

# BETHLEHEM PUBLIC LIBRARY

BOARD MEETING  
Final Schematic Design Update



ASHLEY MCGRAW

November 13, 2023



# AGENDA

1. Visioning Recap

Design Update

1. Exterior Design

1. Communications Plan

1. Next Steps

1. Cost & Options Review

# VISIONING RECAP



# The Whys

- 1. Address outdated and aging components of the Library facility.**
  - a) The last significant update was around 50 years ago.
  - b) There is some presence of asbestos which puts limitations on some maintenance needs.
  - c) The mezzanine level is not suitable for public, or staff needs.

## The Whys

2. **Add in-demand space for Library users.**
  - a) Patrons are routinely turned away from the limited meeting and study rooms.
  - b) Meeting space / popular Library programs are limited to 100 people.
  - c) Improve performance space functionality.

## The Whys

3. **Add in-demand collections space and improve Library function.**
  - a) Bethlehem Public Library's circulation is the higher in the Upper Hudson Library System.
  - b) Children's area is often crowded and limited in terms of offerings. Teen area is lacking dedicated space.
  - c) Properly address curbside pickup function.
  - d) Improve and expand staff space for better workflow, safety, efficiency, and adequacy.

## The Whys

4. **Enhance accessibility of the Library facility & resources.**
  - a) Improve accessibility to and within the facility to the spaces as well as to resources
  - b) Improve parking area safety and add parking spaces
  - c) Reduce distance between parking and entry
  - d) Improve sense of arrival and wayfinding

## The Whys

5. **Enhance the Library's environmental sustainability footprint.**
  - a) Increase energy efficiency leading to operational savings
  - b) Update the green space around the Library and preserve the park-like feel
  - c) Modernize site utilities to improve Library as a "good neighbor"



# Project Purpose

To position the Bethlehem Public Library as a **community resource** that is accessible to all, offering modern programming in a mindful environment that's nestled within the fabric of the **community**.

Designed in a way that's welcoming, simple to navigate, modern, and adaptable to a variety of programs, both inside the library and throughout the site.

Optimizing the library so that both **patrons and staff** have cohesive environments to suit their evolving needs, and to support the next generation of collaboration, discovery, and learning.

# Guiding Principles

Critical to success

Create a **safer** exterior environment that is more **accommodating** to patrons and library activities, has clear vehicle and pedestrian traffic patterns, and a more **prominent entry**.

To be considered the [safe space and resource] for our community members, and a valued **community support partner**.

Create an easily accessible addition that caters to the library and community **program needs** and accommodates multifunctional, **flexible** spaces and **increases patron capacity**.

Providing **adequate space** to ensure that **multiple demographic** needs of patrons are accommodated in functional spaces customized to their intended use and program needs, while **cohesively integrating efficient** employee operational spaces.

# DESIGN UPDATE





# Site Plan

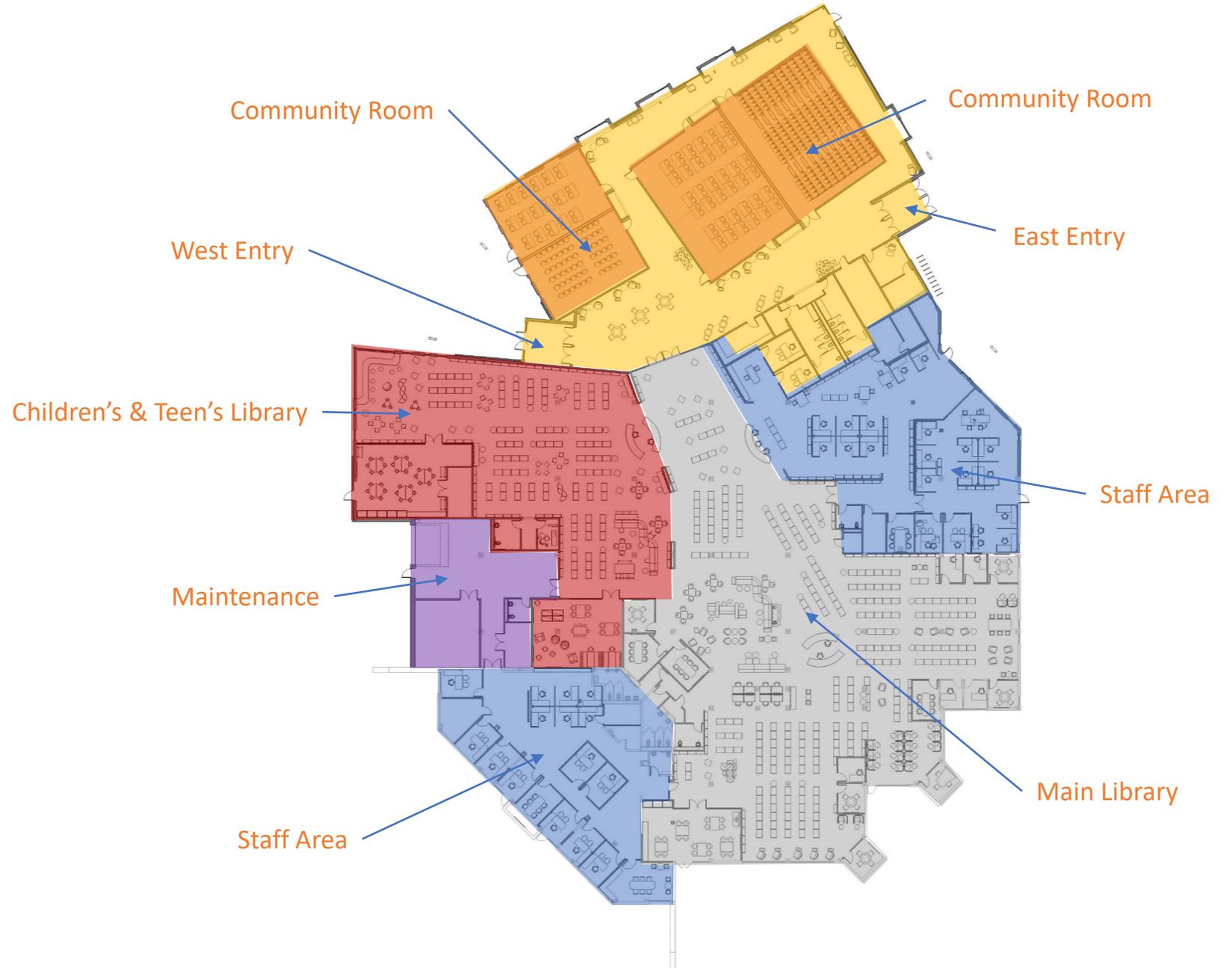
Building Addition

Existing Building





# Floor Plan





# Children's & Teen's Library

## Children's Library:

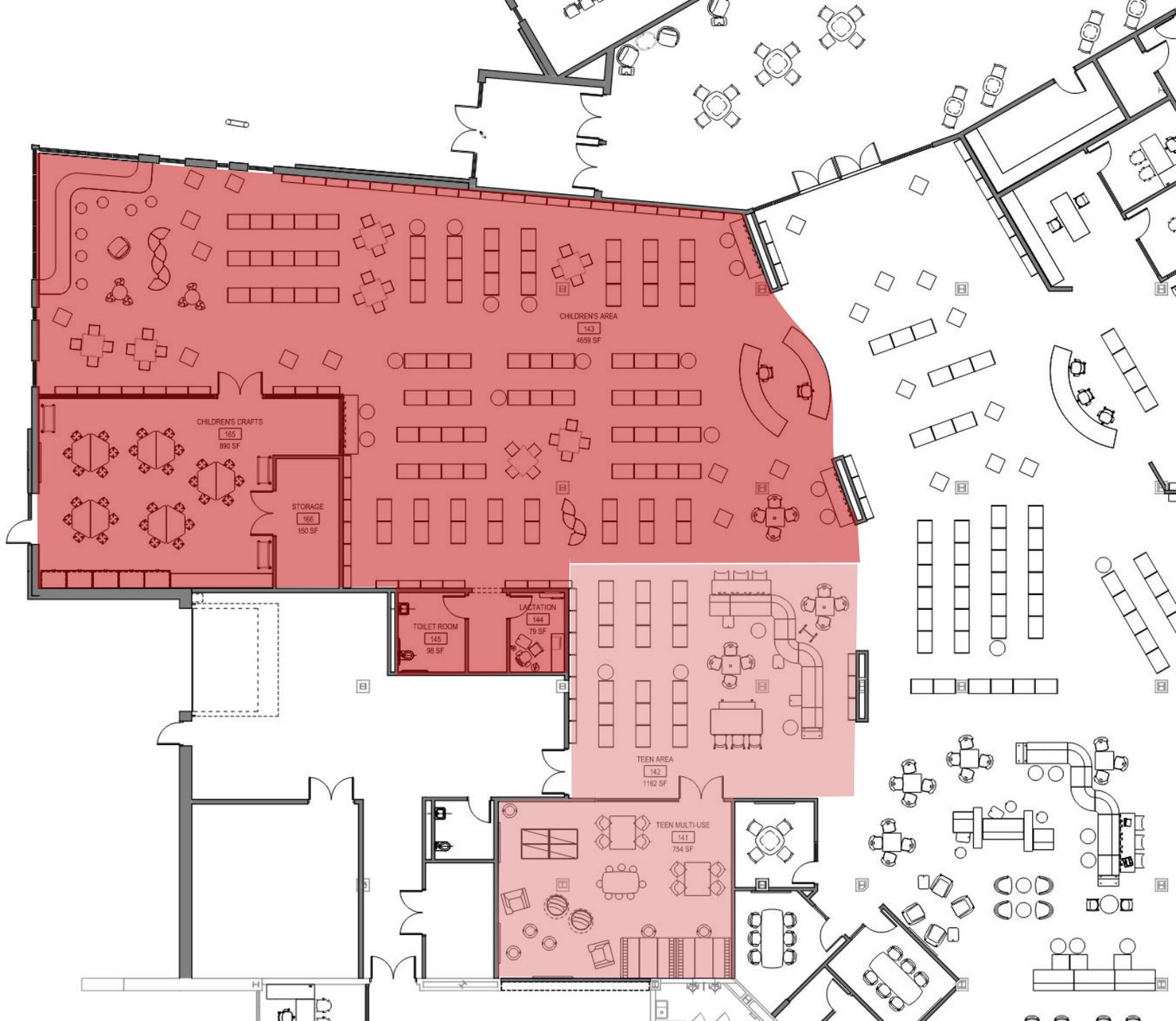
Existing: Approx. 4338 sf  
Proposed: 4659 sf

- PLUS Children's Crafts: 890 sf
- Storage: 150 sf
- Toilet Rm
- Lactation Rm

## Teen's Library:

Existing: Approx. 788 sf  
Proposed: 1162 sf

- PLUS Teen Multi-Use: 754 sf



# EXTERIOR DESIGN





# EXISTING CONDITIONS (exterior)





# PRECEDENTS

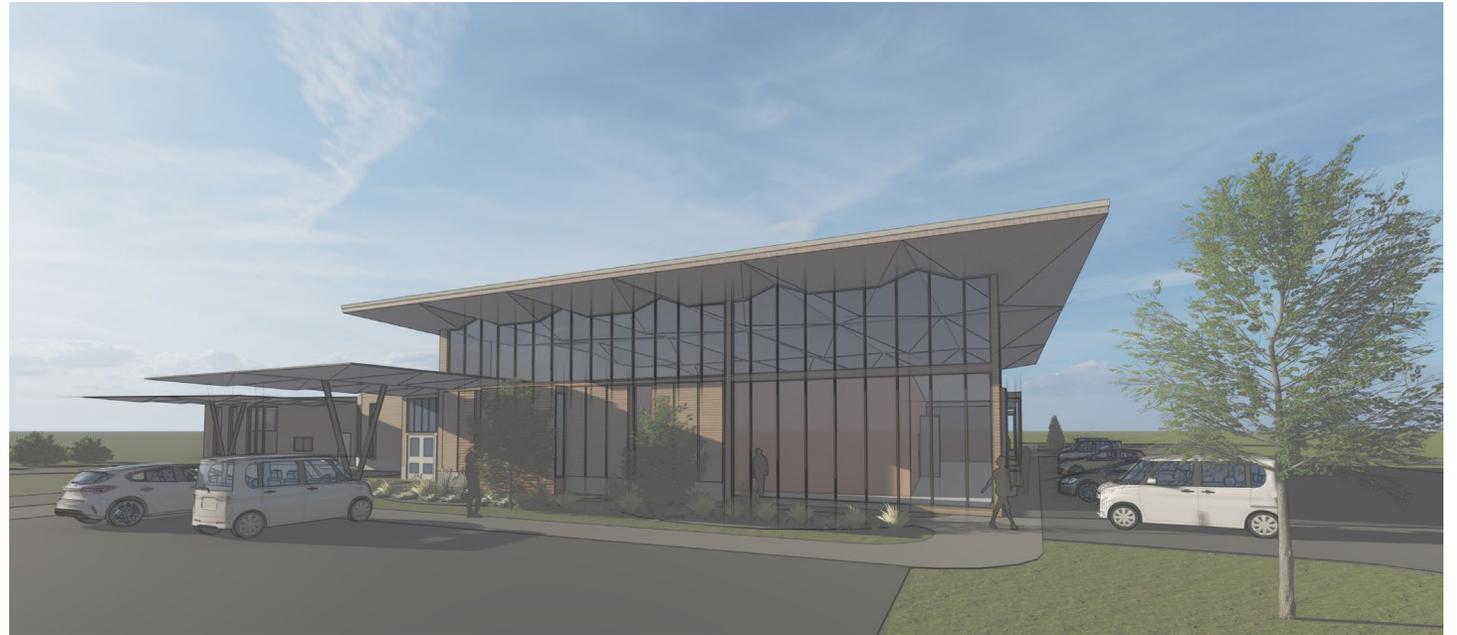




# Facade Option A



# Facade Option B





BETHLEHEM PUBLIC LIBRARY



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*View from Borthwick Avenue at East Entry*



*View from North / Parking*





BETHLEHEM PUBLIC LIBRARY

BETHLEHEM PUBLIC LIBRARY

# COMMUNICATIONS PLAN



# Outreach

1. **Displays inside the library**
2. **Website launch**
3. **Newsletters, social media, informational videos**
4. **Community events**

# Next Steps

- Vote planning, ongoing.
- Community outreach, ongoing.
- Determine project cost and complete Schematic Design Phase; proceed with Design Development.



# COST & OPTIONS REVIEW



# Project Cost Summary

Sub Total Construction Cost (Renovation & Additions)	\$16,262,669
Site	\$2,741,538
General Conditions, Overhead & Profit, Phasing, Design & Construction Contingency, Bid Contingency, Escalation	\$10,926,348
<b>Total Construction Cost:</b>	<b>\$29,930,555</b>
<u>Soft Costs previously accounted for:</u>	
FF&E	\$1,913,490
CM Fees (anticipate 3-4%)	\$1,197,222
Total	\$3,110,712
<u>Other soft costs:</u>	
Site survey	\$14,500.00
HazMat design phase testing costs	\$3,890.00
energy efficiency options and modeling	\$14,375.00
Geotech #2	\$8,590.00
Geotech #1	\$10,750.00
SD fee	\$283,638.00
DD-CA fee*	\$1,974,330.00
Moving costs, legal, fiscal advisors, commissioning & special inspections	TBD
SWPPP preparation and inspection	\$30,000.00
design consultant reimbursables NTE	\$24,679.13
Total	\$2,364,752.13
<b>Total Project Cost:</b>	<b>\$35,406,019.33</b>

# Cost Options

<u>Add Alternates</u>	
Alt #1 - Telescopic Seating & operable wall	\$634,376
Alt #2 - Heated Sidewalk	\$207,073
Alt #3 - HVAC Option 2	\$3,720,787
Alt #4 - HVAC Option 3	\$4,000,311
<u>VE Ideas</u>	
Eliminate Terrazzo flooring & base from community room addition - swap for tile and resilient	-\$374,270
reduce size of addition at curbside pickup	-\$146,500
eliminate skylights in new addition, and reduce interior glazing at community rooms	-\$200,000
eliminate pavilion	-\$160,000
switch from motorized partitions to manual	-\$600,000

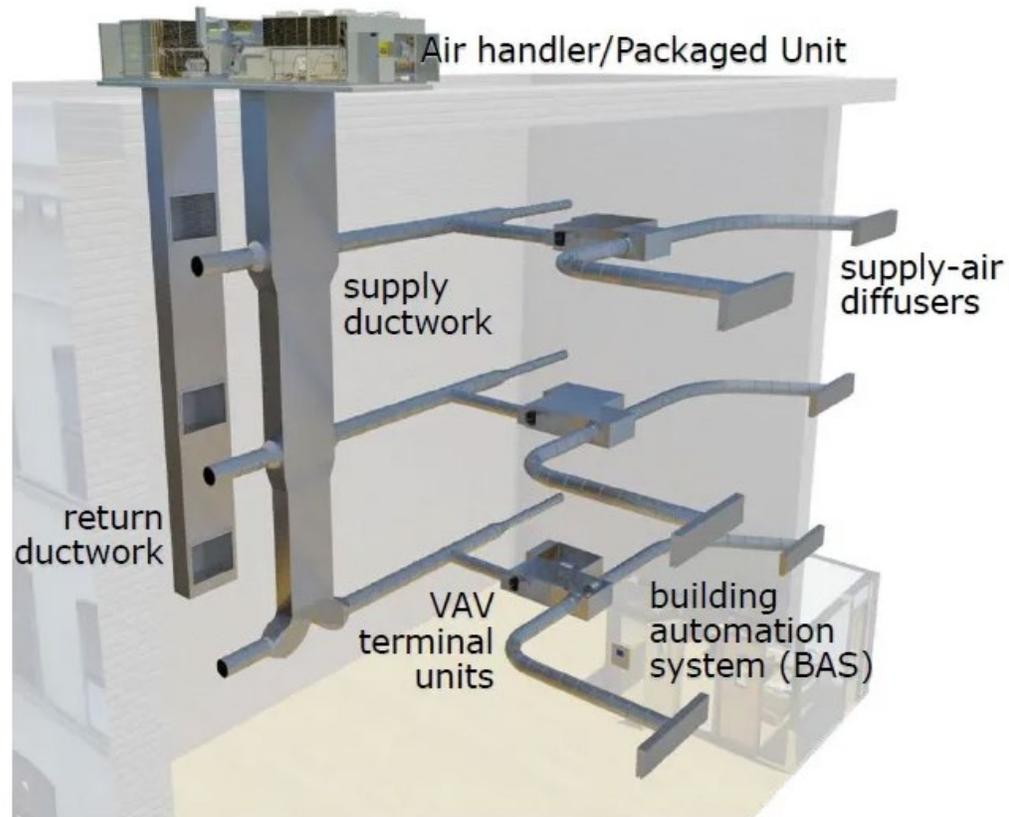
# HVAC Options

## **Option 1 – Traditional Gas Fired Rooftop Air Handling Units with VAV terminal units for zoning**

EUI 62.9 total site energy / EUI 105 total source energy

EUI – Energy Use Intensity

Energy Consumed Per Square Foot Per Year – Typical Library: 71 site / 143 source



## Option 2 – Water Source Heat Pump Rooftop Air Handling Units VAV terminal units for zoning

EUI 39.5 total site energy / EUI 118.6 total source energy

### HVAC Options

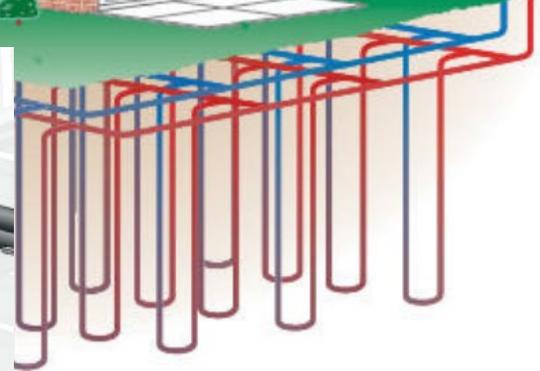
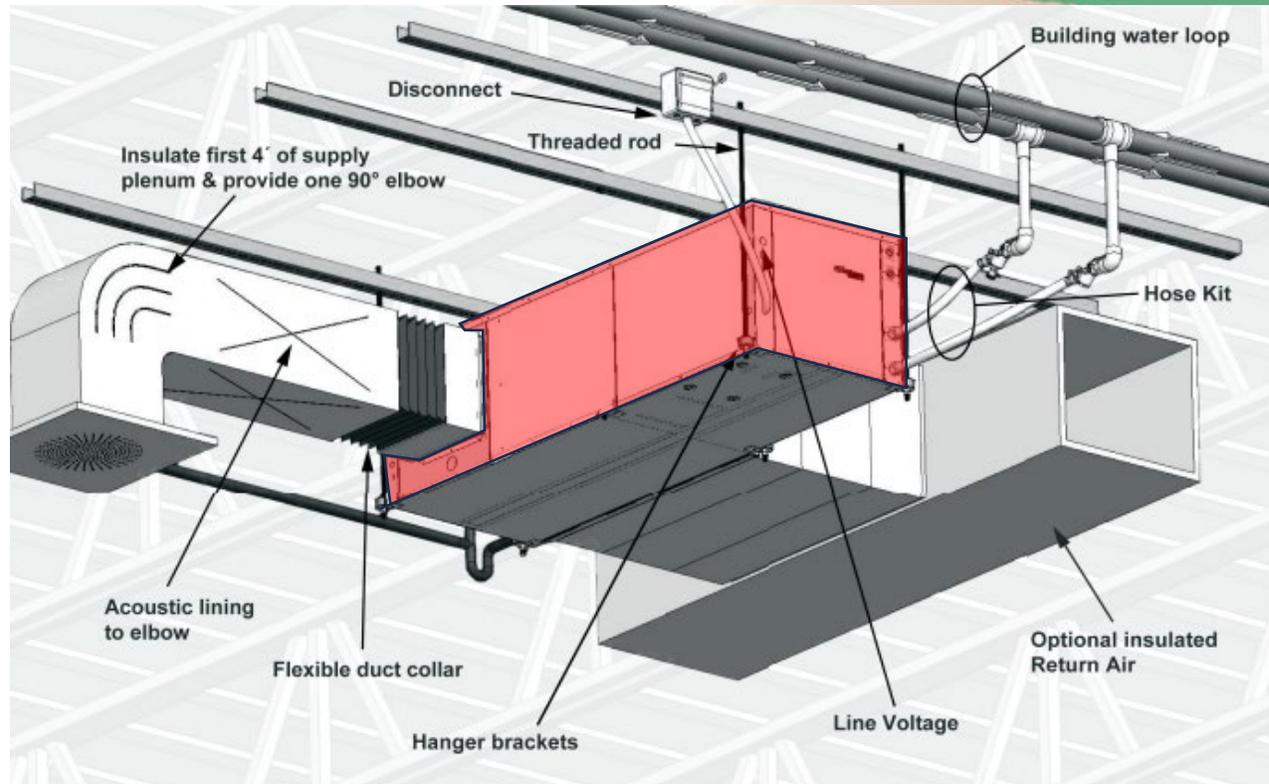


Vertical System



## Option 3 – Distributed Water Source Heat Pump Units and DOAS

EUI 24.2 total site energy / EUI 72.7 total source energy



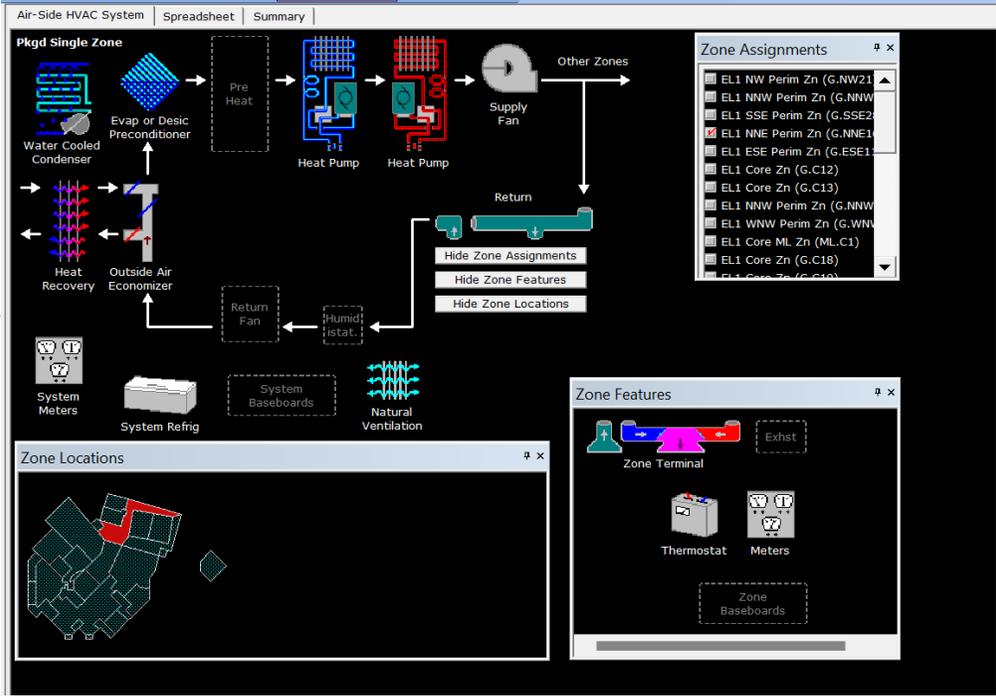
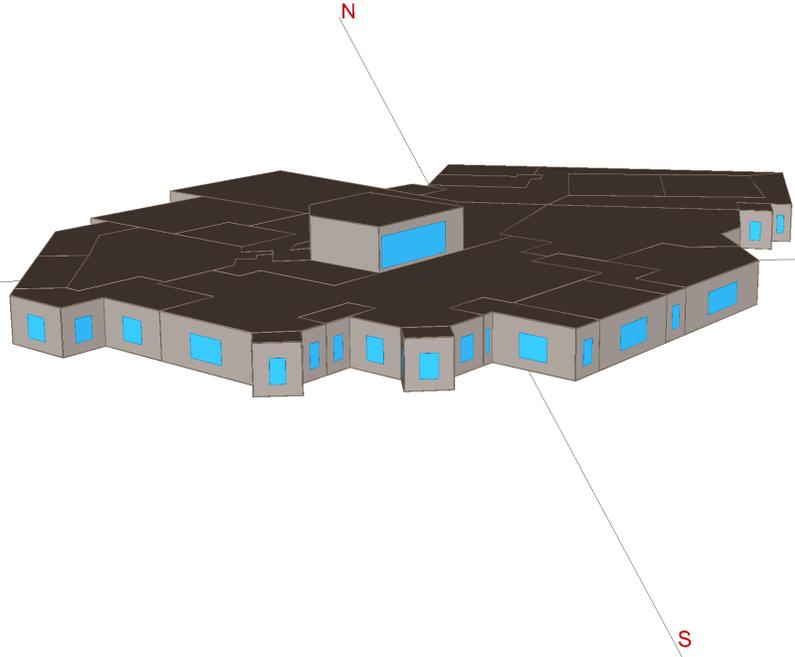
HVAC  
Options



**SITE PLAN**

# Energy Model

HVAC  
Options  
Pros &  
Cons



	Electricity			Natural Gas			TOTAL	
	MBTU	KWH	Cost	MBTU	THERM	Cost	Energy (MBTU)	Cost
<b>Option 1</b> Gas-fired, VAV zoned RTU's	<b>1,069.70</b>	<b>313,422.00</b>	<b>\$ 59,550.18</b>	<b>2,127.10</b>	<b>21,271.00</b>	<b>\$ 22,547.26</b>	<b>3,196.80</b>	<b>\$ 82,097.44</b>
<b>Option 2</b> VAV zoned heat pump RTU's	<b>1,909.00</b>	<b>559,329.00</b>	<b>\$ 106,272.51</b>	---	---	---	<b>1,909.00</b>	<b>\$ 106,272.51</b>
<b>Option 3</b> Distributed heat pumps	<b>1,232.90</b>	<b>361,253.00</b>	<b>\$ 68,638.07</b>	---	---	---	<b>1,232.90</b>	<b>\$ 68,638.07</b>

# Cost Comparison

	<b>Construction Estimate</b>	<b>National Grid Rebate (estimate)</b>	<b>IRA Incentives (30%)</b>	<b>Net Investment</b>	<b>Annual Energy Cost</b>
<b>Option 1</b>	<b>\$ 3,800,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,800,000</b>	<b>\$ 82,097.44</b>
<b>Option 3</b>	<b>\$ 7,600,000</b>	<b>\$ 150,000</b>	<b>\$ 2,235,000</b>	<b>\$ 5,365,000</b>	<b>\$ 68,638.00</b>

<b>Difference</b>	<b>\$ 1,565,000</b>	<b>\$ 13,500.00</b>
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HVAC  
Options  
Pros &  
Cons



## Federal Tax Incentives

For Commercial Geothermal Heat Pumps

### BENEFITS OF TAX INCENTIVES:

- Up to **30%** credit on system cost
- Up to **10%** credit for domestic content
- Up to **10%** credit for energy communities
- Up to **\$5 per square foot** tax deduction
- 5-year** accelerated depreciation and a **1-year** bonus depreciation

**HVAC**  
**Options**  
**Pros &**  
**Cons**

## **Option 1 – Roof Top Units**

### **Pros**

- **Lower Upfront Cost**
- **Less Equipment to maintain**

### **Cons**

- **Less Efficient Than Geothermal**
- **No Reduction in Greenhouse Gases**

## **Option 3 – Geothermal with Distributed Heat Pumps**

### **Pros**

- **Increased Energy Efficiency**
- **Eco-friendly**
- **Less Rooftop Equipment**

### **Cons**

- **Higher Upfront Cost**
- **More Equipment to Maintain**

Thank you!

