

CITY OF CAMBRIDGE

TOBIN MONTESSORI AND VASSAL LANE UPPER SCHOOLS PROJECT

JULY 2020

PERKINS —
EASTMAN

Human by Design

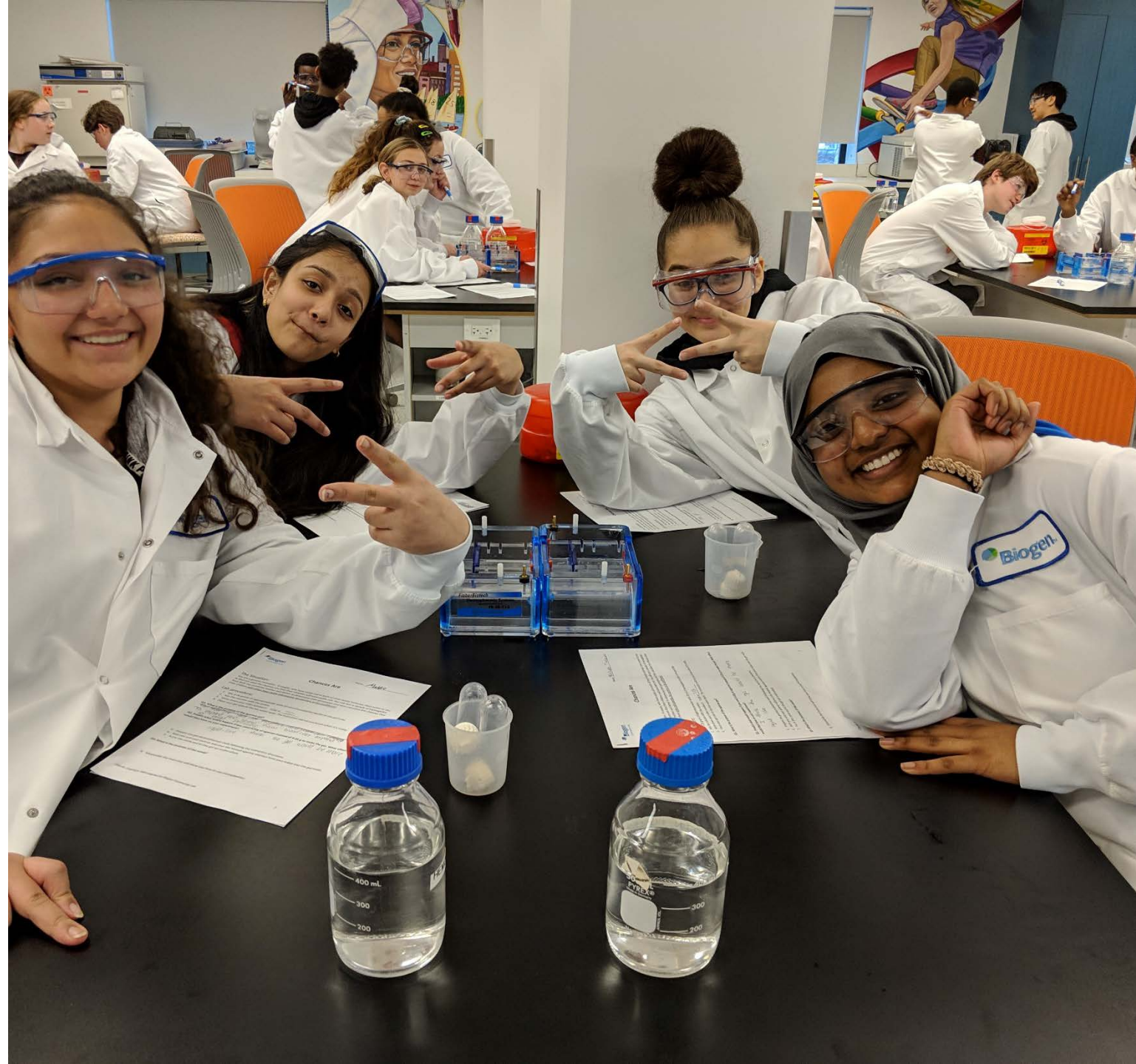
COMMUNITY PRESENTATION



AGENDA

COMMUNITY MEETING - JULY 2020

- Welcome
- Project Schedule
- COVID-19 impacts
 - Design
 - Traffic
- Parking Ramp & Site
- Building Interior
- Building Exterior



SPEAKING TODAY



Louis DePasquale
Manager
City of Cambridge



Lisa Peterson
Deputy City Manager
City of Cambridge



Sean O'Donnell
Principal
Perkins Eastman



Omar Calderon-Santiago
Principal
Perkins Eastman



Carolyn Day
Senior Associate
Perkins Eastman



Dan Arons
Principal
Perkins Eastman



Kris Bradner
Principal
Traverse Landscape

SINCE WE LAST MET



CURRENT DESIGN SCHEDULE

PROJECT PHASES

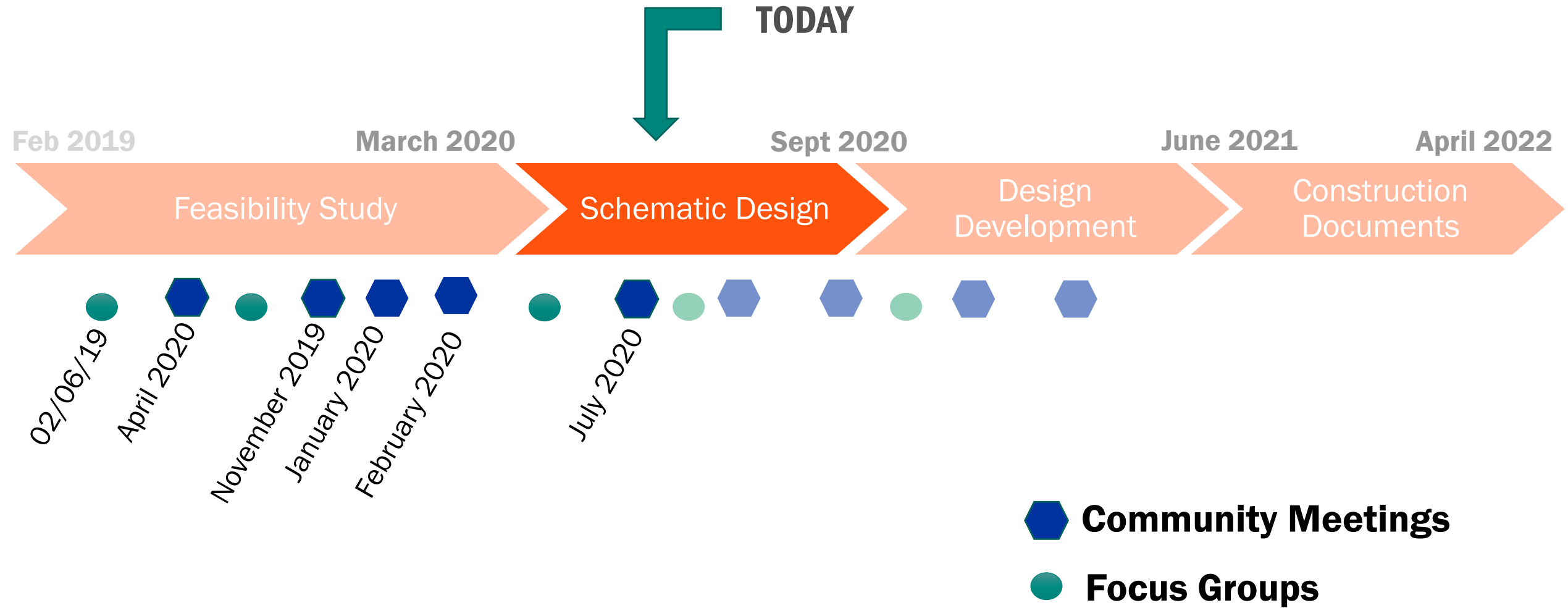


June 2020 **EARLY PACKAGES** Oct. 2021



CURRENT DESIGN SCHEDULE

MEETINGS



COVID-19 IMPACTS

OVERVIEW

What has changed?

- Building will be occupied through the next school year
- Demolition and remediation will begin later, once school is vacated
- Revised plan for traffic studies
- Feasibility Study Report draft review was delayed, now complete

What hasn't changed?

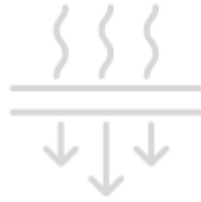
- Building design schedule on track (construction schedule under review)
- Focus group meetings held with teachers
- Regular Programming and Building committee meetings continue

DESIGN CONSIDERATIONS

COVID-19 IMPACTS



**Building
Ventilation**



**Air
Filtration**



**Operable
Windows**



**Material
Selections**



**Touchless
Technologies**



**Hand
Washing
Stations**



**Restroom
Layouts**

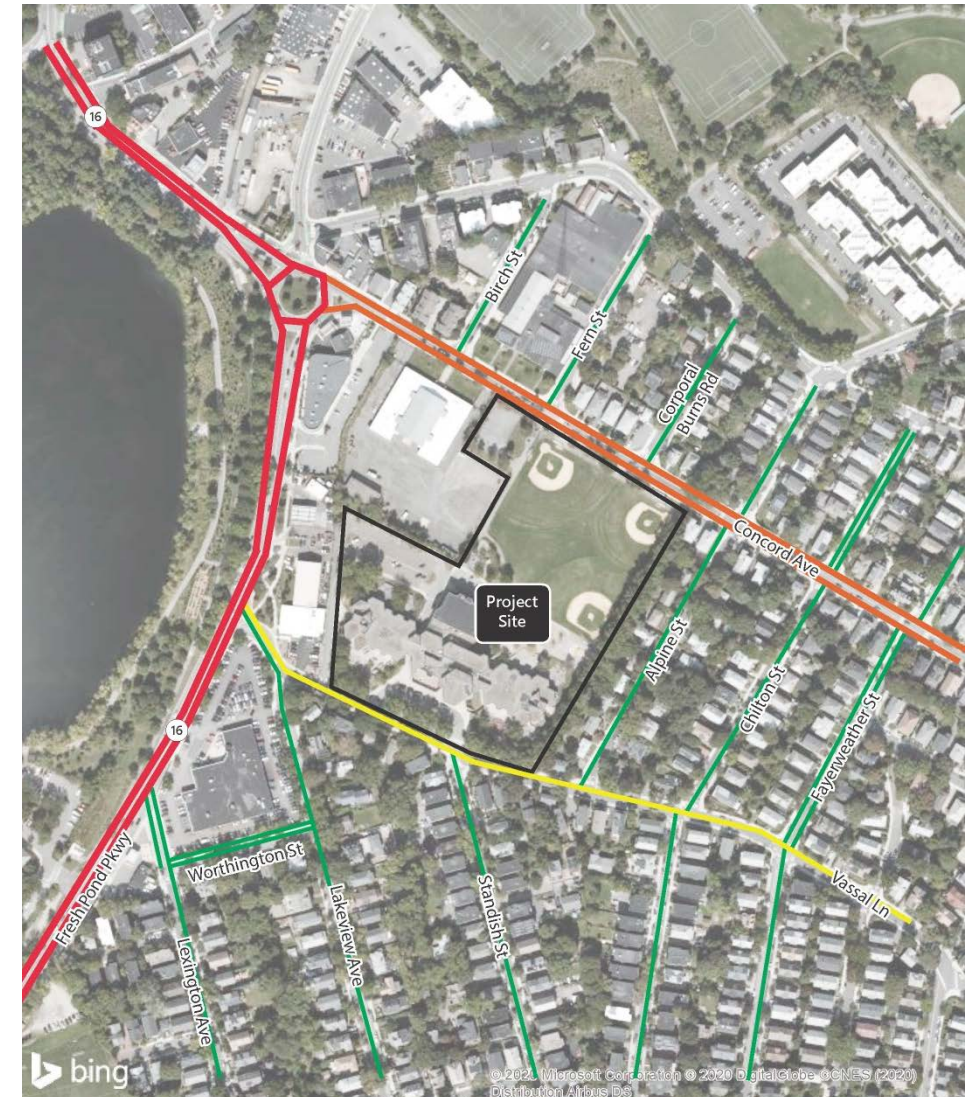


**Student
Traffic
Flows**

TRANSPORTATION ASSESSMENT

COVID-19 IMPACTS

- Comprehensive analysis, working with Traffic, Parking & Transportation department
- Looks at existing infrastructure and anticipated impacts
- Includes vehicle, pedestrian, and bicycle access and circulation
 - Reduced traffic due to COVID-19 stay at home order
 - Alternative method uses anonymous cell-phone location data collected previously



Existing Average Daily Traffic (ADT) Summary



TRAFFIC & PARKING

WHAT NEEDS TO BE STUDIED

Parking & Transportation Demand Management (PTDM) Plan

- National model, required when adding non-residential parking
- Looks to improve access, reduce congestion and reduce air pollution
- Goal to increase safety by promoting walking bicycling, and public transit

Key Elements of PTDM include

- Single-occupancy vehicle mode-share commitment
- Comprehensive Transportation Demand Management (TDM) measures
- Annual Single Occupancy Vehicle surveys
- Biennial car and bicycle counts
- Status of TDM measures

SITE

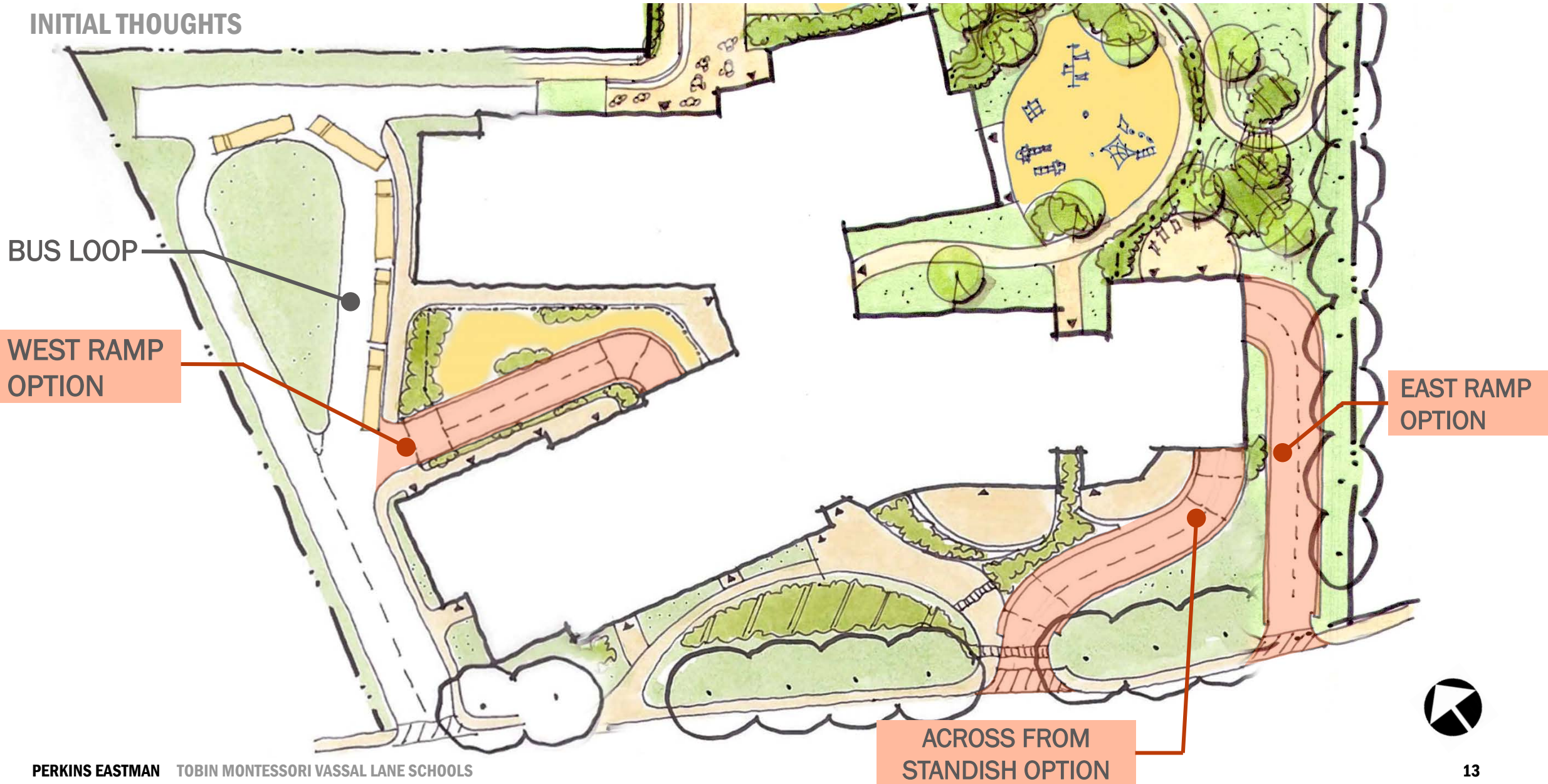


SITE PLAN



PARKING RAMP POSSIBILITIES

INITIAL THOUGHTS



EAST RAMP

Pros

- Separates buses and cars
- Vehicles are away from entrance
- No program compromises

Cons

- Closest to Alpine neighbors
- Requires tree removal
- Difficult left turn



ACROSS FROM STANDISH RAMP

Pros

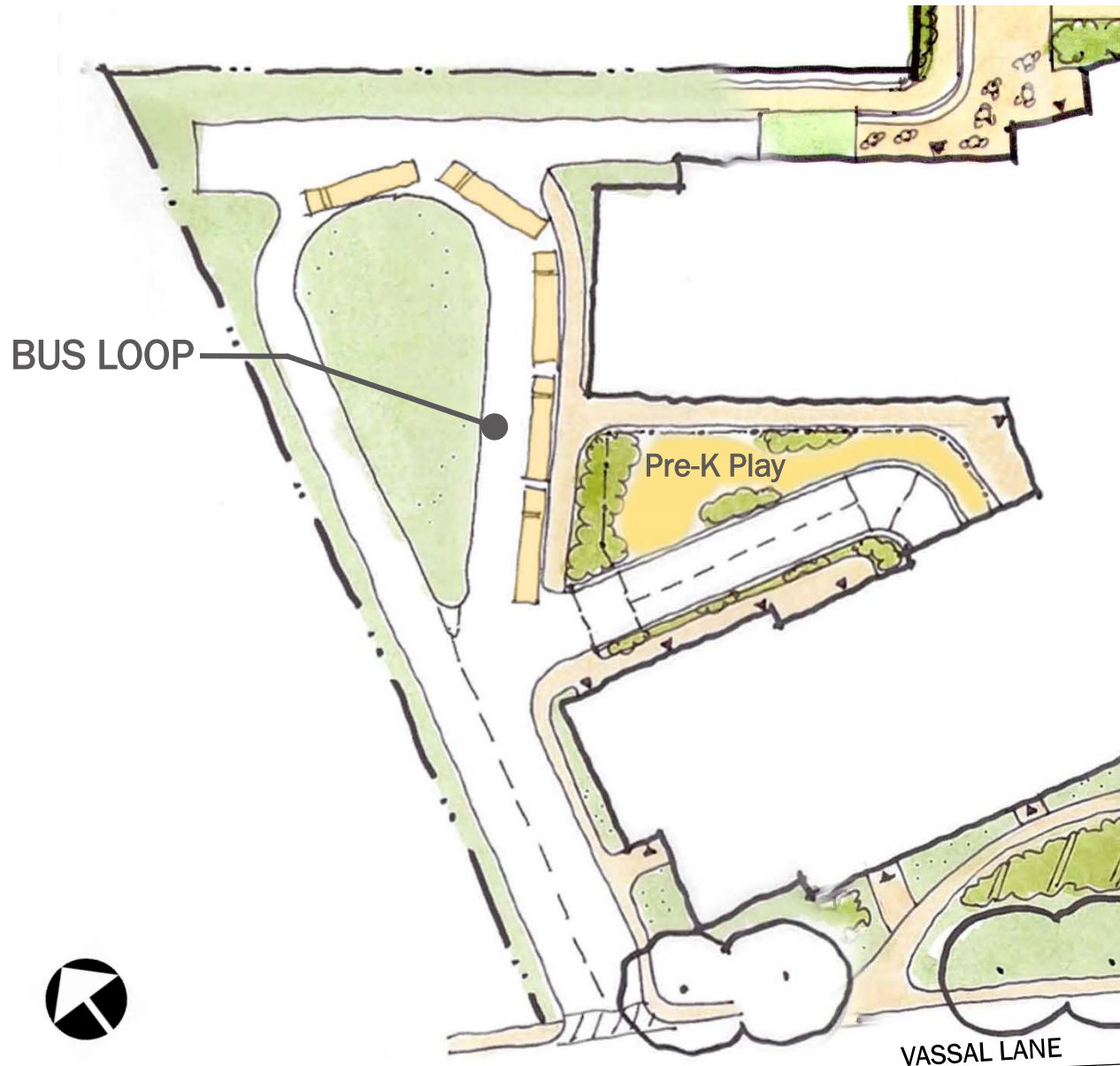
- Separates buses and cars
- Uses existing intersection & curb cut
- Preserves and protects trees
- Shape slows traffic
- More intuitive crossing

Cons

- Divides green space



WEST RAMP



Pros

- One driveway on site
- Keeps traffic closer to Fresh Pond
- Uses existing curb cut

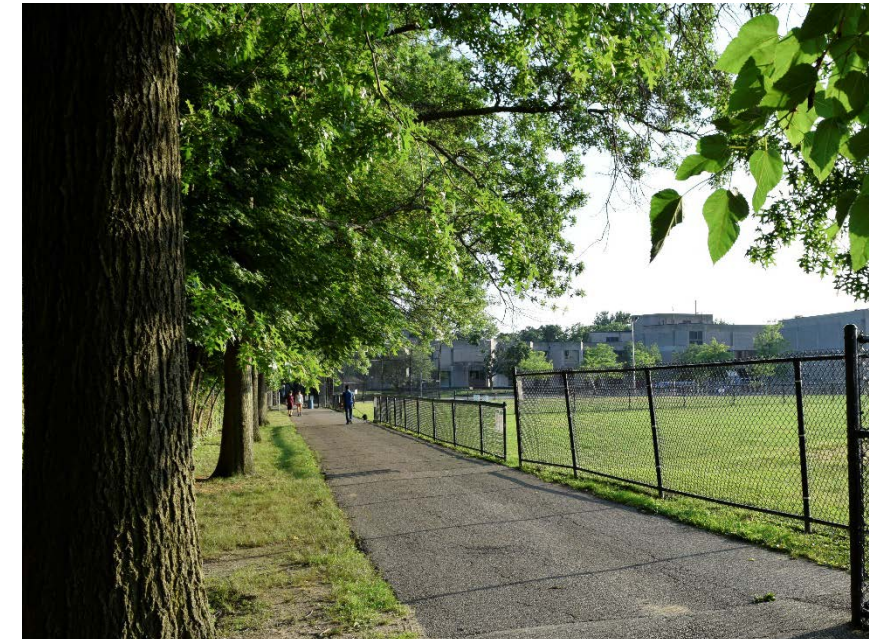
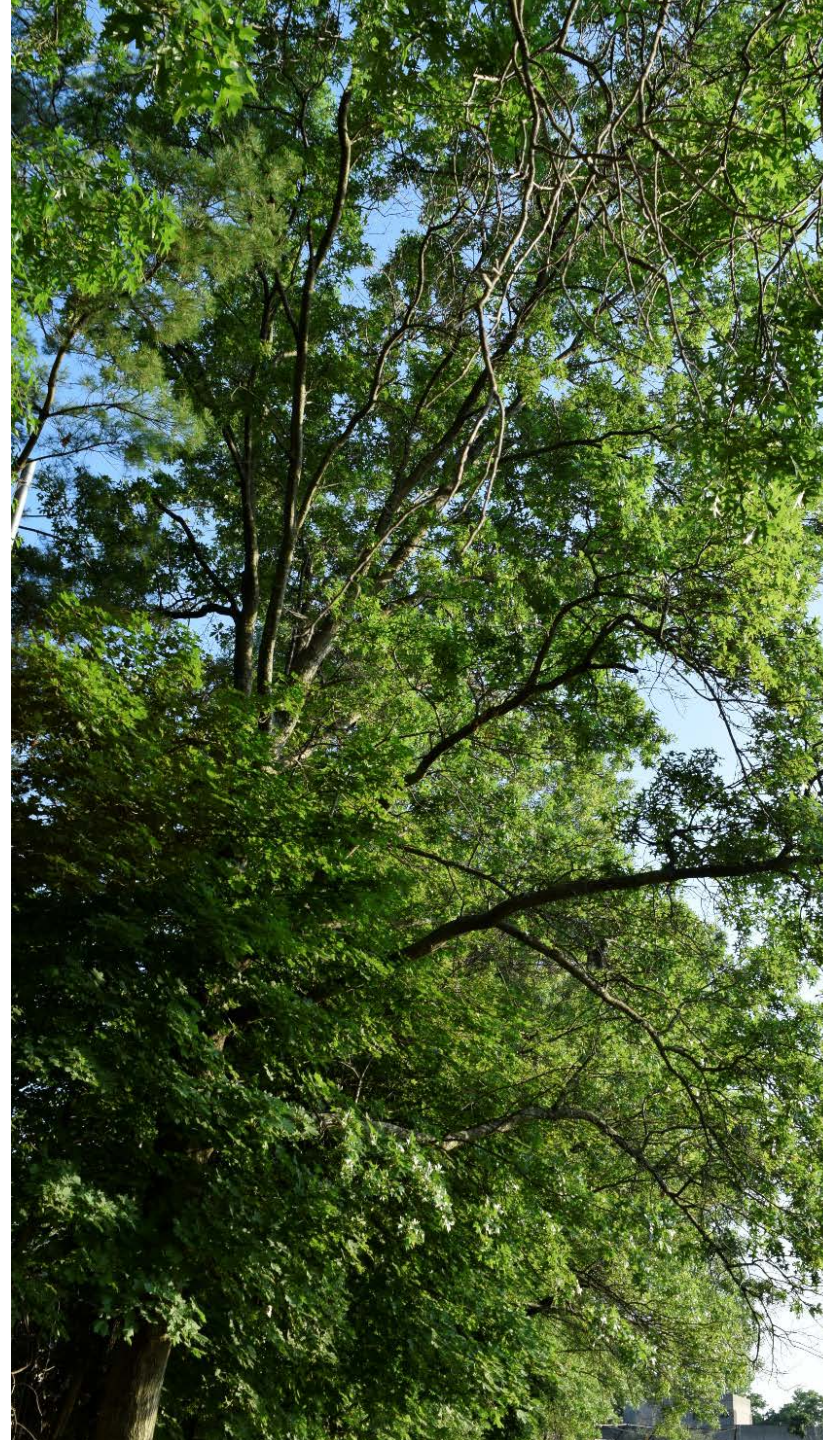
Cons

- Mixes buses and cars
- Reduces preschool playground
- Disconnects preschool classrooms from playground
- Difficult to fit with program



SITE OPPORTUNITIES

- Tree Preservation and Protection
- Importance of Tree Canopy
- Preservation Plan
- New Trees



SITE PROGRAM ELEMENTS

RECREATIONAL AREAS



SITE PROGRAM ELEMENTS

PLAYGROUNDS



SITE PROGRAM ELEMENTS

OUTDOOR LEARNING/GARDENING

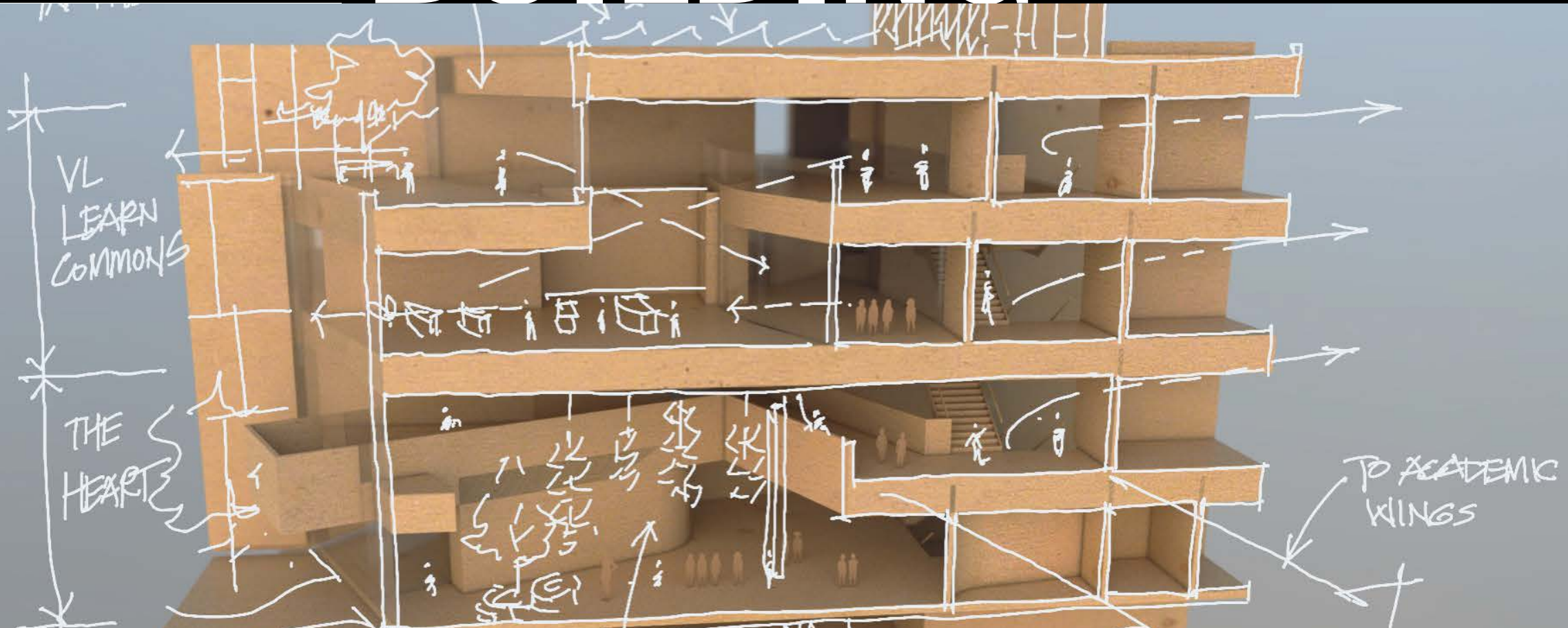


SITE IDEAS PREVIEW

- Storm water management as a learning tool
- Sustainable soils and biomass
- Engaging neighbors and community

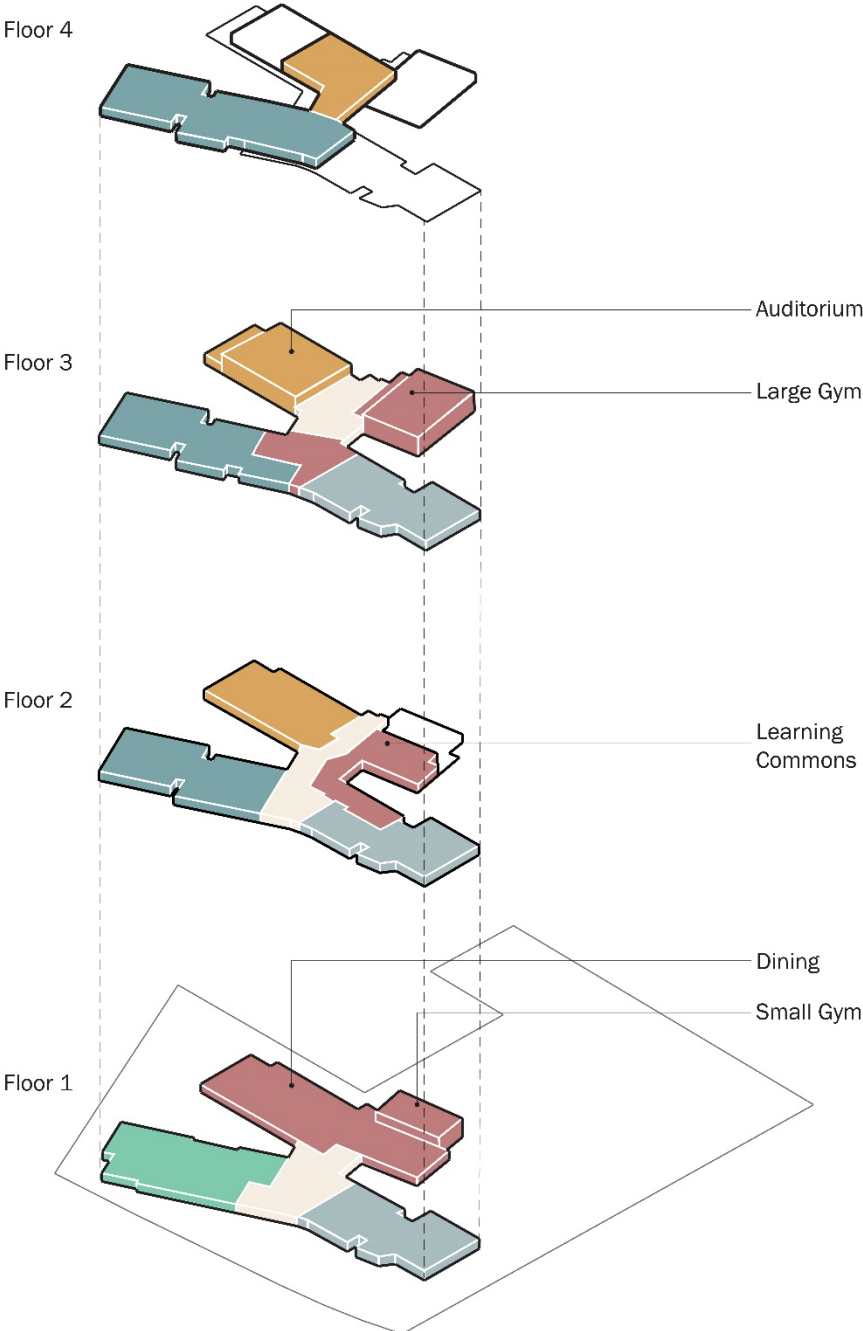


BUILDING

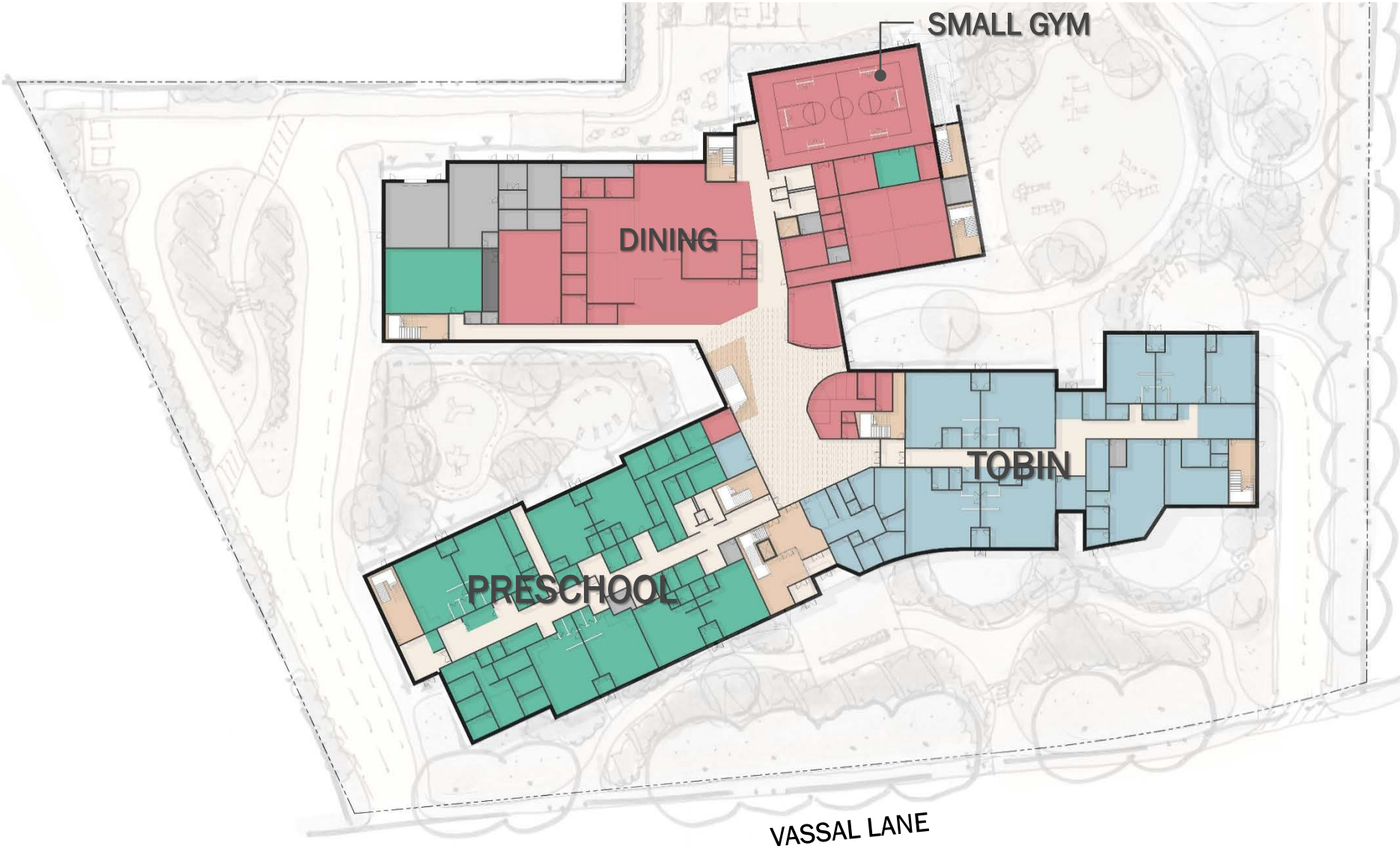







STACKING DIAGRAM

- VASSAL LANE
- TOBIN
- PRESCHOOL
- ARTS
- COMMON SPACES



FIRST FLOOR



-  VASSAL LANE
-  TOBIN
-  PRESCHOOL
-  ARTS
-  COMMON SPACES

SECOND FLOOR








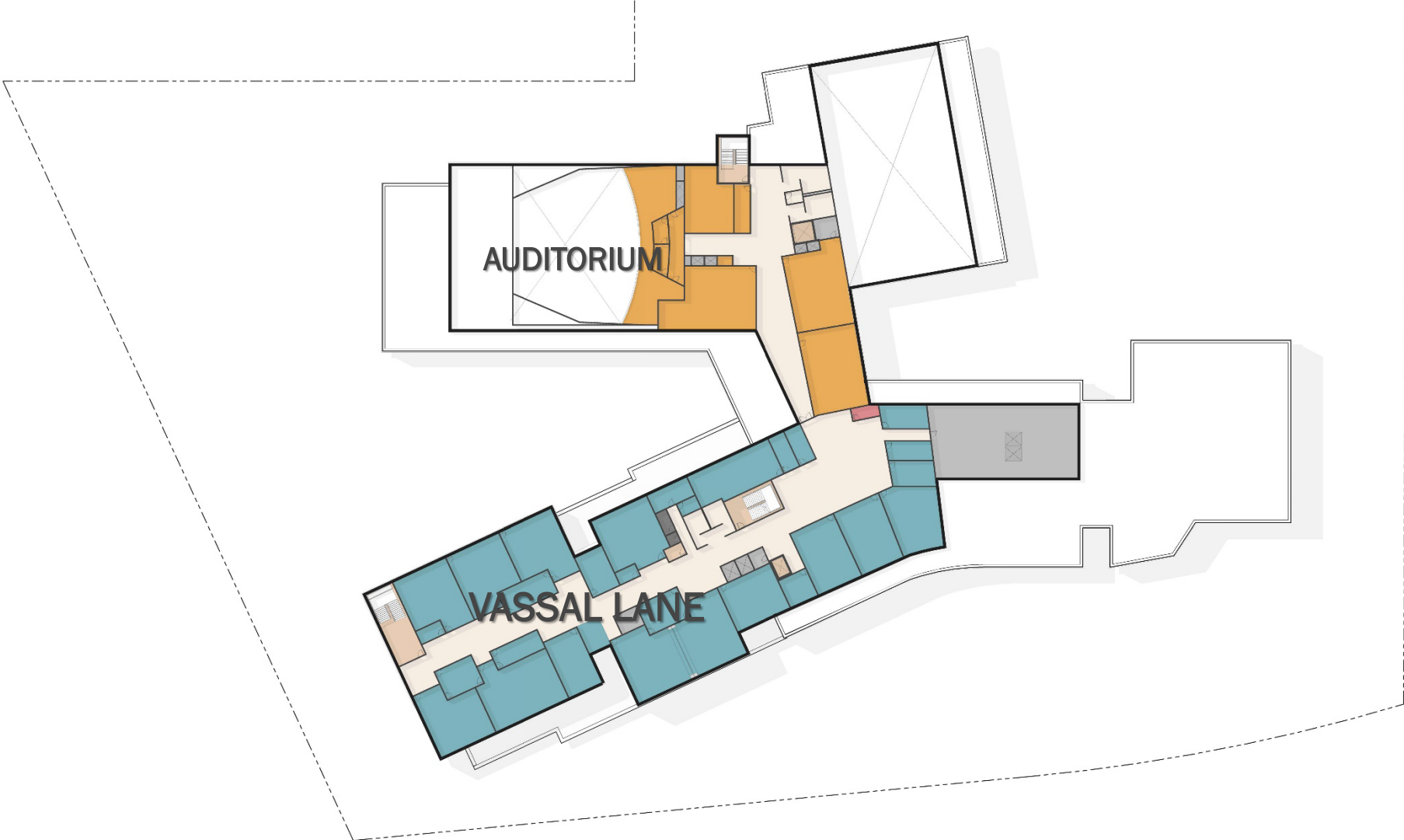
THIRD FLOOR

- VASSAL LANE
- TOBIN
- PRESCHOOL
- ARTS
- COMMON SPACES

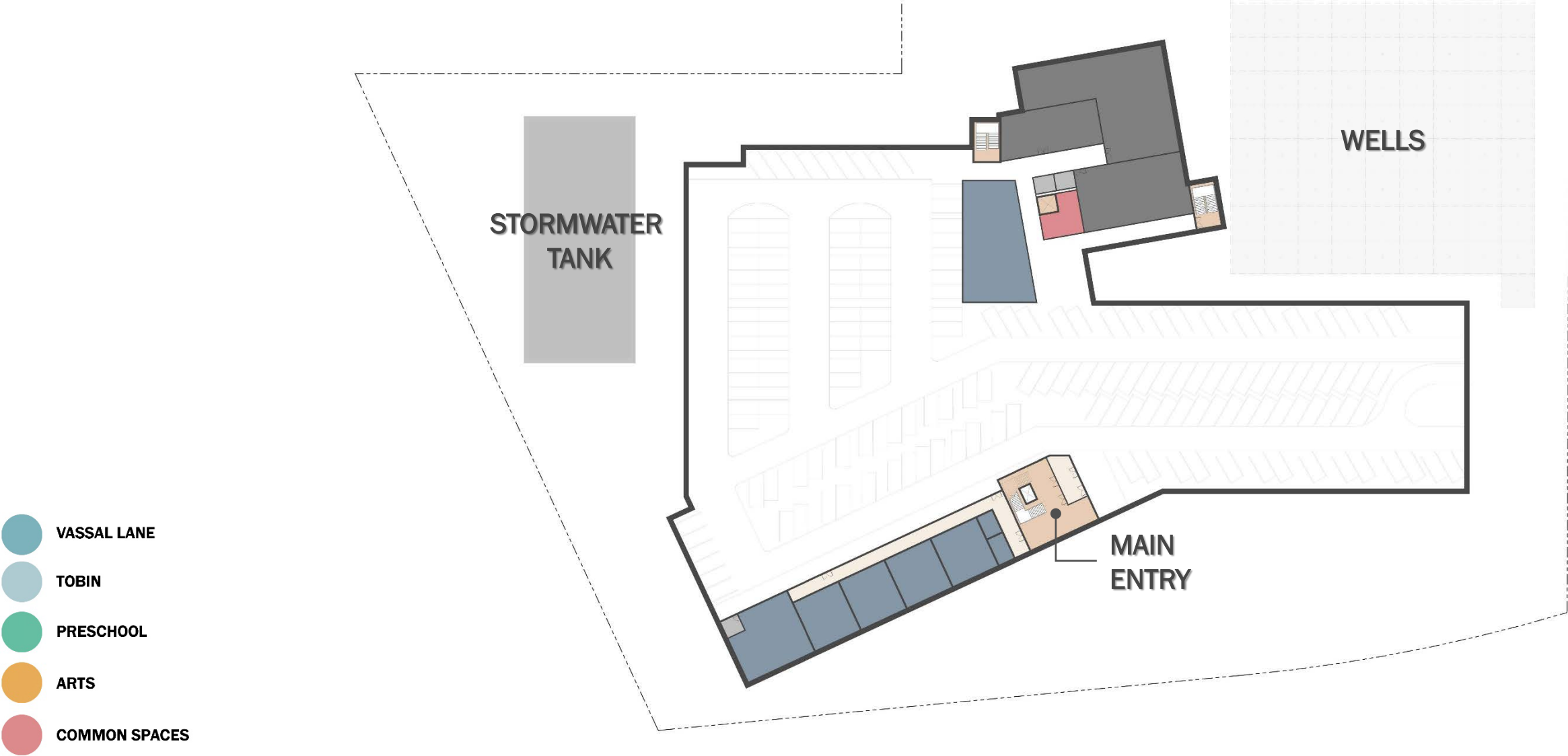


FOURTH FLOOR

-  VASSAL LANE
-  TOBIN
-  PRESCHOOL
-  ARTS
-  COMMON SPACES



GARAGE



NET ZERO



EXTERIOR CONCEPTS



SITE

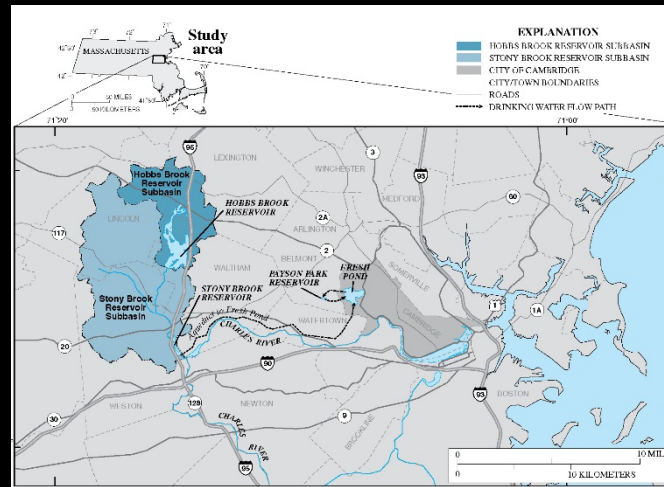
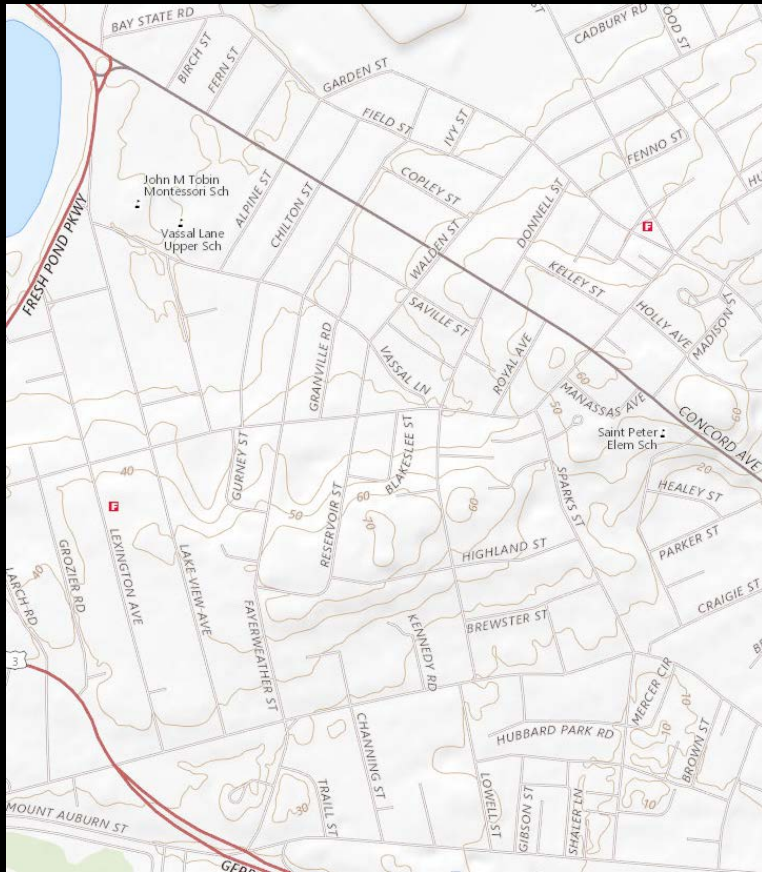
NEIGHBORING CONTEXT



A BIT OF HISTORY

NATURAL HISTORY

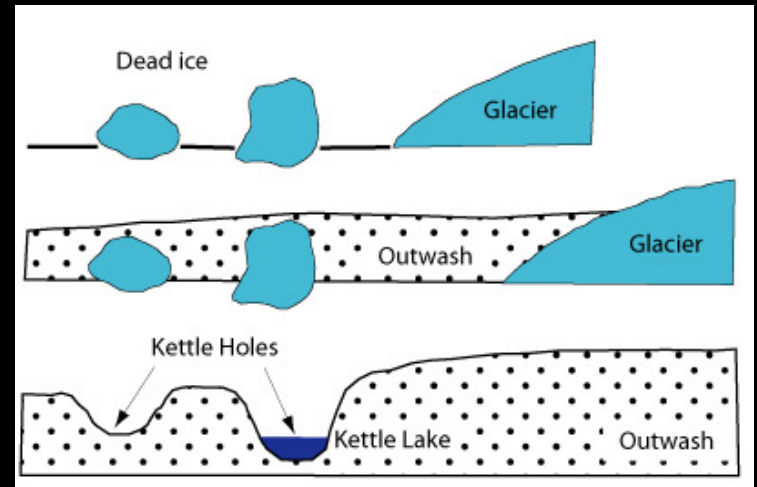
The topography of the vicinity.



Fresh pond, a kettle lake left behind.



Artist depiction of the earth during the last ice age.



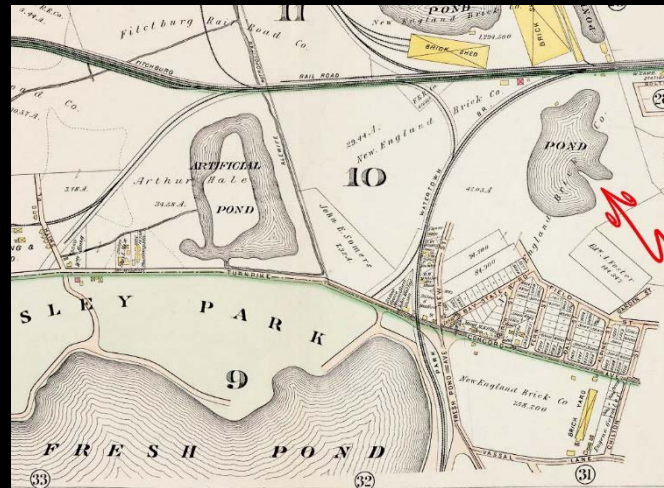
A BIT OF HISTORY

PATTERNS OF USE

The site could have looked like this around the turn of the century.
Drying brick sheds dotted the low lying, clay covered landscape.



Ballast brick.



The site was industrialized during the discovery of clay deposits.

A BIT OF HISTORY

MORE RECENT TRANSFORMATION

Montessori students, agency and self guided inquiry using every available surface as a place for learning.



Illustrative image of a clay quarry.



Prior to “The Tobin” appearance on the site was used as a city waste site.



SOURCING THE MATERIALS



- 1 Industrial past.
- 2 Materials “of the land”
- 3 A virgin landscape
- 4 Water resources



SOURCING THE MATERIALS



1

Ultra high performance concrete panel - horizontal

2

Regional stone

3

Ultra high performance concrete panel - vertical

4

Masonry alternates



2



3



4

SITE PLAN

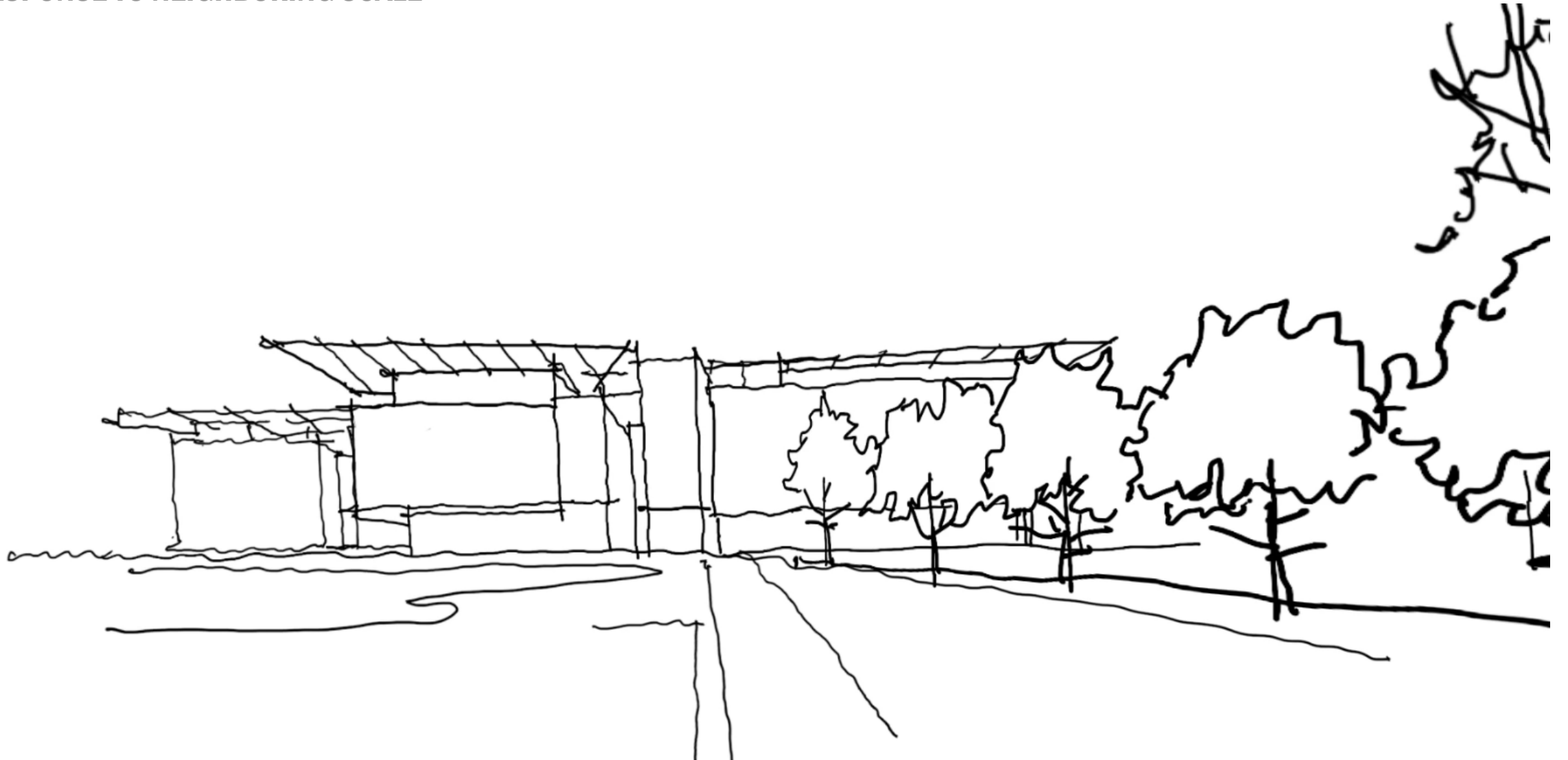


AERIAL VIEW



CONCEPT

RESPONSE TO NEIGHBORING SCALE



ANIMATION FOUND IN COMMUNITY MEETING PRESENTATION VIDEO

PV ROOF TRELLIS



- 1 Bloomberg Center, Cornell Tech Campus NYC
- 2 Bloomberg Center, Cornell Tech Campus NYC
- 3 Tata Innovation Center, Cornell Tech Campus NYC
- 4 Bloomberg Center, Cornell Tech Campus NYC



We are finding that by targeting an efficient, low energy utilization combined with 100,000 sf of solar panels, zero net energy is within what is possible on the site.

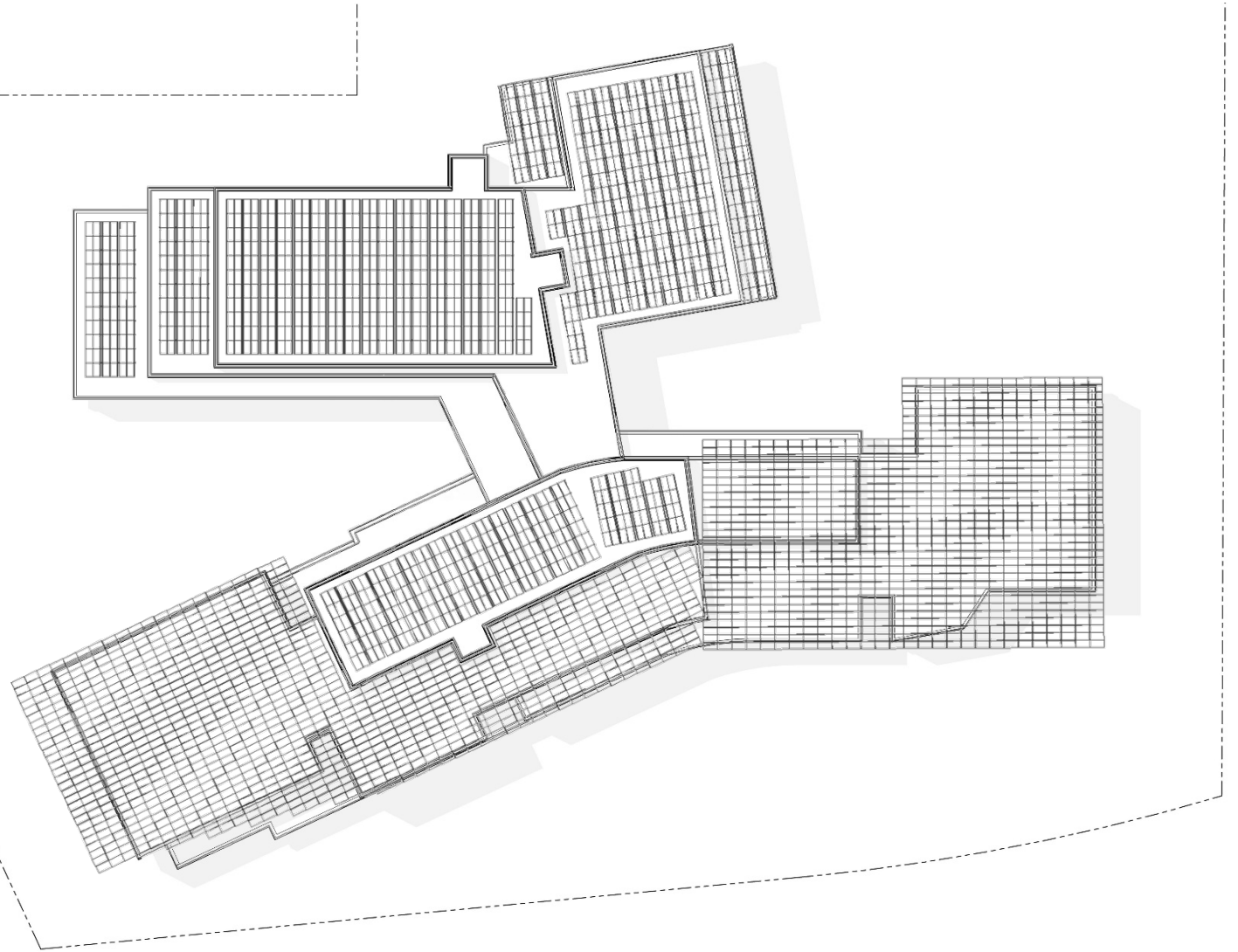


ROOF TOP

CURRENT GOAL – 65% BUILDING LOAD

Solar Panel Summary -

- 41,700 SF of Solar Panels mounted on 5 degrees tilted continuous wing
- 28,500 SF of Solar Panels mounted on roof at 10 degrees east/west

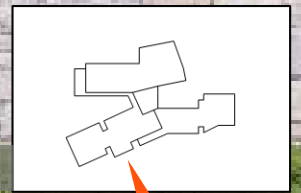


EXTERIOR CONCEPTS STUDY

TYPICAL CLASSROOM WINDOW CONFIGURATION



Note: Design in progress.



EXTERIOR CONCEPTS

RESPONSIVENESS TO DAYLIGHT



SOLAR ANALYSIS

PROJECT GOALS

Spatial
Daylight
Autonomy
(sDA)



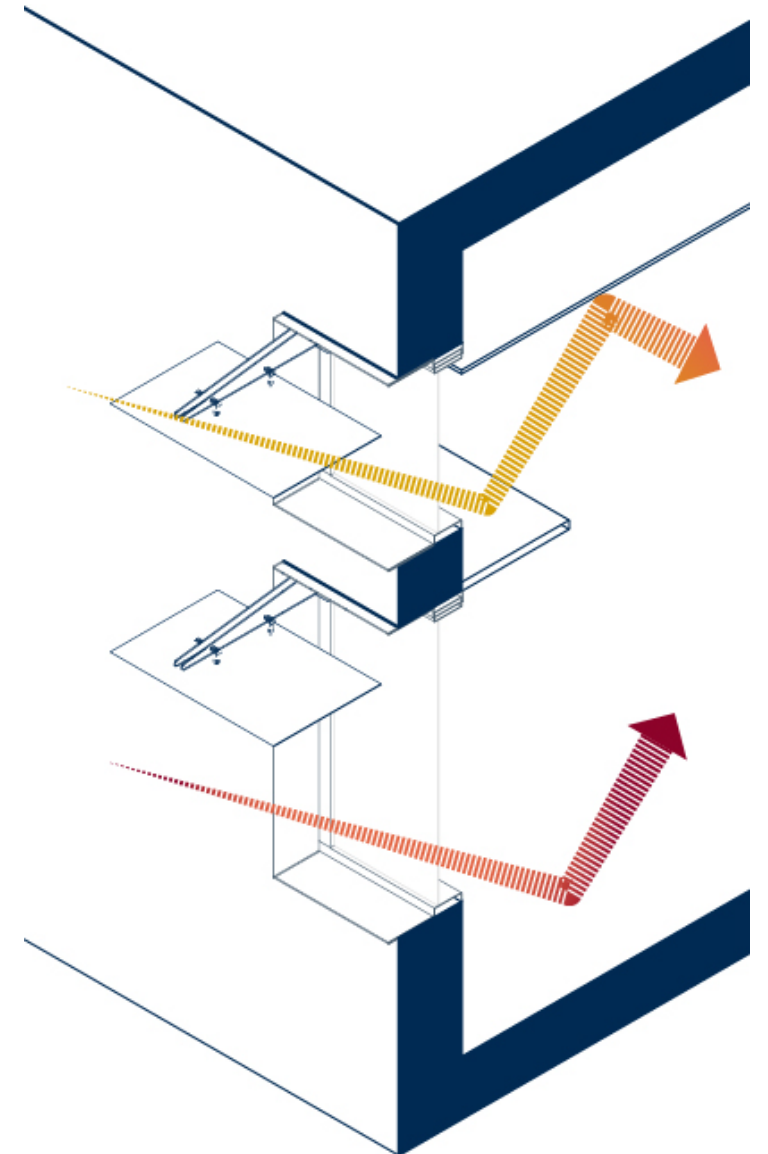
Annual
Sunlight
Exposure
(ASE)



GLASS
OVERALL
30%



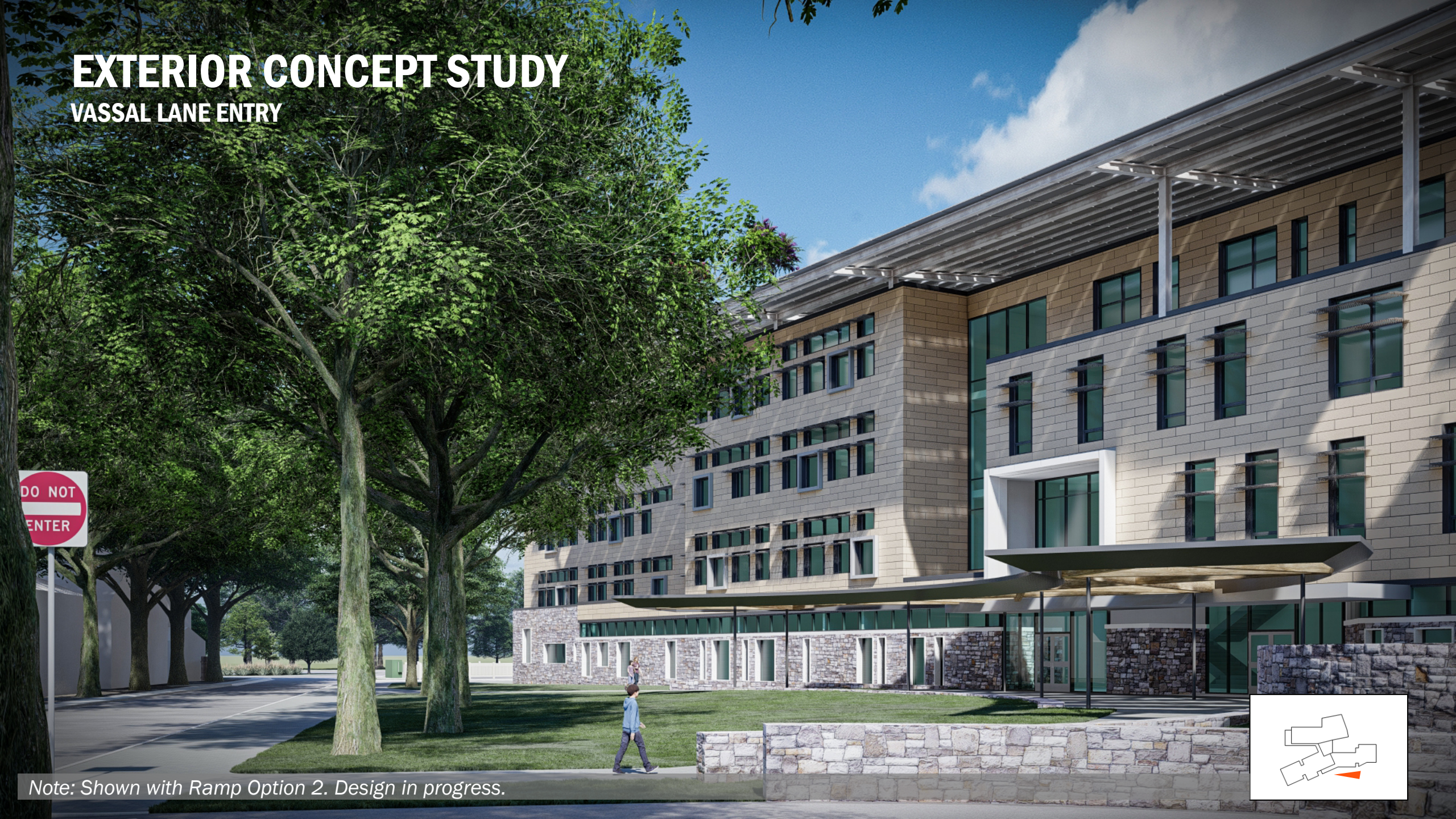
Daylight Analysis - Typical Classroom Analysis



Daylighting Analysis - Window Treatment

EXTERIOR CONCEPT STUDY

VASSAL LANE ENTRY



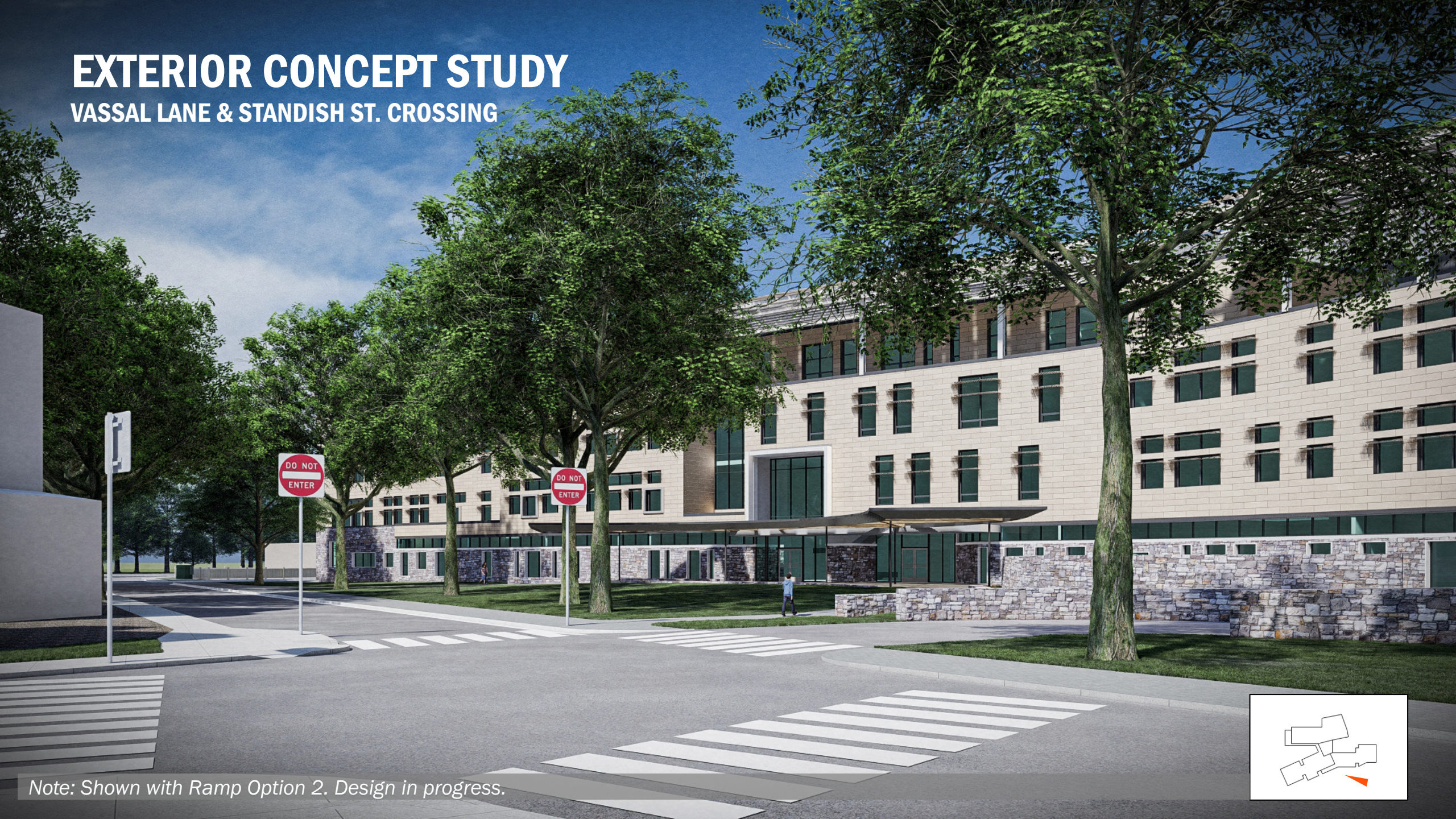
DO NOT
ENTER

Note: Shown with Ramp Option 2. Design in progress.

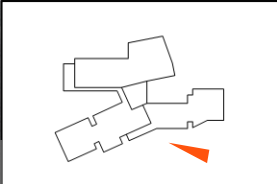


EXTERIOR CONCEPT STUDY

VASSAL LANE & STANDISH ST. CROSSING

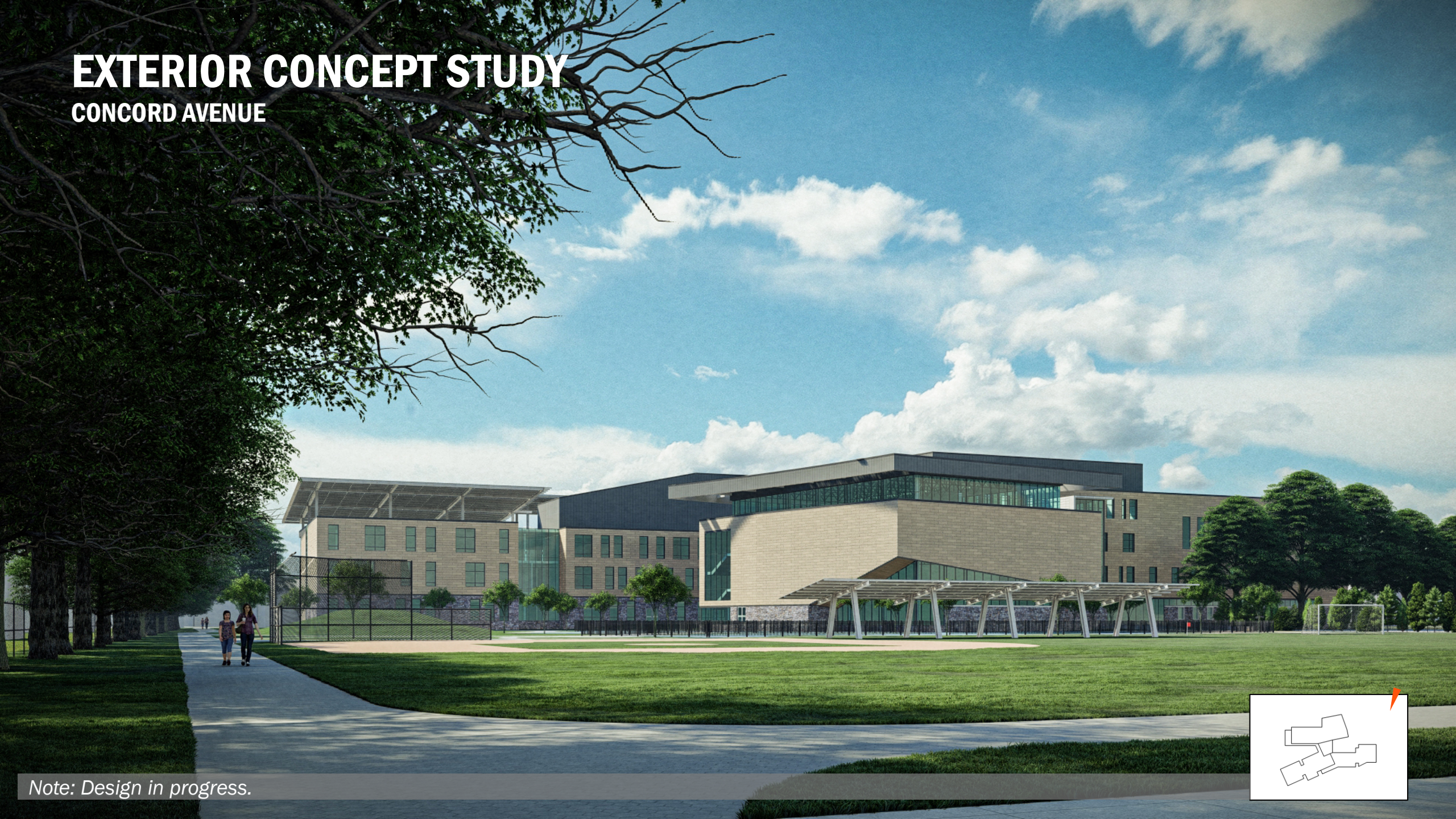


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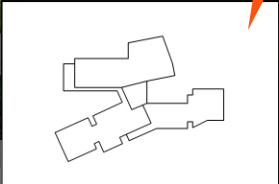


EXTERIOR CONCEPT STUDY

CONCORD AVENUE

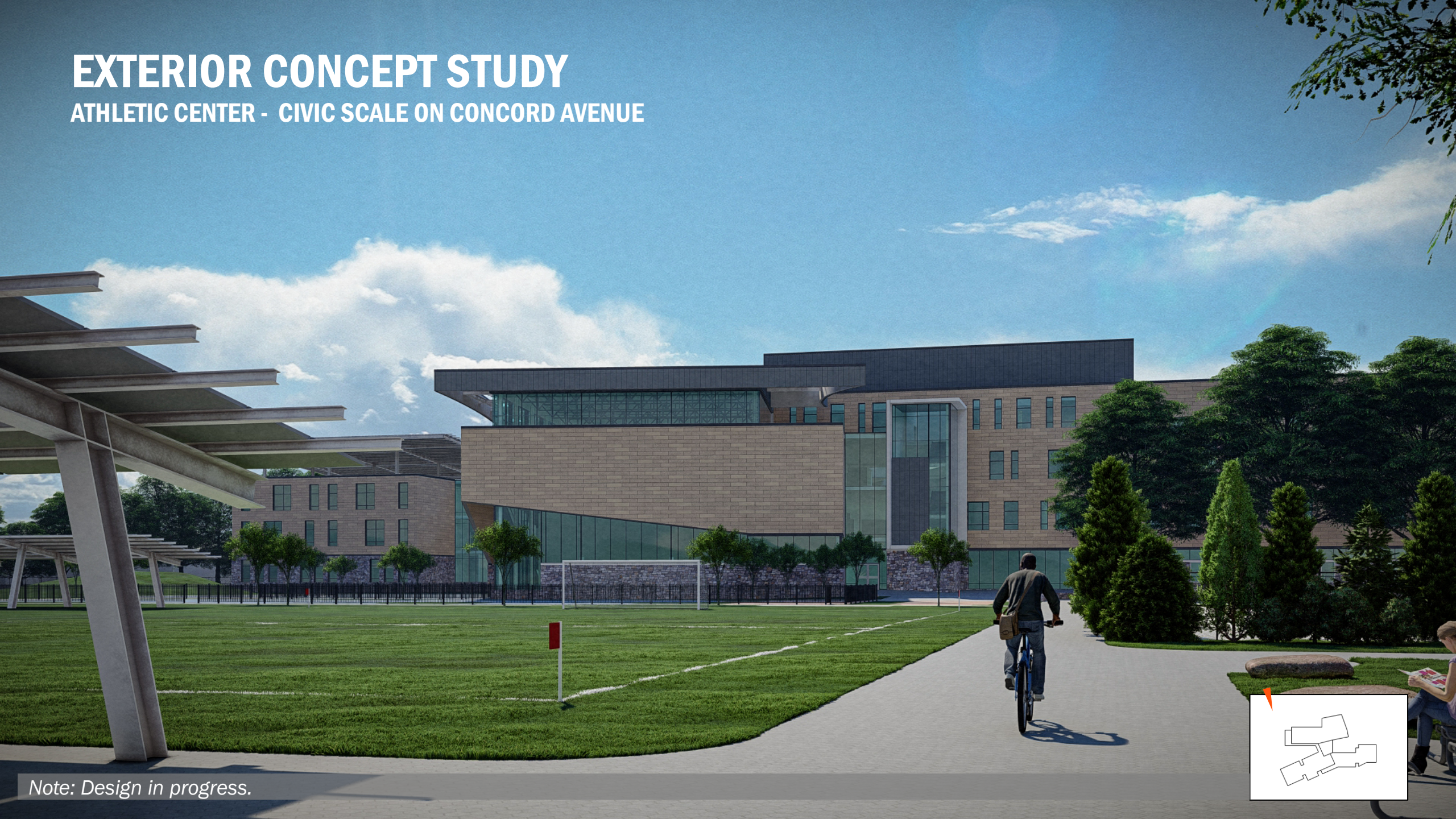


Note: Design in progress.

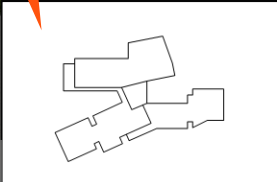


EXTERIOR CONCEPT STUDY

ATHLETIC CENTER - CIVIC SCALE ON CONCORD AVENUE



Note: Design in progress.

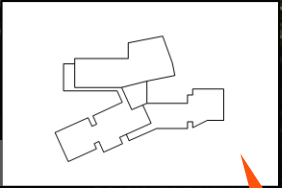


EXTERIOR CONCEPT STUDY

PEDESTRIAN WALKWAYS



Note: Shown with Ramp Option 2. Design in progress.



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JULY 2020

**PERKINS —
EASTMAN**

Human by Design

COMMUNITY PRESENTATION



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