Agenda

• Design update
• HVAC system update
• Community forum
• Construction delivery method
Ground Floor Plan

District-wide PK-2
~98,000 SF

Concept Plan
- Integration with Site
- Clear Arrival
- Central Core
- Transparency
- Focus on Nature
First Floor Plan

Concept Plan
- Integration with Site
- Clear Arrival
- Central Core
- Transparency
- Focus on Nature
Second Floor Plan

Concept Plan

- Integration with Site
- Clear Arrival
- Central Core
- Transparency
- Focus on Nature
View from Playground
HVAC Systems

Displacement

Total Equivalent Annual Cost - $3.58/SF

Pros

Lowest capital cost
Low maintenance requirements & cost

Cons

Uneven partial cooling (hot & cold spots)
Separate heat via Fin Tube Radiation (FTR)
Requires large chases in classrooms
Compromises layout & function of spaces
HVAC Systems

VAV (Variable Air Volume)

Total Equivalent Annual Cost - $4.21/SF

Pros
Fairly consistent temperature throughout
Heat & AC delivered through ceiling
Mid-range capital cost

Cons
Many fans and filters to maintain
Highest maint. requirements & cost
Noisiest operation
Increased floor to floor height or lower ceilings/soffits (increase building cost)
Compromises flexibility of spaces
HVAC Systems

Chilled Beam

Total Equivalent Annual Cost - $4.44/SF

Pros
Most consistent temperature
Heat & AC delivered through ceiling
Quietest operation
Low maintenance requirements & cost
Allows most flexibility of space

Cons
Highest capital cost
Slightly higher EUI
## Summary

<table>
<thead>
<tr>
<th>System</th>
<th>Impact on Space</th>
<th>Air Conditioning</th>
<th>Heating</th>
<th>Noise</th>
<th>First Cost</th>
<th>Annual Maintenance Cost</th>
<th>TEAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement</td>
<td>Compromised layout &amp; function</td>
<td>Inconsistent (min. cooling)</td>
<td>Least Consistent</td>
<td>Quiet</td>
<td>$42/SF ($4,124,190)</td>
<td>Low</td>
<td>$3.58/SF</td>
</tr>
<tr>
<td>VAV</td>
<td>Compromised flexibility</td>
<td>Consistent temperature</td>
<td>Consistent temperature</td>
<td>Average</td>
<td>$49/SF ($4,811,555)</td>
<td>Average</td>
<td>$4.21/SF</td>
</tr>
<tr>
<td>Chilled Beam*</td>
<td>Most Flexible</td>
<td>Most consistent temperature</td>
<td>Most consistent temperature</td>
<td>Quietest</td>
<td>$52/SF ($5,106,140)</td>
<td>Low</td>
<td>$4.44/SF</td>
</tr>
</tbody>
</table>

*Recommended by Working Group and Design Team
System carried in Current Cost Estimate
Community Forum

- Suggested Date: March 25, 2019
- Topics:
  - Design update
  - Process update
  - Other?
Construction Delivery Method

- Construction Management vs. Design-Bid-Build
- Final Decision March 28, 2019
- IG approval required
Next Steps

- Room Data Sheet review
  - March 2019
- Public Safety meeting
  - March 21, 2019
- Proprietary items decision
  - April 2019
- SD cost estimate
  - May/June 2019
- Schematic Design submission
  - July 10, 2019
- MSBA Board Meeting
  - August 28, 2019