



# HORACE MANN SCHOOL

**NEWTON EARLY CHILDHOOD PROGRAM**  
**687 WATERTOWN STREET**

## **SCHOOL BUILDING COMMITTEE**

Newton Public Schools  
Newton, Massachusetts

April 4, 2019

**ARROWSTREET**  
10 POST OFFICE SQUARE  
SUITE 700N  
BOSTON, MA 02109  
617.623.5555

[www.arrowstreet.com](http://www.arrowstreet.com)

**Hill International**  
75 SECOND AVENUE  
SUITE 300  
NEEDHAM, MA 02494  
617.778.0900

[www.hillintl.com](http://www.hillintl.com)

# Agenda

- » Site Selection and Study Progress
- » Parking Plan
- » Preferred Site Plan and Building Layout
- » Building Performance Review
- » Site Plan Approvals Schedule Update

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## **687 Watertown Street**

### **5-58 Site Plan Approval Process**

#### **Since the last Meeting with SBC on March 14th**

- » Met with Newton Engineering Department Site/Civil Plan Review – 3/21
- » Met with Development Review Team – 3/27
- » Several Working Group Meetings



# Program Summary and Design Guidelines

Projected NECP at 687 Watertown Street

## Exterior/ Site

- » Outdoor age appropriate playground
- » Car-centric due to nature of program
- » Vans operation: 12 - 15 Vans
- » Parent/ guardian vehicles: 45 - 65
- » Staff vehicles: 85 - 100

## Building/ Program

- » Building Size: 38,000 SF on 3 levels
- » Remove modulars
- » Occupancy:
  - 305 total students (ages 2.9 to under 6 years old)
    - 104 Special needs
    - 90 Typically developing
    - 111 Related services
  - 85 - 105 Staff
- » Hours of Operation:
  - Entry 8:30am to 9:00am
  - Dismissal 12:00 to 12:30pm, 1:30pm, and 2:30pm
- » 14 - 18 Classrooms

## Features/ Goals

- » Design for different learning modalities, teaching styles, and program changes
- » Design for inclusiveness and spaces for specialists adjacent or within classrooms
- » Create shared specialist offices to foster collaboration and sharing between teachers
- » Improve pick-up/ drop off and entry to provide access and security for families and caregivers
- » Reflect the culture of the community

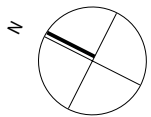


# 687 Watertown Street



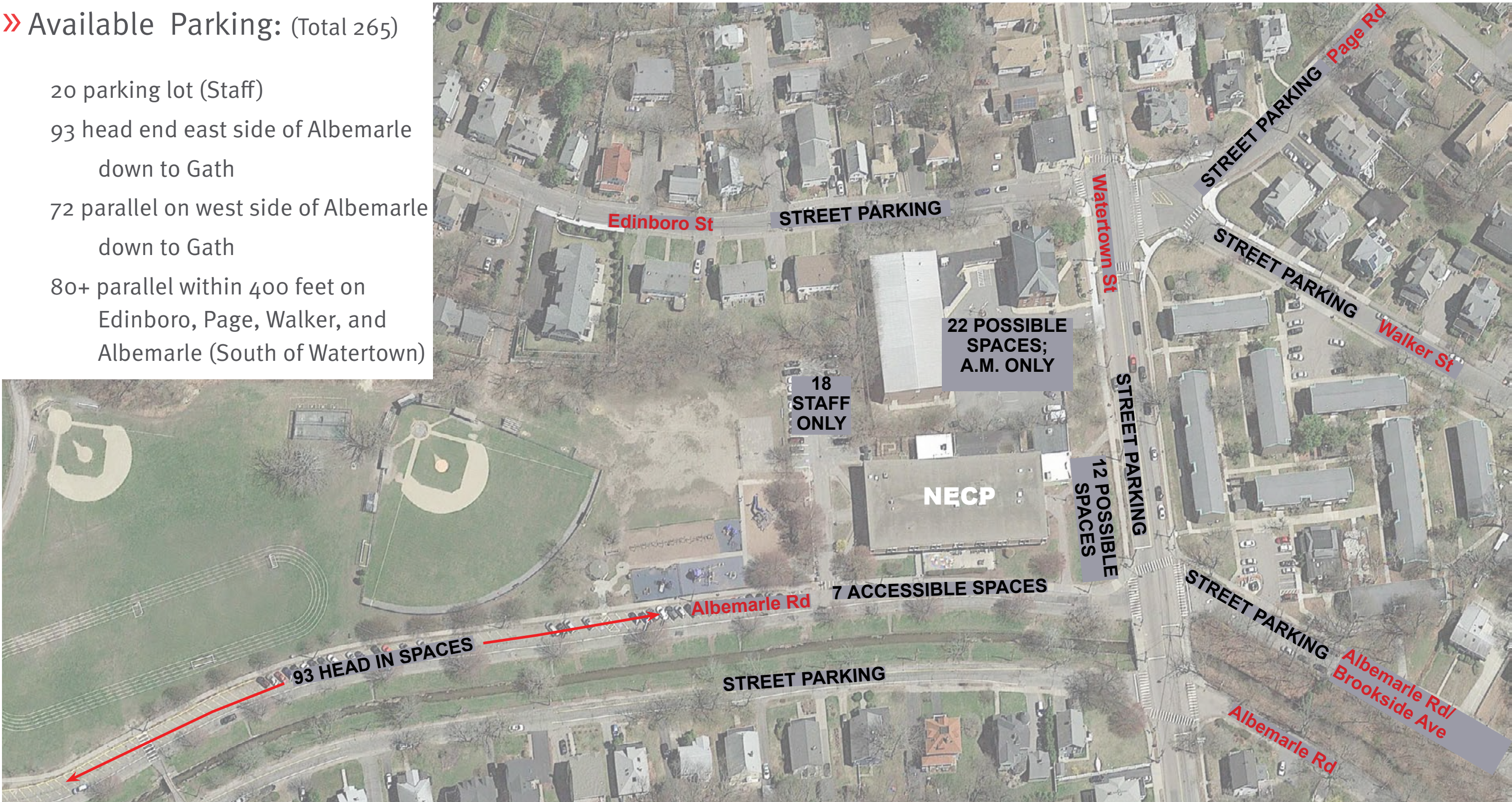


# 687 Watertown Street Parking Plan



## » Available Parking: (Total 265)

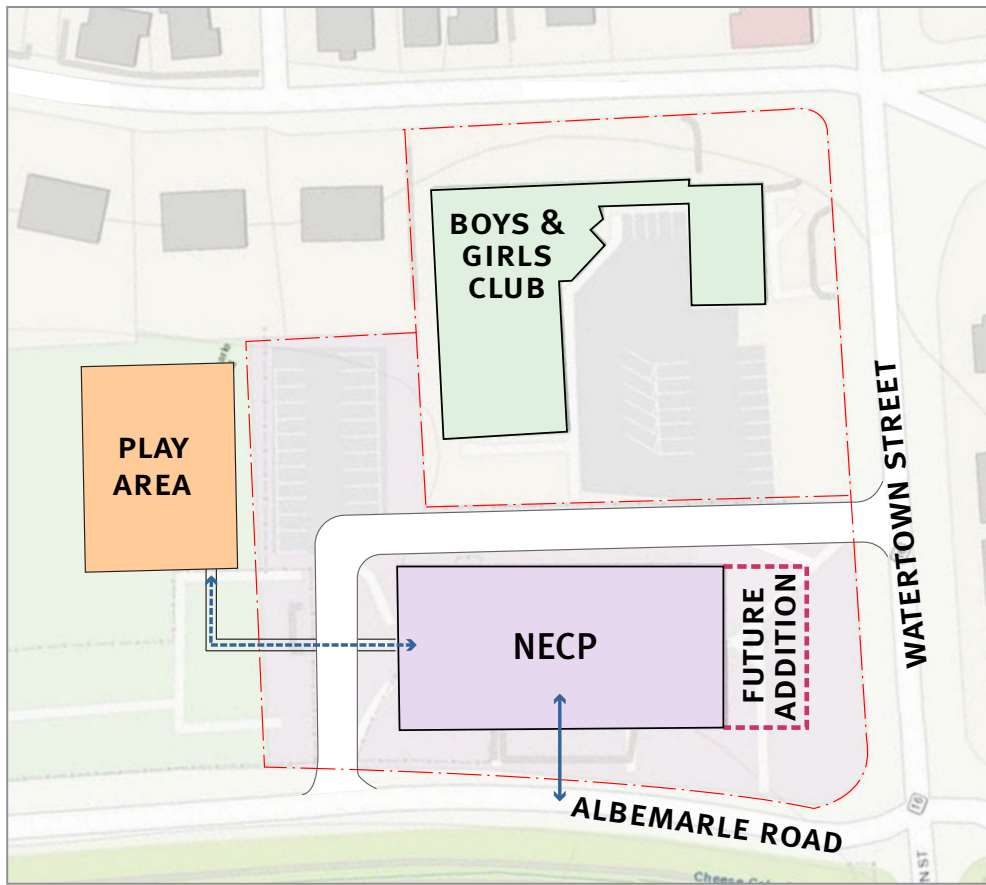
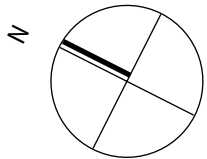
- 20 parking lot (Staff)
- 93 head end east side of Albemarle down to Gath
- 72 parallel on west side of Albemarle down to Gath
- 80+ parallel within 400 feet on Edinboro, Page, Walker, and Albemarle (South of Watertown)





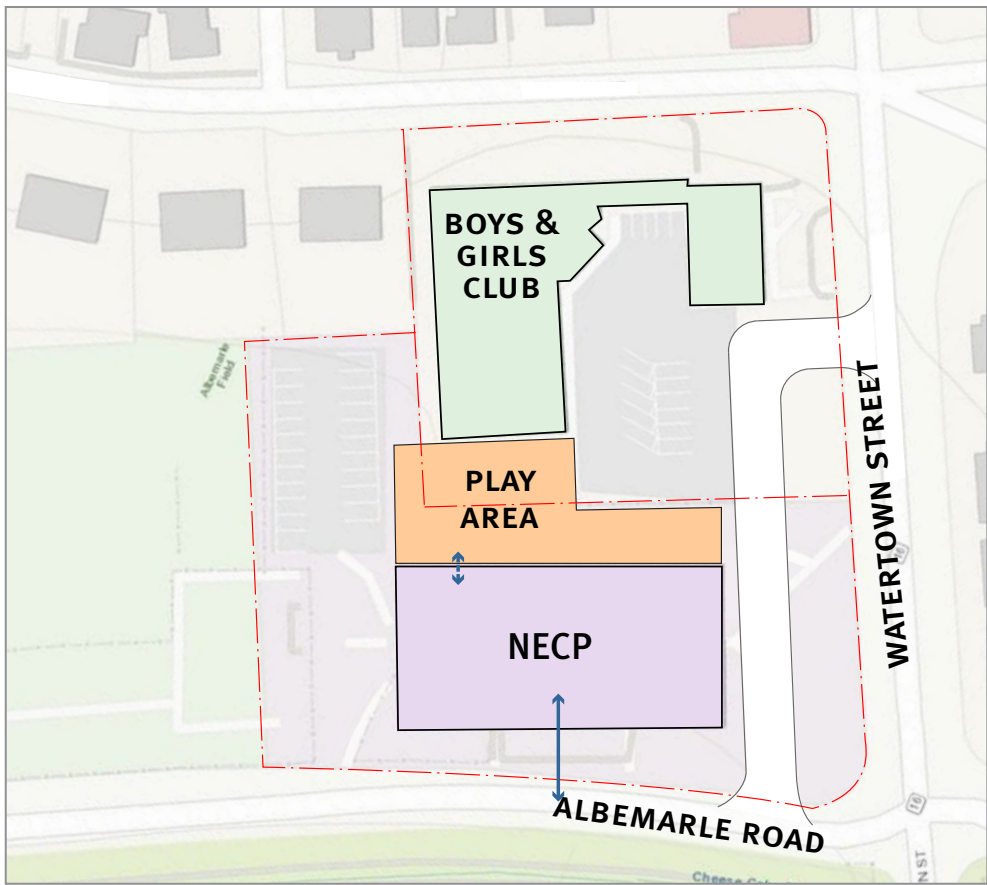
# 687 Watertown Street

## Design Options Considered



### Option A

- KEEPS EXISTING DRIVE AISLE ENTRY LOCATION FROM ALBEMARLE ROAD
- PLAY AREA IN PARKS AND REC

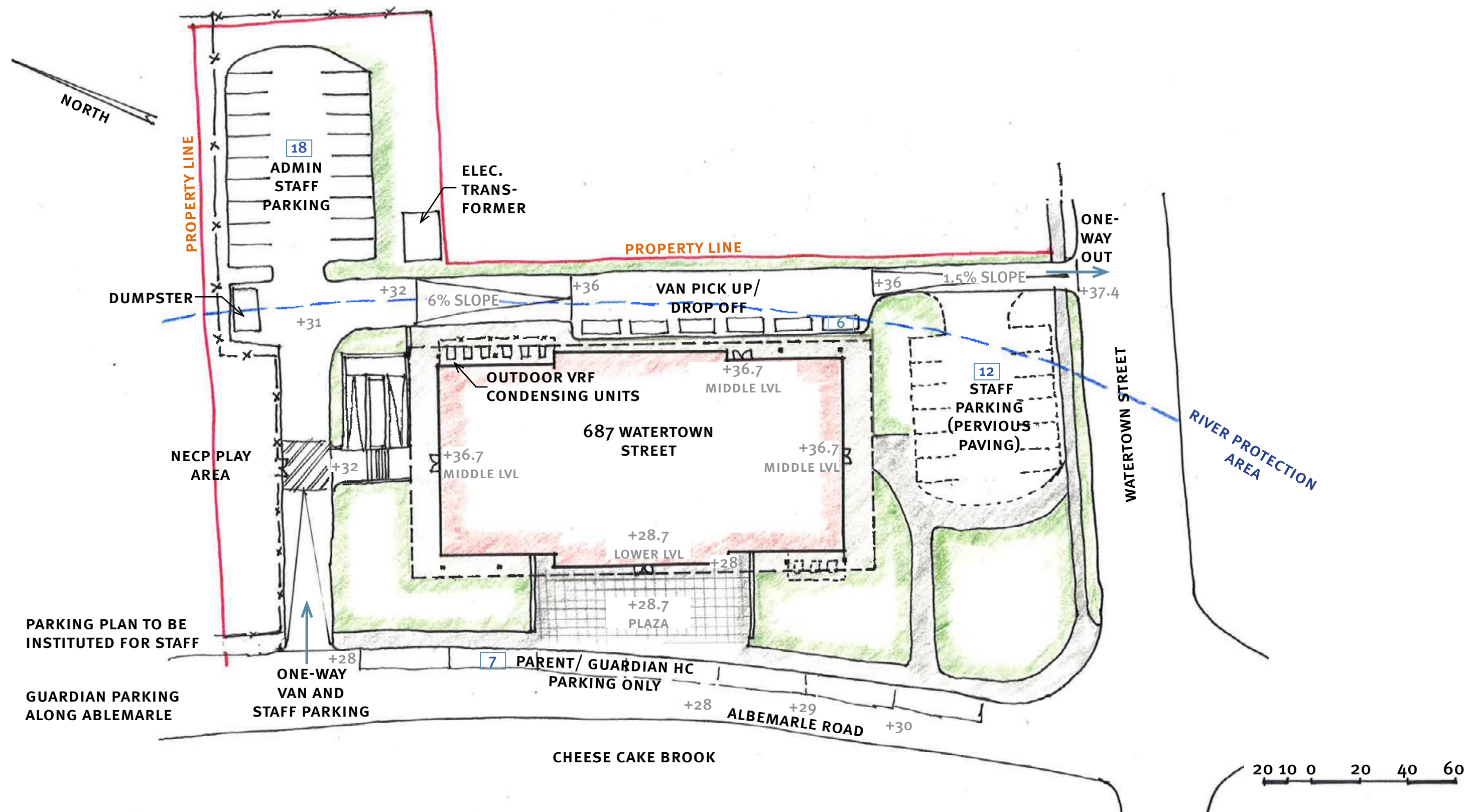


### Option B

- DRIVE AISLE PARALLEL TO WATERTOWN STREET
- LARGE PLAY AREA ADJACENT TO BUILDING
- USE BOYS AND GIRLS CLUB PROPERTY

# 687 Watertown Street

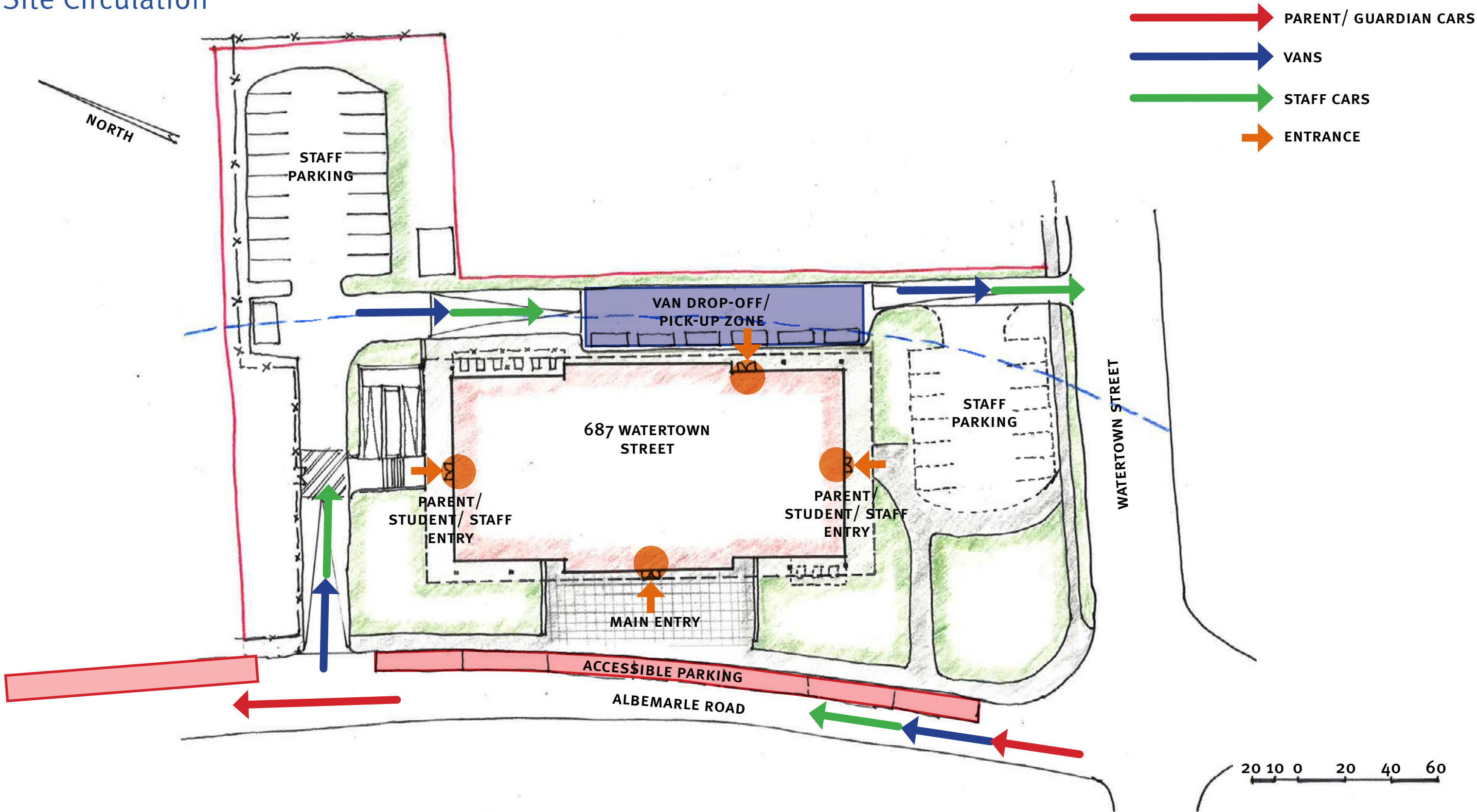
## Developed Option





# 687 Watertown Street

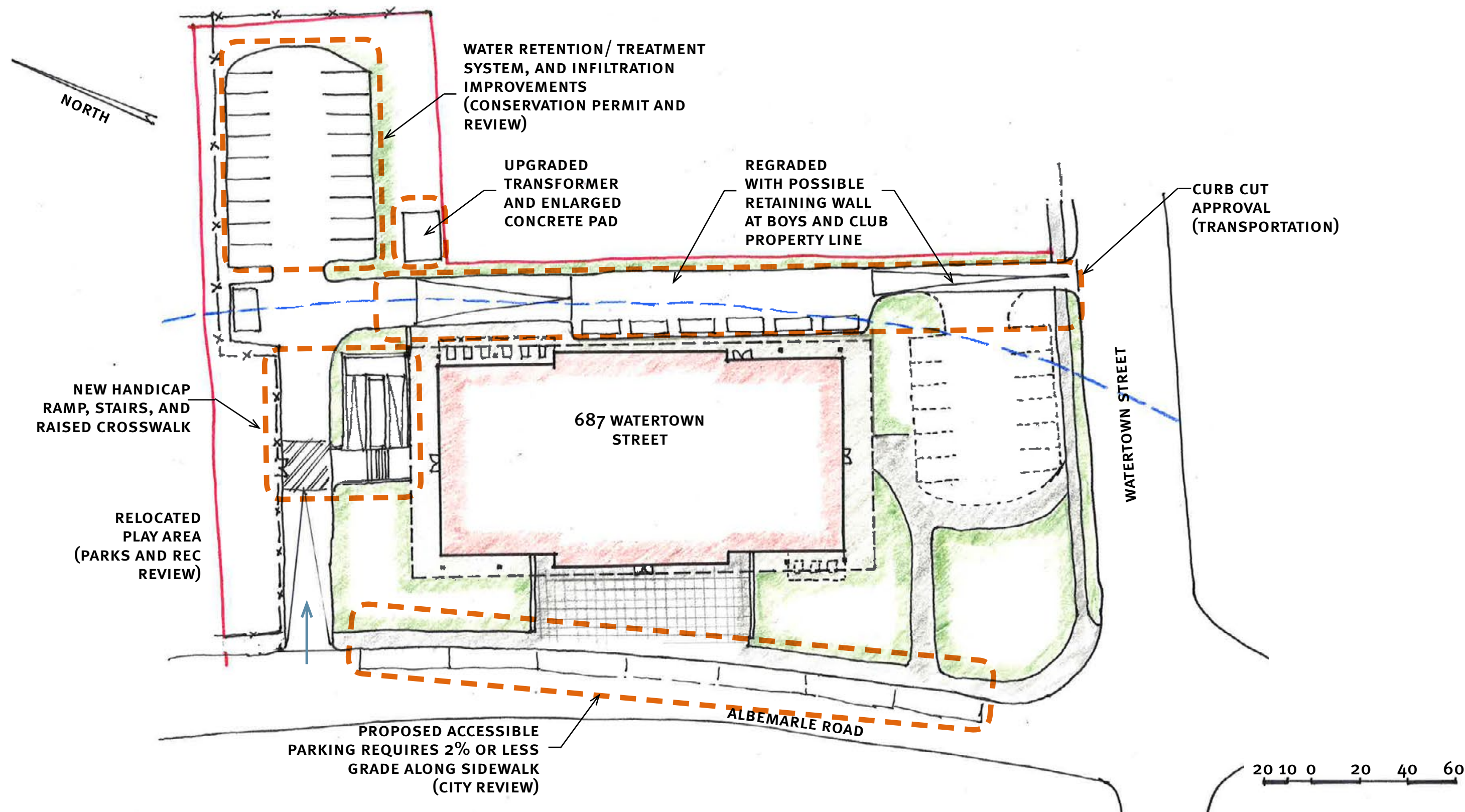
## Site Circulation





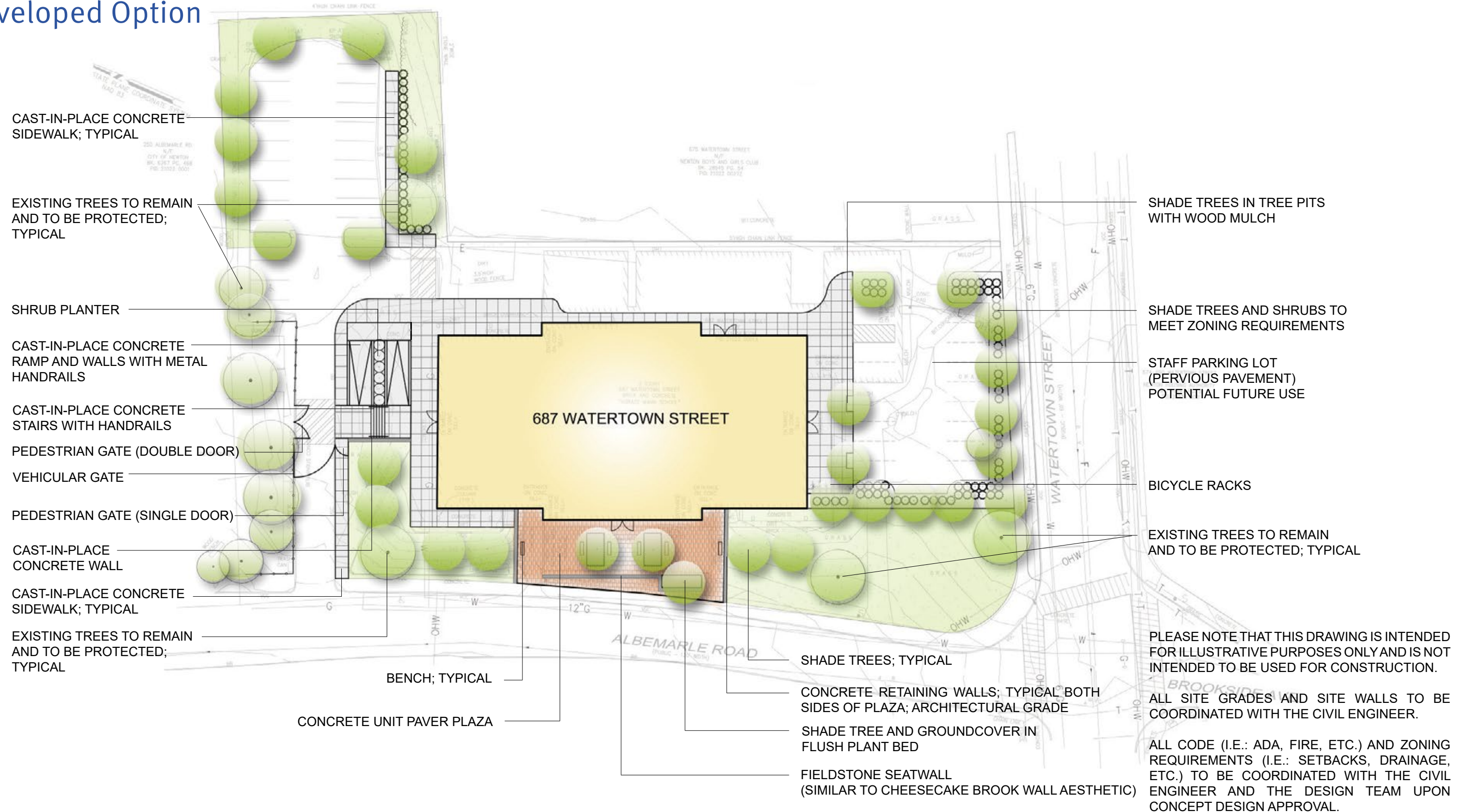
# 687 Watertown Street

## Site Improvements





## 687 Watertown Street Developed Option





## 687 Watertown Street

### Civil Considerations

#### Requirements:

- » Located within 200' Riverfront Area
- » Subject to the DEP's Wetland Protection Act for Riverfronts

#### Goals:

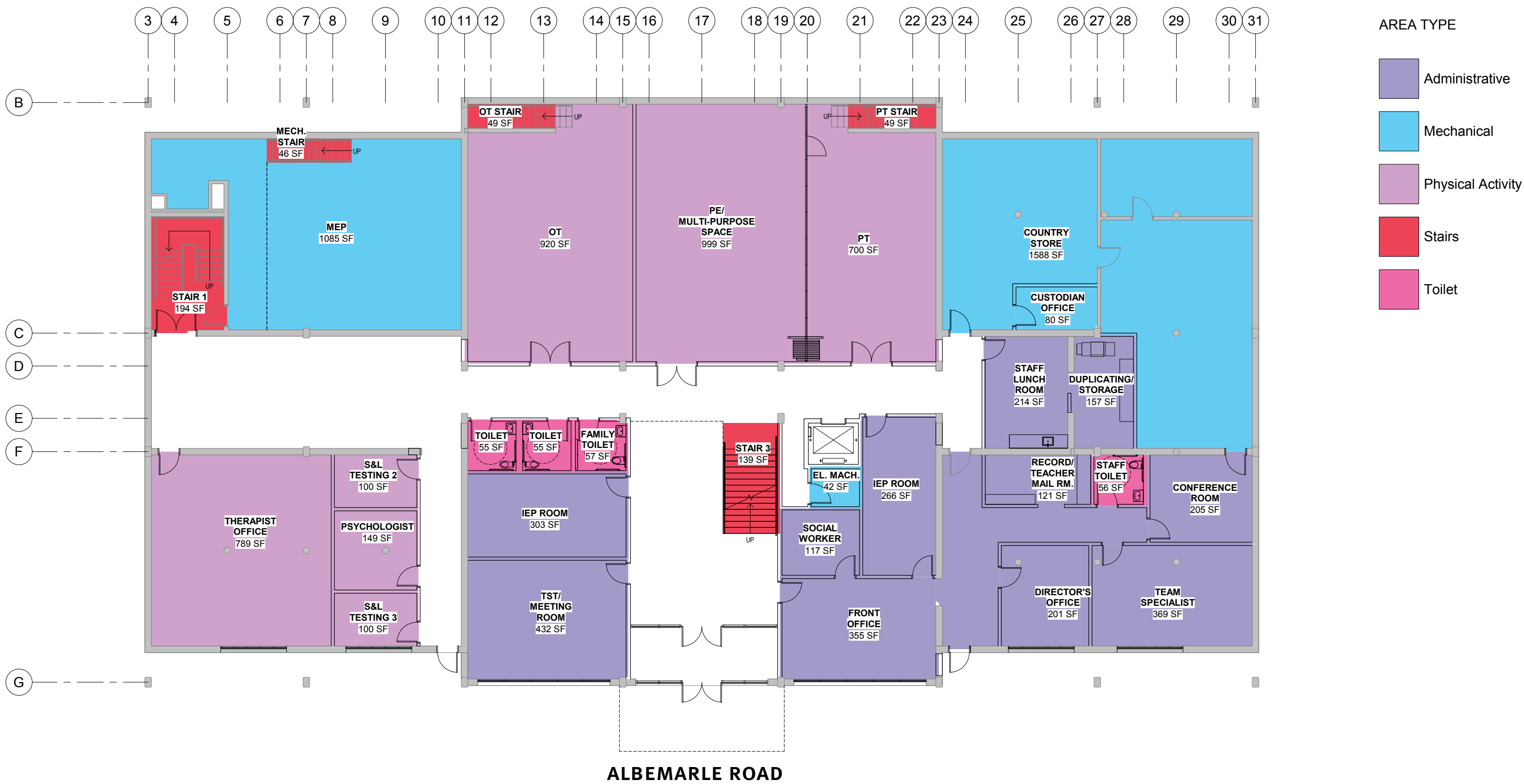
- » To meet the Riverfront requirements, the proposed site improvements will include:
  - Limiting disturbance of the existing site
  - Minimizing increase in impervious cover on the site
  - Installation of stormwater management systems to collect, treat, and infiltrate stormwater

#### Next:

- » Meet with Conservation Commission on April 18th

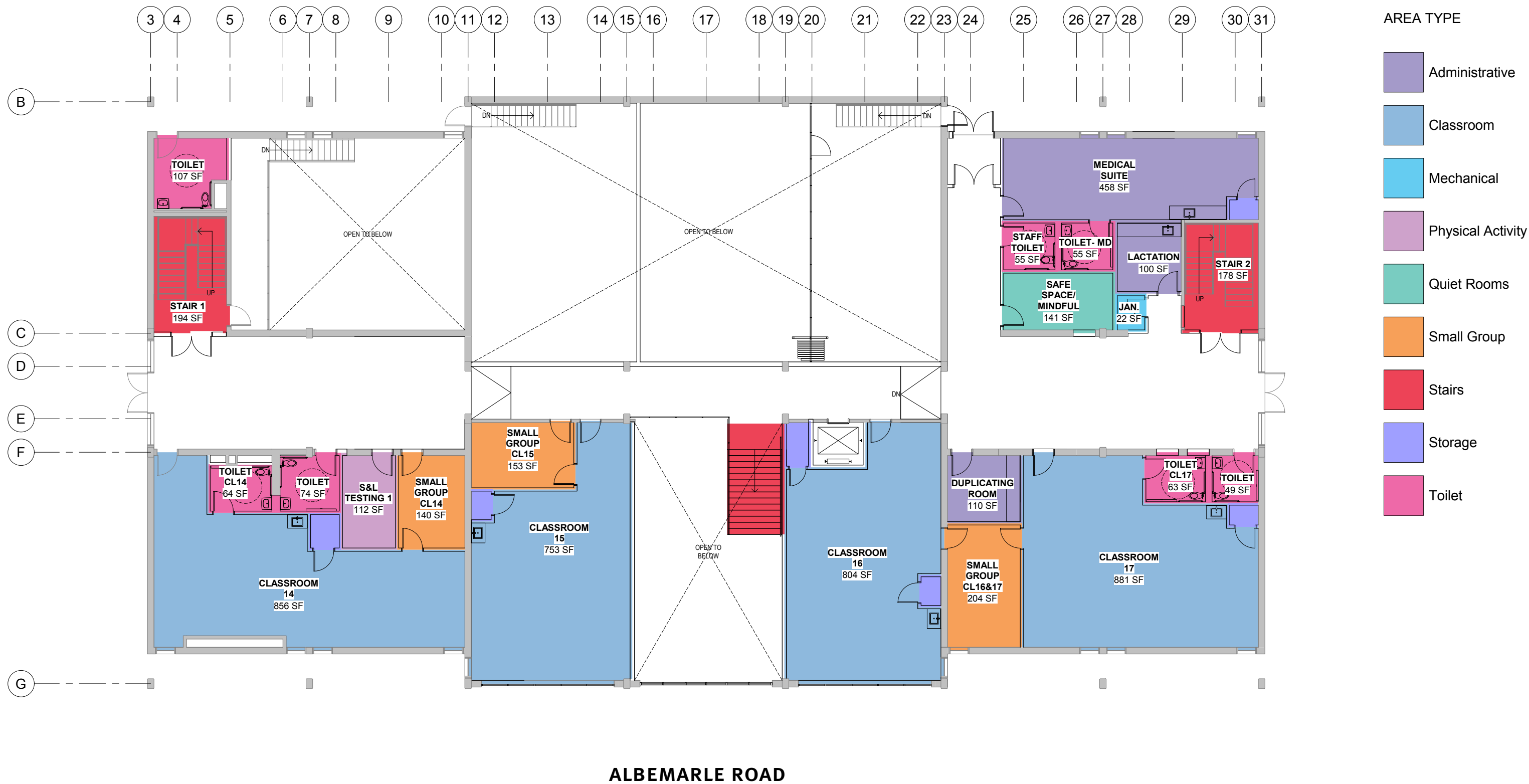


# Newton Early Childhood Program / Lower Level (Level o) – Fit Plan



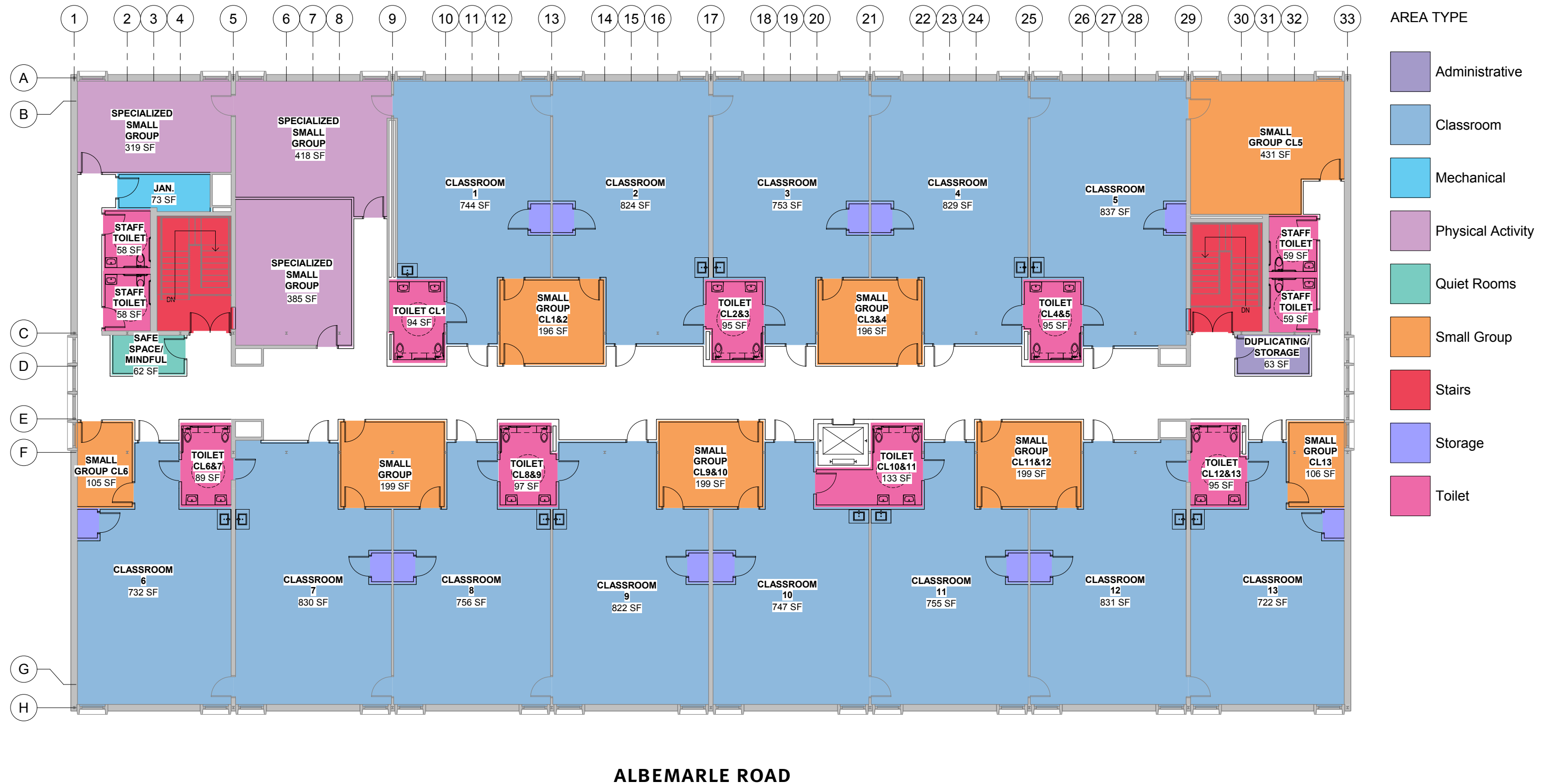


# Newton Early Childhood Program/ Middle Level (Level 1) – Fit Plan





## Newton Early Childhood Program/ Upper Level (Level 2)– Fit Plan





## 687 Watertown Street

### Building Performance- HVAC Systems/ Heating and Cooling

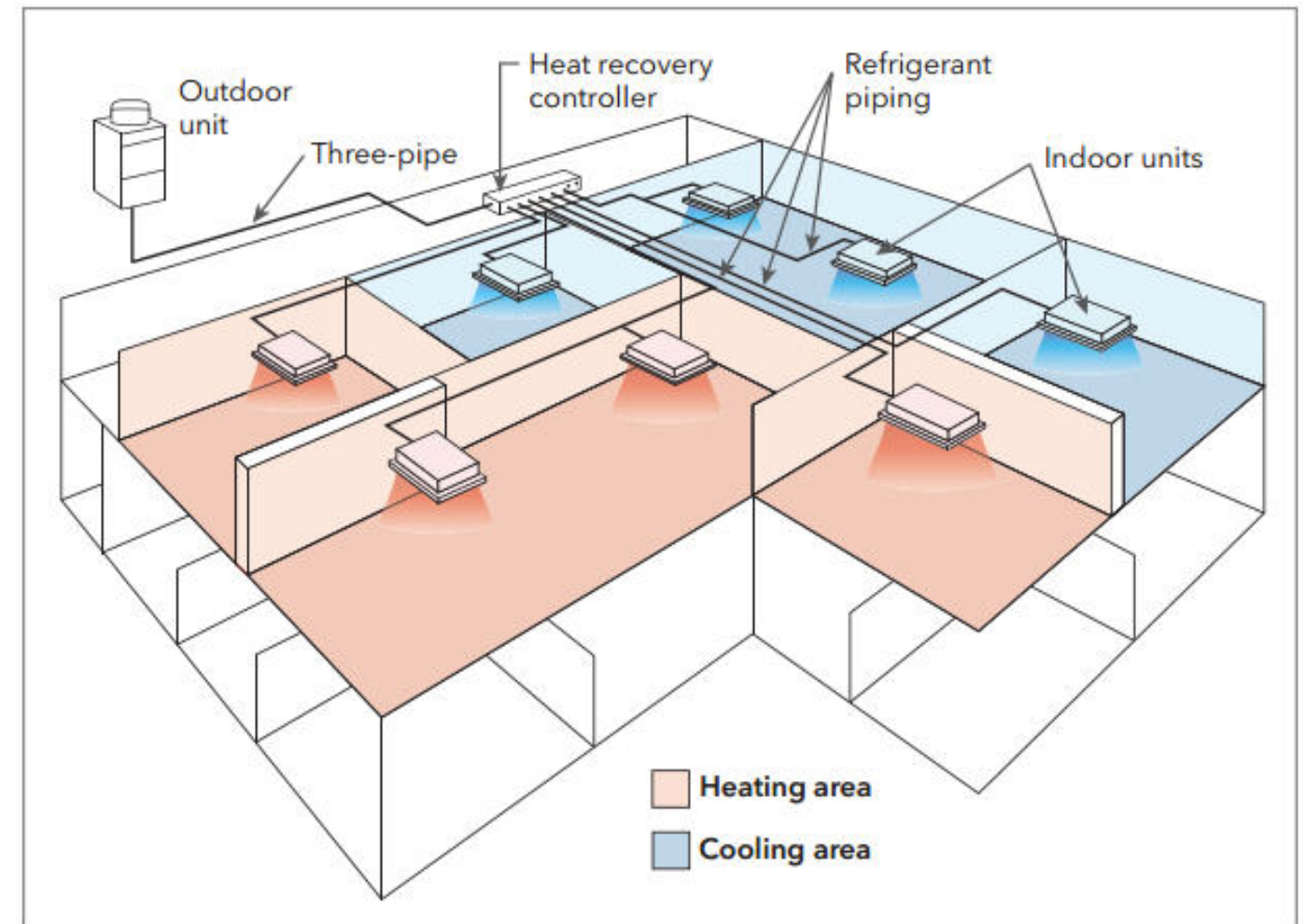
#### Option 1:

#### Variable Refrigerant Flow (VRF) System

- » All electric
- » Indoor VRF System Units in every room
- » On grade VRF Condensing Units (6 Units Required)

#### Mechanical System Payback Summary:

- » Lowest life cycle cost by yielding approx. \$524,000 savings over the 30-year study period compared to the baseline system





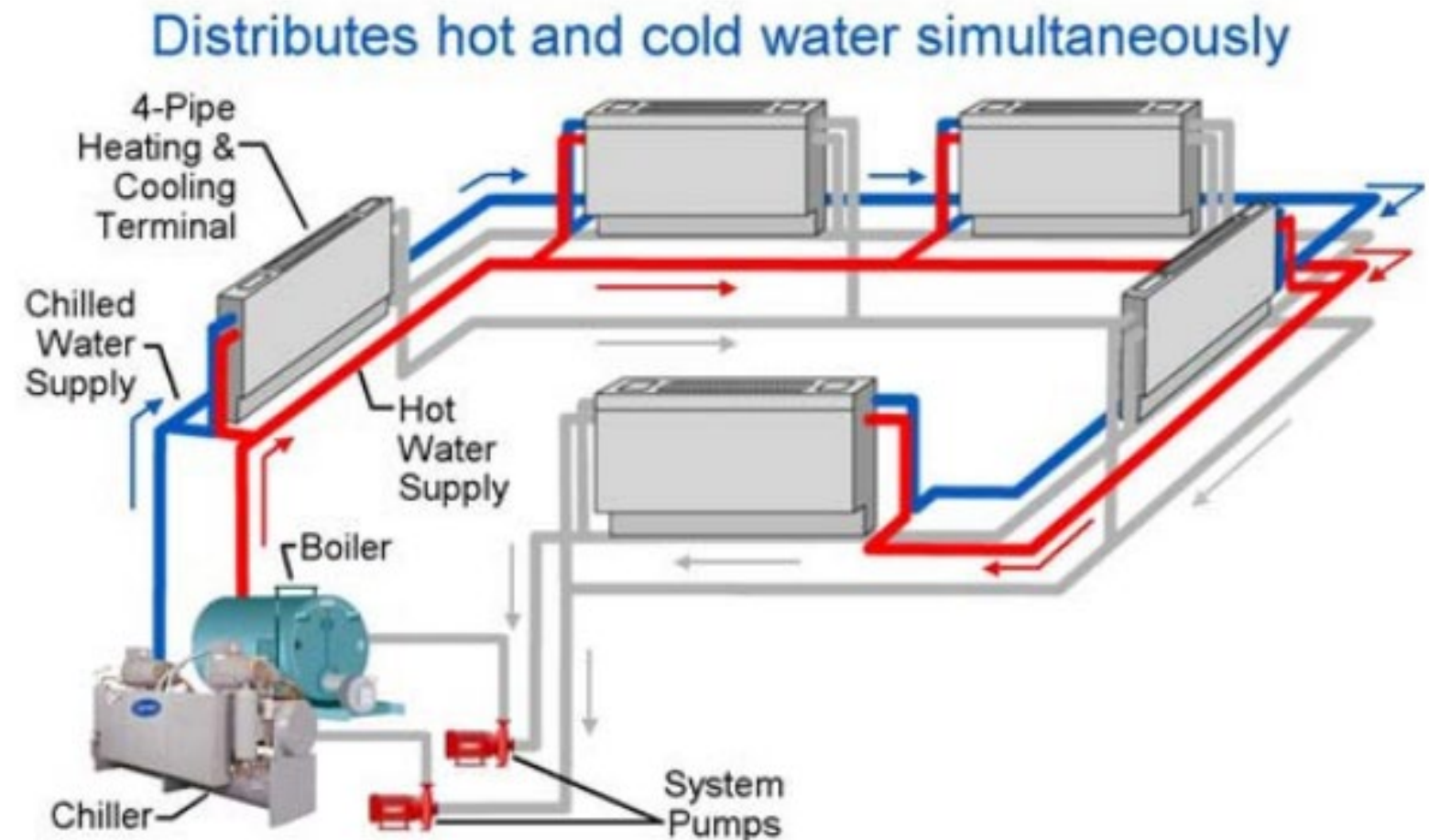
## 687 Watertown Street

### Building Performance- HVAC Systems/ Heating and Cooling

#### Option 2:

#### Hot water/ chilled water fan coil unit system

- » Indoor fan coil units in every room
- » Air cooled chiller
- » Two new hot water boilers
- » Hot water pumps located throughout the building
- » Dedicated outdoor air rooftop air handling units- 4 units required
- » Ductwork system for supply and return distribution



# Newton Early Childhood Program/ Building Performance – Lower Level Light Wells



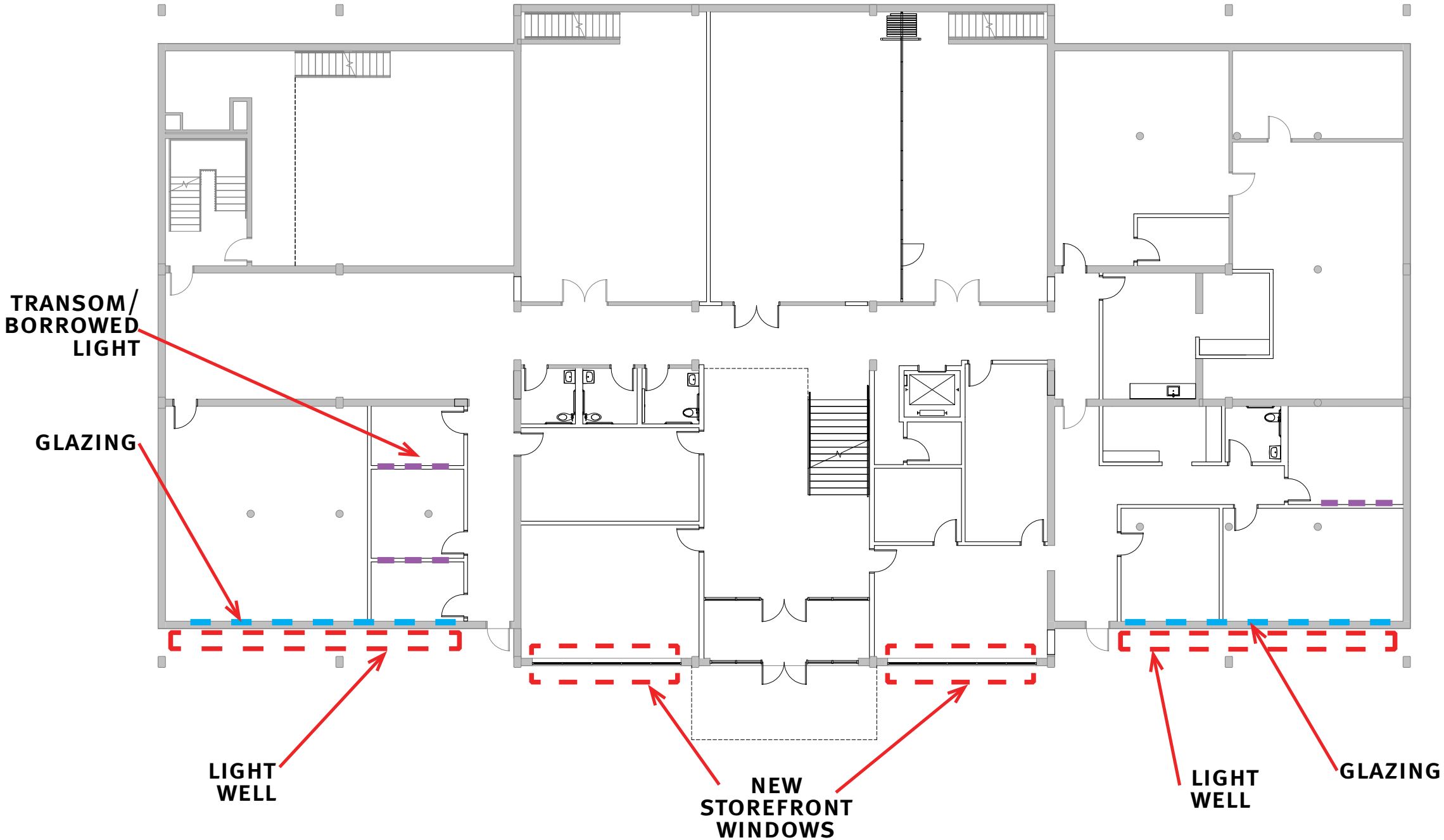
TRANSOM/ BORROWED LIGHT



LIGHT WELL



LIGHT WELL





# Newton Early Childhood Program at 687 Watertown Street

## Site Approvals Schedule

### Site Plan Approvals Schedule NECP at 687 Watertown Street Property

January 31, 2019, Amended 4/1/2019

Task: \_\_\_\_\_ Meeting Date: \_\_\_\_\_

*Design Review Committee (DRC) Meeting* *February 13, 2019*

- Building Test Fit
- Preliminary Site Concept Options Plan

*Development Review Team (DRT) Meeting* *February 27, 2019*

- Professional Team Introduction
- Review DRT Site Review Process/Criteria
- Preliminary Site Concept Options Plan

*DPW - Transportation Division Meeting* *March 13, 2019*

- Preliminary Site Concept Options Plan
- Report -Traffic Study

*Design Review Committee (DRC) Meeting* *March 13, 2019*

- Study Progress Report
- Site Plan Development and Preferred Option Evaluation

*LE-NECP School Building Committee Meeting* *March 14, 2019*

- Study Progress Report
- Site Plan Development and Preferred Option Evaluation

*Development Review Team (DRT) Meeting* *March 27, 2019*

- Progress Report, Site Plan Development and Preferred Option Evaluation

TODAY



*LE-NECP School Building Committee Meeting* *April 4, 2019*

- Progress Report, Site Plan Development and Preferred Option Evaluation
- **Vote** - authorize submission of documents to DRC for 5-58 Ordinance Site Plan Approval

# Newton Early Childhood Program at 687 Watertown Street

## Site Approvals Schedule

### Site Plan Approvals Schedule NECP at 687 Watertown Street Property

January 31, 2019, Amended 4/1/2019

Task: \_\_\_\_\_ Meeting Date: \_\_\_\_\_

*Design Review Committee (DRC) Meeting* *April 10, 2019*

- Schematic Floor Plans and Preferred Site Plan

*Public Facilities Committee Meeting* *April 17, 2019*

- Building Test Fit
- Progress Report, Site Plan Development and Preferred Option Evaluation

*Conservation Commission Meeting* *April 18, 2019*

- Project Introduction

*Design Review Committee (DRC) Meeting* *April 24, 2019*

- Schematic Floor Plans and Preferred Site Plan
- **Vote** - 5-58 Ordinance Site Plan Approval

*Conservation Commission Meeting* *May 9, 2019*

- Site Plan Review
- Basis of Design and Regulation Compliance

PUBLIC HEARING DOCKET & PUBLIC NOTICES ISSUED – City Council Clerk by *May 15, 2019*

*Public Facilities Committee Hearing* *June 5, 2019*

- Public Hearing on Proposed Site Development/Plan

*Public Facilities Committee Meeting* *June 19, 2019*

- **Vote** - 5-58 Ordinance Site Plan Approval

*Finance Committee Meeting* *June 24, 2019*

- Preferred Schematic Report and Total Project Budget Request
- **Vote** – Total Project Budget Appropriation

**JANUARY 2021  
687 WATERTOWN ST  
OCCUPANCY**



# Discussion

[www.newtonma.gov/gov/building/capital\\_projects](http://www.newtonma.gov/gov/building/capital_projects)

[www.lincolneliot-necp-projects.com](http://www.lincolneliot-necp-projects.com)

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Site Selection / Potential Sites

Preliminary SITE Options/ Criteria Evaluation Matrix										
Costs: 0, \$, \$\$, \$\$\$, \$\$\$\$ , \$\$\$\$\$										
Potential Alternatives										
Within the Lincoln-Eliot District						Outside of the Lincoln-Eliot District				
150 Jackson Road (Existing NECP, former Aquanis College)			191 Pearl Street (Existing Lincoln-Eliot)			687 Watertown Street (Existing Horace Mann)		100 Walnut Street (Existing Education Center)		
Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP	Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP	Lincoln-Eliot Elementary School	NECP	Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP
Unfavorable	Favorable	Not practical	Unable to meet program		Unfavorable	Unfavorable	Favorable	Unfavorable	Unfavorable	Not practical
\$\$\$	\$\$	\$\$	\$\$\$\$	\$\$\$\$	\$\$\$	\$\$\$	\$	\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$

Site Selection / Site Criteria

● Favorable      ⊕ Neutral      ○ Unfavorable      Costs: 0, \$, \$\$, \$\$\$, \$\$\$\$\$, \$\$\$\$\$\$												
Site Criteria		Potential Alternatives										
		Within the Lincoln-Eliot District						Outside of the Lincoln-Eliot District				
		150 Jackson Road (Existing NECP, former Aquanis College)			191 Pearl Street (Existing Lincoln-Eliot)			687 Watertown Street (Existing Horace Mann)		100 Walnut Street (Existing Education Center)		
		Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP	Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP	Lincoln-Eliot Elementary School	NECP	Co-located Lincoln-Eliot Elem and NECP	Lincoln-Eliot Elementary School	NECP
		Ranking:	Unfavorable	Favorable	Not practical	Unable to meet program		Unfavorable	Unfavorable	Favorable	Unfavorable	Unfavorable
Associated Costs:		\$\$\$	\$\$	\$\$	\$\$\$\$	\$\$\$\$	\$\$\$	\$\$\$	\$	\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$
General, Building and Site Facts												
1	Projected student enrollment	775 - 840	465	310 - 375	775 - 840	465	310 - 375	465	310 - 375	775 - 840	465	310 - 375
2	Classroom Count	38 - 41	24	14-17	38 - 41	24	14-17	24	14-17	38 - 41	24	14-17
3	Approx. targeted educational program (Total Building Gross Floor Area)	122,500 GFA	84,000 GFA	38,500 GFA	122,500 GFA	84,000 GFA	38,500 GFA	84,000 GFA	38,500 GFA	122,500 GFA	84,000 GFA	38,500 GFA
4	Approximate Gross Square Feet (from assessor database)	99,500 GSF			51,000 GSF			41,000 GSF		74,000 GSF (incl. annex)		
5	Approximate size of site (from assessor database)	5.7 acres			approx 1.3 acres			1.6 acres		3.8 acres		
6												
Site												
1	Maximizes efficient use of site	○	●	○	○	○	○	○	●	○	●	●
2	Provides safe pedestrian circulation and access, promotes walk-ability	○	●	●	○	●	●	○	○	○	○	○
3	Avoids Legal restrictions, City owned land	●	●	●	●	●	●	●	●	●	●	●
4	Site acquisition/ legal issues, privately owned land	●	●	●	●	●	●	●	●	●	●	●
5	Optimizes outdoor program space and green space/ Playground	○	●	●	○	●	●	●	●	○	○	○
6	Optimizes safety and efficiency of on arrival and dismissal	○	●	●	○	○	○	○	●	○	○	○
7	Separates bus, van, and automobile circulation	○	●	●	○	○	○	○	⊕	○	○	⊕
8	Does not increase demand for on street parking	○	●	●	○	⊕	○	⊕	○	○	○	○
9	Provides sufficient parking for teachers, staff + visitors	○	●	●	○	○	○	●	●	○	○	○
10	Minimizes off-site traffic impact	○	●	⊕	○	⊕	○	○	⊕	○	○	○
11	Avoid potential wetlands	●	●	●	●	●	●	○	○	●	●	●
12	Avoids Environmental conditions/ identified Haz Mats	○	○	○	○	○	○	○	○	⊕	⊕	⊕
13	Minimize tree removal and preserve trees	○	⊕	●	○	●	⊕	⊕	⊕	●	●	●
14												
Educational												
1	Meets educational program for all students + design enrollment	○	●	●	Does not fit the program		○	○	●	○	●	●
2	Provides flexibility for future growth	○	●	●	○	○	●	○	●	○	●	●
3	Optimizes configuration and adjacency of teaching spaces	○	●	●	○	○	○	●	●	○	●	●
4	Programmatic consistency with prior school projects	○	●	⊕	○	○	⊕	○	⊕	○	●	⊕
5												



Site Selection / Site Criteria

● Favorable      ⊕ Neutral      ○ Unfavorable      Costs: 0, \$, \$\$, \$\$\$, \$\$\$\$ , \$\$\$\$\$											
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	Unfavorable	Favorable	Not practical	Unable to meet program		Unfavorable	Unfavorable	Favorable	Unfavorable	Unfavorable	Not practical
Associated Costs:	\$\$\$	\$\$	\$\$	\$\$\$\$	\$\$\$\$	\$\$\$	\$\$\$	\$	\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$
Community											
1	Provides space for community use	●	●	●	●	●	●	●	●	●	●
2	Accommodates extended day programs	○	●	●	○	●	⊕	⊕	○	●	●
3	Minimize long term impacts to the community	○	⊕	⊕	○	⊕	○	●	○	○	⊕
4	Disruptions to school and neighbors during construction	○	⊕	●	○	○	○	○	○	○	○
5											
Existing Building											
1	Building systems conditions	○	○	○	○	○	○	○	○	○	○
2	Building envelope conditions	●	●	●	●	●	⊕	⊕	○	○	○
3	Energy performance	●	⊕	⊕	●	⊕	⊕	⊕	○	○	○
4	ADA compliance	○	○	○	○	○	○	○	○	○	○
5	Code compliance	○	○	○	○	○	○	○	○	○	○
6	Requires minimal interior renovations to meed Ed Program	○	⊕	●	○	⊕	⊕	⊕	○	○	○
7											
Cost and Schedule											
1	Relative capital cost	○	●	●	○	○	○	●	○	○	○
2	Maintains long range capital improvement sequence	○	●	○	○	⊕	○	●	○	○	○
3	Avoids investment in temp or additional facilities	○	●	○	○	●	○	●	○	○	○
4	Avoids extending project schedule	○	●	○	○	●	○	●	○	○	○
5											
Additional Criteria											
1											
2											
3											
4											

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Unfavorable	Favorable	Not practical	Unable to meet program		Unfavorable	Unfavorable	Favorable	Unfavorable	Unfavorable	Not practical
\$\$\$	\$\$	\$\$	\$\$\$\$	\$\$\$\$	\$\$\$	\$\$\$	\$	\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$



Trip Generation

at Existing NECP at 150 Jackson Road

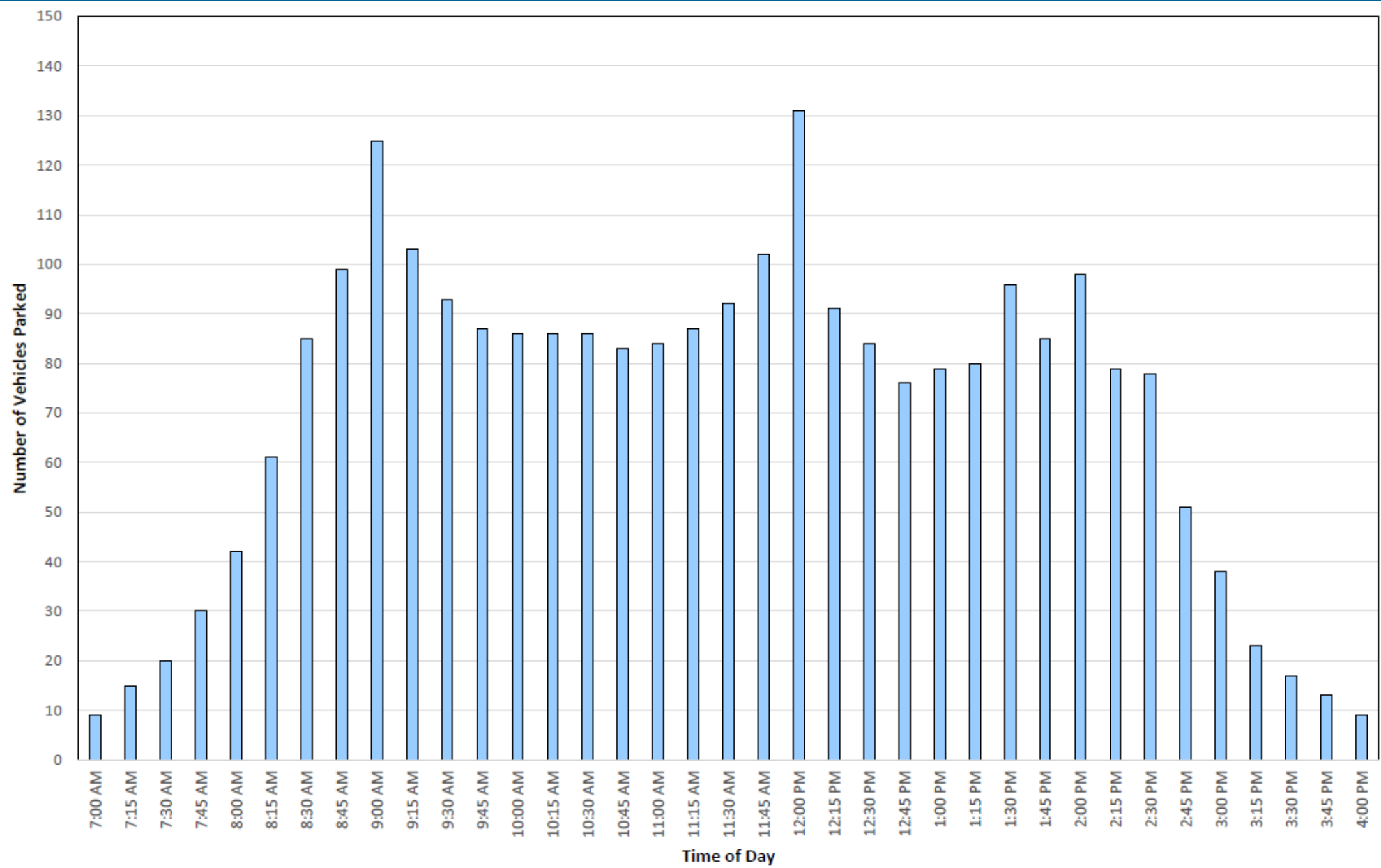
Trip Generation – Existing NECP

Period	Vehicle-trips <sup>1</sup>			Total
	Staff Auto	Student Auto	Van	
<i>Weekday Morning Drop-Off Period (8:15-9:15 AM):</i>				
Enter	40	69	12	121
<u>Exit</u>	<u>--</u>	<u>69</u>	<u>10</u>	<u>79</u>
Total	40	138	22	200
<i>Weekday Midday Pick-Up Period (11:30 AM-12:30 PM):</i>				
Enter	--	49	3	52
<u>Exit</u>	<u>5</u>	<u>49</u>	<u>6</u>	<u>60</u>
Total	5	98	9	112
<i>Weekday Afternoon Pick-Up Period (1:45-2:45 PM):</i>				
Enter	--	27	6	33
<u>Exit</u>	<u>15</u>	<u>42</u>	<u>10</u>	<u>67</u>
Total	15	69	16	100

<sup>1</sup>Peak hour trips based on empirical trip generation observed at NECP (150 Jackson Street) on January 31, 2019.

Peak Parking Demand - Existing  
at Existing NECP at 150 Jackson Road

Peak Parking Demand - Existing





Trip Generation  
Projected NECP at 687 Watertown Street

Trip Generation – Projected NECP

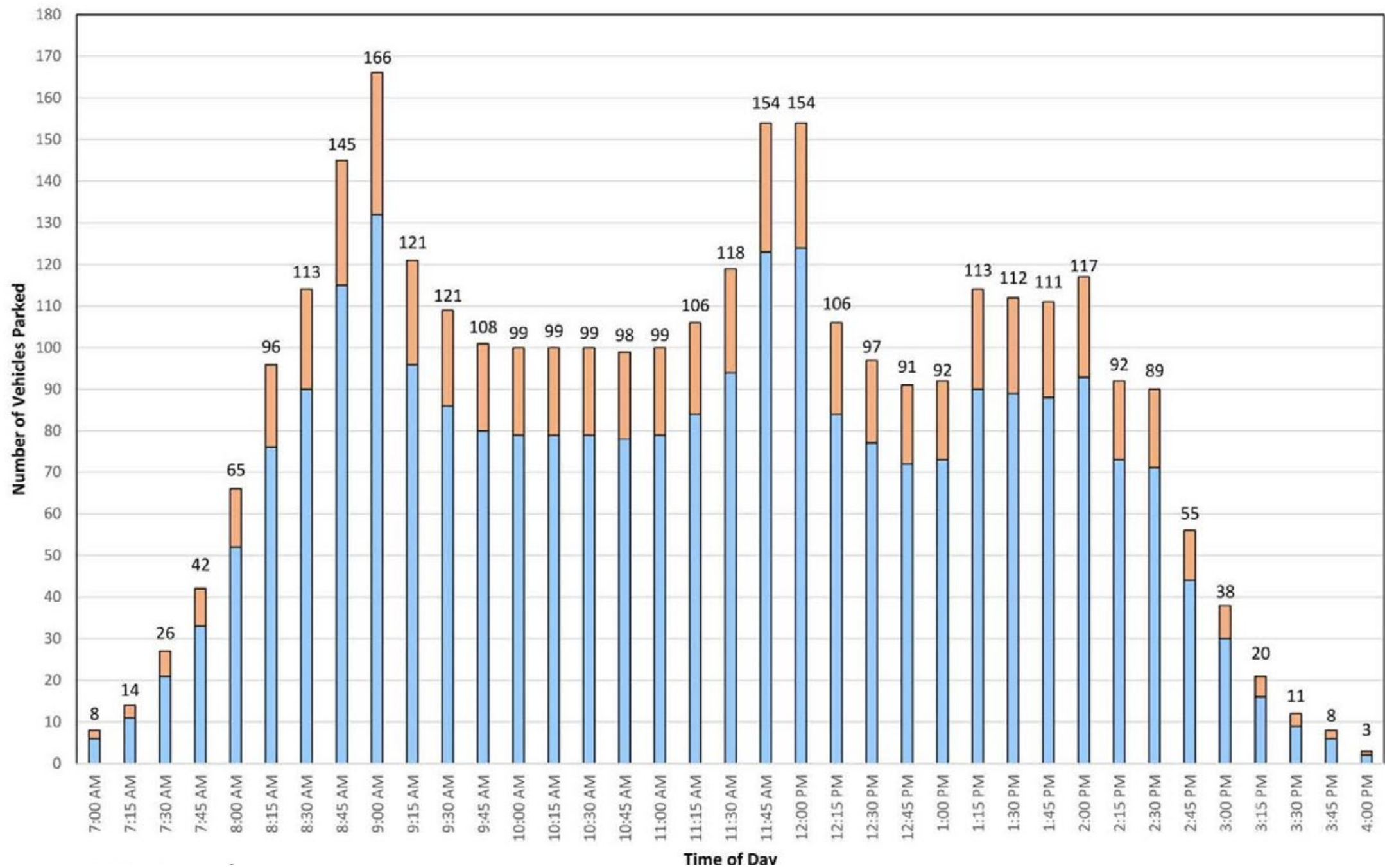
Period	Vehicle-trips <sup>1</sup>			Total
	Staff Auto	Student Auto	Van	
<i>Weekday Morning Drop-Off Period (8:15-9:15 AM):</i>				
Enter	50	89	12	151
<u>Exit</u>	<u>--</u>	<u>89</u>	<u>10</u>	<u>99</u>
Total	50	178	22	250
<i>Weekday Midday Pick-Up Period (11:30 AM-12:30 PM):</i>				
Enter	--	59	3	62
<u>Exit</u>	<u>8</u>	<u>59</u>	<u>6</u>	<u>73</u>
Total	8	118	9	135
<i>Weekday Afternoon Pick-Up Period (1:45-2:45 PM):</i>				
Enter	--	37	6	43
<u>Exit</u>	<u>22</u>	<u>52</u>	<u>10</u>	<u>84</u>
Total	22	89	16	127

<sup>1</sup>Peak hour trips based on empirical trip generation observed at NECP on January 31, 2019 with projected increases based on information provided by NECP staff.

Parking Demand - Projected  
Projected NECP at 687 Watertown Street

Projected Increase  
Observed Parking Demand - 150 Jackson

Hourly Parking Demand – Projected NECP





## Summer Program at 687 Watertown Street

### Current Summer Program

- » Albemarle Acres Summer Program  
(currently gathering information)
- » Operation:  
July 1 through August 16 for 7 weeks  
Monday through Friday
- » Enrollment:
- » Hours:
  - 8:00 Morning Extended Day
  - 8:30 Activities
  - 3:30 Departure
  - 6:00 Afternoon Extended Day

### Proposed Summer Program

- » NECP Extended School Year Program (ESY)
- » Operation:  
July 1 through August 8 for 6 weeks  
Monday through Thursday
- » Enrollment: (summer 2018)
  - 165 Students
  - 60 to 65 Staff
- » Hours: 3, 5, or 6 - hour placements