



Mayslake Peabody Estate
Forest Preserve District of DuPage County

Master Plan Report

November 1, 2024



Master Plan Report: Mayslake Peabody Estate

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I. Overview

The Forest Preserve District of DuPage County engaged AltusWorks and their consultants, Interface Engineering and the Concord Group, for professional services to create a Master Plan for the Mayslake Peabody Estate in Oak Brook, Illinois. The exercise began with a comprehensive facility condition assessment of five structures located on the estate. In the second phase, employees of the Forest Preserve and the public were engaged for their opinions on future uses for the Mansion and Retreat Building. AltusWorks synthesized this information and developed several options for programming, reuse, and building system upgrades primarily for the Mansion and Retreat Building.

The following report summarizes the efforts and results of the master planning process, presents the option selected by the Forest Preserve, and outlines a comprehensive phased Master Plan that will both showcase the history and nature of the Estate as well as provide the needed facilities to host exhibits, events, and education.

II. Facility Condition Assessment Summary

Detailed descriptions, code analysis, photographs, key plans with restoration scope recommendations, and a detailed cost estimate can be found in the Facility Condition Assessment Report provided in **Appended Report 2**. Below is a summary of the findings.

Mansion

In the fall of 2023, an ongoing building envelope restoration project involving window replacement, masonry repairs, roof repairs, and drainage improvements was ongoing thus an assessment of the exterior of the building was not included in this assessment. The work being executed will stabilize the building's envelope to allow for future interior rehabilitation.

The interior of the Mansion maintains the vast majority of its historic spaces, materials and finishes. The historic materials and finishes are in fair condition with areas of degradation due to water infiltration and general use. Previous alterations to accommodate program changes have resulted in abandoned plumbing infrastructure, exposed attic sprinkler lines, and modern mechanical systems routed throughout the attic and basement spaces.

High moisture levels and water seepage in the basement have been long-term, recurring issues. The current project is taking steps to mitigate the problem, however, the impact of these changes has yet to be demonstrated.

Retreat Building

The building has limited functional spaces as areas of the first, second, and third floors have been gutted down to the structure leaving the wall layout ghosted on the floors along with the patched location of removed plumbing risers and fixtures. The exposed concrete structure is in good condition with limited spalls. A 4-stop elevator provides access to all floors but is no longer operational and is limited in size and capacity to meet current accessibility requirements.



The main functional spaces, the first-floor event space and the upper floor archival storage space, are in fair to good condition. The finishes in the adjacent rooms and stairwells are in poor condition, with peeling paint and deterioration throughout. There are scattered holes in the third-floor plaster ceiling allowing air leakage into the attic.

The exterior brick and limestone masonry is in fair to good condition with limited areas of deterioration due to failed roof drainage and typical masonry deterioration. The roof systems are in fair condition with compromised flashing conditions allowing daylight into the attic space. Windows throughout require replacement.

Chapel

The Chapel is in good condition with limited mosaic tiles missing from the main elevation. A sealant material has been applied to all the limestone joints instead of a limestone compatible mortar. The wood entry doors require refinishing and limited wood replacement as well as the addition of door closers. The chapel is heated by electric wall heaters, there is no air conditioning or ventilation.

Garage

There is peeling paint and some minor damage along the wood eaves and trim. The interior of the building was not assessed.

Gate

The limestone entry gate and its flanking walls adjacent to the modern street entrance are in poor to fair condition requiring targeted rebuilding and tuckpointing.

III. Public Engagement Summary

Detailed descriptions of the public engagement process and findings can be found in the Stakeholder Engagement Report provided in **Appended Report 3**.

Process

Stakeholders were involved in the planning process to ensure that the project aligns with the Forest Preserve's goals and vision for the Estate. AltusWorks led three different workshops for stakeholders which helped identify common visions, goals, and priorities for the future of the Mayslake Peabody Estate. The findings were used to guide and refine the development of the Master Plan.

Findings

Several themes emerged from the workshop conversations and activities, including accessibility. Discussions around this theme included the removal of barriers to accessibility, enhancing wayfinding, and widening access across various ages and demographics.

Stakeholders stressed the importance of making the Estate more visible and known to the public, voicing concerns about visitors driving past without realizing what is available just down the driveway. The Estate was envisioned as a cultural hub that caters to a range of interests



including art, history, nature, and outdoor activities. While many ideas were proposed to attract different age groups and communities through a variety of events, discussions about programmatic accessibility focused largely on indoor comfort across seasons. For example, the addition of air conditioning was recommended as a highly impactful improvement for the Retreat Wing.

IV. Master Plan

A. Planning Methodology

Drawing on the insights from the facilities assessment report, feedback from stakeholders in public engagement sessions, and the mission of the Forest Preserve, AltusWorks developed two distinct programmatic plans with a series of recommendations for exhibit spaces. These plans were intended to illustrate the overarching concepts of two possible “routes” that could be pursued by the Forest Preserve. General repairs and updates were not specified in detail in either of the plans; however, many of the recommended repairs would apply to both options. Both plans incorporated elements of accessibility and ease of maintenance, aligning with the Forest Preserve’s top priorities. Programmatic uses were detailed using the following categories, shaped by both the Forest Preserve and stakeholder/public feedback:

- House Museum
- Exhibit Space
- Community Use or Multi-Purpose
- Office Space
- Mechanical Space and Toilet Rooms

AltusWorks worked with the Forest Preserve staff to facilitate discussion and refine details as needed to develop the final plan that is detailed in the following section.

B. Narrative Summary: Design

The Master Plan primarily focuses on the reprogramming and alterations to the Mansion and Retreat Building with limited work at the Chapel, Garage and Entry Gate. This report includes colorized and annotated floor plans in **Appendix 3** to illustrate the location of program uses and the integration of the new mechanical and ventilation systems.

The Master Plan embraces the historic qualities of the Mansion by prioritizing its use as a museum space. The museum programming includes public touring to tell the story of the Mansion and includes of the center section of the basement (the billiards room, Turkish bath, wine cellar, and entry stairs), formal living areas on the first floor, and second floor family chambers and servant quarters. Some rooms will be updated with historically accurate furnishings and finishes, while others will be dedicated to rotating exhibits and galleries or other events. In the rooms that are intended to be used as historical museum space or exhibit spaces, the historic architectural finishes will be retained, preserved, and restored. In addition to being a museum space, the formal living areas on the first floor of the Mansion will also be used as event spaces.



The Retreat Building will be utilized for supplemental programming and provide space for programming that would otherwise be incompatible with the spaces available in the Mansion. Office spaces will be largely moved to the Retreat Building, while other spaces will be converted to exhibit space and community uses. The third floor archival storage space will be retained and improved to better preserve the artifacts. The south wing of the building will be demolished to remove unused space and improve historic views from the Mansion to the lake. Additionally, the lower level under the Events Hall will be used as a flexible classroom, occupancy of the Events Hall will be increased, and the second floor's north wing will be used as exhibition space.

In both buildings, accessibility will be improved. The link between the Mansion and Retreat Building will be expanded to provide adequate lobby and circulation space between the buildings. Accessibility to the upper floors will be improved using elevators and lifts. The existing elevator in the Retreat Building will be modernized with a new cab and operating equipment. In the Mansion, concealed wheelchair lifts will provide access to the Living Room from both the Library and Dining Room. A limited use/limited application (LU/LA) elevator will provide access to all primary floor levels. A ramp at the second floor will provide access to the Peabody's private Chambers and Sitting Room, however access to the servants' quarters which will be open for tour, is technically infeasible. The addition of restrooms and janitor's closets throughout the two buildings will also increase accessibility, ease of maintenance, and functionality. The mechanical, electrical, plumbing, and life safety systems will be maintained, replaced, and modernized to support the new uses outlined above.

The Chapel exterior will be restored, and a new heating/cooling and ventilation system will be installed. The Garage will be demolished, and the Entry Gate will be restored.

C. Narrative Summary: Building Systems

In support of the defined program, building systems were analyzed in detail and strategies were established to guide the systems selection. An energy report compared the energy use and cost of the different options against the current energy use to further inform system selection.

The mechanical system design improves the energy efficiency of the primary mechanical systems, adds cooling to the Retreat Building, and provides the code required ventilation air to the occupiable spaces in line with the new master plan uses of the buildings.

Heating/Cooling Systems

The master plan will maintain separate heating/cooling systems for each building. A new outdoor air source heat pump heater/chiller will be located where the Retreat Building south wing is planned for removal. At the Mansion, the existing air-cooled chiller will be replaced with new outdoor air source heat pump heater/chiller equipment and reusing the existing piping. Screening will be installed at both locations of exterior equipment.

The existing AC unit serving the third-floor archives area currently struggles to handle the cooling load. It will be replaced, and a second AC unit will be installed to provide additional cooling. The ductwork from the new unit will be cross-connected to the existing ductwork to provide partial cooling should either unit fail.



Heating/cooling will be added to the Chapel by way of an air source heat pump with a 2-ton outdoor condensing unit on a new pad outside the building. This unit will be installed below the floor, behind the altar and will distribute and return air through the face of the riser.

Ventilation

New ventilation systems will be added where missing to provide the proper amount of IMC2021 code required outdoor air for the planned occupancies and space use. Aged air handling units will be replaced.

Existing ductwork passing through the basement rooms will be removed, but much of the existing heating/cooling piping will remain and may be relocated to reduce the visual impact. Some new hot and chilled water piping will be added.

The many existing two-pipe heating/cooling fan coil units (FCUs) serving individual rooms and areas in both buildings will be retained. The associated hot and chilled water pumps, change-over valves, and distribution piping will be reused. Some FCUs require new fan motors which will be electrically efficient EC motors should space be available within the enclosure. Valve actuators to be replaced and existing valve bodies reused.

Control System

The obsolete digital control system monitoring and controlling the fan coil units, pumps, boilers, and chillers is to be replaced with a web-based building automation system (BAS). The new BAS will monitor and control all new equipment. New network cabling will be required between the new fan coil unit digital controllers as the existing cabling will limit the network performance of the new BAS. New temperature sensors to be provided, some with CO2 and relative humidity monitoring capabilities.

The electrical system design updates the existing distribution system, life safety systems, while replacing lighting, receptacles, and the fire alarm system. It will power new mechanical and plumbing equipment, vertical circulation equipment, and exterior lighting. Renewable energy is envisioned in the form of (2) photovoltaic systems mounted on the Retreat building roofs and concealed from view.

The plumbing system design will provide a complete and operational sanitary waste and vent system, kitchen waste system, storm drainage system, domestic hot and cold water piping system, condensate drain piping system, and plumbing equipment to support the new bathrooms and kitchen. Domestic cold water, sanitary, and vent shall be fed from the building's existing systems. New electric and air source heat pump water heaters will be provided for each building.

The fire protection system will be modified to accommodate changes to the building that affect the coverage of the system, addressing both the sprinkler system and location of fire extinguishers.



V. Implementation

The Master Plan has been divided into 4 major phases to best support the needs of the Forest Preserve to maintain and systemically improve the complex as funds become available:

Phase I: Critical Repairs and Building Systems Improvements will address the most critical items to allow for continued use, rectify code deficiencies, improve comfort and energy efficiency while laying the groundwork for the future phases. Phase I removes structures that are no longer needed while stabilizing those that will remain.

Phase 2: Access and ADA Improvements will enhance physical access within the complex and update toilet facilities, vertical circulation, and life safety systems.

Phase 3: Programming will incorporate new programming and relocate some functions while creating space for new. This phase includes restoring the mansion interiors to promote historic touring.

Phase 4: Enhancements will alter and expand the connecting link between the Mansion and Retreat Building to provide a more gracious entry sequence.



A detailed opinion of probable costs for each element within a phase is included in **Appendix 4**. The following is a summary of those costs by phase and subphase.

PHASE I: CRITICAL REPAIRS & BUILDING SYSTEMS IMPROVEMENTS

1	General (Retreat Building and Mansion)		
a	Replace temperature controls	\$	357,917
b	Mechanical System Renovation	\$	2,789,119
c	Dedicated Outdoor Air (DOAs) units - ventilation requirements	\$	794,440
d	Mitigate basement seepage at Mansion and Link	\$	427,346
			SUBTOTAL
			\$ 4,368,822
2	Retreat Building		
a	Demolish south wing	\$	995,444
b	Restore/repair envelope	\$	2,537,520
c	Add supplemental Libert HVAC unit to the Archival Storage.	\$	85,290
d	Add slop sinks	\$	107,934
			SUBTOTAL
			\$ 3,726,189
3	Mansion		
a	Add slop sinks	\$	29,926
b	Upgrade electrical panels	\$	38,904
			SUBTOTAL
			\$ 68,830
4	Link		
a	Mitigate leakage – envelope	\$	99,754
			SUBTOTAL
			\$ 99,754
5	Garage		
a	Demolish garage structure	\$	39,902
			SUBTOTAL
			\$ 39,902
Phase 1 CRITICAL REPAIRS/SYSTEMS TOTAL			\$ 8,303,494

PHASE 2: ACCESS AND ADA IMPROVEMENTS

1	General		
a	Fire Alarm	\$	720,128
b	Update emergency lighting system	\$	20,849
c	Update fire suppression system	\$	488,794
			SUBTOTAL
			\$ 1,229,771
2	Retreat Building		
a	Modernize/replace elevator	\$	834,815
b	ADA updates – route and toilets	\$	218,012
			SUBTOTAL
			\$ 1,052,828
3	Mansion		
a	First floor access	\$	223,050
b	Vertical Access: elevator(LULA) and ramps	\$	542,960
			SUBTOTAL
			\$ 766,010
Phase 2 ADA TOTAL			\$ 3,048,609



PHASE 3: PROGRAMMING

1	General		
a	Renovate Domestic Water Piping System	\$ 269,336	
b	Renovate Sanitary Waste and Vent System	\$ 359,114	
		SUBTOTAL	\$ 628,450
2	Retreat Building		
a	Relocate office spaces from Mansion and within Retreat Building	\$ 558,205	
b	Add program spaces	\$ 3,815,388	
c	Add restrooms	\$ 370,710	
d	HVAC terminal units to suit programming	\$ 115,715	
e	Upgrade lighting and electrical	\$ 755,137	
		SUBTOTAL	\$ 5,615,154
3	Mansion		
a	Restore finishes	\$ 1,206,009	
b	Kitchen renovation	\$ 58,057	
c	Renovate existing toilets and add new	\$ 138,982	
d	Electric and Air Source Heat Pump Water Heaters	\$ 53,867	
		SUBTOTAL	\$ 1,456,915
4	Chapel		
a	Restore exterior	\$ 210,960	
b	Provide a new HVAC system	\$ 149,631	
		SUBTOTAL	\$ 360,590
5	Gate		
a	Restore gate and flanking walls	\$ 89,769	
		SUBTOTAL	\$ 89,769
6	Site Lighting and Lighting Controls Upgrade		
a	Upgrade exterior lighting	\$ 200,206	
		SUBTOTAL	\$ 200,206
		Phase 3 PROGRAMMING TOTAL	\$ 8,351,084

PHASE 4: ENHANCEMENTS

1	Link		
a	Alter and expand connecting link to create entry pavilion	\$ 178,011	
		Phase 4 LINK TOTAL	\$ 178,011
		GRAND TOTAL	\$ 19,881,198



The detail of this phasing is outlined below.

PHASE I: CRITICAL REPAIRS & BUILDING SYSTEMS IMPROVEMENTS*

1. General (Retreat Building and Mansion)

- a. **Replace temperature controls:** The obsolete digital control system monitoring and controlling the fan coil units, pumps, boilers and chiller to be replaced with a web-based building automation system (BAS). New network cabling between the new fan coil unit digital controllers as the existing cabling would limit the network performance of the new BAS. New temperature sensors to be provided, some with CO₂ and relative humidity monitoring capabilities. Fan coil unit valve actuators to be replaced, and existing valve bodies reused.
- b. **New Heat Pump Heating/Cooling plant,** connect to existing terminals in the Mansion
 - i. The Mansion and the Retreat Building will maintain separate heating/colling plants. Each Plant will include air source heat pump heater/chillers that produce hot or chilled water but not both simultaneously, therefore requiring additional piping.
 1. Plant 1: Retreat Wing: install (1) new ~100 ton air source heat pump heater/chiller. New piping is required from the outdoor heat pump to the new hot/chilled water distribution pumps located indoors in the lower level of the Retreat Wing. New larger piping will be installed in the ceiling of Lobby 005 to provide chilled water to the fan coil units on the northside of the Retreat Building and to provide hot water from the boilers to the new AHU and DOAS units. Additional smaller sized chilled and hot water piping from Plant 1 will be installed into the Mansion west basement only to serve the new west side DOAS unit and Billiard Room fan coil unit.
 2. Plant 2: Mansion: Replace existing chiller with (1) new ~60 ton air source heat pump heater/chiller. The existing piping from the mansion chiller will be reused and connected to the new Plant 2 equipment.
 - ii. The existing hot water boilers in both buildings would be retained and operate below 35F outdoors when the efficiency and output capacity of the air source heat pump heater/chiller declines and becomes less efficient.
 - iii. **Fan Coil Units Maintenance:** The existing fan coil units are in good condition with some of the units requiring new fan motors. New electrically efficient EC motors would be installed if space is available within the equipment enclosure.
 - iv. **Renewable Energy:** To augment the system and further the Forest Preserve's sustainable goals, add photovoltaic systems consisting of:
 1. 45 kW system on the north Retreat building roof.
 2. 32 kW system on the center Retreat building roof.
 3. Tie solar into main electrical room panel.
 4. Add a 100 kWh battery storage system, tie into mansion electrical panel for operation during grid outage



- c. **Dedicated Outdoor Air (DOAs) units** are required to satisfy IMC2021 code ventilation requirements:
- i. DOAS-M.1. Located in the mansion east basement, this unit serves the east half of the basement, east half of the first floor including the LR, DR, breakfast porch, kitchen and 234 rooms. It replaces the existing Carrier make-up air unit. This dedicated outdoor air system (DOAS) utilizes return air from the space through an energy recovery device to precondition the outdoor ventilation air. It requires both hot and chilled water services. The unit throttles air volume based upon indoor occupancy as determined by CO₂ sensors in the LR and DR. New fan coil units will condition the Turkish bath and wine cellar. Unit size shown on drawing.
 - ii. DOAS-M.2. Located in the west basement, this unit serves the west half of the basement, west half of the first floor including the sun porch, library, study and entry hall. Unit utilizes return air from the space through an energy recovery device to precondition the outdoor ventilation air. It requires both hot and chilled water services from the Retreat Building routed through the basement. The unit throttles air volume based upon indoor occupancy as determined by a CO₂ sensor in the library. A new fan coil unit will condition the billiards room and stair hall. Unit size shown on drawing.
 - iii. DOAS-M.3. Located in the main attic, this unit serves the entire second floor. Unit utilizes return air from the space through an energy recovery device to precondition the outdoor ventilation air. Requires both hot and chilled water services. The unit throttles air volume based upon indoor occupancy as determined by a CO₂ sensor in the common return air duct. Unit size shown on drawing.
 - iv. DOAS-M.4. Located in the attic above the servant quarters, this unit serves the first floor rooms 133-135 and second floor servant quarters. This fan coil unit conditions outdoor air via a low ambient variable refrigerant flow outdoor compressor.
 - v. DOAS-R.1. Located in the main attic, this unit serves the lower level classroom space and first floor tall ceiling events hall. Unit utilizes return air from the space through an energy recovery device to precondition the outdoor ventilation air. Requires both hot and chilled water piping routed up from the boiler room to the attic. The unit throttles air volume based upon indoor occupancy as determined by CO₂ sensors in the classroom and events hall. Unit size shown on drawing.
 - vi. AHU-R.1. Located in the Retreat Building basement mechanical room, this air handling unit replaces the existing unit and serves the lower and upper level lobbies. It requires both hot and chilled water services. The unit throttles outdoor air volume based upon indoor occupancy as determined by a CO₂ sensor in the first floor lobby. Unit size shown on drawing.
 - vii. DOAS-R.1. Located in the Retreat Building attic, this unit serves the Event Space and the lower lever Multipurpose Classroom. Unit utilizes return air from the space through an energy recovery device to precondition the outdoor ventilation air. Requires both hot and chilled water services. The unit throttles air volume based upon indoor occupancy as determined by a CO₂ sensor in each room served. Unit size shown on drawing.
 - viii. ERV-R.2. Located in the south mechanical room on the third floor of the Retreat Building, this energy recovery ventilator unit provides ventilation air to the archives



area. The unit uses an energy recovery core and throttles volume based upon indoor occupancy as determined by a CO2 sensor in the return air duct. The unit supply air is ducted into the inlet of a new self-contained air conditioning unit. The existing perimeter fan coil units provide heating or cooling of the individual rooms. Unit size shown on drawing.

- d. **Mitigate basement seepage** at Mansion and Link. Install interior perimeter drainage system with sump pump.
 - e. **Cooling Coil Condensate Drain System:** All cooling coil condensate drain piping from indoor HVAC units to closest service sink, floor sink, floor drain or other plumbing drain locations.
2. **Retreat Building:**
- a. **Demolish the south wing**, provide new exterior wall enclosure to sections remaining, and prepare slab for new heating/cooling plant.
 - b. **Restore/repair envelope** – repair roof and drainage system, restore masonry and replace windows.
 - c. **Archival Storage Cooling:** Replace existing Libert HVAC unit and install a second AC unit to provide additional cooling. The ductwork from the new unit to be cross-connected to the existing ductwork to provide partial cooling should either unit fail.
 - d. **Add slop sinks** at janitor's closets 003a, 104, 205a, and 302a.
3. **Mansion:**
- a. **Add slop sinks** all floors
 - b. **Upgrade electrical** panels, switches and wiring: Replace general panels CLP-1, LP-1 and LP-2. Perform an arc flash study and apply labels to distribution equipment. Tag all electrical panels and equipment with labels.
4. **Link:**
- a. **Mitigate leakage** – repair envelope
5. **Garage:**
- a. **Demolish garage** structure, remove slab and restore landscaping.



Phase 2: ACCESS AND ADA IMPROVEMENTS

1. General:

a. Fire Alarm

- i. Separate systems will be provided for each building which can be connected together to act as one or left separate. The final configuration shall be determined by the local fire department.
- ii. Mansion: Fire alarm panel upgrade and new devices including additional smoke detectors in Museum spaces for above code minimum coverage.
- iii. Retreat Building: Replace existing fire alarm system, initiating devices, notification devices, with new fire alarm system capable of supervised off-site communication and remote monitoring in the Mansion Building.

b. Update emergency lighting system:

- i. Replace existing exit signs with new LED battery backed (90 minute) luminaires.
- ii. Replace existing egress luminaires with new LED battery backed (90 minute) units.

c. Update fire suppression system: The existing buildings fire sprinkler systems will be modified to accommodate any changes to the building that affect the coverage of the system.

2. Retreat Building:

a. Modernize/replace elevator cab and equipment to increase vertical accessibility. The updated elevator to be used to transport objects to and from the archive space, as well as provide access for visitors.

b. ADA updates – route and toilets

- i. Renovate first floor men's and women's toilet rooms, renovate second floor single restrooms (207a and 207b).
- ii. Electric and Air Source Heat Pump Water Heaters: Provide a new hybrid electric heat pump water heater in the basement mechanical room to serve the new and existing restrooms from basement to second floor in the Retreat Building. A self-contained heat pump water heater with a storage capacity of 66 gallon and 76 GPH recovery rate will be absorbing ambient heat from the surrounding air in the mechanical room to heat up the water for domestic uses. Provide 120V-60Hz A.C., 15.0 A electric connection and a bladder type expansion tank for the heater. Hot water recirculation systems shall be provided where there is hot water distribution. Domestic hot water will be stored at 140 degrees and will be reduced to 120 degrees for distribution by meter mixing valve.

3. Mansion:

a. First floor access spaces: add 2 concealed lifts to access living and dining rooms.

b. Vertical access: A limited use-limited application elevator (LULA) provides access between the basement, first, and second floors. A ramp on the second floor provides access to the Peabody's sitting room.



Phase 3: PROGRAMMING

1. General:

- a. **Renovate Domestic Water Piping System:** Provide piping distribution systems to all plumbing fixtures and equipment. Provide tempering and isolation valves to horizontal lines serving separate areas.
- b. **Renovate Sanitary Waste and Vent System**
 - i. All plumbing fixtures shall be drained by gravity through a sanitary waste and vent piping system that conveys waste water and vapors from fixtures and equipment throughout the building.
 - ii. Existing sanitary sewer service and existing vent connections through the roof are expected to remain.

2. Retreat Building:

- a. **Relocate office spaces** from Mansion and within Retreat Building to the north wing to facilitate staff monitoring visitors as they arrive.
- b. **Add program spaces:**
 - i. Storage (101) to service the Event's Hall at the first-floor north wing.
 - ii. Exhibit space on the second floor.
 - iii. Classroom/multi-purpose gathering room (009) to be located in the basement.
- c. **Add restroom** in basement (003) and first floor family restroom (110).
- d. **HVAC terminal units** to suit programming:
 - i. ERV-R.1. Located in the north wing on the first floor of the Retreat Building, this energy recovery ventilator unit provides ventilation air to the active storage and office area. The unit uses an energy recovery core and throttles volume based upon indoor occupancy as determined by a CO2 sensor in the return air duct. Unit size shown on drawing.
 - ii. AHU-R.2. Located on the second floor, this air handling unit serves the second floor lobby and exhibit spaces. It requires both hot and chilled water services. The unit throttles outdoor air volume based upon indoor occupancy as determined by CO2 sensors in the exhibit space. The existing fan coil units are assumed to be removed for exhibit use. If not, then a DOAS would be installed. Unit size shown on drawing.
- e. **Upgrade electrical** panel, switches and wiring:
 - i. Upgrade electrical distribution:
 1. Perform an arc flash study and apply labels to distribution equipment.
 2. Replace general electrical panels - LP-B1A, CLP-1, CLP-2 and B1-EM.
 3. Tag all electrical panels and equipment with labels.
 - ii. Lighting
 1. Replace existing incandescent and fluorescent light sources with new LED luminaires.
 2. Upgrade of existing lighting controls with new controls compliant with the energy code IECC-2021. Include all occupancy and daylight controls.
 - iii. Receptacles



1. Add new receptacles and faceplates with new receptacles and faceplates of the appropriate type (e.g. GFCI, tamper resistant) in classroom space, and administrative offices spaces.

3. Mansion:

- a. **Restore finishes**, install new historic and exhibit lighting
 - i. The majority of the mansion first floor is museum space. Replace existing incandescent and fluorescent light sources with new LED luminaires.
 - ii. Upgrade of existing lighting controls with new controls compliant with the energy code IECC-2021. Include all occupancy and daylight controls.
- b. **Kitchen renovation**
 - i. Add new receptacles and branch circuits to feed new all electric kitchen equipment
 - ii. All kitchen sinks and floor sinks that receive the drainage from fixtures and equipment with grease laden waste in the catering kitchen shall be drained by gravity through a kitchen waste and vent piping system to a grease interceptor. Provide vent piping to the grease interceptor.
- c. **Renovate existing toilets.** Add new restrooms at basement 031A, 031b and at 2nd floor, Chamber 4 (room number 288A).
- d. **Electric and Air Source Heat Pump Water Heaters:** Provide a new fully integrated heat pump water heater system in the basement storage room to serve the new restrooms, catering kitchen, laundry room and an existing bathroom in a chamber in the Mansion Building. The heat pump water heater with a storage capacity of 119 gallon and 90 GPH recovery rate at hybrid mode will be absorbing ambient heat from the surrounding air in the storage room to heat up the water for domestic uses. Provide a 120-gallon additional hot water storage tank for extra storage capacity to support the hot water demand during peak hours. The heat pump water heater is rated at 12 kW @ 240V or 9 kW @ 208V, single phase, 60 cycle AC. Provide bladder type expansion tank for the heater. Hot Water Recirculation Systems shall be provided where the hot water distribution. Domestic hot water will be stored at 140 degrees and distributed to the kitchen at 140 degrees. Domestic hot water distribution to elsewhere will be reduced by meter mixing valve.

4. Chapel:

- a. **Restore exterior**
- b. **Provide a new heating, cooling and ventilation system.** Provide new door closers in coordination with the HVAC system.

5. Gate:

- a. Restore gate and flanking wall elements

6. Site Lighting and Lighting Controls Upgrade:

- a. Upgrade exterior light standards to install radio based dimming controls in each fixture allowing compliance with dark sky initiatives, energy savings and individual controllability. Eliminate existing exterior lighting time clock and relay panels.



***Phase 4: ENHANCEMENTS (consider as a “want” item within Phase 1)**

1. Retreat Building:

- a.** Alter and expand connecting link to create entry pavilion



Appendices

1. Program and Occupancy
2. Master Plan Drawings
3. Opinion of Probable Costs



Appendix 1:
Program and Occupancy

Table 1: Square Footage of Program Uses by Level

Level	Use Type	Area in Square Feet
Basement	Assembly	2352
	Circulation	2417
	Demolish	3210
	Mechanical	4501
	Museum	1999
	Restroom	220
	Storage	6438
Level	Use Type	Area in Square Feet
First Floor	Assembly	2916
	Circulation	2765
	Demolish	3130
	Kitchen	508
	Mechanical	888
	Museum	5119
	Office	1623
	Restroom	696
	Storage	2008
Level	Use Type	Area in Square Feet
Second Floor	Assembly	218
	Circulation	2258
	Demolish	3226
	Exhibit	4721
	Mechanical	562
	Museum	3303
	Restroom	358
	Storage	66
Level	Use Type	Area in Square Feet
Third Floor	Circulation	322
	Demolish	2908
	Mechanical	495
	Office	227
	Storage	3487

Table 2: Occupancy Load by Level

Level	Occupancy Load
Basement	248
First	882
Second	305
Third	15
Total	1440

Appendix 2: Master Plan Drawings

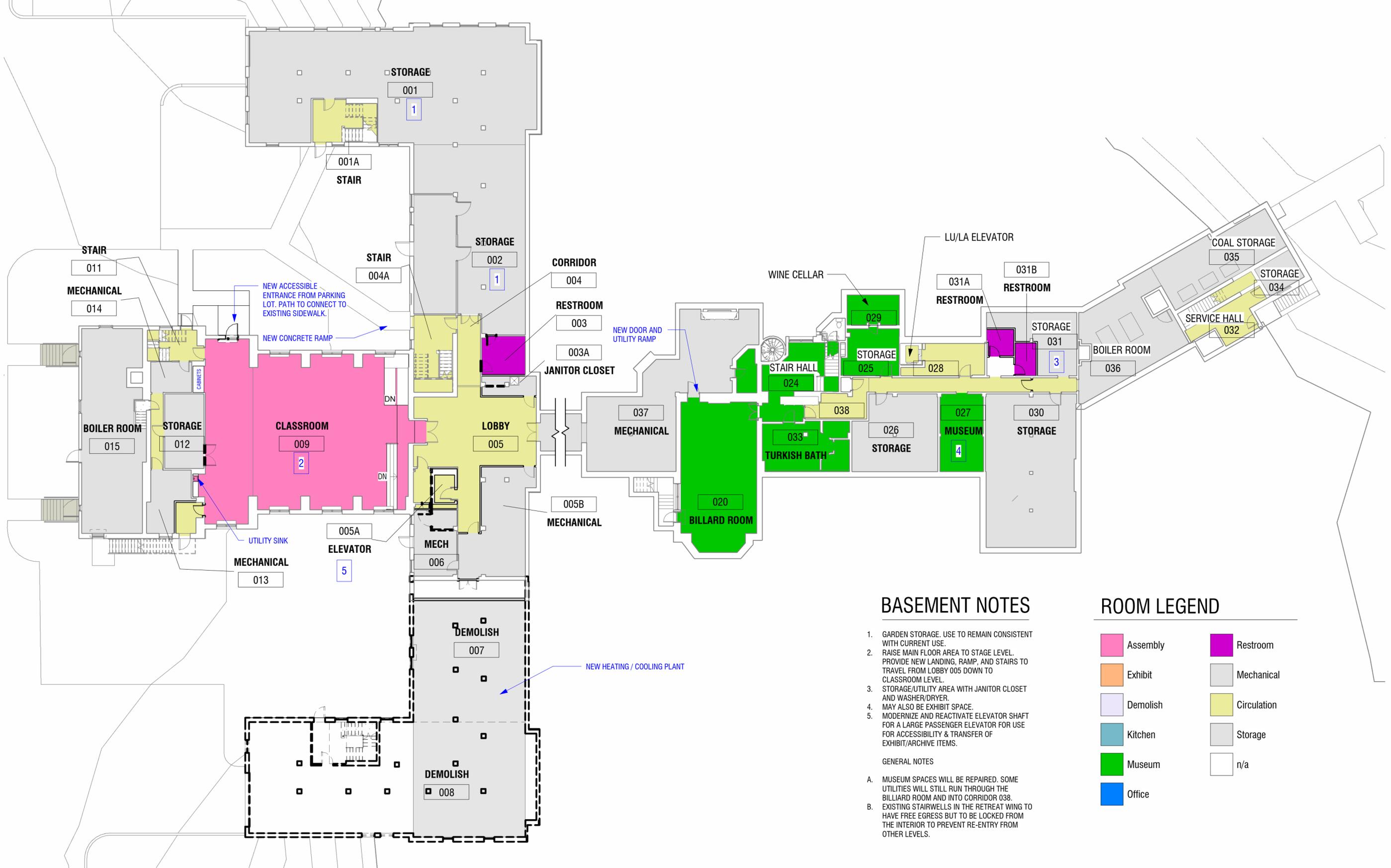


LEGEND

1. ENTRY GATE
2. CHAPEL
3. RETREAT WING
4. MANSION
5. GARAGE

MASTER PLAN DRAWING INDEX	
Sheet Number	Sheet Name
A1.00	MASTER PLAN
A1.01	PLAN A BASEMENT LEVEL
A1.02	PLAN A FIRST LEVEL
A1.03	PLAN A SECOND LEVEL
A1.04	PLAN A THIRD LEVEL
MEP1.01	BASEMENT LEVEL
MEP1.02	FIRST LEVEL
MEP1.03	SECOND LEVEL
MEP1.04	THIRD LEVEL

① SITE PLAN - MASTER PLAN
1 : 1350



BASEMENT NOTES

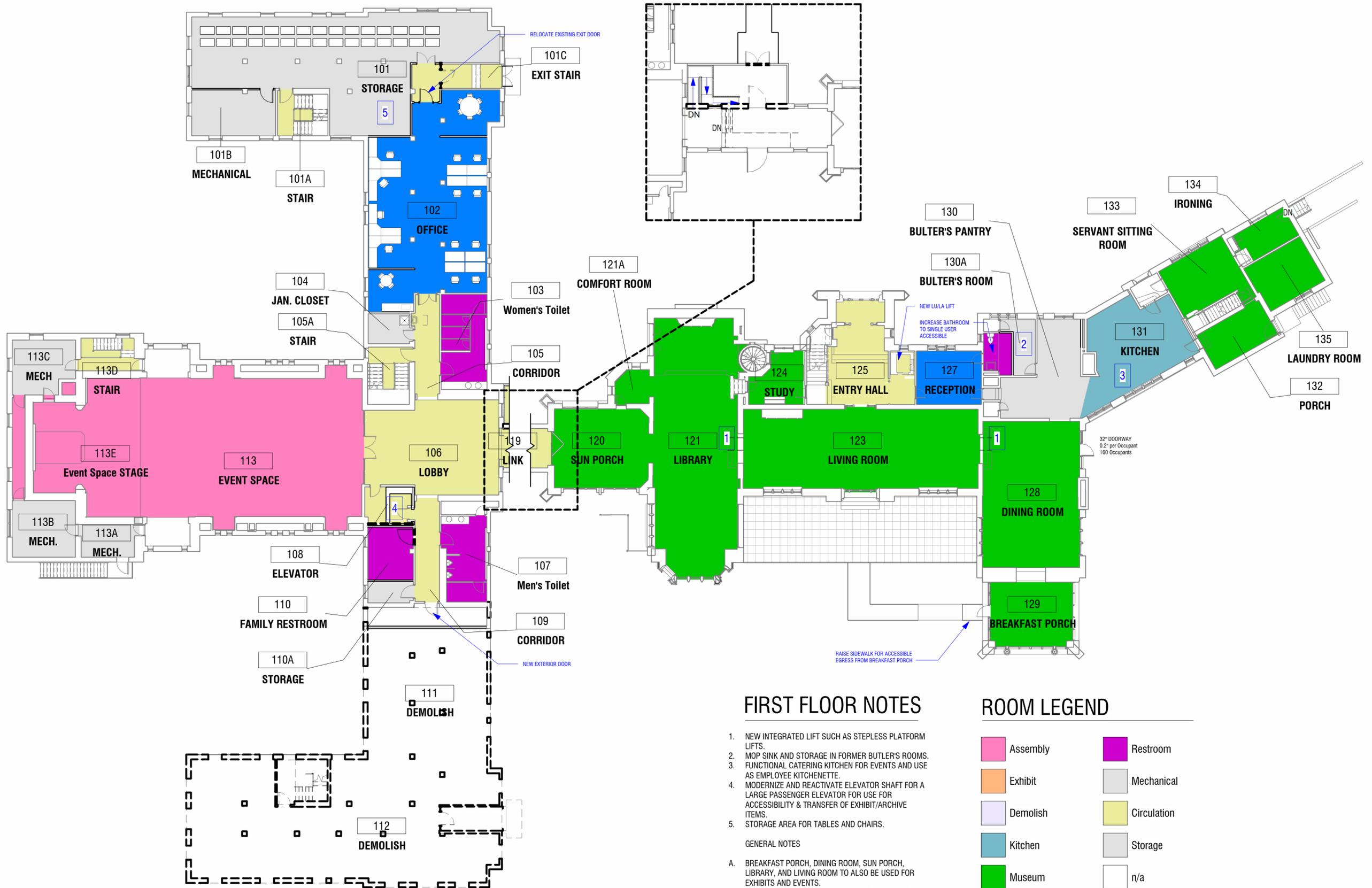
1. GARDEN STORAGE. USE TO REMAIN CONSISTENT WITH CURRENT USE.
 2. RAISE MAIN FLOOR AREA TO STAGE LEVEL. PROVIDE NEW LANDING, RAMP, AND STAIRS TO TRAVEL FROM LOBBY 005 DOWN TO CLASSROOM LEVEL.
 3. STORAGE/UTILITY AREA WITH JANITOR CLOSET AND WASHER/DRYER.
 4. MAY ALSO BE EXHIBIT SPACE.
 5. MODERNIZE AND REACTIVATE ELEVATOR SHAFT FOR A LARGE PASSENGER ELEVATOR FOR USE FOR ACCESSIBILITY & TRANSFER OF EXHIBIT/ARCHIVE ITEMS.
- GENERAL NOTES
- A. MUSEUM SPACES WILL BE REPAIRED. SOME UTILITIES WILL STILL RUN THROUGH THE BILLIARD ROOM AND INTO CORRIDOR 038.
 - B. EXISTING STAIRWELLS IN THE RETREAT WING TO HAVE FREE EGRESS BUT TO BE LOCKED FROM THE INTERIOR TO PREVENT RE-ENTRY FROM OTHER LEVELS.

ROOM LEGEND

 Assembly	 Restroom
 Exhibit	 Mechanical
 Demolish	 Circulation
 Kitchen	 Storage
 Museum	 n/a
 Office	

1 PLAN A BASEMENT LEVEL
1/16" = 1'-0"





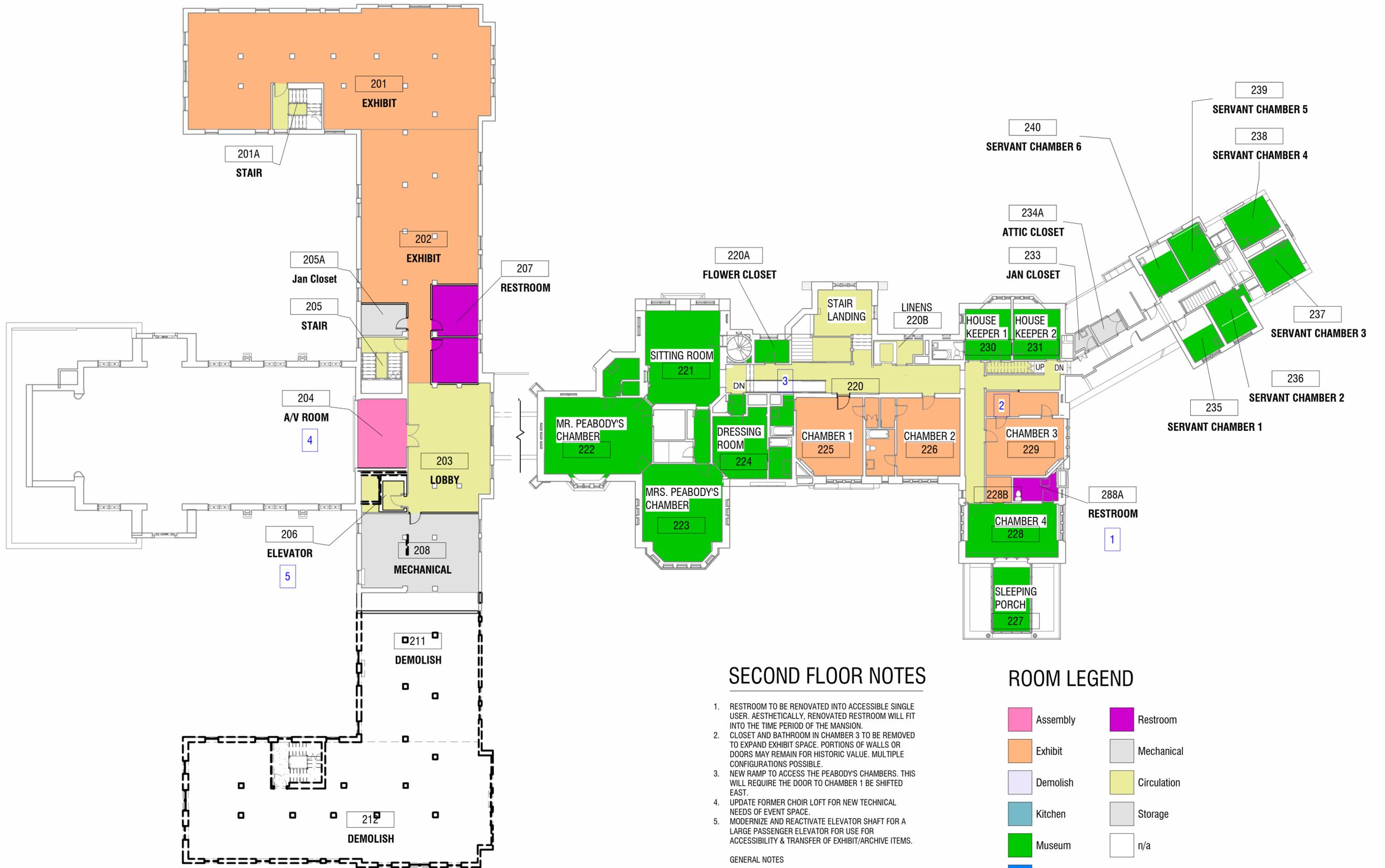
FIRST FLOOR NOTES

1. NEW INTEGRATED LIFT SUCH AS STEPLESS PLATFORM LIFTS.
 2. MOP SINK AND STORAGE IN FORMER BUTLER'S ROOMS.
 3. FUNCTIONAL CATERING KITCHEN FOR EVENTS AND USE AS EMPLOYEE KITCHENETTE.
 4. MODERNIZE AND REACTIVATE ELEVATOR SHAFT FOR A LARGE PASSENGER ELEVATOR FOR USE FOR ACCESSIBILITY & TRANSFER OF EXHIBIT/ARCHIVE ITEMS.
 5. STORAGE AREA FOR TABLES AND CHAIRS.
- GENERAL NOTES
- A. BREAKFAST PORCH, DINING ROOM, SUN PORCH, LIBRARY, AND LIVING ROOM TO ALSO BE USED FOR EXHIBITS AND EVENTS.
 - B. EXHIBIT ROOMS TO RECEIVE LIGHTING UPGRADES.
 - C. EXISTING STAIRWELLS IN THE RETREAT WING TO HAVE FREE EGRESS BUT TO BE LOCKED FROM THE INTERIOR TO PREVENT RE-ENTRY FROM OTHER LEVELS.

ROOM LEGEND

 Assembly	 Restroom
 Exhibit	 Mechanical
 Demolish	 Circulation
 Kitchen	 Storage
 Museum	 n/a
 Office	

① PLAN A FIRST LEVEL
1/16" = 1'-0"



SECOND FLOOR NOTES

1. RESTROOM TO BE RENOVATED INTO ACCESSIBLE SINGLE USER. AESTHETICALLY, RENOVATED RESTROOM WILL FIT INTO THE TIME PERIOD OF THE MANSION.
2. CLOSET AND BATHROOM IN CHAMBER 3 TO BE REMOVED TO EXPAND EXHIBIT SPACE. PORTIONS OF WALLS OR DOORS MAY REMAIN FOR HISTORIC VALUE. MULTIPLE CONFIGURATIONS POSSIBLE.
3. NEW RAMP TO ACCESS THE PEABODY'S CHAMBERS. THIS WILL REQUIRE THE DOOR TO CHAMBER 1 BE SHIFTED EAST.
4. UPDATE FORMER CHOIR LOFT FOR NEW TECHNICAL NEEDS OF EVENT SPACE.
5. MODERNIZE AND REACTIVATE ELEVATOR SHAFT FOR A LARGE PASSENGER ELEVATOR FOR USE FOR ACCESSIBILITY & TRANSFER OF EXHIBIT/ARCHIVE ITEMS.

GENERAL NOTES

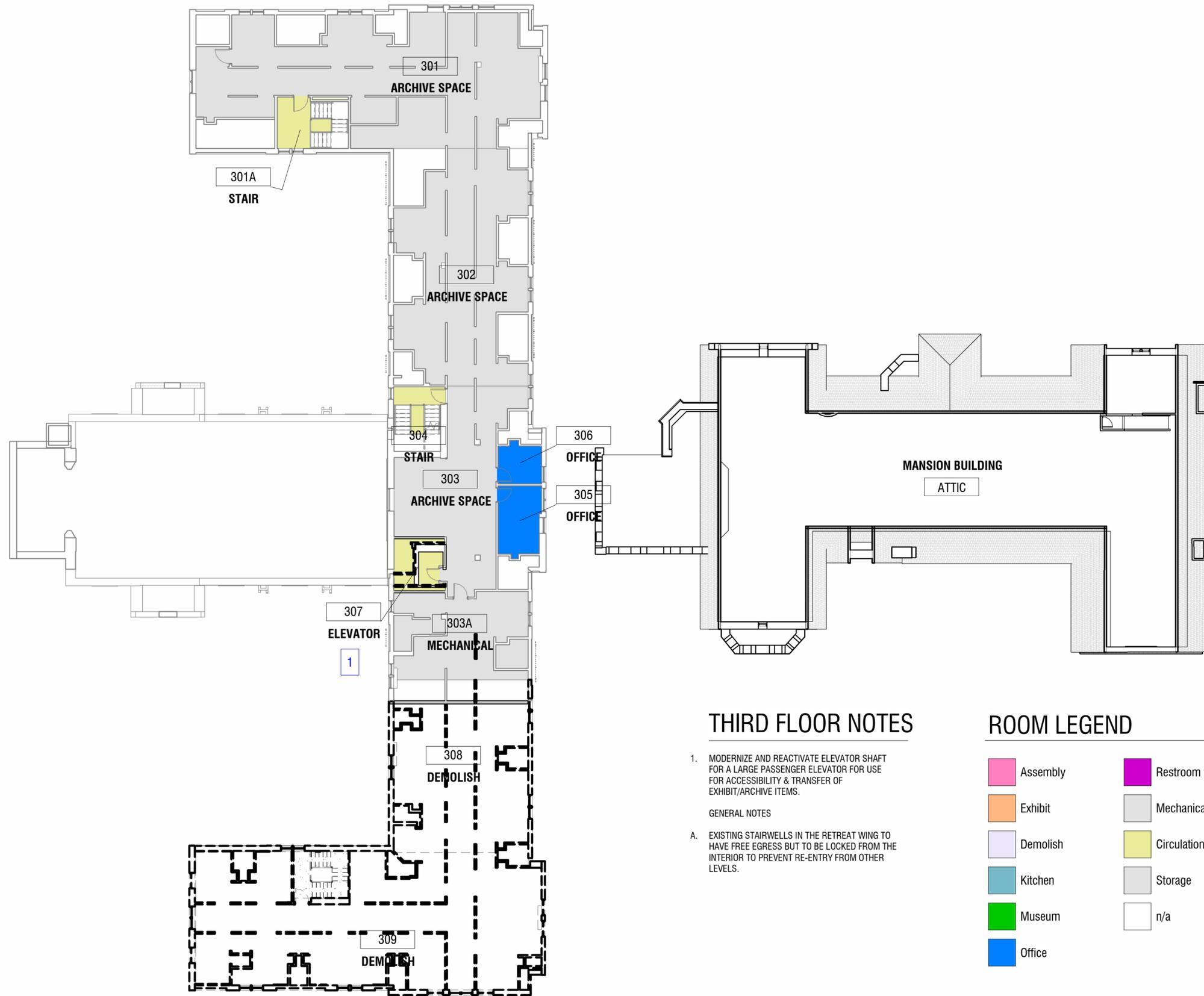
- A. EXHIBIT ROOMS TO RECEIVE LIGHTING UPGRADES.
- B. EXISTING STAIRWELLS IN THE RETREAT WING TO HAVE FREE EGRESS BUT TO BE LOCKED FROM THE INTERIOR TO PREVENT RE-ENTRY FROM OTHER LEVELS.

ROOM LEGEND

 Assembly	 Restroom
 Exhibit	 Mechanical
 Demolish	 Circulation
 Kitchen	 Storage
 Museum	 n/a
 Office	

1 PLAN A SECOND LEVEL
1/16" = 1'-0"





THIRD FLOOR NOTES

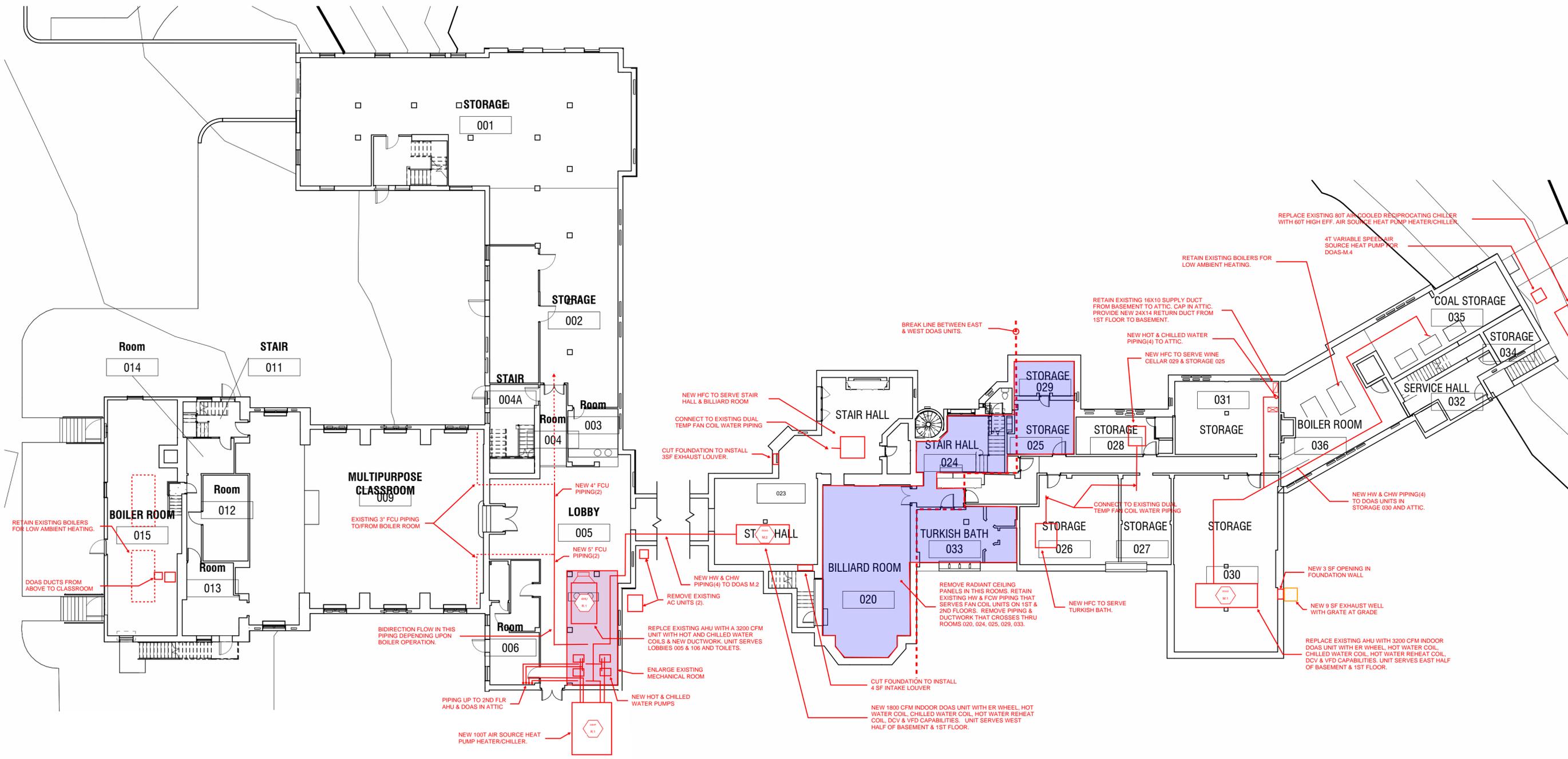
1. MODERNIZE AND REACTIVATE ELEVATOR SHAFT FOR A LARGE PASSENGER ELEVATOR FOR USE FOR ACCESSIBILITY & TRANSFER OF EXHIBIT/ARCHIVE ITEMS.
- GENERAL NOTES
- A. EXISTING STAIRWELLS IN THE RETREAT WING TO HAVE FREE EGRESS BUT TO BE LOCKED FROM THE INTERIOR TO PREVENT RE-ENTRY FROM OTHER LEVELS.

ROOM LEGEND

 Assembly	 Restroom
 Exhibit	 Mechanical
 Demolish	 Circulation
 Kitchen	 Storage
 Museum	 n/a
 Office	

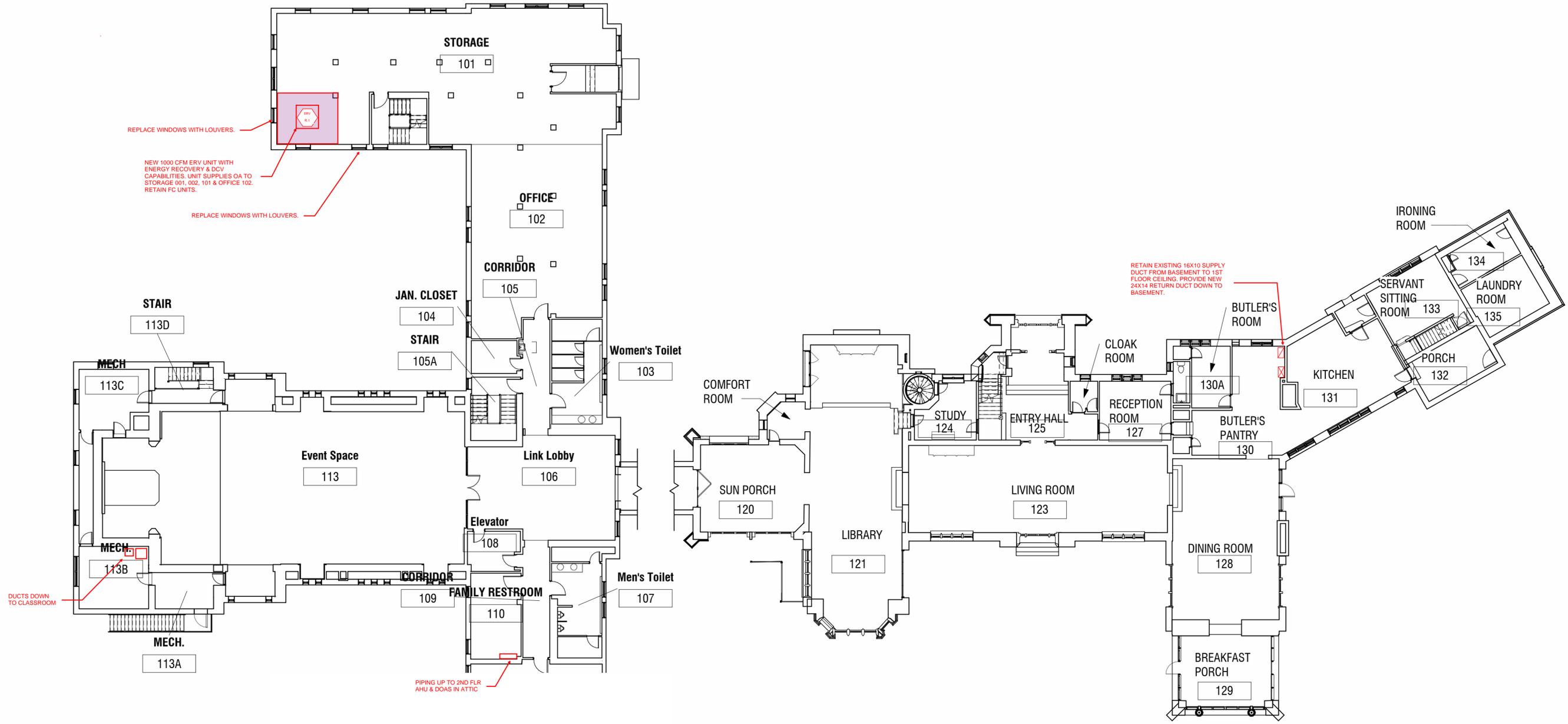
① PLAN A THIRD LEVEL
1/16" = 1'-0"





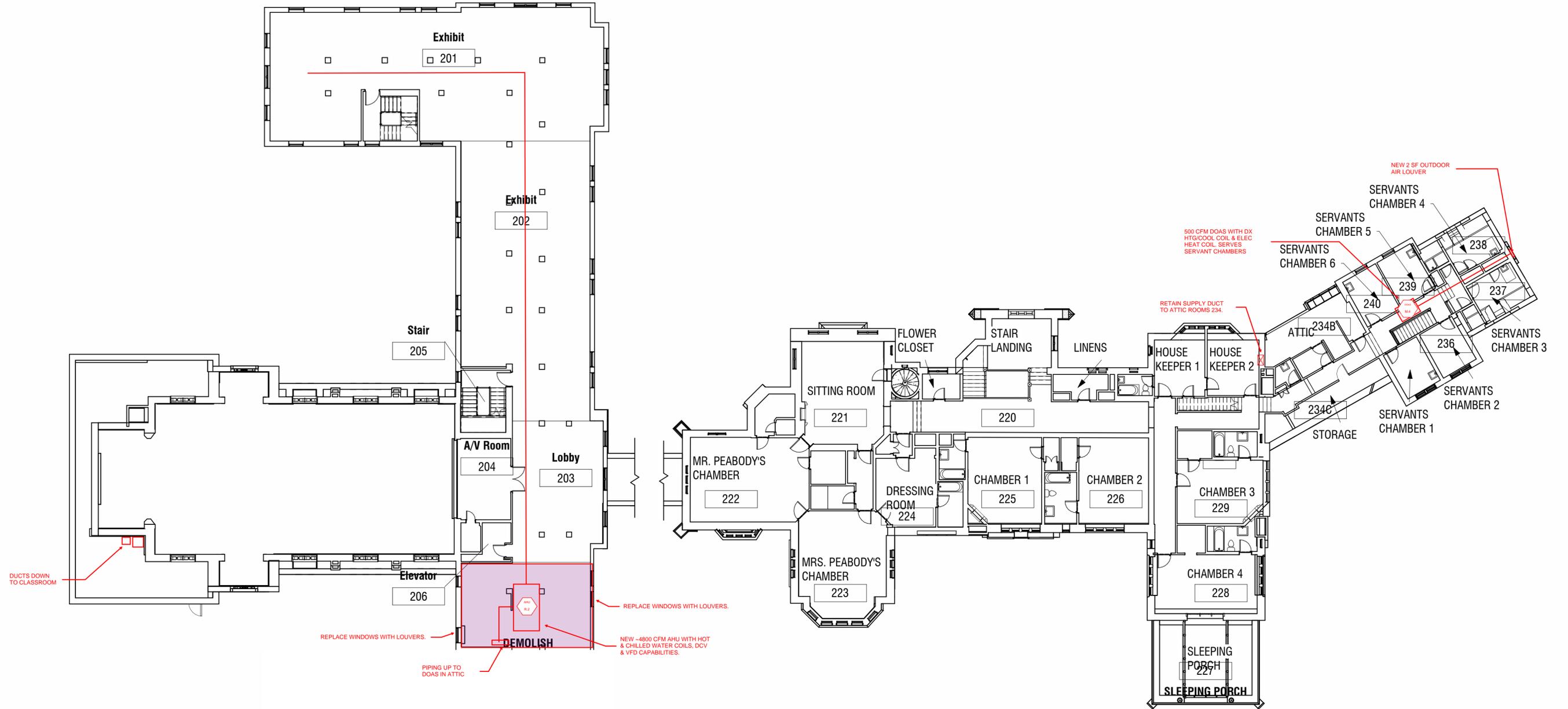
1 PLAN A BASEMENT LEVEL
 1/16" = 1'-0"





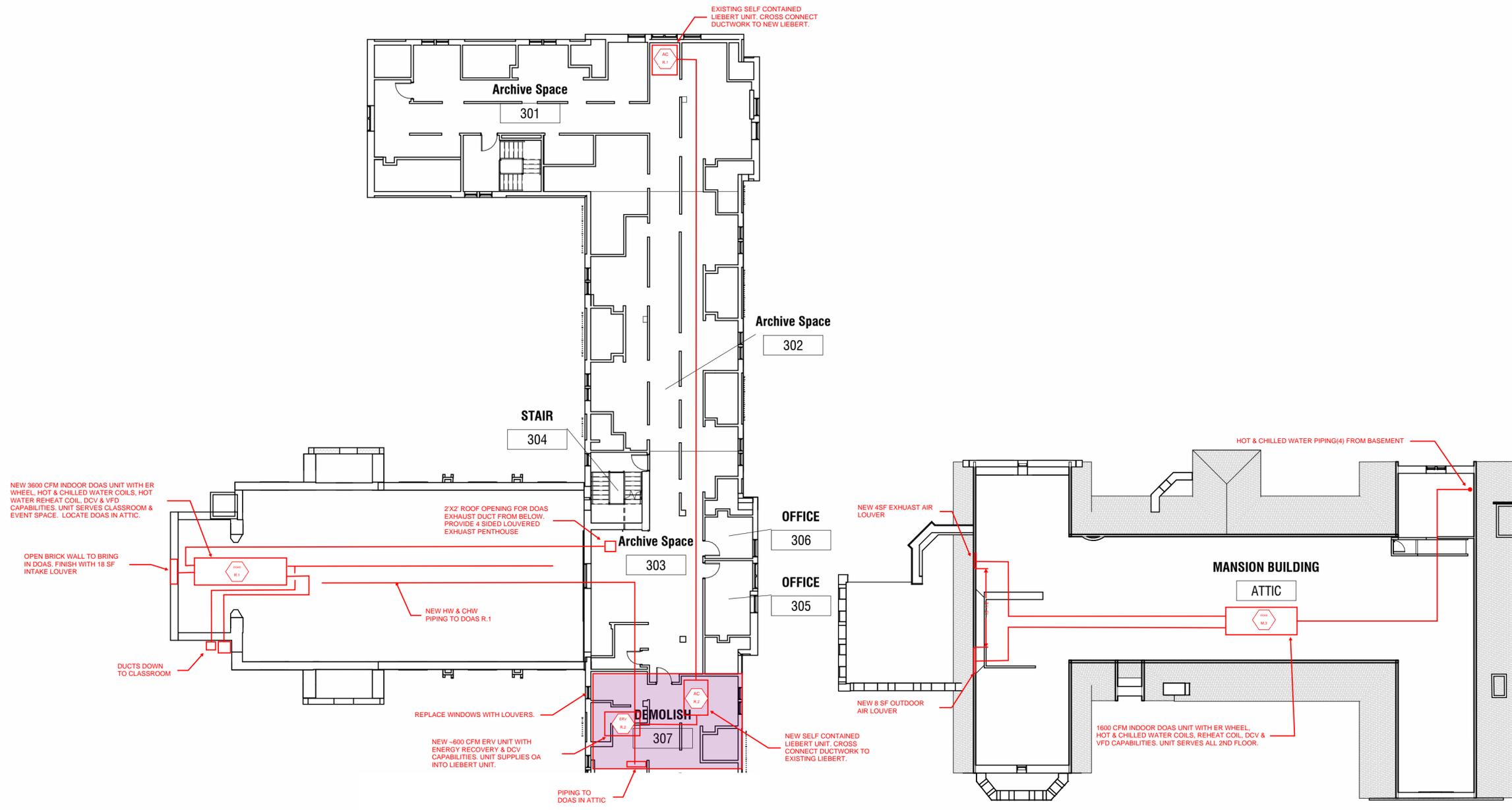
① PLAN A FIRST LEVEL
1/16" = 1'-0"





① PLAN A SECOND LEVEL
1/16" = 1'-0"





1 PLAN A THIRD LEVEL
1/16" = 1'-0"





Appended Reports

1. MEP Energy Report
2. Facility Condition Assessment Report
3. Stakeholder Engagement Report

Appendix 3: Opinion of Probable Costs

PHASE I: CRITICAL REPAIRS & BUILDING SYSTEMS IMPROVEMENTS

1	General (Retreat Building and Mansion)		
a	Replace temperature controls	\$ 357,917	
b	Mechanical System Renovation	\$ 2,789,119	
c	Dedicated Outdoor Air (DOAs) units - ventilation requirements	\$ 794,440	
d	Mitigate basement seepage at Mansion and Link	\$ 427,346	
		SUBTOTAL	\$ 4,368,822
2	Retreat Building		
a	Demolish south wing	\$ 995,444	
b	Restore/repair envelope	\$ 2,537,520	
c	Add supplemental Libert HVAC unit to the Archival Storage.	\$ 85,290	
d	Add slop sinks	\$ 107,934	
		SUBTOTAL	\$ 3,726,187
3	Mansion		
a	Add slop sinks	\$ 29,926	
b	Upgrade electrical panels	\$ 38,904	
		SUBTOTAL	\$ 68,830
4	Link		
a	Mitigate leakage – envelope	\$ 99,754	
		SUBTOTAL	\$ 99,754
5	Garage		
a	Demolish garage structure	\$ 39,902	
		SUBTOTAL	\$ 39,902
		Phase 1 CRITICAL REPAIRS/SYSTEMS TOTAL	\$ 8,303,494

PHASE 2: ACCESS AND ADA IMPROVEMENTS

1	General		
a	Fire Alarm	\$ 720,128	
b	Update emergency lighting system	\$ 20,849	
c	Update fire suppression system	\$ 488,794	
		SUBTOTAL	\$ 1,229,771
2	Retreat Building		
a	Modernize/replace elevator	\$ 834,815	
b	ADA updates – route and toilets	\$ 218,012	
		SUBTOTAL	\$ 1,052,828
3	Mansion		
a	First floor access	\$ 223,050	
b	Vertical Access: elevator(LULA) and ramps	\$ 542,960	
		SUBTOTAL	\$ 766,010
		Phase 2 ADA TOTAL	\$ 3,048,609

PHASE 3: PROGRAMMING

1	General		
a	Renovate Domestic Water Piping System	\$ 269,336	
b	Renovate Sanitary Waste and Vent System	\$ 359,114	
		SUBTOTAL	\$ 628,450
2	Retreat Building		
a	Relocate office spaces from Mansion and within Retreat Building	\$ 558,205	
b	Add program spaces	\$ 3,815,388	
c	Add restrooms	\$ 370,710	
d	HVAC terminal units to suit programming	\$ 115,715	
e	Upgrade lighting and electrical	\$ 755,137	
		SUBTOTAL	\$ 5,615,154
3	Mansion		
a	Restore finishes	\$ 1,206,009	
b	Kitchen renovation	\$ 58,057	
c	Renovate existing toilets and add new	\$ 138,982	
d	Electric and Air Source Heat Pump Water Heaters	\$ 53,867	
		SUBTOTAL	\$ 1,456,915
4	Chapel		
a	Restore exterior	\$ 210,960	
b	Provide a new HVAC system	\$ 149,631	
		SUBTOTAL	\$ 360,590
5	Gate		
a	Restore gate and flanking walls	\$ 89,769	
		SUBTOTAL	\$ 89,769
6	Site Lighting and Lighting Controls Upgrade		
a	Upgrade exterior lighting	\$ 200,206	
		SUBTOTAL	\$ 200,206
Phase 3 PROGRAMMING TOTAL			\$ 8,351,084

PHASE 4: ENHANCEMENTS

1	Link		
a	Alter and expand connecting link to create entry pavilion	\$ 178,011	
		Phase 4 LINK TOTAL	\$ 178,011
GRAND TOTAL			\$ 19,881,198

Location	Asset	ITEM NO.	Space	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Billiard Room	19	020	1.1b	solid core wood door and frame in existing opening between billiard room and 037 Mechanical. (36" x 80")	1	LS	\$6,500.00	\$6,500
Mansion	Billiard Room	20	020	1.1b	portable steel loading ramp (3" rise)	1	EA	\$1,500.00	\$1,500
Mansion	Basement	187	b	1.1d	seal cracks with polyurethane injection sealant.	200	LF	\$45.00	\$9,000
Mansion	Basement	188	b	1.1d	install new perforated drain tile set in gravel and wrapped in filter fabric	600	LF	\$32.00	\$19,200
Mansion	Basement	189	b	1.1d	install new drainage mat above drain tile (approx 1'6")	600	LF	\$15.00	\$9,000
Mansion	Basement	190	b	1.1d	remove approx 1 ft of existing concrete flooring at perimeter of building.	600	LF	\$22.00	\$13,200
Mansion	Basement	191	b	1.1d	provide new concrete patch at perimeter of building	600	LF	\$40.00	\$24,000
Mansion	site	191a	site	1.1d	remove and replace screen wall at chiller (8' tall), on existing footings	90	LF	\$250.00	\$22,500
Retreat	Demo	68	demo	1.2a	remove portion of existing concrete sidewalk and provide new concrete ramp to enter stair 004A. 3 ft wide ramp 1:12 slope. 2" rise.	2	LF	\$1,250.00	\$2,500
Retreat	Demo	69	demo	1.2a	6" deep concrete sidewalk	200	SF	\$15.00	\$3,000
Retreat	Demo	70	demo	1.2a	Remove existing aluminum window. 64" x 68"	1	LS	\$350.00	\$350
Retreat	Demo	71	demo	1.2a	Remove existing brick masonry wall	15	SF	\$25.00	\$375
Retreat	Demo	72	demo	1.2a	Install new door 3'-0"x7'-0" HM metal door and frame	1	LS	\$4,000.00	\$4,000
Retreat	Demo	73	demo	1.2a	Remove existing south wing of building (rooms 007 & 008 and above) per the 6 line items below:				\$0
Retreat	Demo	74	demo	1.2a	1) Brick masonry walls approx. 25 ft tall	260	LF	\$187.50	\$48,750
Retreat	Demo	75	demo	1.2a	2) 5" concrete slab floor	10,500	SF	\$5.00	\$52,500
Retreat	Demo	76	demo	1.2a	3) wood roof structure. (2x8 rafters 16" o.c.)	3,000	SF	\$3.50	\$10,500
Retreat	Demo	77	demo	1.2a	4) Salvage existing slate tiles	3,000	SF	\$6.50	\$19,500
Retreat	Demo	78	demo	1.2a	5) concrete superstructure/framing	260	LF	\$50.00	\$13,000
Retreat	Demo	78a	demo	1.2a	6) new equipment screen wall (approx. 10ft)	260	LF	\$250.00	\$65,000
Retreat	Demo	79	demo	1.2a	construct exterior wall, brick cavity with reinforced CMU back up. Brick anchor ties 16" o.c. horizontally and vertically	1,500	SF	\$85.00	\$127,500
Retreat	Demo	80	demo	1.2a	Infill former basement with CA6 backfill and top soil. 15 foot depth	3,000	SF	\$33.33	\$100,000
Retreat	Stair	81	001A	1.2a	prep and paint, full height (40ft)	60	LF	\$140.00	\$8,400
Retreat	Stair	82	001A	1.2a	rubber stair inserts (11" x 40")	50	EA	\$122.50	\$6,125
Retreat	Stair	83	001A	1.2a	steel tube handrail mounted to existing railing. Painted.	36	LF	\$75.00	\$2,700
Retreat	Stair	84	001A	1.2a	vinyl tile flooring at each landing	200	SF	\$6.50	\$1,300
Retreat	Stair	85	004A	1.2a	prep and paint, full height (40ft)	60	LF	\$122.50	\$7,350
Retreat	Stair	86	004A	1.2a	rubber stair inserts (11" x 40")	50	EA	\$122.50	\$6,125
Retreat	Stair	87	004A	1.2a	steel tube handrail mounted to existing railing. Painted.	36	LF	\$75.00	\$2,700
Retreat	Stair	88	004A	1.2a	vinyl tile flooring at each landing	200	SF	\$6.50	\$1,300
Retreat	Site	124	exterior	1.2a	new 6" concrete sidewalk	130	SF	\$15.00	\$1,950
Retreat	Mechanical	167	208	1.2a	1 hour rated gyp stud wall between 203 and 208. Primed and painted. (9ft tall)	30	LF	\$247.50	\$7,425
Retreat	Archive	174	302	1.2c	Remove original 2'-6"w x 4'-0" steel windows, including embedded steel tabs, and replace with new fixed aluminum windows. Insulated glazing with ceramic frit on 4th surface.	22	EA	\$1,025.00	\$22,550
Retreat	Archive	175	301	1.2c	Gyp board wall on metal furring studs 48" tall	60	LF	\$110.00	\$6,600
Retreat	Janitor Closet	105	003A	1.2d	mop sink and associated plumbing in new janitor closet	1	EA	\$7,500.00	\$7,500
Retreat	Janitor Closet	106	003A	1.2d	HM door and frame (2'-8" x 6'-8")	1	LS	\$3,750.00	\$3,750
Retreat	Jan Closet	123	104	1.2d	mop sink in existing janitor's closet.	1	EA	\$5,000.00	\$5,000
Retreat	Jan Closet	138	205A	1.2d	mop sink and associated plumbing	1	LS	\$7,500.00	\$7,500
Retreat	Jan Closet	139	205A	1.2d	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Retreat	Jan Closet	140	205A	1.2d	type x gyp board wall with 4" metal studs (9ft tall)	30	LF	\$247.50	\$7,425
Retreat	Jan Closet	171	302A	1.2d	mop sink and associated plumbing	1	LS	\$7,500.00	\$7,500
Retreat	Jan Closet	172	302A	1.2d	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Retreat	Jan Closet	173	302A	1.2d	type x gyp board wall with 4" metal studs (9ft tall)	30	LF	\$247.50	\$7,425
Mansion	Butler's Room	29	130A	1.3a	provide new mop sink at each floor (basement, 1ats and end)	3	EA	\$5,000.00	\$15,000

Location	Asset	ITEM NO.	Space	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Elevator	137	206	2.2a	elevator door and controls 3'-0" x 7'-0"	1	LS	\$0.00	\$0
Retreat	Elevator	97	005A	2.2a	Modernize existing 1950s elevator equipment. 4 stops total. Existing machine room in basement.	1	LS	\$350,000.00	\$350,000
Retreat	Elevator	98	005A	2.2a	Remove existing and provide new finishes in elevator. Interior cab 4'-8" x 8'-9"	1	LS	\$25,000.00	\$25,000
Retreat	Elevator	99	005A	2.2a	elevator door and controls 3'-0" x 7'-0"	1	LS	\$0.00	\$0
Retreat	Lobby	100	005	2.2a	1 hour rated gyp walls with 4" metal studs. 9'-6" high. Primed and	65	LF	\$237.50	\$15,438
Retreat	Elevator	125	108	2.2a	new elevator door and controls 3'-0" x 7'-0"	1	LS	\$0.00	\$0
Retreat	Elevator	168	307	2.2a	elevator door and controls	1	LS	\$0.00	\$0
Retreat	Stair	169	304	2.2a	HM door and frame (3'-0" x 7'-0")	1	EA	\$4,000.00	\$4,000
Retreat	Stair	170	301	2.2a	HM door and frame (3'-0" x 7'-0")	1	EA	\$4,000.00	\$4,000
Retreat	Restroom	141	207A	2.2b	single user restroom; new toilet, lavatory, grab bars, toilet paper dispenser, paper tower dispense, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Retreat	Restroom	142	207A	2.2b	wainscot (4'-0" tall)	25	LF	\$120.00	\$3,000
Retreat	Restroom	143	207A	2.2b	4" base cove tile	45	LF	\$25.00	\$1,125
Retreat	Restroom	144	207A	2.2b	type x rated gyp walls with 4" metal studs	45	LF	\$247.50	\$11,138
Retreat	Restroom	145	207A	2.2b	tile floor	150	SF	\$35.00	\$5,250
Retreat	Restroom	146	207A	2.2b	floor drain	1	EA	\$1,500.00	\$1,500
Retreat	Restroom	147	207A	2.2b	surface mounted light	1	EA	\$300.00	\$300
Retreat	Restroom	148	207A	2.2b	gyp board ceiling on metal furring. Primed and painted.	150	SF	\$18.00	\$2,700
Retreat	Restroom	149	207A	2.2b	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Retreat	Restroom	150	207B	2.2b	single user restroom; new toilet, lavatory, grab bars, toilet paper dispenser, paper tower dispense, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Retreat	Restroom	151	207B	2.2b	wainscot (4'-0" tall)	25	LF	\$120.00	\$3,000
Retreat	Restroom	152	207B	2.2b	4" base cove tile	45	LF	\$25.00	\$1,125
Retreat	Restroom	153	207B	2.2b	type x rated gyp walls with 4" metal studs. Primed and painted.	45	LF	\$247.50	\$11,138
Retreat	Restroom	154	207B	2.2b	tile floor	150	SF	\$35.00	\$5,250
Retreat	Restroom	155	207B	2.2b	floor drain	1	EA	\$1,500.00	\$1,500
Retreat	Restroom	156	207B	2.2b	surface mounted light	1	EA	\$300.00	\$300
Retreat	Restroom	157	207B	2.2b	new gyp board ceiling on metal furring. Primed and painted.	150	SF	\$18.00	\$2,700
Retreat	Restroom	158	207B	2.2b	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Mansion	Library	21	121	2.3a	integrated lift (Stepless platform lift model C) in existing marble stairs	1	EA	\$55,000.00	\$55,000
Mansion	Dining room	22	128	2.3a	integrated lift (Stepless platform lift model C) in existing marble stairs	1	EA	\$55,000.00	\$55,000
Mansion	Site	38	Patio	2.3a	6" concrete sidewalk outside of breakfast porch	120	SF	\$15.00	\$1,800
Mansion	Elevator	1	028	2.3b	LU/LA elevator (ex: Otis Gen 3 Core) 36ft travel height from bottom landing to top landing	1	LS	\$250,000.00	\$250,000
Mansion	Elevator	2	028	2.3b	1 hour fire rated gyp board wall on 4" metal studs (9ft tall)	10	LF	\$225.00	\$2,250
Mansion	Elevator	3	028	2.3b	elevator door and controls	1	EA	\$0.00	\$0
Mansion	Closet	24	126	2.3b	LU/LA elevator exterior door & controls	1	LS	\$0.00	\$0
Mansion	Closet	25	126	2.3b	relocate existing electrical panel from closet to reception room	1	LS	\$3,500.00	\$3,500
Mansion	Corridor	39	220	2.3b	ramp (20'-0" x 3'-0") metal stud frame with wood finish on top and side. Metal railing with wood handrail cap	1	LS	\$12,500.00	\$12,500
Mansion	Linen/Elevator	57	220B	2.3b	LU/LA door controls	1	LS	\$0.00	\$0
Retreat	Linen/Elevator	58	220B	2.3b	create new door opening in existing masonry wall. (3'-0" x 6'-8")	1	LS	\$3,500.00	\$3,500
Retreat	Linen/Elevator	59	220B	2.3b	Remove existing wood cabinets with glass doors. Salvage upon request from owner.	10	LF	\$40.00	\$400
Retreat	Storage	119	101	3.2a	gyp board wall on 4" metal studs between 101 and 102. (9 feet tall)	30	LF	\$247.50	\$7,425
Retreat	Office	120	102	3.2a	kitchenette lavatory and associated piping	1	EA	\$6,500.00	\$6,500
Retreat	Office	121	102	3.2a	wood base cabinets and uppers with plastic laminate counter top.	6	LF	\$400.00	\$2,400
Retreat	Office	122	109	3.2a	exterior door from corridor to exterior. 3'-0" x 7'-0" HM door and frame	1	LS	\$4,500.00	\$4,500
Retreat	Lobby	159	203	3.2a	vinyl tile flooring	700	SF	\$6.50	\$4,550

Location	Asset	ITEM NO.	Space	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Retreat	Lobby	160	203	3.2a	gyp board on metal furring. (9ft tall) Primed and painted.	50	LF	\$247.50	\$12,375
Retreat	Lobby	161	203	3.2a	gyp board ceiling on metal studs. Primed and painted	700	SF	\$18.00	\$12,600
Retreat	Lobby	162	203	3.2a	4" vinyl wall base	300	LF	\$4.00	\$1,200
Retreat	A/V Room	163	204	3.2a	remove and replace existing carpeting with new carpet tiles	250	SF	\$7.50	\$1,875
Retreat	A/V Room	164	204	3.2a	prep and paint existing plaster walls	100	SF	\$3.50	\$350
Retreat	A/V Room	165	204	3.2a	4" vinyl wall base	50	LF	\$4.00	\$200
Retreat	Stair	166	206	3.2a	HM door and frame (3'-0" x 7'-0")	1	EA	\$4,000.00	\$4,000
Retreat	Classroom	101	009	3.2b	remove existing wood door and frame and provide new HM door and frame from classroom 009 to stair 011 (3'-0" x 6'-8")	1	LS	\$4,500.00	\$4,500
Retreat	Classroom	102	009	3.2b	classroom lavatory	1	EA	\$6,500.00	\$6,500
Retreat	Classroom	103	009	3.2b	wooden lower cabinets with plastic laminate counter tops	14	LF	\$400.00	\$5,600
Retreat	Classroom	104	009	3.2b	wooden upper cabinets 3" high	7	LF	\$275.00	\$1,925
Retreat	Storage	118	101	3.2b	1 hour rated wall for new mechanical room 9 feet tall	20	LF	\$225.00	\$4,500
Retreat	Exhibit	126	201	3.2b	gyp board on metal furring (9ft tall) Primed and painted.	200	LF	\$247.50	\$49,500
Retreat	Exhibit	127	201	3.2b	4" vinyl wall base	200	LF	\$4.00	\$800
Retreat	Exhibit	128	201	3.2b	vinyl tile flooring	2,200	SF	\$6.50	\$14,300
Retreat	Exhibit	129	201	3.2b	gyp board ceiling on metal furring. Primed and painted.	2,200	SF	\$18.00	\$39,600
Retreat	Exhibit	130	201	3.2b	track lighting	25	LF	\$75.00	\$1,875
Retreat	Stair	131	201A	3.2b	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Retreat	Exhibit	132	202	3.2b	gyp board on metal furring (9ft tall) Primed and painted.	100	LF	\$247.50	\$24,750
Retreat	Exhibit	133	202	3.2b	4" vinyl wall base	200	LF	\$4.00	\$800
Retreat	Exhibit	134	202	3.2b	vinyl tile flooring	1,500	SF	\$6.50	\$9,750
Retreat	Exhibit	135	202	3.2b	gyp board ceiling on metal furring. Primed and painted.	1,500	SF	\$18.00	\$27,000
Retreat	Exhibit	136	202	3.2b	track lighting	25	LF	\$75.00	\$1,875
Retreat	Classroom	89	009	3.2c	raised accessible flooring 7" high	1,700	SF	\$40.00	\$68,000
Retreat	Classroom	90	009	3.2c	concrete landing between Classroom 009 and Lobby 005	100	SF	\$25.00	\$2,500
Retreat	Classroom	91	009	3.2c	ramp; metal stud framing with vinyl tile finish. 1'8" rise at 1:12 slope	25	LF	\$545.00	\$13,625
Retreat	Classroom	92	009	3.2c	wood stair with vinyl finish 3 rises @ 7" with 11" treads	18	LF	\$75.00	\$1,350
Retreat	Classroom	93	009	3.2c	remove existing ceiling tiles adhered to concrete structure.	2,000	SF	\$2.50	\$5,000
Retreat	Classroom	94	009	3.2c	acoustical tile drop ceiling	2,000	SF	\$9.50	\$19,000
Retreat	Classroom	95	009	3.2c	vinyl tile flooring over existing concrete floor	2,400	SF	\$6.50	\$15,600
Retreat	Classroom	96	009	3.2c	remove existing and provide new LED ceiling mounted lighting (2'x4")	6	EA	\$325.00	\$1,950
Retreat	Restroom	107	003	3.2c	toilet, lavatory, grab bars, toilet paper dispenser, paper towel dispenser, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Retreat	Restroom	108	003	3.2c	file wainscot (4ft tall)	25	LF	\$120.00	\$3,000
Retreat	Restroom	109	003	3.2c	file flooring and floor drain	120	SF	\$50.00	\$6,000
Retreat	Restroom	110	003	3.2c	type x rated gyp on metal furring. Primed and painted. (9ft tall)	10	LF	\$247.50	\$2,475
Retreat	Restroom	111	003	3.2c	gyp board ceiling on metal studs. Primed and painted. (9ft tall)	25	LF	\$247.50	\$6,188
Retreat	Restroom	112	003	3.2c	HM door and frame (3'-0" x 7'-0")	1	LS	\$4,000.00	\$4,000
Retreat	Family Restroom	113	110	3.2c	toilet, lavatory, grab bars, toilet paper dispenser, paper towel dispenser, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Retreat	Family Restroom	114	110	3.2c	file wainscot	60	SF	\$30.00	\$1,800
Mansion	Family Restroom	115	110	3.2c	file flooring and floor drain	150	SF	\$50.00	\$7,500
Mansion	Family Restroom	116	110	3.2c	type x rated gyp on metal furring. Primed and painted.	350	SF	\$18.00	\$6,300
Mansion	Family Restroom	117	110	3.2c	gyp board ceiling on metal studs. Primed and painted.	150	SF	\$16.50	\$2,475
Mansion	Living room	26	123	3.3a	track lighting in living room	50	LF	\$75.00	\$3,750
Mansion	Butler Pantry	28	130	3.3a	mechanical chase 4" metal studs with 2 layers gyp on side	7	LF	\$180.00	\$1,260
Mansion	Mr. Peabody	40	222	3.3a	remove and replace existing sconces with historically appropriate sconces (small fixtures approx. 6" tall)	6	EA	\$425.00	\$2,550
Mansion	Mrs. Peabody	41	223	3.3a	remove and replace existing sconces with historically appropriate sconces (small fixtures approx. 6" tall)	4	EA	\$425.00	\$1,700

Location	Asset	ITEM NO.	Space	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Mrs. Peabody	42	223	3.3a	remove and replace existing ceiling mounted light fixture with historically appropriate ceiling mounted fixture	1	EA	\$520.00	\$520
Mansion	Dressing Room	43	224	3.3a	remove and replace existing linear ceiling mounted fixture with historically appropriate light fixture	1	EA	\$560.00	\$560
Mansion	Dressing Room	44	224	3.3a	remove and replace existing sconces with historically appropriate sconces (small fixtures approx. 6" tall)	1	EA	\$425.00	\$425
Mansion	Dressing Room	45	224	3.3a	remove existing lavatory plumbing connections in wall (3). Patch and paint plaster wall	1	LS	\$18,000.00	\$18,000
Mansion	Restroom	46	228A	3.3a	remove existing plumbing fixtures, toilet, sink, tub	1	LS	\$2,500.00	\$2,500
Mansion	Chamber 1	49	225	3.3a	remove existing non-historic wall sconces. Patch and paint existing plaster wall	4	EA	\$650.00	\$2,600
Mansion	Chamber 1	50	225	3.3a	provide track lighting	30	LF	\$75.00	\$2,250
Mansion	Chamber 1	51	225	3.3a	remove existing door from existing masonry wall salvage (36" x 85")	1	EA	\$650.00	\$650
Mansion	Chamber 1	52	225	3.3a	infill existing door opening with metal stud wall and plaster over metal	44	SF	\$50.00	\$2,200
Mansion	Chamber 1	53	225	3.3a	create new opening in existing masonry wall. reinstall salvaged door (36" x 85")	1	EA	\$5,000.00	\$5,000
Mansion	Chamber 2	54	226	3.3a	remove existing non-historic sconces and patch and paint existing plaster wall	4	EA	\$650.00	\$2,600
Mansion	Chamber 2	55	226	3.3a	remove existing linear ceiling mounted light fixture. Patch and paint existing plaster ceiling	1	LS	\$375.00	\$375
Mansion	Chamber 2	56	226	3.3a	provide track lighting	30	LF	\$75.00	\$2,250
Mansion	Chamber 3	60	229	3.3a	Remove plumbing fixtures in restroom (toilet, lavatory, bathtub)	1	LS	\$1,050.00	\$1,050
Mansion	Chamber 3	61	229	3.3a	remove wall between existing restroom and closet (9ft tall)	7	LF	\$36.00	\$252
Mansion	Chamber 3	62	229	3.3a	provide floor transition between wood and tile flooring	7	LF	\$30.00	\$210
Mansion	Chamber 3	63	229	3.3a	patch existing tile floor	10	SF	\$50.00	\$500
Mansion	Chamber 3	64	229	3.3a	patch existing wood floor to match color, species, width	5	SF	\$75.00	\$375
Mansion	Chamber 3	65	229	3.3a	remove existing wood closet shelving and drawers. Salvage upon request from owner.	10	LF	\$35.00	\$350
Mansion	Chamber 3	66	229	3.3a	remove existing and provide track lighting	40	LF	\$82.00	\$3,280
Mansion	Chamber 3	67	229	3.3a	remove existing non-historic wall sconces. patch and paint existing plaster wall	4	EA	\$650.00	\$2,600
Mansion	Kitchen	36	131	3.3b	portable steel loading ramp 3ft wide. 1 ft rise	1	EA	\$1,500.00	\$1,500
Mansion	Kitchen	38	131	3.3b	Vinyl tile flooring	400	SF	\$6.50	\$2,600
Mansion	Restroom	4	031A	3.3c	single user restroom; new toilet, lavatory, grab bars, toilet paper dispenser, paper tower dispense, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Mansion	Restroom	5	031A	3.3c	file wainscot (4ft tall)	14	LF	\$120.00	\$1,680
Mansion	Restroom	6	031A	3.3c	file flooring	50	SF	\$35.00	\$1,750
Mansion	Restroom	7	031A	3.3c	floor drain	1	EA	\$1,500.00	\$1,500
Mansion	Restroom	8	031A	3.3c	4" base cove tile	28	LF	\$25.00	\$700
Mansion	Restroom	9	031A	3.3c	type x rated gyp wall on 4" metal stud. Primed and painted. (9ft tall)	300	SF	\$27.50	\$8,250
Mansion	Restroom	10	031A	3.3c	gyp board ceiling on metal furring. Primed and painted.	50	SF	\$18.00	\$900
Mansion	Restroom	11	031B	3.3c	single user restroom; new toilet, lavatory, grab bars, toilet paper dispenser, paper tower dispense, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Mansion	Restroom	12	031B	3.3c	file wainscot (4ft tall)	15	LF	\$120.00	\$1,800
Mansion	Restroom	13	031B	3.3c	file flooring	50	SF	\$35.00	\$1,750
Mansion	Restroom	14	031B	3.3c	floor drain	1	EA	\$1,500.00	\$1,500
Mansion	Restroom	15	031B	3.3c	4" base cove tile	30	LF	\$25.00	\$750
Mansion	Restroom	16	031B	3.3c	type x rated gyp wall on 4" metal stud. Primed and painted. (9ft tall)	20	LF	\$247.50	\$4,950
Mansion	Restroom	17	031B	3.3c	gyp board ceiling on metal furring. Primed and painted.	50	SF	\$18.00	\$900
Mansion	Restroom	30	130B	3.3c	grab bars, toilet paper dispenser, trash can, paper towel dispenser	1	LS	\$950.00	\$950
Mansion	Restroom	31	130B	3.3c	remove and replace existing historic wood door to reverse swing.	1	LS	\$6,500.00	\$6,500

Location	Asset	ITEM NO.	Space	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Restroom	32	130B	3.3c	tile flooring	40	SF	\$35.00	\$1,400
Mansion	Restroom	33	130B	3.3c	tile wainscot & tile base	20	SF	\$30.00	\$600
Mansion	Restroom	34	130B	3.3c	gyp wall Primed and painted. (9ft tall)	15	LF	\$247.50	\$3,713
Mansion	Restroom	35	130B	3.3c	remove existing plaster and wood stud wall.	11	LF	\$45.00	\$495
Mansion	Restroom	47	228A	3.3c	single user restroom; toilet, lavatory, grab bars, toilet paper dispenser, paper tower dispense, hand dryer, trash can	1	LS	\$9,525.00	\$9,525
Mansion	Restroom	48	228A	3.3c	patch existing tile floor	20	SF	\$50.00	\$1,000
Lilnk	expansion	176		4 1	remove portion of existing brick wall	25	LF	\$300.00	\$7,500
Lilnk	expansion	177		4 1	aluminum storefront system (6ft tall)	35	LF	\$45.00	\$1,575
Lilnk	expansion	178		4 1	concrete foundation wall/footing (approx 6ft)	35	LF	\$210.00	\$7,350
Lilnk	expansion	179		4 1	aluminum frame glass door in new storefront system (6'-0" x 7'-0")	1	EA	\$12,500.00	\$12,500
Lilnk	expansion	180		4 1	ramp with metal stud framing and vinyl finish flooring. 1:12 slope. 28 ft long (including ramps.	1	LS	\$15,250.00	\$15,250
Lilnk	expansion	181		4 1	concrete stair with granite tile to match existing 3 risers at 7" w/11"	10	LF	\$350.00	\$3,500
Lilnk	expansion	182		4 1	wood trusses, plywood sheathing for new roof	300	SF	\$28.00	\$8,400
Lilnk	expansion	183		4 1	install salvaged slate tiles on new roof structure (tiles sourced from on-site demolition)	300	SF	\$35.00	\$10,500
Lilnk	expansion	184		4 1	gyp board ceiling on metal furring	300	SF	\$18.00	\$5,400
Lilnk	expansion	185		4 1	granite tile 1'x1' to infill location of removed existing ramp and walk off mat and new area	75	SF	\$150.00	\$11,250
Lilnk	expansion	186		4 1	6" concrete slab	300	SF	\$20.00	\$6,000
Subtotal									\$2,216,820
General Construction Allowance						2%			\$44,336
Subtotal									\$2,261,156
General Conditions & Bond						15%			\$339,173
Insurance						1.8%			\$46,806
Contractor's Fee						5%			\$132,357
Design Contingency						30%			\$833,848
Construction Contingency						20%			\$722,668
SUBTOTAL: (Total Construction Costs w/o Environ.)									\$4,336,007
Environmental Allowance						2%			\$86,720
TOTAL ESTIMATED CONSTRUCTION COSTS									\$4,422,728

LOCATION	ASSET	ITEM NO.	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion & Retreat	Mansion & Retreat	E1	1.1a	Replace all type AC cable with conduit and wire feeders and branch circuits	200	LF	\$22.00	\$4,400
Mansion & Retreat	Contol System	M1	1.1a	Install a new building control system for both buildings. Field controllers shall be BACnet MS/TP devices connected to a Tridium N4 JACE. Replace the existing controller board and associated wall sensors on all fan coil units with new BACnet controllers and sensors. Reuse existing valve actuator. Provide new BACnet network communication wiring between each fan coil unit (assume 100' between units). Provide new control of two boilers, three pumps and one air cooled water chiller for the mansion. Provide control of two boilers and three pumps for the retreat center basement. Replace existing operator workstation. Replace obsolete controls on fan coil units (FCU).	1	LS	\$175,000.00	\$175,000
Retreat Building	Mechanical	M16	1.1b	Provide (1) 100 Ton Air Source Heat Pump Chiller and (1) 60 Ton Air Source Heat Pump Chiller. Provides heating only between 30-55F ambient. Provides simultaneous hot & chilled water between 55-80 F outdoors. Provides cooling only above 80 F ambient. Locate outside retreat boiler room.	1	EA	\$320,000.00	\$320,000
Mansion & Retreat	Mechanical	M17	1.1b	Provide two new hot water and two new chilled water pumps in Retreat boiler room to serve both buildings.	2	EA	\$15,000.00	\$30,000
Mansion & Retreat	Mechanical	M18	1.1b	Provide new chilled and hot water piping from the retreat boiler room to all new DOAS and AHUs n both buildings, and to mansion pump room to serve existing mansion fan coil unit water loop.	1	LS	\$138,000.00	\$138,000
Mansion	Cooling	M10	1.1bi2	Replace 80 Ton air cooled chiller with new 60 Ton variable speed scroll compressor chiller with a minimum efficiency of 0.700 kW/T.	1	EA	\$75,500.00	\$75,500
Mansion & Retreat	Mechanical	M8	1.1biii	Replace existing FCU fan motors with ECM motors.	90	EA	\$4,700.00	\$423,000
Mansion & Retreat	Photovoltaic system	E28	1.1biv	Add photovoltaic systems: (1) 45 kW and (1) 36 kW system on the Retreat building roof.	81	kW	\$3,500.00	\$283,500
Mansion & Retreat	Photovoltaic system	E29	1.1biv4	Add a 100 kWh battery storage system in the Mansion.	100	kWh	\$1,200.00	\$120,000
Mansion & Retreat	electrical	E23	1.1c	Install new branch circuits to new mechanical equipment described in the mechanical section. Large heat pump loads located near the Retreat boiler room will be fed from the main switchboard. Smaller mechanical equipment will be fed from the nearest mechanical panel.	20	EA	\$2,600.00	\$52,000
Mansion	Ventilation	M1	1.1c	Replace existing MUA unit in east basement with DOAS unit utilizing energy recovery, hot & chilled water coils, controls and room CO2 sensors. Serves the east side basement and 1st floor level.	1	LS	\$53,850.00	\$53,850
Mansion	Ventilation	M2	1.1c	Provide new DOAS unit with energy recovery, hot and chilled water coils, controls and room CO2 sensors. Serves the west side basement and 1st floor level. Existing ductwork passing through Billiards room to be removed as required by museum programming.	1	LS	\$64,200.00	\$64,200
Mansion	Ventilation	M3	1.1c	Include room CO2 sensors networked back to DOAS units above.	25	EA	\$850.00	\$21,250
Mansion	Ventilation	M4	1.1c	Provide new DOAS unit with energy recovery wheel hot & chilled water coils and controls in attic to serve 2nd floor.	1	LS	\$53,850.00	\$53,850
Mansion	Ventilation	M5	1.1c	Provide new ERV with electric heating coil to serve Servant Rooms.	1	LS	\$41,350.00	\$41,350
Retreat Building	Ventilation	M6	1.1c	Provide Dedicated Outside Air System (DOAS) unit in attic to serve Events Hall and Classroom below. Unit has energy recovery, hot & chilled water coils and DCV controls connected to Boiler/Chiller. Install piping from boiler room to attic. Install ventilation supply and return ductwork down to classroom. Install intake and exhaust air louvers.	1	LS	\$111,700.00	\$111,700

LOCATION	ASSET	ITEM NO.	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Plumbing	P2	1.1d	Install four 18" diameter by 24" deep perforated sump pits in the basement floor in different locations. Install a small sump pump in each pit and connect 1.5" PVC piping to existing drain piping in the basement. Tie to perimeter drain tile	4	EA	\$7,500.00	\$30,000
Retreat Building	electrical	E27	1.2a	Demolish all electrical components, branch circuits and feeders in the South Retreat Wing including panels LP-1A, 2A and 3A.	3	EA	\$1,800.00	\$5,400
Retreat Building	electrical	E18	1.2a	Repair damaged lighting protection downcomers at ground rod connection point at South West Corner of Retreat building to restore proper lightning protection.	1	EA	\$1,200.00	\$1,200
Retreat Building	Mechanical	M9	1.2c	Retreat Center Archives AC Unit. Replace existing and provide additional 2TON Liebert self contained DX AHU for archive area conditioning. Cross connect ductwork between the 2 units.	2	EA	\$6,800.00	\$13,600
Mansion	electrical	E25	1.3b	Replace Mansion panels CLP-1, LP-1, LP-2,	3	EA	\$6,500.00	\$19,500
Mansion & Retreat	Fire Alarm	E12	2.1a	Provide new fire alarm systems.	84,930	SF	\$4.25	\$360,953
Mansion & Retreat	EM system	E9	2.1b	Provide new exit signs. All exit signs should have 90-minute battery back-up. It appears most exit signs have battery back-up or are fed from a lighting inverter; however, some exit signs appear to not have battery back-up.	10	EA	\$420.00	\$4,200
Mansion & Retreat	EM system	E10	2.1b	Provide new inverters. Light fixtures serving exterior exits should be replaced with back-up battery type fixtures.	10	EA	\$625.00	\$6,250
Mansion & Retreat	Fire Protection	P7	2.1c	Modify to existing sprinkler head and piping system to accommodate any changes to the building that affect the coverage of the system.	1	LS	\$245,000.00	\$245,000
Retreat	electrical	E30	2.2a	Add a new branch circuit for a new elevator in the Retreat building. Include lighting, receptacles, telephone and fire alarm for a refurbished elevator machine room.	1	LS	\$20,000.00	\$20,000
Mansion & Retreat	Water Heaters	P2	2.2b	Replace existing domestic water heaters with new self-contained air source heat pump water heater system for the Retreat Center and fully intergrated air source heat pump water heater system with additional hot water storage tank for the Mansion building. Provide with epansion tank, master mixing valve and recirculating pump for each water heater. 1@60 gallon, 1@119gallon	1	EA	\$27,000.00	\$27,000
Mansion & Retreat	electrical	E24	2.2b & 3.3d	Install new branch circuits to new plumbing equipment as described in the plumbing section.	4	EA	\$1,300.00	\$5,200
Mansion & Retreat	Plumbing	P4	3.1a	Provide domestic water piping to serving new restrooms, service sinks, catering kitchen, laundry rooms and existing bathrooms in both	1	LS	\$135,000.00	\$135,000
Mansion & Retreat	Plumbing	P5	3.1b	Provide waste and vent pipe system to serving new restrooms, service sinks, catering kitchen, laundry rooms and existing bathrooms in both buildings. Existing piping to be connected to existing underground sanitary piping and existing VTRs.	1	LS	\$180,000.00	\$180,000
Retreat Building	Ventilation	M7	1.1d	Replace basement AHU with new unit with hot & chilled water coils. Remove associated condensing unit outdoors. Serves basement & 1st lobbies and toilets. Provide ERV on 1st floor for ventilation air to office and storage areas. Provide new AHU with hot and chilled water coils on 2nd floor to serve office and exhibit spaces.	1	LS	\$145,300.00	\$145,300
Mansion & Retreat	electrical	E19	3.2e & 3.3a	Replace existing Light fixtures throughout with LED, historically relevant	500	EA	\$560.00	\$280,000
Mansion & Retreat	electrical	E22	3.2e & 3.3a	Include daylight sensors in addition to occupancy controls/switches	50	EA	\$325.00	\$16,250
Mansion & Retreat	electrical	E20	3.2f	Add new lighting fixtures, code compliant controls for classroom, office spaces.	150	EA	\$375.00	\$56,250
Retreat	electrical	E26	3.2f	Replace Retreat Panels LP-B1A, CLP-1, CLP-2 and B1-EM.	4	EA	\$6,500.00	\$26,000
Mansion	electrical	E21	3.3a	Replace existing on/off switches with dimmer switch with integral occupancy sensors	120	EA	\$128.00	\$15,360

LOCATION	ASSET	ITEM NO.	Phase	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Plumbing	P6	3.3b	Provide new grease interceptor for the catering kitchen.	1	LSUM	\$25,000.00	\$25,000
Mansion & Retreat	Plumbing	P2	3.3d	Replace existing domestic water heaters with new self-contained air source heat pump water heater system for the Retreat Center and fully intergrated air source heat pump water heater system with additional hot water storage tank for the Mansion building. Provide with epansion tank, master mixing valve and recirculating pump for each water heater. 1@60 gallon, 1@119gallon	1	EA	\$27,000.00	\$27,000
Site	electrical	E15	3.6	Provide new lighting controllers. Exterior lighting controls are functional, but upgrades should be considered to install radio based dimming controls in each fixture allowing compliance with dark sky initiatives, energy savings and individual controllability.	50	EA	\$327.00	\$16,350
Site	electrical	E18	3.6	Replace post top of existing exterior light fixtures for parking lot/site lighting with dark sky compliant fixture.	50	EA	\$1,680.00	\$84,000
Chapel	mechancial		3.4	provide new HVAC system	1	LS	\$75,000.00	\$75,000
Subtotal								\$3,787,413
General Construction Allowance						2%		\$75,748
Subtotal								\$3,863,161
General Conditions & Bond						15%		\$579,474
Insurance						1.8%		\$79,967
Contractor's Fee						5%		\$226,130
Design Contingency						30%		\$1,424,620
Construction Contingency						20%		\$1,234,670
SUBTOTAL: (Total Construction Costs w/o Environ.)								\$7,408,023
Environmental Allowance						2%		\$148,160
TOTAL ESTIMATED CONSTRUCTION COSTS								\$7,556,183

LOCATION	ASSET	ITEM NO.	PHASE	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Retreat	Façade	A1	1 2b	At window heads and louvers, remove 4 courses of masonry above window lintel. Scrape and paint existing lintel. Install new flashing over lintel, cell vent weeps, and rebuild brick. Match existing brick color, mortar color, and joint style. (excludes rose windows)	940	LF	\$325.00	\$305,500
Retreat	Façade	A2	1 2b	Assume 10% of lintels will be replaced. 4"X4"X5/8"	94	LF	\$80.00	\$7,520
Retreat	Façade	A3	1 2b	Remove and replace limestone units where repair is not practical. Match existing profiles. Approx 7"x 4" x length	20	LF	\$185.00	\$3,700
Retreat	Façade	A4	1 2b	Grind and repoint masonry where step cracking from lintels extends beyond lintel rebuild area. Mortar color and joint style to match existing.	55	LF	\$25.00	\$1,375
Retreat	Façade	A5	1 2b	Route and seal cracks in limestone window heads	34	LF	\$85.00	\$2,890
Retreat	Façade	A6	1 2b	Patch spalled limestone in window surrounds. Color and profile to match existing.	11	SF	\$175.00	\$1,925
Retreat	Façade	A7	1 2b	Grind and repoint areas of deteriorated brick. Mortar color and joint style to match existing.	155	SF	\$25.00	\$3,875
Retreat	Façade	A8	1 2b	Replace spalled brick. Brick color, mortar color, and mortar joint style to match existing	60	EA	\$185.00	\$11,100
Retreat	Façade	A9	1 2b	Grind and repoint limestone head joints in door surround	5	LF	\$30.00	\$150
Retreat	Façade	A10	1 2b	Repoint joint in limestone base	2	LF	\$30.00	\$60
Retreat	Façade	A11	1 2b	Rout and seal concrete foundation crack	2	LF	\$135.00	\$270
Retreat	Façade	A12	1 2b	Patch spall in concrete foundation wall	2	SF	\$250.00	\$500
Retreat	Gutters & Downspouts	A14	1 2b	Resolder open joints in copper gutters at corners	4	LF	\$100.00	\$400
Retreat	Gutters & Downspouts	A15	1 2b	Remove and replace broken strainers on conductor boxes. Approx 16"x16"	10	EA	\$850.00	\$8,500
Retreat	Gutters & Downspouts	A16	1 2b	Clear debris from intact strainers in conductor boxes	25	EA	\$150.00	\$3,750
Retreat	Gutters & Downspouts	A17	1 2b	Clean debris from gutters and downspouts	800	LF	\$5.00	\$4,000
Retreat	Gutters & Downspouts	A18	1 2b	Provide splash blocks at gutters that extend into lawn	5	EA	\$125.00	\$625
Retreat	Roof	A19	1 2b	Remove and replace existing copper roof flashing. Approx 8" high with copper counter flashing and sealant. Remove and replace adjacent slate tiles for proper installation.	500	LF	\$150.00	\$75,000
Retreat	Roof	A20	1 2b	Seal around abandoned plumbing roof vent stacks. Approx 4" diameter	10	EA	\$115.00	\$1,150
Retreat	Roof	A21	1 2b	Grind, repaint, and seal head joints at limestone gables and limestone parapet	350	LF	\$30.00	\$10,500
Retreat	Roof	A23	1 2b	Paint exposed wood eaves, approx. 1 foot overhang.	250	LF	\$20.00	\$5,000
Retreat	Roof	A24	1 2b	Splice in new wood at rotted or damaged eaves. Match species, dimensions, and cut. Paint.	20	LF	\$150.00	\$3,000
Retreat	Roof	A25	1 2b	Paint exposed wood trim at dormers	250	LF	\$15.00	\$3,750
Retreat	Roof	A26	1 2b	Replace damaged wood trim at dormers.	50	LF	\$75.00	\$3,750
Retreat	Roof	A27	1 2b	Remove existing and provide new mod. Bit roof on turret (flat roof). Including 8" flashing with aluminum counter flashing and reglet.	700	SF	\$75.00	\$52,500
Retreat	Doors	A33	1 2b	Replace deteriorated wooden doors and frames with new HM doors and frames. 6'8" X 2'-8"	4	LS	\$4,500.00	\$18,000
Retreat	Doors	A34	1 2b	Inspect door hardware for egress functionality	4	EA	\$750.00	\$3,000
Retreat	Doors	A35	1 2b	Provide new door closers at existing wood egress doors	2	EA	\$450.00	\$900
Retreat	Façade	A13	1 2b	Patch and repair concrete on exterior of light wells	5	SF	\$250.00	\$1,250
Retreat	Roof	A22	1 2b	Remove broken tiles and replace with reclaimed slate tiles with hall hooks	20	EA	\$120.00	\$2,400
Retreat	Windows	A28	1 2b	Remove original 3'-6"w x 5'-0" steel windows, including embedded steel tabs, and replace with new aluminum windows.	116	EA	\$3,500.00	\$406,000
Retreat	Windows	A29	1 2b	Remove original 2'-6"w x 4'-0" steel windows, including embedded steel tabs, and replace with new aluminum windows.	98	EA	\$2,250.00	\$220,500
Retreat	Windows	A30	1 2b	Remove original 3'-6"w x 3'-10" steel windows, including embedded steel tabs, and replace with new aluminum windows.	34	EA	\$2,875.00	\$97,750
Retreat	Louvers	A31	1 2b	Remove and replace existing metal louvers. 2'-0" x 4'-0", include bird and insect screens	4	EA	\$1,325.00	\$5,300
Retreat	Doors	A32	1 2b	Prep and refinish existing stained wood doors approx. 7'0"x6'-0"	4	LS	\$1,500.00	\$6,000
Chapel	Façade	A35	3.4	Replace missing mosaic tiles with new tiles matching material and color.	5	SF	\$200.00	\$1,000
Chapel	Façade	A36	3.4	Remove sealant in limestone joints and replace with a compatible limestone mortar	1,900	SF	\$30.00	\$57,000

LOCATION	ASSET	ITEM NO.	PHASE	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Chapel	Façade	A37	3.4	Patch spalls in limestone units with compatible repair compound	4	SF	\$175.00	\$700
Chapel	Front Stair	A38	3.4	Prep and patch crack in front step.	4	LF	\$135.00	\$540
Chapel	Front Door	A39	3.4	Remove wood door approx. 6'-8"x7'0", patch scratches, prep and paint. Provide door closers	2	LS	\$4,500.00	\$9,000
Chapel	HVAC	A39	3.4	Remove concrete slab on grade, exscaveate and rpovide mechancial crawlspace, provide ew slab with 3'x3' trap door, new flooring. Parch wall where elecřrec heaters are abandoned	1	LS	\$35,000.00	\$35,000
Chapel	HVAC	A39	3.4	provide new exterior slab on grade, 3'x3', screen with landscaping	1	LS	\$2,500.00	\$2,500
Gate	Limestone Piers	A40	3.5	Patch spalls in limestone units with compatible repair compound	2	SF	\$175.00	\$350
Gate	Limestone Piers	A41	3.5	Remove abandoned metal anchors/elements	12	EA	\$125.00	\$1,500
Gate	Limestone Piers	A42	3.5	Replace limestone units that are not able to be repaired. Approx 4" thick	4	SF	\$150.00	\$600
Gate	Limestone Piers	A43	3.5	Route and seal cracks in limestone units	2	LF	\$85.00	\$170
Gate	Limestone Piers	A44	3.5	Grind and repoint limestone (both piers)	200	SF	\$20.00	\$4,000
Gate	Stone walls	A45	3.5	Remove cement paring over low stone walls. Approx. 2'-6" width	150	LF	\$50.00	\$7,500
Gate	Stone walls	A46	3.5	Repoint head joints in low stone wall. Approx 2'-6" width	150	LF	\$25.00	\$3,750
Gate	Stone Walls	A47	3.5	Replace missing field stone units. Multiple sizes. Size range approx. 4"x4" to 14" x10"	40	EA	\$125.00	\$5,000
Gate	Stone Walls	A48	3.5	Clean walls of biological growth	450	SF	\$7.50	\$3,375
Gate	Stone Walls	A49	3.5	Repoint stone walls approx 3ft high	150	LF	\$25.00	\$3,750
Gate	Stone Walls	A50	3.5	Remove existing deteriorated stones and rebuild	1	LS	\$15,000.00	\$15,000
garage	demo	A51	1.5	Demolish garage, remove slab on grade and return to natural landscaping	1	LS	\$20,000.00	\$20,000
Link	envelope		1 4	repair envelope	1	LS	\$50,000.00	\$50,000
Subtotal								\$1,492,625
General Construction Allowance						2%		\$29,853
Subtotal								\$1,522,478
General Conditions & Bond						15%		\$228,372
Insurance						1.8%		\$31,515
Contractor's Fee						5%		\$89,118
Design Contingency						30%		\$561,445
Construction Contingency						20%		\$486,585
SUBTOTAL: (Total Construction Costs w/o Environ.)								\$2,919,513
Environmental Allowance						2%		\$58,390
TOTAL ESTIMATED CONSTRUCTION COSTS								\$2,977,903

LOCATION	ASSET	ITEM NO.	PHASE	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Mansion	Solarium	A56	3.3a	Remove existing cane stone finish and provide new at area of moisture damage. Maintain existing faux stone pattern.	2	SF	\$500.00	\$1,000
Mansion	Main Stair Landing	A57	3.3a	Remove existing plaster finish and lath, provide new lath and cane stone finish plaster system, and paint at area of moisture damage. Maintain existing faux stone pattern. Match existing paint color.	400	SF	\$150.00	\$60,000
Mansion	Main Stair Landing	A58	3.3a	Remove existing plaster finish on ceiling at area of moisture damage and provide new. Prep and paint new plaster ceiling. Match existing paint color.	20	SF	\$150.00	\$3,000
Mansion	Circular Stair	A59	3.3a	Remove existing plaster finish on walls and provide new. Prep and paint new plaster walls. Match existing paint color.	250	SF	\$100.00	\$25,000
Mansion	Flower Closet	A60	3.3a	Remove existing plaster and lath system and provide new. Prep and paint new plaster walls and ceiling. Match existing paint color.	200	SF	\$100.00	\$20,000
Mansion	Servants Entry	A61	3.3a	Remove existing plaster and lath on walls, provide new plaster and lath system	50	SF	\$150.00	\$7,500
Mansion	Servant's Sitting Room	A62	3.3a	Provide plaster patch at cut plaster opening.	5	SF	\$150.00	\$750
Mansion	Breakfast Porch	A65	3.3a	Provide new gyp board ceiling at Breakfast porch.	350	SF	\$30.00	\$10,500
Mansion	Library	A66	3.3a	Replace missing marble stair riser approx. 6" x 12"	1	EA	\$2,000.00	\$2,000
Mansion	Dining Room	A70	3.3a	Replace cracked marble tread approx. 0--8" x 3'-0"	1	EA	\$750.00	\$750
Mansion	Dining Room	A71	3.3a	Remount existing bronze railing post to new marble tread	1	EA	\$200.00	\$200
Mansion	Dining Room	A72	3.3a	Replace cracked marble stair riser approx. 6" x 36"	1	EA	\$750.00	\$750
Mansion	Mrs. Peabody's Chamber	A74	3.3a	Remove and replace buckled floor boards. Match existing width, stain, and species.	3	LF	\$50.00	\$150
Mansion	Dressing Room	A75	3.3a	Remove and replace buckled floor boards. Match existing width, stain, and species.	4	LF	\$50.00	\$200
Mansion	Hallway	A76	3.3a	Remove and replace buckled floor boards. Match existing width, stain, and species.	4	LF	\$50.00	\$200
Mansion	Sleeping Porch	A78	3.3a	Route and seal existing concrete cracks	5	LF	\$135.00	\$675
Mansion	Main Building	A84	3.3a	Provide new R-19 fiberglass batt insulation along knee wall (between concrete floor and underside of roof). Create stud wall for insulation installation. 400LF approx. 20" high	400	LF	\$6.50	\$2,600
Mansion	Main Building	A85	3.3a	Create stud wall for insulation installation with treated wood studs. Approx. 20" high	400	LF	\$25.00	\$10,000
Mansion	Service Wing	A86	3.3a	Provide new R-19 fiberglass batt insulation along knee wall (between concrete floor and underside of roof) and on underside of roof between joists.	520	LF	\$8.00	\$4,160
Mansion	Service Wing	A87	3.3a	Provide stud wall for insulation installation with treated wood studs. Approx 15" high	50	LF	\$22.00	\$1,100
Mansion	Second Floor Bedrooms	A63	3.3a	Repair decorative plaster crown moulding in second floor main building bedrooms.	25	SF	\$220.00	\$5,500
Mansion	Second Floor Bedrooms	A64	3.3a	Replace decorative wood trim moulding on walls where previously removed. Approx. 1" to 2" wide. Match existing profiles	20	LF	\$60.00	\$1,200
Mansion	Library	A67	3.3a	Replace missing bricks and repoint at fireplace. Match existing approx. 1.5" x 8" brick tiles.	1	SF	\$350.00	\$350
Mansion	Comfort Room	A68	3.3a	Reset loose tiles in fireplace and fireplace grates. Match existing approx. 1.5" x 8" brick tiles.	1	SF	\$350.00	\$350
Mansion	Dining Room	A69	3.3a	Replace missing marble wall base approx. 0'-8" x 6'-0"	1	EA	\$1,500.00	\$1,500
Mansion	Living Room	A73	3.3a	Repaint ceiling (flat area only, not plaster decorations)	800	SF	\$3.50	\$2,800
Mansion	Tub	A77	3.3a	Remove existing non-historic tile from room Tub 240 and replace with plaster.	15	SF	\$150.00	\$2,250
Mansion	Sleeping Porch	A79	3.3a	Provide new plaster wall system over existing concrete walls. (300 SF)Prep and paint. Include wood trim to match existing. (40LF of wood trim approx 1 1/2" wide)	1	LS	\$30,000.00	\$30,000
Mansion	Main Building	A80	3.3a	Prep and paint existing plaster walls on the second floor of the main building. (excludes service wing and areas called out for painting elsewhere.)	7,000	SF	\$3.50	\$24,500
Mansion	Main Building	A81	3.3a	Prep and paint existing plaster ceilings on the second floor of the main building. (excludes service wing)	5,000	SF	\$3.50	\$17,500
Mansion	Main Building	A82	3.3a	Prep and paint existing wood doors on the second floor of the main building. Typ. 2'-8" x 6'-8"	25	EA	\$650.00	\$16,250
Mansion	Service Wing	A83	3.3a	Prep and paint existing wood doors on the second floor of the service wing. Typ. 2'-8" x 6'-8"	17	EA	\$650.00	\$11,050
Mansion	Attic	A88	3.3a	Prep and paint concrete lightwell	100	SF	\$15.00	\$1,500
Mansion	Basement	A89	3.3a	Remove existing plaster and lath on walls, provide new plaster and lath system in toilet room and billiard room.	200	SF	\$100.00	\$20,000
Mansion	Basement	A90	3.3a	Provide tile patching in Turkish Bath. Match existing white glazed tile	5	SF	\$150.00	\$750

LOCATION	ASSET	ITEM NO.	PHASE	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION
Retreat Building	Office		3.2a	Build out interior spaces	1,250	SF	\$175.00	\$218,750
Retreat Building	Third Floor	A91	3.2b	Repair holes in plaster ceiling between third floor and attic level, multiple locations	20	SF	\$150.00	\$3,000
Retreat Building	Interior spaces		3.2b	Build out interior spaces	12,650	SF	\$135.00	\$1,707,750
Retreat Building	Area 101	A92	3.2a	Provide patch in concrete where rebar is exposed.	1	LS	\$2,500.00	\$2,500
Retreat Building	Area 201	A94	3.3a	Provide patch in concrete ceiling where rebar is exposed.	1	SF	\$450.00	\$450
Retreat Building	All	A95	3.3a	Provide plaster repair and painting in stair wells	5,820	SF	\$4.25	\$24,735
Subtotal								\$2,461,970
General Construction Allowance						2%		\$49,239
Subtotal								\$2,511,209
General Conditions & Bond						15%		\$384,067
Insurance						1.8%		\$52,115
Contractor's Fee						5%		\$147,370
Design Contingency						30%		\$928,428
Construction Contingency						20%		\$804,638
SUBTOTAL: (Total Construction Costs w/o Environ.)								\$4,827,828
Environmental Allowance						2%		\$96,557
TOTAL ESTIMATED CONSTRUCTION COSTS								\$4,924,384



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MEP Masterplan Energy Report

Forest Preserve of DuPage County - Mayslake
Peabody Estate Planning Study
2023-0549

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AltusWorks

June 13, 2024

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Executive Summary

The Energy scope for Mayslake Peabody Estate included Phase 1: Calibrated Energy Model and Phase 2: Masterplan Energy Evaluation. The calibration of the energy model to the existing building performance affords further confidence that the changes implemented in the model in Phase 2 reflect predicted energy savings. Three MEP options were evaluated in the Masterplan:

- Option 1: High Efficiency Natural Gas Heating & Electric Cooling
- Option 2: Energy Efficient - Partial Electrification
- Option 2A: Energy Efficient - Partial Electrification + On Site Renewable Energy
- Option 3: Full Electrification + On Site Renewable Energy.

Option 2A: Partial Electrification with On Site Renewable Energy has been selected by the owner as the option to pursue and implement. This includes a new electric, air source heat pump; providing hot and chilled water in the Mansion and Retreat building. The existing natural gas boiler in both buildings will remain to supplement heating during low ambient temperatures. A new electric, air source heat pump water heater will be installed for the Mansion and Retreat wing for the service hot water service. An approximate 49 kW and 32 kW array on the south facing portions of the Retreat building.

Option 2A affords a 73.7% energy savings, 40.6% energy cost savings, 74.9% greenhouse gas savings today, and 91.9% greenhouse gas savings in 2050 from the calibrated energy model.

Phase 1 Calibrated Energy Model

Approach

The Baseline Energy Analysis is the first step towards being able to evaluate various energy efficiency measures related to the building envelope, lighting systems, program, operations, and MEP options to assess the building performance of Mayslake Peabody Estate. By using a calibrated energy model that is in alignment with the actual building operational data; the team can be confident that the model will capture predicted realized impacts to the energy performance of future measures to be evaluated.

This analysis has been performed to meet the requirements found in the Whole Building Calibrated Simulation compliance pathway of ASHRAE Guideline 14 – Measurement of Energy and Demand Savings. This guideline requires that the Coefficient of Variation of the Root Mean Square Error be found to be less than 15, and the Normalized Mean Bias Error be less than 5.

Existing Building

Utility Data

Historic utility data has been provided for the natural gas service (two meters) and electric service (one meter) for the Mayslake Peabody Facility for the full years of 2021-2022. The monthly energy consumption for the utilities has been normalized to appropriate the energy consumption per day of the billing period to the calendar months' cumulative day, **Figure 1**. The data for calendar year 2022 has been used for the calibration process.

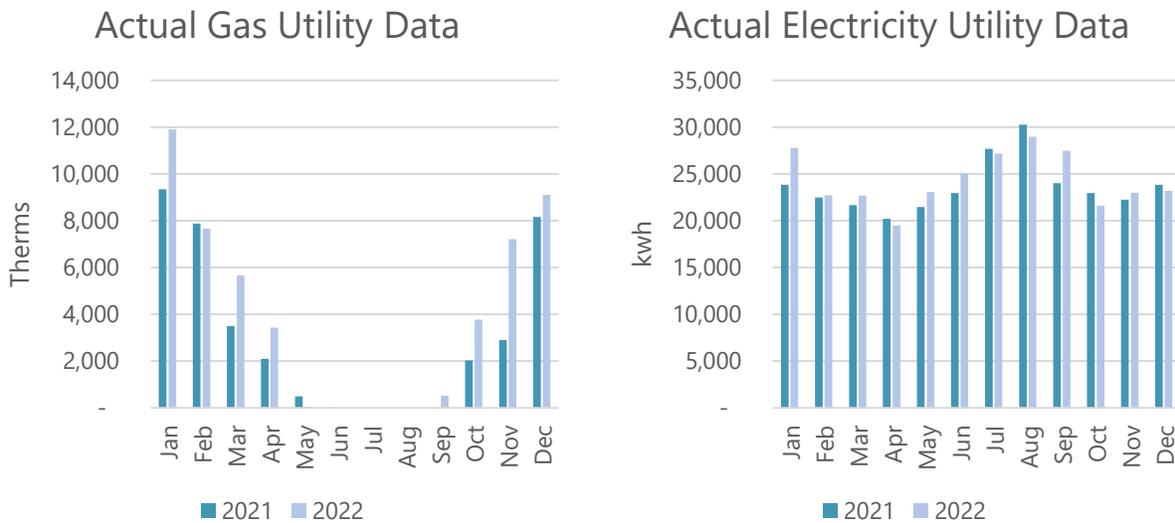


Figure 1 – Existing Utility Data Summary

Simulation Weather

The energy simulation utilized an Actual Month Year (AMY) weather data file acquired from the coordinates of the site for the entirety of 2022 to coincide with the utility data provided. The temperature quartiles per month found in the weather file are displayed in **Figure 2**.

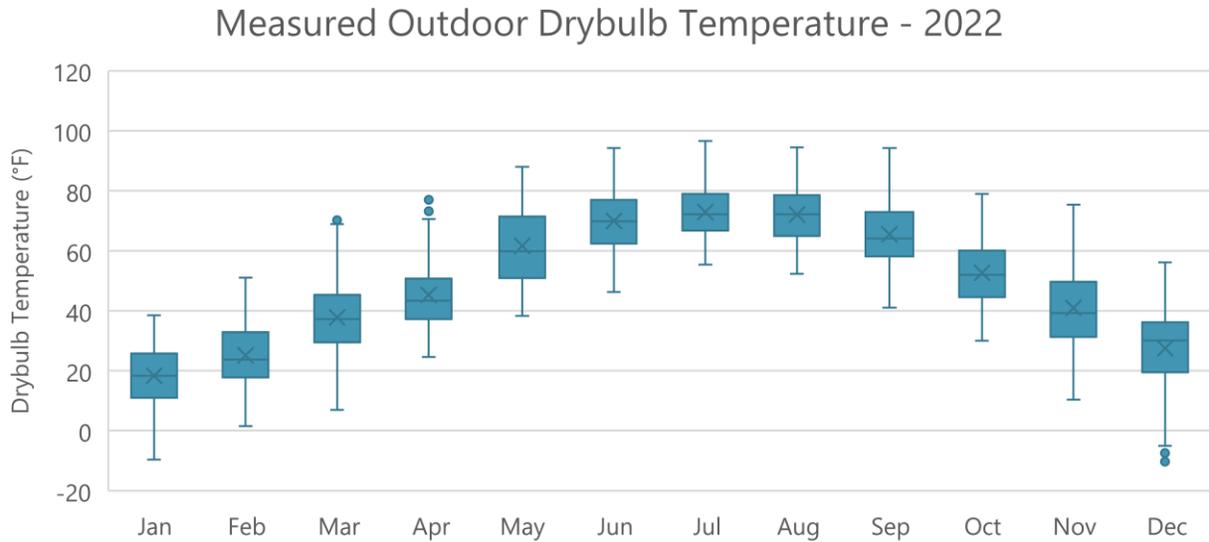


Figure 2 – Oak Brook 2022 Outdoor Drybulb Temperature

Calibration Results

The comparison between the actual utility data for 2022 and the modeled 2022 scenario have been calibrated to meet the ASHRAE 14 guidelines to ensure future modeling efforts will accurately depict realized savings.

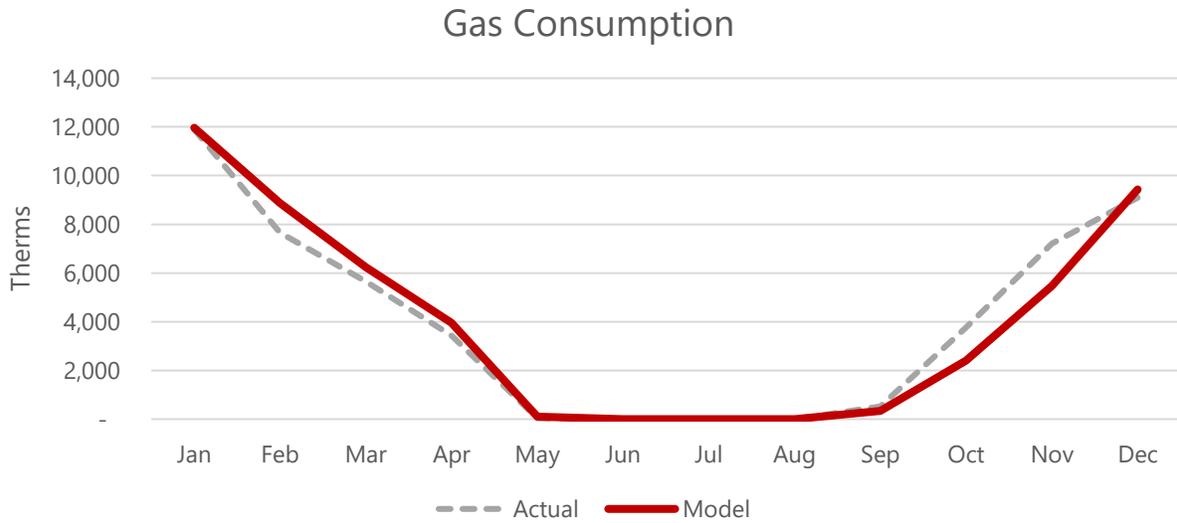


Figure 3 - Gas Consumption Calibration

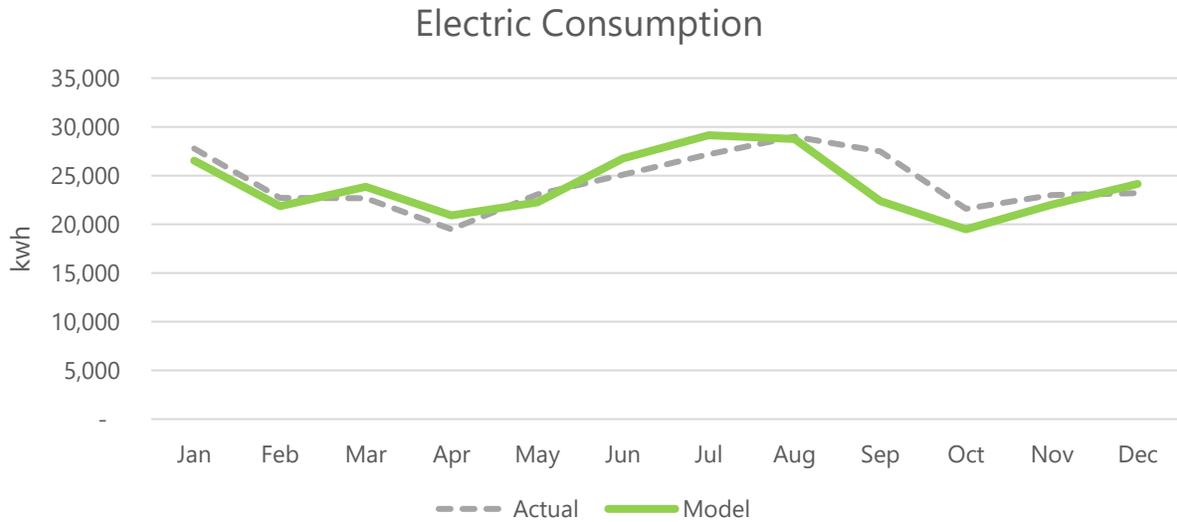


Figure 4 – Electric Consumption Calibration

Energy Use Intensity (EUI) Comparison

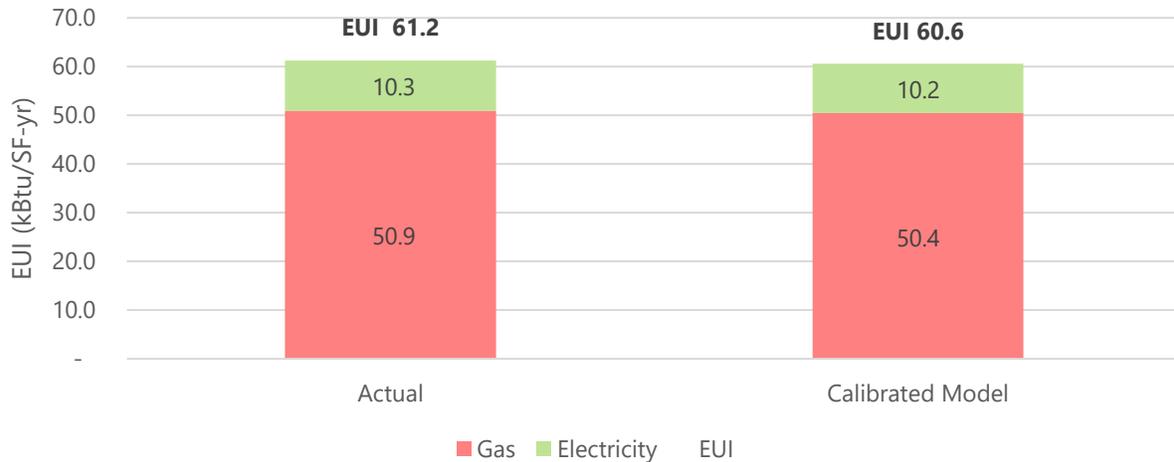


Figure 5 – EUI Comparison

Month	Gas Consumption (therms)		Electric Consumption (kwh)		Total Energy (kBtu)	
	Actual	Model	Actual	Model	Actual	Model
Jan	11,896	11,965	27,776	26,522	1,284,411	1,287,006
Feb	7,661	8,873	22,709	21,867	843,602	961,954
Mar	5,655	6,240	22,680	23,857	642,880	705,404
Apr	3,430	3,953	19,490	20,895	409,490	466,585
May	44	104	23,064	22,237	83,071	86,285
Jun	2	-	25,076	26,767	85,785	91,330
Jul	1	-	27,185	29,139	92,885	99,421
Aug	3	-	28,990	28,754	99,165	98,108
Sep	522	334	27,480	22,395	145,954	109,829
Oct	3,765	2,408	21,600	19,476	450,224	307,212
Nov	7,211	5,474	22,994	22,017	799,510	622,535
Dec	9,096	9,434	23,195	24,150	988,736	1,025,818
Annual	49,286	48,786	292,239	288,076	5,925,713	5,861,487
Energy Use Intensity (kBTU/SF-yr)					61.2	60.6

Table 1 – Energy Consumption Summary

Phase 2 Masterplan Energy Evaluation

Energy Model

The calibrated energy model from Phase 1 was used as a starting point. Various internal gains and schedule of use were modified to reflect anticipated future program and usage of the Estate, including museum, classroom, and administrative uses. In addition, mechanical cooling was added to the retreat building which is currently heated only, with the exception of the archive space on the top floor. The south wing of the Retreat building was also removed as the architectural masterplan for the building includes its demolition.

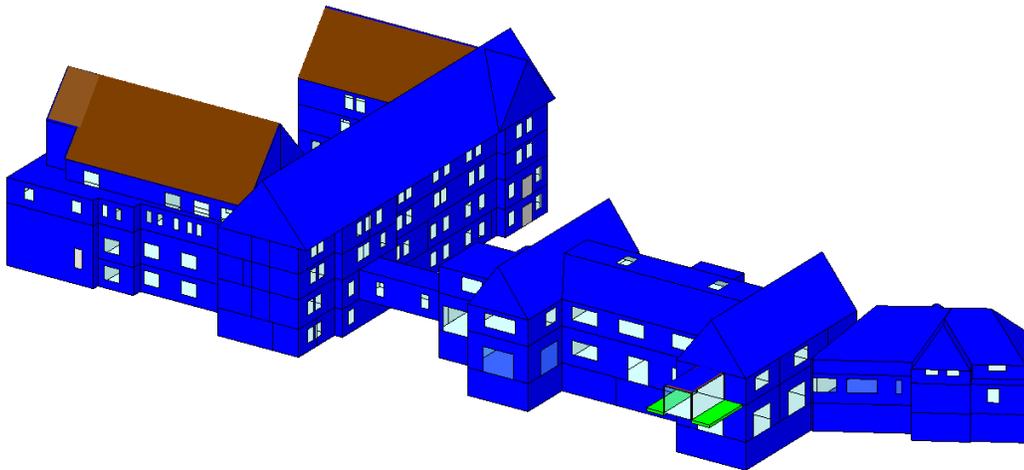


Figure 6 - Phase 2 Energy Model (Brown Roof Area is PV in Option 2A/ 3)

MEP Options

Three unique options have been proposed for the Mechanical, Electrical and Plumbing systems at the Estate. These three options are largely focused on improving the energy efficiency, plant reliability and greenhouse gas emission associated with operating the building. MEP Options presented will have the same ventilation strategy and terminal units. The heating and cooling plants along with the service hot water strategies will differ. The two pipe fan coil units will be responsible for space conditioning throughout the Mansion and Retreat buildings. An additional air cooled AHU will be added to serve the archive area in the Retreat building. New dedicated outdoor air systems will be serving the Mansion. New dedicated outdoor air systems, and new air handling units, along with existing air handling units and a new energy recovery unit will be serving the Retreat building.

Option 1: High Efficiency Natural Gas Heating & Electric Cooling

Option 1 of the MEP Masterplan will install new condensing natural gas boilers in the Mansion and Retreat building. For both the Mansion and Retreat hot water plants; one existing non-condensing boiler will remain; expected to fire along with the condensing boiler at low ambient temperatures. New high efficiency air cooled chillers will also be installed to service both buildings. A new condensing natural gas boiler will be installed for the Mansion and point of use electric water heater will be used in the Retreat wing.

Option 2: Energy Efficient - Partial Electrification

Option 2 of the MEP Masterplan will install new electric, air source heat pump; providing hot and chilled water in the Mansion and Retreat building. The existing natural gas boiler in both buildings will remain to supplement heating during low ambient temperatures. A new electric, air source heat pump water heater will be installed for the Mansion and Retreat wing for the service hot water service.

Option 2A: Energy Efficient - Partial Electrification + On Site Renewable Energy

Option 2 of the MEP Masterplan with on site solar PV arrays: An approximate 49 kW and 32 kW array on the south facing portions of the Retreat building.

Option 3: Full Electrification + On Site Renewable Energy

Option 3 of the MEP Masterplan will install a new geothermal field with water source heat pumps supplemented with an air source heat pump to provide hot water during colder hours of the year; to help balance the heat rejection and acquisition loads to the field. A water to water heat pump will be provided to provide DHW to the catering kitchen. Option 3 will also include on site solar PV arrays: An approximate 49 kW and 32 kW array on the south facing portions of the Retreat building.

Category	2022 Calibrated Energy Model	Envelope & Program Update	Option 1	Option 2/2A	Option 3
Heating Plant	Existing non-condensing Gas Boilers		New Condensing Gas Boilers + Existing boiler to supplement	Air Source Heat Pumps with existing boiler to supplement	Geothermal + Water source heat pumps
Cooling Plant	Existing Air Cooled Chiller (Mansion) None (Retreat)		New Air Cooled Chillers		Air source heat pump to supplement heating load to balance bore field
Service Hot Water	Point of Use Electric Water Heaters		New Condensing Gas Boiler	Air source heat pump	Air source heat pump

Table 2- MEP Masterplan Options Summary

Results

Energy

The predicted Energy Use Intensity (pEUI) is a measurement that describes a building's annual site energy consumption relative to the building's gross square footage. It is an expression of the total annual amount of all energy sources (typically in kBtu, normalized unit of energy) consumed on-site either metered or as a comparative average. Site EUI contains a mixture of what is called primary energy (i.e., a raw fuel like natural gas) and secondary energy (i.e., a converted product like electricity or district steam).

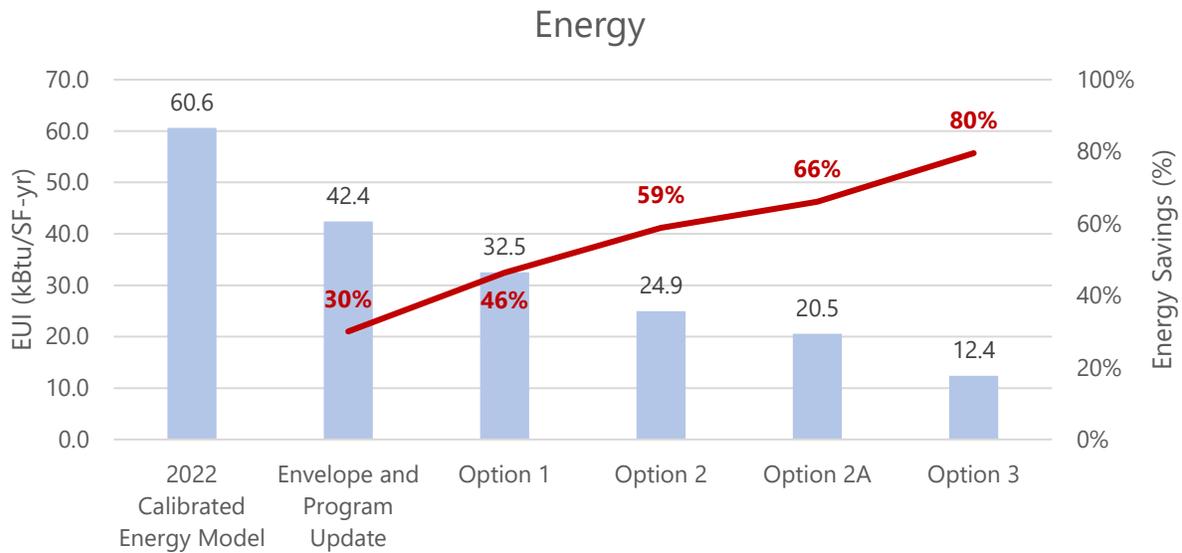


Figure 7 – Energy Evaluation

Utility	2022 Calibrated Energy Model	Envelope & Program Update	Option 1	Option 2	Option 2A	Option 3
Natural Gas (therms)	48,786	23,019	16,966	3,343	3,343	0
Electricity (kwh)	288,076	256,428	216,812	449,962	353,111	271,883
Total Energy (kBtu)	5,861,489	3,176,804	2,436,345	1,869,552	1,539,098	927,665

Table 3 – Energy Summary Data

Energy Cost

The predicted Energy Cost Index (pECI) reflects the annual energy cost per square foot of gross floor area, expressed in \$/SF. The energy cost is a function of energy use, unit cost of energy, demand charges, and other utility charges (taxes, fees, energy efficiency programs, etc.) which may or may not be directly related to energy use.

Historic utility data has been provided for the natural gas service (two meters) and electric service (one meter) for the Mayslake Peabody Facility for the full calendar years 2021 and 2022. The data for calendar year 2022 has been used for the natural gas and electricity rates.

	Gas Consumption (therms)	Gas Cost	Electric Consumption (kwh)	Electricity Cost
Jan	11,896	\$ 3,939	27,776	\$ 2,099
Feb	7,661	\$ 4,955	22,709	\$ 1,900
Mar	5,655	\$ 3,645	22,680	\$ 1,837
Apr	3,430	\$ 2,635	19,490	\$ 1,703
May	44	\$ 1,754	23,064	\$ 1,985
Jun	2	\$ 351	25,076	\$ 1,773
Jul	1	\$ 332	27,185	\$ 1,950
Aug	3	\$ 333	28,990	\$ 1,900
Sep	522	\$ 336	27,480	\$ 1,840
Oct	3,765	\$ 589	21,600	\$ 1,405
Nov	7,211	\$ 3,491	22,994	\$ 2,764
Dec	9,096	\$ 6,531	23,195	\$ 3,057
Total	49,286	\$ 28,890	292,239	\$ 24,211
2022 Utility Rates	\$0.59/therm		\$0.083/kwh	

Table 4 – 2022 Utility Cost

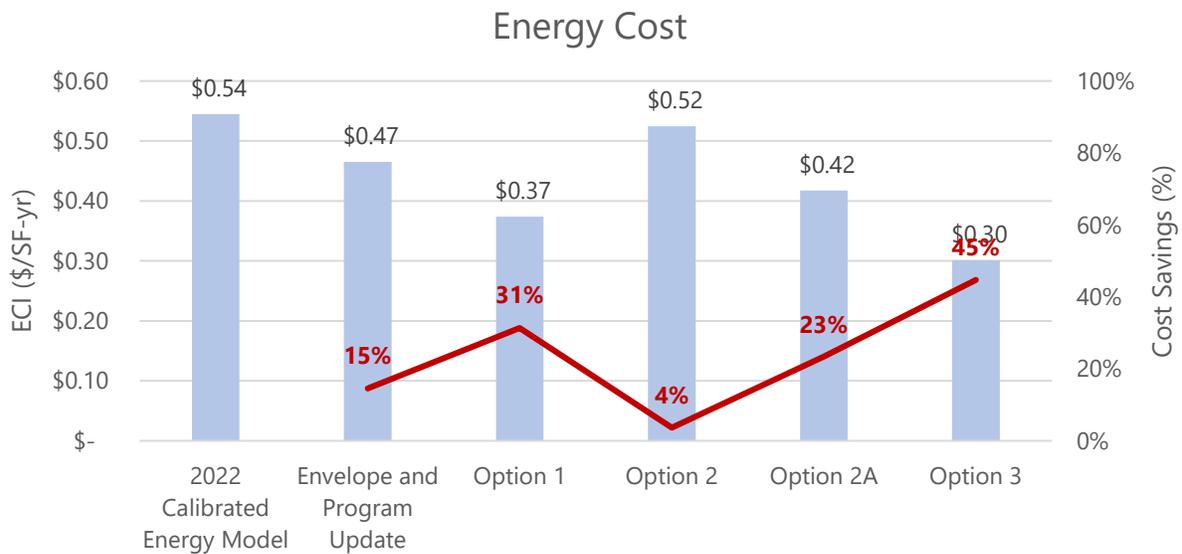


Figure 8 – Energy Cost Evaluation

Utility	2022 Calibrated Energy Model	Envelope & Program Update	Option 1	Option 2	Option 2A	Option 3
Natural Gas (\$)	28,784	13,581	10,010	1,972	1,972	-
Electricity (\$)	23,910	21,284	17,995	37,747	29,308	22,566
Total Energy Cost (\$)	52,694	34,865	28,005	39,347	31,281	22,566

Table 5 – Energy Cost Summary Data

Greenhouse Gas Emissions

Greenhouse Gas (GHG) Emissions released into the atmosphere as a result of energy consumption at the property are comprised of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) gases. GHG emissions are expressed in carbon dioxide equivalent (CO₂e), a universal unit of measure that combines the quantity and global warming potential of each greenhouse gas. Emissions are reported as a total amount in metric tons (MT-CO₂e).

In 2021 Illinois passed the Climate and Equitable Jobs Act (CEJA) which establishes 100% clean energy by 2050 as a state policy. The electric GHG emissions used for the Mayslake Peabody Facility are from the National Renewable Energy Laboratory (NREL) Cambium dataset, Cambium. The data for the project's Generation and Emission Assessment (GEA) region: PJM West. By 2050 the PJM West GEA region is predicted to be utilizing nuclear power, land based wind and utility scale PV as the three largest energy generating technologies. The electric GHG emission factors are based on a 26 year period from present day with a 95% decarbonization scenario by 2050.

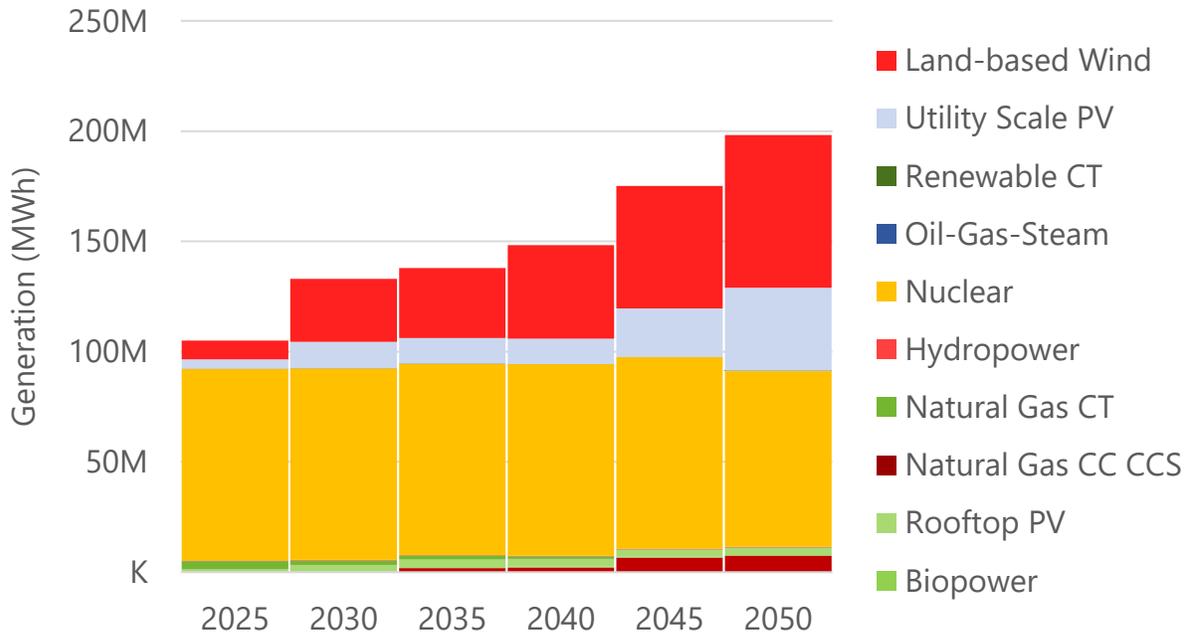


Figure 9: PJM West Generation Technologies

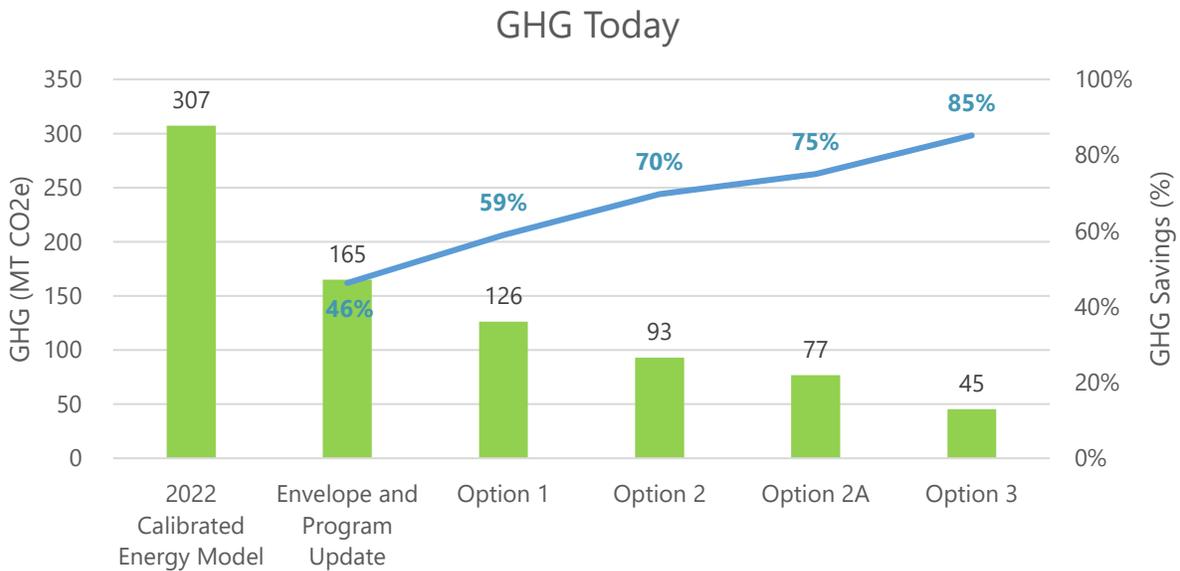


Figure 10 – GHG Emissions Evaluation Today

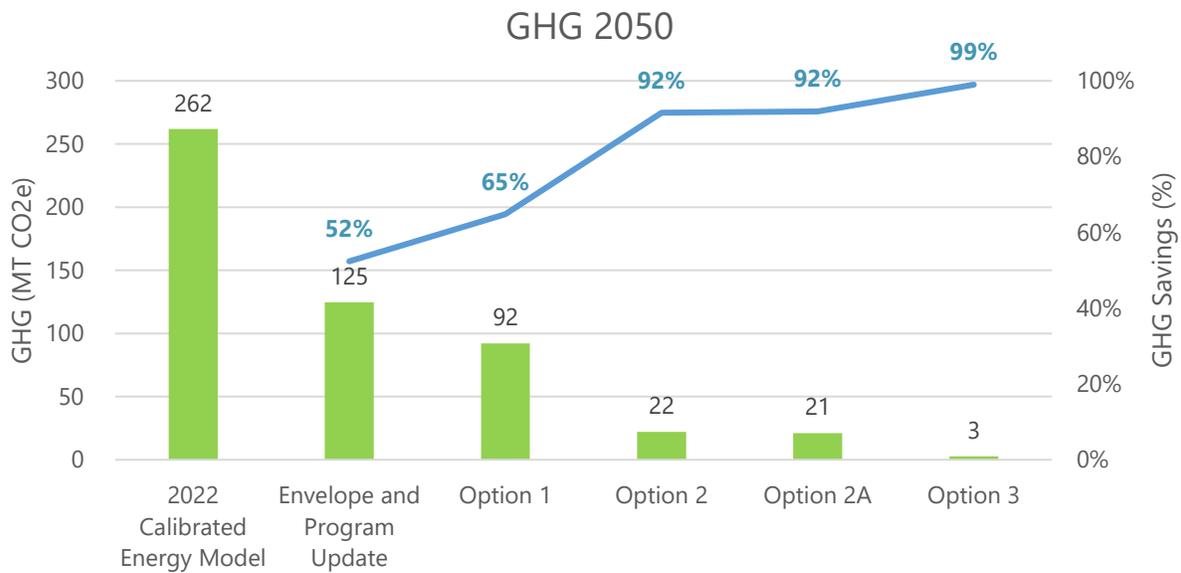
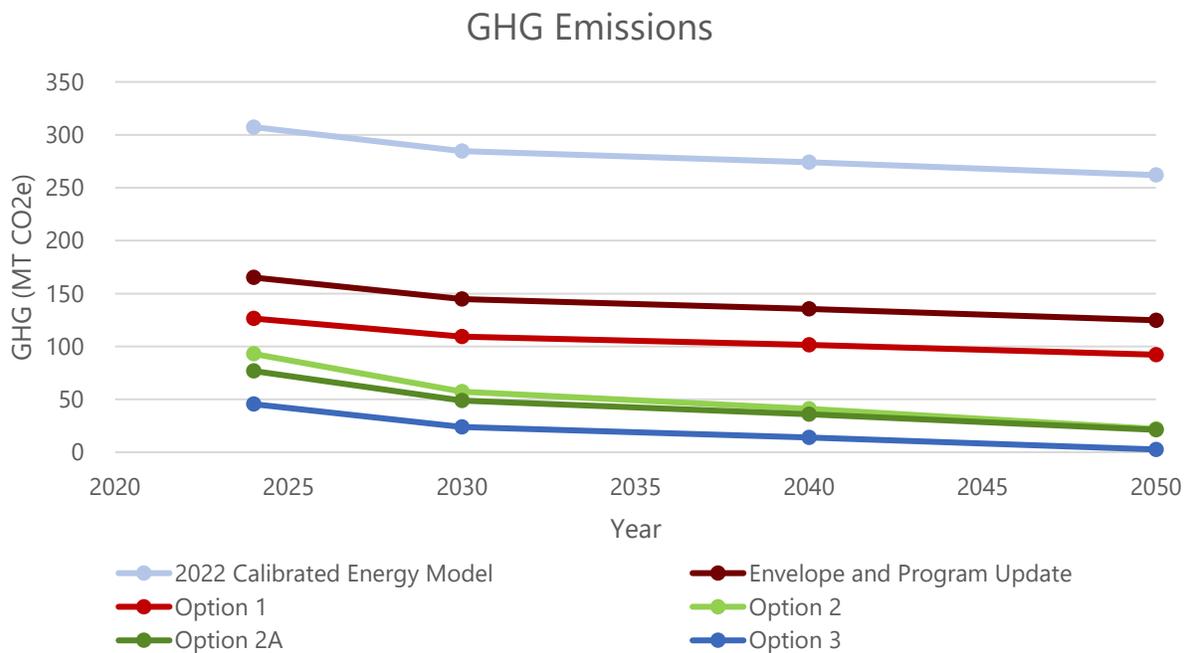


Figure 11 – GHG Emissions Evaluation Projected 2050



Utility	2022 Calibrated Energy Model	Envelope & Program Update	Option 1	Option 2	Option 2A	Option 3
Natural Gas (MT CO ₂ e)	259	122	90	18	18	0
Electricity (MT CO ₂ e)	48	43	36	75	59	45
GHG Today (MT CO₂e)	307	165	126	93	77	45
GHG 2030 (MT CO ₂ e)	284	145	109	57	49	24
GHG 2040 (MT CO ₂ e)	274	136	101	41	36	14
GHG 2050 (MT CO ₂ e)	262	125	92	22	21	3

Table 6 – Energy Cost Summary Data

Economic Incentives

Inflation Reduction Act

The Inflation Reduction Act (IRA) of 2022 was a history making \$369 billion investment into the transformation of the United States’ energy infrastructure. The IRA is projected to drive GHG emissions down 40% by 2030 across the US grid, reduce emissions by about 1 gigaton by 2030, reduce energy costs for consumers, create hundreds of thousands of new jobs, and develop access to clean energy technologies through the lens of equity that historical byproducts of the energy industry have largely ignored.

Specific energy tax incentives in the IRA which may be applicable to this project (via the “elective pay” or otherwise know as “direct pay” option for tax exempt and government entities) include but are not limited to:

- **Extension and Modification of Energy Credit** (Section 13102): ground source heat pumps, solar technologies, energy storage systems, geothermal electricity will see credits ranging from 6% - 70%.
 - *The Ground Source Heat Pump Installation highlighted as Option 3 in this report may be eligible for up to 50% Elective Pay.*

- **179d - Energy Efficient Commercial Buildings Deduction** (Section 13303): expands the existing Energy-Efficiency Commercial Buildings Deduction based on actual cost savings generated by the energy efficient systems rather than the fixed amount by square footage. Tax- exempt owner(s) can allocate the tax deduction to the person designing the property. Deductions as high as \$5.00/SF are possible.
 - Option 1 may be eligible for approx. \$4.6/sf for achieving a 46% reduction in EUI when considering envelope and MEP projects together
 - Options 2 and Option 3 may be eligible for the full \$5.00/sf for achieving a greater than 50% reduction in EUI when considering the envelope and MEP projects together.
 - For tax exempt entities this payment can be assigned to the designers of the project. It is unclear if this can be secured by the owner as "Elective Pay".
- **Cost Recovery for Qualified Property, and Energy Storage Technology (Section 13703)**: offers an additional tax deduction, over a 5 year depreciation model, taking bigger deductions earlier in the lifespan of the clean energy investment.

For all Inflation Reduction Act credits/deductions, the County should consult with a Certified Professional Accountant and/or Tax Specialist in planning out how these funds may be used.

Utility Incentives

Various utility incentive programs exist from ComEd and Nicor gas. Incentive dollars are made available on an annual basis for specific programs related to both utility and focus on energy efficiency measures. The IRA funding also offers incentives to utility companies for the cleaner generation of energy.

For the purposes of a masterplan it can be expected that incentive dollars will be available at the time of implementation, but that the specific programs and program dollars available will need to be verified at that time. As of April 2024, Nicor gas offers custom incentives based on estimated therms saved capped at \$350,000 or 35% of the project cost, whichever is less. ComEd offers custom incentives for qualified projects based on estimated kwh (\$0.18/kwh) saved capped at 100% of the project cost, while funds remain.

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Mayslake Peabody Estate

Facility Condition Assessment Report

October 30, 2023



Mayslake Peabody Estate

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A. Executive Summary

The Forest Preserve District of DuPage County engaged AltusWorks to perform a Facility Condition Assessment of five structures at the Mayslake Peabody Estate located at 1717 31st Street in Oak Brook, Illinois. The interior of the Peabody Estate mansion, the interior and exterior of Retreat Wing, the Portiuncula Chapel, the stone Gate, and the green Garage were included in the assessment. The purpose of the assessment was to review the conditions of the existing building materials and systems. The following report will note the observations made during the assessment and provide general recommendations for repair and restoration of deteriorated conditions. The recommendations are intended to maintain the functionality of the current building systems until a full rehabilitation can be undertaken.

On September 13, 2023, a team from AltusWorks, including Katherine Pohl and Keshia Patel, performed the architectural assessment. On September 20, 2023, a team from Interface Engineering performed an assessment of the mechanical building systems. Observations were visual in nature and recorded on drawings and in photographic format. AltusWorks and Interface reviewed information available, such as original plans and previous reports, provided by the Forest Preserve. To supplement this information, a laser scanner, Laser Scan Chicago, was employed by AltusWorks to create three-dimensional models of the spaces being assessed. The Concord Group prepared an opinion of probable costs to implement the recommendations and is included in the appendix.

Please see appendix A for floor plans identifying spaces.

B. Current Conditions & Recommendations – Architectural

1. Mansion Building - Interior

a. Architectural Description:

The mansion building is comprised of two parts, the main building and the service wing. The main structure of the building is concrete. It was constructed in 1920.

The main building is currently occupied for employee offices and exhibits. Public tours are offered of the first and second floors. The first floor has a central main entrance leading straight through a Vestibule to a small Entry Hall, which connects to the Living Room, Study, and Reception Room. This central section of the house is flanked by a west wing containing the Library and Sun Porch, and an east wing that includes the Dining Room and Breakfast Porch and also connects to the service wing. The Entrance Hall and Living Room are slightly raised, with steps leading down to the Vestibule, Dining Room, and Library.

The first floor walls are finished in plaster, except for the Library and Study which are finished in wood paneling and casework. The Study also has one wall finished in stone. Plaster finishes in the Solarium and Entrance Hall are detailed to resemble stone. The Dining Room contains decorative plaster dentil crown moldings and wall trim, and the Living Room features highly ornate plaster ceiling trim and crown moldings. There is marble flooring throughout the first floor, except for the Library and Study which have hard wood flooring. The historic main entry opens onto the two-story Entry Hall which hosts a decorative wood stair connecting the first and second floors. On the second floor, this stair opens up to a long central hallway that provides access to the original six Chambers (bedrooms), the Peabody's Sitting Room, Flower Room, Linen Closet, and a discrete connection to the Service Wing. The second floor walls have a plaster finish, except for the Sitting Room which is finished in wood paneling. Wood trim decorates the plaster walls with a tall wood base and accent trim to panelize the walls. All the Chambers also have decorative plaster crown molding and hard wood flooring, and each has a bathroom finished with tile flooring and a tile wainscot. There



is plaster finish above the wainscot. Doors throughout are panelized style and rail doors with ornamental hinges and knobs.

The two-story Service Wing is accessible from rooms on both floors of the main building. On the first floor, a Butler's Pantry links the mansion's formal Dining Room to the Service Wing's Kitchen, Servant Sitting Room, Ironing Room, and Laundry Room. Part of the Service Wing's first floor is currently occupied by office space. Former work rooms and the Servant's Sitting Room have plaster wall finishes with concrete floors. The former Butler's Room original flooring has been replaced by carpeting and vinyl base. The Kitchen and Butler's Pantry have a concrete floor with ceramic tile wall finishes. Only one wall of the Kitchen is finished in plaster whereas the others are covered in modern ceramic tile. The second floor of the Service Wing contains the original servants' quarters, comprised of six Servants Chambers, a tub and toilet room, one access stair and a two-room housekeeper suite, all connecting to the main house by a Corridor with access to the larger main Hallway. These quarters are typically finished with flat plaster walls and ceilings with concrete flooring and simple wood running trim and door casing. The bathrooms have ceramic tile wainscot and flooring. Adjacent to the sleeping rooms, there are separate Tub and Toilet Rooms. The Tub Room has modern ceramic tile above the original ceramic tile wainscot. Doors along the corridor and within select rooms provide access into the uninsulated eave spaces. Modern mechanical equipment, ductwork, and conduits have been routed through many of these spaces.

A full height basement extends under the Mansion, including the Service Wing. Many of the rooms are empty and have painted concrete or brick walls. Underneath a portion of the Mansion are rooms which functioned as an extension of the living spaces. The largest of these rooms, directly below the Library, is the Billiard Room. This is a rectangular room with tile flooring, stone fireplace, and plaster walls. A wooden door provides access directly to the exterior. Adjacent to this is the Turkish Bath, which is finished entirely in ceramic tile with a flat plaster ceiling. A small Bathroom on this level has a ceramic tile floor with flat plaster walls and ceiling. The stair hall leading to the main entrance is finished with plaster walls and ceramic tile flooring.

The Mansion has an attic unifying the main house and the Service Wing. The attic is mainly unfinished with concrete floors and exposed roof structure. Insulation has been installed between the roof rafters. Uniquely, there are two smaller chambers that have retained their original plaster wall finishes.

Connecting all three floors is a small spiral staircase with landings on the second floor Sitting Room, the first floor Study, and the basement Stair Hall. It is also concrete with plaster walls. At the sitting room, the door is concealed in the wood paneling and at the Study, concealed behind a bookcase. A steel vault door secures access to and from the stairs at the basement.

As is typical with historic structures there are multiple level changes within each floor plate creating complex barriers to accessibility.

b. Overview of condition

A current project, involving window replacement, masonry repairs, roof repairs was ongoing at the time of the site visit. Due to the current exterior restoration project, an assessment of the exterior of the building was not included in our scope of services.

Most interior decorative elements are in fair condition; however, areas of plaster damage and warped floorboards were observed. Plaster damage appears to be related to water infiltration from the exterior. The current project plans to correct those breaches to allow for repair and restoration of the interior finishes. Most often these



damaged areas were isolated, some exceptions were the Flower Closet, the Service Entry, the circular Stair, and the Main Stair Hall. In these spaces plaster damage was more extensive and over large areas. In the Breakfast Porch the finish ceiling was missing, presumably plaster. Above this room, the Sleeping Porch also appeared to be missing plaster finishes. One area of extant plaster finish with wood decorative trim remains on the south wall of the room. Cracking concrete was visible on the unfinished walls.. Plaster damaged was also observed in the basement in the Bathroom and in the Billiard Room. While the deterioration in the Billiard Room may be due to moisture, the plaster in the Bathroom appears to have been damaged to create pipe access. Plaster damage appears to be related to water infiltration from the exterior. The current project plans to correct those breaches to allow for repair and restoration of the interior finishes. Reportedly interior painted surfaces have had their lead paint abated and/or encapsulated.

Some areas of ceramic tile were missing in the Kitchen and Butler's Pantry, this appeared to be due to previous renovations and repairs. Tile in the Bathrooms appeared in fair condition, with some cracking typical of its age. Several tiles were missing in the Turkish Bath, which appeared to be related to the necessity of obtaining mechanical access.

Previous use of the building required the addition of multiple plumbing fixtures which have since been removed. The plumbing servicing these fixtures was left intact but capped where they penetrate the wall. Original plumbing elements remain but are not currently functional.

The attic levels have been utilized to provide space for mechanical equipment and fire sprinkler piping. Finishes were removed as needed for their installation. The remaining painted plaster walls in the main attic are peeling heavily. The skylight into the attic also contains peeling and cracking plaster.

Base moisture levels in the basement were noted to be high and water seepage into the basement has been reported. The current project will reportedly regrade around the building at select locations and install two exterior sump pumps. The impact of these changes to mitigate the water infiltration has yet to be demonstrated.

c. Recommendations

Repair recommendations within the 0–5-year period are intended to arrest further damage to historic fabric. Repair recommendations within the 5–10-year period are intended to complete the interior restoration. Care will need to be taken when repairing historic materials for technical compatibility and to match size, shape, color, texture, and materials.

1. 0-5 Years

- a. Repair plaster damage in the Solarium, at the landing of the main stair, in the circular stair, Flower Closet, and Servant's Entry. **Note that Solarium and the main stair hall have a caen stone finish.**
- b. Reset loose marble stair riser between Library and Living Room.
- c. **Replace cracked marble tread on stair between Living Room and Library. Re-anchor existing bronze handrail post to new tread.**
- d. Provide new insulation along knee wall (between concrete floor and underside of roof) in both main building and service wing.
- e. Provide insulation between rafters in the Servant's Wing.
- f. Prepare and paint flat ceiling in Living room.
- g. Replace buckled or chipped wood plank flooring.
- h. Repair concrete cracking in Sleeping Porch.
- i. Mitigate basement water infiltration.



2. 5-10 Years

- a. Reset loose fireplace tiles and replace missing tiles in fireplace grates.
- b. Replace missing marble base in Dining Room.
- c. Repair decorative plaster trim throughout the second-floor bedrooms.
- d. Provide plaster ceiling in the Breakfast Porch
- e. Paint existing plaster walls on the second floor of the main building.
- f. Paint existing plaster ceilings on the second floor of the main building.
- g. Paint existing wood doors on the second floor of the main building and service wing
- h. Remove existing non-historic tile from room Tub 240 and replace with plaster.
- i. Patch and repair concrete at light wells

2. Retreat Wing

a. Architectural Description:

The Retreat Wing is comprised of three main floors plus an attic space and basement. A cornerstone on the building notes that it was built in 1950. On a portion of the first floor and all of the second and third floors, the interior partition, wall and ceiling finishes, electrical and plumbing systems have been removed down to the structure. Limited egress lighting remains. The floors are wide open with only the exterior brick walls and the cast in place concrete floor and column structure extant. The building has an 'E' shaped plan. The main spine of the building runs roughly north to south, with three wings extending to the west. A one story link connects the spine of the Retreat Building to the Solarium of the Mansion. The link has been renovated to provide an accessible entrance. The link connects the buildings at the first floor and the basement level.

The Retreat Wing is entered from the link. The raised first floor contains some of the only furnished rooms in the building. A lobby, with terrazzo and stone tile flooring and wood paneled walls, connects the different wings of the building. The middle wing contains the Event Hall. Formerly a chapel, the Event Hall has terrazzo flooring with wood paneled walls and stained-glass windows. The ceiling forms a high arch, and decorative trusses span the space. The former altar, now a performance stage, has a marble tile floor. The rooms surrounding the altar have been stripped of their finishes. The second floor Choir Loft (204) is finished with plaster walls and ceiling with a carpeted floor.

To the north and south of the Lobby, there are restrooms servicing the full complex. An elevator is present in the south end, but no longer functioning. Beyond the restrooms, the spaces on both sides have been gutted. Originally, the first, second, and third floors contained small bedrooms used for retreat visitors. Each bedroom had a small toilet room, communal showers were located on each floor. The walls, floor finishes, and plumbing associated with the bedrooms have all been removed. The concrete floors, columns, and ceilings are exposed. This condition applies to the three floors. The original configuration is identifiable due to the ghost lines of the former partitions. Some areas of tile finish, plaster wall finish, and window shades remain on the exterior walls. The demising walls on the third floor were of wood stud construction, instead of clay tile as available evidence indicates was used on the lower floors. The wood studs that frame the center corridor are braced to the attic framing. Original steel windows are in place throughout the building. Original wood doors remain at each stairwell. Some stairwells have also been stripped of wall and ceiling finishes whereas others have original plaster finishes. A portion of the third-floor functions as archival storage.



New walls finished in drywall have been built in this portion of the third floor. Removable insulated metal panels cover the windows and are reportedly not airtight.

The exterior of the Retreat Wing was constructed of brick masonry with limestone trim elements. At the primary elevations, the base of the building is clad in limestone. The secondary elevations are brick with exposed concrete retaining wall. The steeply sloped, gabled end wood roof structure is covered by slate tiles with copper flashing. The gable tops are clad in limestone. The east façade has a snow guard system installed along the roof edge between each dormer. Each one is made of horizontal metal slats mounted to brackets. The roof rafter tails extend beyond the face of the exterior wall and are exposed. Wood trims the dormers between the roof edge and the face brick. The limestone base has experienced limited staining from water cascading down the façade. The brick mortar joints are raked. Three different window head treatments were observed on the exterior – 2 different decorative limestone window head styles and 1 brick window head.

b. Overview of Interior Condition

The concrete structure visible in the gutted areas of the first, second, and third floors was in fair to good condition. Holes in the concrete for the many plumbing fixtures have already been patched. Limited spalls were observed in the concrete floor system.

An elevator provides access to the basement through third floors but is no longer operational and is limited in size and capacity to meet current accessibility requirements.

Windows in the gables of the third floor archive space are covered but are reported to continue to leak.

The remaining plaster in the rooms adjoining the Event Space and in stairwells is in poor condition with peeling paint and deterioration.

The third floor ceiling is plaster on wooden ceiling joists and in fair condition. At limited stud locations, holes in the plaster ceiling allow air loss to the attic. Floor penetrations where plumbing previously existed have been patched or otherwise infilled.

c. Overview of Exterior Condition

Overall, the exterior masonry is in fair to good condition. Isolated areas of deterioration appear to be related to moisture from poor gutter conditions and masonry deterioration at the window heads. Many of the limestone window heads had vertical cracks. The brick window heads supported by steel lintels are showing signs of corrosion. At limited location of both the brick and limestone window heads, bowing of the masonry was noted.

Unused vent stacks have been capped on the exterior but left in place, penetrating the roof. Sunlight penetrates around the cap and is visible from the interior. Stepped copper flashing at the back side of the masonry gables is deteriorated with open joints and displaced sections. Upward facing joints at limestone copings have deteriorated.

Roof drainage is handled through a combination of original copper gutters and newer painted aluminum gutters. Downspouts discharge into connector boxes located two to three feet above grade. Each conductor box is covered with a strainer to prevent debris from entering the system. Open joints at the corners of the original gutters are



allowing water to escape the drainage system. In some areas, the gutters are daylighted above the connector boxes and extend into the lawn instead of connecting directly into underground system. Abandoning the underground system may be due to basement leaking and system overload. Observed brick repair locations behind the gutters indicate a previous moisture issue in the masonry wall.

d. Recommendations

Repair recommendations within the 0–5-year period is intended to arrest further damage to historic fabric. Care will need to be taken when repairing historic materials for technical compatibility and to match size, shape, color, texture, and materials.

1. 0-5 Years

- a. Repair holes in plaster ceiling between third floor and attic level
- b. Provide patches in concrete ceilings where rebar has become exposed.
- c. Prepare and paint plaster stairwells.
- d. Remove masonry at window heads to access lintels. Paint and flash existing lintels
- e. Repair joints in copper gutters at corners
- f. Replace broken strainers at conductor boxes and clean debris from intact strainers.
- g. Provide splash blocks at gutters that extend into the lawn.
- h. Remove and replace existing copper flashing at roof.
- i. Remove and replace broken slate tiles.
- j. Clean and repoint masonry at inside corners where deterioration and biological growth has occurred due to broken gutter joints.
- k. Repoint masonry where step cracking from lintels extends beyond lintel rebuild area.
- l. Route and seal cracks in limestone window heads
- m. Patch spalled limestone in window surrounds
- n. Replace limestone units where repair is not practical (assume 20%)
- o. Replace deteriorated exterior wooden doors with new HM doors and frames.
- p. Replace steel windows with new aluminum windows.

3. Chapel

a. Architectural Description

The Portiuncula Chapel is a small, single-story outbuilding situated roughly 400 feet north of the Mansion. It was constructed in 1926 as a replica of the Chapel of the Portiuncula in Assisi, Italy. The building has a limestone façade with carved detailing on the front and rear elevations. Its front-gabled copper roof is topped by a decorative stone ridge turret housing a religious statue. On the front (south) elevation, there is a colorful mosaic of religious imagery above a wood door within an arched stone doorway with a mosaic keystone. An identical wood door is located within a simpler arched doorway on the east elevation. The rear (north) elevation features a circular wood window within a pilastered pediment, and a shallow conical copper roof above a semicircular apse. There are two small arched wood windows on the west elevation that each have a metal grille decorated with a cross.

The one-room interior has painted flat plaster walls with a marble and ceramic tile floor and an apse at the rear wall that houses a marble altar. Per the National Register of Historic Places nomination form for the Peabody Estate, many of the original interior features of the chapel were lost when the building was moved from its previous location on the property in 1974.

b. Overview of Condition



On the front façade of the chapel, the mosaic is missing some tiles and there is a large crack through the whole width of the limestone front step. There is some damage to the wood near the bottom of the front door that is reportedly from wild animals. A sealant material has been applied to all the limestone joints instead of a limestone compatible mortar.

c. Recommendations

1. 0-5 Years

- a. Replace missing tiles on exterior mosaic. Care should be taken to match the color and size, and compatible adhesives should be used.
- b. Prep and patch crack at limestone front step through the whole width.
- c. Patch and paint existing wood entry door.
- d. Remove sealant in exterior limestone joints, grind joints, and repoint with a compatible mortar.
- e. Clean masonry exterior.

4. Garage

a. Architectural Description

A small, modern garage building is located just east of the Mansion. It is a rectangular, front-gabled building with aluminum siding and wood box eaves. The front façade has an entry man-door and an aluminum residential grade overhead garage door, and each side elevation has a single wood window. The interior of the building was not accessible during this assessment. It is reportedly used for storage.

b. Overview of Condition

There is peeling paint and some minor damage along the wood eaves and trim. The interior of the building was not assessed.

c. Recommendations

1. 5-10 years

- a. Remove existing asphalt shingle roof and sheathing. Replace with new.
- b. Remove existing hollow metal man door and frame and replace with new.
- c. Remove existing garage overhead rolling door and replace with new.
- d. Prep and paint wood fascia and eave, approx. 24" wide.

5. Gate

a. Architectural Description

North of the mansion, the remains of a stone gate mark the original entrance from 31st Street to the estate. Two square piers with angled protrusions are clad in irregular sized, smooth limestone blocks and topped with cast stone spheres with decorative iron finials. The street-facing side of both piers have cast stone nameplates, one reads "The Hall" and the other "Mayslake Farms." Two low, curved walls of squared fieldstone protrude out from the piers of which the top is parged with a cement-based product.

b. Overview of Condition

There are some cracks and spalling on the limestone cladding of both piers. The low walls have some displaced and missing stones, and a parging has been laid on the top of both walls. The iron gate that originally stood between the piers is no longer present.



c. Recommendations

1. 0-5 years

- a. Patch and repair limestone units with missing spalls
- b. Route and seal cracks to prevent further deterioration of the piers
- c. Remove parging on top of both low stone walls
- d. Repoint stone walls
- e. Remove vegetation growing from open joints.
- f. Rebuild sections where inner mortar has failed, alternately, inject with a grout slurry.
- g. Clean masonry.



C. Current Conditions – Mechanical

1. Interior – Mansion Building

a. Heating and Cooling Plant

i. Observations

- a. Two 1500 MBH hot water boilers appear to be in good working order, not observed in operation (survey in Sept '23). Boilers are 22 years old with a useful life of 30+ years. Boilers have 80% nominal efficiency which is low by current efficiency standards. Boilers serve fan coil units and unit heaters within the mansion.
- b. One 80 ton reciprocating air-cooled water chiller was functional and in average condition for 22 year age. However, ASHRAE useful life is 20 years and replacement should be planned. New chillers utilize variable speed scroll compressors and are more efficient. Pipe insulation has been removed on the associated chilled water pump and the piping has considerable surface rust.

ii. Repairs

a. 0-5 years

- i. Replace the missing pipe insulation on the chilled water pump.

b. 5-10 years

- i. Plan the replacement of the air-cooled water chiller within the next 2-3 years.
- ii. Consider the installation of a more efficient electric heat pump water chiller or gas fired condensing boiler to supplement the existing boilers and operate above 35°F outdoors when the heating load is less. For example, 86% of the heating degree days occur above 35°F on average over the past three years.

b. Ventilation

i. Observations

- a. A 4000 CFM 100% outdoor air handling unit (MAU-1) provides ventilation air for human occupancy for the 1st and 2nd floors, and to the attic. MAU-1 has a single hot/chilled water coil with integral face and bypass dampers. This unit consumes about 20 tons of chilled water cooling and does not have a humidifier for winter humidification. Conditioned air is ducted into the inlet of the fan coil units, except the 2nd floor sitting room where air is ducted directly into the room. The 2001 Holabird & Root mechanical drawings do not have a room ventilation schedule, so the amount of ventilation air intended for each room is unknown and would have to be reverse engineered.
- b. The basement is condition by unit heaters but has no fan coil units or ventilation air. A few large portable dehumidifiers have been placed in the basement to reduce excess humidity levels. The high humidity is likely caused by sub slab and foundation wall moisture infiltration, and air infiltration into the basement caused by the return ductwork of the fan coil units located in the basement. Any air leaks on the suction side of the fan coil units will cause air infiltration as there is no outdoor make up air



- supplied to the basement.
- ii. Repairs
 - a. 0-5 years
 - i. Consider the installation of an electric duct humidifier in the discharge ductwork of MAU-1 with the intent to maintain a 25-30% RH space condition assuming the mansion has a limited vapor barrier.
 - ii. Install one permanent desiccant dehumidifier in the basement pump room and another similar dehumidifier in the mansion basement to reduce the water vapor. The size of these units will depend upon the installation of new sub-slab sump pumps. These units will require an intake and exhaust to the outdoors.
 - iii. Mitigate the potential return air suction pressure from each fan coil unit by sealing the return ductwork in the basement. Replace any leaking door gaskets on the suction side of each fan coil unit.
 - iv. Install a basement supply air diffuser from each fan coil unit located in the basement to mitigate the fan coil units suction pressure, provide air circulation and provide some outdoor air from MAU-1 into the basement.
 - c. Fan Coil Units
 - i. Observations
 - a. The fan coil units are generally in good condition and have another 10-15 years of useful service. Some fan motors have failed and have been replaced at a cost of several hundred dollars, however, this cost is much less compared to the labor to replace the entire fan coil unit.
 - b. Some fan coil unit valve actuators have failed over the years and have been replaced by direct replacement actuators.
 - ii. Repairs
 - a. 0-5 years
 - i. Replace fan motors and valve actuators as they occur out of the maintenance budget.
 - d. Controls
 - i. Observations
 - a. A Carrier central building control system was installed 22 years ago when the fan coil units, boilers and chiller were installed, and is functionally obsolete. The system monitors and controls the individual fan coil units, chiller, boilers and pumps.
 - ii. Repairs
 - a. 0-5 years
 - i. Install a new building control system for the fan coil units located in the mansion and serving the Events Hall in the Retreat Center. The new system would replace each fan coil unit controller and thermostat, and monitor and enable/disable the chiller, boilers and pumps. New network communication cabling in the basement and attic would be required.

2. Interior – Retreat Building



- a. Heating and Cooling Plant
 - i. Observations
 - a. Two 3500 MBH hot water boilers appear to be in good working order, not observed in operation (survey in Sept '23). Boilers are 22 years old with a useful life of 30+ years. Boilers have 80% nominal efficiency which is low by current efficiency standards. Boilers serve fan coil units and unit heaters within the retreat center.
 - b. The retreat center is currently not cooled.
 - ii. Repairs
 - a. 0-5 years
 - i. No work
 - b. 5-10 years
 - i. Consider the installation of a more efficient gas fired condensing boiler to supplement the existing boilers and operate above 35°F outdoors when the heating load is less. For example, 86% of the heating degree days occur above 35°F on average over the past three years.
- b. Ventilation
 - i. Observations
 - a. An air handling unit with hot water heating and DX cooling serves the Entry Hall Lobby and another similar unit serves the entry vestibule. The entry hall lobby unit has outside air capabilities to provide make up air for the adjacent toilet exhaust fans.
 - b. The fan coil units serving the Events Hall do not provide outdoor air for human occupancy. Ventilation code requires either natural ventilation through open windows or ventilation air from an outdoor air unit whenever the room is occupied.
 - ii. Repairs
 - a. 0-5 years
 - i. No work
 - b. 5-10 years
 - i. Provide a dedicated outdoor air system (DOAS) for the Events Hall. The DOAS could be located on the roof adjacent to the elevator shaft, or the boiler room roof or indoors in the basement with a remote outdoor condensing unit. IMC Ventilation Code would require about 2400 CFM of outdoor air for a multiuse assembly occupancy of 300 people, including the elevated "stage" area. A dining room occupancy with a stage would be about 2100 CFM with an occupancy of 210 persons.
 - ii. For summer programming, consider installing an air cool liquid chiller to provide cooling to the eight fan coil units in the Events Hall.
- c. Fan Coil Units
 - i. Observations
 - a. The fan coil units are generally in good condition and have another 10-15 years of useful service.
 - b. None of the fan coil units in this building receive outdoor air ventilation air as compared to the mansion.



- i. No work
- b. 5-10 years
 - i. Consider heating and cooling the chapel with a hyper-heating and cooling air source heat pump. The challenge will be finding an aesthetically acceptable location for the indoor fan coil unit.



D. Current Conditions – Electrical

1. Interior – Mansion Building

a. Electrical Service

i. Observations

- a. Armored Cable used for branch circuits and feeders, not allowable by code.
- b. Cloth wiring noticed.
- c. Many distribution panelboards and load centers, especially fuse type, are past their useful life
- d. Mercury Type switches in use
- e. Some equipment not labels with appropriate tags

ii. Repairs

a. 0-5 years

- i. No work

b. 5-10 years

- i. As areas are renovated, armored cable (Type AC) branch circuits and feeders must be replaced with conduit and wire branch circuits and feeders.
- ii. Instances of insulated wiring not contained in a raceway should be replaced with code compliant wiring methods.
- iii. Installations using flexible conduit for feeders and entire lengths of branch circuits should be replaced with pipe and wire feeders and branch circuits.
- iv. Replace end of life distribution panelboards and load centers.
- v. Mercury type switches should be replaced and disposed of in a safe manner.
- vi. An arc flash study should be performed and arc flash labels attached to equipment.
- vii. Some branch circuit wiring installed within conduit is of the cloth insulation type. All cloth type wiring should be replaced.

b. Lighting

i. Observations

- a. Incandescent and Fluorescent Fixtures and Bulbs noted throughout
- b. Emergency lighting switch is not code compliant.
- c. All exit signs and light fixtures serving exterior exits should have 90-minute battery back-up.

ii. Repairs

a. 0-5 years

- i. The emergency lighting switch panel should be disconnected, if not already, and removed or marked as inoperable.
- ii. It appears most exit signs have battery back-up or are fed from a lighting inverter; however, some exit signs appear to not have battery back-up. Replace these fixtures with battery back up LED type.
- iii. Light fixtures serving exterior exits should be replaced with back-up battery type LED fixtures.



- iv. Installations using flexible conduit for feeders and entire lengths of branch circuits should be replaced with pipe and wire feeders and branch circuits.
 - v. Many distribution panelboards and load centers, especially fuse type, are past their useful life and require replacement.
 - vi. Mercury type switches should be replaced and disposed of in a safe manner.
 - vii. An arc flash study should be performed and arc flash labels attached to equipment.
- e. Lighting
- iii. Observations
 - a. Incandescent and Fluorescent Fixtures and Bulbs noted throughout
 - b. Emergency lighting switch is not code compliant.
 - c. All exit signs and light fixtures serving exterior exits should have 90-minute battery back-up.
 - iv. Repairs
 - a. 0-5 years
 - i. The emergency lighting switch panel should be disconnected, if not already, and removed or marked as inoperable.
 - ii. It appears most exit signs have battery back-up or are fed from a lighting inverter; however, some exit signs appear to not have battery back-up. Replace these fixtures with battery back up LED type.
 - iii. Light fixtures serving exterior exits should be replaced with back-up battery type LED fixtures.
 - b. 5-10 years
 - i. As areas are renovated, incandescent and fluorescent light fixtures should be replaced with LED type fixtures.
- f. Receptacles
- iii. Observations
 - a. Outlet wiring devices past useful life
 - iv. Repairs
 - a. 0-5 years
 - i. No work
 - b. 5-10 years
 - i. As areas are renovated, wiring devices (receptacles and switches) and branch circuit wiring should be replaced as some wiring devices are past their useful life.
- g. Fire Alarm
- iii. Observations
 - a. Fire Alarm system at end of useful life, devices not supported / available.
 - iv. Repairs
 - a. 0-5 years
 - i. No work
 - b. 5-10 years



E. Current Conditions – Plumbing

1. Interior – Mansion Building

a. Water Service

i. Observations

- a. Water service appears adequate for the current use conditions. Any substantial improvements to the Retreat Center would trigger a water service capacity review.

ii. Repairs

- a. None.

b. Distribution, Fixtures

i. Observations

- a. The existing distribution is limited to the boiler rooms in both buildings, the public restrooms in the Retreat Center and a private toilet room on the first floor of the mansion.
- b. New copper piping has been run to most of these active locations. The rest of the original piping has been largely capped off.
- c. There was discussion on-site about adding a staff toilet room within the mansion, but a location wasn't determined. In any event, new copper hot/cold water piping would be required from the basement to a first and/or second floor location.
- d. During the site visit, it was observed that the domestic hot water recirculation system was not present in the existing setup.
- e. It was observed that there is no floor drain near the domestic hot water heater. The water heater itself is in fair condition.
- f. It is understood that there is one functioning sink on the 2nd floor of the mansion building with running water. It is understood that the sanitary and vent connections to this sink have been abandoned in place, so there is no functioning drain at this location.

ii. Repairs

a. 0-5 years

- i. Most of the domestic hot water piping in the property is not adequately insulated. It is recommended to insulate all domestic water piping throughout the property to reduce heat loss.
- ii. To provide a functioning drain at the existing 2nd floor sink in the mansion wing, owner should hire a plumbing contractor to assess if old drain and vent can be easily removed from current locations and allow a new stack to be installed, connect into nearest function waste and vent lines that serve the functioning 1st floor kitchen faucets/sinks.

b. 5-10 years

- i. In the event the water heater is upgraded, it is recommended to evaluate the condition and capacity of the water heater. This evaluation will help determine if an upgrade is necessary, ensuring the system operates efficiently and meets the property's hot water demand. Additionally, the installation of a floor drain near the water



- heater is strongly advised to prevent potential water damage in case of leaks or spills.
- ii. It is recommended to evaluate the feasibility of adding a domestic hot water recirculation system, especially if the building is undergoing renovation. Hot water recirculation ensures rapid access to hot water without wasteful waiting times, enhancing overall user experience.
- c. Sanitary, Vent
 - i. Observations
 - a. Most of the active sanitary and vent piping at the fixtures has been replaced with PVC piping.
 - ii. Repairs
 - a. 5-10 years
 - i. It is recommended to complete the replacement of the remaining active waste piping with PVC material.
 - d. Storm
 - i. Observations
 - a. The facilities staff pointed out several locations in the mansion basement where either ground water through the foundation walls or sub-surface water through cracks in the slab had occurred. They stated this seepage is still active after the new roof downspout piping was installed last year. The original exterior drain tile had been compromised over the years and is no longer functional. The staff believes there is a correlation with the basement seepage and the lake water level after a heavy rain.
 - b. A review of the site civil drawings and an estimated basement slab elevation puts the normal lake level about 3-4 feet below the basement slab elevation.
 - c. A floor drain has yet to be installed for the exterior stairs outside the basement billiard room. This work was shown on the plans for the recent envelope project and a recent sketch now indicates a sump pit with pump will be installed under that project.
 - d. The exterior grade on the south lake side of the mansion has yet to be properly graded away from the building and toward the lake. It is assumed this work will be complete under the envelop project and the front of the mansion has been completely regraded.
 - e. It was observed that certain areas of the roof are experiencing ponding water, where water accumulates due to improper drainage. Specifically, these areas are not able to efficiently flow towards the designated scuppers, leading to persistent ponding water issues. Proper sloping and leveling of the roof should be established to guide water flow towards the scuppers. Adjustments to the existing roof structure may be necessary to facilitate efficient drainage and prevent water from accumulating.
 - ii. Repairs
 - a. 0-5 years
 - i. It is conceivable the lake water level could exert hydrostatic pressure under the mansion basement floor slab causing slab crack leakage and damp slab.



Consider drilling 1 ½" – 2" diameter test bores through the basement floor concrete and down about 2' in the locations where seepage has occurred. Measure the depth of the ground water under the slab and be prepared to dewater and/or plug the bore holes with drain plugs.

- ii. Should the above testing confirm sub-slab water, then a few permanent dewatering sump pump pits would be installed. Perimeter drain tile should not be required with the new downspout piping and properly pitch soil away from the building.

2. Interior – Retreat Building

a. Water Service

i. Observations

- a. The water service appears adequate for the current use conditions. Any substantial improvements to the Retreat Center would trigger a water service capacity review.

ii. Repairs

- a. None.

b. Distribution, Fixtures

i. Observations

- a. The public restrooms are in good condition.

ii. Repairs

- a. None.

c. Sanitary, Vent

i. Observations

- a. No observed problems with the active sanitary piping and vents.

ii. Repairs

- a. None.

d. Storm

i. Observations

- a. There are roof downspouts draining to grade in the courtyard. The existing storm piping appears to have been compromised and no longer used.
- b. It was observed that certain areas of the roof are experiencing ponding water, where water accumulates due to improper drainage. Specifically, these areas are not able to efficiently flow towards the designated scuppers, leading to persistent ponding water issues. Proper sloping and leveling of the roof should be established to guide water flow towards the scuppers. Adjustments to the existing roof structure may be necessary to facilitate efficient drainage and prevent water from accumulating.

ii. Repairs

- a. 5-10 years

- i. Consider the replacement of the downspout piping similar to the work recently completed for the mansion.



Appendix A Key Plans

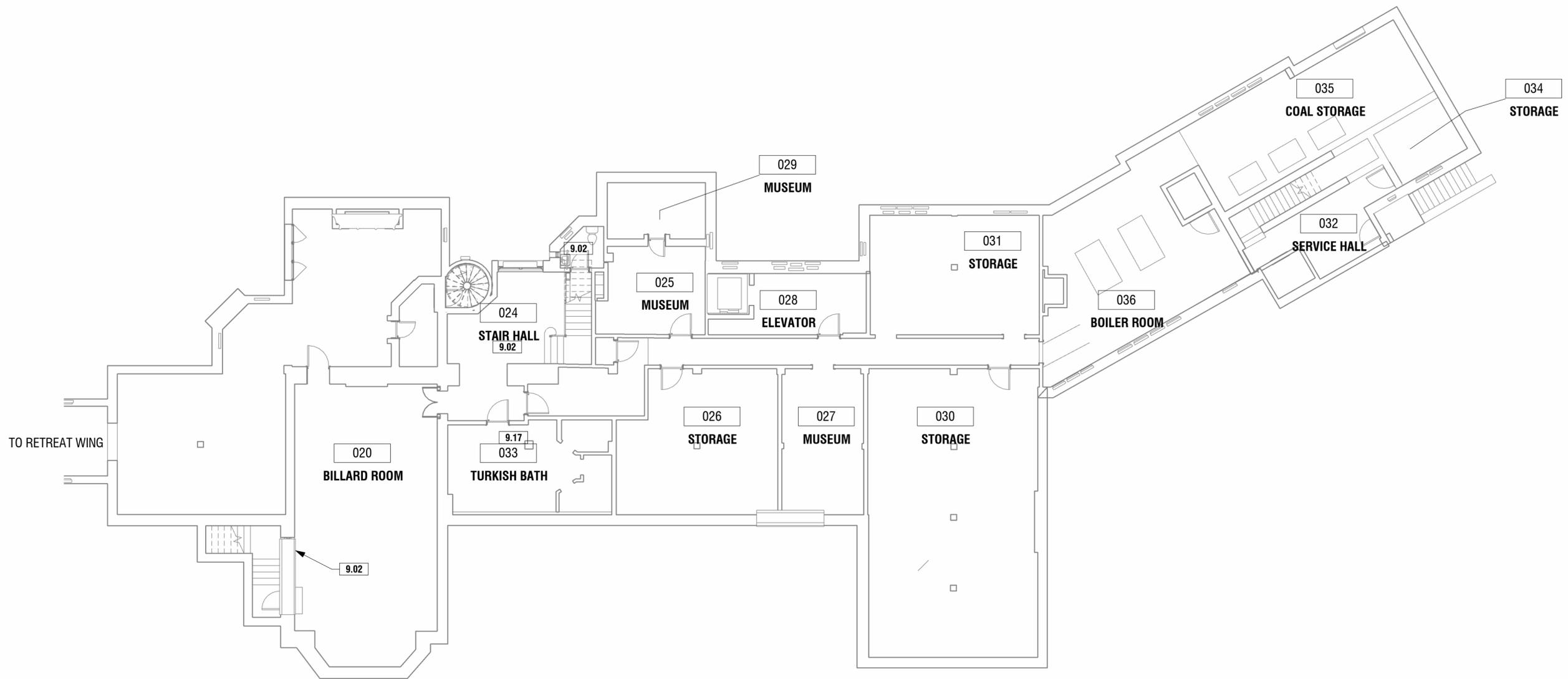


LEGEND

- 1. ENTRY GATE
- 2. CHAPEL
- 3. RETREAT WING
- 4. MANSION
- 5. GARAGE

RESTORATION DOCUMENTS DRAWING INDEX	
Sheet Number	Sheet Name
AR1.00	SITE PLAN
AR1.01	MANSION PLAN BASEMENT LEVEL
AR1.02	MANSION PLAN FIRST LEVEL
AR1.03	MANSION PLAN SECOND LEVEL
AR1.04	MANSION PLAN ATTIC LEVEL
AR1.05	RETREAT WING BASEMENT LEVEL
AR1.06	RETREAT WING FIRST FLOOR LEVEL
AR1.07	RETREAT WING SECOND FLOOR LEVEL
AR1.08	RETREAT WING THIRD FLOOR LEVEL
AR1.09	RETREAT WING ATTIC LEVEL
AR1.10	RETREAT WING ROOF LEVEL
AR2.01	NORTH ELEVATION
AR2.02	EAST ELEVATION 2
AR2.03	EAST ELEVATION 1
AR2.04	SOUTH ELEVATION
AR2.05	WEST ELEVATION 1
AR2.06	WEST ELEVATION 2
AR2.07	NORTH COURTYARD ELEVATIONS
AR2.08	SOUTH COURTYARD ELEVATIONS
AR3.01	CHAPEL
AR3.02	GATE ELEVATIONS

① SITE PLAN - RESTORATION DOCUMENTS
1 : 1350

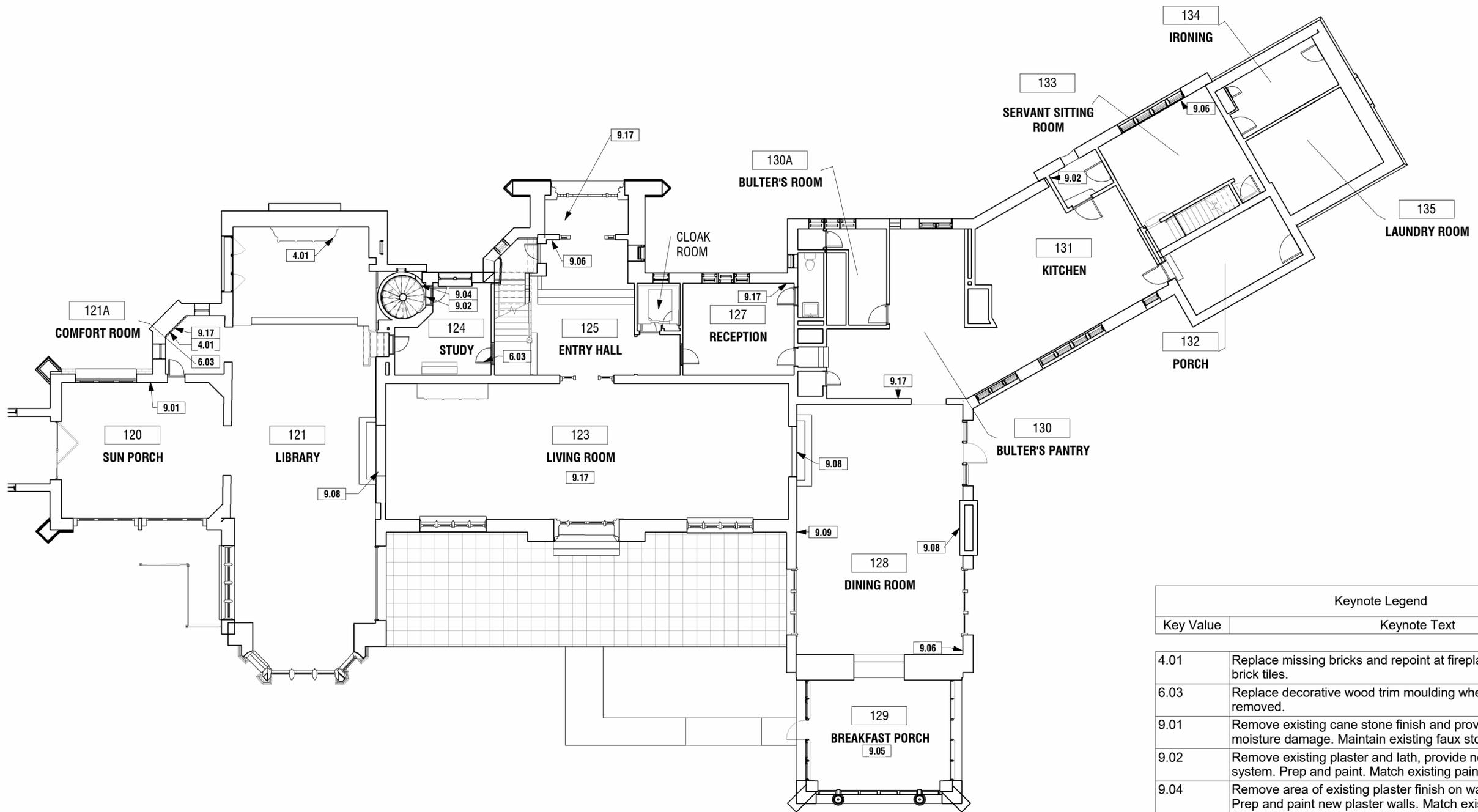


① MANSION BASEMENT LEVEL
3/32" = 1'-0"



Keynote Legend	
Key Value	Keynote Text
9.02	Remove existing plaster and lath, provide new lath and plaster system. Prep and paint. Match existing paint color.
9.17	Provide tile patching. Match existing tile.

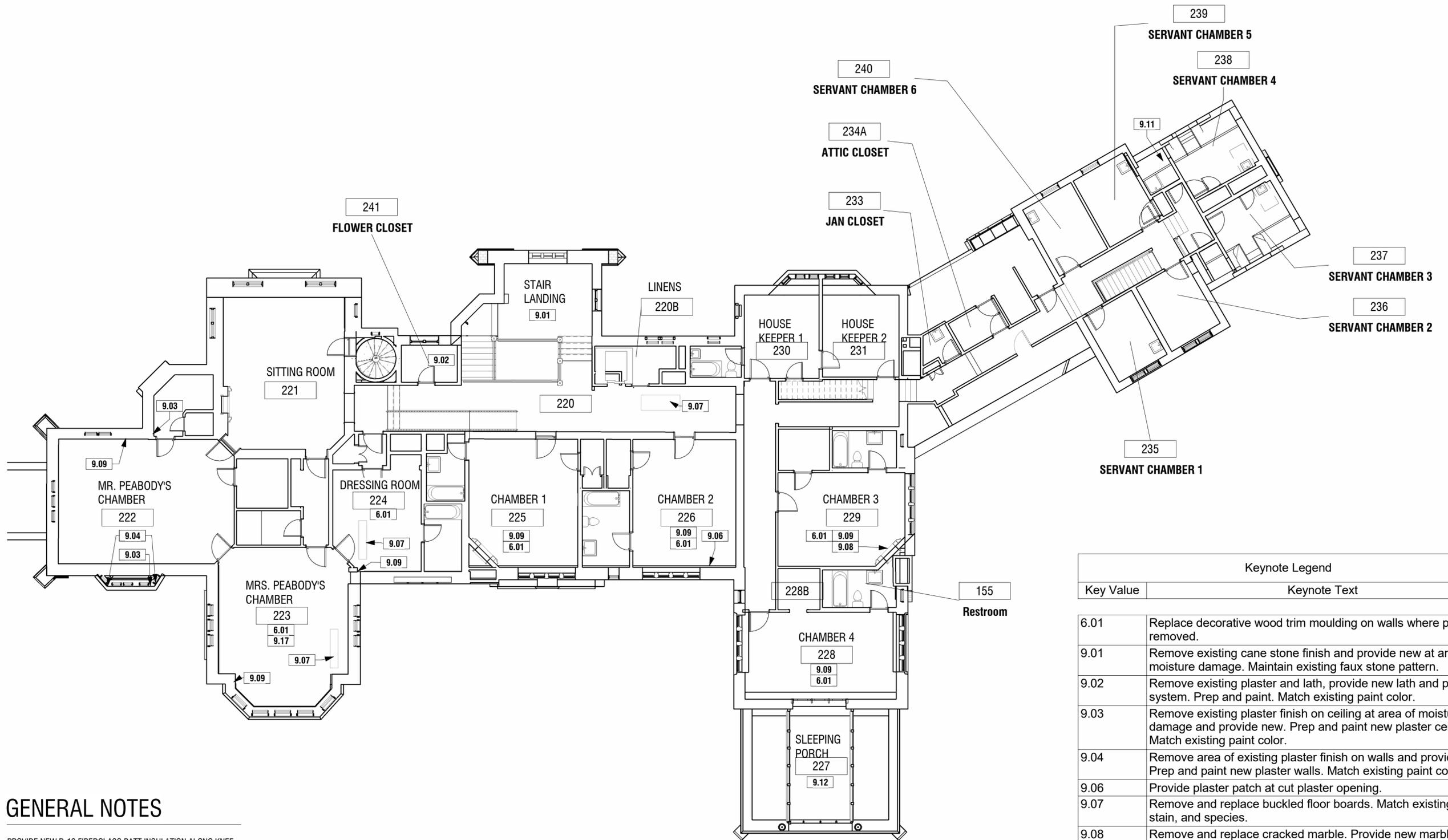
FOREST PRESERVE DISTRICT OF DUPAGE
MAYSLAKE PEABODY ESTATE
RESTORATION DOCUMENTS



Keynote Legend	
Key Value	Keynote Text
4.01	Replace missing bricks and repoint at fireplace. Match existing brick tiles.
6.03	Replace decorative wood trim moulding where previously removed.
9.01	Remove existing cane stone finish and provide new at area of moisture damage. Maintain existing faux stone pattern.
9.02	Remove existing plaster and lath, provide new lath and plaster system. Prep and paint. Match existing paint color.
9.04	Remove area of existing plaster finish on walls and provide new. Prep and paint new plaster walls. Match existing paint color.
9.05	Provide new gyp board ceiling.
9.06	Provide plaster patch at cut plaster opening.
9.08	Remove and replace cracked marble. Provide new marble where missing.
9.09	Repair decorative plaster crown moulding.
9.17	Provide tile patching. Match existing tile.

① MANSION FIRST LEVEL
3/32" = 1'-0"





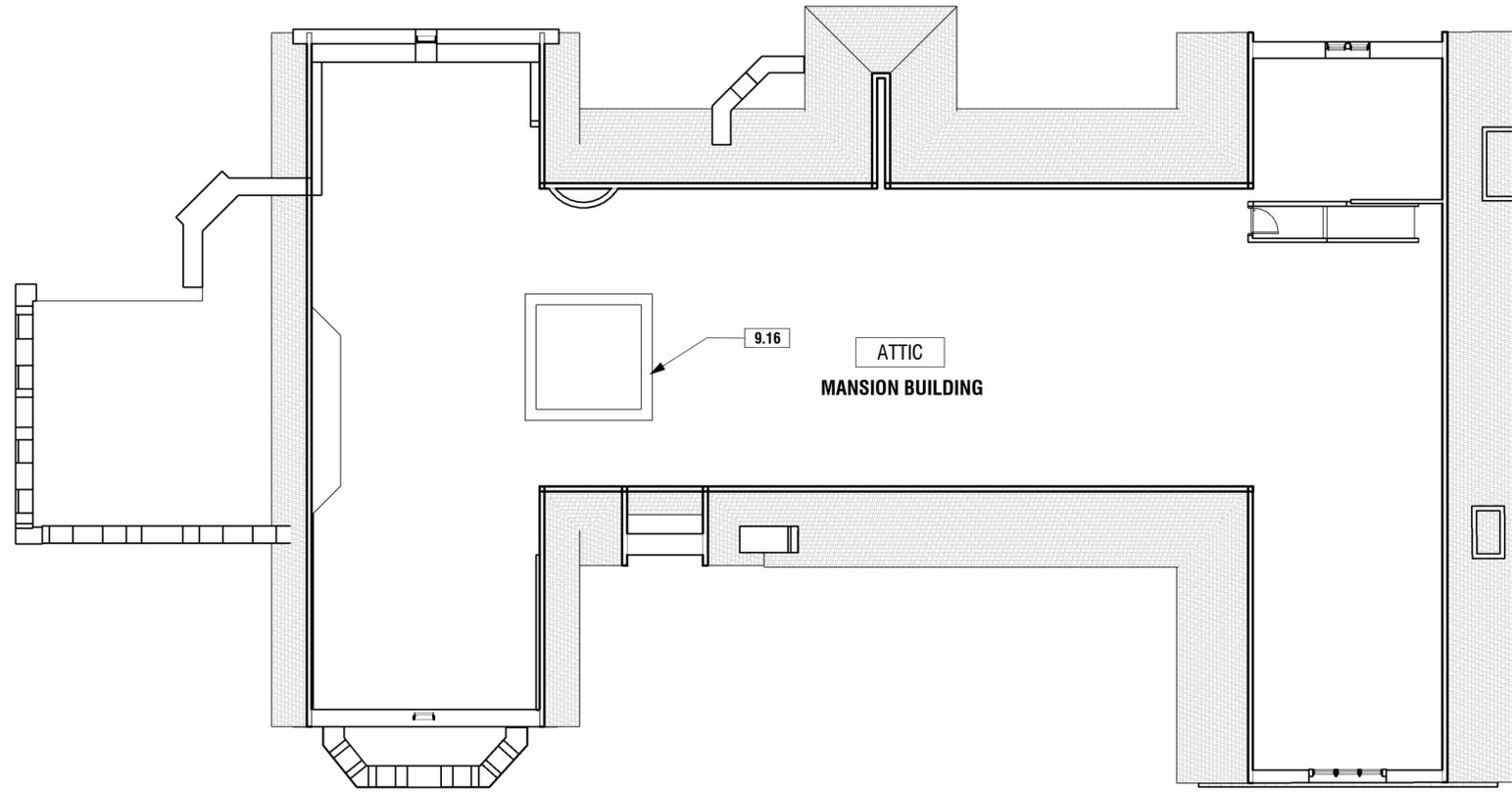
GENERAL NOTES

1. PROVIDE NEW R-19 FIBERGLASS BATT INSULATION ALONG KNEE WALL (BETWEEN CONCRETE FLOOR AND UNDERSIDE OF ROOF) AND ON UNDERSIDE OF ROOF BETWEEN JOISTS.
2. CREATE STUD WALL FOR INSULATION INSTALLATION WITH TREATED WOOD STUDS.
3. PREP AND PAINT EXISTING PLASTER WALLS ON THE SECOND FLOOR OF THE MAIN BUILDING. (EXCLUDES SERVICE WING AND AREAS CALLED OUT FOR PAINTING ELSEWHERE.)
4. PREP AND PAINT EXISTING WOOD DOORS ON THE SECOND FLOOR OF THE MAIN BUILDING AND SERVICE WING. TYP.

1 MANSION SECOND LEVEL
3/32" = 1'-0"



Keynote Legend	
Key Value	Keynote Text
6.01	Replace decorative wood trim moulding on walls where previously removed.
9.01	Remove existing cane stone finish and provide new at area of moisture damage. Maintain existing faux stone pattern.
9.02	Remove existing plaster and lath, provide new lath and plaster system. Prep and paint. Match existing paint color.
9.03	Remove existing plaster finish on ceiling at area of moisture damage and provide new. Prep and paint new plaster ceiling. Match existing paint color.
9.04	Remove area of existing plaster finish on walls and provide new. Prep and paint new plaster walls. Match existing paint color.
9.06	Provide plaster patch at cut plaster opening.
9.07	Remove and replace buckled floor boards. Match existing width, stain, and species.
9.08	Remove and replace cracked marble. Provide new marble where missing.
9.09	Repair decorative plaster crown moulding.
9.11	Remove existing non-historic tile and replace with plaster.
9.12	Provide new plaster wall system over existing concrete walls. Prep and paint. Include wood trim to match existing.
9.17	Provide tile patching. Match existing tile.



GENERAL NOTES

1. PROVIDE NEW R-19 FIBERGLASS BATT INSULATION ALONG KNEE WALL (BETWEEN CONCRETE FLOOR AND UNDERSIDE OF ROOF) AND ON UNDERSIDE OF ROOF BETWEEN JOISTS.
2. CREATE STUD WALL FOR INSULATION INSTALLATION WITH TREATED WOOD STUDS.

① MANSION ATTIC LEVEL
3/32" = 1'-0"



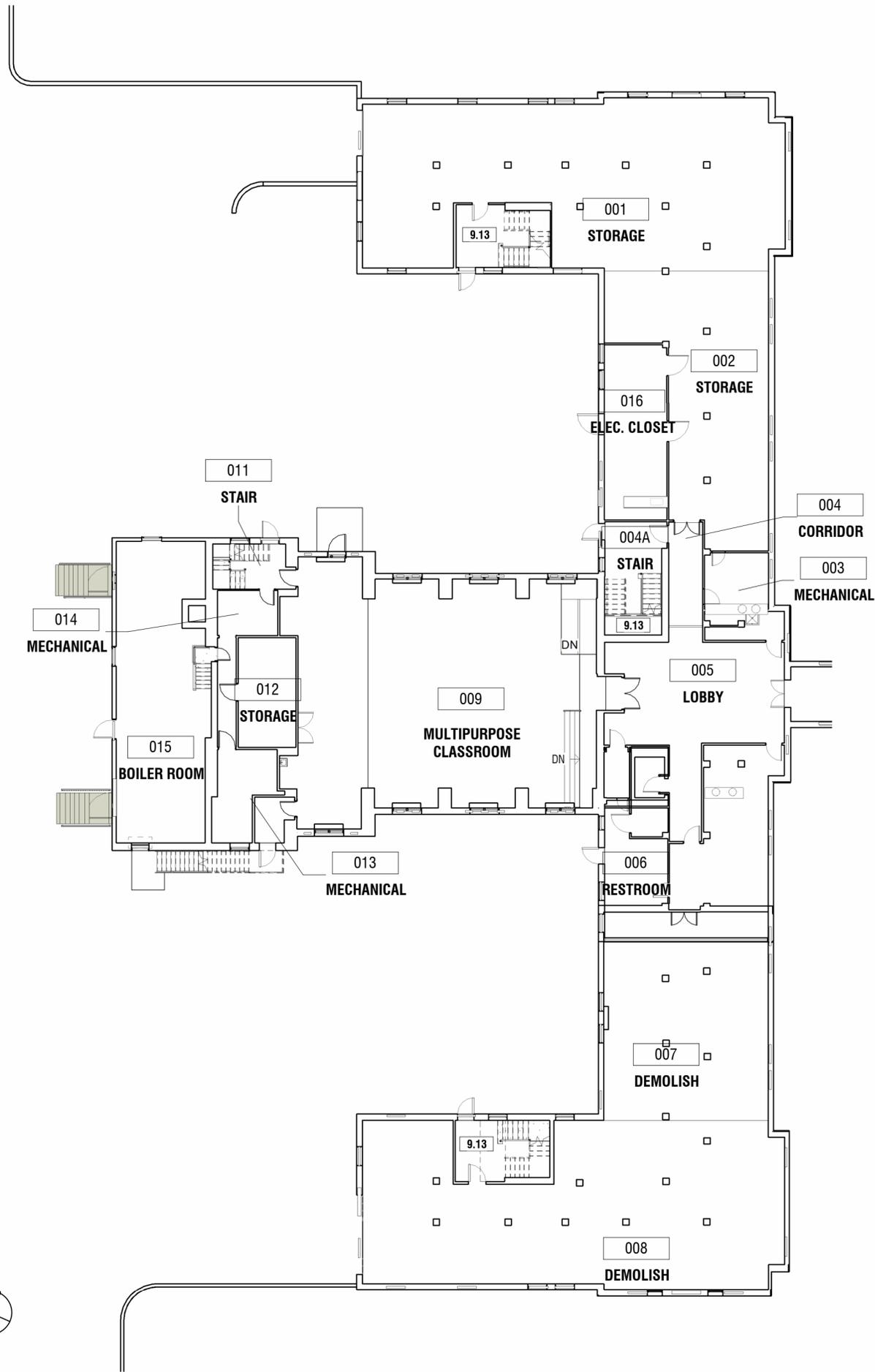
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211 N. CLINTON ST, SUITE 35
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TEL 773 545 1870
WWW.ALTUSWORKS.COM

Keynote Legend	
Key Value	Keynote Text
9.16	Prep and paint concrete lightwell.

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MAYSLAKE PEABODY ESTATE
RESTORATION DOCUMENTS

AR1.04
10/30/23



1 RETREAT WING BASEMENT LEVEL
1/16" = 1'-0"

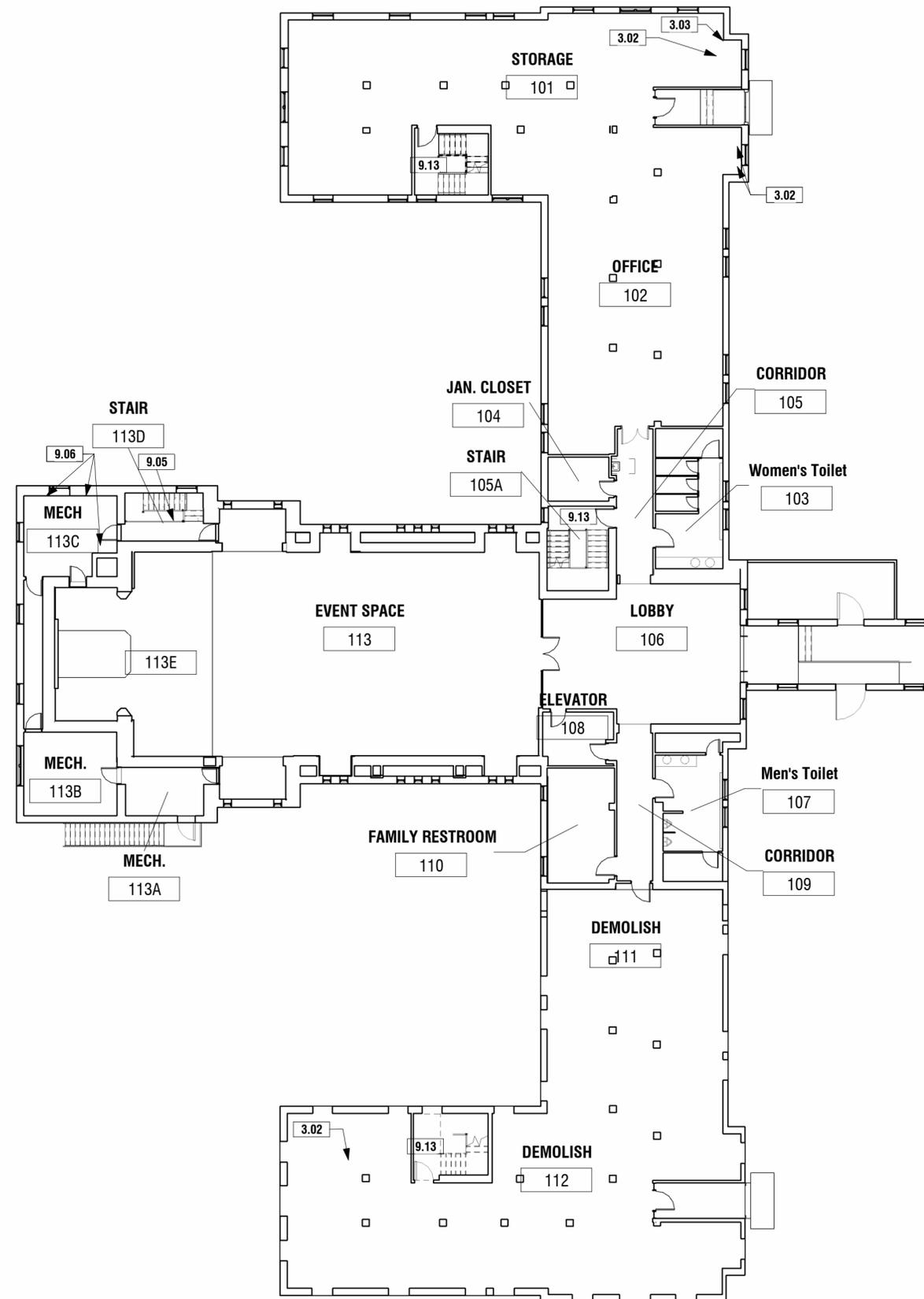


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Keynote Legend	
Key Value	Keynote Text
9.13	Provide plaster repair and prep and paint.

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RESTORATION DOCUMENTS

AR1.05
10/30/23



Keynote Legend	
Key Value	Keynote Text
3.02	Provide patch in concrete where rebar is exposed.
3.03	Patch and repair concrete.
9.05	Provide new gyp board ceiling.
9.06	Provide plaster patch at cut plaster opening.
9.13	Provide plaster repair and prep and paint.

1 RETREAT WING FIRST LEVEL
1/16" = 1'-0"

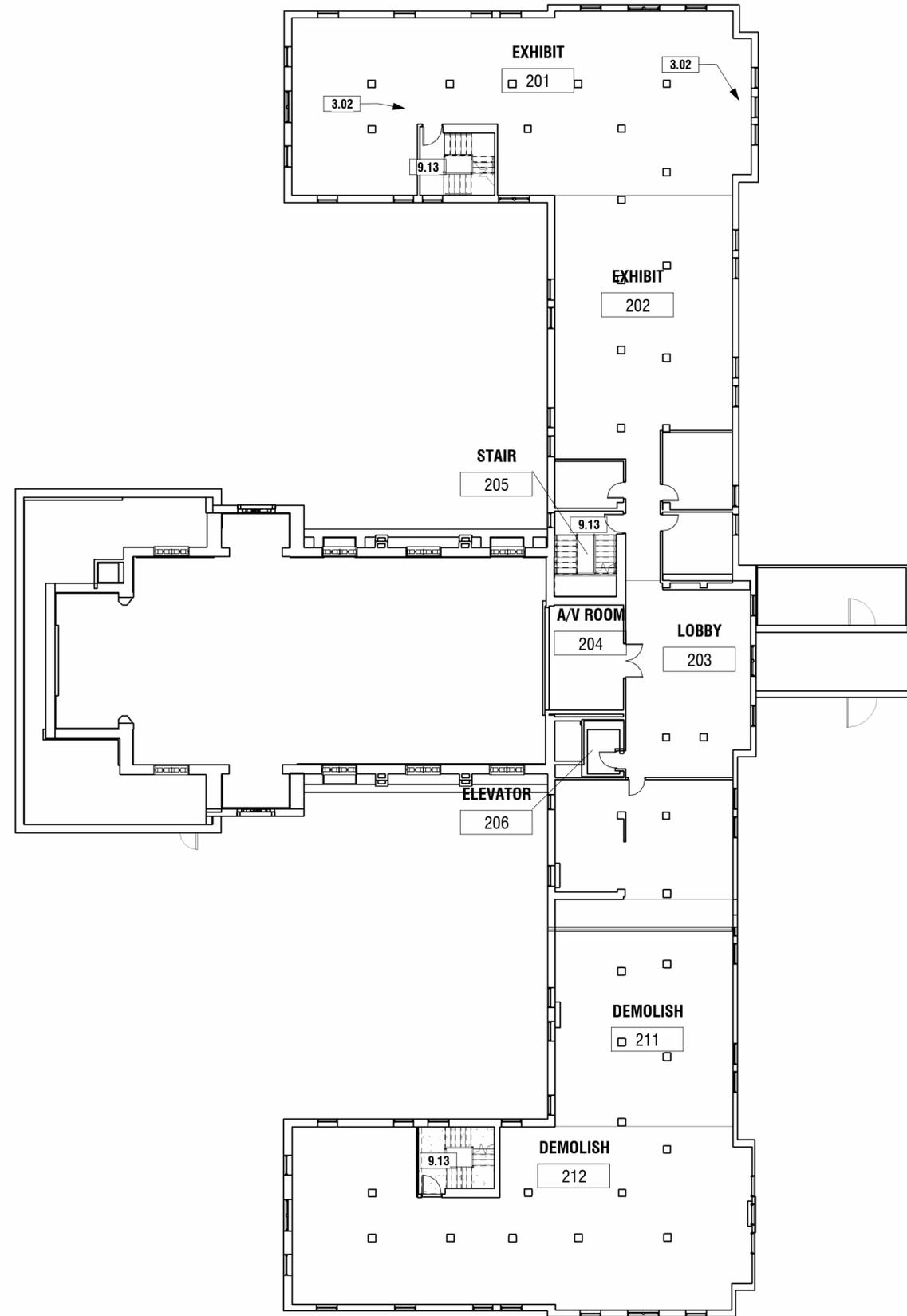


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AR1.06
10/30/23



Keynote Legend	
Key Value	Keynote Text
3.02	Provide patch in concrete where rebar is exposed.
9.13	Provide plaster repair and prep and paint.

① RETREAT WING SECOND LEVEL
1/16" = 1'-0"

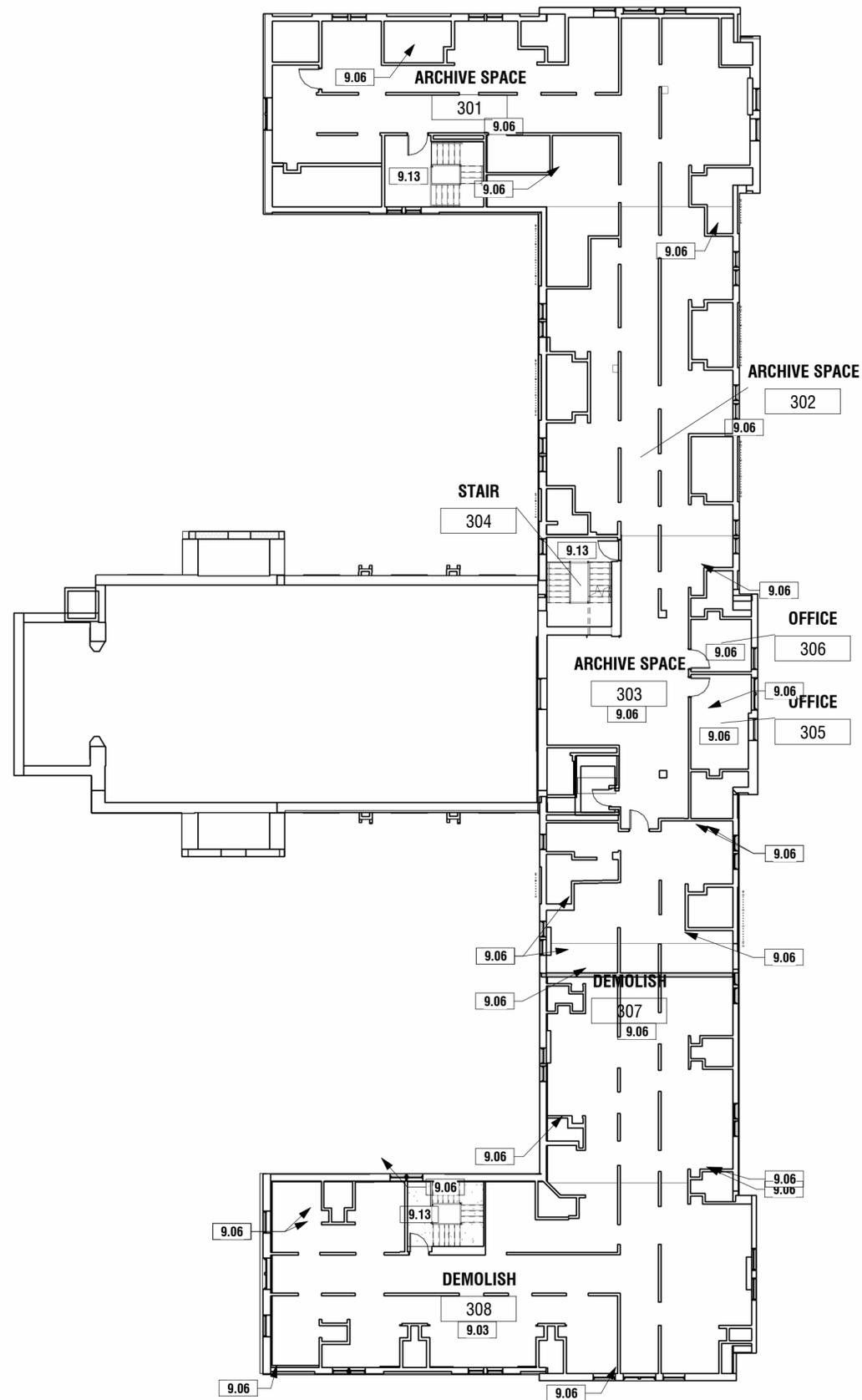


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RESTORATION DOCUMENTS

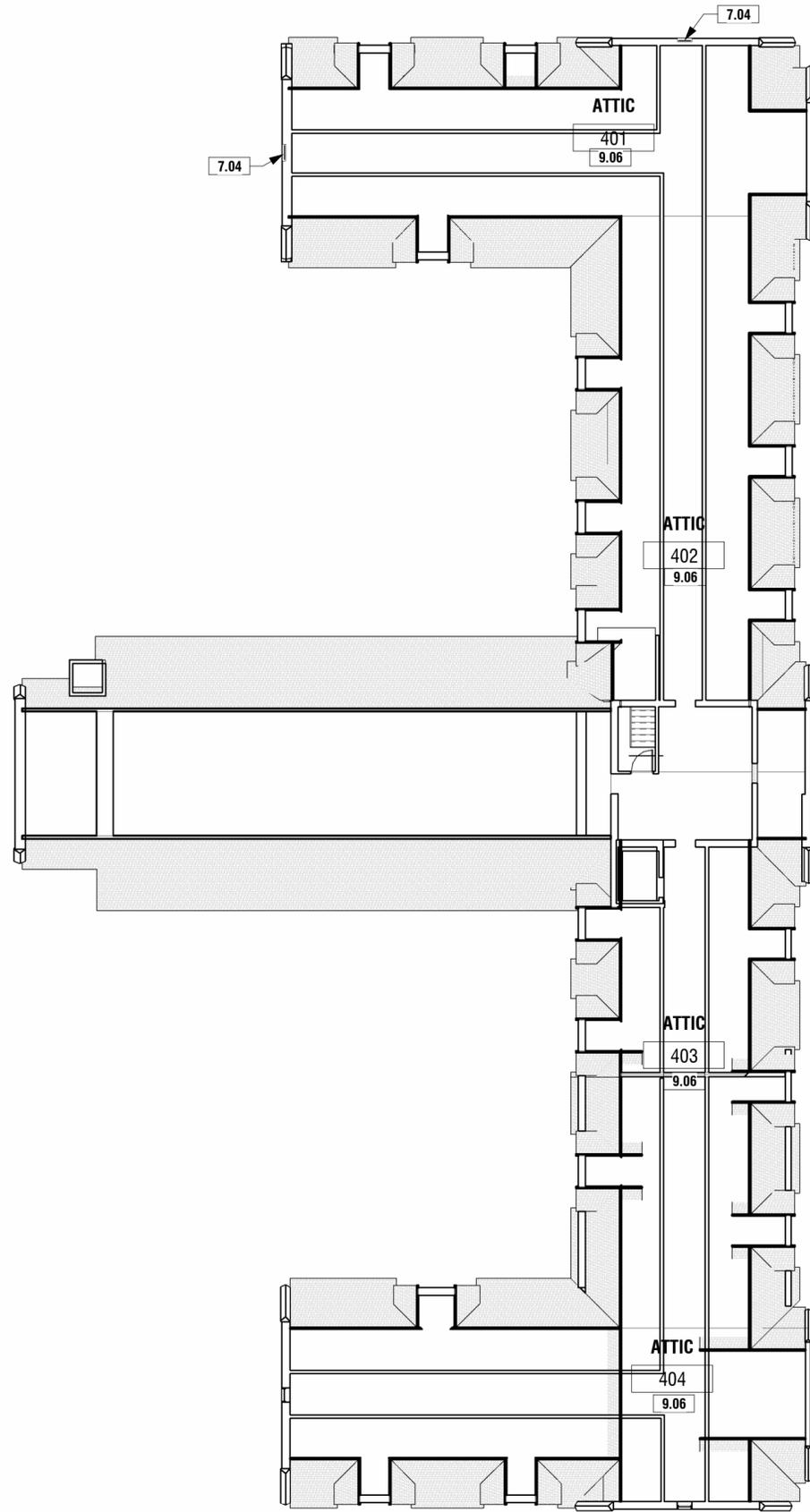
AR1.07
10/30/23



Keynote Legend	
Key Value	Keynote Text
9.03	Remove existing plaster finish on ceiling at area of moisture damage and provide new. Prep and paint new plaster ceiling. Match existing paint color.
9.06	Provide plaster patch at cut plaster opening.
9.13	Provide plaster repair and prep and paint.

1 RETREAT WING THIRD LEVEL
1/16" = 1'-0"





1 RETREAT WING ATTIC LEVEL
1/16" = 1'-0"



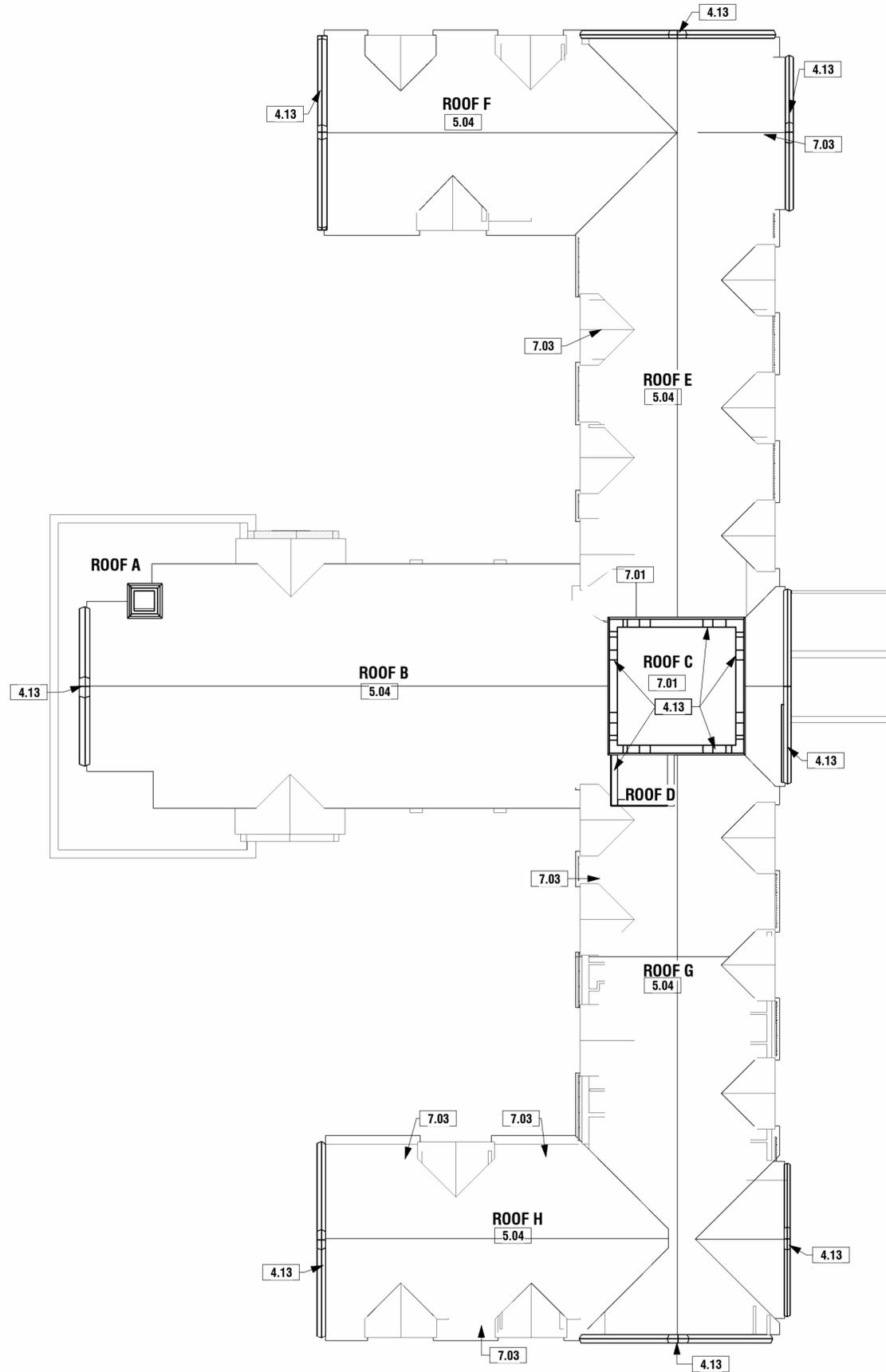
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Keynote Legend	
Key Value	Keynote Text
7.04	Seal around existing windows at Attic.
9.06	Provide plaster patch at cut plaster opening.

FOREST PRESERVE DISTRICT OF DUPAGE
MAYSLAKE PEABODY ESTATE
RESTORATION DOCUMENTS

AR1.09
10/30/23



Keynote Legend	
Key Value	Keynote Text
4.13	Grind, repaint, and seal head joints at limestone gables and limestone parapet.
5.04	Remove and replace existing copper roof flashing. Approx 8" high with copper counter flashing and sealant. Remove and replace adjacent slate tiles for proper installation.
7.01	Remove existing and provide new Modified Bitumen roof on turret (flat roof). Including 8" flashing with aluminum counter flashing and reglet.
7.03	Seal around abandoned plumbing roof vent stacks.

1 RETREAT WING ROOF LEVEL
1/16" = 1'-0"

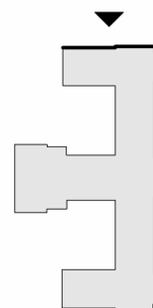




1 NORTH ELEVATION
1/8" = 1'-0"

GENERAL NOTES

1. SCRAPE AND PAINT EXISTING LINTEL. INSTALL NEW FLASHING OVER LINTEL AND CELL VENT WEEPS. ASSUME 10% OF LINTELS WILL BE REPLACED.
2. REMOVE AND REPLACE LIMESTONE UNITS WHERE REPAIR IS NOT PRACTICAL. MATCH EXISTING PROFILES.
3. RESOLDER OPEN JOINTS IN COPPER GUTTERS AT CORNERS.
4. REMOVE AND REPLACE BROKEN STRAINERS ON CONDUCTOR BOXES.
5. CLEAR DEBRIS FROM INTACT STRAINERS IN CONDUCTOR BOXES.
6. CLEAN DEBRIS FROM GUTTERS AND DOWNSPOUTS.
7. PROVIDE SPLASH BLOCKS AT GUTTERS THAT EXTEND INTO LAWN.



KEY PLAN
N.T.S.

HATCH LEGEND

- CONCRETE REPAIRS
- MASONRY REPAIRS
- REMOVE, SALVAGE AND REINSTALL BRICK
- REMOVE, SALVAGE, REPAIR AND REINSTALL LIMESTONE
- CRACK AT LIMESTONE UNIT. PROVIDE CRACK INJECTION REPAIR, PATCH FACE OF UNIT, AND INJECTION PORTS. COLOR TO MATCH EXISTING.
- OPEN MORTAR JOINTS
- SCRAPE AND PAINT EXISTING LINTEL. INSTALL NEW FLASHING OVER LINTEL AND CELL VENT WEEPS. ASSUME 10% OF LINTELS WILL BE REPLACED.

Keynote Legend

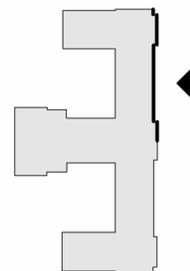
Key Value	Keynote Text
6.02	Replace damaged wood trim at dormers and splice in new wood at rotted or damaged eaves. Match species, dimensions, and cut.



① EAST ELEVATION - NORTH END
1/8" = 1'-0"

GENERAL NOTES

1. SCRAPE AND PAINT EXISTING LINTEL. INSTALL NEW FLASHING OVER LINTEL AND CELL VENT WEEPS. ASSUME 10% OF LINTELS WILL BE REPLACED.
2. REMOVE AND REPLACE LIMESTONE UNITS WHERE REPAIR IS NOT PRACTICAL. MATCH EXISTING PROFILES.
3. RESOLDER OPEN JOINTS IN COPPER GUTTERS AT CORNERS.
4. REMOVE AND REPLACE BROKEN STRAINERS ON CONDUCTOR BOXES.
5. CLEAR DEBRIS FROM INTACT STRAINERS IN CONDUCTOR BOXES.
6. CLEAN DEBRIS FROM GUTTERS AND DOWNSPOUTS.
7. PROVIDE SPLASH BLOCKS AT GUTTERS THAT EXTEND INTO LAWN.



KEY PLAN
N.T.S.

HATCH LEGEND

- CONCRETE REPAIRS
- MASONRY REPAIRS
- REMOVE, SALVAGE AND REINSTALL BRICK
- REMOVE, SALVAGE, REPAIR AND REINSTALL LIMESTONE
- CRACK AT LIMESTONE UNIT. PROVIDE CRACK INJECTION REPAIR, PATCH FACE OF UNIT, AND INJECTION PORTS. COLOR TO MATCH EXISTING.
- OPEN MORTAR JOINTS
- SCRAPE AND PAINT EXISTING LINTEL. INSTALL NEW FLASHING OVER LINTEL AND CELL VENT WEEPS. ASSUME 10% OF LINTELS WILL BE REPLACED.

Keynote Legend

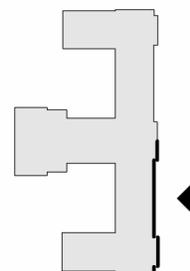
Key Value	Keynote Text
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① EAST ELEVATION - SOUTH END
1/8" = 1'-0"

GENERAL NOTES

1. SCRAPE AND PAINT EXISTING LINTEL. INSTALL NEW FLASHING OVER LINTEL AND CELL VENT WEEPS. ASSUME 10% OF LINTELS WILL BE REPLACED.
2. REMOVE AND REPLACE LIMESTONE UNITS WHERE REPAIR IS NOT PRACTICAL. MATCH EXISTING PROFILES.
3. RESOLDER OPEN JOINTS IN COPPER GUTTERS AT CORNERS.
4. REMOVE AND REPLACE BROKEN STRAINERS ON CONDUCTOR BOXES.
5. CLEAR DEBRIS FROM INTACT STRAINERS IN CONDUCTOR BOXES.
6. CLEAN DEBRIS FROM GUTTERS AND DOWNSPOUTS.
7. PROVIDE SPLASH BLOCKS AT GUTTERS THAT EXTEND INTO LAWN.



KEY PLAN
N.T.S.

HATCH LEGEND

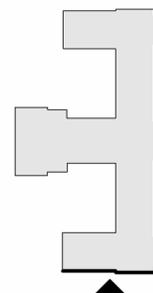
- CONCRETE REPAIRS
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- OPEN MORTAR JOINTS
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① SOUTH ELEVATION
1/8" = 1'-0"

GENERAL NOTES

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KEY PLAN
N.T.S.

HATCH LEGEND

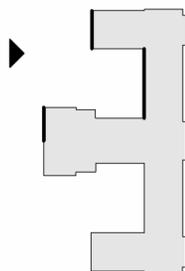
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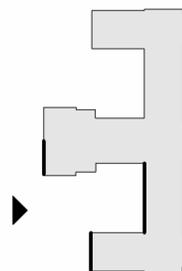
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① WEST ELEVATION - SOUTH END
1/8" = 1'-0"

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ALTUSWORKS INC.

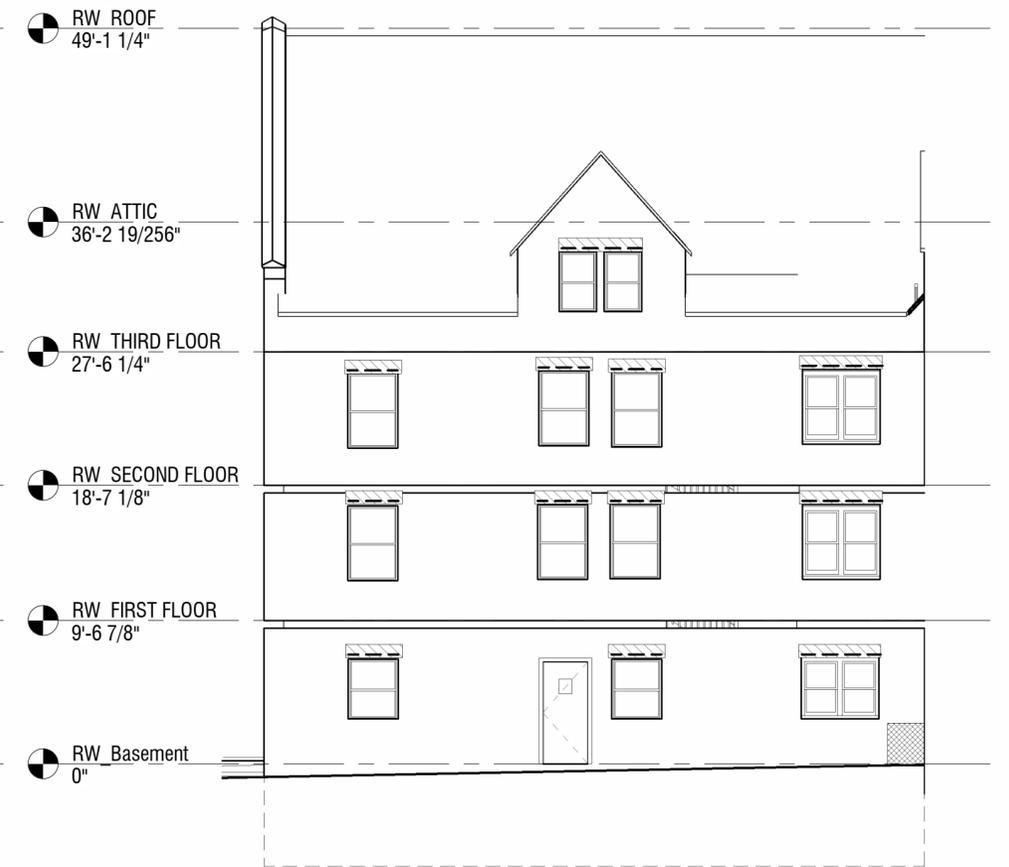
211 N. CLINTON ST, SUITE 3S
CHICAGO ILLINOIS 60661
TEL 773 545 1870
WWW.ALTUSWORKS.COM

FOREST PRESERVE DISTRICT OF DUPAGE
MAYSLAKE PEABODY ESTATE
RESTORATION DOCUMENTS

AR2.06
10/30/23



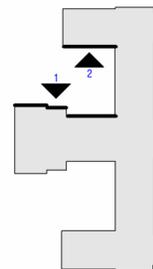
① NORTH ELEVATION 2
1/8" = 1'-0"



② SOUTH ELEVATION 2
1/8" = 1'-0"

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RW ROOF
49'-1 1/4"

RW ATTIC
36'-2 19/256"

RW THIRD FLOOR
27'-6 1/4"

RW SECOND FLOOR
18'-7 1/8"

RW FIRST FLOOR
9'-6 7/8"

RW Basement
0"

① SOUTH ELEVATION 3
1/8" = 1'-0"

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49'-1 1/4"

RW ATTIC
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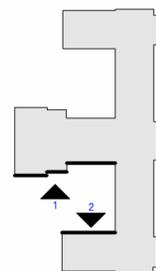
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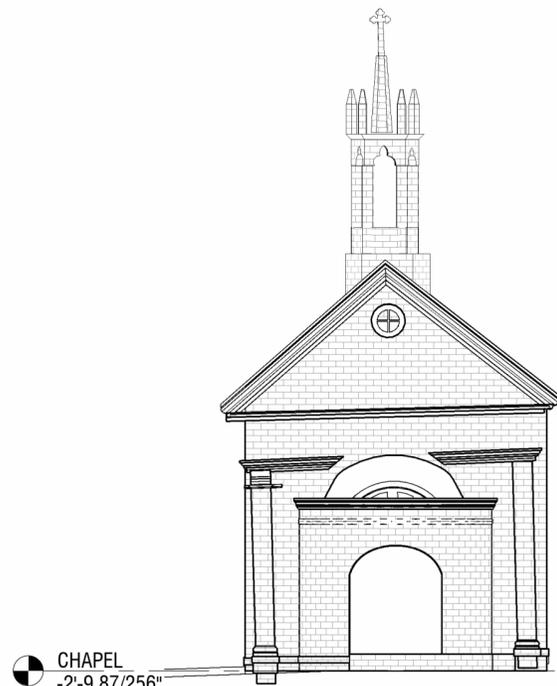
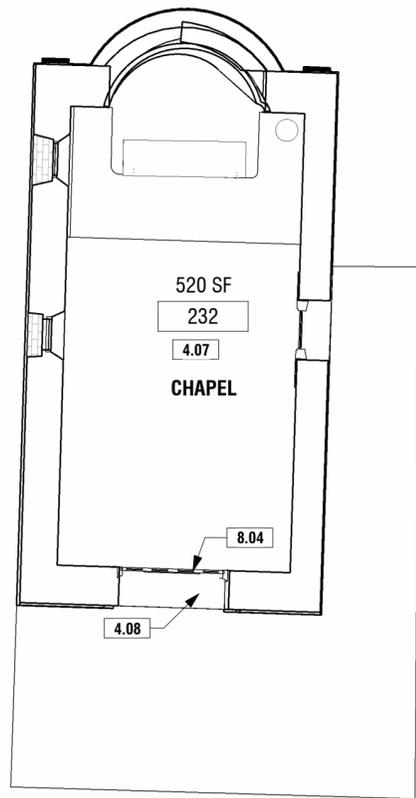
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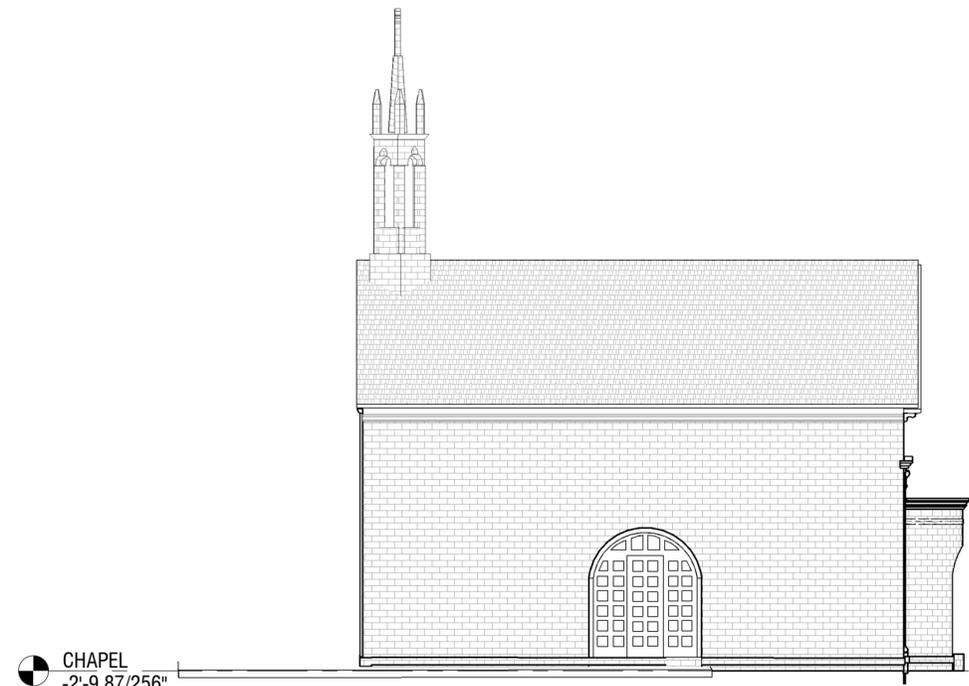
Keynote Legend

Key Value	Keynote Text
6.02	Replace damaged wood trim at dormers and splice in new wood at rotted or damaged eaves. Match species, dimensions, and cut.
8.01	Prep and refinish existing stained wood doors approx. Inspect door hardware for egress functionality and provide new door closers at existing wood egress doors. Replace deteriorated wooden doors and frames with new HM doors and frames.



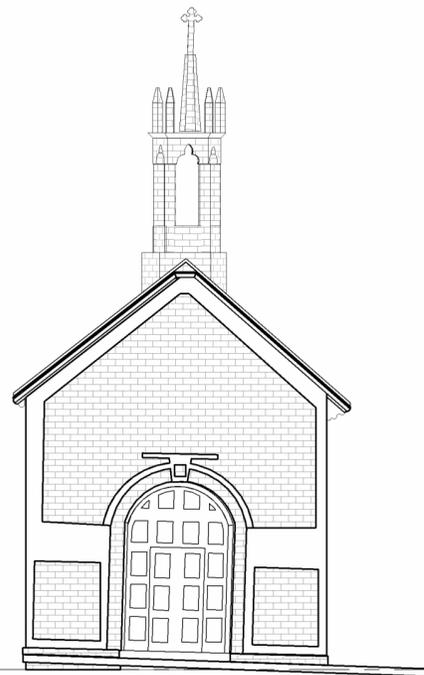
● CHAPEL
-2'-9 87/256"

② CHAPEL - NORTH ELEVATION
1/8" = 1'-0"



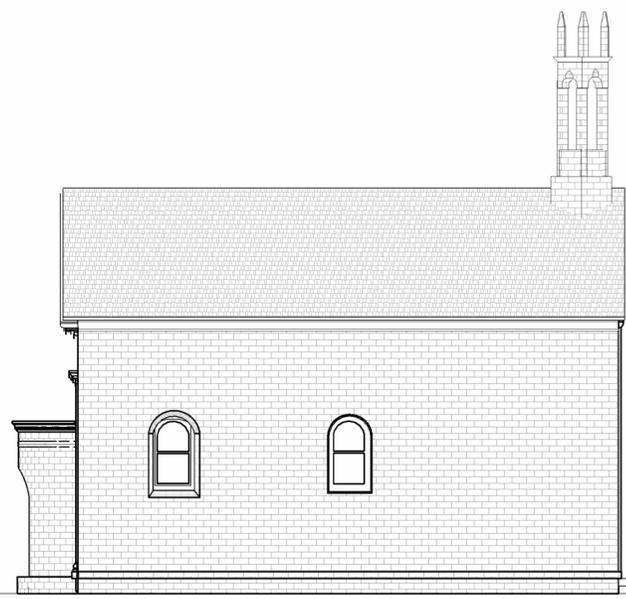
● CHAPEL
-2'-9 87/256"

③ CHAPEL - EAST ELEVATION
1/8" = 1'-0"



● CHAPEL
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④ CHAPEL - SOUTH ELEVATION
1/8" = 1'-0"



● CHAPEL
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⑤ CHAPEL - WEST ELEVATION
1/8" = 1'-0"

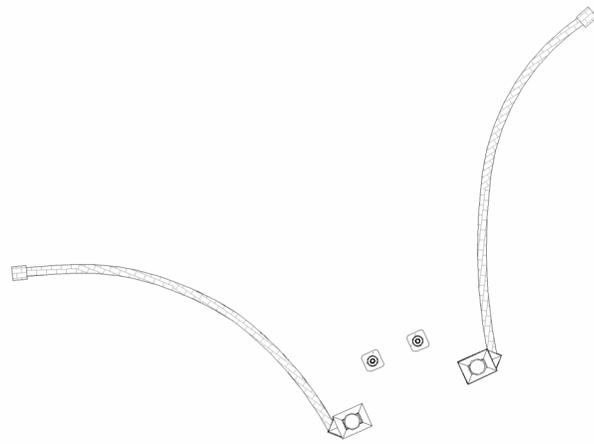
GENERAL NOTES

1. REMOVE SEALANT IN LIMESTONE JOINTS AND REPLACE WITH A COMPATIBLE LIMESTONE MORTAR.

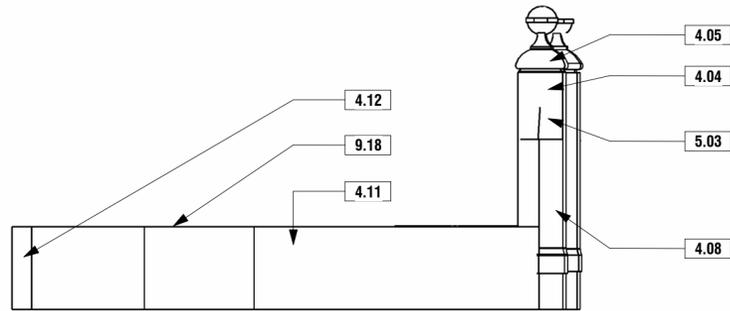
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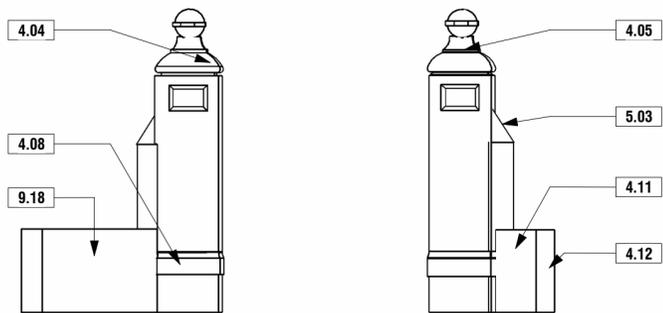
Keynote Legend	
Key Value	Keynote Text
4.07	Replace missing mosaic tiles with new tiles matching material and color.
4.08	Route and seal cracks in limestone.
8.04	Remove, patch scratches, prep and paint wood door.



④ ENTRY GATE
1/16" = 1'-0"



② GATE - EAST ELEVATION
1/8" = 1'-0"



① GATE - NORTH ELEVATION
1/8" = 1'-0"



③ GATE - WEST ELEVATION
1/8" = 1'-0"

GENERAL NOTES

1. CLEAN WALLS OF BIOLOGICAL GROWTH
2. REPLACE LIMESTONE UNITS THAT ARE NOT ABLE TO BE REPAIRED.

Keynote Legend	
Key Value	Keynote Text
4.04	Prep and patch spalled limestone units.
4.05	Grind and repoint limestone joints.
4.08	Route and seal cracks in limestone.
4.11	Repoint stone walls including head joints.
4.12	Remove existing deteriorated stones and rebuild. Replace missing field stone units.
5.03	Remove abandoned metal anchors/elements at limestone piers.
9.18	Remove cement parging over low stone walls.



**Mayslake Peabody Estate
Facility Condition Assessment Report**

Appendix B Photos



Figure 1 Mansion. Solarium looking west into Link.

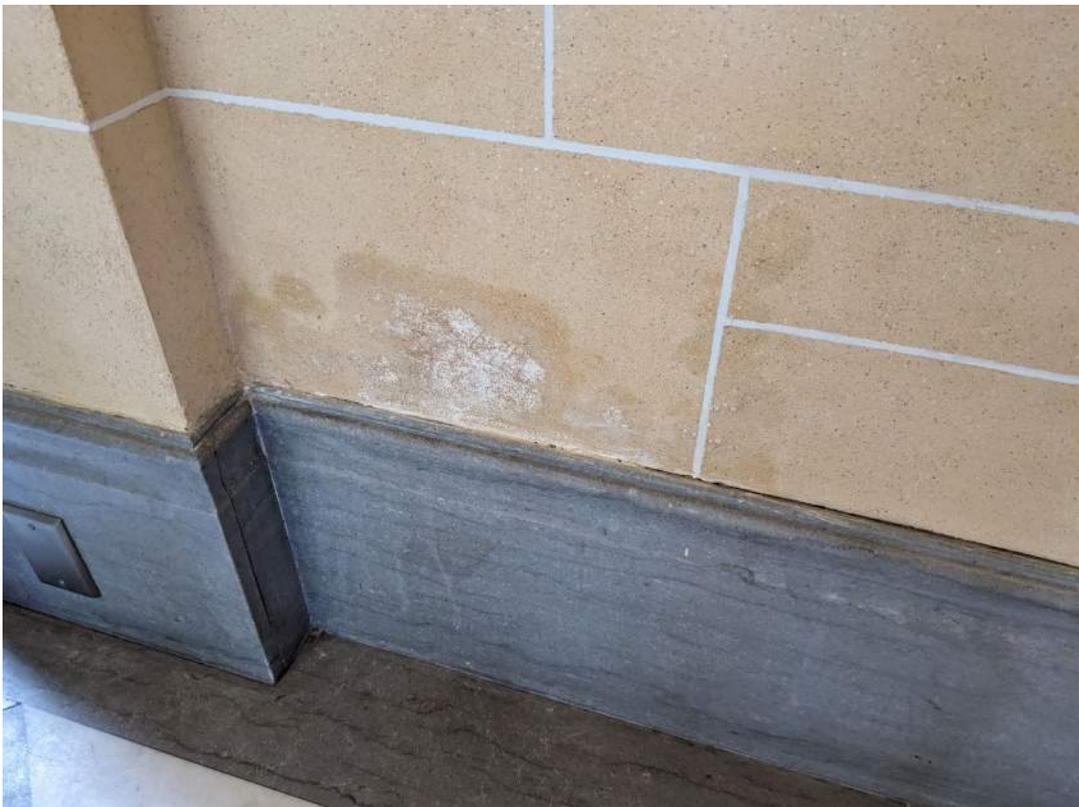


Figure 2 Mansion. Plaster damage in Solarium.



Figure 3 Mansion. Loose tiles in Study fireplace.



Figure 4 Mansion. Fireplace in Library.



Figure 5 Mansion. Library, looking south. Portable lift seen on left.



Figure 6 Mansion. Ceiling of Library.



Figure 7 Mansion. Deteriorated plaster in circular stair.



Figure 8 Mansion. Damaged marble riser between Library and Living Room.



Figure 9 Mansion. Living room, looking west towards Dining Room.



Figure 10 Mansion. Dining room, looking south to Breakfast Porch.



Figure 11 Mansion. Missing marble base in Dining Room.



Figure 12 Mansion. Damaged wood wainscot in Dining Room.



Figure 13 Mansion. Breakfast Porch, looking south.

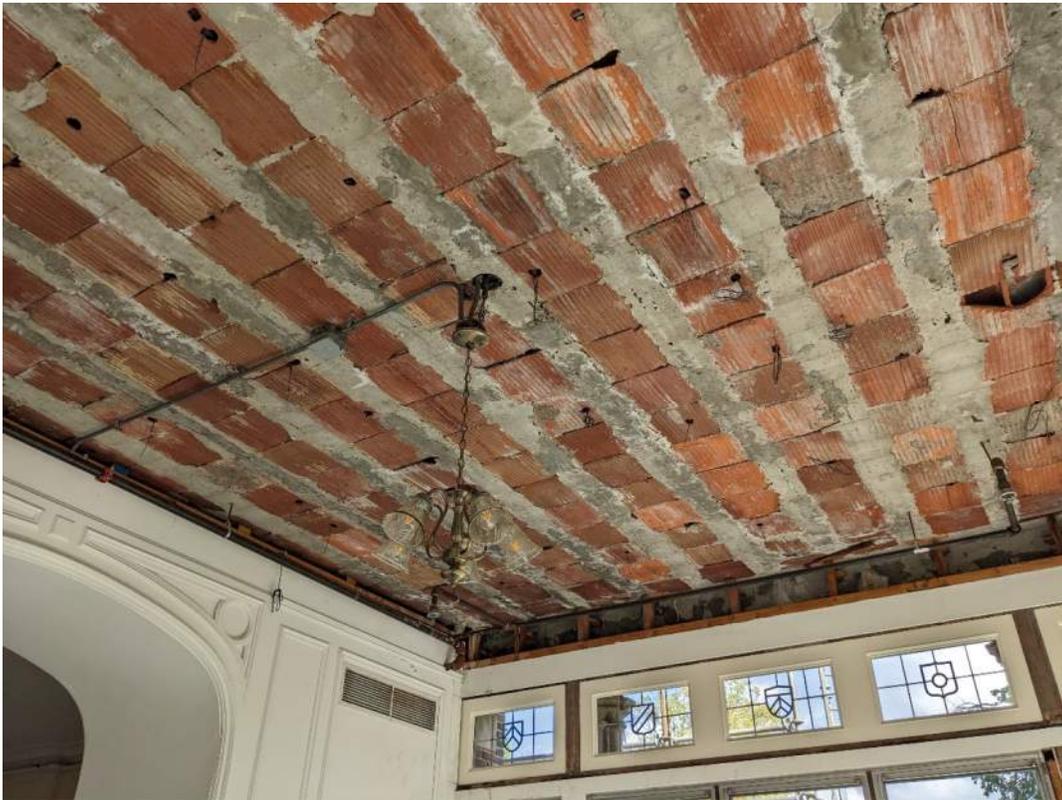


Figure 14 Mansion. Missing finish ceiling in Breakfast Porch.

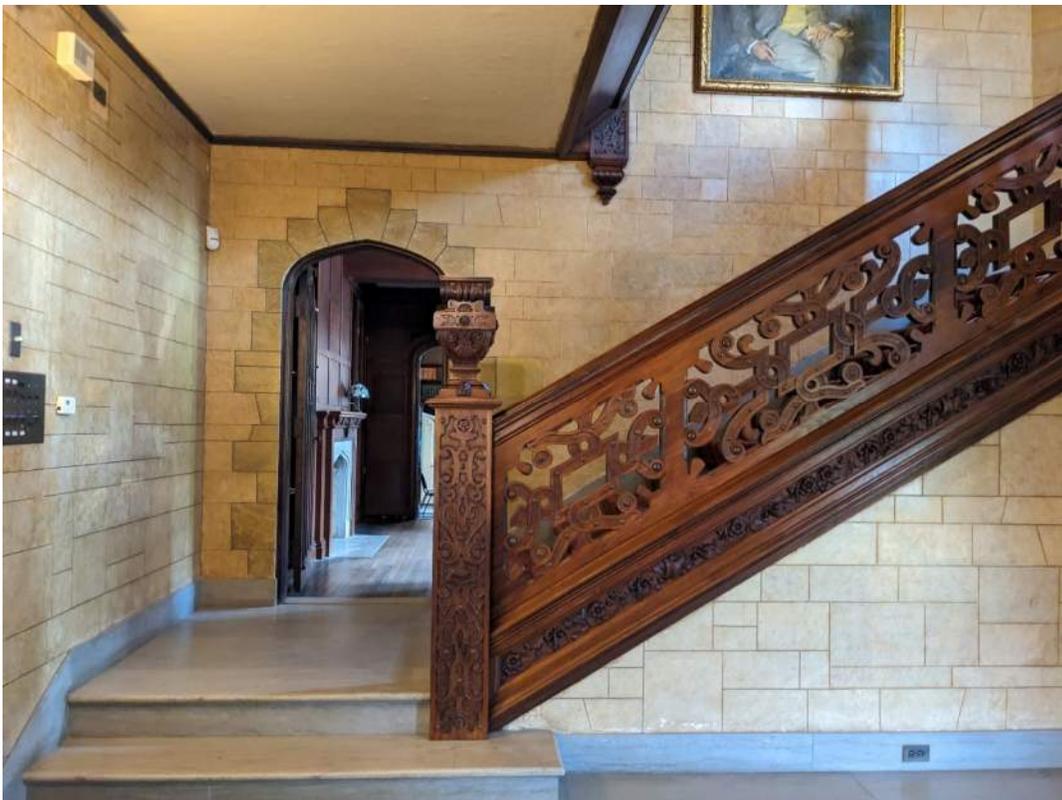


Figure 15 Mansion. Entry Hall looking west into Study.

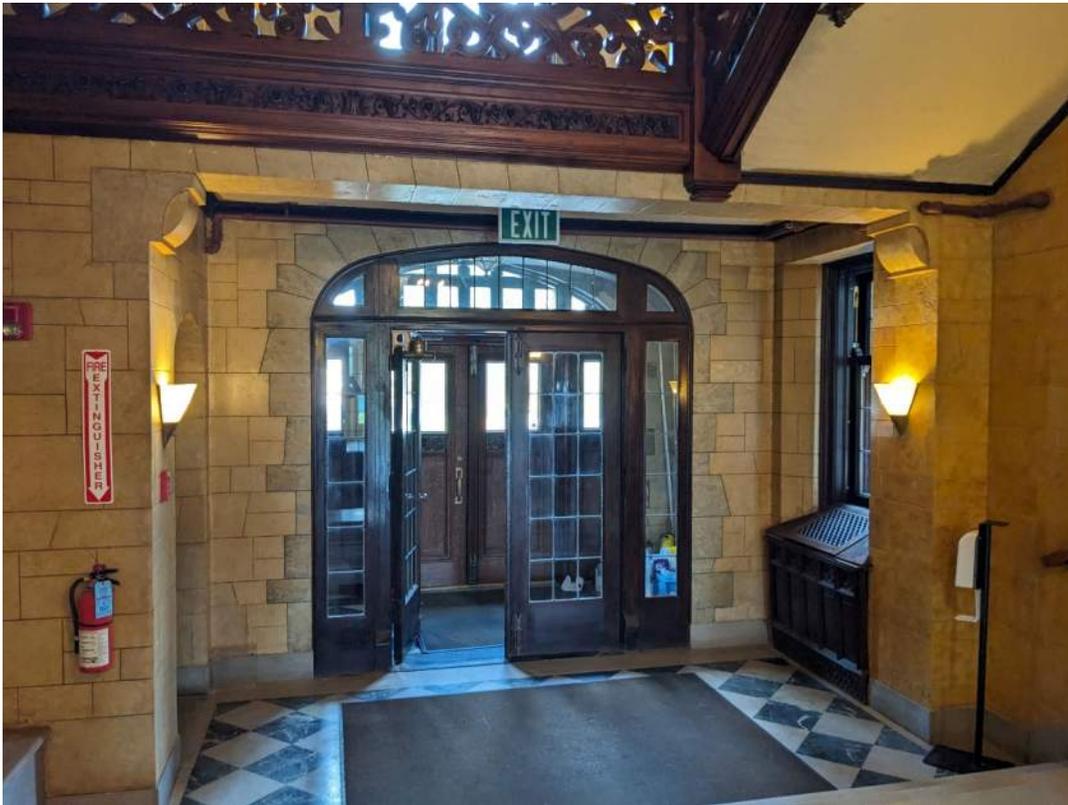


Figure 16 Mansion. Entry Hall looking north to Vestibule.



Figure 17 Mansion. Plaster deterioration in the Reception Room, east wall.



Figure 18 Mansion Service Wing. Kitchen with modern tile and original millwork.



Figure 19 Mansion Service Wing. Kitchen.



Figure 20 Plaster damage in Servant's Entry.



Mayslake Peabody Estate
Facility Condition Assessment Report
Mansion Photos



Figure 21 Mansion Service Wing. Servant's Sitting room Looking east to Ironing Room.



Figure 22 Mansion Service Wing. Plaster opening below window.



Figure 23 Mansion Service Wing. Porch with missing finishes.



Figure 24 Mansion. Plaster damage on Entry Hall landing.



Figure 25 Mansion. Plaster damage at Entry Hall landing.



Figure 26 Mansion. Linen closet.



Figure 27 Mansion. Chipped and buckled wood in Hallway.



Figure 28 Mansion. Chamber 2. Damaged plaster on ceiling.



Mayslake Peabody Estate
Facility Condition Assessment Report
Mansion Photos



Figure 29 Mansion. Chamber 2 Bath.



Figure 30 Mansion. Housekeeper 1 bedroom.



Figure 31 Mansion. Housekeeper 1 Bath.



Figure 32 Mansion. Built in drawers in Housekeeper 1 closet.



Figure 33 Mansion. Housekeeper 2 facing north.



Figure 34 Mansion. Housekeeper 2. Mechanical equipment in room.



Figure 35 Mansion. Plaster damage in Flower Closet. Damaged masonry.



Figure 36 Mansion. Plaster damage in Flower Closet.



Figure 37 Mansion. Second floor Sitting Room, facing south.



Figure 38 Mansion. Mr. Peabody's Chamber looking south.



Figure 39 Mansion. Mr. Peabody's Chamber looking into Mrs. Peabody's Chamber.



Figure 40 Mansion. Bath in Mr. Peabody's Chamber.



Figure 41 Mansion. Mrs. Peabody's Chamber looking south.



Figure 42 Mansion. Mrs. Peabody's Chamber looking north. Damaged/missing wood trim.



Figure 43 Mansion. Buckled flooring in Mrs. Peabody's Chamber.



Figure 44 Mansion. Dressing room. Missing wood trim, capped plumbing.



Figure 45 Mansion. Buckled flooring in Dressing Room.



Figure 46 Mansion. Chamber 3 looking east.



Figure 47 Mansion. Chamber 3 damaged plaster moulding.



Figure 48 Mansion. Deteriorating Plaster in Chamber 3 Bath.



Figure 49 Mansion. Hall looking south into Chamber 4.



Figure 50 Mansion. Chamber 4 looking east.



Figure 51 Mansion. Sleeping Porch looking south.



Figure 52 Mansion. Concrete cracking on sleeping porch.



Figure 53 Mansion Service Wing. Corridor into Service Wing.



Figure 54 Mansion Service Wing. Attic closet. Roof joists meet exterior wall.



Figure 55 Mansion Service Wing. Servant's Chamber 1



Figure 56 Mansion Service Wing. Servant's Chamber 5.



Figure 57 Mansion Service Wing. Tub.



Figure 58 Mansion Service Wing. Damage modern tile above original tile wainscot.



Figure 59 Mansion Service Wing. Toilet.



Figure 60 Mansion. Attic space looking west.



Figure 61 Mansion. Attic space, view into lightwell.



Figure 62 Mansion. Deteriorating paint in attic.



Figure 63 Mansion. Fire sprinkler piping in Attic.



Figure 64 Mansion. Staircase to attic.



Figure 65 Mansion. Billiards Room in basement. Plaster damage.



Figure 66 Mansion. Mechanical Equipment in Basement.



Figure 67 Mansion. Basement room, not currently utilized.



Figure 68 Mansion. Basement Room. Utilized for tours, view into wine cellar.



Figure 69 Mansion. Finished doorway in basement. Plaster damage.



Figure 70 Mansion. Turkish Bath. Damaged original tiles.



Figure 71 Mansion. Basement Toilet. Plaster damage.



Figure 72 Retreat Building. Event Space looking west.



Figure 73 Retreat Building. First floor corridor looking south.



Figure 74 Retreat Building. First floor north wing.



Figure 75 Retreat Building. First floor typical condition.



Figure 76 Retreat Building stairwell.



Figure 77 Retreat Building. First floor vestibule, not utilized in daily operations.

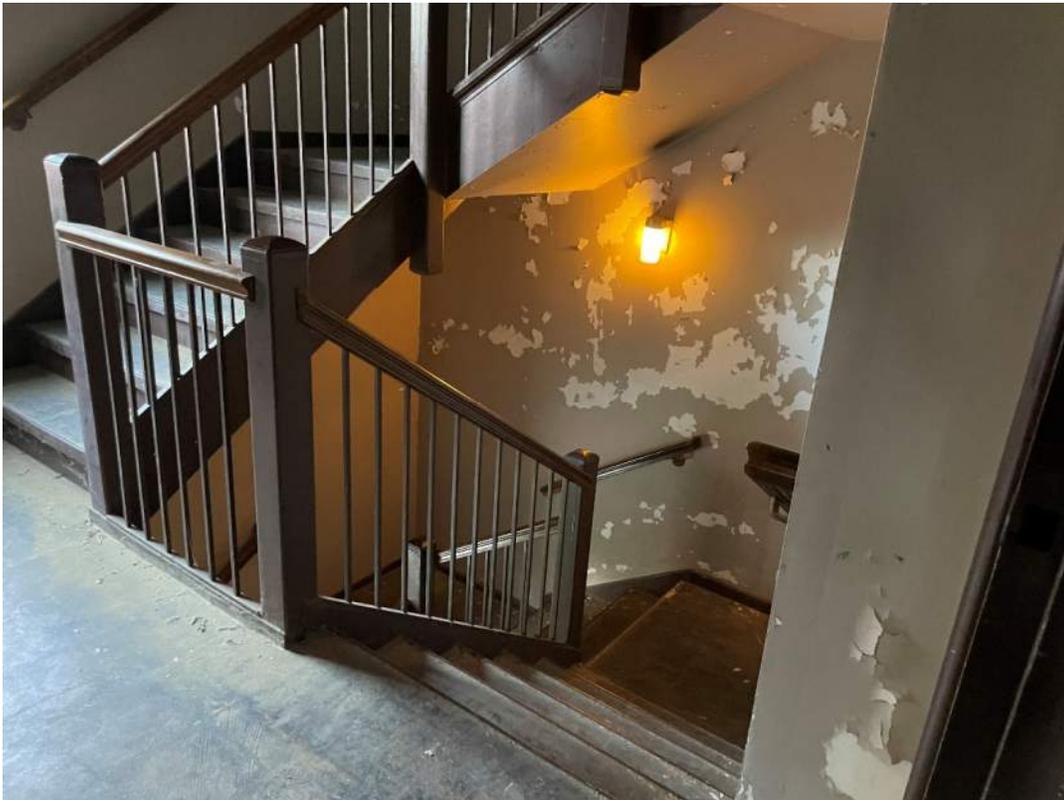


Figure 78 Retreat Building. First floor stairwell down to basement. Peeling paint.



Figure 79 Retreat Building. First floor gathering hall underneath Event Space.

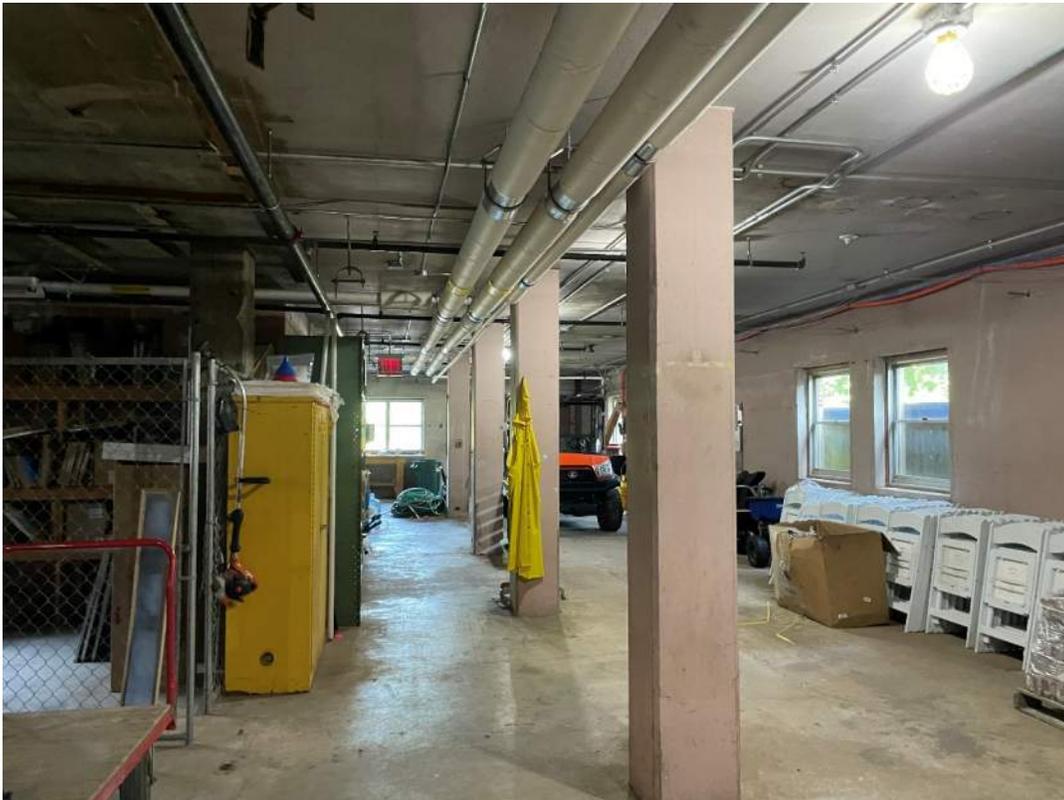


Figure 80 Retreat Building. Basement looking west, typical.



Figure 81 Retreat Building. Basement garage door which exits to grade.



Figure 82 Retreat Building. Exposed rebar in ceiling.



Figure 83 Retreat Building. Third floor Archive space. Note panels covering windows.



Figure 84 Retreat Building. Third floor unfinished space.



Figure 85 Retreat Building. Attic. Note plumbing vent is abandoned.



Figure 86 Retreat Building. Attic, stains from past water damage.



Figure 87 Retreat Building. Attic, looking towards louver.



Figure 88 Retreat Building. Gap in floor/ceiling where studs from third floor connect to attic studs.



Figure 89 Retreat Building. Attic louver, typical.



Figure 90 Retreat Building. View into attic of Event Space.



Figure 91 Retreat Building. North end of east facade.



Figure 92 Retreat Building. East facade, spalling bricks on front face of parapet.



Figure 93 Retreat Building. South end of east facade. Note staining on limestone sills and door frame.



Figure 94 Retreat Building. North facade.



Figure 95 Retreat Building. North facade. Example of conductor box and strainer.



Figure 96 Retreat Building. North facade. Example of basement window. Note rust in lintel.



Figure 97 Retreat Building. Deteriorating copper flashing on back side of parapet.



Mayslake Peabody Estate
Assessment Report
Retreat Building Photos



Figure 98 Retreat Building. West facade, north courtyard looking south.



Figure 99 Retreat Building. West facade, north courtyard looking north.



Mayslake Peabody Estate
Assessment Report
Retreat Building Photos



Figure 100 Retreat Building. North courtyard of west facade, looking towards north facade of Event Space.



Figure 101 Retreat Building. South courtyard of west facade, looking northeast. Note downspout extensions.



Figure 102 Retreat Building. Roof of north facade of Event Space taken from above. Note snow guards on slate roof and copper roof below.



Figure 103 Retreat Building. West facade, brick deterioration due to water damage from broken gutter above.



Figure 104 Retreat Building. West facade, peeling paint on door, conductor box.



Mayslake Peabody Estate
Assessment Report
Retreat Building Photos



Figure 105 Retreat Building. West facade, staining on limestone sills and lower brick courses.



Figure 106 Retreat Building. West facade south courtyard.



Figure 107 Retreat Building. West facade. Brick staining and deterioration due to water from broken gutter above.



Figure 108 Retreat Building. West elevation. Note cracking in limestone window heads.



Figure 109 Retreat Building. West facade, deterioration of wood door.



Figure 110 Retreat Building. South facade. Note spalls in limestone window heads.



Figure 111 Retreat Building. South facade. Note spall at limestone window head and step cracking in brick.



Figure 112 Chapel. Front facade.



Figure 113 Chapel. Rear facade.



Figure 114 Chapel. Tile mosaic on front facade. Note missing tiles.



Figure 115 Chapel. Front facade wood entry door.



Figure 116 Chapel. Crack in front step.



Figure 117 Chapel. Interior looking north.



Mayslake Peabody Estate
Facility Condition Assessment Report
Garage Photos



Figure 118 Garage. Note peeling paint.



Figure 119 Garage.



Figure 120 Gate. East and west piers, looking north.



Figure 121 Gate. East pier, note spalled limestone.



Figure 122 Gate. West pier.



Figure 123 Gate. East pier, note embedded metal.



Figure 124 Gate. West low wall, note missing stone.



Figure 125 Gate. East low wall.



Figure 126 Gate. East low wall. Typical cementitious parge separating from wall.



Appendix C Code Analysis

CLIENT	Forest Preserve DuPage County				
LOCATION	35580 Naperville Road, Wheaton, IL 60189				
AWI NO.	AWI: 23-011				
DATE	10/19/2023				
PROJECT PARAMETERS		REMARKS			
MUNICIPALITY	Oak Brook, IL				
ADDRESS	1717 31st Street, Oak Brook, IL 60523	PIN: 06-34-200-015-0000			
WEB LINKS	Building Codes https://codelibrary.amlegal.com/codes/oakbrookil/latest/oakbrook_il/0-0-0-8121				
PHONE					
EMAIL					
SUBMITTAL					
APPLICABLE CODES	TITLE	YEAR	CODE		
	Village of Oak Brook Municipal Code				
	Cook County Zoning Code				
	International Building Code	2021	IBC		
	International Existing Building Code	2021	IEBC		
	Illinois Accessibility Code	Current	IAC		
	Illinois State Plumbing Code	2014	ISPC		
	Illinois Safety Code for Elevators & escalators	n/a	n/a		
	Illinois Energy Conservation Code -IECC	2018	IECC		
	International Mechanical Code	2021	IMC		
	International Plumbing code	2021	IPC		
	National Electrical Code	2020	NEC		
	Life Safety Code #101-200		NFPA		
	International Energy Conservation Code	2015	IECC		
	International Fuel Gas Code	2021	IFGC		
	International Fire Code	2021	IFC		
GENERAL ANALYSIS	TOPIC	IBC	REMARKS	ACTUAL	
OCCUPANCIES	Occupancy Classifications	Mansion	303.4	Museum, Exhibition, Office	A-3, B
		Retreat	303.4	Assembly for recreation or amusement. Accessory storage S-1	A-3
		Chapel	303.1.1	Assembly with occupant load of less than 50 persons	B
	Maximum Occupancy	A-3	T 1004.5	30 net sf per person (approx 470 persons Mansion, excluding attic and basment) (approx 1,440 persons Retreat Building, excluding attic and basment)	
	B		150 gross sf per person (chapel 49 persons maximum)		
CONSTR. TYPE	Mansion IIB, Retreat Wing IIB, Chapel		T.504.3		
	Exterior Noncombustible				
	Height Limitations		T.504.3	55' above grade plane if not sprinklered, 75' if sprinklered	Existing
			T.504.4	2 stories if not sprinklered, 3 if sprinklered	Existing
	Area Limitations		T.506.2	9,500sf not sprinklered, 38,000sf sprinklered	Existing
ZONING		ZONING	REQUIRED	ACTUAL	
		Map	CR (Conservation/Recreation District)		
	Uses		Permitted: Forest Preserve, agriculture, parks. Special: Cultural facilities, educational	Forest Preserve	
	Lot Width		Not less than 220' within buildable area	Existing	

Lot Area		Not less than 5 acres.	Existing
Building Height		Not more than 30'. Special uses may not exceed 40'	Existing
Lot Coverage		No structure erected within 100' of any waterway, street, or residential district.	Existing
Stormwater Management			
Signage			
Parking:	CH 12-5	Off-street parking and loading	237 + 8 ADA
		Chapel: 1 parking space for 4 seats	
		Museum: 1 parking space for every 500 sqft	

GENERAL	IBC	REQUIRED	ACTUAL
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Fire Separation Distance (FSD)		Chap 2	
Occupancy Separation		T508.4	
Non-separated Mixed Use		508.3	
Fire Resistance Rating Building Elements	Struct. Frame	T601	0 hours
	Bearing Walls		0 hours
	Non Brg Wall		0 hours
	Floor Const.		0 hours
	Roof Const.		0 hours
Fire Resistance Rating Exterior Walls (FSD)		T602	
Sprinklers	A3	IFC 903.2.1.3	Automatic sprinkler shall be provided throughout A-3 if area exceeds 12,000sf, has an occupant load of 300+, or is located on a floor other than the level of exit discharge. Provided
Sprinkler Room		IFC 902.1	Access doors should be labeled. Permitted to be locked if the key is available at all times.
Sprinkler System Supervision and Alarms		IFC 903.4	Alarm, supervisory signals, etc shall be distinctly different and automatically transmitted
Fire Extinguishers		906.1	Portable fire extinguishers shall be installed
		906.3.1	Maximum distance of travel to extinguisher is 75 feet. Maximum 11,250sf of floor area per extinguisher
Manual Fire Alarm		907.1.2	Shop drawings for fire alarms to be prepared per NFPA 72
		907.2.1	Occupant notification system to be provided in A occupancies. Manual fire alarm boxes not required if building has automatic sprinkler system throughout and occupant notification system activates upon sprinkler water flow.
		IEBC 1004	Fire protection of 1011 shall apply where a building or portions thereof undergo a change of occupancy classification or change of occupancy within a space where there is a different fire protection threshold requirement
		IFC 907.2.4	
Draft stopping		707.1	Fire blocking and draft stopping in combustible concealed spaces
Address Identification		IFC 505.1	legible and placed so visible from the street or road, not less than 4" high
Key Boxes		IFC 506	required where access to or within a structure is restricted because of secured openings or immediate access is necessary for life saving or firefighting purposes.
Interior Finishes	A3	T803.13	Interior exit stairways: B, Corridors for exit access: B, Rooms: C (if non sprinklered A,A,C)

EGRESS		IBC	REQUIRED	ACTUAL
Occupant Load	A3	T1004.1.2	30 net square feet per occupant	
	B		150 gross square feet per occupant	
Ceiling Height		1003.2	7'-6" min.; Bathroom/Kitchen/Strge can have 7'-0".	
	Below Mezzanine	505.2	7'-0" minimum	
Elevation Change		1003.5	Elevation changes less than 12" can use a 1 to 20 (5%) slope.	
			Slopes > 5% must be ramps, requiring handrails or contrasting floor finishes when change is 6" or less in height (conflicts with 1010.8).	
Door Height		1008.1.1	Minimum door height is 80" (6'-8"). Clear width 32" (2'-6").	
Egress Width	36" entry door, 34" otherwise	1005.3.1	Not sprinklered: 0.3 inches per occupant for Stairs; 0.2" elsewhere, 44" min. as per 1011.2, except 36" min. if occupant load is 50 or less.	
		1005.3.2	Sprinklered: 0.2 inches per occupant for Stairs, 0.15 elsewhere. Doors; 32" clear width min. as per 1010.1.1	
Door Encroachment		1005.7.1	doors in any position may not reduce corridor width by more than 1/4	
		1008.1.3.1.1	50 person capacity, max, but not more than 50% of total egress capacity	
Egress Illumination		1006.2	1 footcandle at floor level	
Door Swing		1010.1.2.1	Doors shall swing in the direction of egress (areas with occupant load > 50)	
Hardware		1010.2.2	Install between 34" and 48" AFF.	
Protruding Objects		1003.3.1	Provide barrier where vertical clearance < 80"	
Stairways	Width	1005.3.1	44" (48" if part of accessible route 1009.3.2) Capacity factor of 0.3" per occupant.	
	Headroom	1009.5	80"	
	Risers & Treads	1011.5.2	R = max 7" min 4" / T = 11" min	
	Dim Uniformity	1009.7.4	3/8" max variance w/in a flight of stairs (from landing to landing)	
	Elevation Change	1003.5.2	A stair with a single riser or 2 risers + 1 tread only permitted if not accessible egress	
Ramps		1010.3	1 to 12 slope maximum.	
		1010.4	Cross slope, and landing slope, is maximum 1 to 48.	
		1010.7.3	Landing length minimum is 60".	
		1003.5	Level change <12" requires sloped surfaces. Slopes >1 to 20 is a ramp..	
		1010.9	Handrails are required only when rise >6".	
Handrails		1014.9	within 30" reach from any point.	
Guardrails		1013.2	req'd when >30" vertical drop and w/in 36" horiz.	
Required number of Exits from Spaces		T1006.2.1	Two exits req'd if occupant load exceeds 49; 3 req'd with occupant load of 501-1,000	
		1004.2.1	Cumulative load shall occur if egress includes intervening rooms or spaces.	
Common Path of Egress Travel		T1014.3	75' to 100' max. Dependent on occupancy type and sprinkler status	
Exit doorway Arrangement		1007.1	Exits shall be > 1/2 length of diagonal area being served	
		1015.2.1.2	1/3 when sprinklered	
Travel Distance		T1016.2	A: 200' (NS), 250' (Sprinklered) B: 200(NS), 300(sprinklered)	
Dead End Corridors		1020.5	20'	

ACCESSIBILITY

IAC

Illinois Accessibility Code (1997)		http://www.ilga.gov/commission/jcar/admincode/071/07100400sections.html	
Chapter 11 of IBC 2021			
	IBC	ICC A117.1	REQUIRED
https://law.resource.org/pub/us/code/ibr/ansi.a117.1.2009.pdf	1102.1		In accordance with ICC A117.1-2009
Existing Buildings		IAC 400.510.b.4	Alteration costs 15% to 50% of reproduction cost, and >\$100K: vertical access is req'd unless that cost exceeds 20% of the reproduction cost of the public facility.
		3411.4.2	W/ complete change of occ., one accessible route to primary function areas.
		3412.2.2	Where a portion of the bldg is changed to new use from remainder of bldg, and that portion is fire separated, the portion changed shall comply with Section 34.
Accessible Entrance in Historic Building	IEBC 306.7.16.3		One main entrance to be made accessible; non-main entrance can be made accessible if left unlocked or there is a notification system
	IEBC 306.7.16.1		Accessible site arrival point and route to accessible entrance to accessible public spaces shall be provided
Historic Buildings	IEBC B101.4		Qualified historic building not subject to Section 106: If SHPO determines if compliance with accessibility requirements would threaten or destroy the historical significance alternative requirements of Section 306.7.16 are permitted
Accessible Route	1104.4		(non-historic) Accessible access to each story, except any that do not contain accessible elements or are not required to be accessible per 1108 or 1109
Automatic Doors	1105.1.1		(A3) accessible entrances to have one automatic door if occupancy load > 300
Accessible Means of Egress	1009.1		If more than one means of egress is required by 1006.2 or 1006.3 from any accessible space, each portion shall be served by not less than two accessible means of egress.
Accessible Means of Egress	1009.3.3		30" x 48" area of rescue assistance to be provided, 1 per inaccessible exit.
Communication Elements & Features (ANSI)		Ch 7	Signage
Accessible Route		402.2	Comply with 402; walking surfaces cannot exceed a slope of 1 to 20.
Parking		502	96" (car), 132" (van) wide with 5' access aisle.
Stairways		504.2	4-7"R x 11"T Min.
Thresholds	1010.1.6		3/4" maximum with beveled edges.
Clear Ground Space		305.3	30"x48"
Lavatory Mirror		603.3	B/Mirror maximum 40" AFF
Drinking Fountains	ADA 211.2, 602.4, 602.7		Spout outlets required at max 36" AND min 38".
Door Opening Force		404.2.8	Interior hinge 5.0lbs max; sliding or folding 5.0lbs max
Dimensions		IAC App. A, Fig. 28	Toilets = 18" from wall.
		IAC App. A, Fig. 28, 29 & 39	grab bars
		604.2, 604.3.2	Clearance around toilet 60"; CL of toilet 18" from wall

INT. ENVRNMNT.

	IMC	IBC	REQUIRED	ACTUAL
Natural Ventilation		1202.5	openable area of the openings to outdoors shall not be less than 4% of floor area being vented	
Ventilation for Bathrooms		1202.5.2.1	Per IMC	
Ventilation for Kitchens	T403.3		Exhaust airflow rate 0.7 CFM/SF	
Surrounding Materials	Toilet rooms	1210.2.1	Surfaces w/in 2' of urinals and toilets to have nonabsorbent vertical base min. 4' high	

CLIMATE & GEOGRAPHY		IECC 2018		REQUIRED	ACTUAL
Zone		FC301.1	Zone 5A		
Seismic Design Category			B		
Walls	Mass	TC402.1.3	R 11.4		
Roof	Above roof deck		R 30		
	In attic		R 38		
Windows	Fixed	TC402.4	U 0.38		
	Operable		U 0.45		
	Entrance Doors		U 0.77		
	SHGC				
	PF < 0.2		0.38/.51(n)		
	0.2 < PF < 0.5		0.46/.56(n)		
	PF > 0.5		0.61/.61(n)		
MISC		IPC	IBC	REQUIRED	ACTUAL
Bathroom fixtures					
Water closets		890.Appendix A		(A) Male: 1 for first 100, 2 for up to 200, 3 for up to 400, 4 for up to 800. Female: 2 for first 100, 3 for up to 150, 4 for up to 200, 5 for up to to 300, 6 for up to 400, 7 for up to 500, 8 for up to 650, 9 for up to 800.	M: 1 water closet. F: 4 water closets
Urinals		890 Appendix A		Male: 1 for first 100, 2 for up to 200, 3 for up to 400, 4 for up to 600	2 urinals
Employee Restrooms		890.810.b.1.A.ii		Minimum of 1 water closet and lavatory. If more than 5 employees separate men's and women's restrooms are required.	
Combining Toilet Rooms		890.810.b.1.B		Employee restrooms may be combined with public if sufficient number of fixtures are provided	
Public Restrooms		890.810.b.2.A.i		Buildings with over 5,000sf or more than 100 persons occupancy shall provide public restrooms	
Lavatories		890.Appendix A, Table B		1 for up to 200, 2 for up to 400, 3 for up to 750	M: 2, F: 2
Drinking Fountains		890.Appendix A, Table B		1 for first 100	2
Service Sink		890.Appendix A, Table B		1 service sink per floor	



Appendix D Cost Estimate

Clarifications and Qualifications

00 - Notes Regarding This Estimate

- 1 This Conceptual estimate is based on information prepared by the office of Altusworks Inc. and received on 10/12/2023, together with discussions with their staff.
- 2 This estimate assumes a normal market condition.
- 3 This estimate assumes five or more qualified Contractors competitively bidding on this project.
- 4 This estimate assumes one contract awarded to one General Contractor.
- 5 Those cost estimates provided by the Architect and/or Consultants are identified in the body of the estimate.
- 6 After six months, this estimate should be updated for current market conditions.
- 7 Escalation is not included in the estimate

- 10 **THIS ESTIMATE EXCLUDES:**
- 10 Professional fees, testing, moving expense, etc. for Owner's account,
- 10 Furnishings and equipment other than those shown in the body of the estimate,
- 10 Premium costs for work done in phases, out of sequence, out of hours,
- 10 Hazardous material removal and abatement,
- 11 Construction Contingencies,
- 11 Building Permits,
- 11 Builder's Risk Insurance,
- 11 All other project soft costs.
- 11 Phasing
- 12 Cost Escalation

- 20 This estimate is based on information available at this time. The scope of this estimate should be reviewed to insure our interpretation of the drawings and other information is correct. This estimate should be updated as the design evolves and is completed.
- 21 This cost estimate represents our opinion of probable construction cost for this project. We have exercised due professional diligence in the preparation of this estimate. Since we have no control over final material selection, bidding strategies and market conditions, no guarantee is given or implied with this estimate.

PROJECT: Mayslake Peabody
Priority A 0-5 years
Priority B 5-10 years

LOCATION	ITEM NO.	Priorities	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION	SUBTOTAL
Retreat Building								
Façade	A1	A	At window heads and louvers, remove 4 courses of masonry above window lintel. Scrape and paint existing lintel. Install new flashing over lintel, cell vent weeps, and rebuild brick. Match existing brick color, mortar color, and joint style. (excludes rose windows)	940	LF	\$325.00	\$305,500	
Façade	A2	A	Assume 10% of lintels will be replaced. 4"X4"X5/8"	94	LF	\$80.00	\$7,520	
Façade	A3	A	Remove and replace limestone units where repair is not practical. Match existing profiles. Approx 7"x 4" x length	20	LF	\$185.00	\$3,700	
Façade	A4	A	Grind and repoint masonry where step cracking from lintels extends beyond lintel rebuild area. Mortar color and joint style to match existing.	55	LF	\$25.00	\$1,375	
Façade	A5	A	Route and seal cracks in limestone window heads	34	LF	\$85.00	\$2,890	
Façade	A6	A	Patch spalled limestone in window surrounds. Color and profile to match existing.	11	SF	\$175.00	\$1,925	
Façade	A7	A	Grind and repoint areas of deteriorated brick. Mortar color and joint style to match existing.	155	SF	\$25.00	\$3,875	
Façade	A8	A	Replace spalled brick. Brick color, mortar color, and mortar joint style to match existing	60	EA	\$185.00	\$11,100	
Façade	A9	A	Grind and repoint limestone head joints in door surround	5	LF	\$30.00	\$150	
Façade	A10	A	Repoint joint in limestone base	2	LF	\$30.00	\$60	
Façade	A11	A	Rout and seal concrete foundation crack	2	LF	\$135.00	\$270	
Façade	A12	A	Patch spall in concrete foundation wall	2	SF	\$250.00	\$500	
Façade	A13	B	Patch and repair concrete on exterior of light wells	5	SF	\$250.00	\$1,250	
Gutters & Downspouts	A14	A	Resolder open joints in copper gutters at corners	4	LF	\$100.00	\$400	
Gutters & Downspouts	A15	A	Remove and replace broken strainers on conductor boxes. Approx 16"x16"	10	EA	\$850.00	\$8,500	
Gutters & Downspouts	A16	A	Clear debris from intact strainers in conductor boxes	25	EA	\$150.00	\$3,750	
Gutters & Downspouts	A17	A	Clean debris from gutters and downspouts	800	LF	\$5.00	\$4,000	
Gutters & Downspouts	A18	A	Provide splash blocks at gutters that extend into lawn	5	EA	\$125.00	\$625	
Roof	A19	A	Remove and replace existing copper roof flashing. Approx 8" high with copper counter flashing and sealant. Remove and replace adjacent slate tiles for proper installation.	500	LF	\$150.00	\$75,000	
Roof	A20	A	Seal around abandoned plumbing roof vent stacks. Approx 4" diameter	10	EA	\$115.00	\$1,150	
Roof	A21	A	Grind, repaint, and seal head joints at limestone gables and limestone parapet	350	LF	\$30.00	\$10,500	
Roof	A22	B	Remove broken tiles and replace with reclaimed slate tiles with hall hooks	20	EA	\$120.00	\$2,400	
Roof	A23	A	Paint exposed wood eaves, approx. 1 foot overhang.	250	LF	\$20.00	\$5,000	
Roof	A24	A	Splice in new wood at rotted or damaged eaves. Match species, dimensions, and cut. Paint.	20	LF	\$150.00	\$3,000	
Roof	A25	A	Paint exposed wood trim at dormers	250	LF	\$15.00	\$3,750	
Roof	A26	A	Replace damaged wood trim at dormers.	50	LF	\$75.00	\$3,750	
Roof	A27	A	Remove existing and provide new mod. Bit roof on turret (flat roof). Including 8" flashing with aluminum counter flashing and reglet.	700	SF	\$75.00	\$52,500	
Windows	A28	B	Remove original 3'-6" w x 5'-0" steel windows, including embedded steel tabs, and replace with new aluminum windows.	116	EA	\$2,100.00	\$243,600	
Windows	A29	B	Remove original 2'-6" w x 4'-0" steel windows, including embedded steel tabs, and replace with new aluminum windows.	98	EA	\$1,300.00	\$127,400	
Windows	A30	B	Remove original 3'-6" w x 3'-10" steel windows, including embedded steel tabs, and replace with new aluminum windows.	34	EA	\$1,750.00	\$59,500	
Louvers	A31	B	Remove and replace existing metal louvers. 2'-0" x 4'-0", include bird and insect screens	4	EA	\$1,325.00	\$5,300	
Doors	A32	B	Prep and refinish existing stained wood doors approx. 7'0"x6'-0"	4	LS	\$1,500.00	\$6,000	
Doors	A33	A	Replace deteriorated wooden doors and frames with new HM doors and frames. 6'8" X 2'-8"	4	LS	\$4,500.00	\$18,000	

PROJECT: Mayslake Peabody
Priority A 0-5 years
Priority B 5-10 years

LOCATION	ITEM NO.	Priority	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION	SUBTOTAL
Mansion								
Solarium	A56	A	Remove existing cane stone finish and provide new at area of moisture damage. Maintain existing faux stone pattern.	2	SF	\$300.00	\$600	
Main Stair Landing	A57	A	Remove existing plaster finish and lath, provide new lath and cane stone finish plaster system, and paint at area of moisture damage. Maintain existing faux stone pattern. Match existing paint color.	400	SF	\$125.00	\$50,000	
Main Stair Landing	A58	A	Remove existing plaster finish on ceiling at area of moisture damage and provide new. Prep and paint new plaster ceiling. Match existing paint color.	20	SF	\$150.00	\$3,000	
Circular Stair	A59	A	Remove existing plaster finish on walls and provide new. Prep and paint new plaster walls. Match existing paint color.	250	SF	\$100.00	\$25,000	
Flower Closet	A60	A	Remove existing plaster and lath system and provide new. Prep and paint new plaster walls and ceiling. Match existing paint color.	200	SF	\$100.00	\$20,000	
Servants Entry	A61	A	Remove existing plaster and lath on walls, provide new plaster and lath system	50	SF	\$150.00	\$7,500	
Servant's Sitting Room	A62	A	Provide plaster patch at cut plaster opening.	5	SF	\$150.00	\$750	
Second Floor Bedrooms	A63	B	Repair decorative plaster crown moulding in second floor main building bedrooms.	25	SF	\$220.00	\$5,500	
Second Floor Bedrooms	A64	B	Replace decorative wood trim moulding on walls where previously removed. Approx. 1" to 2" wide. Match existing profiles	20	LF	\$60.00	\$1,200	
Breakfast Porch	A65	A	Provide new gyp board ceiling at Breakfast porch.	350	SF	\$30.00	\$10,500	
Library	A66	A	Replace missing marble stair riser approx. 6" x 12"	1	EA	\$2,000.00	\$2,000	
Library	A67	B	Replace missing bricks and repoint at fireplace. Match existing approx. 1.5" x 8" brick tiles.	1	SF	\$350.00	\$350	
Comfort Room	A68	B	Reset loose tiles in fireplace and fireplace grates. Match existing approx. 1.5" x 8" brick tiles.	1	SF	\$350.00	\$350	
Dining Room	A69	B	Replace missing marble wall base approx. 0'-8" x 6'-0"	1	EA	\$750.00	\$750	
Dining Room	A70	A	Replace cracked marble tread approx. 0-8" x 3'-0"					
Dining Room	A71	A	Remount existing bronze railing post to new marble tread					
Dining Room	A72	A	Replace cracked marble stair riser approx. 6" x 36"					
Living Room	A73	B	Repaint ceiling (flat area only, not plaster decorations)	800	SF	\$3.50	\$2,800	
Mrs. Peabody's Chamber	A74	A	Remove and replace buckled floor boards. Match existing width, stain, and species.	3	LF	\$50.00	\$150	
Dressing Room	A75	A	Remove and replace buckled floor boards. Match existing width, stain, and species.	4	LF	\$50.00	\$200	
Hallway	A76	A	Remove and replace buckled floor boards. Match existing width, stain, and species.	4	LF	\$50.00	\$200	
Tub	A77	B	Remove existing non-historic tile from room Tub 240 and replace with plaster.	15	SF	\$150.00	\$2,250	
Sleeping Porch	A78	A	Route and seal existing concrete cracks	5	LF	\$135.00	\$675	
Sleeping Porch	A79	B	Provide new plaster wall system over existing concrete walls. (300 SF)Prep and paint. Include wood trim to match existing. (40LF of wood trim approx 1 1/2" wide)	1	LS	\$30,000.00	\$30,000	
Main Building	A80	B	Prep and paint existing plaster walls on the second floor of the main building. (excludes service wing and areas called out for painting elsewhere.)	7,000	SF	\$3.50	\$24,500	
Main Building	A81	B	Prep and paint existing plaster ceilings on the second floor of the main building. (excludes service wing)	5,000	SF	\$3.50	\$17,500	
Main Building	A82	B	Prep and paint existing wood doors on the second floor of the main building. Typ. 2'-8" x 6'-8"	25	EA	\$650.00	\$16,250	
Service Wing	A83	B	Prep and paint existing wood doors on the second floor of the service wing. Typ. 2'-8" x 6'-8"	17	EA	\$650.00	\$11,050	
Main Building	A84	A	Provide new R-19 fiberglass batt insulation along knee wall (between concrete floor and underside of roof). Create stud wall for insulation installation. 400LF approx. 20" high	400	LF	\$6.50	\$2,600	
Main Building	A85	A	Create stud wall for insulation installation with treated wood studs. Approx. 20" high	400	LF	\$25.00	\$10,000	
Service Wing	A86	A	Provide new R-19 fiberglass batt insulation along knee wall (between concrete floor and underside of roof) and on underside of roof between joists.	520	LF	\$8.00	\$4,160	
Service Wing	A87	A	Provide stud wall for insulation installation with treated wood studs. Approx 15" high	50	LF	\$22.00	\$1,100	
Attic	A88	B	Prep and paint concrete lightwell	100	SF	\$15.00	\$1,500	
Basement	A89	B	Remove existing plaster and lath on walls, provide new plaster and lath system in toilet room and billiard room.	200	SF	\$100.00	\$20,000	
Basement	A90	B	Provide tile patching in Turkish Bath. Match existing white glazed tile	5	SF	\$150.00	\$750	

LOCATION	ITEM NO.	Priority	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION	SUBTOTAL
Retreat Building								
Third Floor	A90	A	Repair holes in plaster ceiling between third floor and attic level, multiple locations	20	SF	\$150.00	\$3,000	
Area 101	A91	B	Provide patch in concrete where rebar is exposed.	2	SF	\$350.00	\$700	
Area 112	A92	B	Provide patch in concrete ceiling where rebar is exposed.	1	SF	\$450.00	\$450	
Area 201	A93	B	Provide patch in concrete ceiling where rebar is exposed.	1	SF	\$450.00	\$450	
All	A94	B	Provide plaster repair and painting in stair wells		SF		\$0	
			Subtotal					\$277,785
			General Construction Allowance	2%			\$5,556	
			Subtotal					\$283,341
			General Conditions & Bond	15%			\$42,501	
			Insurance	1.8%			\$5,865	
			Contractor's Fee	5%			\$16,585	
			Design Contingency	30%			\$104,488	
			Construction Contingency	20%			\$90,556	
			SUBTOTAL: (Total Construction Costs w/o Environ.)					\$543,336
			TOTAL ESTIMATED CONSTRUCTION COSTS					\$543,336

PROJECT: Mayslake Peabody

LOCATION	ITEM NO.	Priority	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENSION	SUBTOTAL
Mechanical	M1	A	Scrape rust off 4" pipe and fittings at pump. Prime paint pipe. Install 10' of 1.5" thick pipe insulation and pump trim fittings.	1	LS	\$7,500.00	\$7,500	
	M2	B	Replace 80T air cooled chiller with new 80T variable speed scroll compressor chiller with a minimum efficiency of 0.700 kW/T.	1	EA	\$65,000.00	\$65,000	
	M3	B	Replace existing HW boiler with new 2000 MBH full condensing gas fired hot water boiler.	1	EA	\$75,000.00	\$75,000	
	M4	A	Install an electric duct humidifier capable of 72 lbs/hr @ 4000 CFM into a 30"x18" duct. Dri-Steam CRUV-25 with Ultra-Sorb LV dispersion manifold with high eff. Tubes or equal. Install 100' of power feed.	1	LS	\$10,000.00	\$10,000	
	M5	A	Install two Novel Aire 600 DESDX dehumidifier units in the basement of the mansion building. Provide a 25x20 filter box on the return air connection and 30' of 10" round supply air ductwork with three supply air diffusers, for each unit.	2	LS	\$30,000.00	\$60,000	
	M6	A	Inject aerosolized spray seal into 125' of 24"x12" return air ductwork (total length) attached to five fan coil units in the basement of the mansion.	1	LS	\$85,000.00	\$85,000	
	M7	A	Install one 14x8 supply air grille on the supply ductwork of each of five fan coil units (total of five grilles).	5	EA	\$100.00	\$500	
	M8	A	Install a new building control system for both buildings. Field controllers shall be BACnet MS/TP devices connected to a Tridium N4 JACE. Replace the existing controller board and associated wall sensors on 32 fan coil units with new BACnet controllers and sensors. Reuse existing valve actuator. Reuse existing wiring to wall sensors. Provide new BACnet network communication wiring between each fan coil unit (assume 100' between units). Provide new control of two boilers, three pumps and one air cooled water chiller for the mansion basement. Provide control of two boilers and three pumps for the retreat center basement. Reuse existing operator workstation.	1	LS	\$125,000.00	\$125,000	
	M9	B	Replace existing HW boiler with new 3500 MBH full condensing gas fired hot water boiler.	1	EA	\$60,000.00	\$60,000	
	M10	B	Provide a 2500 CFM DOAS roof top unit with energy wheel, hot water coil, DX cooling, hot gas reheat coil, variable speed supply and exhaust fans. Locate unit on Retreat Building center flat roof above elevator lobby. Provide insulated ductwork in the attic of the Events	1	LS	\$50,000.00	\$50,000	
	M11	B	Install a 20T air cooled liquid chiller on grade outside the Retreat Center boiler room. Connect chiller with 2.5" piping to pumps in the boiler room, about 30' away.	1	LS	\$50,000.00	\$50,000	
Plumbing	P1	A	Drill six 2" holes down 24" through the basement concrete slab in different locations to test for ground water under the slab. Fill holes with concrete after testing.	6	EA	\$5,000.00		
	P2	A	Install four 18" diameter by 24" deep perforated sump pits in the basement floor in different locations. Install a small sump pump in each pit and connect 1.5" PVC piping to existing drain piping in the basement.	4	EA	\$5,000.00	\$20,000	
	P3	A	Undertake investigation for replacing existing waste and vent piping serving 2nd floor janitors sink in Mansion. Install new PVC waste and vent, tie into existing lines in Kitchen on 1st floor, vent in accessible attic space above 2nd floor.	1				
Electrical	E1	B	Replace all type AC cable with conduit and wire feeders and branch circuits	2,000	LF	\$19.25	\$38,500	
	E2	B	Instances of insulated wiring not contained in a raceway should be replaced with code compliant wiring methods.	100	LF	\$21.50	\$2,150	
	E3	B	Installations using flexible conduit for feeders and entire lengths of branch circuits should be replaced with pipe and wire feeders and branch circuits.	200	LF	\$19.25	\$3,850	
	E4	B	Many distribution panelboards and load centers, especially fuse type, are past their useful life and require replacement.	10	EA	\$7,500.00	\$75,000	
	E5	A	Mercury type switches should be replaced and disposed of in a safe manner.	20	EA	\$350.00	\$7,000	
	E6	A	An arc flash study should be performed and arc flash labels attached to equipment.	1	LS	\$5,000.00	\$5,000	
	E7	B	Some branch circuit wiring installed within conduit is of the cloth insulation type. All cloth type wiring should be replaced.	10,000	LF	\$5.80	\$58,000	



Appendix E Baseline Energy Analysis

Baseline Energy Analysis

Project Name	Mayslake Peabody Estate Planning Study	Date	October 13, 2023
Subject	Baseline Energy Analysis	Project Number	2023-0549
To	AltusWorks		
From	Kyleen Rockwell, PE, AIA, LEED AP BD+C	@	Interface Engineering, Inc.

Applies To **Energy Consulting**

EXECUTIVE SUMMARY

The Baseline Energy Analysis is the first step towards being able to evaluate various energy efficiency measures related to the building envelope, lighting systems, program, operations, and MEP options to assess the building performance of Mayslake Peabody Estate. By using a calibrated energy model that is in alignment with the actual building operational data; the team can be confident that the model will capture predicted realized impacts to the energy performance of future measures to be evaluated.

APPROACH

This analysis has been performed to meet the requirements found in the Whole Building Calibrated Simulation compliance pathway of ASHRAE Guideline 14 – Measurement of Energy and Demand Savings. This guideline requires that the Coefficient of Variation of the Root Mean Square Error be found to be less than 15, and the Normalized Mean Bias Error be less than 5.

EXISTING BUILDING

Utility Data

Historic utility data has been provided for the natural gas service (two meters) and electric service (one meter) for the Mayslake Peabody Facility for 2021-2023. The monthly energy consumption for the utilities has been normalized to appropriate the energy consumption per day of the billing period to the calendar months' cumulative day, **Figure 1**. The data for calendar year 2022 has been used for the calibration process.

Simulation Weather

The energy simulation utilized an Actual Month Year (AMY) weather data file acquired from the coordinates of the site for the entirety of 2022 to coincide with the utility data provided. The temperature quartiles per month found in the weather file are displayed in **Figure 2**.

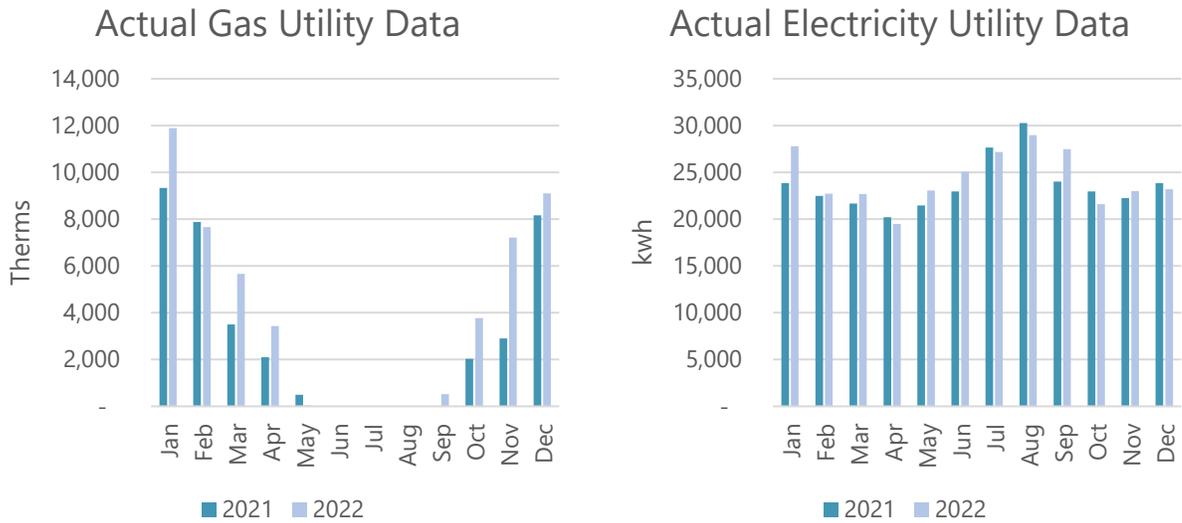


Figure 1 – Existing Utility Data Summary

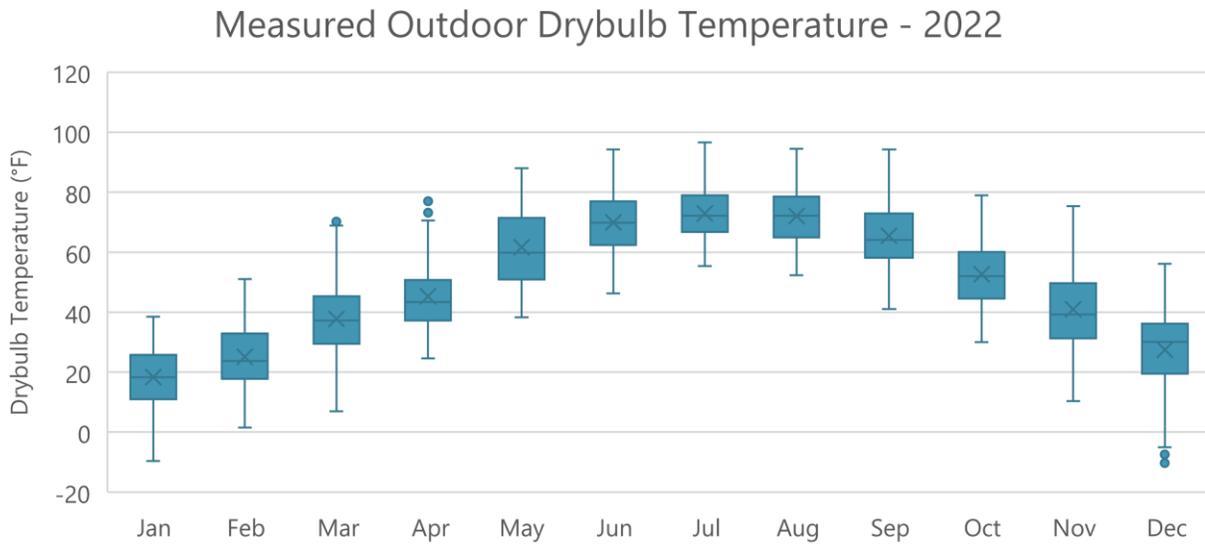


Figure 2 – Oak Brook 2022 Outdoor Drybulb Temperature

ENERGY MODEL

Building geometry and thermal envelope was modeled per the existing building documentation. A representative image of the model is shown, **Figure 4**.

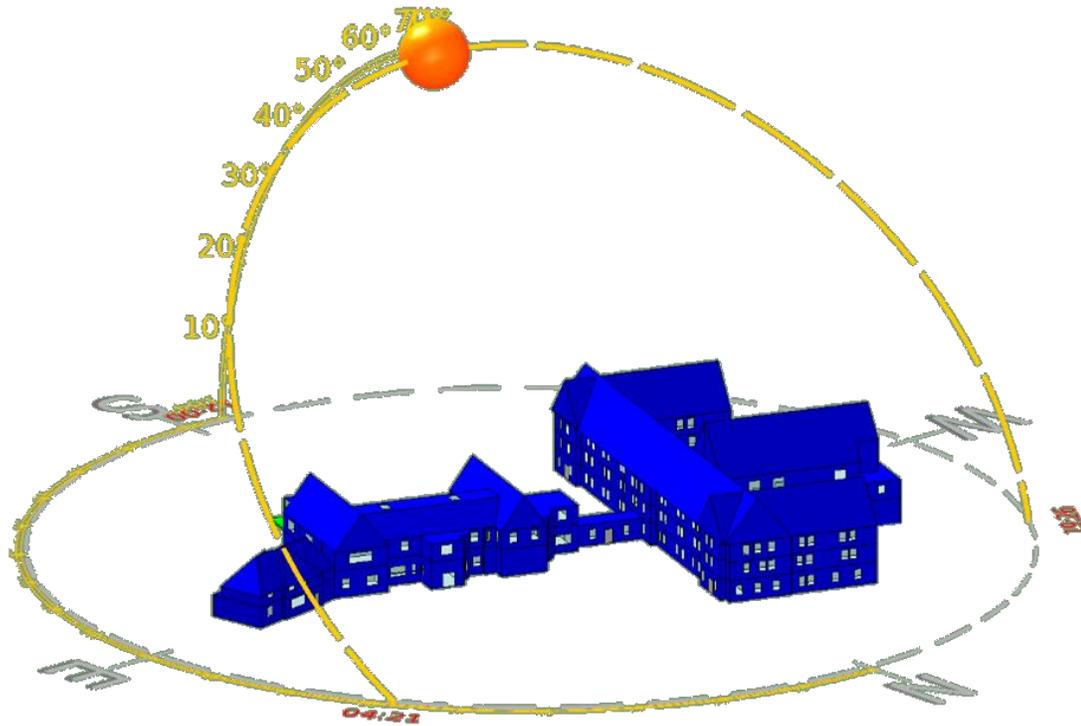


Figure 4 – Energy Model

Construction

- Mayslake Bitumen Low Rise (ROOF1)
- Mayslake SOG (FLOOR)
- Mayslake Single Pane Windows; U-1.15; SHGC-0.80 (STD_EXTW)
- Mayslake Single Pane Windows; U-1.25; SHGC-0.80 (STD_EXT1)
- Mayslake Slate Roof (ROOF)
- Mayslake Wood Door (STD_DOOR)
- Mayslake: Brick Exterior Wall (WALL)
- Mayslake: Brick Exterior Wall Belowgrade (WALL1)
- Mayslake: Retreat Archive R-19 (ASHWALL)

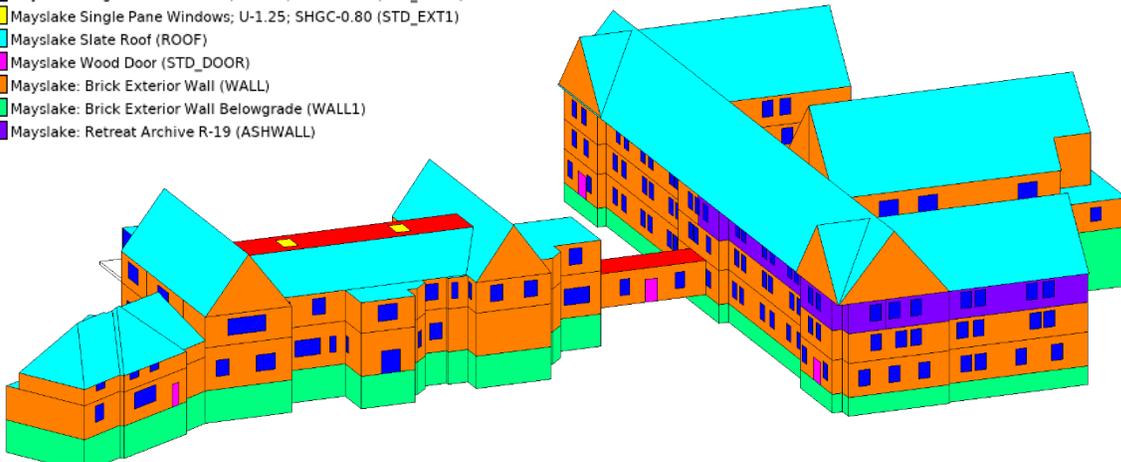


Figure 3 – Energy Model Thermal Envelope

CALIBRATION RESULTS

The comparison between the actual utility data for 2022 and the modeled 2022 scenario have been calibrated to meet the ASHRAE 14 guidelines to ensure future modeling efforts will accurately depict realized savings.

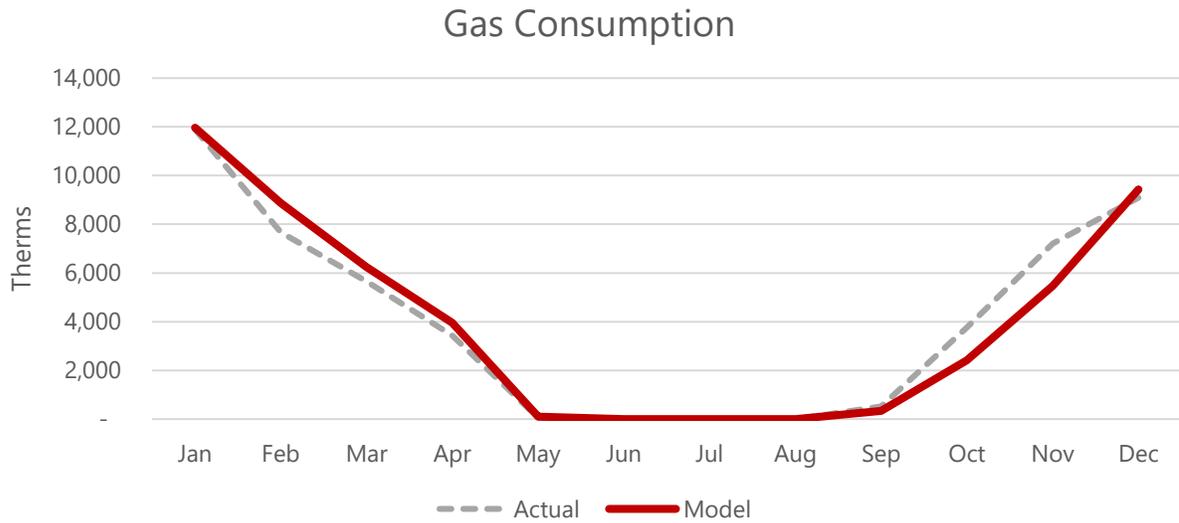


Figure 5 - Gas Consumption Calibration

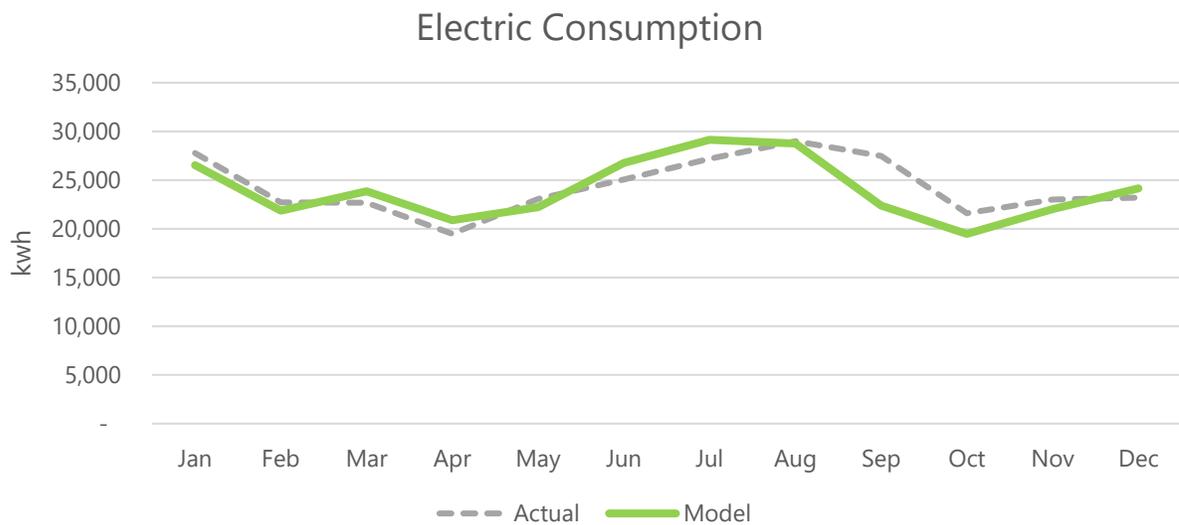


Figure 6 – Electric Consumption Calibration

Energy Use Intensity (EUI) Comparison

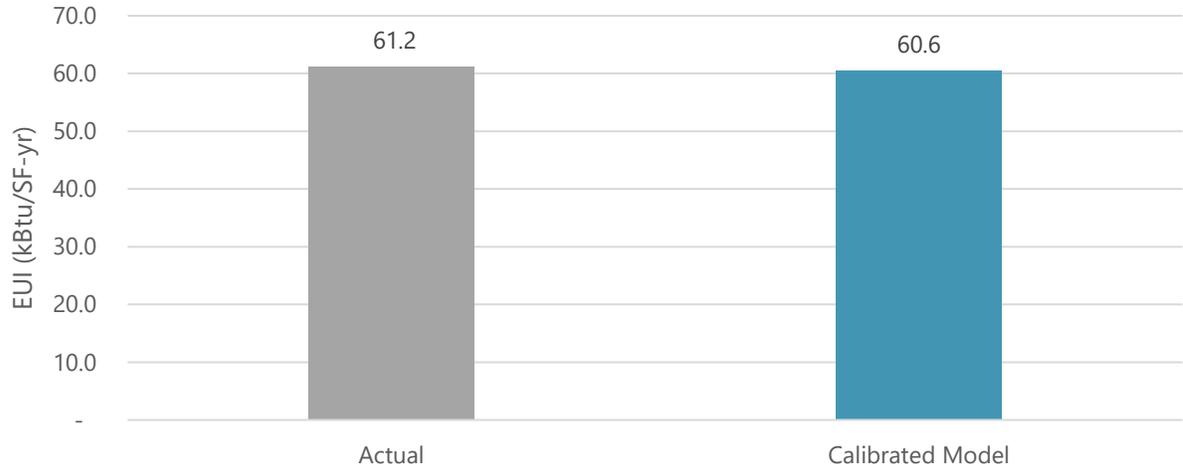


Figure 7 – EUI Comparison



ALTUSWORKS INC.

ARCHITECTURE
HISTORIC PRESERVATION
RENOVATION

ALTUSWORKS.COM
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z



Mayslake Peabody Estate

Stakeholder Engagement Summary

January 17, 2024



Mayslake Peabody Estate

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A. Executive Summary

The Forest Preserve District of DuPage County engaged AltusWorks to perform Stakeholder Engagement for the rehabilitation and renovation of Mayslake Peabody Estate located at 1717 31st Street in Oak Brook, Illinois. Stakeholders identified by the Forest Preserve were invited to either of two scheduled workshops. Additionally, AltusWorks planned to attend the Forest Preserve's Holiday Market to capture public comments. The engagement efforts are meant to substantiate the Forest Preserve's goals and vision for the rehabilitation.

On November 13, 2023, a team from AltusWorks consisting of Carolyn Isaacson and Katherine Pohl, led one of two workshops with volunteers, interpreters, and a board commissioner. On November 15, 2023, Carolyn and Katherine continued the Stakeholder Engagement with the second workshop. Both workshops utilized the same agenda, engaging attendees in two activities to discern likes and dislikes about the current space utilization and programmatic offerings of Mayslake Peabody Estate and envisioning the future vision of the building and grounds.

Staff members of the Forest Preserve gathered on November 27, 2023, and were engaged by AltusWorks in similar activities to the volunteers and interpreters. Carolyn and Katherine shared a summary of the findings from the two November Workshops with staff.

On December 9 and 10, 2023 the Holiday Market was hosted at Mayslake Peabody Estate. AltusWorks' Carolyn and Katherine attended the event on December 9 to gather public feedback on the following questions:

- a. Mayslake is a place for people to connect to nature through Arts, Culture, and History; which is most important to you?
- b. What would bring you back to Mayslake more frequently?
- c. What barriers keep you from visiting?

The following summary will note the overall vision, goals, and priorities identified during the stakeholder engagement sessions. Please see Appendix A for the full minutes from each workshop or event where stakeholders were engaged.

B. Visioning

1. Accessibility

Both physical and programmatic accessibility emerged as significant topics of discussion throughout the engagement phase. Key themes include the removal of barriers to accessibility, enhancing wayfinding, and widening access across various ages and demographics.

Conversations at both the November Stakeholder Workshops and Staff Meeting noted that improvements to physical accessibility throughout the mansion and retreat building would dramatically enhance visitor's experience. Additionally, stakeholders expressed a desire for designated drop-off areas, better signage, and improved pathways to enhance the overall accessibility of the Estate grounds.

Wayfinding improvements overall were highlighted as well, with calls for better signage not only outside but within both buildings. Explicit delineation between public and non-public areas, (staff offices and mechanical rooms), is strongly desired. This could be addressed both through signage as well as physical barriers including locking doors or additional partitions. Other signage discussed would improve the self-guided experience with the aid of interpretive signage in exhibit areas, historically decorated rooms, and in the gardens. Stakeholders stressed the importance of making the Estate more visible and known to the public, addressing concerns about visitors driving past without realizing what is available just down the driveway.

Regarding programmatic accessibility, commentary emphasized creating a welcoming and inclusive environment for a diverse range of activities and audiences. Stakeholders envision the



Estate as a cultural hub that caters to various interests, including art, history, nature, and outdoor activities. While suggestions to engage different age groups and communities included hosting events of myriad types, the conversations about programmatic accessibility largely depend on indoor comfort across seasons. The addition of air conditioning in particular was noted as a highly impactful improvement for the retreat building.

2. Connect the Inside and Outside

Active and passive modes of connection were suggested as ways for visitors of Mayslake Peabody Estate to engage with its natural beauty and the historic interiors. Activation of the house's windows as portals to the sprawling landscape would allow visitors a glimpse into Mr. Peabody's original vision of the Estate. Interpretive signage or other educational displays within designated exhibit space could further bolster this experience, as noted by many of the stakeholders who participated in the November Workshops.

Collaboration with partner organizations could bolster and enrich outdoor experiences. Integration of sustainable landscape practices could be leveraged to educate visitors about local ecosystems.

3. Connect to Other Audiences

Stakeholders recognized the importance of making Mayslake Peabody Estate appealing and accessible to youth through a variety of educational, cultural, and nature-based programs. Engaging young audiences is seen as a key component in fostering a sense of community and ensuring the Estate's sustainability.

While there were an abundance of specific events and programmatic ideas to engage young people and provide further family-oriented programming, an underlying flaw in the capacity of the Estate to support these events is a designated dining area, whether inside or out, and the lack of air conditioning in the retreat building.

C. Areas for Improvement

1. Rehabilitation – Scope of Work

While AltusWorks' previously issued Facility Conditions Report serves as an outline and work plan for the scope of work, it should be noted that many stakeholders expressed specific thoughts on the future renovations. In list format, please see those areas for improvement below.

- a. Mansion Rooms
 - i. Library; floor restoration
 - ii. Mr. Peabody's Bedroom; wall restoration
 - iii. Mrs. Peabody's Dressing Room; furniture additions
 - iv. Breakfast Porch; ceiling restoration
 - v. Dining Room
 - vi. Basement (finished spaces)
- b. Lighting
 - i. Period-appropriate in the mansion
 - ii. Exhibit-style throughout
- c. Wayfinding and Interpretive Signage

2. Programmatic - Needs and Desires

To support potential and future expansion of event offerings as well as current programming offered by the Forest Preserve, a few key upgrades to the Estate were noted throughout the engagement phase, please see those areas for improvement below.

- a. Kitchen; upgrade the existing kitchen to serve catering purposes or provide a full commercial kitchen in the retreat building.
- b. Cleaning facilities including the following:



- i. Dishwasher
- ii. Washing machine and dryer
- iii. Mop sinks throughout both buildings
- c. Additional bathrooms; provide a designated family use toilet room.

3. Exterior – Future Planning

Many comments shared throughout the engagement phase focused on stakeholder likes and dislikes of the Mayslake Peabody Estate grounds. While nature is understood as a critical tenant of the Forest Preserve’s mission, it is AltusWorks’ understanding that there will be a master plan for the grounds and gardens in the future. Please see Appendix A for the full minutes including remarks on the exterior of Mayslake Peabody Estate.

D. Program Proposal and Exhibit Space Recommendations

Based on the above Stakeholder Engagement Summary, AltusWorks presents two programmatic plans as well as a series of recommendations for exhibit spaces. The intent of the plans is to show overarching ideas, therefore general repairs and updates are not notated on the plans. Many repairs, for example, repainting in the mansion, would naturally be included in both. Aspects of accessibility and ease of maintenance have been included in both plans, as those ranked highest amongst the goals the Forest Preserve desires to achieve.

There are two programmatic directions outlined below and depicted in further detail in the Program Attachment. The usage categories, informed by the Forest Preserve’s mission as well as stakeholder input, are as follows:

- a. Community Use or Multi-Purpose
- b. Exhibit Space
- c. House Museum Space
- d. Office Space
- e. and Mechanical Space and Toilet Rooms

1. Plan A

This plan focuses on leveraging the spaces in the mansion; as many uses as possible are moved into the mansion and portions of the retreat wing are demolished. Centralization and convenience are at the core of this plan. The Gross Area of this programmatic plan is 70,244 square feet.

PROGRAMMATIC USE	AREA	% OF GROSS AREA
Community Use or Multi-Purpose	5,235 sf	8%
Exhibit Space	9,023 sf	14%
House Museum Space	8,876 sf	14%
Office Space	1,955 sf	3%
Mechanical Space and Toilet Rooms	5,240 sf	8%
		% of Existing Building (87,880 gross sf)
Demolition	23,236 sf	25%

2. Plan B

This plan intends to leave the mansion as intact and historic as possible while shifting many uses into the retreat wing. With this plan, some rooms are recommended to be updated over time with historically accurate furnishings and finishes while others will be dedicated to rotating exhibits and galleries or other events as suitable for the Forest Preserve’s programming. The Gross Area of this programmatic plan is 93,480 square feet.



PROGRAMMATIC USE	AREA	% OF GROSS AREA
Community Use or Multi-Purpose	12,217 sf	14%
Exhibit Space	6,507 sf	7%
House Museum Space	10,324 sf	12%
Office Space	6,358 sf	7%
Archival Space	6,400 sf	7%
Mechanical Space and Toilet Rooms	5,450 sf	6%

3. Recommendations for Exhibit Spaces
 - a. Audio tour option for visitors looking for a self-guided experience.
 - b. Interpretive signage calling attention to viewsheds from particular rooms in the Mansion.
 - c. Room names that recall the space's historic use while the present use may be for various gallery installations or community gathering.



E. Appendix A: Engagement Event Meeting Minutes

MEETING MINUTES

Date of Meeting:	November, 13 2023	Project:	Peabody Estate Assessment & Master Plan
Location:	Mayslake Peabody Estate (Events Hall)	Project No:	23-011
Date of Issuance:	November 21, 2023		
Participants:	Norine Guy Martin Dunne Tina Tyson-Dunne Jackson Hartley David Hill Anne Cahill Judy Montgomery Gary Montgomery Linda Neff Don Wostratzky Bonnie Wostratzky And FP Staff: Keith Jessica Kimberly Jeannine		
Prepared by:	Carolyn Isaacson		cisaacson@altusworks.com
Cc:	Jessica Ortega		jortega@dupageforest.org

Likes/Dislikes Individual Activity

Dislikes / Areas for Improvement;

- Library floor needs restoration
- Mrs. Peabody's Dressing Room needs built-in wardrobes
- Mrs. Peabody's Bedroom walls...
- Upstairs sitting room needs repaired hidden latch for entrance to hidden staircase
- Breakfast Porch ceiling needs vaulted appearance and corner grates
- Need paint over all the messy lead paint sealer upstairs
- New exterior doors needed throughout
- Would like to see more events such as musical performances and lectures
- Dislike how long it takes for simple household tasks like hanging a door to get done
- That we have the retreat wing which is mostly unavailable for the public to use



- Parking lots are segmented with little signage
- No door handles on stationary replacement doors
- Dislike that we don't partner with nearby community historical societies
- Replacement dining room dividing wall
- Lack of descriptions available on rooms
- Condition of breakfast porch
- Lack of accessibility / ADA issues
- No signage for how to access the building
- Need more public restrooms
- Lack of attention to easy fixes (quick painting mostly)

Likes; Events

- Many gathering spaces, warm & peaceful
- Music Events
- Art Shows
- Holiday Market
- Artist Gallery Space
- Rooms for all night stays, if retreats are planned
- Areas for stage productions
- This space is wonderful for displaying artwork. Hope to see more visiting artists.

Likes; Spaces

- Library
- Like exterior restoration & architecture
- Love the views out the windows
- Event Hall
- Lobby
- Main Entrance, portcullis
- Main Entrance, staircase
- The little Chapel

Likes; Ethos

- Going back in time, spiritual essence
- Love the history of the building
- Like history associated with Mayslake building and people

Likes; Outdoors

- Like access to nature
- Garden space with native gardens
- Love the lush gardens, looking forward to the new gardens
- #1 Mayslake fishing space & painting landscape
- Want to continue allowing the public to access the building

Additional Thoughts;

This building is a gem for the community and was bought with huge support of the residents.

Group Brainstorming Activities

Prompts:

1. Visioning; discussion activity with the goal to uncover what elements of the Mayslake Peabody Estate attendees consider critically important to the future vision of the building and grounds.



2. Connecting the Inside and Outside; discussion activity to get curious about what areas of the grounds might help leverage the impact of activities both inside and outside the building.

Things that are essential for the house and grounds / Visioning

- The space is like a get a way for the community to escape the troubles of the world.
 - o It's a spiritual Experience.
 - o Explore the arts as a child again for people of all ages.
 - Help adults who are stuck behind a desk in corporate jobs.
- Bring back the idea of the retreat concept.
 - o Corporate retreats with team activities and lectures on art and nature
 - o Workshops
 - o Respite from the modern world
 - o Including activities like
 - Arts
 - Gardening
 - Fishing
 - Dance
 - Drama
 - Writing
 - o All in an unconditional way – with conditions
 - Note "I think that the stakeholder was saying that the art expression should be free – without conditions – but the offering needs to be within the forest preserves mission."
 - People should express themselves creatively – playfully – happy – a place for people to thrive in
- Include nature-based counseling.
- The space should be structured for all the arts and all the people.
 - The social aspect is important for art/creativity so gatherings should be encouraged.
 - We should offer arts experiences for visitors with special needs.
- The historical aspect of the building and grounds is important.
 - o The building has a fascinating history.
 - o We need more history.
 - o Native American History
 - Indian Boundary Line
 - Funding the canal
 - Native American tour/history/exhibits
 - Nature meetings
- Make the building a space for people of all disciplines to teach art in all areas and have events to share the art.
- The views out the windows in the back of the house are important.
 - o The house was built to view both lakes.
 - Undesirable woody plants that are blocking views should be removed and shorelines should be restored so they are visible from the house and patio.



- The building should a safe space
 - o Welcoming
- The building should be used to connect people to nature and from there to a deity figure or spiritual experience.
- We need to get a theater group back in the building.
 - o One that will not expand and take over the space.
- We need to work towards ending the common expression "I never knew this was here.
- More presentations in the library
- Outside program rentals
- Use the space for young professionals to get out of the corporate space.
- Concerts in the park to help the starving musicians.
- Movies in the park
- Gardens
- Make a space for high school groups.
 - o Maker space
 - o Theater
 - o Music
- School field trips
 - o We need more to offer children.
- Farm to table events to raise money – Seasonal food.
- Establishing a functional kitchen is important.
- Have more activity that incorporate alcohol – Brew Fest
- Period balls/party – Cosplay
- Nature themed cosplay ball
- Have teas or a tearoom.
- Peabody's Birthday
- Establish long term themes for exhibits and programs.
- Need more bathrooms in other parts of the building.
 - o Need a bride's room with a functioning bathroom.
- Space for community activity
- Different than a park district
- Blend of use and restoration
- Restoration of some spaces to match past eras.
 - o Restore downstairs.
 - o Some areas like the Peabody bedrooms should be returned to looking like they did in the 1920s.
- Each room could be restored by a corporation or entity that then got to use the room.
- Restore the divider between the dining room and breakfast porch to be more like the original
- Mayslake is a rare example of Tudor Revival architecture. Not many left in this style.
- There has long been the idea of restoring the inside – while some is not historic now, the idea of restoring it should continue.
- The spaces can be used for other things, but it should still be restored.
- It could host classrooms and corporate meetings.



- It would be a big draw if it was restored to the 1920's era.
- The upstairs of the mansion is embarrassing. The LBP remediation was not done with attention to appearance. The wallpaper was not removed well. It looks untended. The Franciscans did a better job presenting it. Simple things could be done to make it better.
- Foundational groups now are the photographers and book clubs.
- Should cut back on weddings – they are destructive. However, it would be attractive with the new windows. Now, there are not enough bathrooms and a kitchen to support that use.
- Would like to see more of the retreat wing used for educational purposes.
- A small museum could be on the first floor to display the District's artifacts.
- First Folio theater group was nice, but they took up too much space and it was too expensive. The outside theater use could be nice. It was not affordable for families and the shows were adult oriented. They were competing with Drury Lane.
- Keep to the mission – connecting people to nature through art and culture.
- Art shows – good, but can be expensive. Could be a nature theme.
- A demonstration garden would be good to teach people about native plants and gardening. That would tie back to the native plant sale at Mayslake. Live native gardening classes would be good, can see the plants on site in the demonstration garden.
- Could have a 1920's event like a Downton Abbey theme.
- People drive past Mayslake and don't know what's there.
- Need outreach to Catholic Universities, Catholic schools for retreats.
- Need to engage with College of DuPage, high schools, etc. for art classes, exhibits and then a walk in nature.
- Something like the St. Charles healing garden – a children's section with programming – seeds, plants, etc. to engage children.
- Like the idea of finding stick structures in the woods – like at Maple Grove near Avery Coonley School.
- Invite Presidents and Principals from Catholic Universities to see the property and if there is any way they could use the space (retreats, plays, fundraisers)
- Teddy Bear Tea Party
- Jazz events or poetry in the library
- Host and event Mother's Day weekend
- Traveling exhibits, like immersive experiences or the Downton Abbey experience
- The Sierra Club (local Chapter) is meeting in the Glen Ellyn Historical Society. Could the Sierra Club and similar groups use this space for meetings?
- Oscar awards night watch party
- Chess/Scrabble tournaments
- Fermilab discontinued their arts series during the pandemic. Some of their shows like *Christmas at the Silent Movies*, *Peacherine Ragtime Society* and *It's a Wonderful Life Radio Show* might be looking for venues.

Connecting the Inside and the Outside Activity

- Giving tours outside
 - o Indian boundary line



- Views from the house of nature are wonderful.
- Arts lean towards the outside.
 - o You have to be outside to paint nature.
- You can really appreciate the inside when you have been outside all day.
- A diorama of the house and grounds with the farms, the gardens, the tea house and the greenhouse would show why there are so many windows. Windows are important to architecture.
- Fishing is important.
- Individuals would sponsor development if they could get something out of it.
- The house was part of the grounds.
- Highlight the use of the land, the farms, livestock, horses.
- Drag hunts.
- Peabody built lake Mayslake by putting in a berm with a lock for Peabody's canoe.
- Make the lakes more visible from the house.
 - o The connection between the house and nature is an important part of the house and the design.
- Prairie flowers are gorgeous, and we should do more education.
- Partnering with other agencies with other agencies – Historical society
- Need a walking path around the lake, connect the mansion, pass through the prairie.
- A café off of the retreat wing.
- Path through a formal garden.
- Need to make it more inviting to walk around the building – make people want to come inside, participate in a program.
- Have educational displays in the breakfast porch about the gardens.
- Have a kitchen garden – example Lake Katherine near Palos.
- Could have 1920's cooking demonstrations. They have done a "delightful details" tour before which highlighted the kitchen. An idea could be like the Christmas dinner at the Grover Cleveland House. Could be a fundraiser.
- Paddle boats on the pond
- Expand Shakespeare in the Park to include children's events like *Alice in Wonderland*, *Peter Pan*, and *Mary Poppins*
- Kite flying (and how to make kites)
- Host an Illinois Master Naturalist/Gardener program and partner with University of Illinois extension for more courses
- Engage College of DuPage for history, nature, and horticulture classes
- Host a food truck event.
- Bring a dark skies education event/day where vendors, sponsors, and community groups can meet the residents.
- Host black tie Night for Nature (FPD fundraiser), Christmas Party for FPD.
- People like secret compartments and buttons. This appeals to children too.
- Upstairs bedrooms could be renovated nicely without a big expense. Some piping needs to be covered, like in Mrs. Peabody's room.
- Should put the built-ins back in.
- Putting furnishings in the bedrooms will limit what the rooms can be used for.



The above summary constitutes the author's understanding of the basic matters discussed and the conclusions reached. The participants are requested to review these matters and notify the author in writing of any exceptions within five (5) days of receipt of these notes. In the absence of such notice, these notes will be filed as the official record of the meeting.

MEETING MINUTES

Date of Meeting: November, 15 2023
Project: Peabody Estate Assessment & Master Plan

Location: Mayslake Peabody Estate (Events Hall)
Project No: 23-011

Date of Issuance: November, 21 2023

Participants: Martin Dunne
Tina Tyson-Dunne
Christine Lujewski
And FP Staff:
Keith
Jessica
Kimberly
Jeannine

Prepared by: Carolyn Isaacson cisaacson@altusworks.com

Cc:

Likes/Dislikes Individual Activity

Dislikes / Areas for Improvement;

- Need spots to rest on trails
- Need signage and wayfinding
- Need trails
- Not as well known as other FPs, hidden gem
- Events bring trash/litter
- Parking/getting in the building is a challenge for older or disabled visitors
- Lack of accessibility of building and walkways

Likes;

- Excited for the new gardens
- Easy to park for events
- That the historic building exists
- Open space!
- No charge to park
- Good size preserve and family friendly
- The craftsmanship of the building
- History
- Repairs to the building



- Blue door for wayfinding
- Oak trees
- Walkable grounds
- Educational opportunities
- Diverse natural areas



Group Brainstorming Activities

Prompts:

1. Visioning; discussion activity with the goal to uncover what elements of the Mayslake Peabody Estate attendees consider critically important to the future vision of the building and grounds.
2. Connecting the Inside and Outside; discussion activity to get curious about what areas of the grounds might help leverage the impact of activities both inside and outside the building.
3. Other prompt questions included:
 - a. Where might accessibility upgrades/changes be most impactful and what activities, events, programming could occur in those spaces?
 - b. Thoughts on catering to variety of ages? How best to connect with other ages?
 - c. What area partner organizations would you love to see connected with the Estate?
 - d. How might events/activities contribute to greater education and awareness about local ecosystems?
 - e. Are there special views you particularly enjoy (of the building from the outside, of the gardens/nature from the inside, etc.)?
 - f. How might the inside/building support the outside especially during colder months?
 - g. How might sustainable landscape and green infrastructure be incorporated?
 - h. In what ways can the Estate support and promote local biodiversity?

Visioning

- Family-oriented
- A cultural hub
- Camera club
- Art classes
- Bring nature into the cultural aspects
- History
- Enjoy nature inside and outside
- Art programming in the retreat wing basement
- Family friendly and cultural
- Appeal to diverse audiences
- A place where kids can get dirty/take risks
- Do not compete with Fullersburg and make sure to highlight the history and culture at Mayslake
- A small museum for artifacts
- Natural history including Indigenous Americans, early settlers, local history, the railroad, farms/agricultural history; adds uniqueness
- History of gentleman farmers
- Franciscan history
- Integrate programming with social studies curriculum
- Mindfulness/meditation
- Sleeping porch, opportunities to use
- A place to read, crochet, etc. for individuals
- Private events don't care as much for the building as they are not as engage to the place



- Parties are fun but can limit public access
- Want people of all incomes to feel welcome
- Accessible and friendly for all

Sustainability / Biodiversity;

- Learn how to use natives in a residential landscape and the benefits of native plantings
- Bat monitoring and moth walks
- Bug hotels
- Citizen science/bee spotter
- Composting
- Programs about Tudor gardening
- Shredding events
- Recycling events
- E-recycling events (make it easier/accessible); the large parking lot would help with coordination of this kind of event
- Compost your pumpkin
- Kitchen garden
- Cottage style garden
- 1920s garden
- Label the plants
- Native garden, interpretive opportunities, insects, etc.
- Native alternatives for cultivated ornamental plants

Connect the Inside and Outside;

- Better wayfinding for parking
- Better wayfinding in general needed
- Identify the prairie restoration
- Interpret history of the gate house
- You can see the house from the pond/back of the house which is a nice benefit/way to enjoy the fact that it is a landmark
- It is harder from the front to understand how to get inside the building
- Need a sign/landmark to help direct people when they enter the building
- People don't know how to navigate the roundabout
- Need directions/sign from back lot, to pond for fishing
- Need better visibility to brown sign on roadway
- How does the building support the outside?
 - o Windows provide views
 - o Hydroponics education
 - o Set up seeds for spring planting
 - o Tool maintenance, ergonomics for gardening
 - o Collect natural found items for art projects
 - o Paper mâché
 - o Making paper
 - o Natural paints
 - o Decoupage
 - o Photography



- Poison ivy ID
- Plant emulsions
- Yellow jackets/wasps/bees education
- Views (see the reference attachment with aerial view mark up)
 - Sleeping porch
 - Nice drop off/grand entry would be good
 - Parking lot looking east to IL-83/willow trees, makes the site's spaciousness apparent
 - Library
 - View behind the chapel
 - Plant room/sun room
 - House down to the pond

Connect to Other Audiences;

- Need more youth programming, but do not duplicate FBW programming
- "adulthood" in the natural world; e.g. building a fire, stargazing
- Partner w/REI
- How to survive the zombie apocalypse
- Attract young adults
- Survival skills
- Cultural events – period music
- Insects/edible bugs ID
- Neurodivergent audience
- DuPage Children's Museum
- ID weeds, etc.
- How to use weeds, herbs, edibles, make mocktails, forage, fermentation
- Downton Abbey fans
- Homeschool groups
- Immersive experiences

Accessibility;

- Drop in times for art space in basement of events hall
- Library-off site book club
- Demonstrations for crafts, etc. historic methods
- Kids do things with their hands vs. screens
- Master gardener classes
- Build benches & place(s) on site
- Tours would benefit from accessibility; easier access to the breakfast porch
- It takes a long time for older/disabled people to get in from the parking lot
- A designated drop off area/also support for circulation would be beneficial
- No A/C limits use of Events Hall
 - Dance closes, pow wow, other group gatherings would benefit from A/C in that space
- Need an elevator for accessibility to all levels
- Space for clubs to meet; could host multiple at the same time

**Partners;**

- Uofl extension
 - o Master gardeners
- OB Library
- Midwest University
- Chiropractic
- Wellness training / healthcare
- Rush
- Hinsdale Hospital
- Physical & Mental Health
- Growing own food
- College students/archivists interns/seasonals
- Trickster Center, Schaumburg
- Field Museum
- Local historical society
- Target specific grades, etc. to reach all in one year etc.
- Reach teachers

Follow up Question:

1. What was the driver to keep/protect Mayslake at the time of the referendum?

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MEETING MINUTES

Date of Meeting:	November, 27 2023	Project:	Peabody Estate Assessment & Master Plan
Location:	Mayslake Peabody Estate (Events Hall)	Project No:	23-011
Date of Issuance:	December, 04 2023		
Participants:	Sue (by teleconference) Stephanie Craig Dennis Buck Scott Eisenmenger Jessica Ortega Keith McClow Jeannine Kannegiesser Justin Frederick Jason Berger Chris LaMarca Anamari Dorgan Kevin Horsfall Ellen Carolyn Katherine		

Prepared by: Carolyn Isaacson cisaacson@altusworks.com

Cc:

The purpose of this meeting was to engage staff with similar activities to those at the stakeholder workshops as well as review the results of those two workshops with staff.

Visioning

- Circular trails
- Can-Do culture
- Existing assets (people, buildings)...
- More forest preserving
 - o Natural engagement
 - o Robust ecosystem connection (15+ ecosystems on the property)
- More interpretation of outside
- Classroom for youth and adults needs to have an accessible sink
- More accessibility



- Improved plumbing
 - o Mop sink on each floor (each elevation change)
 - o Mop sink in the basement
- Signage
 - o Where to park
 - o Where to enter
- Do we need all the parking?
 - o Expensive to light and maintain (snow plow, etc.)
- Better to hide ductwork in the mansion
- Period appropriate lighting in the mansion
- Education exhibits in the bedrooms
 - o Some ideas include geology exhibit, invasive species history exhibit/education or law enforcement training;
 - A geology exhibit would tie in the exterior and interior
 - Law enforcement training offers revenue
- Ability to see both lakes from the house, as originally intended
- Reduce square footage of overall building (retreat wing, garage, etc.)
- Classroom below event hall
 - o Bathrooms for this space
- Upgrade staff offices
 - o Paint
 - o Cleanliness
 - o Comfortable temperatures/climate control
- Remove peeling paint in public interpretation areas
- Breakfast porch
 - o Improvements
- Dining Room
 - o Improvements, lighting, divider wall
- Infrastructure to support uses (like mop sink, etc.)
- Reduce heating and cooking expenses
 - o Generally conserve energy
- Staff to support uses/partnerships that can support the staff and uses
- Remove staff offices from historic mansion
- Consolidate offices and make them accessible
 - o This includes locating them closer to where people need to be
 - o Often get questions like where is the trail? Where is the lake?
- Partnerships could include, children's museum, photography club, botanical illustration club, Master Gardener program, Oakbrook Historical society
 - o Have found that partnerships should be licensed and contracted as well as in alignment with the District's mission
- Ability for public to self-explore (reduces staff load)
 - o Opportunity for long-term exhibits
- Upgraded facilities like a bride/groom room, bathrooms for each
- Separation...
 - o ...between mechanical and public space in the basement
 - o ...between offices and the public, signage and locked doors
- Flexible spaces
 - o Don't need to update for each tenant in the retreat building
 - o Easier maintenance and temperature control



- o Provide track lighting for convenient flexibility for exhibits; would need to be hidden in historic locations
- Ease of emergency egress in the basement
- Remove tenant storage
- Increase youth engagement/programming
- Kitchen
 - o Currently catering only
 - o Consider adding cleaning facilities with dishwasher, washer/dryer, mop sink
- Storage for other properties in the District has it's pros and cons; while convenient and available, the building is not purpose built and the location is not centrally located
- Put retreat building into the management of a property management company
- Green garage
 - o Tear it down
 - o Future use by gardeners
- 1/3 staff used for private functions, could be better used
- Reduce functions to reduce renovation needs
- Current common private functions and weddings and performances
- Corporate daytime rentals
 - o Currently don't do this due to challenge of cleaning and restroom availability but could pursue in future
- Dedicated classroom
- School groups/homeschool
 - o Have their own teachers/chaperones
 - o Can park in the lot with their buses
- Discover Mayslake (summer program)
- Large Events taxing on staff resources and hard on the building
- Need room capacities
- Safe, accessible, manageable
 - o Asbestos, lead and other indoor hazards removed
- Recognizable trail
- Trash cans and picnic tables are frequent guest requests
- Archery; indoor in the winter (have done previously)
- Indoor/outdoor building and trails
- Parking & entrance signage to building
- Space for kids to eat outside (visiting school groups/field trips and the like)

Priorities should be driven by the Districts mission of connecting people to nature via arts, culture, and history.

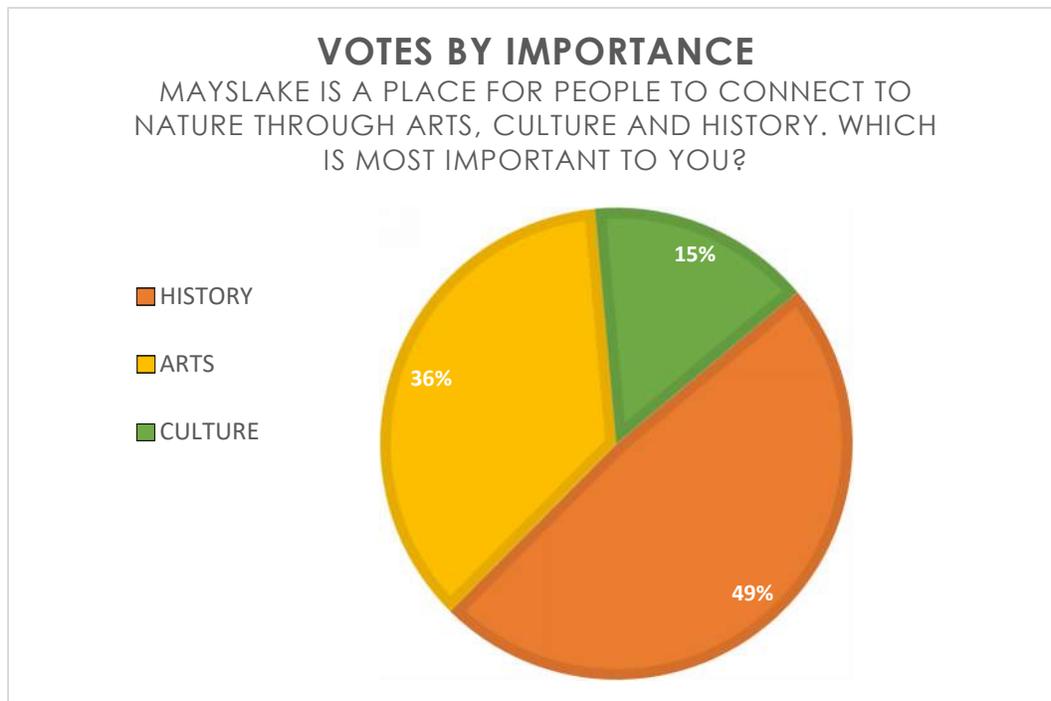
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MEETING MINUTES

Date of Meeting:	December, 09 2023	Project:	Peabody Estate Assessment & Master Plan
Location:	Mayslake Peabody Estate (Holiday Market)	Project No:	23-011
Date of Issuance:	December 19, 2023		
Participants:	Varies		<i>Email or fax</i>
Prepared by:	Carolyn Isaacson		cisaacson@altusworks.com
Cc:	Jessica Ortega		jortega@dupageforest.org

Votes by Importance – Dots Activity

Prompt: Mayslake is a place for people to connect to nature through Arts, Culture and History. Which is most important to you?





Share Your Thoughts – Sticky Notes Activity

Prompts:

1. What would bring you back to Mayslake more frequently?
2. What barriers keep you from visiting?

Events; many of the public who attended the Holiday Market commented on desire for more events. Some were specific in their categorization of type or provided further detail of what they envisioned but many simply said that more events would bring them back to Mayslake. The following is a list of the specific ideas or types of events suggested:

- Concerts, outdoor and indoor
 - o Elmhurst Jazz Band
- Theatre, plays
 - o Reasonably priced tickets
- Lectures, special presentations, and guest speakers
- Classes
 - o Centered on DIY
 - o History-themed
 - o Art focused, like painting classes (indoors or outside)
 - o Yoga/mindfulness
- Tours
 - o Historical
 - o Architectural, specifically including the “secret staircase”
 - o Ghost-themed, like a Halloween walk
 - o Guided and self-guided
- Poetry Reading
- Harry Potter [-themed events]
- Renaissance Fair

Outdoor & Nature-related; some comments centered on improvements of the grounds. Some folks commented on the fact that they don't associate Mayslake with the outdoors. The following is a list of these notes:

- Would like to see circular trail for walking
- Fishing
- Walks around lakes
- Hiking

Food and Beverage Ideas;

- Wine bar
- Food truck vendors
- Coffee & donuts

Rehabilitation & Renovation; some comments specified architectural elements or finishes and other architecturally adjacent things;

- Make spaces accessible for wheelchairs
- The horse stand [feature in the gift shop]
- Interior holiday decorations
- Rehab all wood work & rehab all painted wood work to the original state (Then you really got something)
- Rehab mansion & gardens as they were when first built; paint, etc.
- Railings on all stairs, please!



- There are no hand-dryers rather than paper towels in the bathrooms
- Original (or close to it) furniture, lighting fixture & intended use of each space

Additional Thoughts;

- The staff is amazing! Kudos to Sherry, Stephanie, & Sue!!!
- I always forget you're here! I love the native plant sale! More Markets!
- Distance, coming from Winfield; Love the outdoors and don't associate that with Mayslake
- Didn't know it existed
- Vendor donation for auction at the holiday market
- Love that the holiday market is free

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MEETING MINUTES

Date of Meeting:	NA	Project:	Peabody Estate Assessment & Master Plan
Location:	NA	Project No:	23-011
Date of Issuance:	December, 04 2023		
Participants:	NA	<i>Email or fax</i>	
Prepared by:	Carolyn Isaacson	cisaacson@altusworks.com	

Cc:

The following list combines all event and programming ideas expressed/discussed in the two stakeholder workshops.

- Bat monitoring
- Moth walks
- Bug hotel building and installation
- Citizen science
- Bee spotter training/event
- Programs about Tudor gardening
- Composting training
- Compost Your Pumpkin
- Shredding events
- Recycling events
- E-recycling events
- How To Hydroponics
- Seed preparation (winter event for spring planting)
- Tool maintenance training
- Ergonomics for Gardening
- Paper mâché art class
- Making paper class
- Natural paints class
- Decoupage art class
- Photography class/event
- Poison ivy ID session
- Plant emulsions class
- Yellow jackets, wasps, bees identification class
- Insects/edible bugs ID
- Period music cultural events
- Adulthood in the natural world
 - o Building a fire
 - o Stargazing
 - o How to survive the zombie apocalypse



- Natural plant identification ("weeds" vs. invasives)
- Downton Abbey-themed event
- How to use weeds, herbs, edible plants
 - o Mocktail class
 - o Foraging event
 - o Fermentation class
- Historic crafts or cooking demonstrations
- Master Gardener classes/training
- Bench building and installation
- Library-off-site book club
- Knitting club
- Crochet club
- Board game club
- Chamber music, small jazz bands, other music events
 - o Concerts in the park to help starving musicians
- Art shows
- Holiday market
- Group gardening
- Group fishing, learn to fish event
- Dance event
- Drama event/performance
- Writing workshop
- Native American history tours/exhibits
- Movies in the park
- Maker space
- Farm-to-table events to raise money (seasonal food/ingredients)
- Brew fest
 - o Other activities that incorporate alcohol
- Period balls/party, cosplay
 - o Nature themed cosplay ball
- Peabody's Birthday celebration
- Teddy Bear Tea Party
- Poetry readings, Poetry Slam
- Mother's Day weekend programming
- Oscar Awards night watch party
- Chess/Scrabble tournaments
- Fermilab art series; this was discontinued during the pandemic and maybe their shows could be revived by connecting with Peabody Estate as a venue
 - o Christmas at the Silent Movies
 - o Peacherine Ragtime Society
 - o It's a Wonderful Life Radio Show
- Drag hunts
- Christmas Dinner or Party fundraiser
- Outdoor performances of Alice in Wonderland, Peter Pan, Mary Poppins
- Kite flying event
- Food truck event
- Horticulture classes
- Dark skies education event
- Night for Nature fundraiser



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