as flood planks will be considered to protect entry ways as necessary.

27. Will the site be accessible during a flood inundation? If yes, to what flood elevation?

Less than 1 foot of flooding would be expected on the site by 2070 based on the Boston Harbor Flood Risk Model, given the proposed Site elevation. This would not impede emergency access to the Site.

28. Will any additional measures be employed to protect the building from storms and flooding?

The water surface level of the Mystic River above the Amelia Earhart is controlled by the Department of Conservation and Recreation (DCR). The DCR provides protection to the site from the majority of riverine flooding events.

EVERSOURCE ENERGY

247 Station Drive
Westwood, Massachusetts 02090

July 27, 2018

WP East Acquisitions LLC
Jim Lambert
91 Harwell Ave
Lexington, MA 02421

RE: 5 Middlesex Ave, Somerville, MA 02145

Dear WP East Acquisitions LLC:

Eversource is in receipt of your request for future electrical services at the proposed site.

Based on the information regarding the project received to date, Eversource has availability, capacity and intent to provide electric service to the project. Further engineering is required to confirm sizing, layouts and locations of these services. Eversource intends to continue to work with the customer to finalize coordination of the design and engineering, as well as the construction of the project.

Should you have any additional questions, please do not hesitate to contact me.

Sincerely,

Laquita Sanders
Customer Service Engineer
Phone # 781-441-3433
Fax # 781-441-8721

III – Mobility Management Plan

Alta XMBLY
290 Revolution Drive

Somerville, Massachusetts

PREPARED FOR

WP East Acquisitions, L.L.C.
3715 Northside Parkway NW
Suite 4-600
Atlanta, GA 30327

Contact: Jim Lambert
Jim.Lambert@woodpartners.com
781.541.5822

PREPARED BY

101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

July 2018
Revised September 27, 2018

Table of Contents

1

Project Information

Contact Information

The Project development site address and contact information is as follows:

Alta XMBLY

290 Revolution Drive (Lots 88-A-1)

WP East Acquisitions, LLC
(c/o Wood Partners)
3715 Northside Parkway NW
Suite 4-600
Atlanta, GA 30327

Contact: Jim Lambert
Jim.Lambert@woodpartners.com
781.541.5822

Project Description

The Alta XMBLY development will be constructed within an approximately 71,935 square foot (sf) (1.65 acre) parcel of land within the approved XMBLY development in Somerville, Massachusetts (the "Site"). This initial XMBLY development will occur within Alta XMBLY, which is bound by Grand Union Boulevard to the east, the planned Road K to the west, and the planned Road L and Revolution Drive to the north and south, respectively. A total

of 329 residential units are proposed within the planned eight-story Alta XMBLY building, along with 8,305 sf of street-level retail/restaurant use (the "Project"). The parking needs for this parcel will be accommodated by 197 structured parking spaces within the new Alta XMBLY building footprint. This parking will be designated for use by residents only, with parking for the retail/restaurant uses being provided on-street along Road K, and other nearby roadways where public parking is available. The proposed Site parking supply falls below the 342-space supply required by the City of Somerville Zoning Ordinance, but still will meet the anticipated functional needs of the proposed Project. A waiver from this parking requirement is being requested in conjunction with this submittal.

The proposed development for Alta XMBLY is consistent with the recently approved PUD-PMP for the overall XMBLY development. The anticipated trip generation associated with this proposed development is discussed in detail later in this Mobility Management Plan (MMP).

Build Out/Program Estimates

At its full build-out, the overall XMBLY development will include approximately 489 residential units, 612,500 sf of general office space, and 335,500 sf of research & Development/lab space. Approximately 28,140 sf of street-oriented retail/restaurant space also will be provided within multiple tenant spaces within the individual blocks comprising the Project. A new, approximately 16,000 sf fire station serving the Assembly Square district also will be constructed. This amenity will be located at the northwest corner of the building adjacent to the Foley Street/Middlesex Avenue intersection. The development also will feature new publicly accessible and sustainably designed open spaces which will benefit both the Project tenants and residents as well as visitors to the surrounding Assembly Square area.

The initial Alta XMBLY development considered under this MMP will consist of 329 residential units with 8,305 sf of supporting ground-floor retail/restaurant space.

Anticipated Phasing

The full development plans for the overall XMBLY development are summarized in the preceding section, and this project will be developed on an ongoing basis over several years. The Project's initial phase will consist of the development of Alta XMBLY, as described in the following section.

Alta XMBLY

The initial development of the Project will occur within Alta XMBLY. This new building will be bound by Grand Union Boulevard to the east, Road K to the west, and Road L and Revolution Drive to the north and south, respectively. A total of 329 residential units are proposed within Alta XMBLY, along with 8,305 sf of street-level retail/restaurant use. The parking needs for this parcel will be accommodated by approximately 197 structured parking spaces contained within the ground- and second levels of the building. In

addition to automobile parking, this Block also will include the number of secured bicycle parking spaces needed to comply with City of Somerville requirements.

A summary of the uses and associated building areas within the blocks described above is provided in Table 1. The building areas shown in Table 1 represent the total building areas for each block, including both leasable area, and "back-of-house" supporting space such as lobbies, mechanical rooms, etc.

Table 1 Development Program

Development	Residential	Office[a]	Research & Development[a]	Retail/ Restaurant space[b]	Fire Station	Total
Initial development						
Alta XMBLY	329 units	0 sf	0 sf	8,025 sf	0 sf	428,792 sf
Subtotal	329 units	0 sf	0 sf	8,025 sf	0 sf	428,792 sf
Percent of total XMBLY development	67%	0%	0%	29%	0%	27%
Subsequent development						
Block 21	0 units	373,500 sf	272,500 sf	17,115 sf	16,000 sf	673,208 sf
Block 24 (existing)[b]	0 units	162,000 sf	0 sf	0 sf[b]	0 sf	162,000 sf
Block 25[c]	160 units	0 sf	0 sf	3,000 sf	0 sf	190,000 sf
Block 26	0 units	77,000 sf	63,000 sf	0 sf	0 sf	140,000 sf
Subtotal	489 units	612,500 sf	335,500 sf	23,000 sf	0 sf	1,167,046 sf
Total Full Build-out	**489 units**	**612,500 sf**	**335,500 sf**	**28,140 sf***	**16,000 sf**	**1,594,000 sf***

a A total of 948,000 sf of building space will be devoted to office or research and development space. The exact breakdown for between these two uses is based on current development plans, but may change over time based on market conditions and tenant needs.

b Block 24 currently contains a health club facility oriented towards existing Assembly Square workers and visitors. While there are no plans for this use to vacate the Site, it was assumed that this 25,000 sf could be converted to office space under the future conditions evaluated in the Traffic Impact and Access Study accompanying this submittal so as to consider a "worst-case" analysis.

* The exact amount of building space, and retail/restaurant space allocated to each building, will be determined as part of the subsequent permitting of each of the individual development blocks.

Parking Plan

The following section summarizes the proposed Alta XMBLY parking supply.

Proposed Parking Supply

The parking needs for the 329 residential units within Alta XMBLY will be accommodated by the approximately 197-space parking structure within the ground- and second levels of the building. Patrons of the proposed 8,305 sf of street-level retail/restaurant uses are expected primary to be in the form of shared trips with other nearby businesses or residences within the Project Site and/or the surrounding area.

The parking facilities within Alta XMBLY will be controlled through gating, ticketing, reader cards or other means. This will help avoid this parking being used for the MBTA or other nearby developments so that it will be available only for Project use. The parking supply will be unbundled, which will require that residents rent or lease spaces, as opposed to have parking being included as part of the rental of a unit.

The Somerville Zoning Ordinance requires 112 bicycle parking spaces for the proposed Alta XMBLY development, and this requirement will be satisfied within the proposed Project. The Project also will be providing short-term bicycle racks within 50 feet of each building entrance. The exact capacity and location of each rack will be determined through ongoing consultation with the City planning staff.

In addition to the parking facilities discussed above, there will be 34 newly created on-street parallel parking spaces provided along Road K. In addition to this parking there also is an abundance of on-street parking in the immediate vicinity of the Site. The parking spaces along Foley Street and Grand Union Boulevard along the Site frontage are metered. The cost for the spaces currently is $0.25 per fifteen minutes, with a 2-hour time limit during the Monday-Saturday (8 AM-8PM) metered operation of these spaces.

A graphic depicting the proposed Alta XMBLY parking supply, and the nearby on-street existing parking supply, is provided in Figure 1.

Motor Vehicle Parking Plan – Block 23 and On-Street parking

BUILDING	PROGRAM USE	AREA
BLOCK 21A	OFFICE | 19 floors	388,000 sf
BLOCK 21B	OFFICE | 15 floors	286,000 sf
BLOCK 23	RESIDENTIAL | 329 units	330,000 sf
BLOCK 24	OFFICE | existing	162,000 sf
BLOCK 25	RESIDENTIAL | 160 units	190,000 sf
BLOCK 26	OFFICE / R+D | 10 floors	140,000 sf
TOTAL AREA		**1,496,000 sf**
RETAIL / ACTIVE	BLOCKS 21-26	21,000 sf
COMMERCIAL | 979,000 SF		66% use
RESIDENTIAL | 517,000 SF		34% use

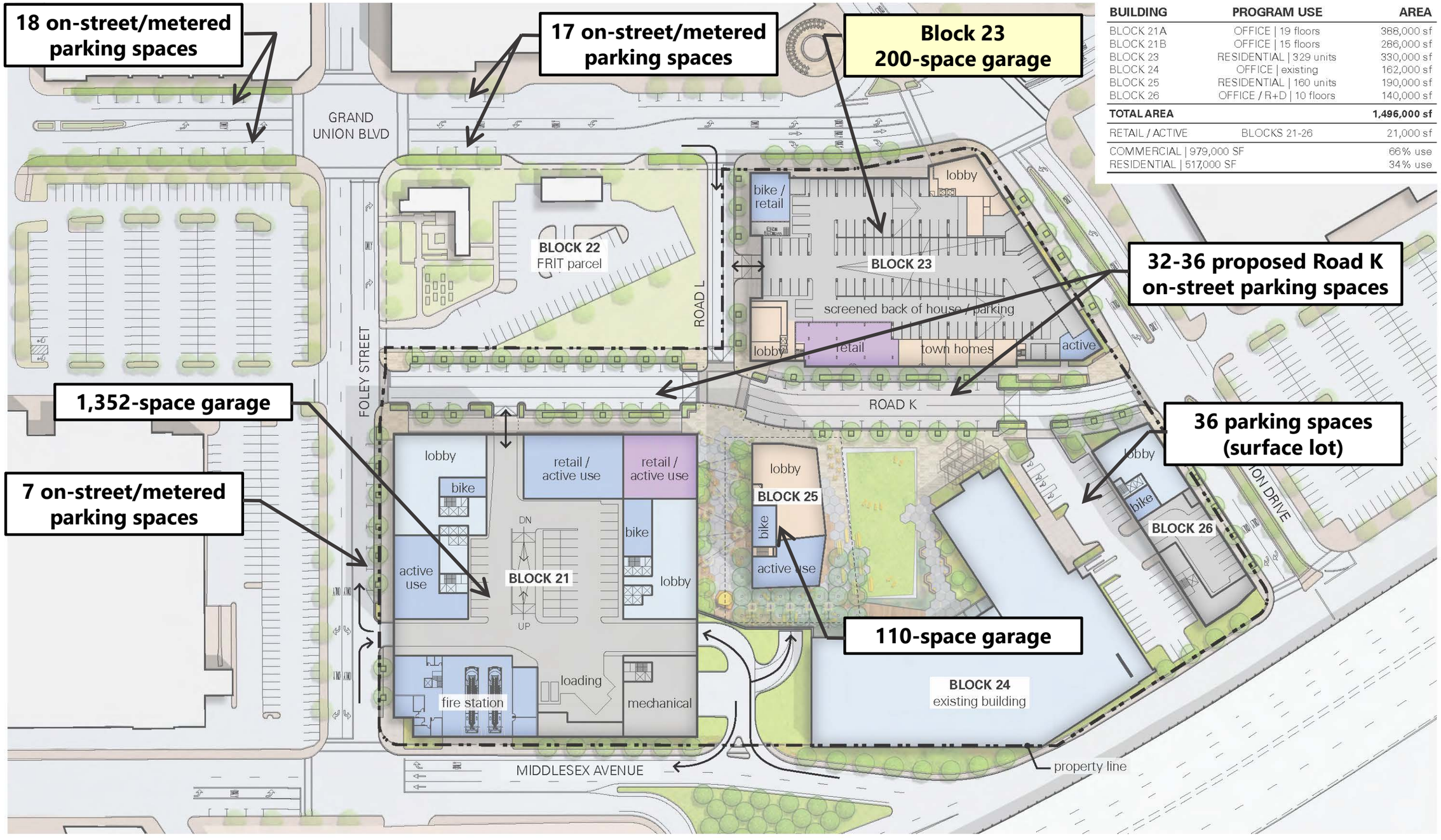


Figure 1

Nearby Transit Services

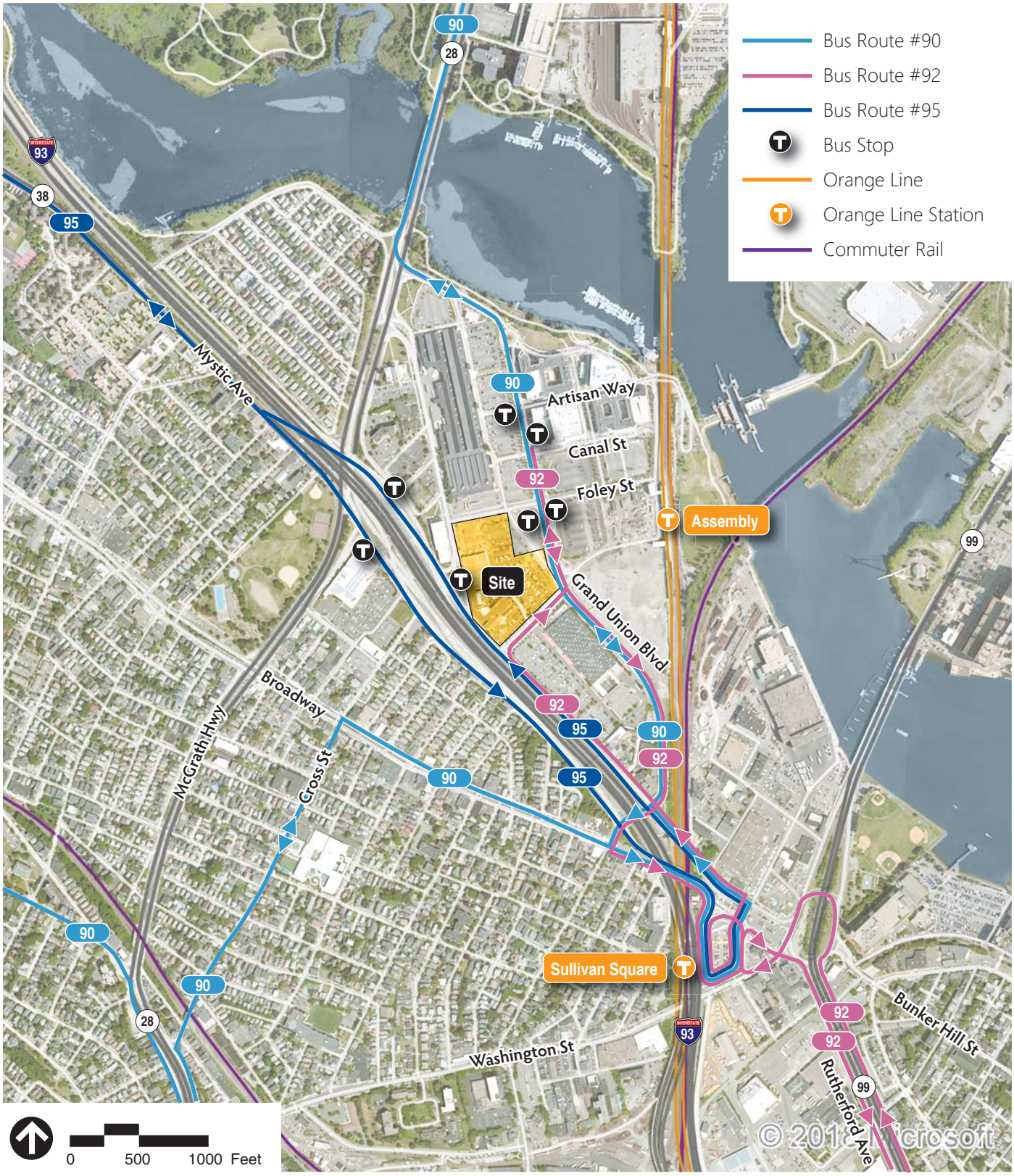
Ample public transportation services by the Massachusetts Bay Transportation Authority (MBTA) currently are provided in the immediate vicinity of the Project Site as summarized in the following section.

Existing Conditions

The study area is currently served by five MBTA bus routes within 0.5 miles of the Project Site. The area is serviced by MBTA Bus Routes 89, 90, 92, 95, and 101. MBTA Bus Routes 90, 92, and 95 directly serve the Site with stops on Mystic Avenue and Grand Union Boulevard. In addition, the Site is served by the Orange Line of the MBTA with Assembly Station located less than 1,000 feet east of the Site. Descriptions of each transit service is provided below:

- Bus Route 89 travels between Sullivan Square and Davis Square or Clarendon Hill via Broadway. The nearest stop to the Site is approximately 0.5 miles away at the intersection of Broadway and Lombardi Way / Mt. Vernon Street. During peak periods, Bus Route 89 has a frequency of approximately 7-15 minutes.
- Bus Route 90 travels between Wellington Station and Davis Square via Assembly Square Mall, Sullivan Square, and Highland Avenue. The nearest stop to the Site is on Grand Union Boulevard adjacent to the Site, at Foley Street. During peak periods, Bus Route 90 has a frequency of approximately 40-50 minutes.
- Bus Route 92 travels between Assembly Square Mall and Downtown Boston via Sullivan Square and Haymarket. The nearest stop to the Site is on Grand Union Boulevard adjacent to the Site, at Foley Street. On weekday, Bus Route 92 terminates at Sullivan Square before 9:30 AM and after 4:00 PM, therefore not providing service to the Site during peak periods.
- Bus Route 95 travels between Sullivan Square and West Medford via Mystic Avenue and Medford Square. The nearest stop to the Site is on Mystic Avenue (Route 38) adjacent to the Site, at Middlesex Avenue. During peak periods, Bus Route 95 has a frequency of approximately 25-40 minutes.
- Bus Route 101 travels between Sullivan Square and Malden Center via Broadway and Medford Square. The nearest stop to the Site is approximately 0.5 miles away at the intersection of Broadway and Lombardi Way / Mt. Vernon Street. During peak periods, Bus Route 89 has a frequency of approximately 5-20 minutes.

Peak period frequencies/headways for MBTA bus services are summarized in Table 2, and are shown graphically in Figure 2.



Source: Bing Aerial, MassGIS

Figure 2
Public Transit

XMBLY
Somerville, Massachusetts

Table 2 Project Area MBTA Service

Bus Route	Origin / Destination	Peak-Hour Frequency (minutes)		Weekday	Saturday	Sunday
89	Charlestown; Clarendon Hill or Davis Square – Sullivan Station via Broadway	7-15	Inbound	2,079	973	367
			Outbound	2,077	945	492
			Total	4,156	1,917	858
90	Charlestown; Davis Square – Wellington Station	45-50	Inbound	588	334	230
			Outbound	593	350	163
			Total	1,182	684	393
92	Charlestown; Assembly Square Mall – Downtown via Main Street	25-45	Inbound	667	294	N/A
			Outbound	654	285	N/A
			Total	1,321	579	N/A
95	Fellsway; West Medford – Sullivan Square	25-40	Inbound	896	445	206
			Outbound	986	491	236
			Total	1,881	936	442
101	Charlestown; Malden Station – Sullivan Station via Medford Square	20-30	Inbound	2,453	1,165	603
			Outbound	2,314	1,232	516
			Total	4,767	2,397	1,119

a Based on MBTA's Ridership and Service Statistics – Fourteenth Edition, 2014.

Assembly Square Orange Line Station

Assembly Station on the Orange Line of the MBTA is approximately 800- to 1,000 feet east of the Site via Revolution Drive or Foley Street. The Orange Line travels from Oak Grove in the north to Forest Hills in the south and serves the cities of Malden, Medford, and Somerville, as well as the Boston neighborhoods of Charlestown, Downtown, Chinatown, Back Bay, South End, Roxbury, and Jamaica Plain. The Orange Line runs approximately every six minutes during peak periods. The Assembly Square Station on the Orange Line opened in 2014.

Additional transit service is available within the study area beyond the 0.5 miles range discussed above. Additional stops on the Orange Line are located at Sullivan Square Station (located approximately 0.6 miles south of the Site) and Wellington (located approximately 1 mile north of the Site). Both Sullivan Square Station and Wellington Station are local transit hubs and provide connections to several additional MBTA bus routes as well.

Bicycle Network

As part of the traffic data collection, current biking activity was recorded for the study area intersections. The area surrounding Alta XMBLY has ample bike accommodations which were implemented as part of the adjacent Assembly Row development. These include new bike

lanes, a multi-use path, and other amenities. Grand Union Boulevard currently features striped bicycle lanes on both sides of the roadway. The segment of the newly proposed Road K between Revolution Drive and Road L is being designed for shared use by automobiles, bicyclists, and pedestrians with parking along both sides of the street for most of its length. Space also is available within the Road K cross-section for 5-foot wide bike lanes in both directions to the north of the segment between Road L and Revolution Drive. With the inherent traffic-calming nature of the southerly segment, a shared-lane treatment will be provided for cars, bikes, and pedestrians. The planned multi-modal setting, the at-grade roadway/sidewalk configuration of Road K, and other factors, will allow for bicyclists and pedestrians to readily utilize the same space automobile traffic due to the expected low speeds. The nearest "Blue Bikes" bike-sharing station to the Site previously was located at Broadway at Mt. Pleasant Street approximately 0.40 miles to the south. However, in July 2018 a new Blue Bikes station was installed near the northerly headhouse at Assembly Station less than ¼ mile to the east of the Site. The new internal Site roadways proposed as part of the Project will be designed to accommodate bicycle traffic within the mixture of vehicular and pedestrian traffic along Road K and Road L.

Sidewalks

As part of the planned multi-modal environment of XMBLY there will be ample pedestrian accommodations in place surrounding Alta XMBLY. Grand Union Boulevard already features 8-foot wide sidewalks along both sides of the roadway, with crosswalks provided at Foley Street to the north, and Revolution Drive to the south. Push-button actuated exclusive pedestrian phases are provided at both intersections.

A continuous 6-foot wide concrete sidewalk will be constructed along the northerly Site frontage along Road L. Street furniture and tree pits also will be provided within the approximately 16-foot wide area between the curbline and the building. A variable-width sidewalk will be constructed along the Site's Road K frontage along with ample street furniture, trees and other amenities. A continuous 6-foot wide sidewalk also will be provided along the northerly side of Revolution Drive, with additional space for street trees and landscaping. The segment of Road K between Road L and Revolution Drive is being designed to promote shared use between automobiles, bicyclists, and pedestrians. The design of this segment involves the roadway being raised to be flush with the sidewalks to help promote the desired multi-modal environment. Bollards will be provided along the roadway edge between the on-street parking and sidewalk area for added pedestrian protection.

Mode Split / Trip Generation

The proposed Alta XMBLY development is comprised of residential and supporting retail/restaurant uses. The rate at which any development generates traffic is dependent upon a number of factors such as size, location, and concentration of surrounding developments. The Trip Generation Manual[1] published by the Institute of Transportation Engineers (ITE) categorizes these land uses and provides weekday daily, weekday morning, weekday evening, Saturday daily and midday peak hour unadjusted vehicle trip generation estimates for each use. For the proposed development, the trip generation estimates for the planned uses were projected using Land Use Code (LUC) 221 (Mid-Rise Residential) and LUC 820 (Shopping Center). The methodology used, and results of this analysis, are discussed in detail in the following sections.

Proposed Project-Generated Traffic

The proposed transit-oriented Alta XMBLY development will consist of a mixture of residential and supporting retail/restaurant/active uses set within the overall surrounding mixed-use XMBLY development. As noted above, traffic associated with the proposed residences was estimated using ITE LUC 221 (Mid-Rise Residential). The retail uses are expected to be small, service-oriented businesses. While exact tenants have not yet been secured, these are not expected to be large destination-retail uses. Instead, potential uses will include small eating establishments, coffee shops, or gallery uses. While these clearly do not fit the description of a transitional ITE "Shopping Center", retail traffic was estimated using this land use code (LUC 820), which results in an overly conservative analysis. The overall unadjusted vehicle trip estimates for the Project are presented in Table 3.

[1] Trip Generation Manual (10th Edition), Institute of Transportation Engineers, Washington D.C., 2017.

Table 3
Alta XMBLY Trip Generation –
Total Unadjusted Trips

Time Period	Apartments: 329 units[1] +	Retail/Restaurant: 8,305 sf[2]	= Total
Weekday Daily (vpd)	1,790	314	**2,104**
Weekday Morning Peak (vph)			
Enter	29	5	**34**
Exit	81	3	**84**
Total	110	8	**118**
Weekday Evening Peak (vph)			
Enter	85	16	**101**
Exit	54	16	**70**
Total	139	32	**171**
Saturday Daily (vpd)	1,418	384	**1,802**
Saturday Midday Peak (vph)			
Enter	71	19	**90**
Exit	74	18	**92**
Total	145	37	**182**

vpd Vehicles per day
vph Vehicles per hour
1 Source: Trip Generation Manual; Tenth Edition; Institute of Transportation Engineers; Washington, D.C.; 2017. Based on ITE LUC 221 (Mid-Rise Residential), based on 329 units.
2 Based on ITE LUC 820 (Shopping Center), assumes 8,305 sf of retail/restaurant space.

The values shown in Table 3 are the base unadjusted vehicle-trip estimates prior to the necessary adjustments for internal Assembly Square trip sharing, mode-splits, and other factors. The details of how these subsequent adjustments were made by each step are discussed in the following sections.

Person Trips

The unadjusted vehicle trips calculated using the ITE data were subsequently converted into person trips by applying national data[2] for vehicle-occupancy rates for a variety of uses. This was done so that the national ITE-based data also would be converted to person trips using national data for consistency.

[2] Summary of Travel Trends – National Household Travel Survey; USDOT Federal Highway Administration (Washington, DC), 2017.

Internal Capture Trips

As described in the ITE Trip Generation Handbook "because of the complementary nature of these land uses, some trips are made among the on-site uses. This capture of trips internal to the site has the net effect of reducing vehicle trip generation between the overall development site and the external street system (compared to the total number of trips generated by comparable land uses developed individually on stand-alone sites)…an internal capture rate can generally be defined as the percentage of total person trips generated by a site that are made entirely within the site. The trip origin, destination, and travel path are all within the site."

Based on the methodology outlined in the ITE Trip Generation Handbook, internal capture rates were applied to the gross person trips. The resulting peak-hour person trip estimates for the Project and are presented in Table 4.

Table 4 Alta XMBLY Peak-Hour Person Trips

	Residential [a]	Retail [a]	Total Person Trips
Weekday Morning			
Enter	32	9	41
Exit	92	5	97
Total	124	14	138
Weekday Evening			
Enter	96	27	123
Exit	61	29	90
Total	157	56	213
Saturday Midday			
Enter	80	35	115
Exit	84	32	116
Total	164	67	231

a Person trip generation estimate with internal capture credits applied.

Mode Share

For existing conditions, the mode split was estimated based on 2010 U.S. Census data for Tract 3398.01 in Medford. This tract is located east of and adjacent to Wellington Circle in Medford, and has been determined by the City of Somerville to be generally representative of the existing mode splits likely occurring within Assembly Square. Specifically, the census data reflects an existing mode split of approximately 69- automobile usage, with the remainder being split between transit, pedestrians, bicyclists, or those that work from home. The mode shares used for the future conditions

evaluation were developed considering multiple sources. These include a traffic study[3] for a prior development proposal on the Project Site, and data from the Notice of Project Change (NPC)[4] prepared for the Partner's office development within Assembly Square. Mode shares presented as part of the nearby North Point development also were considered due to the similarities in some components of that project. The following sections discuss aspects of the Project which also should help promote a shifting from single-occupant automobile use as the predominant mode of travel at the Site.

Promotion of Transit Use

Access to public transportation will significantly reduce demand for vehicular travel and parking spaces. This should be particularly effective in relation to the MBTA Orange Line Assembly Square Station already being in operation within a short walking distance to the Site.

As part of the overall XMBLY Development a central commuter information center will be provided within the Project Site in a prominent location such as in a building foyer, or near garage elevators. This will provide employees, residents, and visitors with transit maps and schedules and route information for pedestrians and cyclists. One or two smaller centers also may be provided at central locations within the overall development, or possibly within each building. This also could include the residential lobbies within the Alta development among other possible locations that would be identified by the overall XMBLY on-site TDM coordinator in consultation with the City of Somerville planning staff and the Assembly Square Transportation Management Association (TMA).

Facilitating Bicycle and Pedestrian Travel

Travel to the Project Site by cycling or walking will be promoted by the Proponent through the provision of improved bicycle and pedestrian connections within the Project Site and surrounding Assembly Square area. In addition to secured, covered bike storage within the building, bicycle racks also will be provided at locations surrounding the Site. Walking to and from, and throughout the Project Site will be encouraged by the provision of a pedestrian-friendly site layout, which features sidewalks and crosswalks at key points both within the Site and connecting to adjacent planned developments. The bicycle and pedestrian infrastructure improvements will help to promote non-vehicular travel to the Project Site.

The nearest Blue Bikes bike-sharing station to the Site is located near the northerly headhouse at Assembly Station less than ¼ mile to the east of the Site. As required as a condition of the XMBLY approval, the Proponent for that project will be providing a bike-share docking station with at least fifteen (15) shared docks and nine (9) bicycles. As also noted as part of that condition, if additional docks are provided then additional bikes will be included to maintain a 0.57 bike-to-dock ratio. The new station will be installed prior

3 The Office and Research Center + The Residences at Assembly (Chapter 3 – Transportation) Design Consultants, Inc. (Somerville, Massachusetts), September 30, 2016.

4 Assembly Row Revised Program for Partners Healthcare Site – Notice of Project Change; VHB, Watertown, Massachusetts (May 15, 2014).

to the issuance of the Certificate of Occupancy for the Alta building, with the exact location being determined through consultation with Blue Bikes and the City of Somerville.

Secured bicycle parking spaces will be provided to meet the City of Somerville requirements. In total, 110 secured bicycle parking spaces are required for the residential component of the Site. The resulting 111 parking spaces within the structured parking garage will satisfy the overall Project requirement, with additional bicycle spaces for non-residential uses being provided on the sidewalks adjacent to the building. The Project will be providing short-term bicycle racks within 50 feet of each building entrance. The exact capacity and location of each rack will be determined during the Special Permit process for each individual block, but the bicycle parking provided will comply with City requirements.

Parking Management

The parking ratios proposed for the Project are considerably lower than those found in a suburban setting and are low even for sites that are well-served by public transportation. With the limited supply, parking spaces will need to be allocated to a select number of residents and employees.

The Project retail space will consist of small shops, restaurants, or cafes within the ground-level of the Alta building. Even without any formal shared parking program, there clearly will be shared activity. With those uses, most customer traffic should be in the form of residents or nearby office/lab workers already at the overall XMBLY site or surrounding area as opposed to destination retail traffic.

Project Mode Share

The resulting anticipated mode splits are presented in Table 5. More conservative mode-splits, with higher automobile use, were utilized in the Traffic Impact and Access Study accompanying this submittal. Through the implementation of this Mobility Management Plan it is the hope and expectation of the Proponent that the percentage of trips made by automobile can be reduced to under 50-percent. Accordingly, while an 80-percent retail automobile usage was evaluated as part of the PUD-PMP transportation analysis, the estimates shown in Table 5 are based on the desired 50-percent maximum, which should be attainable in the overall multi-modal environment. With the transit-oriented mixed-use environment surrounding the Site it is expected that there will only be 43-percent automobile usage for the residential component.

Table 5 Alta XMBLY Mode Share

Use	Vehicle	Transit	Bike/Walk
Residential	43%	47%	10%
Retail/Restaurant	50%	25%	25%
Overall Alta	47%	41%	12%

Source: Based on hybrid of mode shares used in Partners Health Care Study PNF (2014), Certified NorthPoint TIS (with data from Kendall Square K2 City of Cambridge, "Hotel Parking and Transportation Demand Management Reports – City of Cambridge", Assembly Edge PUD-PMP (2017), US Census data, and Boston Transportation Department data for Zone 11 (Sullivan Square).

The mode shares discussed above were applied to the net-new person trips to generate the adjusted Project trips by mode. The local average vehicle occupancy, based on US Census data for each primary use then was applied to the vehicle mode to reflect the number of vehicle trips generated by the Site.

Pass-By Trips

While the ITE rates provide estimates for all the traffic associated with each land use, not all of the traffic generated by the Project will be new to the area roadways. For example, a portion of the vehicle-trips generated by the retail land use will likely be drawn from the traffic volume roadways adjacent to the Project Site. For example, someone traveling on Grand Union Boulevard may choose to deviate from their original travel path to visit the site retail, before heading back to continue to their final destination. For this evaluation, ITE pass-by rates for LUC 820 (Shopping Center) were utilized for the retail trip generation, and applied to existing trips on the surrounding roadways. Specifically, 34- and 26-percent of the Site trip generation was assumed to be drawn from the surrounding roadway network during the weekday evening and Saturday midday peak hours, respectively. For all other time periods studied, a 25-percent pass-by rate was assumed.

Project-Generated Trips

The mode share and local average vehicle occupancy were applied to the person trips to estimate net new trips by mode, and then the pass-by adjustments noted above were applied to the vehicle trips generated by the retail portion of the Site. Tables 6 and 7 summarize the net new trips by mode and net new vehicle trips by use, respectively.

Table 6 Project-Generated Peak-Hour Trips by Mode

	Bike/Walk	Transit	Vehicle[a]
Weekday Morning			
Enter	5	17	13
Exit	10	44	33
Total	15	61	46
Weekday Evening			
Enter	15	47	38
Exit	11	32	26
Total	26	79	64
Saturday Midday			
Enter	15	42	34
Exit	14	44	35
Total	29	86	69

a Total development vehicle trips (including pass-by trips associated with the retail portion).

As shown in Table 6, the Project is expected to generate between 46 and 69 total vehicle trips during the peak hours studied. The breakdown of these trips by use are summarized below in Table 7.

Table 7 Project-Generated Peak-Hour New Vehicle Trips by Use [a]

	Residential	Retail	- Pass-By [b]	Total New Trips
Weekday Morning				
Enter	11	2	0	**13**
Exit	32	1	0	**33**
Total	43	3	0	**46**
Weekday Evening				
Enter	31	7	2	**36**
Exit	20	6	2	**24**
Total	51	13	4	**60**
Saturday Midday				
Enter	25	9	2	**32**
Exit	28	7	2	**33**
Total	53	16	4	**65**

a New vehicle trips with internal capture credits applied.
b Pass-by credits of 25%, 34%, and 26% applied to weekday morning, weekday evening, and Saturday midday peak hour retail trip generation, respectively.

As shown in Table 7, the Project is expected to generate between 46 and 65 net new vehicle trips on the surrounding roadways during the critical peak hours studied.

The anticipated vehicle trip generation presented above is based on the targeted maximum of 50-percent automobile usage. As noted earlier, the existing auto usage for this area currently is estimated at 69-percent. Table 8 compares the expected vehicle trip generation for the Project (based on the desired 50-percent auto use maximum) to that which would occur if the current mode splits were not improved.

Table 8 Project Trip Generation Comparison – Proposed vs. Existing Mode Splits

	Project Trip Generation		Reduction in Vehicle Trips	
	with Existing Mode Splits[a]	with Targeted Mode Splits[b]	Vehicle Trips	Percent decrease
Weekday Morning				
Enter	20	**13**	**7**	
Exit	53	**33**	**20**	
Total	73	**46**	**27**	**37%**
Weekday Evening				
Enter	58	**38**	**20**	
Exit	40	**26**	**14**	
Total	98	**64**	**34**	**35%**
Saturday Midday				
Enter	52	**34**	**18**	
Exit	54	**35**	**19**	
Total	106	**69**	**37**	**35%**

a Existing conditions mode share based on 2010 U.S. Census data for Tract 3398.01 in Medford.
b Project mode share based on Table 6.

As shown in Table 8, it is expected that Project vehicle trip generation can be reduced by between 27- to 37 peak-hour vehicle trips through the implementation of the MMP, public transit, and the availability of bicycle/pedestrian accommodations.

Mode Share Commitment

The Proponent is committed to making reasonable efforts to achieve the City's goal to control the percentage of trips by automobile at 50% or less, consistent with SomerVision. In combination with proposed pedestrian and bicycle improvements, close proximity to public transit services, and inherent walkable characteristics of the Assembly Square neighborhood, implementation of this Mobility Management Plan is anticipated to help decrease the percentage of trips made by automobile to 47%, a 22% reduction below estimated existing conditions of 69% of trips made by automobile. If annual monitoring and reporting identifies a shortfall in meeting this goal, additional mobility management programs and services will be implemented.

Proposed Programs and Services

A Mobility Management Plan (MMP) is required for any development within the Assembly Square Mixed-Use District. As a matter of departmental policy for the City of Somerville, the Director of Transportation and Infrastructure requires a MMP for various sizes and types of development, including the following:

- The property owner of a residential building with 20 or more dwelling units is required to provide the following:
  - posted mobility management information;
  - distributed mobility management information; and
  - unbundled parking
- Employers with 50 or more employees are required to provide the following:
  - an on-site transportation coordinator;
  - an annual mobility management education meeting for tenants;
  - posted mobility management information;
  - distributed mobility management information;
  - qualified transportation fringe benefits for employees; and
  - a guaranteed ride home program for employees.

The combined Alta retail/restaurant component is only 8.305 sf in size, and should have a limited number of employees. If future individual retail tenants have fifty (50) or more employees, then they will be required to submit their own MMP for approval. Verification of conformance with this condition will be provided to the City of Somerville by the property owner either as a copy of the leases (with financial aspects and other non-MMP elements redacted) or via an affidavit signed by the owner and tenant(s) verifying that this language was included and agreed to in the lease. This documentation will be provided to the City prior to the issuance of the Certificate of Occupancy of a space by a tenant with fifty (50) or more employees.

The following sections discuss the land use types for which MMP programs will be implemented for the Project. A description of the MMP elements is presented in this section along with information on how those elements aid employees, residents, visitors, residents, and retail patrons getting to and from the Project Site. As there may be

multiple tenants located within the Site, MMP obligations will need to be included as part of the lease language between retail tenants and the property owner. Verification of the ongoing conformance with this condition will be provided to the City of Somerville by the property owner either as a copy of the leases (with financial aspects and other non-MMP elements redacted) or via an affidavit signed by the owner and tenant(s) verifying that this language was included and agreed to in the lease. This documentation will be provided to the City prior to the issuance of the Certificate of Occupancy of a space by a tenant with fifty (50) or more employees.

General MMP measures to be implemented as part of this Project will involve promoting transit use and facilitating bicycle and pedestrian travel both through Site amenities and ongoing practices and programs. These will include providing bicycle racks and amenities and also will involve a new Blue Bikes bike-share station being provided within the overall XMBLY development site as a condition of that project's approval. The mixed-use nature of the overall XMBLY site by itself also effectively will function as a transportation demand management measure. Specifically, with the variety of uses proposed and already in place in the surrounding area, the need to travel off-site by automobile for dining or shopping opportunities will be minimized. With the mixture of Alta XMBLY residences and office/lab uses in the surrounding XMBLY site and beyond, it is possible that some residents may specifically choose to work at the Site due to it also being their place of employment, further reducing the need for vehicular travel.

The following plan first addresses general TDM measures that apply to the whole Project Site, then special programs for the residential use.

General Measures

TMA involvement

As required by Condition #3 of the approved Mobility Management Plan for the XMBLY PUD Master Plan, the XMBLY proponent will become an active member of the Assembly Square Transportation Management Association. The condition specifically requires that the property owner must have a signed contractual agreement to join or be a member of the Assembly Square Transportation Management Association (TMA) established by Federal Realty and others. Proof of membership must be submitted to the Director prior to the issuance of any Certificate of Occupancy for any building. The XMBLY proponent currently is taking the internal steps needed to initiate becoming a member of the TMA, and this requirement will be satisfied within the timeframe noted above. Once the required XMBLY internal coordination has been advanced, the Proponent will join the newly-formed TMA. On August 22, 2018 the Proponent also requested information from the entity managing the TMA regarding the structure, terms and conditions, and other aspects of the newly formed TMA. Following that initial outreach, TMA representatives indicted that these details were being finalized and were targeted for internal approval in mid-October 2018. It is expected that most of the MMP measures will be undertaken either directly by or through coordination with the TMA. In the event that the TMA does not provide any such service its implementation will be the responsibility of the property owner.

Ride-Sharing Services

The parking needs for the Project will be lessened due to the nearby availability of public transit currently provided in the area. Furthermore, alternate means of travel, such as taxi, private ride services (Uber, Lyft, and others) should continue to reduce the parking needs for this area. The exact level of usage by these private ride-sharing services can be quantified through post-opening monitoring studies to be conducted as discussed later in this document.

Use-Specific Measures

In addition to the general TDM measures outlined above, the following use-specific programs for the residents also will be provided.

Residential

In addition to providing a pedestrian friendly, mixed-use transit-orientated environment, the Proponent will enact a variety of additional strategies to reduce the need for auto trips by Alta XMBLY residents. This will include working with a car-sharing service (such as Zipcar) to provide cars for periodic use by residents, if such as demand exists. As noted earlier, the Project parking will be unbundled, which will require that residents rent or lease spaces, as opposed to have parking being included as part of the rental of a unit.

Several of the TDM measures to be implemented for the entire Project Site will be attractive to new residents. Specifically, the provision of secured bicycle storage, bicycle racks, pedestrian walkways, and proximity to public transportation, including several bus lines and the MBTA Assembly Square Orange Line station should help to minimize the need for vehicular travel and parking spaces. As noted earlier, the Proponent will consider providing preferred parking for low-emitting fuel-efficient vehicles and/or electric vehicle charging stations within each of the garages serving the buildings comprising the proposed Project.

In addition to the requirement of providing only unbundled parking, the Alta project also will need to post and distribute mobility management information. The physical posting of information will be handled by the building manager, and the information will be provided within either a bulletin board or wall display case to be provided in the residential lobby at the corner of Road K and Road L, the lobby at the corner of Grand Union Boulevard and Revolution Drive, and the bicycle storage/workshop area. These boards/cases will display MBTA maps and schedules for busses in the Assembly Square area and for the Orange Line. Maps showing bicycle and pedestrian facilities within Assembly Square and connecting to the surrounding area also will be posted. Similar information identifying the locations of nearby car-sharing stations, Blue Bike stations, and the availability of carpool/vanpool opportunities also will be posted. The initial posting of this information will be done by the Proponent prior to the issuance of the Alta Certificate of Occupancy.

The same information that will be posted as described above also will be provided to Site residents when they move in, or when new employees start work at the retail/restaurant

use. Yearly emails with this information also will be sent to site residents (and the retail/restaurant tenant), with additional emails sent if there are any notable changes to public transportation schedules, bicycle/pedestrian infrastructure, or the availability of ride-share or car-share services in the area.

Monitoring and Annual Reporting

The Proponent will conduct annual travel surveys as required by Condition #3 of the approved Mobility Management Plan for the XMBLY PUD Master Plan. These surveys will be developed through consultation with the City to determine the number of retail site employees utilizing public transportation, those traveling to the Site by private automobile, and those using car-sharing services. Employees also will be surveyed to identify those that bike or walk to and from work. The Proponent is committed to making reasonable efforts to achieve the City's goal to control the percentage of trips made by automobile at 50% or less, consistent with SomerVision. If annual monitoring and reporting identifies a shortfall in meeting this goal, additional mobility management programs and services must be implemented. These additional measures, if required, could involve increasing awareness of MMP program components through additional or relocated posted information, and more frequent distribution of MMP information.

Following the opening of the Site, biennial (every other year) counts of entering and exiting automobile trips for the Alta XMBLY parking garage will be conducted as part of the overall XMBLY traffic monitoring. The counts will be conducted using automatic traffic recorders or similar approved counting equipment to be installed at the driveway to capture a typical 24-hour weekday period. As retail automobile traffic will not be parking in the Alta garage, the trip generation for the proposed 8,025 sf retail use cannot readily be quantified through counts. Instead, the trip generation for that use will need to be determined to the extent possible through the employee surveys noted above, which will be supplemented with travel mode information requested from retail/restaurant patrons on the same day as the Alta traffic counting. The post-opening monitoring also will include the annual reporting of parking utilization for the Alta XMBLY parking garage. This will be done through an inventory to be conducted for a representative weekday midday period when it can reasonably be assumed that the combined peak parking demand would occur. As part of the summary report to be provided to the City, a status summary of the Mobility Management Plan in place at the Site also will be provided. In keeping with standard practices for the City of Somerville, all of the monitoring outlined above will occur during the months of April/May or September/October, unless other time periods are pre-approved by the City.