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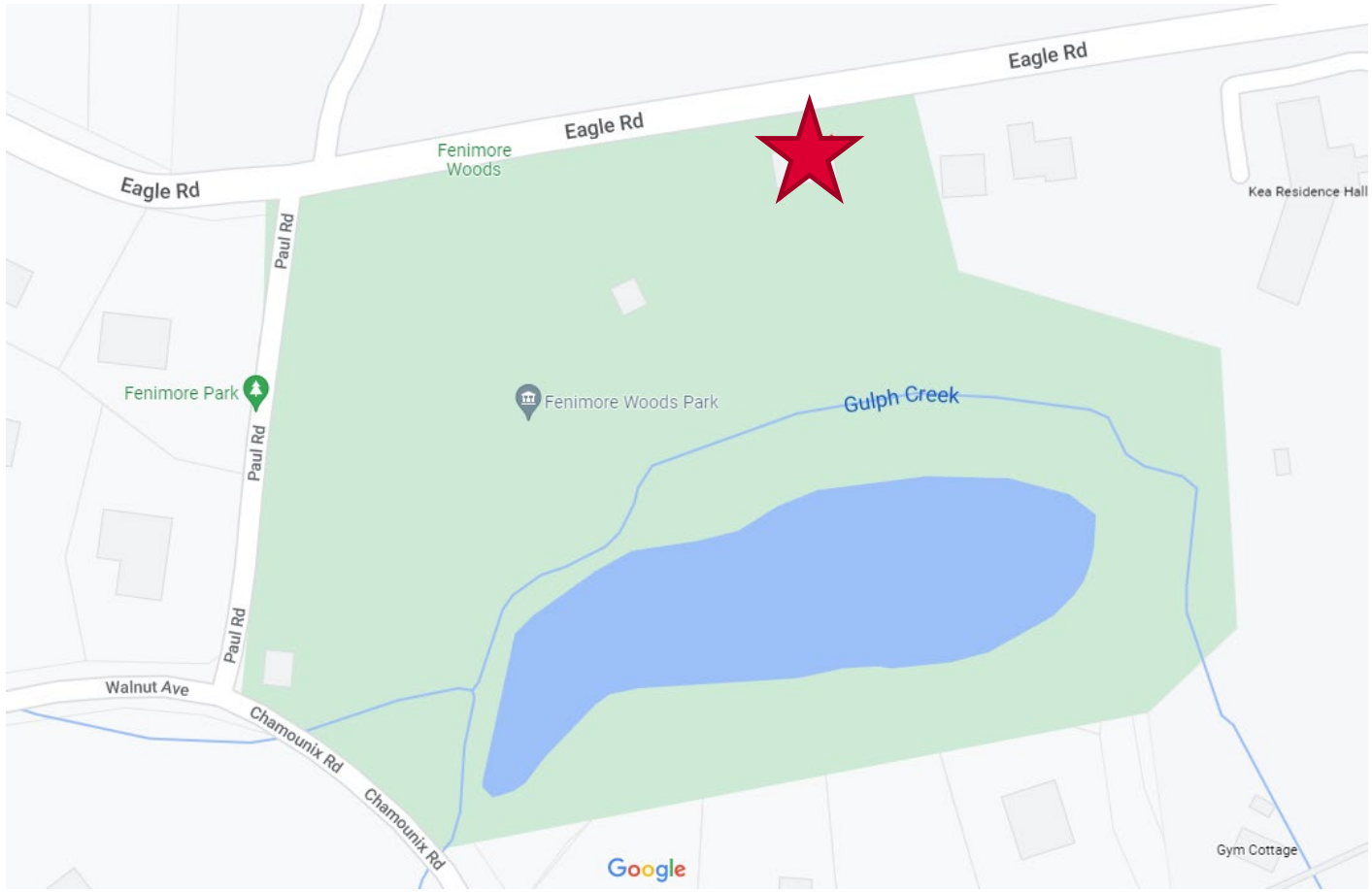
FEASIBILITY AND CONCEPTUAL RENOVATIONS TO FENIMORE WOODS STABLES

Parks and Recreation Board Meeting
Thursday, July 14, 2022

Presentation Overview

- Project Understanding
- Historical and Site Context
- Key Architectural Elements
- Existing versus New Construction
- Conceptual Floor Plan
- Conceptual Elevations
- Conceptual Renderings
- Plumbing Recommendations
- HVAC Recommendations
- Mold and Hazardous Materials Assessment
- Sustainability
- Opinion of Probably Cost
- Questions



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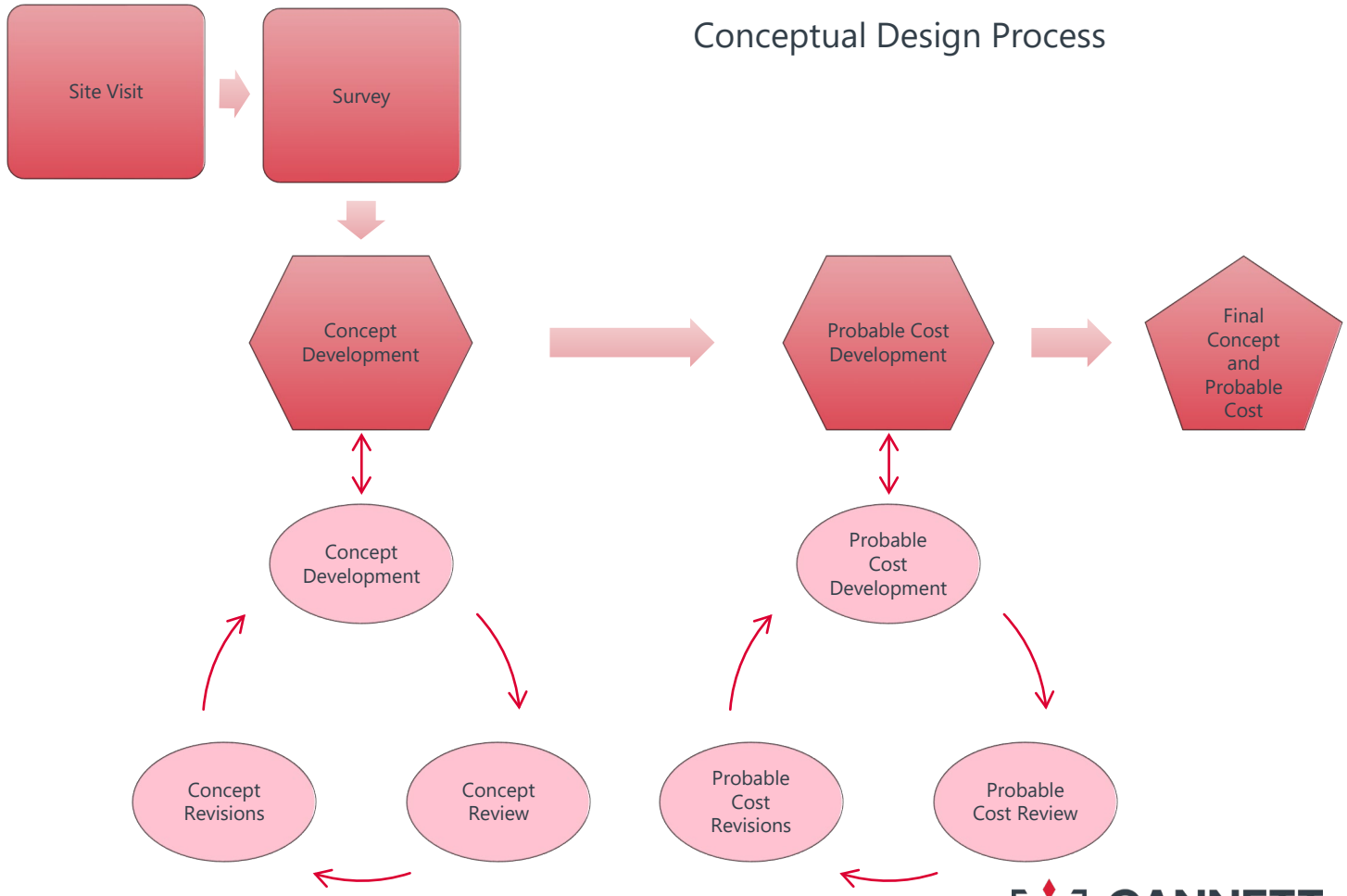
Project Understanding

- Provide Concepts for the renovation of Fenimore Woods Stables.
- Provide accessible restroom facilities to park visitors.
- Conceptual option for nature education space.
- Conceptual option for group gathering space.
- Provide storage for park and recreation equipment.
- Utilize the existing Fenimore Woods Stable building to the greatest extent possible.



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Historical and Site Context

- The Design will focus on:
  - Preserving key existing architectural and site elements.
    - Existing exterior stone walls
    - Existing entry columns
    - Maintain existing lake views
    - Maintain existing street scape
  - Providing new details based on historic precedence
    - Roof lines
    - Cupola
    - Roof and cornice details
  - Retaining historical Aesthetic and context

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Key Architectural Elements

- Design new details that are conscious of their historical roots, but do not create a false sense of history.

- Roof details will be re-created using modern materials and similar profiles.

- A new cupola will be provided and designed similar to existing conditions.

- New exterior walls will be constructed using a similar board and batten pattern.
- New doors will utilize a similar pattern to the existing stable doors.
- Unique details such as the entrance columns will be preserved, and new roofing will follow existing slopes with similar but new detailing.

- Windows will be replaced with new wood frame windows that provide modern thermal performance and operability.

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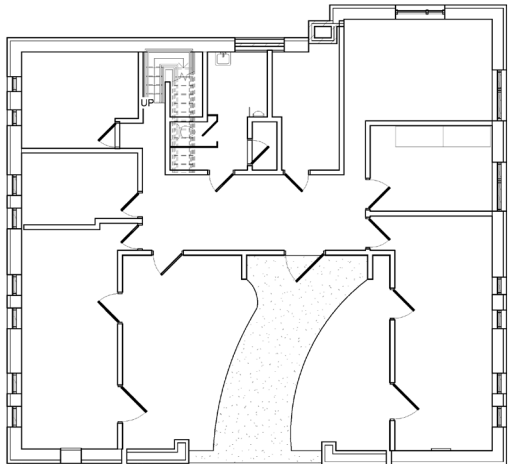
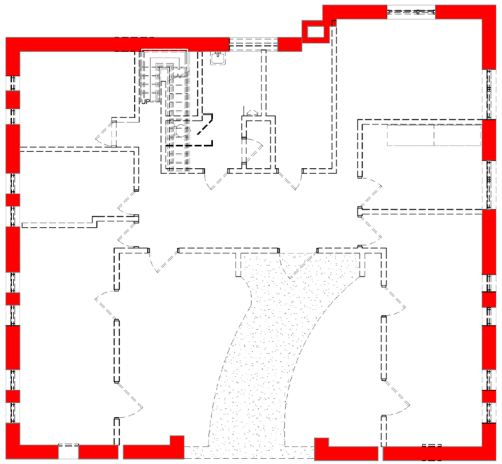
Existing Versus New Construction

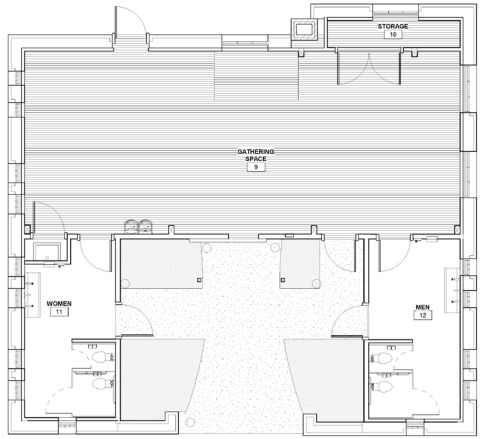
- Retaining Historical Aesthetic and Context



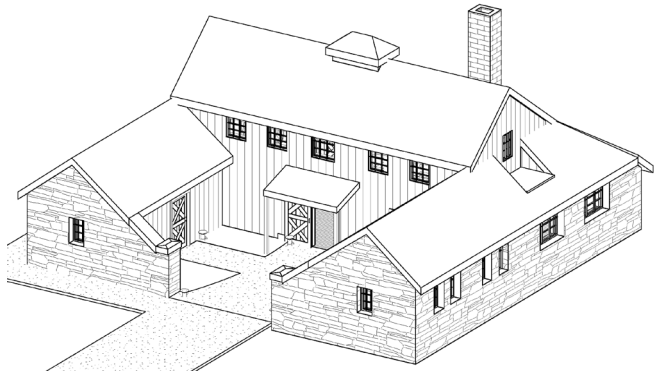
- Existing Conditions



- Demolition
  - Highlighted walls remain
  - Roof assembly in its entirety
  - Full first and second floor interior
  - Abatement (removal of mold, asbestos, and lead)



- New Construction
  - New Roof assembly
  - Renovated exterior courtyard
  - New Restrooms
  - New event/classroom space (Conceptual Option)



- 3D View

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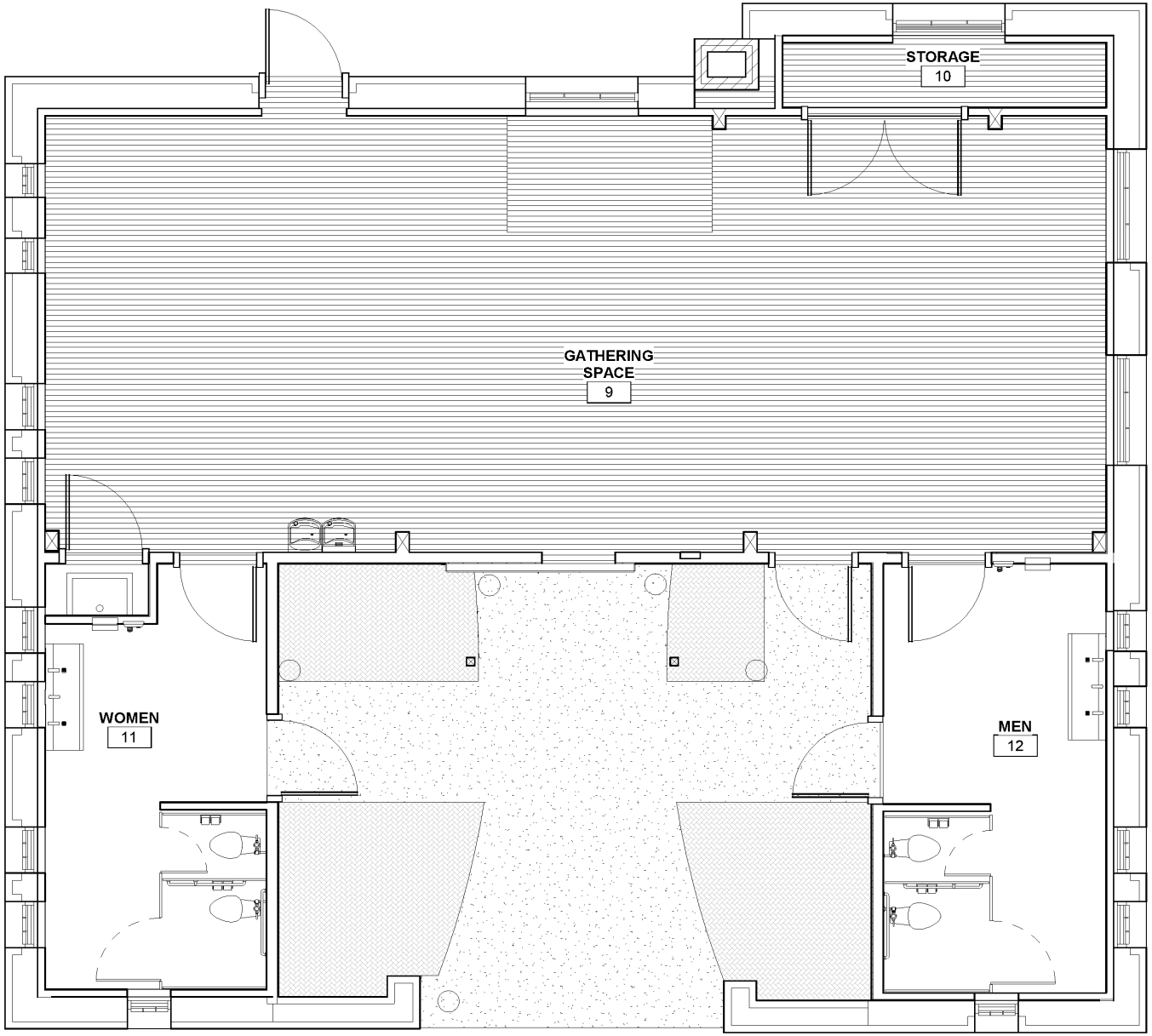
Conceptual Floor Plan

- Gathering Space
  - Larger open gathering space. Can be utilized for park events or classroom space.
- Restrooms
  - Accessible from the main hall and exterior courtyard.
  - Doors to the main hall can be secured, while exterior restroom door allows for park use.
- Courtyard
  - Large open exterior gathering space. Can be Utilized as expansion of the interior gather space or as its own venue.
- Storage
  - Area for general storage.



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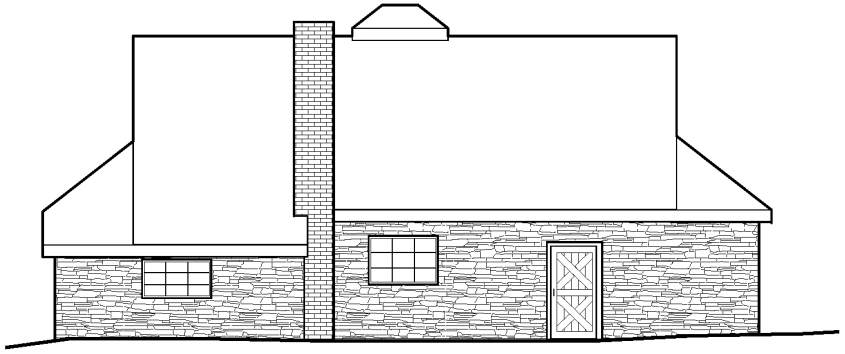
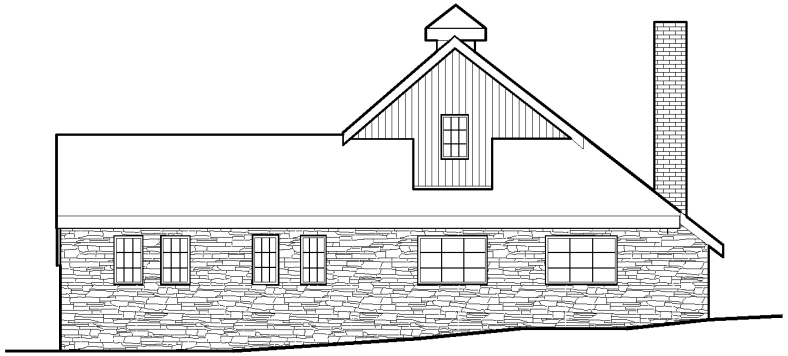
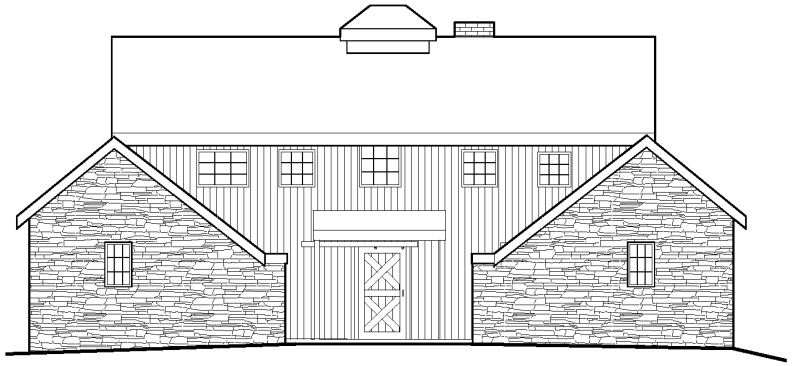
Conceptual Exterior Elevations



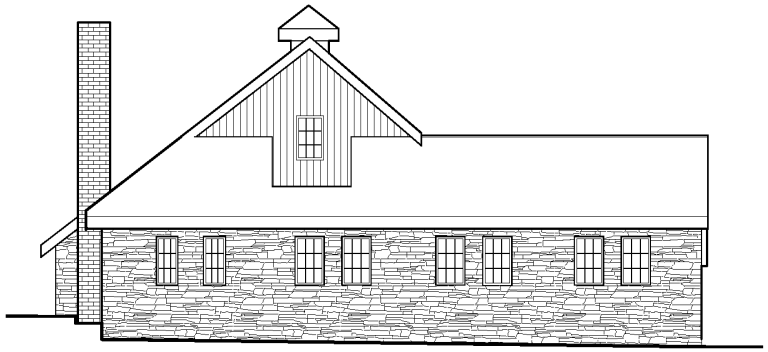
1 NORTH ELEVATION - NEW
SCALE: 1/4" = 1'-0"



3 EAST ELEVATION - NEW
SCALE: 1/4" = 1'-0"



2 SOUTH ELEVATION - NEW
SCALE: 1/4" = 1'-0"



4 WEST ELEVATION - NEW
SCALE: 1/4" = 1'-0"

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Conceptual Rendering - Entrance View

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Conceptual Rendering - Courtyard View

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Conceptual Rendering - Northwest Corner

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Conceptual Rendering - Southwest Corner

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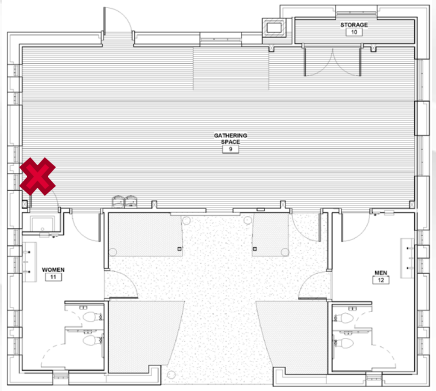
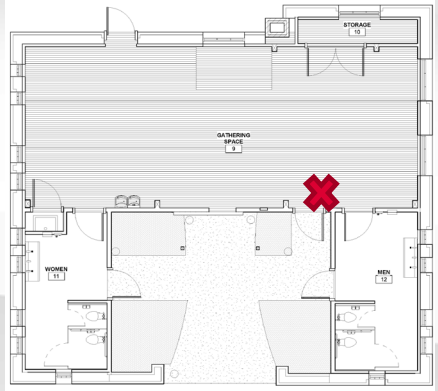
Conceptual Rendering – Gathering Space (Classroom)





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Conceptual Rendering - Floor Plan

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Plumbing Recommendations

- Composting versus Conventional Toilets
  - Pro
    - Composting systems do not require water for flushing, reducing domestic water consumption.
    - Reduction in quantity of wastewater to be disposed on site.
    - Composting systems divert nutrient and pathogen containing effluent from soil and ground water.
    - No connection to public sanitary system.

- Composting versus Conventional Toilets
  - Con
    - Maintenance requires more responsibility and commitment by both users and owners
    - Removing the finished end-product is unpleasant if composting system is not properly maintained.
    - Most systems are required to be used in conjunction with a gray water systems
    - Can have issues dealing with peak loads and capacity
    - Aesthetic issues
    - Improperly maintained systems can produce odors and unprocessed materials.
    - Mainly suited for new construction.
    - Requires adequate sunlight for evaporation of waste and soils.

Information taken from EPA 832-F-99-066 September 1999

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Plumbing Recommendations

- Vaulting versus Conventional Toilets
  - Pro
    - Vaulting systems do not require water for flushing, reducing domestic water consumption.
    - Reduction in quantity of wastewater to be disposed on site.
    - Composting systems divert nutrient and pathogen containing effluent from soil and ground water.
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- Vaulting versus Conventional Toilets
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    - Maintenance requires more responsibility and commitment by both users and owners
    - Removing the finished end-product is unpleasant if composting system is not properly maintained.
    - Most systems are required to be used in conjunction with a gray water systems
    - Can have issues dealing with peak loads and capacity
    - Aesthetic issues
    - Improperly maintained systems can produce odors and unprocessed materials.
    - Mainly suited for new construction.
    - Requires undermining of existing floor.
    - Accessibility to extract materials.
    - Weekly maintenance (more frequent in high use areas).

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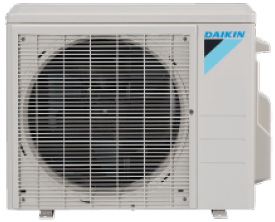
HVAC Recommendations (Gathering Space)

- Natural Ventilation
  - Provide operable windows to provide cross ventilation.
  - Operable louvers at cupola for stack effect.
  - No mechanical means of heating or cooling.
- Natural Ventilation with fans
  - Ceiling mounted low velocity fans to aid with natural ventilation.
  - No mechanical means of heating or cooling.
- Mechanical Ventilation
  - Provide Mini-Split through wall units.
  - Condenser and distribution separate units.
    - Only piping penetrates exterior wall
    - No ductwork.

BAF – Model I6



Daikin Mini-Split System

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Mold and Hazardous Materials Assessment and Remediation

- **Mold Assessment**
  - Interior water damage on walls and ceilings.
  - Visible mold growth on shelves, walls, and ceilings.
  - Transite wall and ceiling panels.
- **Hazardous Materials Assessment**
  - Asbestos containing material found in numerous locations.
    - Floor Tile
    - Black and Brown Mastic
    - Cement Board
    - Furnace Cement
- **Lead Containing Material**
    - Paint
    - Wall Plaster
    - Wood
    - Field Stone and Mortar
- **Remediation**
  - Complete interior demolition
  - Removal of peeling and chipping paint
  - Encapsulation of remaining lead containing paint

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Sustainability

- Heavy Timber Construction
  - Specific trees species used in the heavy timber construction can be planted to offset the construction footprint.
- Reuse of Existing Construction
  - Reduce the number and amount of new materials in construction.
  - Whole Building Life Cycle Assessment (WBLCA).
  - Renovation of existing buildings can help mitigate climate change.
  - Building conservation can be considered a sustainable practice.

Life Cycle assessment and historic buildings: energy-efficiency refurbishment versus new construction in Norway
https://www.tandfonline.com/doi/full/10.1080/13556207.2018.1493664

Image via University of British Columbia
https://www.archdaily.com/959800/how-embodied-carbon-and-life-cycle-analysis-can-support-decisions-in-an-architectural-project

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Opinion of Probable Cost (Exterior Renovation and Restrooms)

- Demolition $ 21,000
- Abatement $ 23,500
- New Construction $ 445,000
- **Construction Sub-Total $ 489,500**

  - Contingency $ 98,000 (20%)
  - Escalation $ 44,000 (9%)

- Design Fees
  - Arch/Structural/MEP $ 49,000 (10%)
  - Civil/Site/Survey $ 35,000
- **Design Fee Total $ 119,000**

- Options
  - **HVAC $ 55,000**

- **Estimated Construction Cost $660,000.00**

- **Estimated Total Project Cost $834,000.00**

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Opinion of Probable Cost (Gathering Space and Restrooms)

• Demolition	$	21,000	
• Abatement	$	23,503	
• New Construction	$	795,000	
• **Construction Sub-Total**	**$**	**839,000**	
- Contingency	$	168,000	(20%)
- Escalation	$	75,000	(9%)

• Design Fees			
• Arch/Structural/MEP	$	84,000	(10%)
- Civil/Site/Survey	$	35,000	
• **Design Fee Total**	**$**	**119,000**	
• Options			
- **HVAC**	**$**	**55,000**	

- **Estimated Construction Cost**
  $1,133,000.00

- **Estimated Total Project Cost**
  $1,307,000.00

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THANK YOU!
QUESTIONS AND ANSWERS