

**CITY OF CAMBRIDGE**

**TOBIN MONTESSORI AND VASSAL LANE UPPER SCHOOLS PROJECT**

**11/13/2019**

**PERKINS —  
EASTMAN**

*Human by Design*

# COMMUNITY MEETING



---

# AGENDA

13 NOVEMBER 2019

**6:30 - 7:10 p.m.**

Welcome

Presentation

- Program
- Goals and Principles
- Option Drivers
- Design Options
- Option Comparison
- Look Ahead

**7:10 - 8:00 p.m.**

Community Feedback

- Breakout Sessions



---

# PROJECT ELEMENTS

## Program

- Tobin Montessori School
- Vassal Lane Upper School
- Self-Contained Special Education
- Special Start
- Preschool & Community School

## Performance

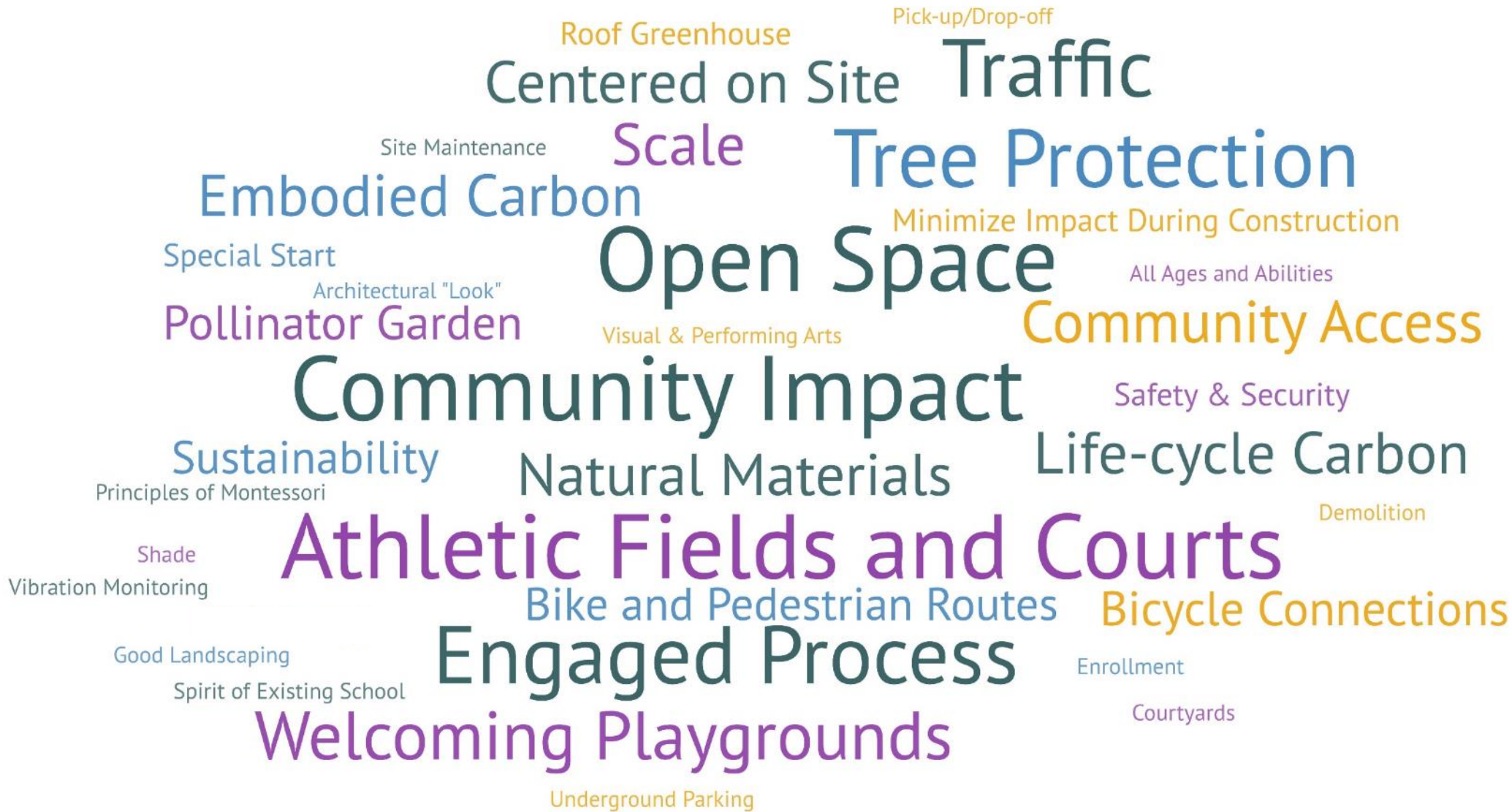
- Net Zero Emissions

## Site

- Soil Management
- Municipal Storm Water
- Sports Fields & Playgrounds



# WHAT WE HEARD



# PROGRAM



# PROGRAM CAPACITY

## MAXIMUM NUMBER OF STUDENTS

PROGRAM	GRADES	EXISTING	PROPOSED
Human Services Preschool	PreK		160
Tobin School			
Montessori	PreK – 5 <sup>th</sup>	310	336
Special Start	PreK	14	75
Self-Contained Special Ed	K – 5 <sup>th</sup>		40
Vassal Lane Upper School			
General Program	6 <sup>th</sup> – 8 <sup>th</sup>	300	450
Sheltered English Immersion	6 <sup>th</sup> – 8 <sup>th</sup>		75
Self-Contained Special Ed	6 <sup>th</sup> – 8 <sup>th</sup>		28
<b>All Programs</b>		<b>624</b>	<b>1,164</b>



---

# PROGRAM ELEMENTS

## COMMUNITY AND DISTRICT-WIDE

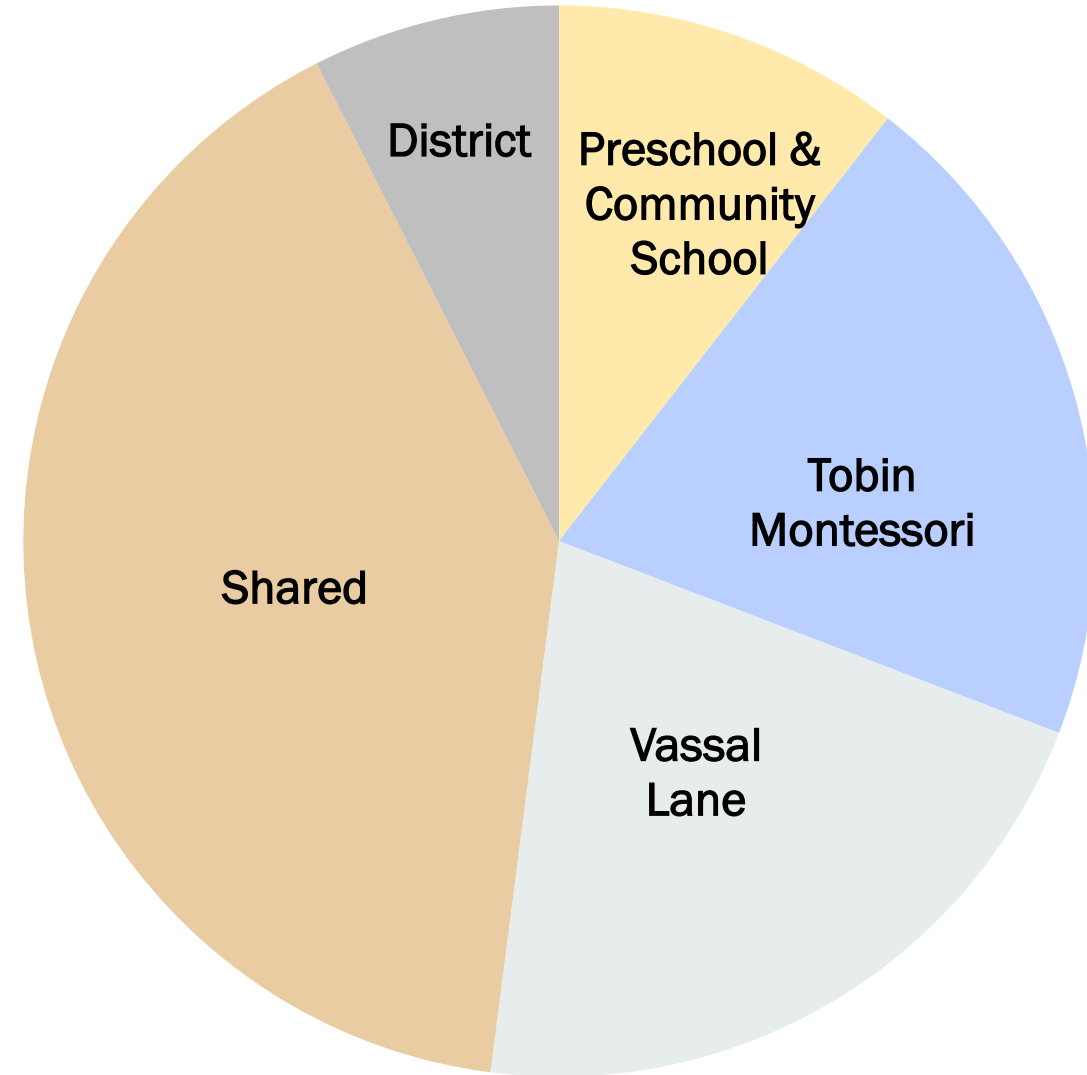
- Auditorium
- Gyms
- Assembly Spaces
  
- Science Department
- Office of Student Services -- offices and testing center
- Storage and Shop



# FACILITY SPACE PROGRAM

## AREA COMPARISON

PROGRAM	EXISTING GSF	PROPOSED GSF
Human Services Preschool Community School	5,291	31,380
Tobin Lower School	36,878	60,600
Vassal Lane Upper School	33,059	63,300
Shared Spaces Learning Commons Gyms Dining Auditorium, Performing Arts & Visual Arts Professional Development	44,625	120,800
CPS District Wide	8,317	22,300
<b>Building Total</b>	<b>+/-128,170</b>	<b>298,380</b>
Underground Parking	0	+/- 55,000
<b>Grand Total</b>	<b>+/- 128,1701</b>	<b>353,380</b>





---

# OUTDOOR PROGRAM

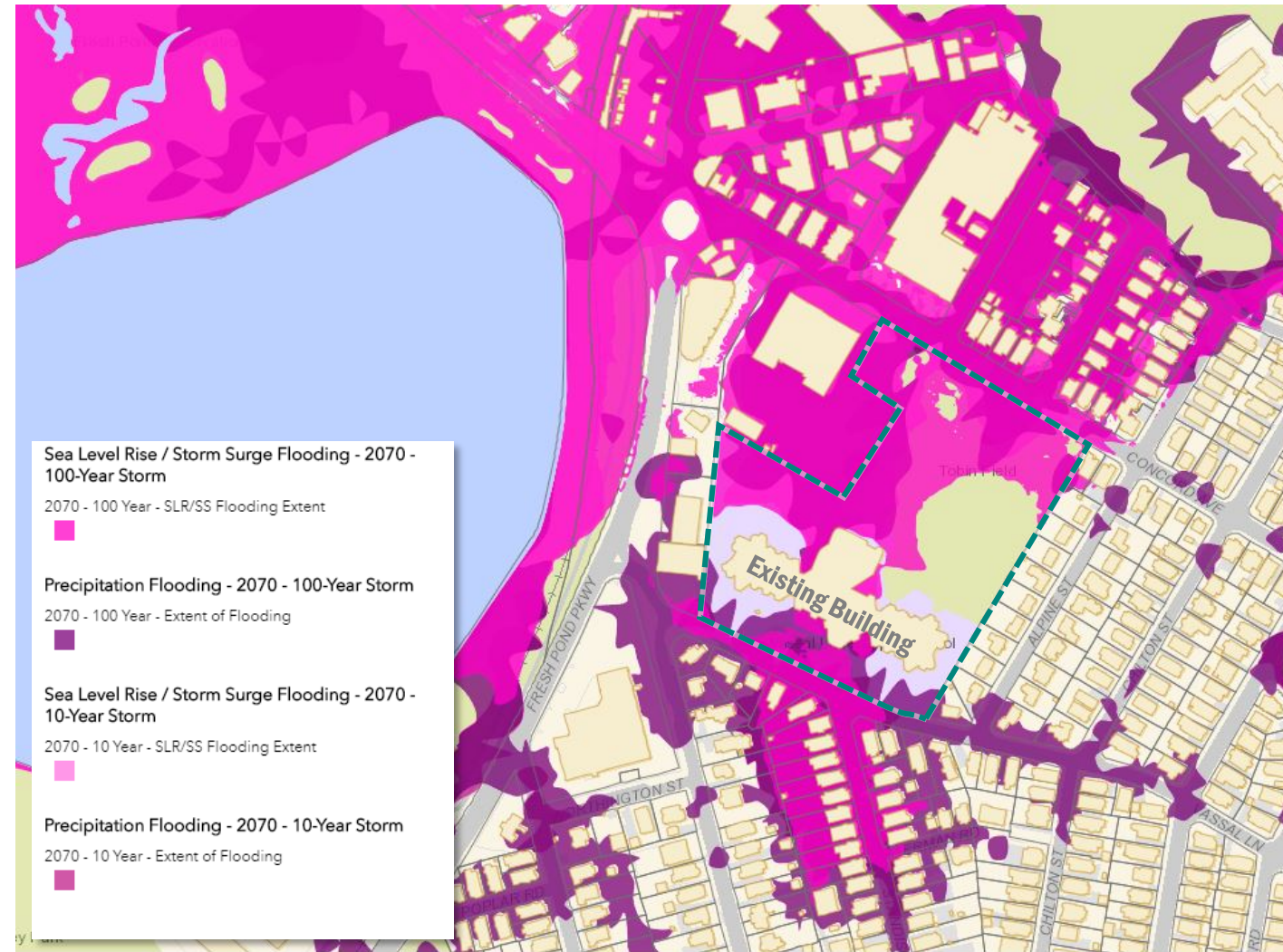
## PROGRAM ON-GRADE

- Playgrounds
- Sports Field
- Off-street Parking
- Bus and Car Drop-off/Pick-up
- Bicycle Connection
- Emergency Vehicle Access
- Tree Protection



# SITE INFRASTRUCTURE

- 1.25 Million Gallon Storm Water Tank
- Bioswales and Rain Gardens
- Solar Panels
- Geothermal Wells (if used)
- Parking and Circulation



2070 Storm Surge and Precipitation Flooding

# GOALS & PRINCIPLES



---

# DESIGN GOALS



Provide a campus respectful of neighborhood and traffic impacts, providing public open space amenities



Include regional, local, and on-site storm water management with a building above the future flood plain



Design for net zero emissions and target net zero energy and a healthy environment

---

# EDUCATION DESIGN PRINCIPLES



Create an identity and front door for each program



Offer a hierarchy of spaces supporting developmental needs of each school



Draw a healthy balance between school program and shared spaces

---

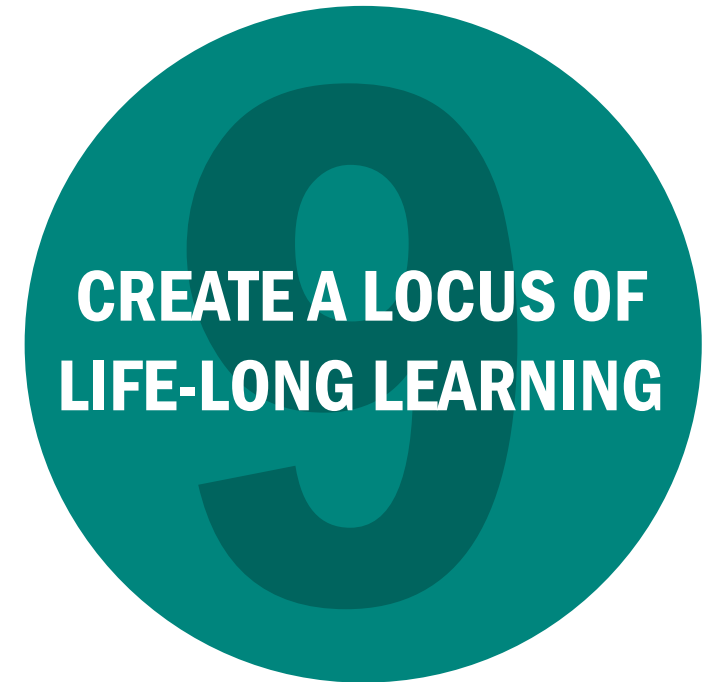
# EDUCATION DESIGN PRINCIPLES



Provide developmentally appropriate opportunities for active, experiential, reflective learning and socialization



Connect learning spaces with readily accessible outdoor spaces designed for learning, recreation, and socialization

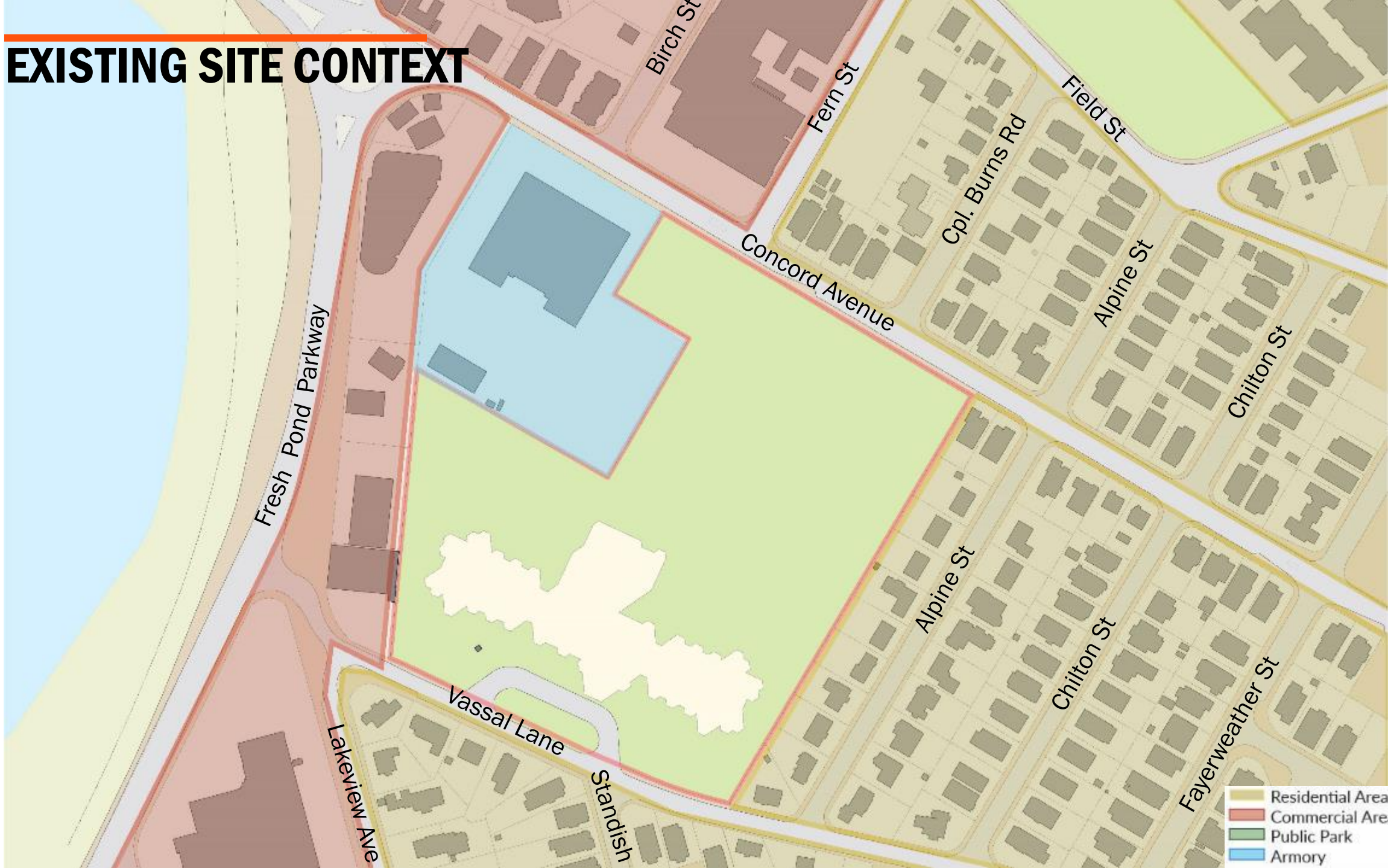


Create a locus for students and teachers, and support professional development for teachers on- and off-site

# OPTION DRIVERS



# EXISTING SITE CONTEXT



- Residential Area
- Commercial Area
- Public Park
- Armory





# SITE UNDERSTANDING



VALUABLE TREES

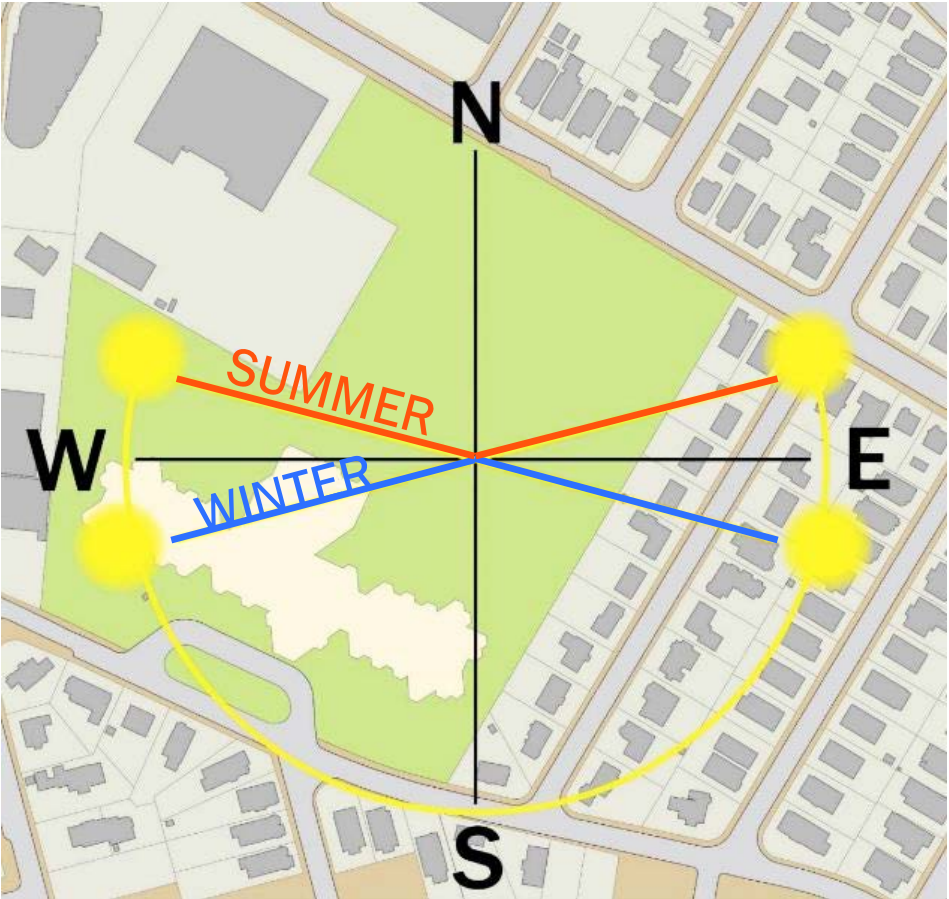


ACCESS AND PARKING

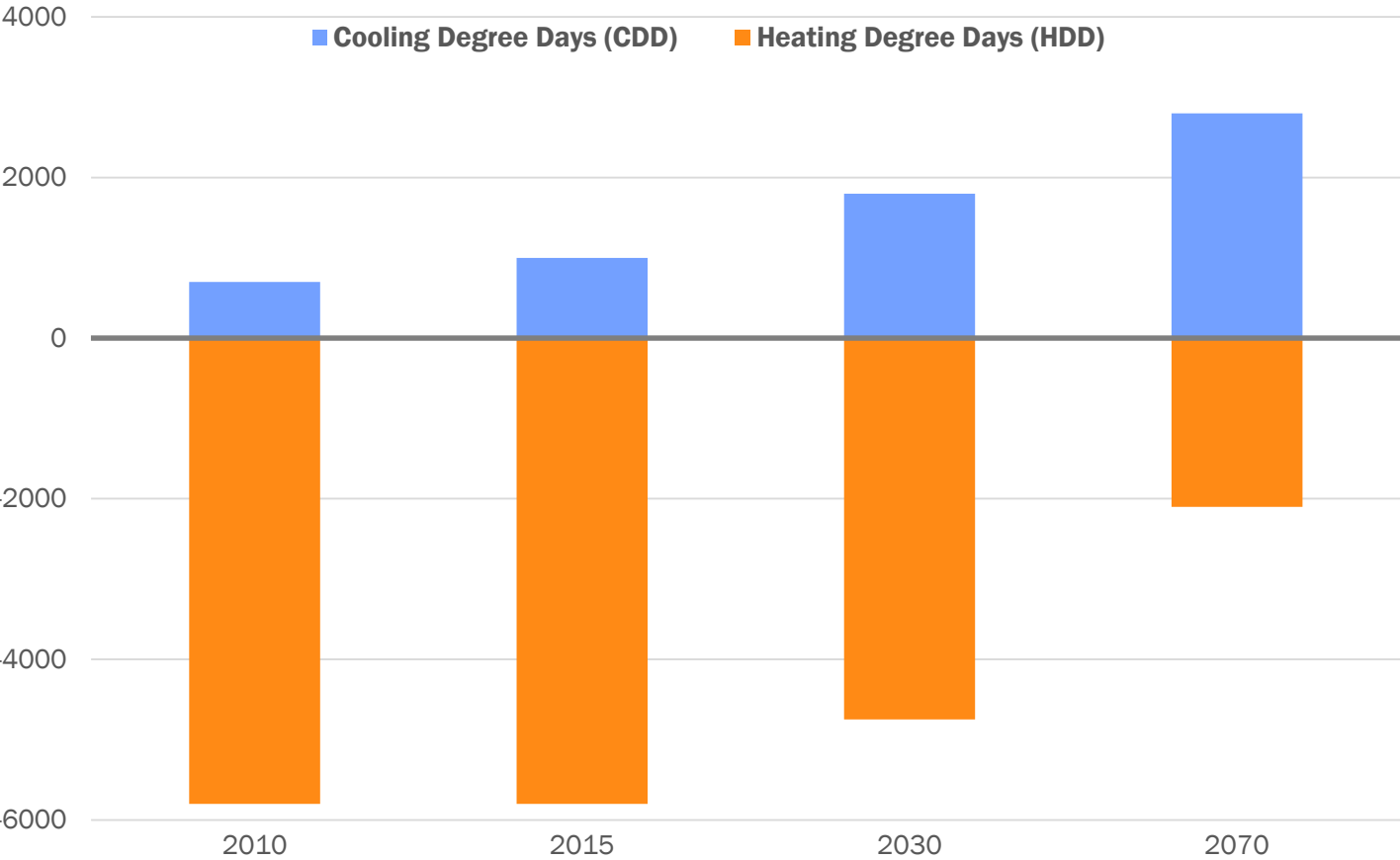


OPTIMAL MASSING FOR NEIGHBORHOOD

# CLIMATE RESPONSIVENESS

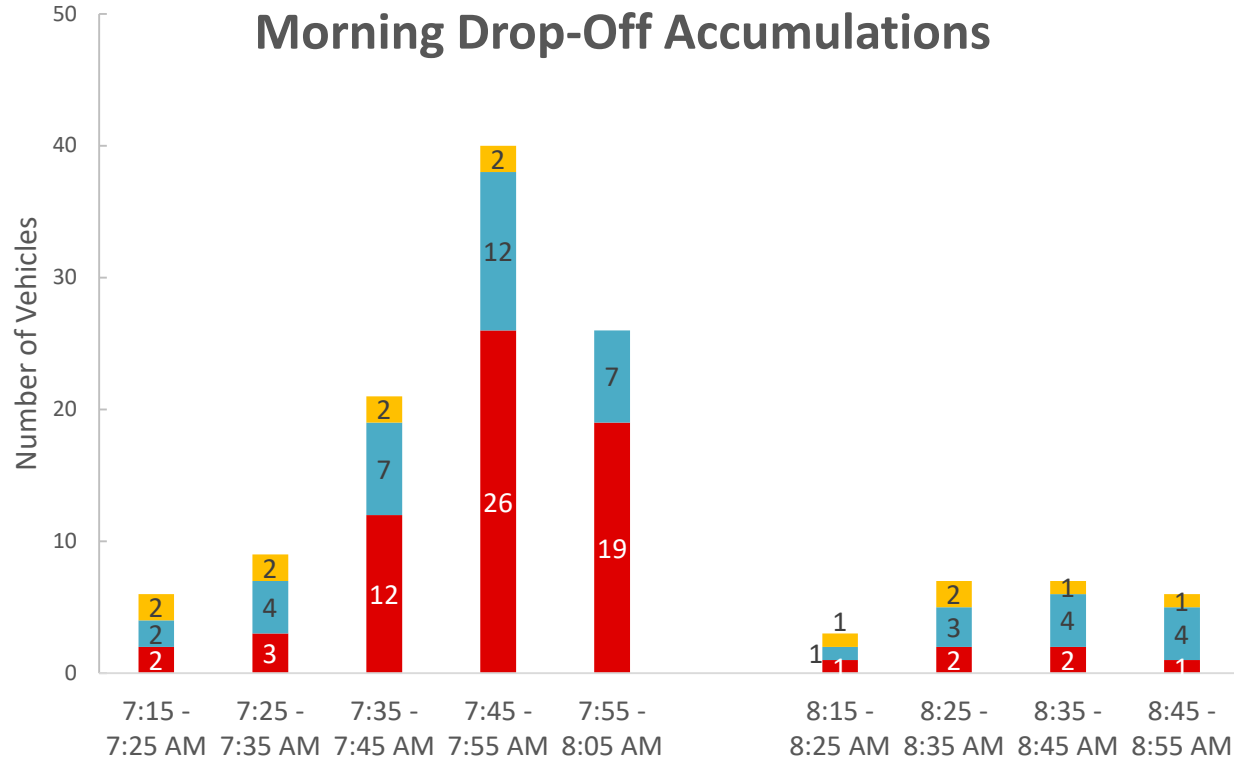


### Energy Use in Buildings Shifting - More Cooling, Less Heating



# EXISTING TRAFFIC VOLUMES

## Morning Drop-Off Accumulations

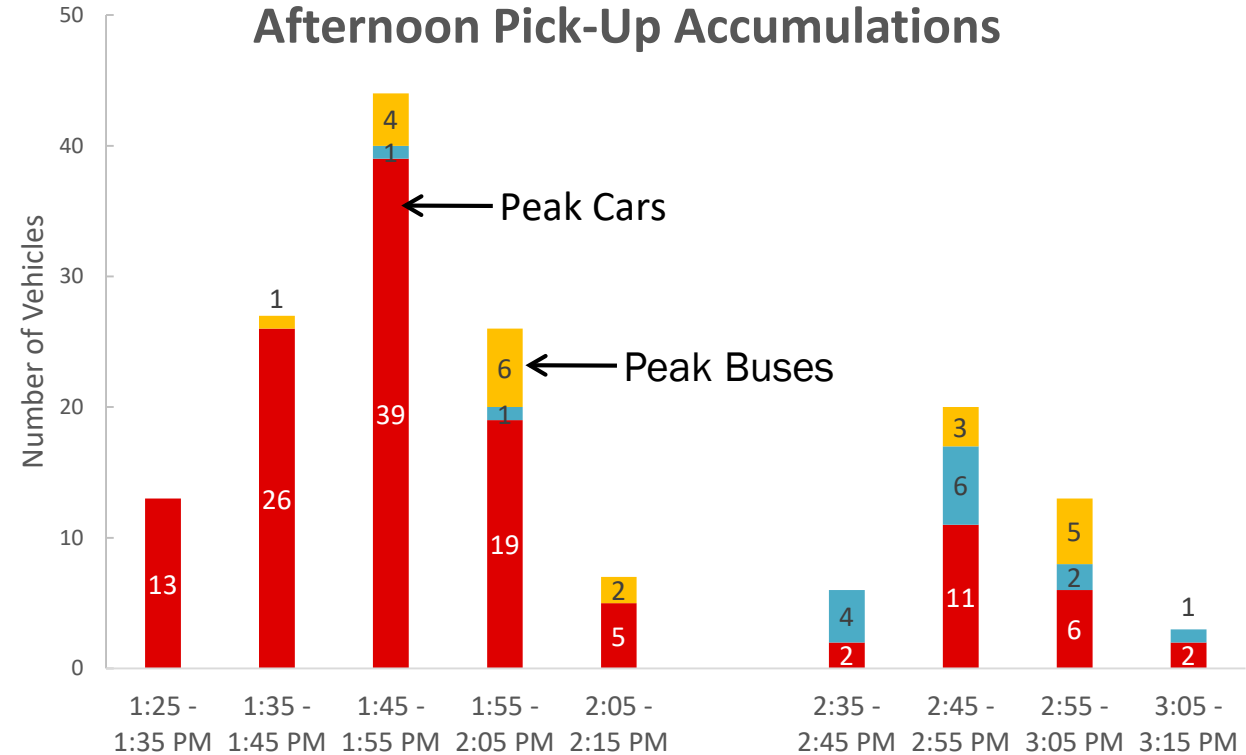


Tobin Montessori

Vassal Lane

■ Drop-Offs On Street ■ Drop-Offs In Circle ■ Buses in Circle

## Afternoon Pick-Up Accumulations



Tobin Montessori

Vassal Lane

■ Pick-Ups on Street ■ Pick-Ups in Circle ■ Buses in Circle

# EXISTING SOUND LEVELS

## Ambient Sound Survey (Current)

- Sources are traffic and human activity
- Levels are within city ordinance limits

Nighttime: <50 dBA

Daytime: <60 dBA

- Measured Levels

① 37-46 dBA

② 42-57 dBA

③ 46-59 dBA



---

# EXISTING BUILDING

Concrete Structure

Concrete Block Infill

Limited Windows, Views

Angular Rooms

Aged Systems and Finishes

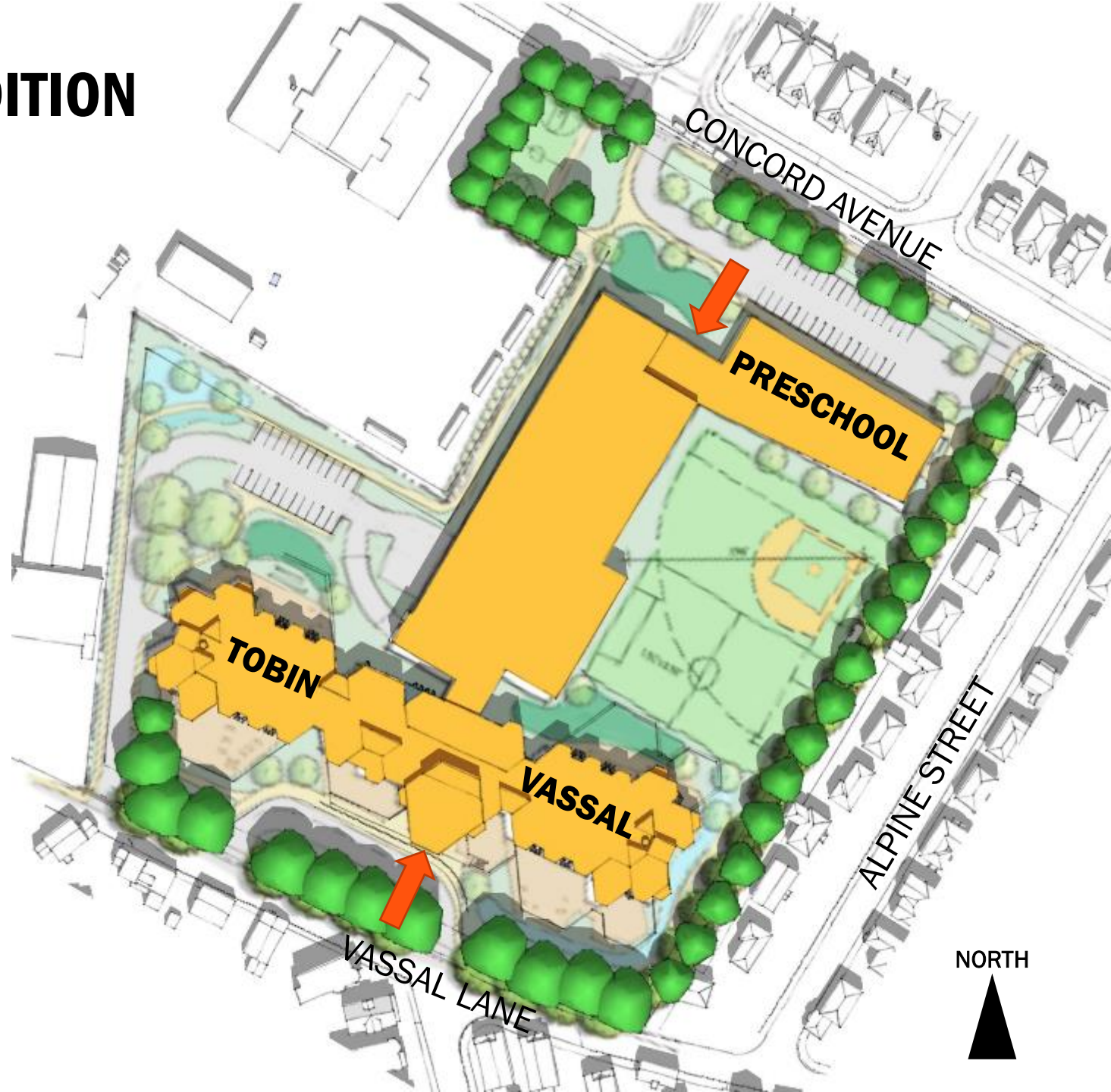


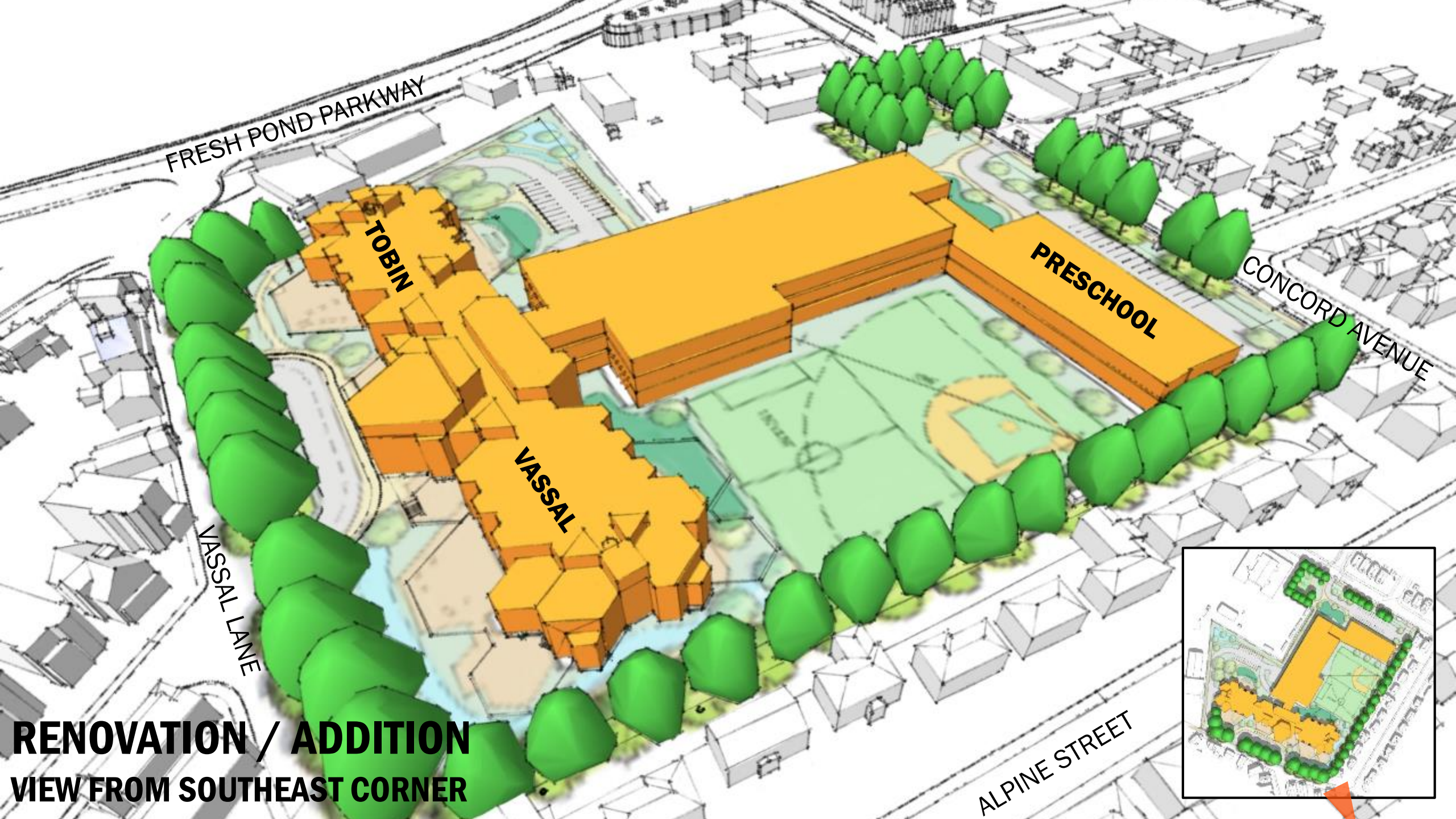


# OPTION 1: RENOVATION / ADDITION

GYM REMOVED, ADDITION TO NORTH

- Re-uses Existing Building
- Buses on Vassal Lane
- Cars on Concord Ave
- Service and Parking at Site Interior
- Playing Fields on East Side





FRESH POND PARKWAY

TOBIN

VASSAL

PRESCHOOL

CONCORD AVENUE

VASSAL LANE

ALPINE STREET



**RENOVATION / ADDITION**  
**VIEW FROM SOUTHEAST CORNER**



# OPTION 2: WINGS

BUILDING ORIENTED AROUND A COURTYARD

- All New Building
- On-site Drive Aisle for Buses and Cars
- Service and Parking at Site Interior
- Playing Fields on South Side





FRESH POND PARKWAY

PRESCHOOL

TOBIN

VASSAL

CONCORD AVENUE

VASSAL LANE

ALPINE STREET

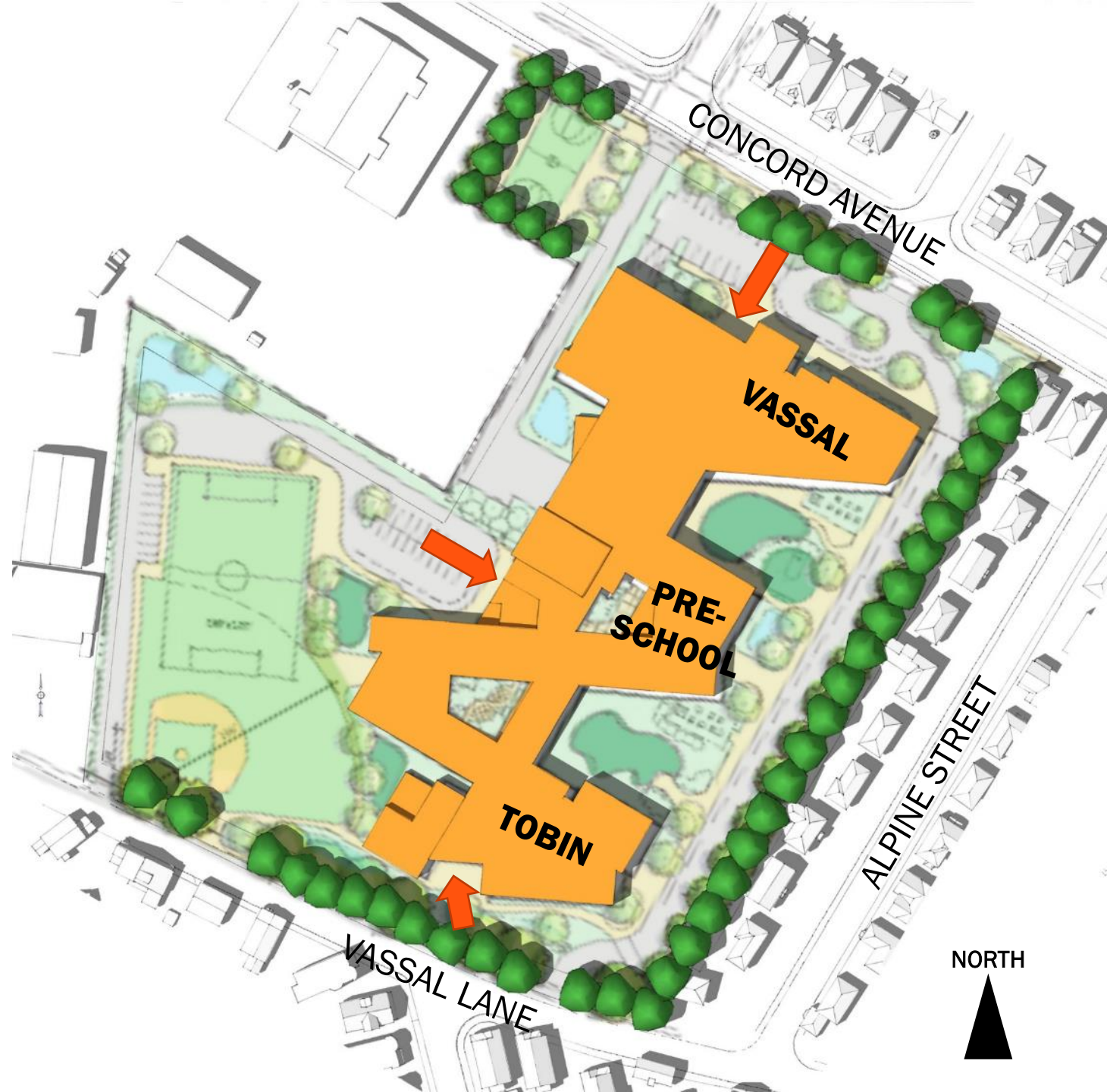
**WINGS**  
**VIEW FROM SOUTHEAST CORNER**

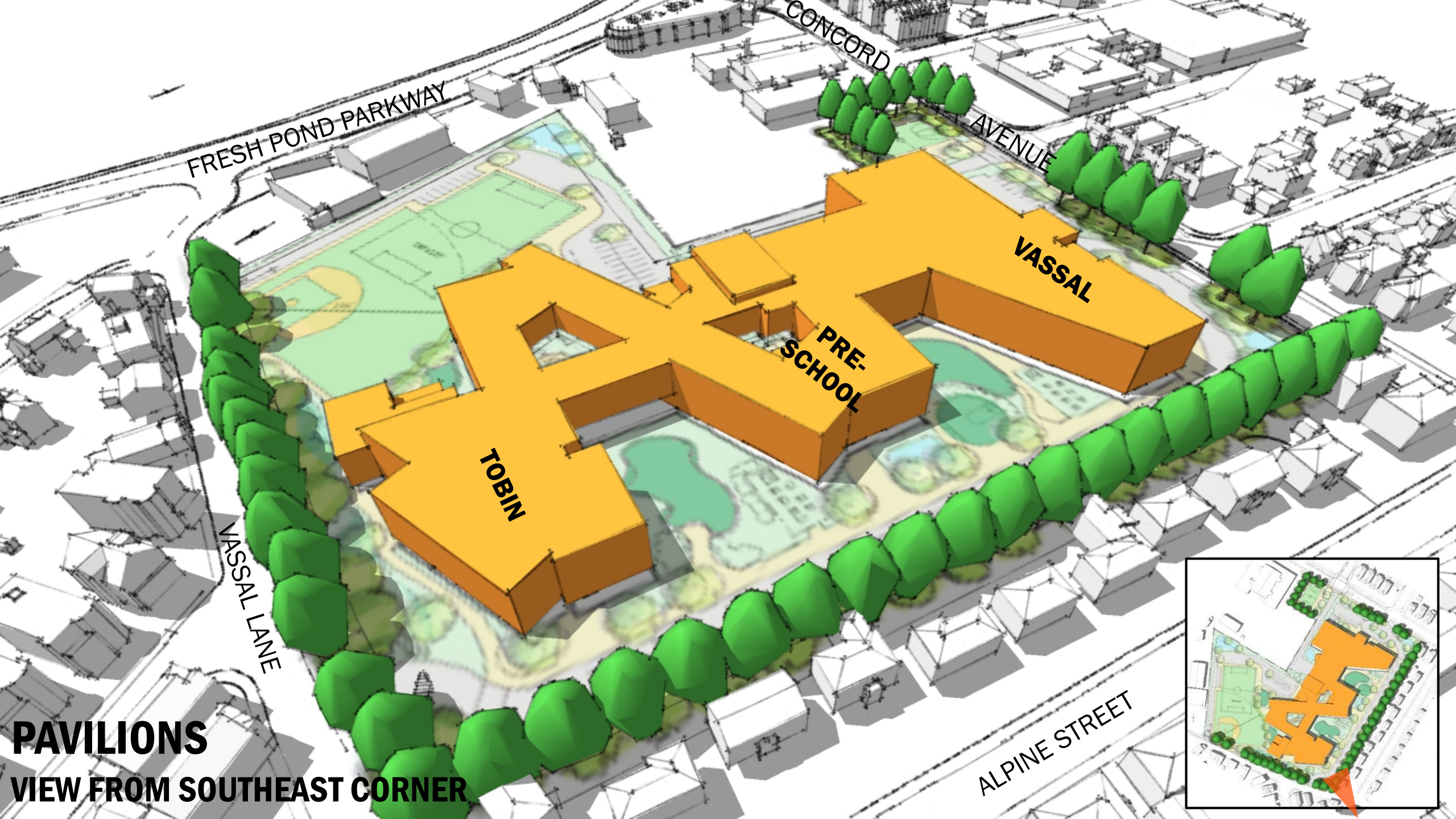


# OPTION 3: PAVILIONS

SCHOOLS CONNECTED BY COMMON SPACE

- All New Building
- On-site Drive Aisle for Buses and Cars
- Service and Parking at Site Interior
- Playing Fields on West Side





FRESH POND PARKWAY

CONCORD AVENUE

CONCORD AVENUE

VASSAL

PRE-SCHOOL

TOBIN

VASSAL LANE

ALPINE STREET



**PAVILIONS**  
**VIEW FROM SOUTHEAST CORNER**

# OPTION COMPARISON



RENOVATION / ADDITION



WINGS



PAVILIONS

# FRONTAGE

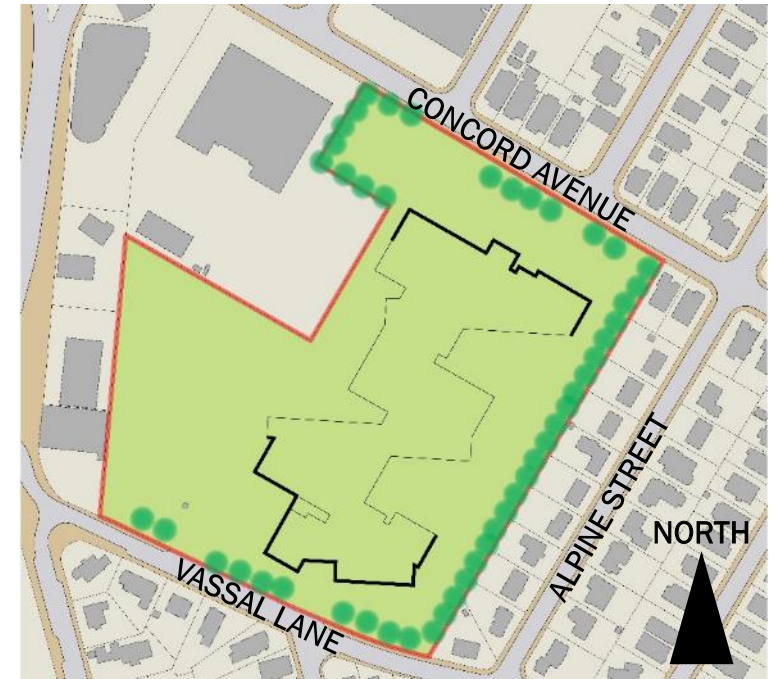
## COMMUNITY PRESENCE



RENOVATION / ADDITION



WINGS



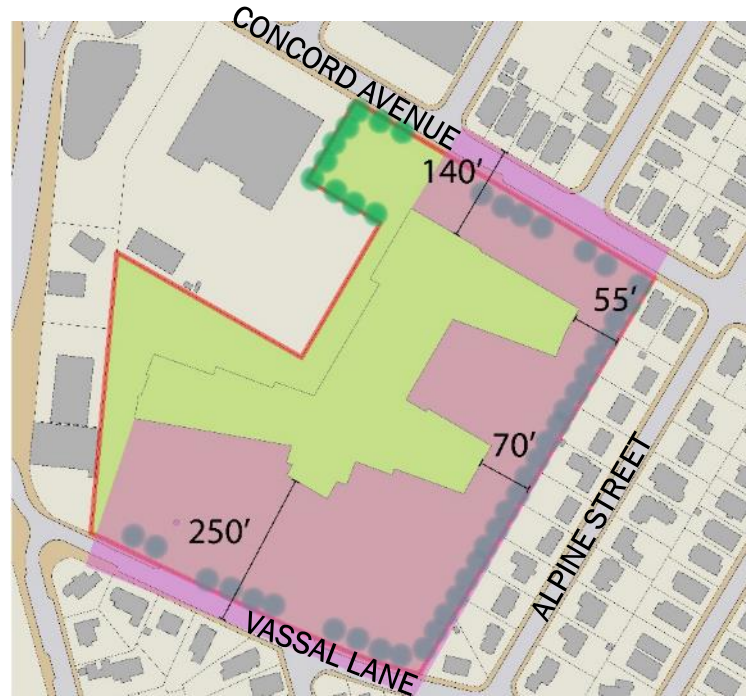
PAVILIONS

# SETBACK

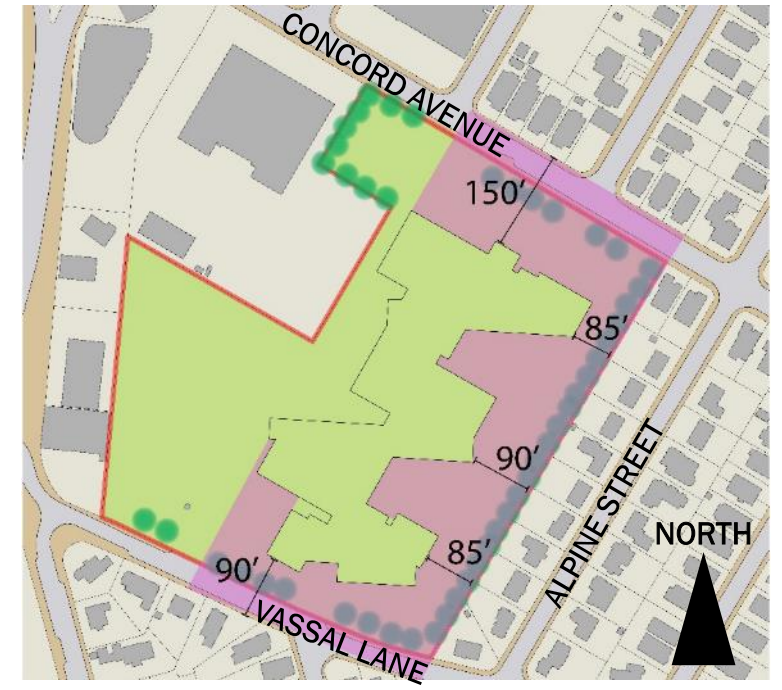
## COMMUNITY PRESENCE



RENOVATION / ADDITION



WINGS



PAVILIONS

# OPEN SPACE



RENOVATION ADDITION: 5.4 ACRES



WINGS: 5.4 ACRES



PAVILIONS: 5.2 ACRES

GOAL = 5 ACRES PROTECTED



# MASSING



RENOVATION / ADDITION



WINGS



PAVILIONS

3 story    2 story    1 story

# COMMUNITY SPACE

## COMMUNITY PRESENCE



RENOVATION / ADDITION



WINGS



PAVILIONS

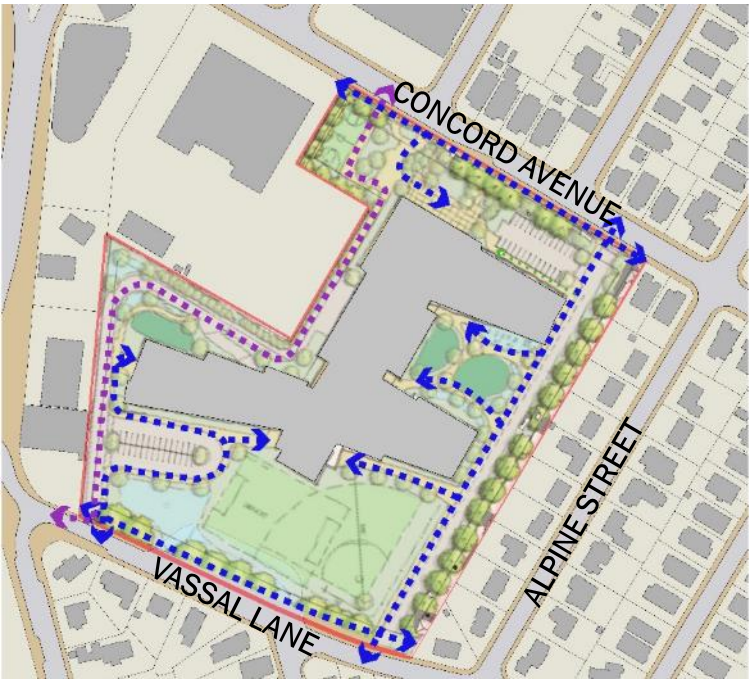
- GYMNASIUM
- CAFETERIA
- AUDITORIUM

# SITE CIRCULATION

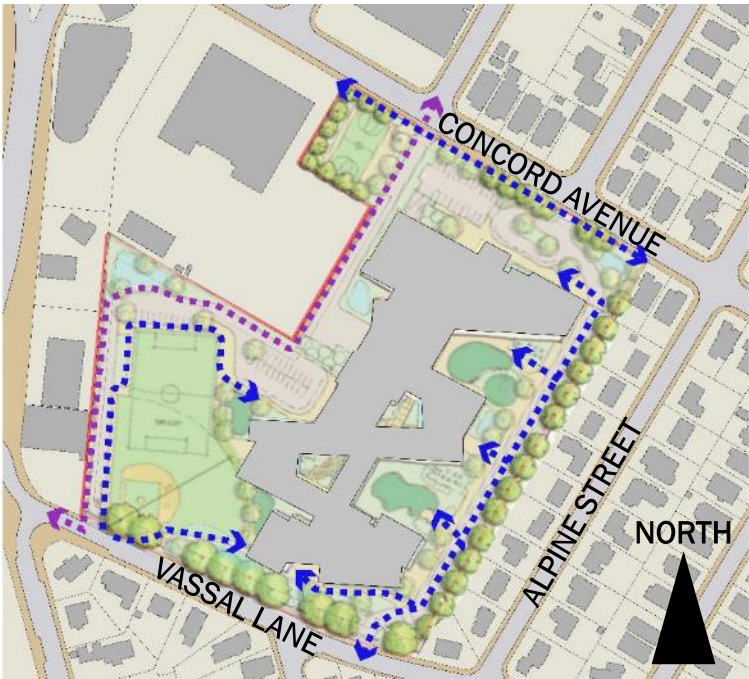
PEDESTRIAN / BICYCLE



RENOVATION / ADDITION



WINGS



PAVILIONS

-  BICYCLE
-  PEDESTRIAN

# SITE CIRCULATION

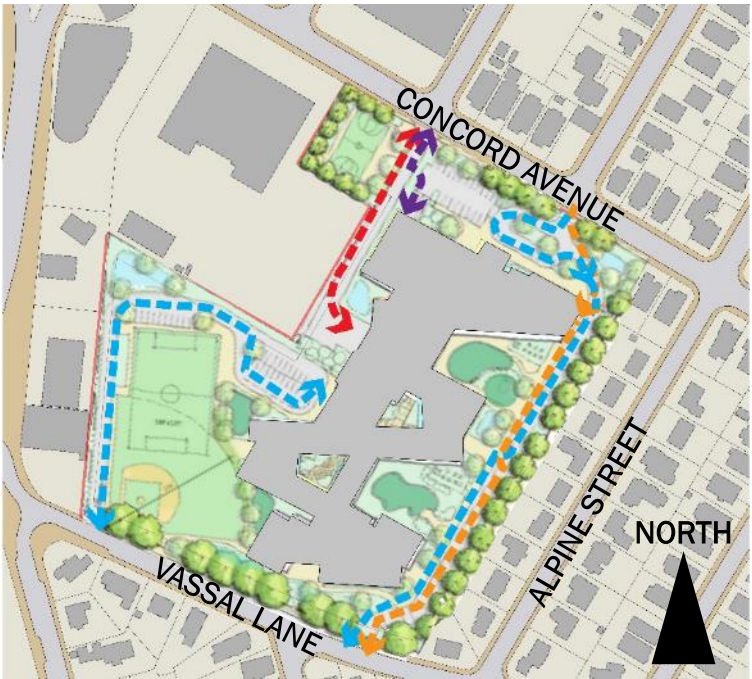
## VEHICULAR



RENOVATION / ADDITION



WINGS



PAVILIONS

- PARENT DROP OFF
- SERVICE
- BUSES
- STAFF

# PICK-UP PARKING

AFTERNOON PEAK



EXISTING CONDITION

# PICK-UP PARKING

## AFTERNOON PEAK

### RENOVATION / ADDITION



### WINGS



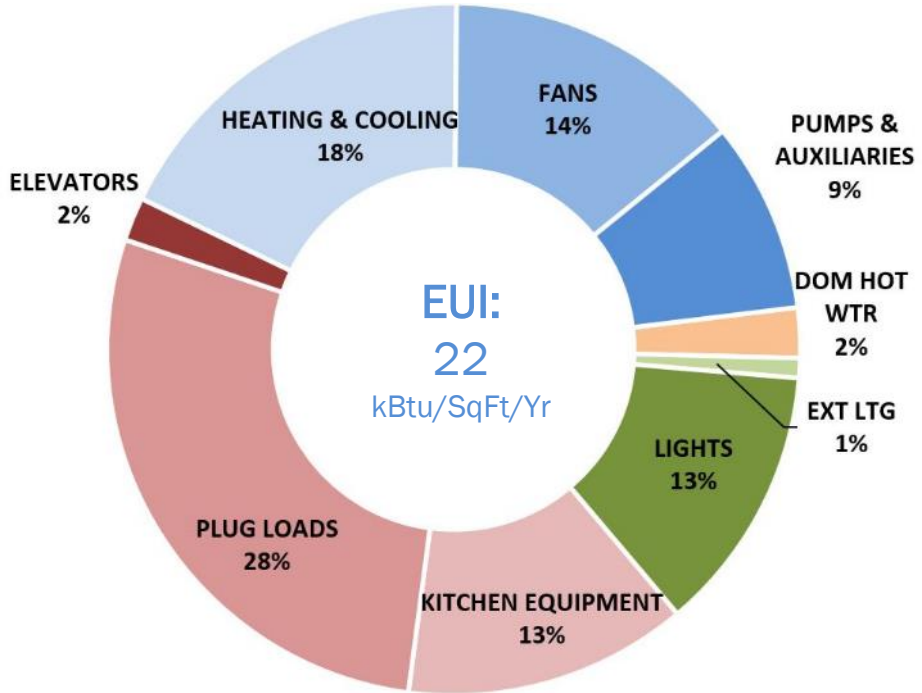
### PAVILIONS



### EXISTING CONDITION

# SUSTAINABILITY STUDIES

## ENERGY LOAD – CAMBRIDGE SCHOOL



Annual End-Use Breakdown by Energy Consumption (MMBtu)

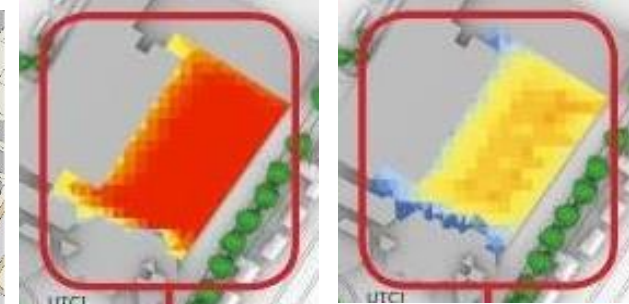
## PHOTOVOLTAIC POTENTIAL



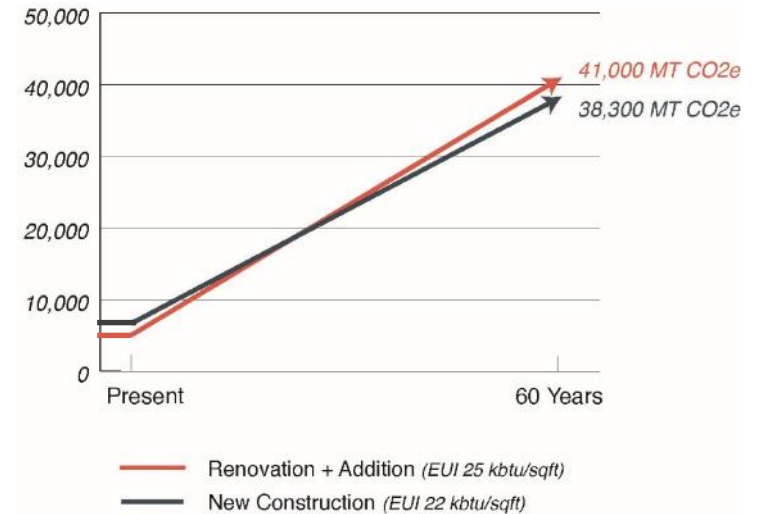
90,000 SF  
PV Panel Area to Meet Energy Needs on Site

110,000 SF  
Ave Building Footprint

## OUTDOOR COMFORT



## CARBON FOOTPRINT



# NEXT STEPS





---

# LOOK AHEAD

**December 2019**

Preferred option selected

**January 2020**

Community Meeting

**February 2020**

Feasibility Study Complete

**March 2020**

Begin Schematic Design



---

# COMMUNITY CONVERSATION

## BREAK-OUT GROUPS

1. Design and School Programming
2. Construction & Neighborhood Issues
  - *Includes soil management*
3. Traffic and Parking
4. Parks, Playgrounds, and Landscaping
5. Sustainability and Resilience
6. Other Ideas and Concerns



HUMAN BY DESIGN- PASSIONATE ABOUT WHAT WE DO...HERE'S WHY

*Human by Design*

