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

- Roof Greenhouse
- Centered on Site
- Traffic
- Scale
- Tree Protection
- Minimize Impact During Construction
- Open Space
- Community Impact
- Embodied Carbon
- Special Start
- Pollinator Garden
- Visual & Performing Arts
- Community Access
- All Ages and Abilities
- Safety & Security
- Life-cycle Carbon
- Demolition
- Natural Materials
- Athletic Fields and Courts
- Bike and Pedestrian Routes
- Bicycle Connections
- Engaged Process
- Welcoming Playgrounds
- Underground Parking
- Site Maintenance
- Architectural "Look"
- Principles of Montessori
- Shade
- Vibration Monitoring
- Good Landscaping
- Spirit of Existing School
- Enrollment
- Courtyards
PROGRAM
# PROGRAM CAPACITY

## MAXIMUM NUMBER OF STUDENTS

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

PERKINS EASTMAN     TOBIN MONTESSORI/VASSAL LANE SCHOOLS PROJECT
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

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>EXISTING GSF</th>
<th>PROPOSED GSF</th>
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</thead>
<tbody>
<tr>
<td>Human Services</td>
<td>5,291</td>
<td>31,380</td>
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<tr>
<td>Preschool</td>
<td></td>
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</tr>
<tr>
<td>Community School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobin Lower School</td>
<td>36,878</td>
<td>60,600</td>
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<tr>
<td>Vassal Lane Upper School</td>
<td>33,059</td>
<td>63,300</td>
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<tr>
<td>Shared Spaces</td>
<td>44,625</td>
<td>120,800</td>
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<tr>
<td>Learning Commons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gyms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditorium, Performing Arts &amp; Visual Arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS District Wide</td>
<td>8,317</td>
<td>22,300</td>
</tr>
<tr>
<td><strong>Building Total</strong></td>
<td>+/-128,170</td>
<td>298,380</td>
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<tr>
<td>Underground Parking</td>
<td>0</td>
<td>+/- 55,000</td>
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<tr>
<td>Grand Total</td>
<td>+/- 128,1701</td>
<td>353,380</td>
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![Pie chart showing area comparison](chart.png)
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
GOALS & PRINCIPLES
DESIGN GOALS

1. COMMUNITY ASSET
   - Provide a campus respectful of neighborhood and traffic impacts, providing public open space amenities

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

3. SUSTAINABILITY
   - Design for net zero emissions and target net zero energy and a healthy environment
EDUCATION DESIGN PRINCIPLES

IDENTITY & ARRIVAL FOR EACH PROGRAM
Create an identity and front door for each program

A HEART FOR EACH PROGRAM
Offer a hierarchy of spaces supporting developmental needs of each school

ORGANIZE THE CAMPUS FOR EFFICIENT SHARING
Draw a healthy balance between school program and shared spaces
EDUCATION DESIGN PRINCIPLES

7 DIVERSITY OF OPEN SPACE FOR EACH PROGRAM & AGE

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

8 EACH PROGRAM HAS EASY ACCESS TO THE OUTDOORS

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

9 CREATE A LOCUS OF LIFE-LONG LEARNING

Create a locus for students and teachers, and support professional development for teachers on- and off-site.
OPTION DRIVERS
EXISTING SITE CONTEXT
SITE UNDERSTANDING

VALUABLE TREES

ACCESS AND PARKING

OPTIMAL MASSING FOR NEIGHBORHOOD
CLIMATE RESPONSIVENESS

Energy Use in Buildings Shifting - More Cooling, Less Heating

Cooling Degree Days (CDD) Heating Degree Days (HDD)
EXISTING TRAFFIC VOLUMES

**Morning Drop-Off Accumulations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Tobin Montessori</th>
<th>Vassal Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:15-7:25 AM</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7:25-7:35 AM</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7:35-7:45 AM</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>7:45-8:05 AM</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8:15-8:25 AM</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8:25-8:35 AM</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8:35-8:45 AM</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>8:45-8:55 AM</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

**Afternoon Pick-Up Accumulations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Tobin Montessori</th>
<th>Vassal Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:25-1:35 PM</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>1:35-1:45 PM</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>1:45-1:55 PM</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1:55-2:05 PM</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>2:05-2:15 PM</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>2:15-2:25 PM</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2:35-2:45 PM</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2:45-3:05 PM</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>3:05-3:15 PM</td>
<td>2</td>
<td>2</td>
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</tbody>
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**Peak Cars**

**Peak Buses**
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
DESIGN OPTIONS
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
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
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
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

CONCORD AVENUE

ALPINE STREET

VASSL LANE

NORTH
SITE CIRCULATION

VEHICULAR

RENOVATION / ADDITION

WINGS

PAVILIONS

CONCORD AVENUE

ALPINE STREET

VASSLAL LANE

PARENT DROP OFF

SERVICE

BUSES

STAFF

NORTH
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)

- Heating & Cooling: 18%
- Fans: 14%
- Pumps & Auxiliaries: 9%
- Elevators: 2%
- Plug Loads: 28%
- Kitchen Equipment: 13%
- Lights: 13%
- Dom Hot Wtr: 2%
- Ext Ltg: 1%

EUI: 22 kBtu/SqFt/Yr

PHOTOVOLTAIC POTENTIAL

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

OUTDOOR COMFORT

- Ave Building Footprint: 110,000 SF

CARBON FOOTPRINT

- Renovation + Addition (EUI 25 kBtu/sqft)
- New Construction (EUI 22 kBtu/sqft)

- Annual End-Use Breakdown by Energy Consumption (MMBtu)

- PV Panel Area to Meet Energy Needs on Site

- Ave Building Footprint

- Renovation + Addition (EUI 25 kBtu/sqft)
- New Construction (EUI 22 kBtu/sqft)
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