



6797/Jones Library, Amherst

October 24, 2023

Ms. Brona Simon  
Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, Massachusetts 02125

**Subject: Jones Library, 43 Amity Street, Amherst  
MHC Project Notification Form**

Dear Ms. Simon:

On behalf of Jones Library, Inc., Epsilon is pleased to submit the enclosed Project Notification Form for the proposed project at the Jones Library located at 43 Amity Street in Amherst.

The Jones Library is a contributing building within the Amherst Central Business District, which was listed in the National Register of Historic Places in 1991. The building underwent a significant renovation and expansion in the early 1990s but has seen no substantial capital improvements since that time. The project will include the rehabilitation of the historic building for continued use as a public library. The proposed project will address costly but critical safety and accessibility concerns, improve children's and teen's rooms, improve special collections and ESL facilities, and substantially improve the energy efficiency of the building.

The enclosed PNF is submitted in compliance with M.G.L. Chapter 9, sections 26-27C (950 CMR 71.00) and Section 106 of the National Historic Preservation Act (36 CFR 800). The project will receive a Challenge Infrastructure and Capacity Building grant from the National Endowment for the Humanities (NEH), an Economic Development Initiative grant from the Department of Housing and Urban Development (HUD) and a hazardous waste removal permit from the Massachusetts Department of Environmental Protection (MassDEP).

**Please note that NEH delegates the initiation of Section 106 compliance to grant recipients. NEH's delegation letter is included as Attachment C for reference.** We recommend a finding of no adverse effect on the Jones Library, the Amherst Central Business District National Register Historic District (MHC# AMH.B) within which the property is situated, or other surrounding historic properties.

The Amherst Historical Commission recently approved the proposed project under the Town's Preservation of Historically Significant Buildings Bylaw and under the terms of the Preservation Restriction Agreement held by the Town of Amherst at hearings held on September 14, 2023 and October 19, 2023, respectively.

Contact information for permitting and funding agencies is included below:

National Endowment for the Humanities

Ann E. Piesen, Federal Preservation and Environmental Officer  
National Endowment for the Humanities  
Office of Grant Management  
400 7<sup>th</sup> Street, SW  
Washington, DC 20506  
[apiesen@neh.gov](mailto:apiesen@neh.gov)

Department of Housing and Urban Development

Danielle Goldinger, HUD Government Technical Representative  
CPD, Congressional Grants Division  
451 7<sup>th</sup> Street, SW, Rm 7146  
Washington, DC 20410-7000  
[Danielle.J.Goldinger@hud.gov](mailto:Danielle.J.Goldinger@hud.gov)

Massachusetts Department of Environmental Protection

Helena Boccadoro, Program Coordinator  
Department of Environmental Protection, Boston Office  
Commissioner's Office  
One Winter Street  
Boston, MA 02108  
[Helena.Boccadoro@mass.gov](mailto:Helena.Boccadoro@mass.gov)

Catherine Skiba, Deputy Regional Director  
Department of Environmental Protection, Western Regional Office  
State House West – 4<sup>th</sup> Floor  
436 Dwight Street  
Springfield, MA 01103  
[Catherine.Skiba@mass.gov](mailto:Catherine.Skiba@mass.gov)

Brona Simon  
Massachusetts Historical Commission  
October 24, 2023

PAGE 3 of 3

If you have any questions regarding the enclosed PNF, or require additional information, please do not hesitate to contact me at (978) 461-6279.

Sincerely,

EPSILON ASSOCIATES, INC.



Erin Doherty  
Senior Preservation Planner

cc: Jones Library, Inc.  
Amherst Historical Commission

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A

MASSACHUSETTS HISTORICAL COMMISSION  
220 MORRISSEY BOULEVARD  
BOSTON, MASS. 02125  
617-727-8470, FAX: 617-727-5128

**PROJECT NOTIFICATION FORM**

Project Name: Jones Library Renovation and Expansion

Location/ Address: Jones Library, 43 Amity Street

City/ Town: Amherst

Project Proponent

Name: Sharon Sharry, Library Director

Address: Jones Library, Inc. 43 Amity Street

City/Town/Zip/Telephone: Amherst, MA 01002 (413) 259-3106

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

<u>Agency Name</u>	<u>Type of License or funding (specify)</u>
Department of Environmental Protection (MassDEP)	Hazardous waste removal
National Endowment for the Humanities (NEH)	Challenge Infrastructure and Capacity Building Grant
Department of Housing and Urban Development (HUD)	Economic Development Initiative Grant

**Project Description (narrative):**

Jones Library, Inc. proposes to rehabilitate the existing public library located at 43 Amity Street in downtown Amherst, Massachusetts. The project will include the renovation of the historic library building, constructed in 1928, and replacement of later additions dating to 1993. See attached for further information.

**Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.**

Yes, the project includes the demolition of a rear wing and modern rear additions at the existing building. See attached for further information.

**Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.**

Yes, the project includes the rehabilitation of the existing historic building on the site, the Jones Library (1928; MHC# AMH.249). The work will comply with the Secretary of the Interior's Standards for Rehabilitation. See attached for further information.

**Does the project include new construction? If so, describe (attach plans and elevations if necessary).**

Yes, the project includes new construction. A sensitively designed new addition will be constructed at the rear of the historic building. See attached for further information.

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

Several State or National Register listed properties are located on and in the vicinity of the Project site. See attached for further information.

What is the total acreage of the project area?

Woodland \_\_\_\_\_ acres
Wetland \_\_\_\_\_ acres
Floodplain \_\_\_\_\_ acres
Open space \_\_\_\_\_ acres
Developed \_\_\_\_\_ .96 acres

Productive Resources:
Agriculture \_\_\_\_\_ acres
Forestry \_\_\_\_\_ acres
Mining/Extraction \_\_\_\_\_ acres
Total Project Acreage \_\_\_\_\_ .96 acres

What is the acreage of the proposed new construction? \_\_\_\_\_ N/A

What is the present land use of the project area?

Presently the property includes the Jones Library, a public library serving over 225,000 visitors a year from the Town of Amherst and surrounding Pioneer Valley area.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

See attached USGS locus map (Figure 1).

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: [Signature] Date: 10/24/2023
Name: Erin Doherty, Epsilon Associates, Inc.
Address: 3 Mill and Main Place, Suite 250
City/Town/Zip: Maynard, MA 01754
Telephone: (978) 461-6279

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

## **Project Description (continued)**

### Existing Conditions

The Project site is located at 43 Amity Street in downtown Amherst, Massachusetts and is approximately .96 acres. The property is located within the block bound by Amity Street, North Prospect Street, Cowles Lane and North Pleasant Street, and is bound by Amity Street to the south and developed properties to the west, north, and east. There is one existing building located on the Project site, the Jones Library (MHC# AMH.249). The existing building was constructed in 1928 and substantially enlarged in 1993. See Figure 1 for a USGS locus map of the Project site. Existing conditions photographs of the Project site and existing building are included as Attachment A.

The Jones Library was incorporated in 1919 following a bequest of nearly \$700,000 to the town from Samuel Minot Jones (1836-1912). Jones, a successful lumber merchant, was originally from Amherst and grew up on Amity Street. Upon his death in 1912, his estate was granted to his son Minot. Jones' will noted that if his son were to die before age 21, the whole of his estate would be granted to the town of Amherst for a free public library. Minot died only six years later after contracting influenza at 19 years old and the money was subsequently bequeathed to the town. The Jones Library was incorporated the following year and the funds invested for the future operations of the library and construction of a purpose-built building. Beginning in 1921, the library was housed in a number of locations in the center of town, including the Amherst Town Hall, Amherst House, and Whipple House.

The groundbreaking for the purpose-built library occurred on July 25, 1927 and the cornerstone was laid on Amity Street on October 18, 1927. Construction was completed in a year at a cost of \$260,000, with an additional \$100,000 for furnishings and equipment. Upon completion the library featured service spaces and storage at lower level, including a garage for the library's book wagon. The first floor held a children's area, main reading room, rooms for art and special collections, offices and meeting rooms, and an approximately 260-seat auditorium. The second floor featured exhibition, collection, and meeting rooms, while the third floor held a studio and private writing rooms.

The Colonial Revival style library was designed by the Boston-based architectural firm Putnam & Cox, though primarily designed by partner Allen H. Cox (1873-1944). A native of nearby South Hadley, Cox attended MIT and the Ecole de Beaux Arts in Paris. In 1902 he partnered with William Putnam, Jr. to found the firm of Putnam & Cox. Around 1939 the firm became known as Putnam, Cox and Saltonstall, following the expansion of the partnership to include Nathaniel Saltonstall and Allen Cox's son Gardner. For the Jones Library commission Cox designed in the Colonial Revival style, specifically making use of architectural details specific to Connecticut River Valley vernacular.

The historic building exterior is domestic in character, with a main central block flanked by side and rear wings. Constructed of fireproof construction in concrete and steel, the exterior is primarily clad in fieldstone with sections of red brick and wood clapboard. Since its original construction, the Jones Library has undergone two major renovation campaigns. The first was completed in 1967-1968 to plans

by Alderman and MacNeish of West Springfield, Massachusetts. In the planning for this renovation, the principal issues addressed were lack of space for the library's growing collections, and space shortages for several departments including the Children's Room, Special Collections, and the Library work rooms. The auditorium was identified as too large for the library's needs and not an efficient use of space. The alterations to the library in the subsequent renovation included installation of additional shelving and seating, the insertion of an additional floor into the auditorium and conversion of the space to stacks, and reprogramming of a number of spaces in the building.

In the 1980s planning for another building campaign began, executed between 1990 and 1993. At this time, a major addition to the library was completed according to plans by Mark Mitchell Associates, bringing the building to its current appearance. The addition included two wings extending from the original J-shaped footprint to create a square plan enclosing a new central atrium. While obscuring the original north and west elevations, the original portions of the 1928 building were retained in place. Changes to the 1928 building at this time served to facilitate access between the new and old portions of the library, including opening some door and window openings, adding some walls, and closing other existing openings. At the Children's stacks area, the west exterior wall dividing the stacks from the one-story extension (formerly the Youth Room) was removed, enlarging the stacks, and a dedicated Children's Room restroom inserted. A portion of the east wall of this wing was also removed for improved flow with the new central atrium. The second floor which had been inserted into the auditorium space in the 1967-1968 campaign was removed. At the formerly open south end of the original auditorium space, several offices and work rooms were partitioned adjacent to the new main circulation desk.

The current appearance of the building reflects these three major building campaigns. The original 1928 building is composed of several distinct sections forming an approximately J-shaped footprint. The main block rises two stories to a broad gambrel roof clad in slate shingles. The façade (south elevation) is constructed of random ashlar laid stone and holds a centrally located entrance flanked by rectangular windows. The main entrance is enhanced with a Colonial Revival style surround with a broken pediment entablature supported by fluted pilasters. The entrance holds a half-glazed wood paneled door. Single story additions with wood clapboard siding, original to the building, extend from end bays. The second floor features five regularly spaced double-hung windows. Above, the gambrel roof features regularly spaced gable-roofed dormers at each bay and stone end chimneys at the roof ridge.

The east and west elevations of the main block also feature random ashlar stone and are partially obscured by single story wings. While not identical, both wings feature similar detailing, including double-hung windows, broad gambrel roofs with shed roof dormers, and stone chimneys. A two-story brick wing original to the building but heavily modified in the 1993 renovations extends from the north elevation of the west single-story wing. A secondary entrance is located at the east extension and sheltered by a shed roofed porch. A single-story gambrel roofed wing extends north from the rear of the east addition. The wing is constructed of brick and features a partially exposed basement level as the grade lowers toward the north end of the lot. The wing meets a two-story stone block set parallel to the

main block of the library. This northernmost portion of the building is capped with a broad gambrel roof and is clad in random ashlar stone, brick, and clapboard.

Additional wings constructed in 1993 extend to the north and west of the original building, forming an approximately square footprint. The wings enclose a covered atrium at the center of the library, which is capped with a pyramidal glass roof. The two-story wings are constructed of red brick and feature similar massing to the original buildings, including broad gambrel roofs, regularly spaced double-hung windows, and gable roofed dormers.

The mid-block building is set back from the street to the south by a shallow front yard. Concrete walkways extend from the adjacent sidewalk to the primary entrance at the main block and the secondary entrance at the east extension. A narrow asphalt paved driveway extends along the east side of the building to a small parking area at the north end of the site. The building features a minimal setback from the west property line.

### Project Impacts

The proposed project will rehabilitate the building for continued use as a public library. Character defining features of the original building at the interior and exterior will largely be retained and preserved. The historic plan, room configurations and circulation patterns throughout the historic building will largely be retained, as will the vast majority of the historic trim, baseboards, paneling, fireplaces, and other moldings. Some secondary partition walls will be removed to accommodate the building's new programming and current library standards and requirements.

The Jones Library has not undergone capital improvements in over 30 years and suffers from issues of deferred maintenance. Due to gaps in the building envelope, there are areas of water infiltration throughout the building which have resulted in damage to library materials as well as interior finishes. Further, HVAC systems are outdated and at the end of their useful lives with limited options for repairs. Notably, a catastrophic failure of the HVAC system above the current Special Collections/Archives area resulted in the removal of 710 books and 12 manuscript boxes from the shelves; 157 were water damaged. Further delay in addressing deferred maintenance issues will result in additional deterioration of historic finishes, as well as damage to library materials.

The scope of work at the historic building includes necessary repairs and maintenance including HVAC and other mechanical system upgrades; in kind repairs to exterior wood and masonry; roofing repairs and replacement; sash-only replacement of historic windows; and reprogramming of areas of the building. Design changes at the interior and exterior will be completed to meet current life-safety and accessibility codes, as well as current library standards. As noted in the attached letter from the Massachusetts Libraries Board of Library Commissioners, the retention of those elements slated for removal would jeopardize the project, requiring a larger footprint or reductions to programmatic space which would not be permitted.



The Project will remove the 1993 additions and the altered gable-roofed wing and introduce sensitively designed new construction. The new construction will be situated to the rear of the historic main block and west one-story wing, as well as adjacent to the northeast wing. The exterior of the new construction will feature a distinctive roof profile, projecting bays and dormers, and a variety of window types, resulting in a composition that is compatible with but differentiated from the historic building. The exterior will feature brick, shiplap siding, and standing seam metal.

The Project will address costly but critical safety and accessibility concerns, improve children's and teen's rooms, improve special collections and ESL facilities, and substantially improve the energy efficiency of the building. The Project will benefit the Town of Amherst, the Pioneer Valley area, and the Commonwealth of Massachusetts by rehabilitating an important community resource. Currently, the library serves 225,000 visitors per year and is a foundational community institution serving all residents free of charge. The Project will retain the Jones Library in its existing central Amherst location while upgrading the building to meet current library standards, enhancing the library's role as a community and educational center as well as drawing additional foot traffic to the area. The Jones Library fills a critical community need with its award-winning ESL program, which provides English tutors, study materials, citizenship classes, and referrals. Further, the Jones Library Special Collections serves local residents as well as researchers from around the world, safeguarding an extensive collection of materials of local, national, and international importance, one of the largest in the Commonwealth.

Detailed Project plans, renderings, and specifications are included in Attachment B.

## Historic Properties

A review of the State and National Register of Historic Places-listed and eligible properties concluded that a number of State and National Register listed properties are located within a quarter-mile radius of the Project site.

The table below provides a listing of the State and National Register-listed properties and historic districts located within a quarter-mile radius of the Project site. The locations of these properties are identified in Figure 2.

**Table 1 State and National Register-Listed Properties and Historic Districts**

No.	Historic Resource	Address	Designation
<b>A</b>	Dickinson Historic District	Main, Lessey, and Triangle Sts	NRDIS
<b>B</b>	Amherst Central Business District	Amity, North Pleasant, South Pleasant and Main Sts, Boltwood Ave	NRDIS
<b>C</b>	Lincoln-Sunset Historic District	Lincoln and Sunset Ave, Amity St	NRDIS
<b>D</b>	Prospect-Gaylord Historic District	North Prospect, South Prospect, Amity, and Gaylord Sts	NRDIS
<b>E</b>	Amherst West Cemetery	Triangle St	NRIND
<b>F</b>	Amherst Central Business District Boundary Expansion: Lord Jeffrey Inn	30 Boltwood Ave	NRDIS
<b>G</b>	Dickinson Local Historic District	Main, Lessey, and Triangle Sts	LHD
<b>H</b>	North Prospect-Lincoln-Sunset District	Amity St, Sunset Ave, Fearing St, North Prospect St	LHD
<b>1</b>	Hope Community Church	16 Gaylord St	PR
<b>2</b>	The Evergreens	214 Main St	LHD, NRDIS, PR
<b>3</b>	The Strong House	67 Amity St	NRIND, NRDIS
Designation Legend:			
NRIND	National Register of Historic Place individual property		
NRDIS	National Register Historic District		
LHD	Local Historic District		
PR	Preservation Restriction Property		

### Archaeological Resources

The Project Site is in an area of archaeological sensitivity as reported in archaeological report numbers 25-3445, 25-3446 and 25-3865, which detail recovered artifacts at the Project site and abutting parcel(s). Report number 25-3445 also notes disturbance on the Project Site due to the Amherst Library's initial construction. It is expected that the initial construction of the Amherst Library as well as its subsequent additions and alterations have created significant ground disturbance immediately around the building affecting any potential archaeological integrity. In addition to the building's construction, there are also asphalt paved walkways and driveways on the Project Site as well as catch basins and sewer lines and a maintenance shed, which all would have created ground disturbance when constructed. Given the results of the previous excavations and the existing ground disturbance, significant impacts to archaeological resources are not anticipated, but the proponent seeks the opinion of MHC as to whether or not an archaeological survey is warranted.

### Potential Impacts on Historic Properties

The proposed Project presents an opportunity to address much needed capital and programmatic improvements to the building, allow its continued use as a public library for the Town of Amherst and surrounding communities. As the building will continue in its current use, character defining features of the original building at the interior and exterior can largely be retained and preserved.

The Project does not include the demolition of any historic resources included in the State or National Registers of Historic Places. The potential visual impact of the project will be limited to the immediate surrounding area. The new construction will be situated to the rear of the historic building, minimizing its visual impact on the subject property as well as the existing streetscape. The addition will not impact the visibility of other surrounding historic properties from surrounding public ways. In accordance with the Secretary of the Interior's Standards for Rehabilitation, the addition is designed to be compatible with the massing, size, scale, and architectural features of the historic building while being differentiated from the earlier structure. The proposed changes will not adversely affect the character of the Jones Library, the Amherst Central Business District National Register District (MHC# AMH.B) within which the property is situated, or other surrounding historic properties.

### Public Outreach

The Jones Library Trustees have worked diligently to engage the public in the capital planning process. Numerous organizations have advised on the project ranging from Town of Amherst Boards, Commissions, and Committees, to local business and community organizations. A full list of organizations which have been consulted on the project is available upon request. From the start, preservation of the historic 1928 building has been paramount in the planning process and public discussion. Major engagement opportunities include:


- 2014: Amherst Town Meeting approves funding for planning and design, launching an extensive long range planning process;
- 2015-2016: Trustees provide proactive presentations to residents, boards, and committees, including a listening tour;
- 2017: Amherst Town Meeting approves grant submission to MBLC;
- 2019: Amherst Town Council conducts public engagement listening sessions regarding capital investment projects, including the Library;
- 2019-2020: Amherst Community Preservation Act Committee process approves historic preservation funding;
- 2020-2021: Amherst Town Council process results in a vote to approve project funding;
- 2021: Townwide referendum confirms public support for project;
- 2021: Jones Library Building Committee begins work and continues extensive public outreach efforts.
- 2023: The Amherst Historical Commission approves the proposed project under the Town's Preservation of Historically Significant Buildings Bylaw and under the terms of the Preservation Restriction Agreement held by the Town of Amherst at hearings held on September 14, 2023 and October 19, 2023, respectively.

Beyond public comment at Trustees meetings, the Trustees in 2020 and 2021 offered regular virtual public forums discussing aspects of the project and inviting the public to engage with project planners. Notable to historic preservation are Accessibility (8/2020), Schematic Design (9/2020); Special Collections (10/2020); and Historic Preservation (12/2020).


Notable examples of the building committee's and architect's responsiveness to public concerns include plans to retain key historic features of the building, including the historic main internal staircase, the Palladian window on the north face of the historic building, and retention of historic fenestration patterns. The project goal's of restoring the 1928 historic building, including reopening parts of the interior not currently accessible to the public; upgrading antiquated infrastructure; and creating a larger, fully climate-controlled spaces for the historical and literary materials housed in Special Collections, are well supported locally.



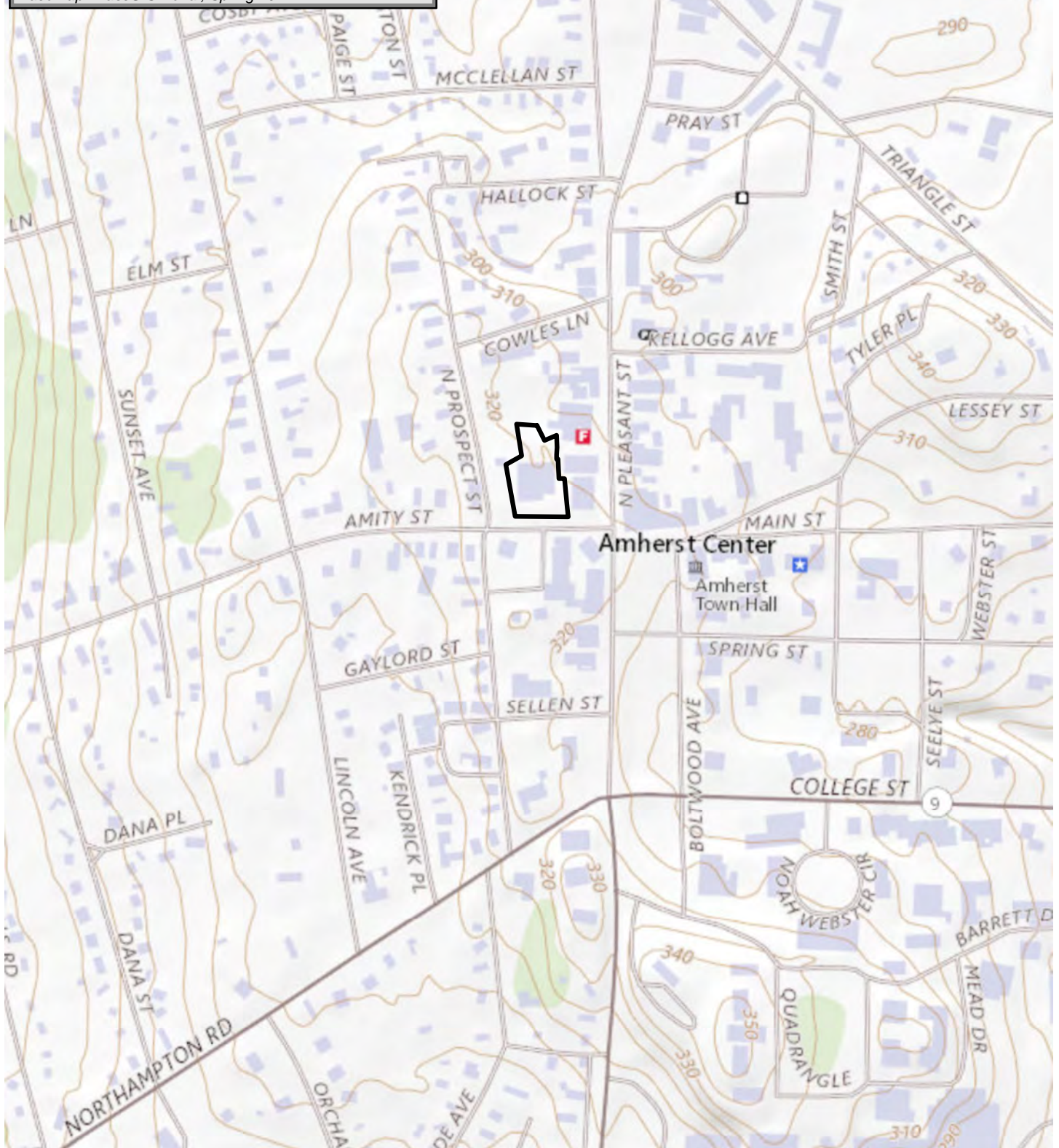
**LEGEND**

 Project Area

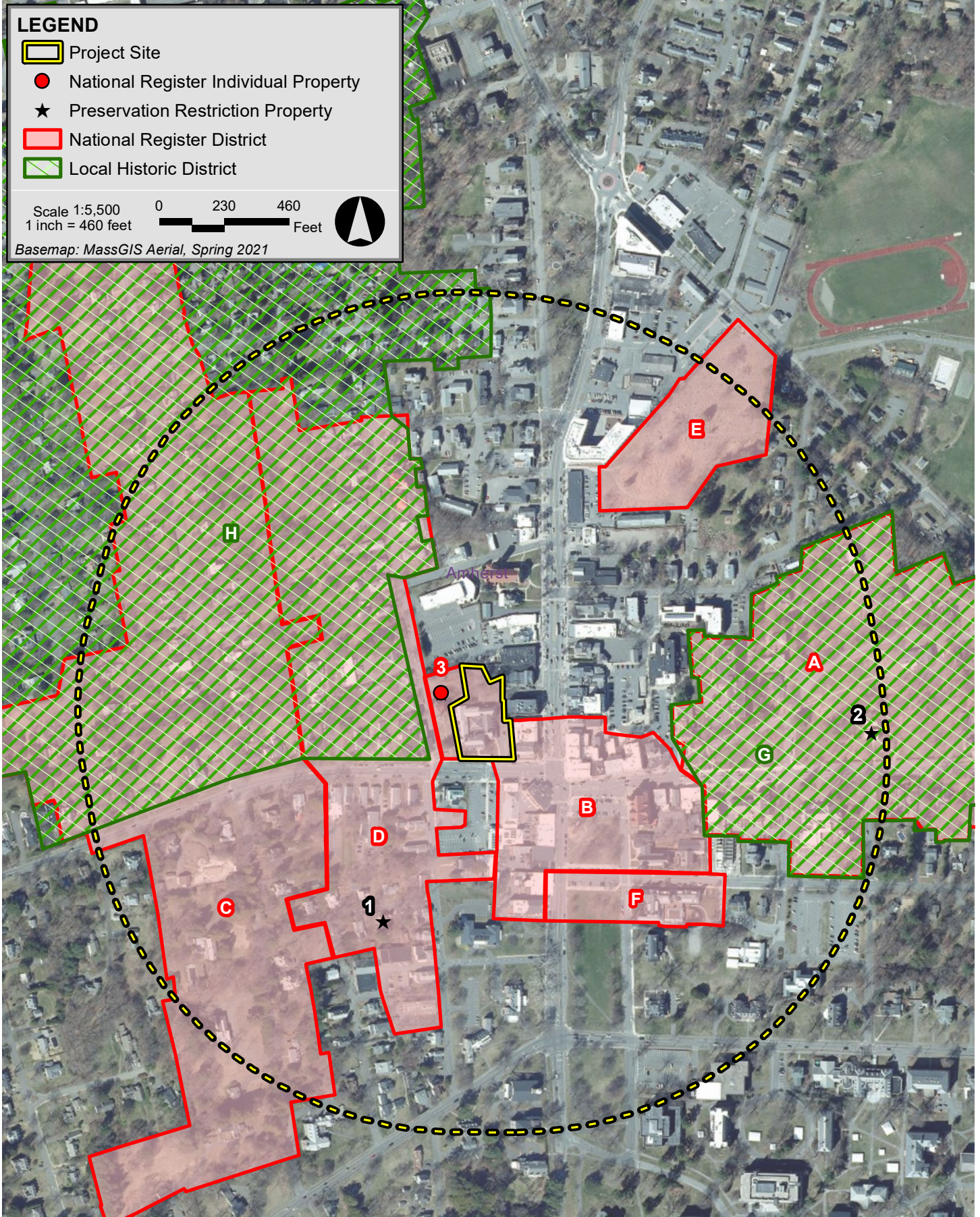
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1 inch = 500 feet

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Basemap: MassGIS Aerial, Spring 2021



43 Amity Street Amherst, Massachusetts

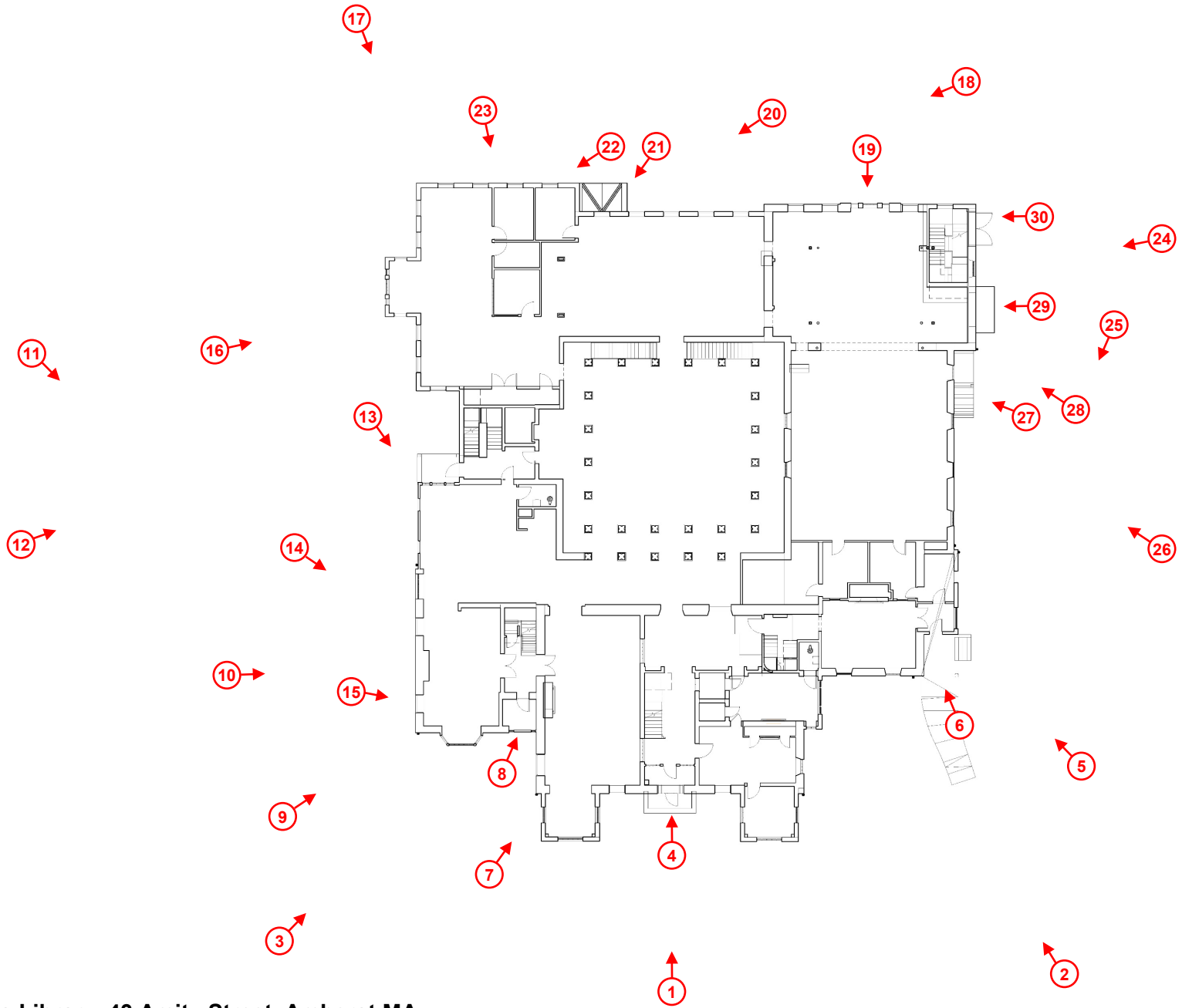


43 Amity Street Amherst, Massachusetts

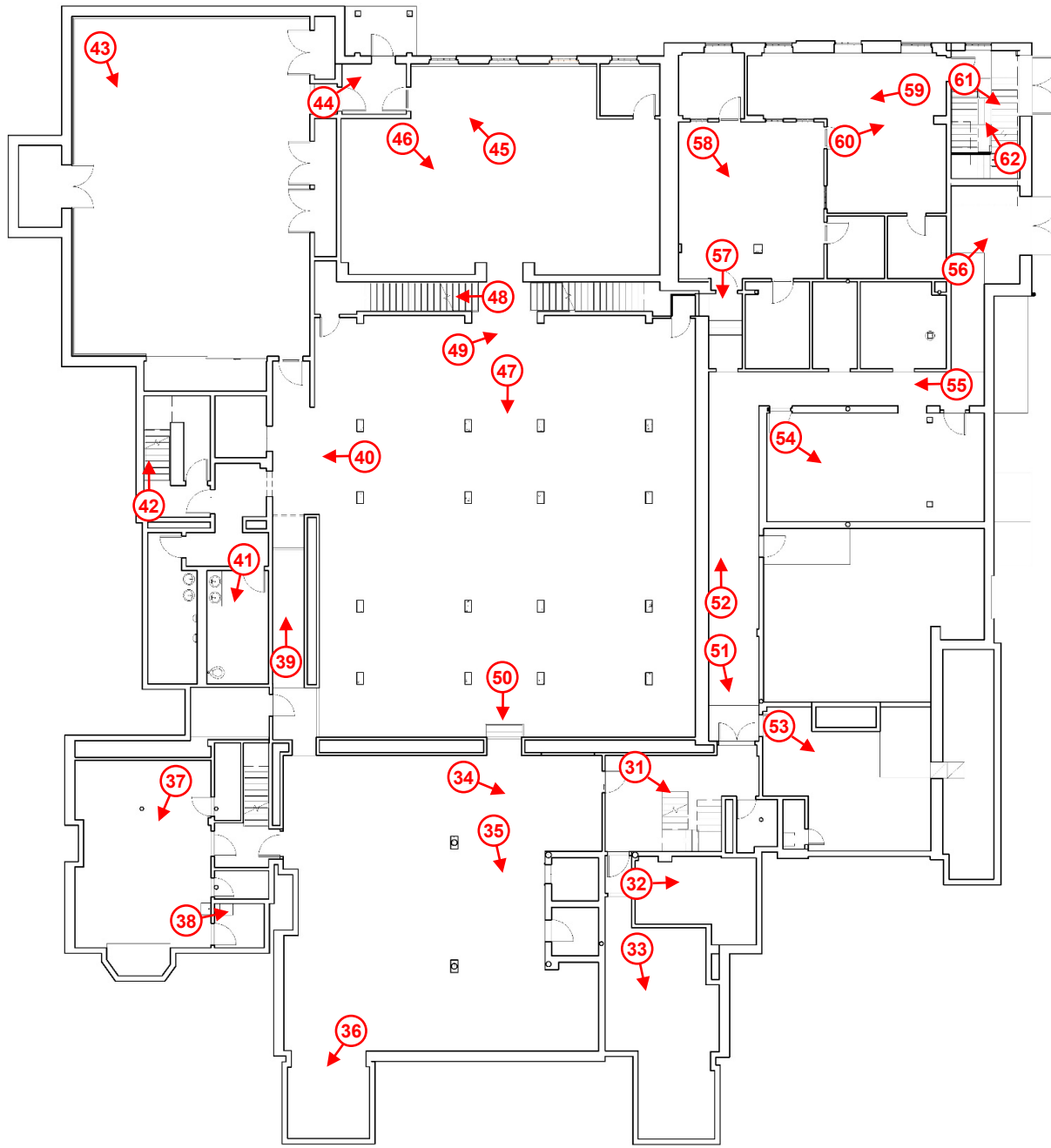
**Attachment A: Existing Conditions Photographs**

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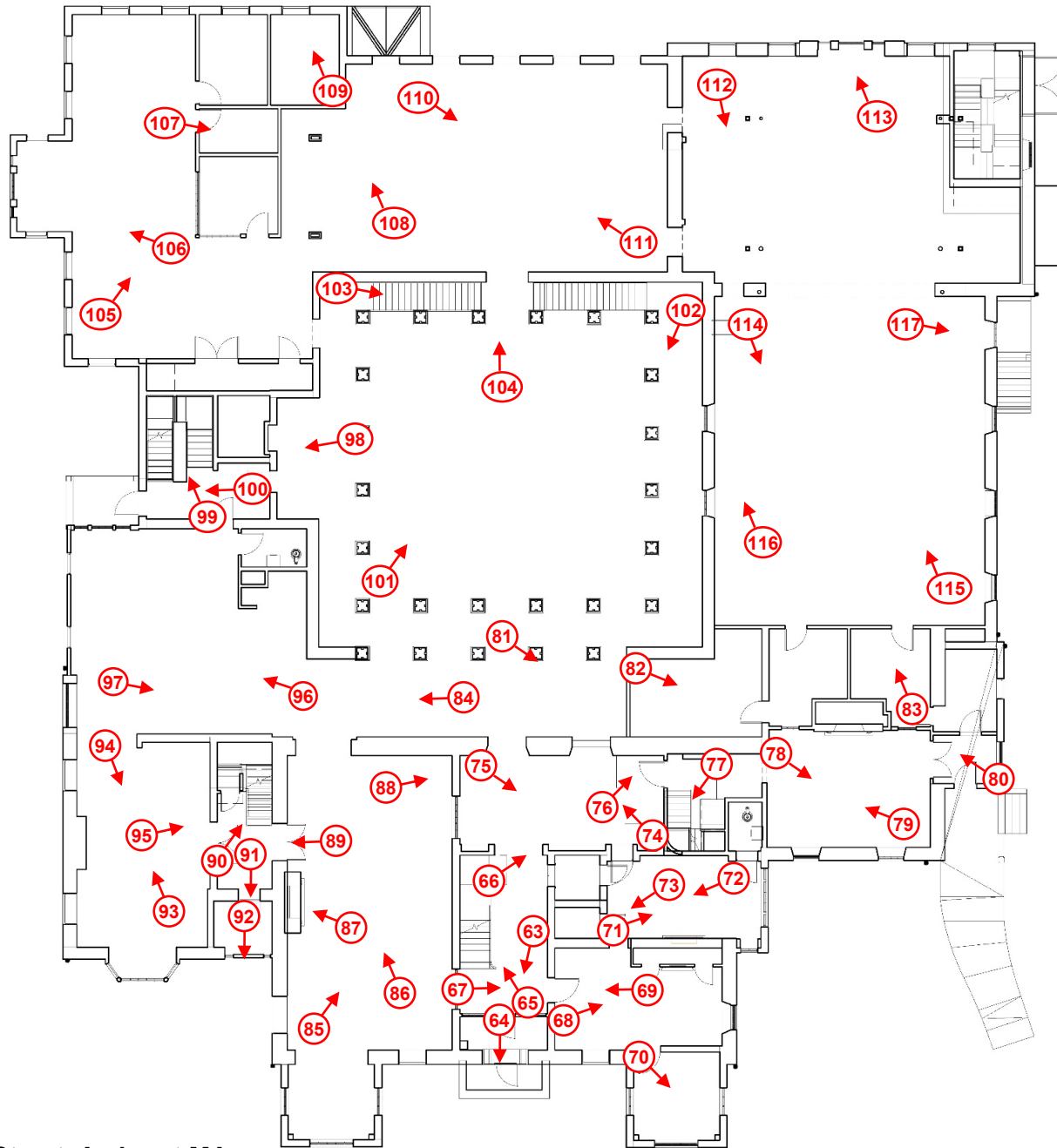




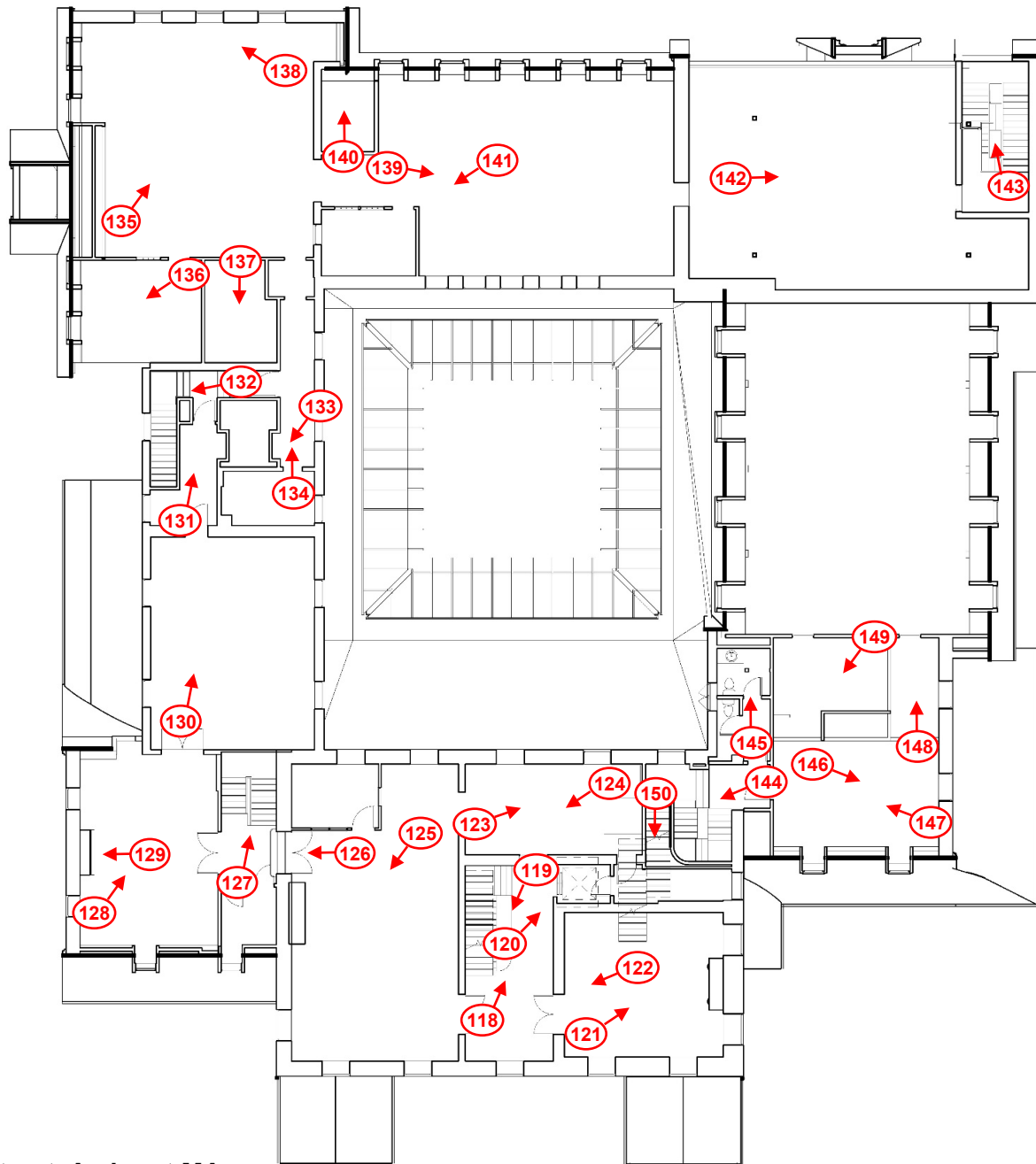
Jones Library, 43 Amity Street, Amherst MA



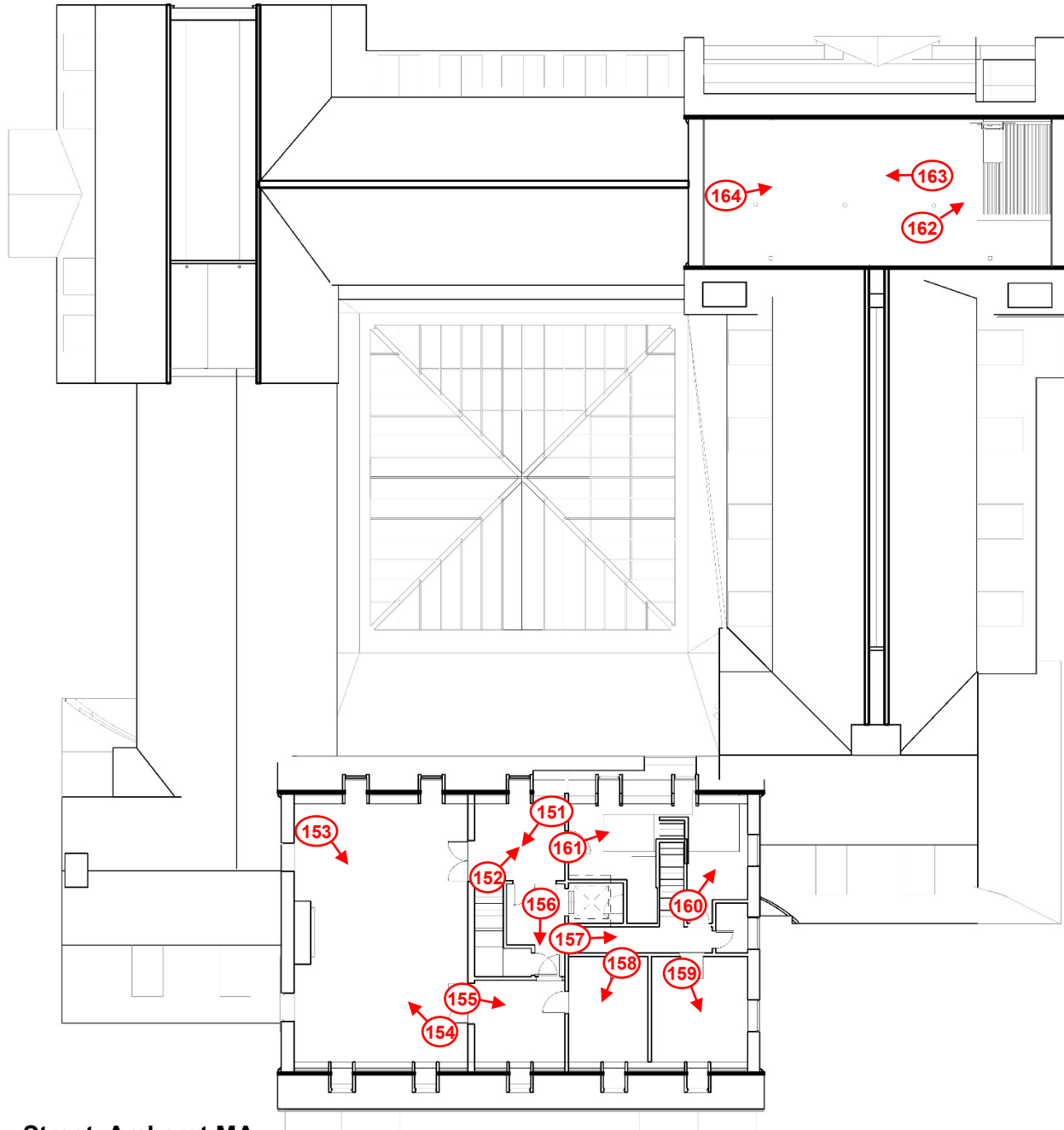
Jones Library, 43 Amity Street, Amherst MA



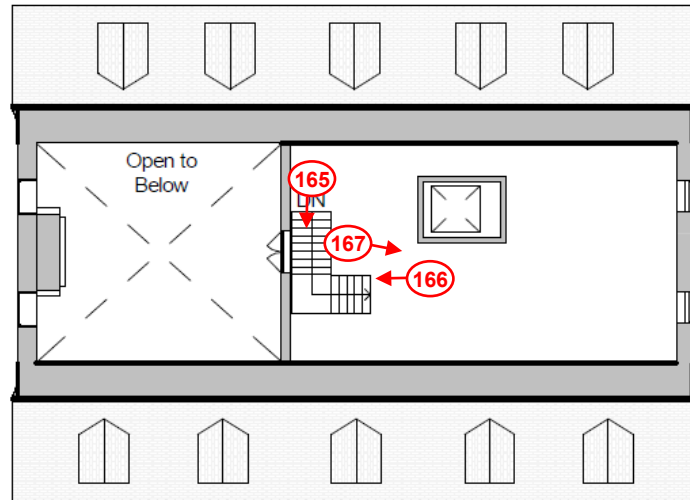
Jones Library, 43 Amity Street, Amherst MA



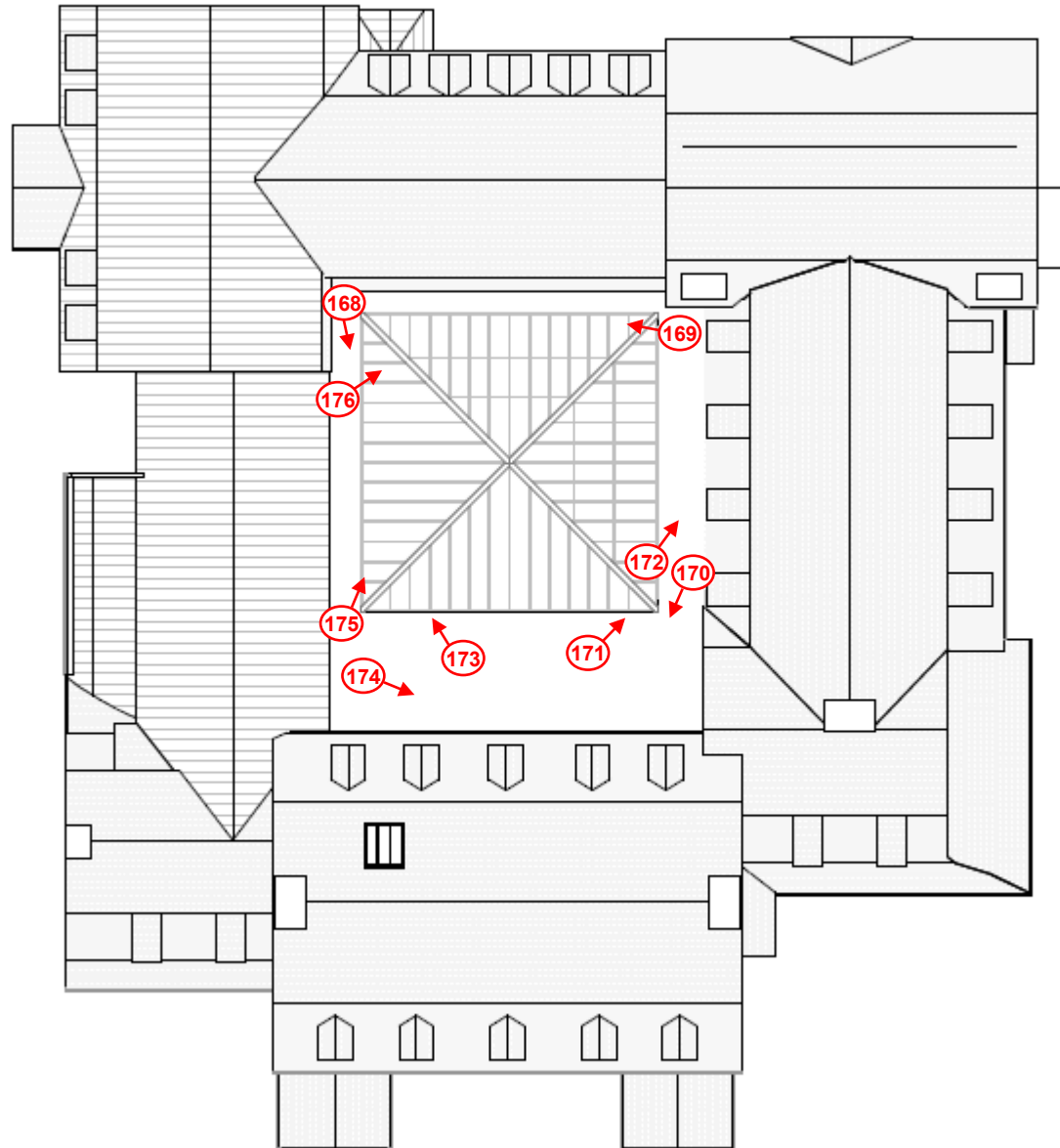
Jones Library, 43 Amity Street, Amherst MA



Jones Library, 43 Amity Street, Amherst MA



Jones Library, 43 Amity Street, Amherst MA



Jones Library, 43 Amity Street, Amherst MA



1. South elevation, view north



2. South elevation (left) and east elevation (right), view northwest



3. West elevation (left) and south elevation (right), view northeast



4. South elevation, main entrance, view north





5. South elevation (left) and east elevation (right) of east wing and primary active entrance, view northwest



6. East elevation, primary active entrance, view northwest



7. South elevation detail, view northeast



8. South elevation of west wing, secondary entrance, view northeast



9. West elevation, view northeast



10. West elevation of west wing, view east



11. West elevation with 1990s addition at left, view southeast



12. West elevation, 1990s additions, view northeast



13. West elevation, secondary entrance, view southeast



14. West elevation of main block, chimney detail, view southeast



15. West elevation of west wing, typical window, view east



16. West elevation, view northeast



17. North elevation (left) and west elevation (right), view southeast



18. North elevation, view southwest



19. North elevation, second floor window detail, view south



20. North elevation, view southwest



21. North elevation, secondary entrance, view southwest



22. North elevation, cornerstone of 1990s addition, view southwest



23. North elevation, upper floor window detail, view southeast



24. East elevation, view southwest



25. East elevation, view southwest



26. East elevation, view northwest



27. East elevation, secondary entrance, view northwest



28. East elevation, chimney detail, view northwest



29. East elevation, ground level entrance, view southwest



30. East elevation, ground level entrance, view west



31. Lower level, main stair, view southeast



32. Lower level, storage closet, view east



33. Lower level, storage closet, view southeast



34. Lower level, circulation area, view southeast



35. Lower level, south elevator and stacks, view south



36. Lower level, reading area, view southwest





37. Lower level, classroom, view southwest



38. Lower level, bathroom, view east



39. Lower level, ramp and corridor, view north



40. Lower level, circulation area and west elevator, view west



41. Lower level, bathrooms, view south



42. Lower level, west stair, view north



43. Lower level, assembly space, view southeast



44. Lower level, rear (north) entry vestibule, view northeast



45. Lower level, reading area, view northwest



46. Lower level, stacks and reading area, view southeast



47. Lower level, central stacks, view south



48. Lower level, west atrium stair, view west



49. Lower level, east atrium stair, view northeast



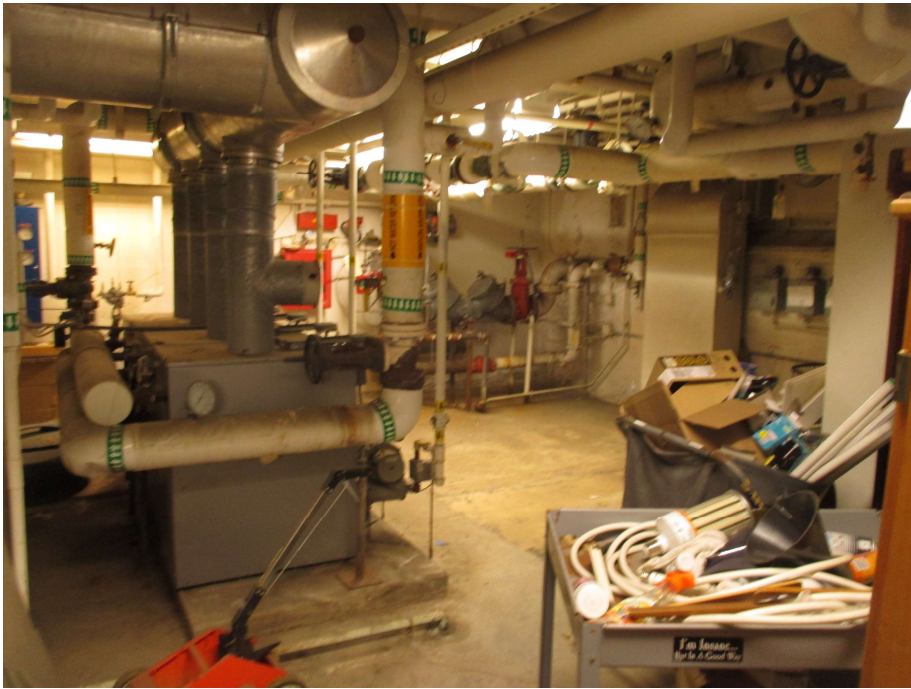
50. Lower level, stacks, view south



51. Lower level, entry doors to mechanical area, view southeast



52. Lower level, corridor, view north



53. Lower level, mechanical room, view southeast



54. Lower level, custodial room, view southeast



55. Lower level, corridor, view west



56. Lower level, service entrance vestibule, view northeast



57. Lower level, corridor, view south



58. Lower level, stacks, view southeast



59. Lower level, offices, view southwest



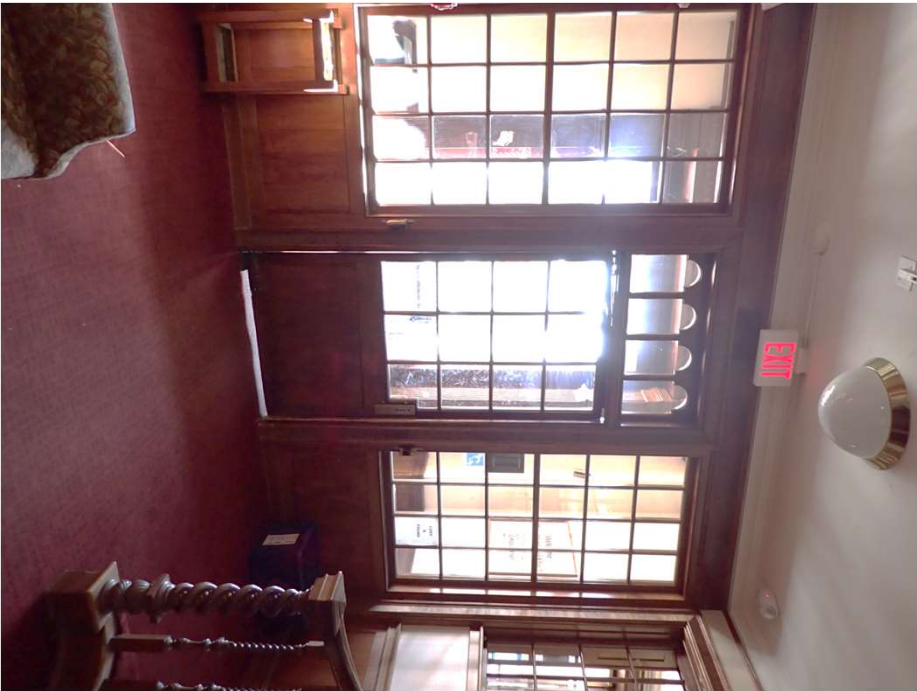
60. Lower level, offices, view northeast



61. Lower level, northeast stair, view southeast



62. Lower level, northeast stair, view northwest



63. First floor, main inner vestibule door, view southwest



64. First floor, main entrance, view south



65. First floor, main stair, view northwest



66. First floor, main stair hall, elevator, view east



67. First floor, main stair hall, entrance to administrative offices, view east



68. First floor, administrative office, view northeast





69. First floor, administrative office, view west



70. First floor, administrative office, view north



71. First floor, Director's office, view northeast



72. First floor, Director's office, view southwest



73. First floor, safe within Director's office, view southwest



74. First floor, entry hall, view southeast



75. First floor, entry hall, view northwest



76. First floor, entry hall door detail, view northeast



77. First floor, southeast stair, view southeast



78. First floor, community room, view southeast



79. First floor, community room, view northwest



80. First floor, southeast entry vestibule, view northwest



81. First floor, main circulation desk, view southeast



82. First floor, circulation office, view northeast



83. First floor, typical office, view northwest



84. First floor, view west



85. First floor, children's room stacks, view northeast



86. First floor, children's room stacks, view northwest



87. First floor, children's room, fireplace, view northwest



88. First floor, children's room, woodwork detail, view east



89. First floor, entrance to children's reading room, view west



90. First floor, southwest stair, view northeast



91. First floor, children's room inner vestibule door, view south



92. First floor, children's room entry door, view south



93. First floor, children's reading room, view northwest



94. First floor, children's reading room, view southeast



95. First floor, children's reading room, view east



96. First floor, children's room circulation desk, view northwest



97. First floor, stacks in children's room, view east



98. First floor, west elevator, view southwest



99. First floor, northwest stair, view northwest



100. First floor, west entrance and stair hall, view west





101. First floor, atrium, view northeast



102. First floor, atrium, view southwest



103. First floor, west atrium stair, view southeast



104. First floor, atrium, entrance to reference room, view north



105. First floor, audiovisual room, view northeast



106. First floor, audiovisual room, view northwest



107. First floor, audiovisual office, view east



108. First floor, reading room, view northwest



109. First floor, typical staff office, view northwest



110. First floor, reference room, view southeast



111. First floor, reference room, view northwest



112. First floor, stacks within former auditorium, view southeast



113. First floor, window detail, view northwest



114. First floor, stacks within former auditorium, view southeast



115. First floor, stacks within former auditorium, view northwest



116. First floor, original exterior library wall, view northwest



117. First floor, secondary entrance at former auditorium, view east



118. Second floor, main stair hall, view northwest



119. Second floor, main stair hall, view southwest



120. Second floor, main stair hall, view north



121. Second floor, Amherst Room, view northeast



122. Second floor, Amherst Room, view southwest



123. Second floor, work room, view northeast



124. Second floor, work room, view southwest



125. Second floor, work room, view southwest



126. Second floor, work room, entrance to southwest stair, view west



127. Second floor, southwest stair, view northeast



128. Second floor, youth room, view northeast



129. Second floor, youth room, fireplace detail, view west



130. Second floor, art gallery, view northeast



131. Second floor, corridor to Special Collections, view north



132. Second floor, northwest stair, view west





133. Second floor, elevator, view southwest



134. Second floor, corridor to Special Collections, view north



135. Second floor, Special Collections exhibit room, view northeast



136. Second floor, Special Collections office, view southwest



137. Second floor, Special Collections workroom, view south



138. Second floor, Special Collections, north wall, view northwest



139. Second floor, Special Collections reading room, view east



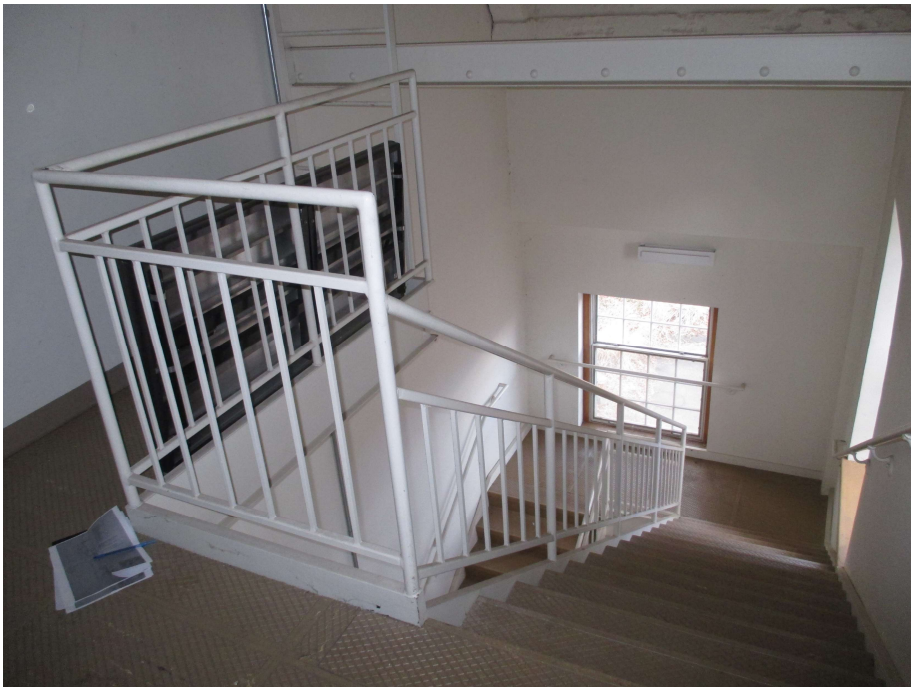
140. Second floor, storage closet, view north



141. Second floor, Special Collections office, view southwest



142. Second floor, Special Collections storage room, view east



143. Second floor, northeast stair, view northwest



144. Second floor, southeast stair hall, view southwest



145. Second floor, staff bathrooms, view north



146. Second floor, staff break room, view southeast



147. Second floor, staff break room, view northwest



148. Second floor, staff break room, view north



149. Second floor, staff kitchen, view southwest



150. Second floor, east stair to third floor, view south



151. Third floor, main stair hall, view southwest



152. Third floor, main stair hall, view northeast



153. Third floor, meeting room, view southeast



154. Third floor, meeting room, view northwest



155. Third floor, storage room, view east



156. Third floor, main stair hall, view south



157. Third floor, corridor, view east



158. Third floor, office, view southwest



159. Third floor, office, view southeast



160. Third floor, office, view northeast



161. Third floor, storage room, view northeast



162. Third floor, mechanical room, view northeast



163. Third floor, mechanical room, view west



164. Third floor, mechanical room, view east





165. Attic level, main stair, view south



166. Attic level, main stair, view west



167. Attic level, view southeast



168. Roof level, view south



169. Roof level, view east



170. Roof level, view south



171. Roof level, view northeast



172. Roof level, view northeast



173. Roof level, view northwest



174. Roof level, view southeast



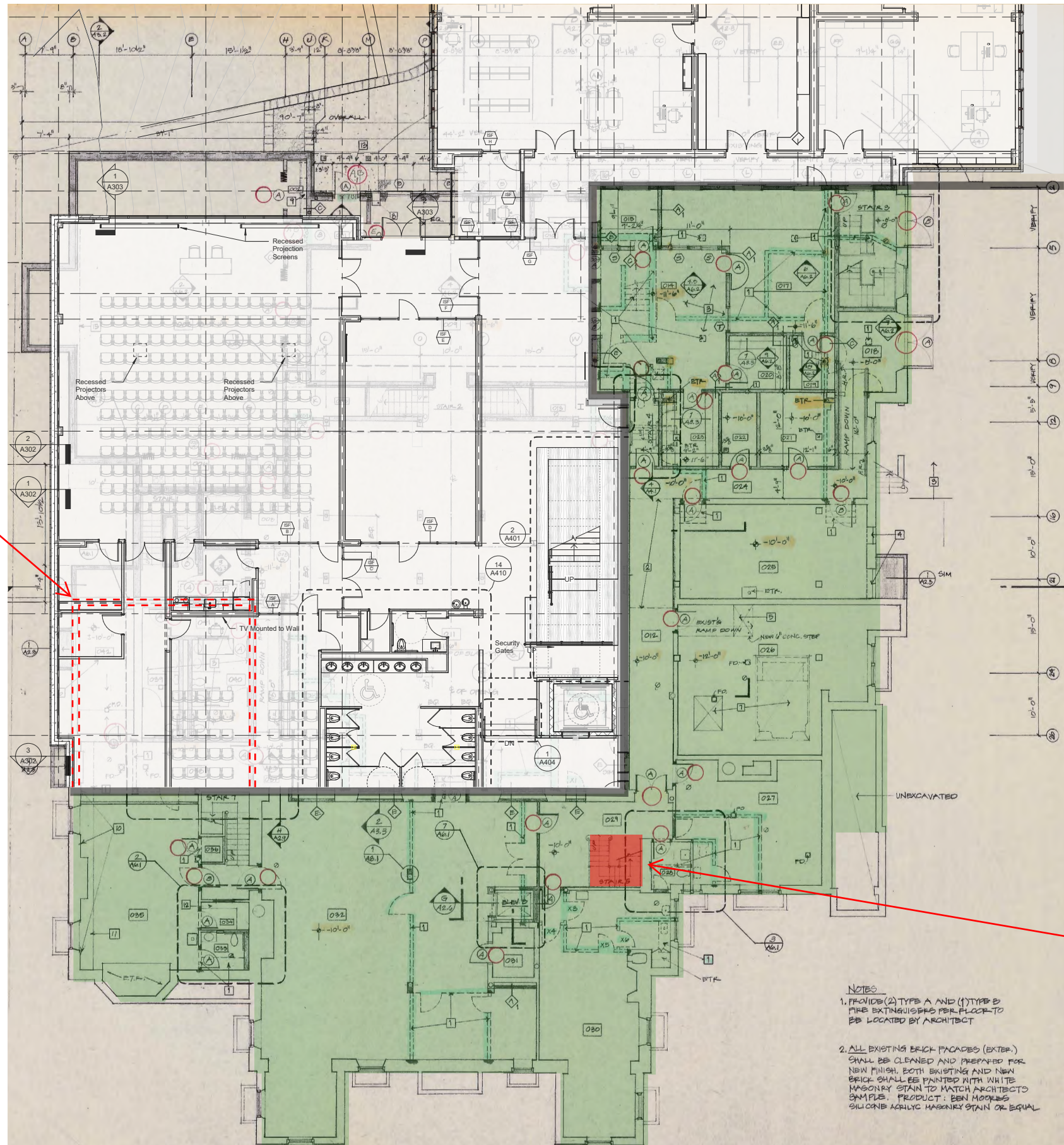
175. Roof level, view north



176. Roof level, view northeast

**Attachment B: Project Plans and Renderings**

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1927 Historic elements to remain

1927 Historic elements to be modified

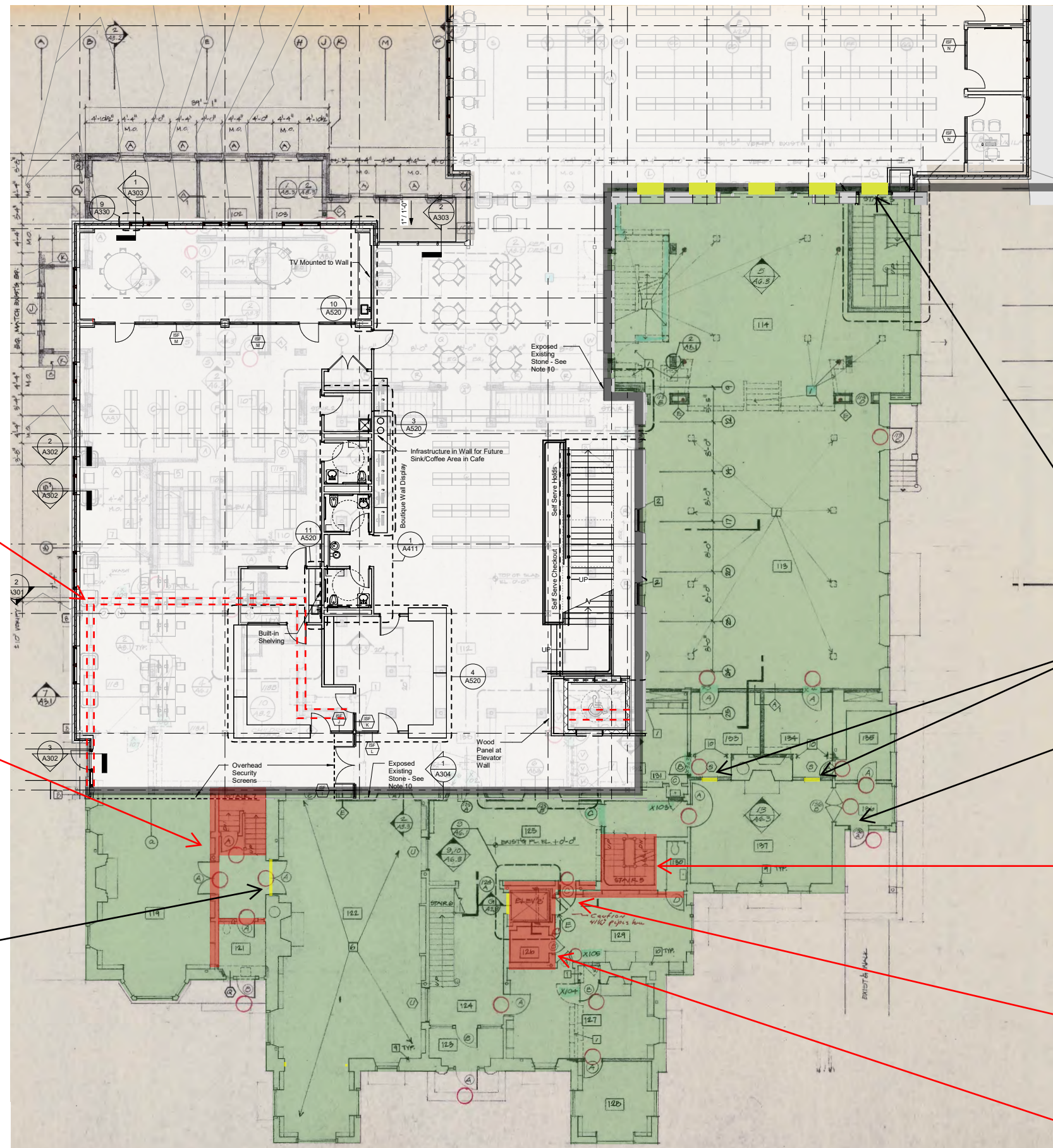
1927 Historic elements to be removed

This portion of the original building has been heavily modified in previous additions. Keeping these existing walls limits required program.

Existing stair does not meet code: the riser height exceeds 7", the guard height is more than 12" too low, a 4" sphere can pass through guard, and the handrail profile is non-compliant.

The existing stair is to be replaced by a new, code compliant stair.

NOTES  
 1. PROVIDE (2) TYPE A AND (1) TYPE B FIRE EXTINGUISHERS PER FLOOR TO BE LOCATED BY ARCHITECT  
 2. ALL EXISTING BRICK FACADES (EXTER.) SHALL BE CLEANED AND PREPARED FOR NEW FINISH. BOTH EXISTING AND NEW BRICK SHALL BE FINISHED WITH WHITE MASONRY STAIN TO MATCH ARCHITECT'S SAMPLE. PRODUCT: BEN MOORE'S SILICONE ACRYLIC MASONRY STAIN OR EQUAL



**1927 Historic elements to remain**

**1927 Historic elements to be modified**

**1927 Historic elements to be removed**

This portion of the original building has been heavily modified in previous additions. Keeping these existing walls both limits required program and reduces sight lines, increasing the chance of a safety problem in the Children's Area

Existing stair does not meet code: the riser height exceeds 7", the guard height is more than 12" too low, and the handrail profile is non-compliant.

The existing stair is to be replaced by a new, code compliant stair.

The existing stair also reduces sight lines, increases the chance of a safety problem in the Children's Area, and greatly reduces the book count.

Pin doors closed. Add tempered film if needed to glass. Door and frame to remain.

Cut sills down for access between existing building and addition, Typ of 5.

Cut sill down to create an opening for a door. Mullion pattern to match window, Typ of 2.

Current door to remain to provide an accessible staff entrance.

Existing stair does not meet code: the riser height exceeds 7", the guard height is more than 12" too low, a 4" sphere can pass through guard, and the handrail profile is non-compliant.

The existing stair is to be replaced by a new, code compliant stair.

Preserving these doors and millwork will greatly sacrifice functionality in this staff area.

Vault door to be saved and relocated.

1927 Historic elements to remain

1927 Historic elements to be modified

1927 Historic elements to be removed

This portion of the original building has been heavily modified in previous additions. Keeping these existing walls limits required program and reduces sight lines, increasing the chance of a safety problem in the stack area

Cut sill down and widen window opening for access between the existing building and the addition.

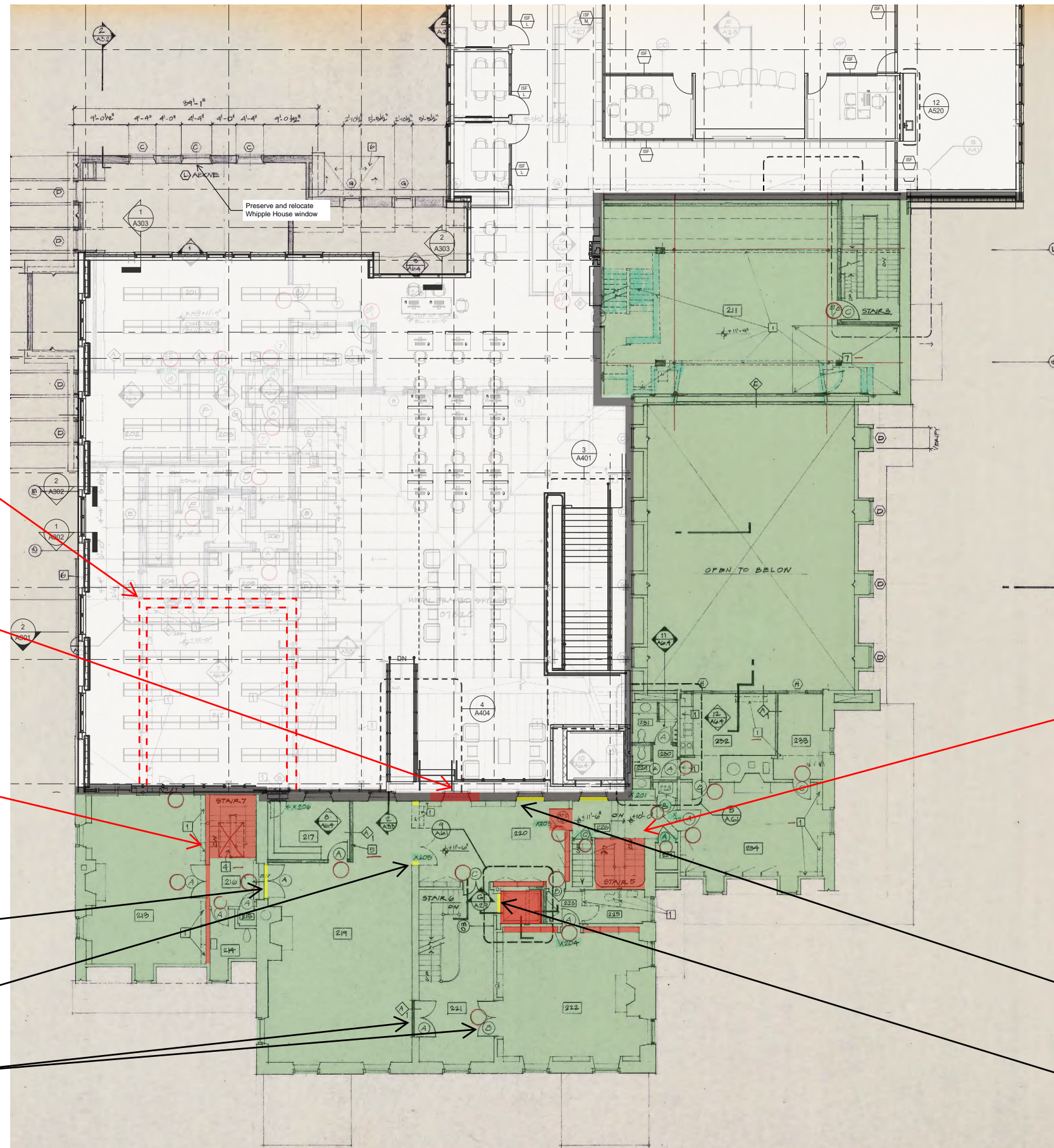
Existing stair does not meet code: the riser height exceeds 7", the guard height is more than 12" too low, and the handrail profile is non-compliant.

The existing stair is to be replaced by a new, code compliant stair.

Pin doors closed. Door and frame to remain. Add wall partition for acoustic isolation behind door.

Keep opening and carefully insert wall partition for an office.

Pin doors closed. Door and frame to remain.



Existing stair does not meet code: the riser height exceeds 7", the guard height is more than 12" too low, a 4" sphere can pass through guard, and the handrail profile is non-compliant.

The existing stair is to be replaced by a new, code compliant stair.

Existing windows to remain. Infill window opening with rated partition from stair side, typ of 2.

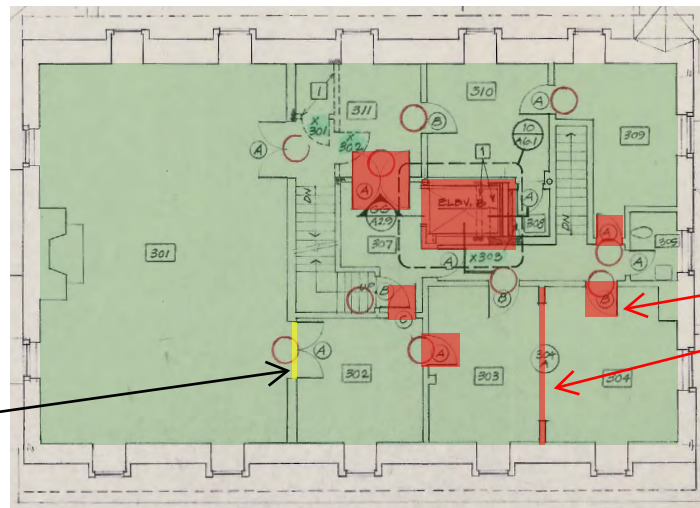
Elevator door trim to remain. Door becomes a framed opening.

1927 Historic elements to remain

1927 Historic elements to be modified

1927 Historic elements to be removed

Pin doors closed. Door and frame to remain.



Preserving the existing wall and doors does not allow sufficient space for the required program, Typ.



PROJECT TEAM:

OWNER:  
**Jones Library**

Structural Engineer:  
**RSE Associates, Inc.**  
63 Pleasant Street, Suite 200  
Watertown, MA 02472  
(617) 926-9300  
www.rseassociates.com

MEP/PE Engineer:  
**BLW Engineers, Inc.**  
311 Great Road  
Littleton, MA 01460  
(978) 486-4301  
www.blwengineers.com

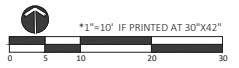
Landscape Architect/Civil Engineer:  
**Berkshire Design Group**  
4 Allen Place  
Northampton, MA 01060  
(413) 582-7000  
www.berkshiredesign.com

Interior Design:  
**Stefura Associates, Inc.**  
77 N. Washington Street  
Boston, MA 02114  
(617) 723-5164  
www.stefura.com

KEY PLAN:

NORTH

SEAL:



PROJECT INFORMATION:

**Jones Library**

43 Amity Street  
Amherst, MA 01002

PROJECT #:

PROJECT ISSUE DATE:

PROJECT STATUS:

SHEET NAME:

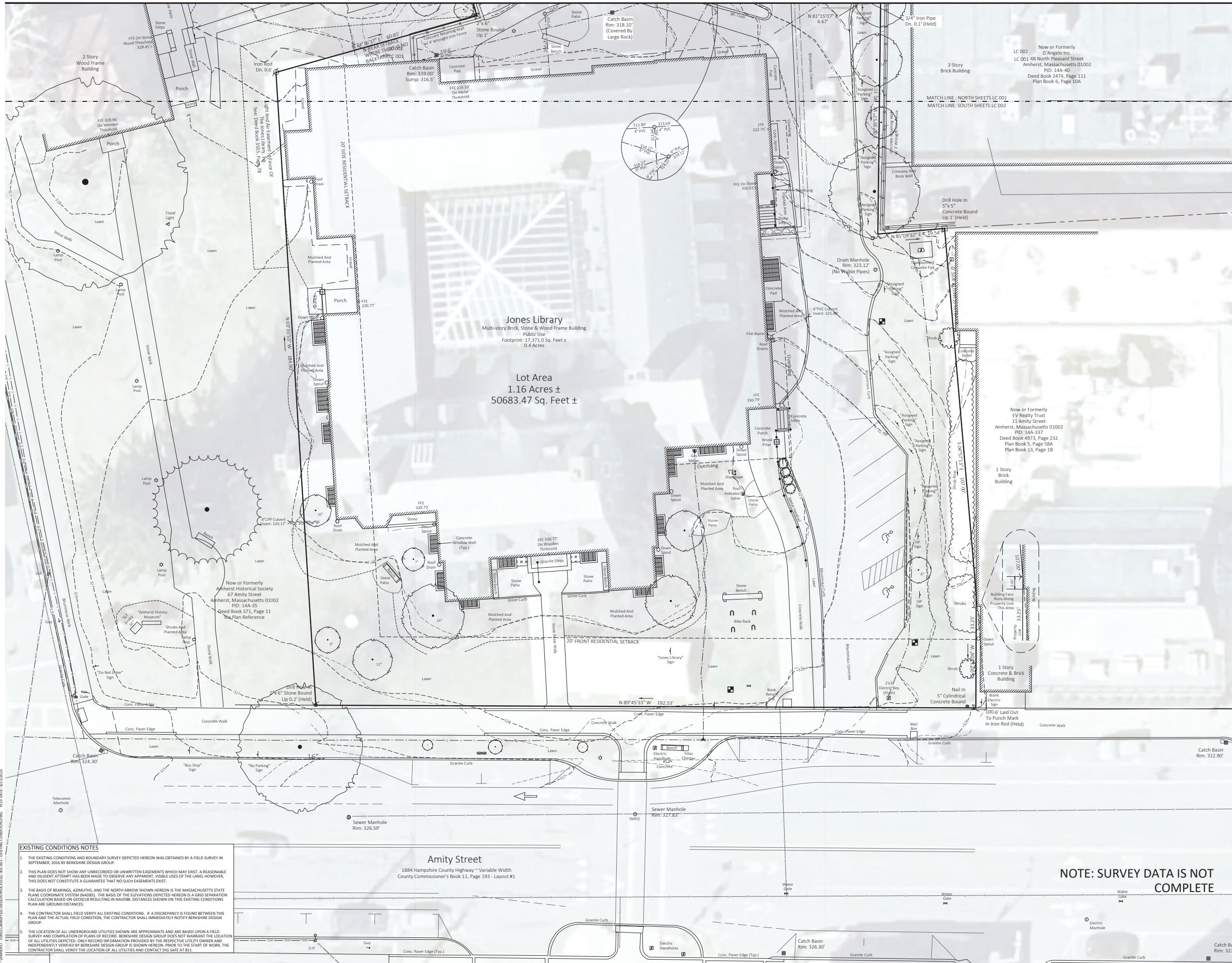
**EXISTING CONDITIONS PLAN - SOUTH**

DRAWING HISTORY:

NO.	DATE	DESCRIPTION
1	1/24/2023	DRAFT DD PLANS
2	2/3/2023	50% DD PLANS
3	3/24/2023	75% DD PLANS
4	4/7/2023	95% DD PLANS
5	4/21/2023	100% DD PLANS

SHEET #:

**LC-001**



1. AMHERST - JONES LIBRARY DESIGN PROCESS (LC-001) - EXISTING CONDITIONS PLAN - SOUTH DATE: 4/21/2023

PROJECT TEAM

OWNER:  
Jones Library

Structural Engineer  
RSE Associates, Inc.  
63 Pleasant Street, Suite 200  
Watstown, MA 02472  
(617) 926-9300  
www.rseassociates.com  
MEP/PE Engineer  
BLW Engineers, Inc.  
311 Great Road  
Littleton, MA 01460  
(978) 486-4301  
www.blwengineers.com  
Landscape Architect/Civil Engineer  
Berkshire Design Group  
4 Allen Place  
Northampton, MA 01060  
(413) 582-7000  
www.berkshiredesign.com  
Interior Design  
Stefura Associates, Inc.  
77 N. Washington Street  
Boston, MA 02114  
(617) 723-5164  
www.stefura.com

EXISTING CONDITIONS NOTES

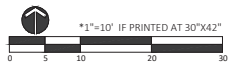
1. THE EXISTING CONDITIONS AND BOUNDARY SURVEY DEPICTED HEREON WAS OBTAINED BY A FIELD SURVEY IN SEPTEMBER, 2016 BY BERKSHIRE DESIGN GROUP.
2. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT, VISIBLE USES OF THE LAND; HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
3. THE BASIS OF BEARINGS, AZIMUTHS, AND THE NORTH ARROW SHOWN HEREON IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83). THE BASIS OF THE ELEVATIONS DEPICTED HEREON IS A GRID SEPARATION CALCULATION BASED ON GEODIS RESULTS IN NAVD83. DISTANCES SHOWN ON THIS EXISTING CONDITIONS PLAN ARE GROUND DISTANCES.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. IF A DISCREPANCY IS FOUND BETWEEN THIS PLAN AND THE ACTUAL FIELD CONDITION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY BERKSHIRE DESIGN GROUP.
5. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED UPON A FIELD SURVEY AND COMPILED FROM RECORDS. BERKSHIRE DESIGN GROUP DOES NOT WARRANT THE LOCATION OF ALL UTILITIES DEPICTED. ONLY RECORD INFORMATION PROVIDED BY THE RESPECTIVE UTILITY OWNER AND INDEPENDENTLY VERIFIED BY BERKSHIRE DESIGN GROUP IS SHOWN HEREON. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND CONTACT DIS SAFE AT 811.



KEY PLAN

NORTH

SEAL:



PROJECT INFORMATION

Jones Library

43 Amity Street  
Amherst, MA 01002

PROJECT #:

PROJECT ISSUE DATE:

PROJECT STATUS:

SHEET NAME:

EXISTING CONDITIONS PLAN -  
NORTH

DRAWING HISTORY:

NO.	DATE	DESCRIPTION
1	1/24/2023	DRAFT DD PLANS
2	2/3/2023	50% DD PLANS
3	3/24/2023	75% DD PLANS
4	4/7/2023	95% DD PLANS
5	4/21/2023	100% DD PLANS

SHEET #:

LC-002



Existing Exterior Elevation - South



1993 Addition

Jones Library  
43 Amity Street  
Amherst, MA 01002

Finegold Alexander Architects Inc  
04/28/23

Drawing:

111

Synthetic Slate Roof to Match Existing Coursing at all Existing Roofs, Typ.

Shiplap Siding, Typ.

Copper Chimney Cap And Flashing Beneath Existing Cast Stone Cap, Typ.

Preserve All Elements of Existing Entrance

Preserve All Existing Quoining and Trim, Typ.

Clean All Existing Stone Walls and Repoint As Needed, Typ.

Sloped TPO Roof

Copper Gutters And Downspouts To Match Existing, Typ.


All Existing Window Sashes To Be Replaced And Match Existing Wood Species, Profile, And Finish, Typ.

Copper Snow Gaards To Match Existing, Typ.





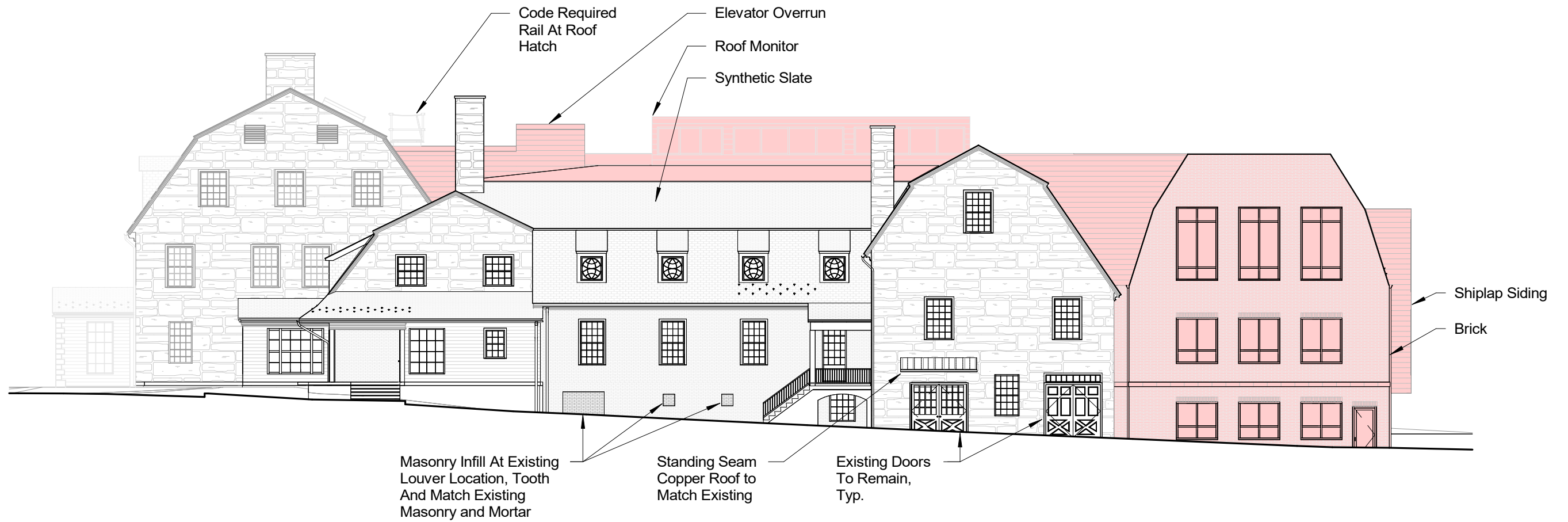
Existing Exterior Elevation - East

 1993 Addition

Jones Library  
43 Amity Street  
Amherst, MA 01002

Finegold Alexander Architects Inc  
04/28/23

Drawing:  
**113**





Existing Exterior Elevation - North

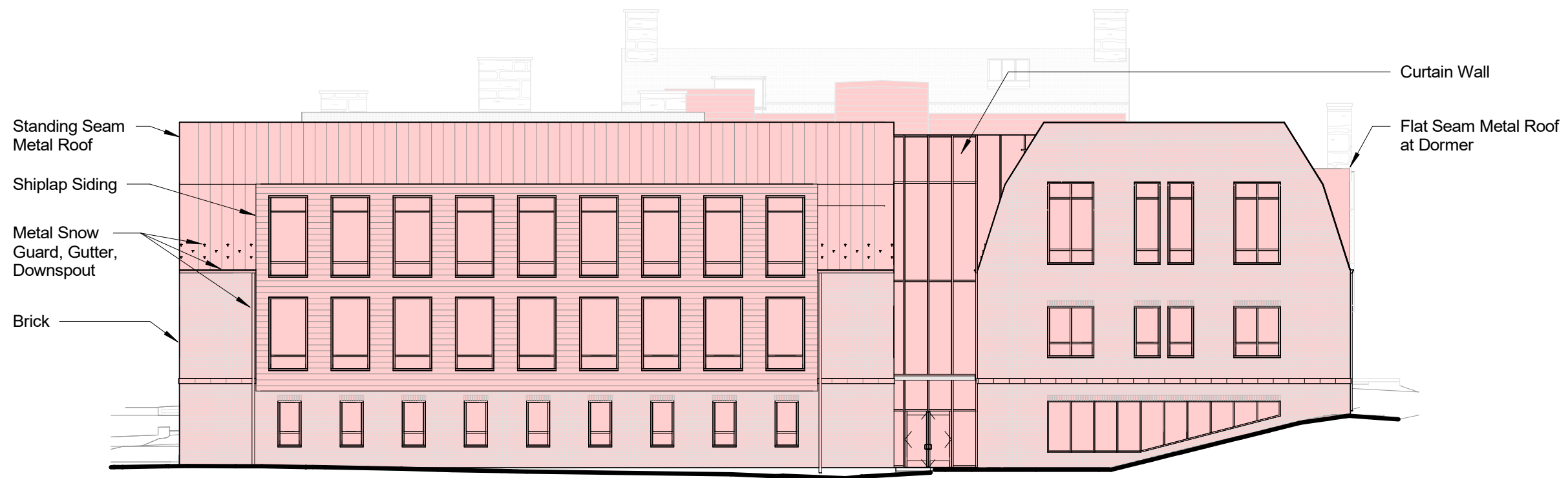


1993 Addition

Jones Library  
43 Amity Street  
Amherst, MA 01002

Finegold Alexander Architects Inc  
04/28/23

Drawing:  
**115**



Proposed Exterior Elevation - North

Proposed Addition

Jones Library  
 43 Amity Street  
 Amherst, MA 01002


Finegold Alexander Architects Inc  
 04/28/23

Drawing:  
 116





Existing Exterior Elevation - West

 1993 Addition

Jones Library  
43 Amity Street  
Amherst, MA 01002

Finegold Alexander Architects Inc  
04/28/23

Drawing:  
**117**

Standing Seam Metal Roof

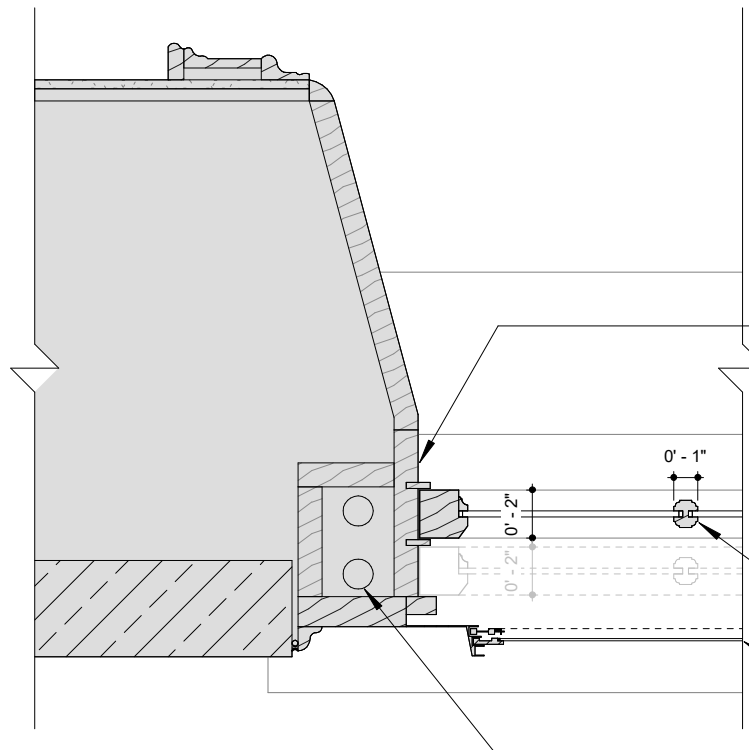
Curtain Wall

Shiplap Siding

Brick

Shiplap Siding





All Dimensions Shall Be Verified In Field And All New Construction Shall Match Existing Wood Species, Profile, And Finish

Carefully Remove Existing Jamb To Access Sash Pocket, Replace Any Damaged Jamb To Match Existing Species, Profile, And Finish

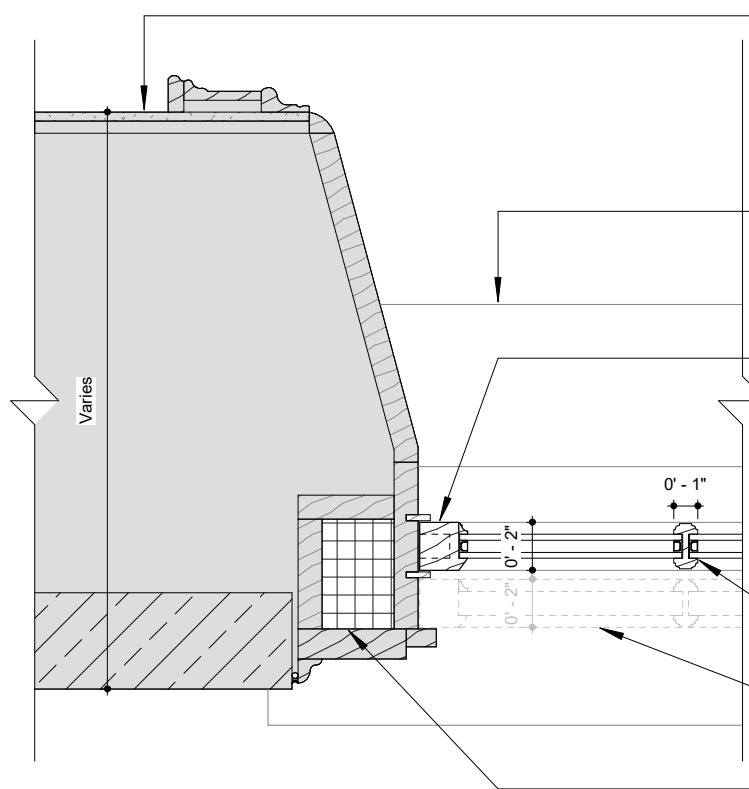
True Divided Lite

Remove Existing Storm Windows

Remove Existing Sash Weights

### Existing Window Jamb

1 1/2" = 1'-0"



Existing Lathe And Plaster Wall Finish And Interior Trim To Remain

Existing Window Stool Below

Replacement Wood Sash With Hidden Balance To Match Existing Species, Profile And Finish

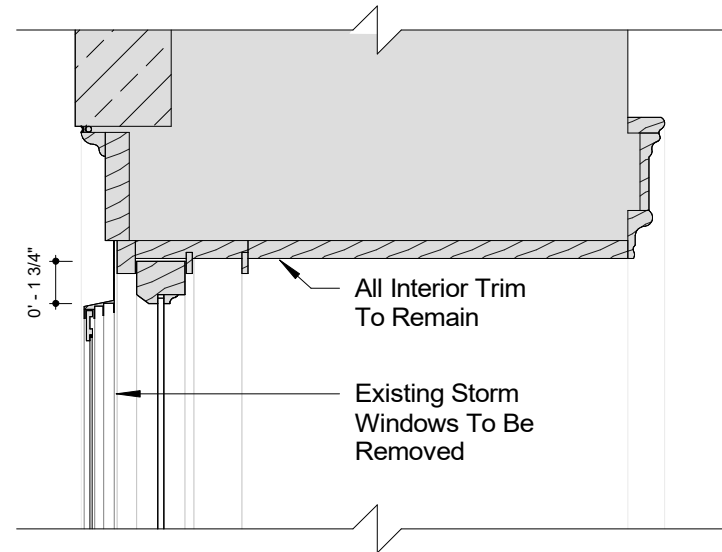
True Divided Lite

Upper Sash Shown Dashed

Fill Sash Pocket With Non-expanding Insulation

### Proposed Window Jamb

1 1/2" = 1'-0"

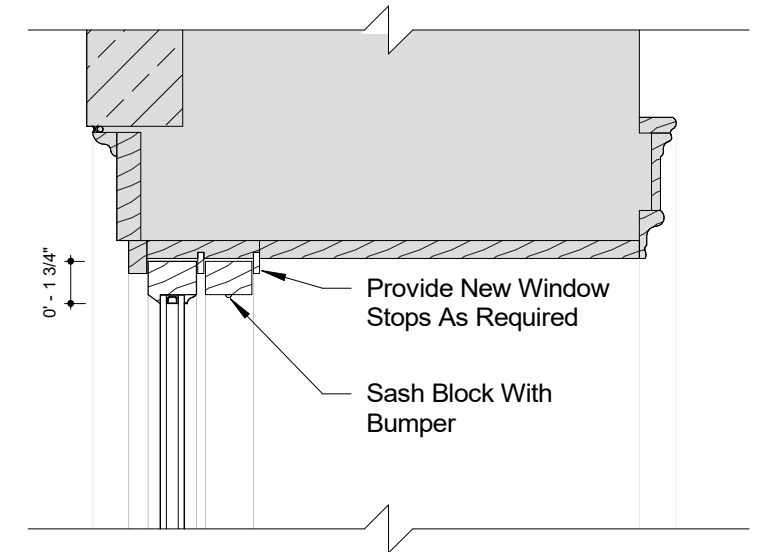


All Interior Trim To Remain

Existing Storm Windows To Be Removed

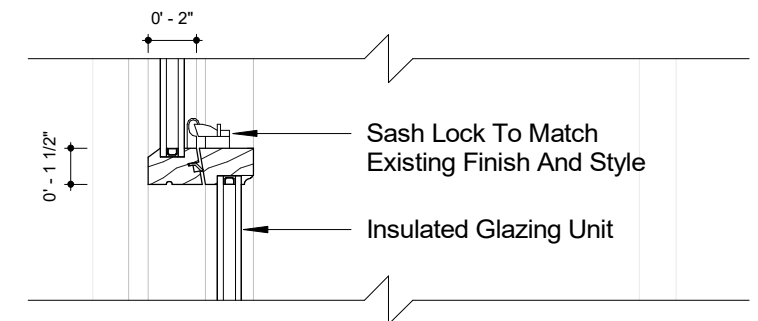
### Existing Window Section

1 1/2" = 1'-0"



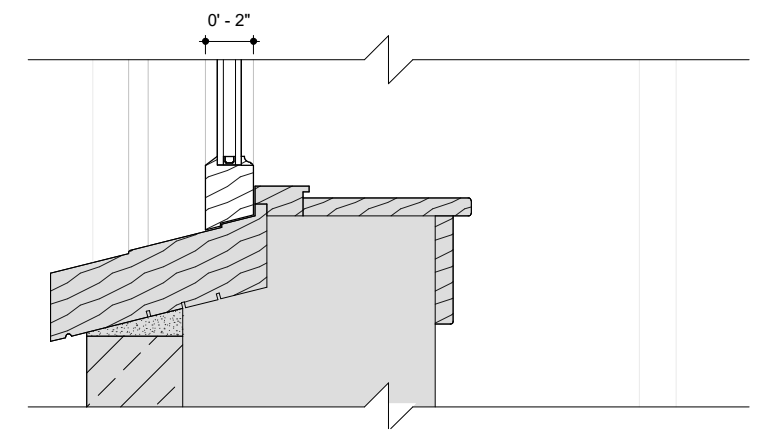
Provide New Window Stops As Required

Sash Block With Bumper



Sash Lock To Match Existing Finish And Style

Insulated Glazing Unit

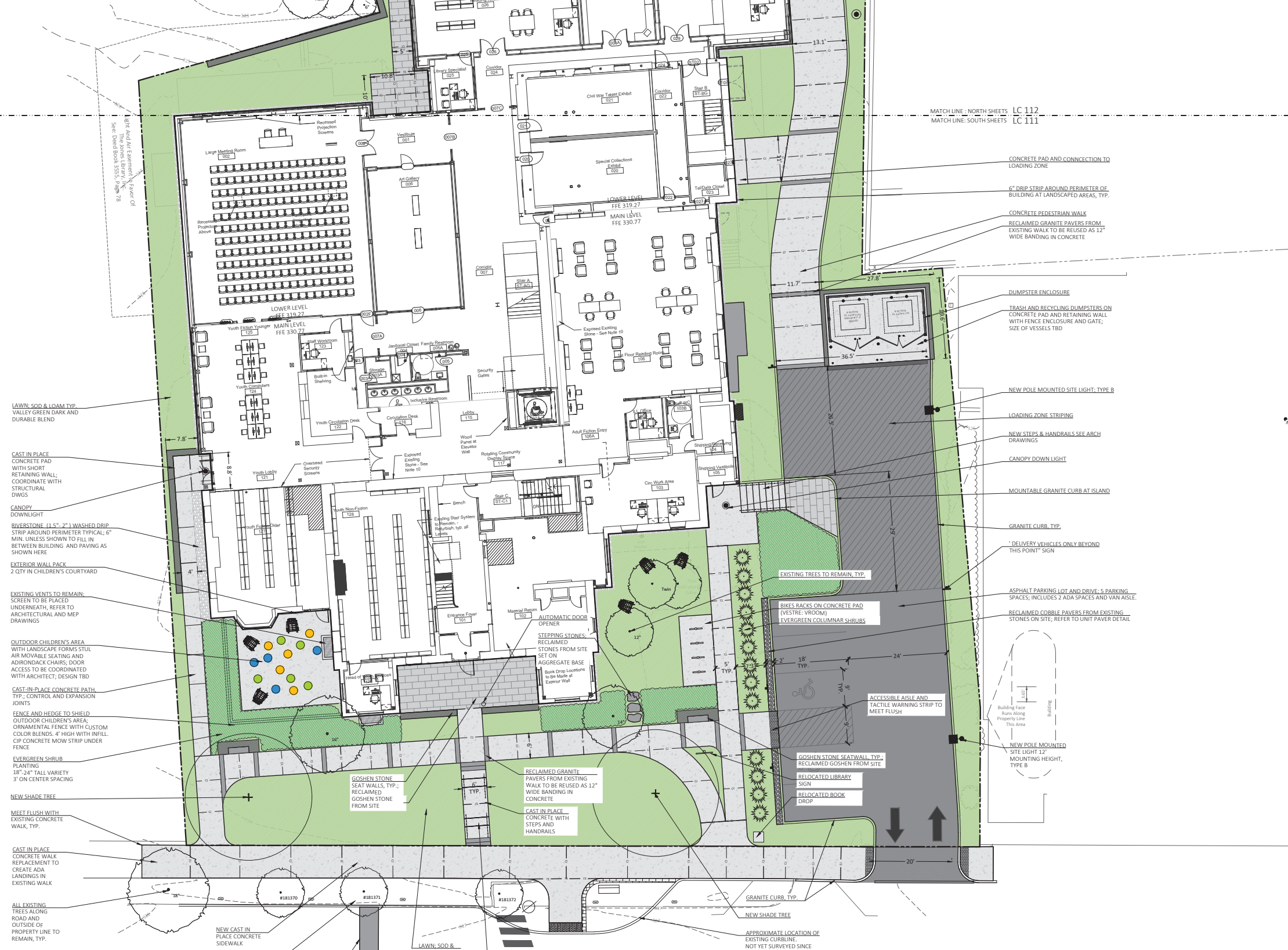


### Proposed Window Section

1 1/2" = 1'-0"

**SEEDING NOTES**

1. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE LOADED AND SEEDED UNLESS NOTED OTHERWISE.
2. SUFFICIENT LOAM SHALL BE USED SO THAT A MINIMUM 6" DEPTH OF LOAM IS ACHIEVED WITH LIGHT ROLLING IN NATURAL TUBE AREAS. LOAM SHALL BE SCREENED AND SHALL BE FREE OF CLAY, STICKS, ROOTS, STONES GREATER THAN 1/2" DIAMETER, OR OTHER OBJECTIONABLE MATERIAL.
3. LOAM SHALL HAVE A 3%-7% ORGANIC CONTENT BY VOLUME. THE CONTRACTOR SHALL AMEND THE LOAM WITH COMPOST OR OTHER APPROVED MATERIAL IF IT DOES NOT MEET THE REQUIRED ORGANIC CONTENT, AND SHALL HAVE THE AMENDED LOAM TESTED FOR ORGANIC CONTENT AT A LOCAL SOIL TESTING AGENCY.
4. ON-SITE TOPSOIL OR IMPORTED LOAM SHALL MEET THE REQUIRED ORGANIC CONTENT AND SHALL BE AMENDED AS DESCRIBED ABOVE.
5. PRIOR TO SPREADING LOAM, THE SUBBASE SURFACE SHALL BE SCARIFIED TO A DEPTH OF 2". REMOVE STONES GREATER THAN 1/2" OR OTHER OBJECTIONABLE MATTER FROM THE SURFACE.
6. SPREAD TOPSOIL/LOAM OVER AREA AND RAKE AND ROLL TO PROPER DEPTH TO MAINTAIN LINES, GRADES AND ELEVATIONS. ANY DEPRESSIONS OR SETTLEMENT SHALL BE FILLED AND ROLLED WITH ADDITIONAL TOPSOIL TO THE REQUIRED GRADE.
7. PRIOR TO APPLYING SEED, INCORPORATE LIMESTONE AT A RATE OF 200 POUNDS PER 1000 SQUARE FEET. APPLY FERTILIZER AND INCORPORATE LIMESTONE AND FERTILIZER EVENLY THROUGH THE TOPSOIL.
8. FOR GENERAL LAWN AREAS: SEED AREA EVENLY WITH SPECIFIED SEED MIX USING MECHANICAL SEEDER. SOW AT A RATE OF 8 POUNDS PER 1000 SQUARE FEET, 3 POUNDS IN ONE DIRECTION AND 3 POUNDS AT A RIGHT ANGLE DIRECTION TO FIRST SEEDING.
9. FOR ATHLETIC FIELD AREAS: SEED AREA EVENLY WITH SPECIFIED SEED MIX USING MECHANICAL SEEDER. SOW AT A RATE OF 4 POUNDS PER 1000 SQUARE FEET, 2 POUNDS IN ONE DIRECTION AND 2 POUNDS AT A RIGHT ANGLE DIRECTION TO FIRST SEEDING.
10. FOR CONSERVATION MIX AREAS: SEED ALL AREAS WITH SPECIFIED SEED MIX, SOWING EVENLY WITH MECHANICAL SEEDER AT A RATE OF 25 POUNDS PER ACRE.
11. HYDRO-SEEDING IS ACCEPTABLE METHOD OF SEEDING, PROVIDED THE HYDRO-SEED AND FERTILIZER MIX IS AS SPECIFIED AND APPLIED AT THE EQUIVALENT RATE SPECIFIED ABOVE.
12. WET THE SOIL BED PROMPTLY AFTER SEEDING. KEEP ALL SEEDING AREAS MOST THROUGHOUT THE GERMINATION PERIOD. MULCH UNIFORMITY WITH STRAW IMMEDIATELY AFTER SEEDING. MULCH MAY BE OMITTED FROM HYDRO-SEED AREAS PROVIDED THE SEEDING AREA IS KEPT MOIST AND THE HYDRO-SEED IS NOT ALLOWED TO DRY OUT DURING THE GERMINATION PERIOD. CONTRACTOR IS RESPONSIBLE FOR WATERING SEEDING AREAS AND SETTING UP A TEMPORARY WATERING SYSTEM.
13. PROTECT SEEDING AREAS WITH TEMPORARY BARRIERS CONSISTING OF FENCING, SNOW FENCE, SIGNS OR OTHER APPROVED MEASURES.
14. WALKWAYS, DRIVES, BUILDING ENTRANCES SHALL BE KEPT CLEAR AND CLEAN OF SOIL AND SEEDING DEBRIS. SWEEP AND DISPOSE OF ALL DIRT AND DEBRIS ON SUCH SURFACES UPON COMPLETION OF SEEDING OPERATIONS.
15. MAINTENANCE OF SEEDING AREAS SHALL CONTINUE UNTIL ACCEPTANCE BY BERSHIRE DESIGN GROUP. MAINTENANCE SHALL CONSIST OF WATERING, WEEDING, CLIPPING, RE-SEEDING, MOWING, AND REPAIR OF EROSION AS NECESSARY TO ESTABLISH A UNIFORM STAND OF GRASS. ANY AREA THAT FAILS TO SHOW A UNIFORM STAND OF GRASS SHALL BE RE-SEED AND/OR REPAIRED UNTIL A UNIFORM STAND IS ACHIEVED.
16. BERSHIRE DESIGN GROUP SHALL INSPECT SEEDING AREAS FOR ACCEPTANCE UPON NOTIFICATION FROM THE CONTRACTOR THAT AREAS ARE READY FOR REVIEW. THE WORK MAY BE ACCEPTED IN PARTS WHEN IT IS DEEMED IN THE BEST INTEREST OF THE OWNER.



**LAYOUT NOTES**

1. ALL LINES OR POINTS ARE PERPENDICULAR OR PARALLEL TO LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE NOTED; WRITTEN DIMENSIONS SHALL PREVAIL.
2. THE CONTRACTOR SHALL VERIFY ALL LAYOUT, DIMENSIONS, GRADES, AND INVERTS PRIOR TO CONSTRUCTION; REPORT ANY DISCREPANCIES TO BERSHIRE DESIGN GROUP. ALL DISCREPANCIES SHALL BE RESOLVED IN WRITING PRIOR TO BEGINNING WORK.
3. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE TOWN OF BERSHIRE AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.
4. ALL AREAS DISTURBED FROM CONSTRUCTION ACTIVITY TO RECEIVE 6" (MIN.) TOPSOIL AND TO BE RAKED, SMOOTHED, FERTILIZED AND SEEDED WITH PERENNIAL TURFGRASSES UNLESS OTHERWISE NOTED.
5. ALL NEW WALKS AND SURFACES TO MEET EXISTING WALKS AND SURFACES WITH SMOOTH, CONTINUOUS LINE AND GRADE.
6. THE CONTRACTOR SHALL NOT INSTALL CONCRETE, ASPHALT, RUBBER, AND OTHER HARDCAPE SURFACING DURING ADVERSE WEATHER CONDITIONS (RAIN, SLEET, ETC.).
7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXCESS OR SPILLED CONCRETE, ASPHALT, AGGREGATE AND OTHER MATERIALS FROM THE SITE.

**PLANTING NOTES**

1. ALL NURSERY STOCK SHALL MEET THE MOST RECENT HORTICULTURAL STANDARDS OF THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA) AS TO GRADING AND QUALITY.
2. ALL PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES AND SHALL BE GROWN FOR AT LEAST TWO YEARS UNDER CLIMATIC CONDITIONS SIMILARY TO THOSE AT THE PROJECT SITE.
3. ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED, EXCEPT THAT PLANTS LARGER THAN THOSE SPECIFIED MAY BE USED IF APPROVED BY BERSHIRE DESIGN GROUP.
4. PRIOR TO THE TIME OF INSTALLATION, BALLED AND BURLAPPED PLANTS SHALL BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS; ROOT BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP. CONTAINER GROWN PLANTS SHALL NOT BE REMOVED FROM CONTAINER UNTIL TIME OF PLANTING; ROOT SYSTEM SHALL BE FIRMLY SET IN CONTAINER BUT NOT ROOT BOUNDER.
5. TREES AND SHRUBS SHALL BE PLANTED IN HOLES WITH DIAMETER TWICE THE DIAMETER OF THE ROOT BALL, OR AS DIRECTED BY BERSHIRE DESIGN GROUP.
6. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING TREE PLANTING PROCEDURE:
  - 6.1. LOCATE THE ROOT FLARE FOR EACH TREE PRIOR TO REMOVING CONTAINER/BURLAP MESH.
  - 6.2. REMOVE ANY DIRT/MULCH ABOVE FLARE AND SET TREE IN THE HOLE SO THAT THE ROOT FLARE MATCHES THE SURFACE ELEVATION ADJACENT TO THE HOLE.
  - 6.3. FOR TREES PLANTED ON A SLOPE, THE ROOT FLARE SHALL BE SET ALONG THE CONTOUR LINE OF THE SLOPE.
  - 6.4. ONCE THE TREE IS IN THE HOLE, THE CONTRACTOR SHALL LOOSEN ROOTS AT THE PERIMETER OF ROOT BALL, REDIRECT ANY CIRCLING ROOTS, AND CUT ANY CROSSING ROOTS OR ROOTS WHICH MAY STRANGLE THE ROOT BALL/TRUNK IN THE FUTURE.
  - 6.5. REMOVE BASKETS AND BURLAP AS DESCRIBED IN NOTE 7 BELOW.
  - 6.6. INSTALL TREE STABILIZATION AS SHOWN IN THE PLANS OR AS REQUIRED BY THE TECHNICAL SPECIFICATIONS.
7. AFTER ONE CALENDAR YEAR, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ABOVE GROUND TREE STABILIZATION MATERIALS.
8. ALL BALLED AND BURLAPPED PLANTS SHALL HAVE ANY METAL BASKET ENTIRELY REMOVED. BURLAP SHALL BE CUT AND PULLED OUT OF THE HOLE PRIOR TO BACKFILLING.
9. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PLANT TAGS PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK.
10. ON-SITE SOILS PROPOSED TO BE RE-USED SHALL BE SIFTED TO REMOVE ALL THINGS, STICKS, AND STONES, AND STOCKPOLED ON-SITE. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXCESS SOILS THAT WILL NOT BE INCORPORATED INTO THE PROJECT.
11. THE CONTRACTOR SHALL INCORPORATE SEASONED COMPOST, MYCORRHIZA, AND SEASONED BIOCHAR INTO PLANTING SOIL OF ALL NEW PLANTING AREAS.
12. THE CONTRACTOR SHALL FURNISH AND INSTALL 3" DEPTH (MINIMUM) OF SHREDDED CEDAR MULCH, UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL PROVIDE A WARRANTY FOR ALL PLANT MATERIAL FOR 12 MONTHS AFTER SUBSTANTIAL COMPLETION OF THE WORK. ANY PLANT MATERIAL WHICH DIES, BROWNS, DEFLORATES OR FAILS TO FLOURISH PRIOR TO ACCEPTANCE OF WORK OR WITHIN ONE YEAR AFTER INSTALLATION SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUALITY, SIZE AND MEETING ALL PLANTING SPECIFICATIONS, AT NO COST TO THE OWNER.
14. PRIOR TO INSTALLATION, THE PLANTING LAYOUT SHALL BE REVIEWED IN THE FIELD AND APPROVED BY BERSHIRE DESIGN GROUP.
15. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATERING AS NECESSARY TO FULLY ESTABLISH PLANTINGS. WATERING SHALL CONTINUE FROM INSTALLATION UNTIL PLANTINGS ARE FULLY ESTABLISHED AT NO ADDITIONAL COST TO THE OWNER.

**Finegold Alexander Architects**

PROJECT TEAM

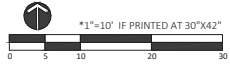
OWNER:  
**Jones Library**

Structural Engineer  
**RSE Associates, Inc.**  
63 Pleasant Street, Suite 200  
Watertown, MA 02472  
(617) 926-9300  
www.rseassociates.com  
MEP PE Engineer  
**BLW Engineers, Inc.**  
311 Great Road  
Littleton, MA 01460  
(978) 486-4301  
www.blwengineers.com  
Landscape Architect/Civil Engineer  
**Berkshire Design Group**  
4 Allen Place  
Northampton, MA 01060  
(413) 582-7000  
www.berkshiredesign.com  
Interior Design  
**Stefura Associates, Inc.**  
77 N. Washington Street  
Boston, MA 02114  
(617) 723-5164  
www.stefura.com

**KEY PLAN**

SEAL:

NORTH



**PROJECT INFORMATION**

**Jones Library**

43 Amity Street  
Amherst, MA 01002

PROJECT #:

PROJECT ISSUE DATE:

PROJECT STATUS:

SHEET NAME:

**LAYOUT, MATERIALS, AND PLANTING PLAN - SOUTH**

**DRAWING HISTORY:**

NO.

DATE

DESCRIPTION

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2/3/2023 50% DD PLANS

3/24/2023 75% DD PLANS

4/7/2023 95% DD PLANS

4/21/2023 100% DD PLANS

SHEET #:

**LC-111**

PROJECT TEAM:

OWNER:  
Jones Library

Structural Engineer  
RSE Associates, Inc.  
63 Pleasant Street, Suite 200  
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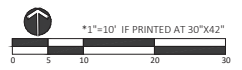
Interior Design  
Stefura Associates, Inc.  
77 N. Washington Street  
Boston, MA 02114  
(617) 723-5164  
www.stefura.com



KEY PLAN:

NORTH

SEAL:



PROJECT INFORMATION:

Jones Library

43 Amity Street  
Amherst, MA 01002

PROJECT #:

PROJECT ISSUE DATE:

PROJECT STATUS:

SHEET NAME:

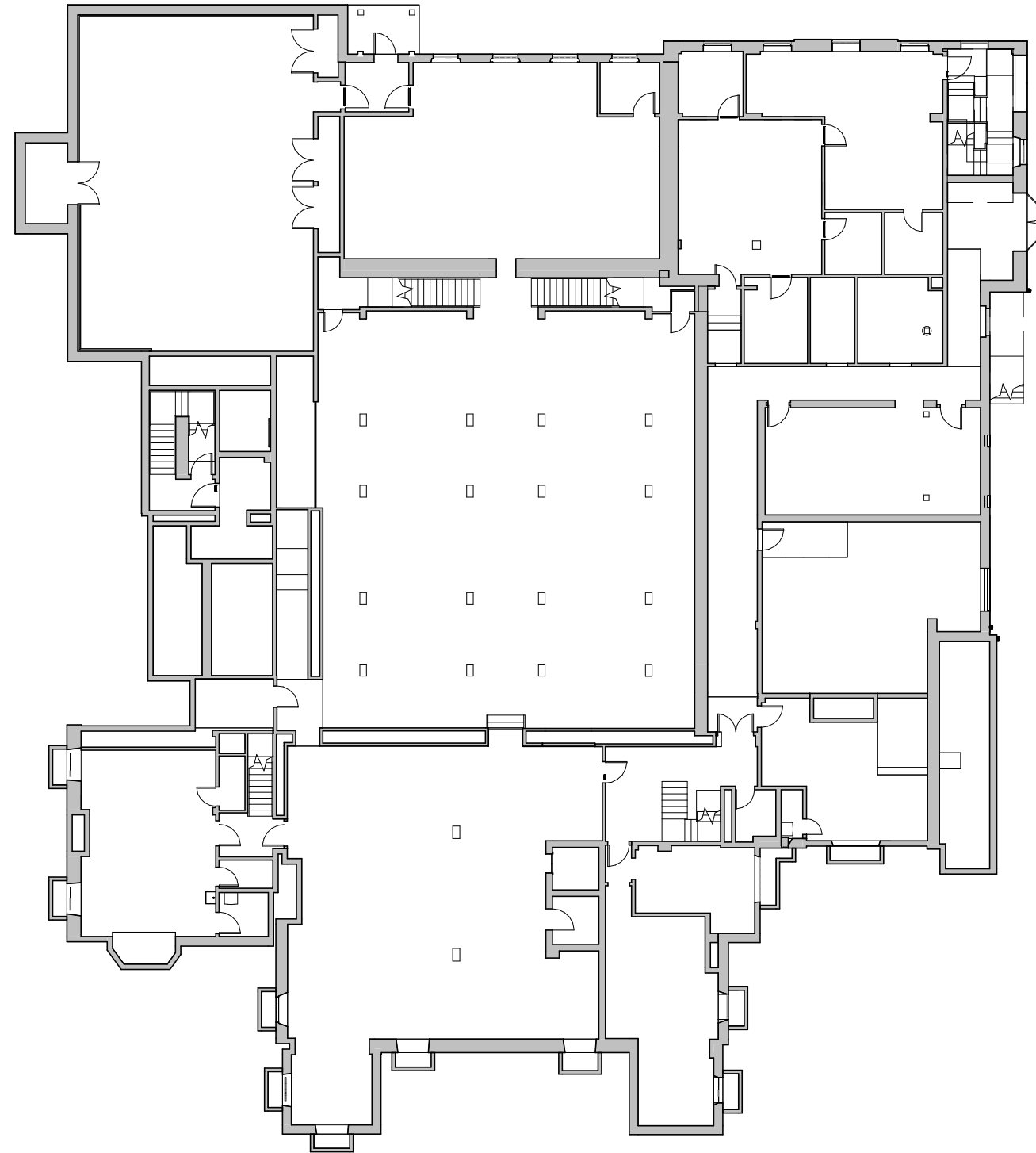
LAYOUT, MATERIALS, AND  
PLANTING PLAN - NORTH

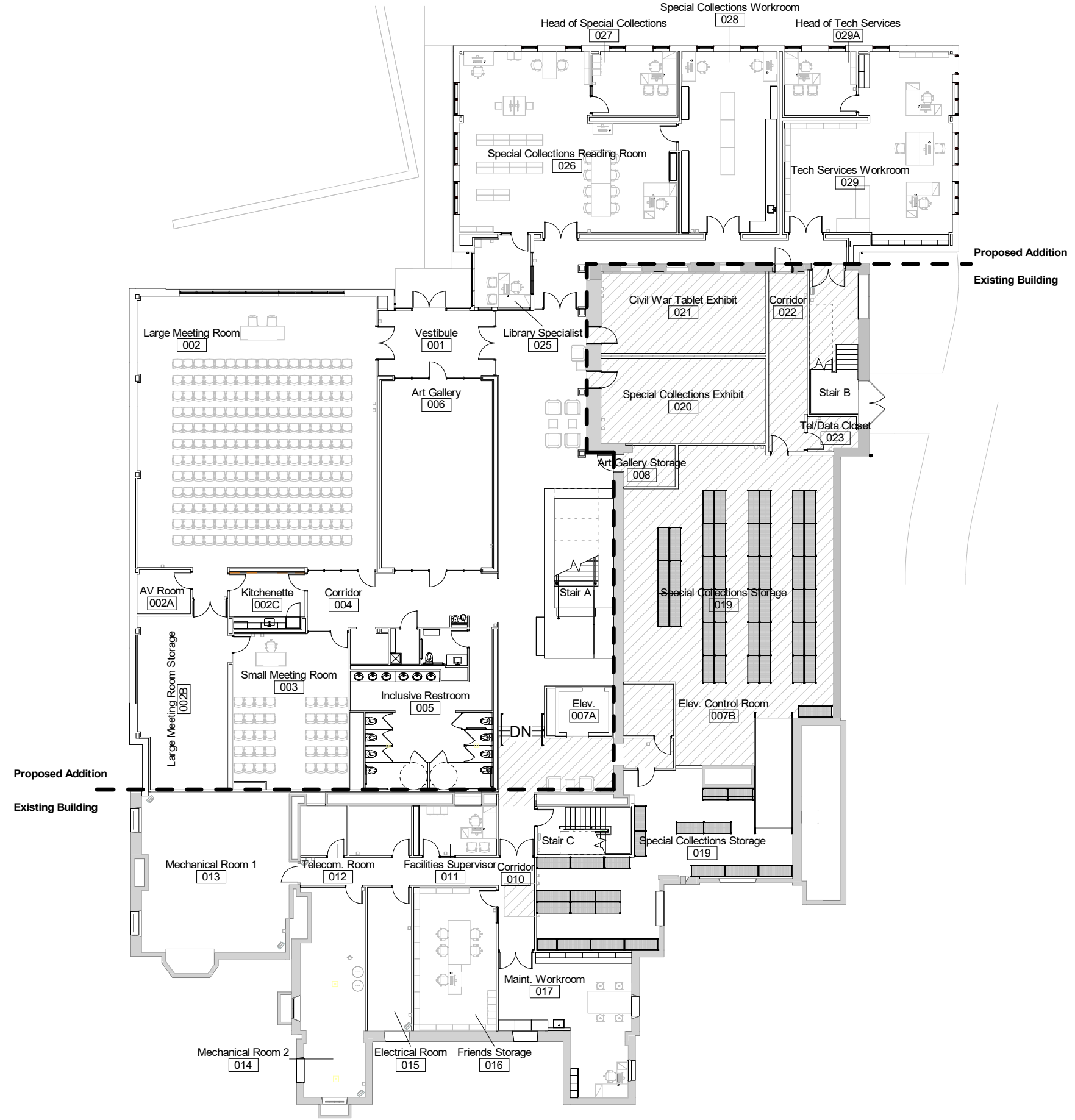
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

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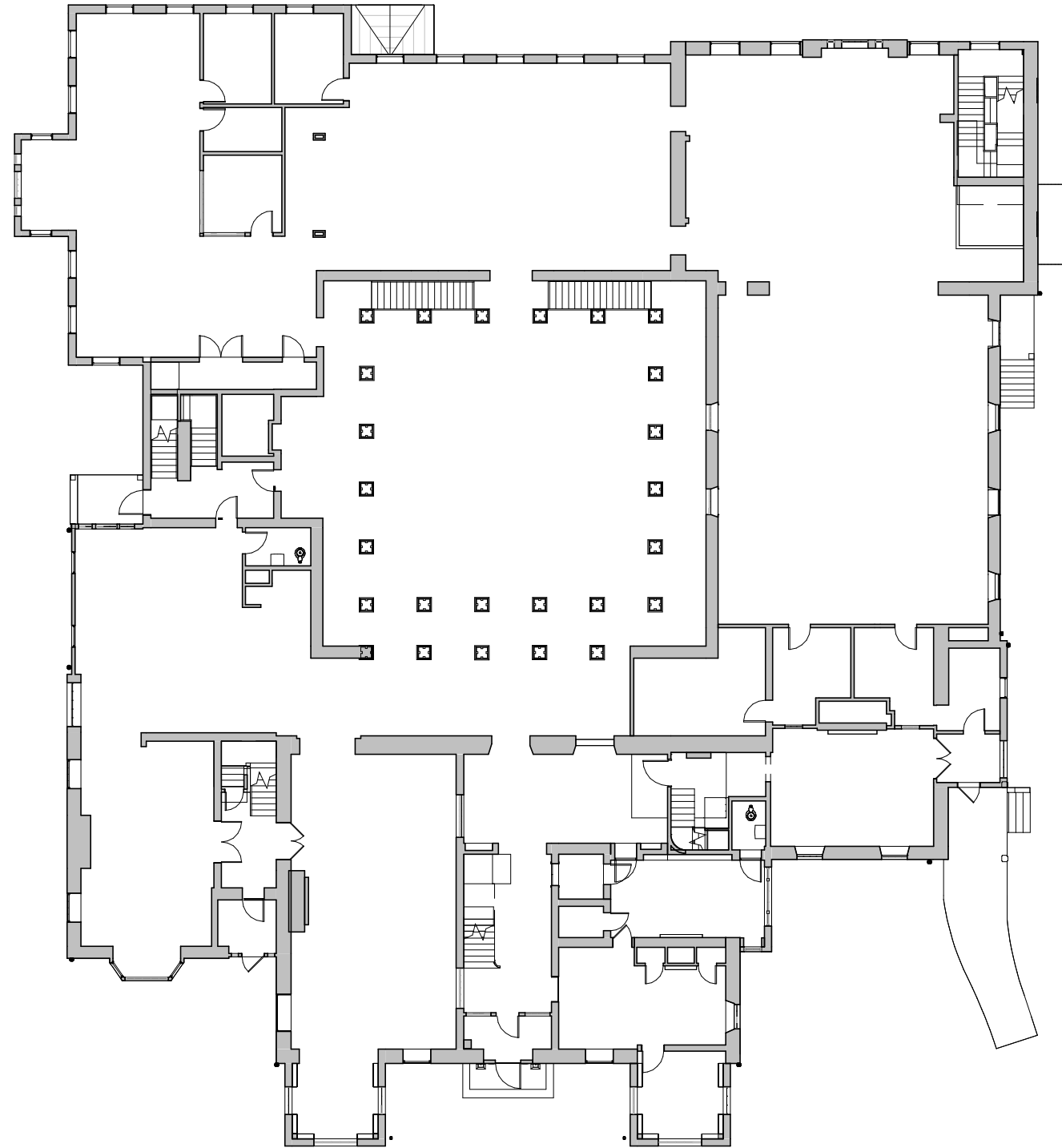
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LC-112

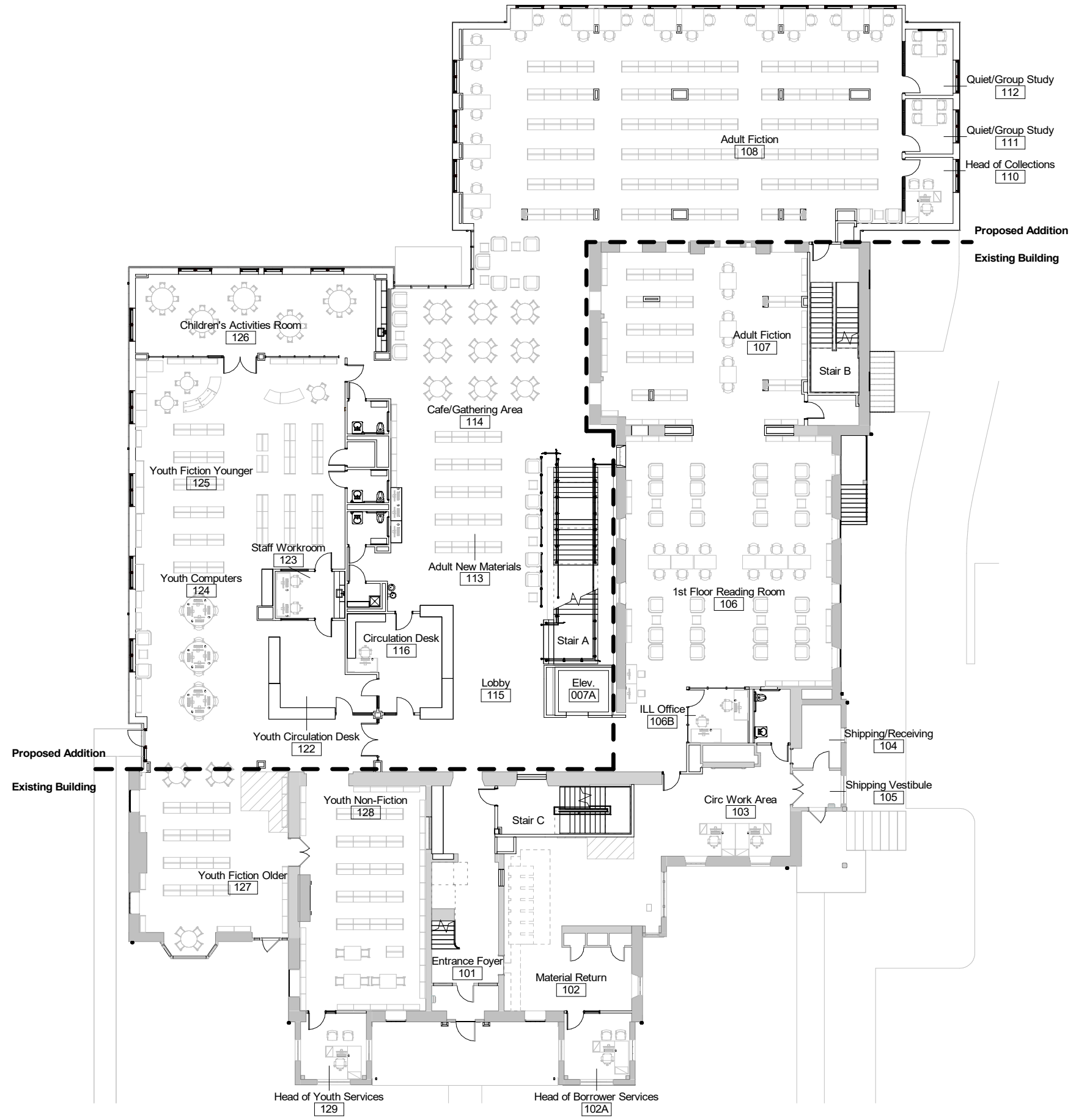




- Graphic Key**
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  -  New Wall
  -  Infill Existing Openings. See Structural Drawings. New Slab to be Flush with Existing Slab
  -  New Slate Shingle Roofing to Match Existing Roofing. Provide New Copper Flashing, Copper Snow Guards, Copper Gutters, and Copper Downspouts, all to Match Existing

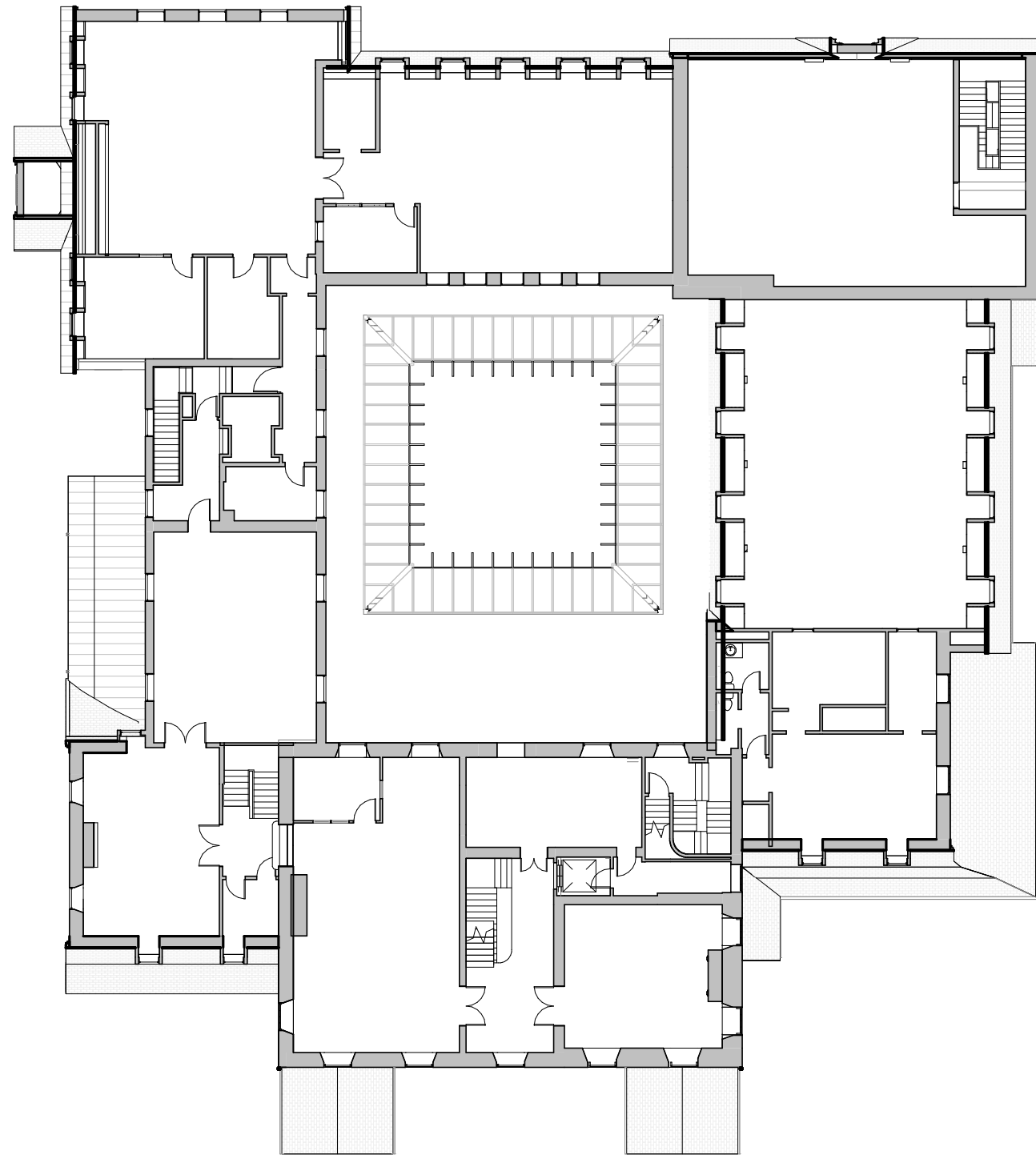


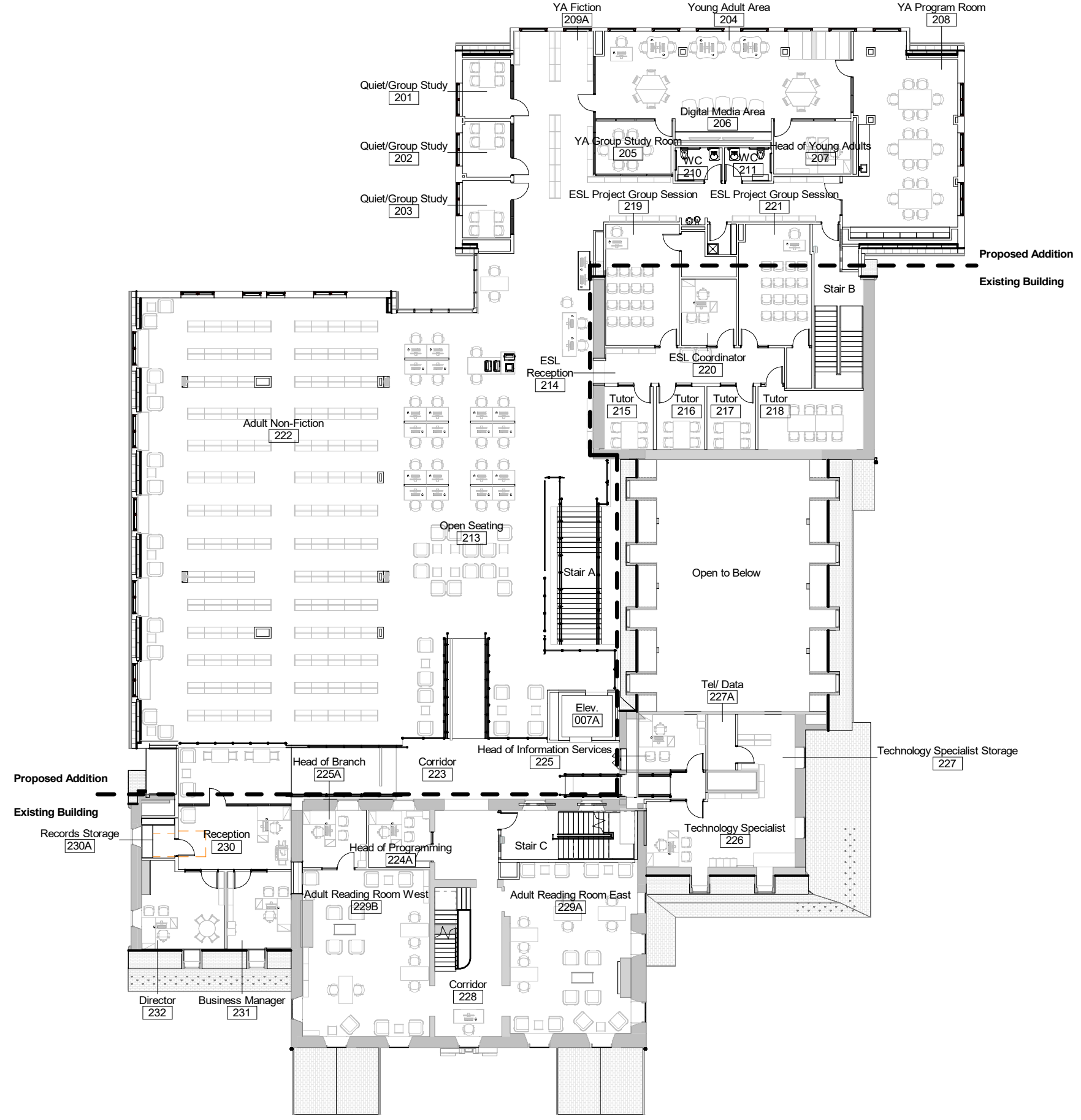








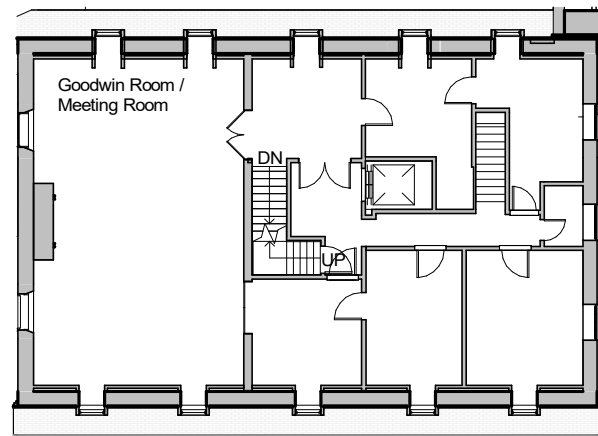
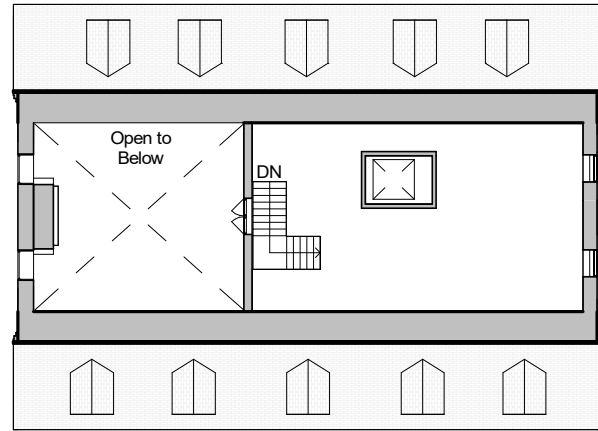
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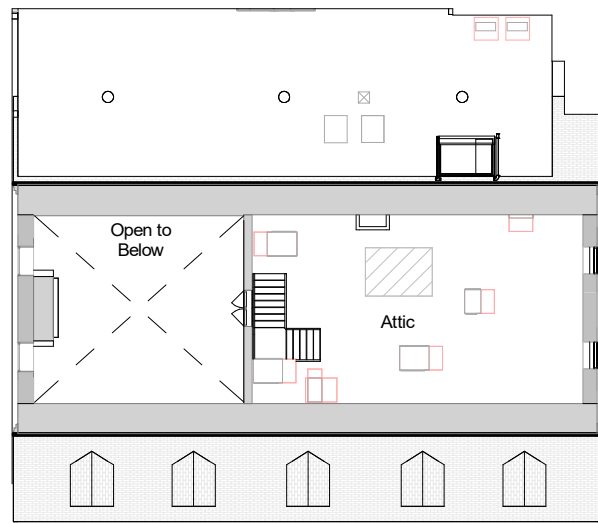
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



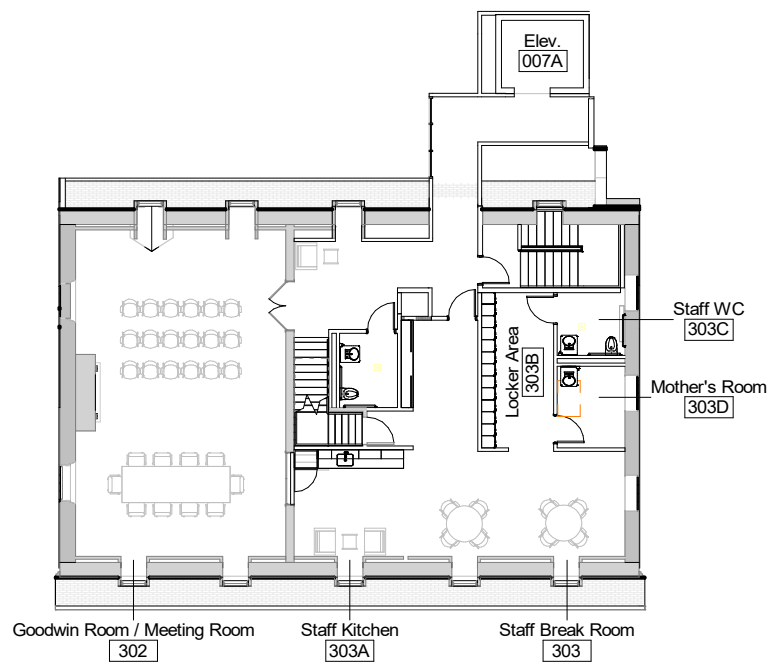
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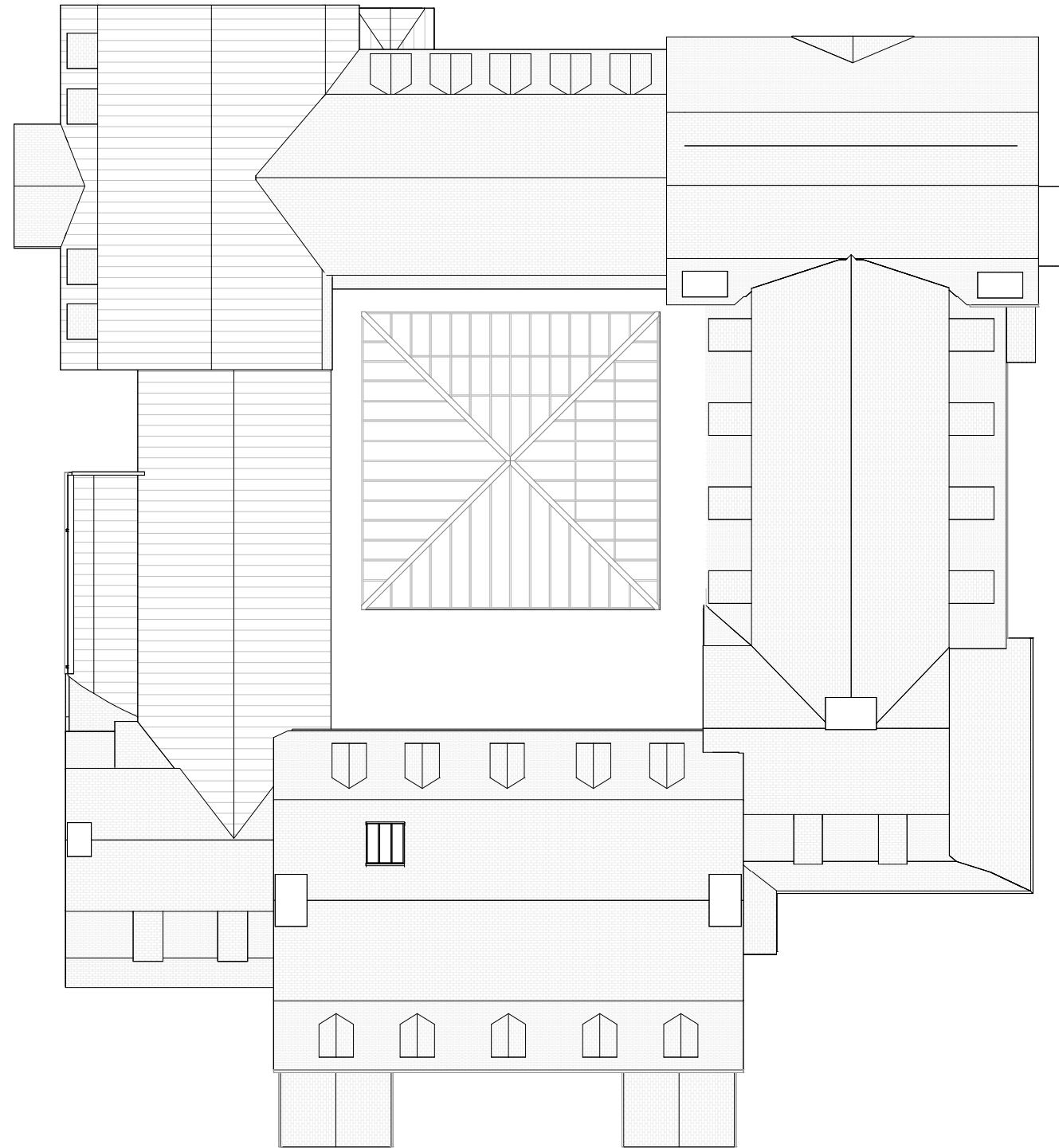


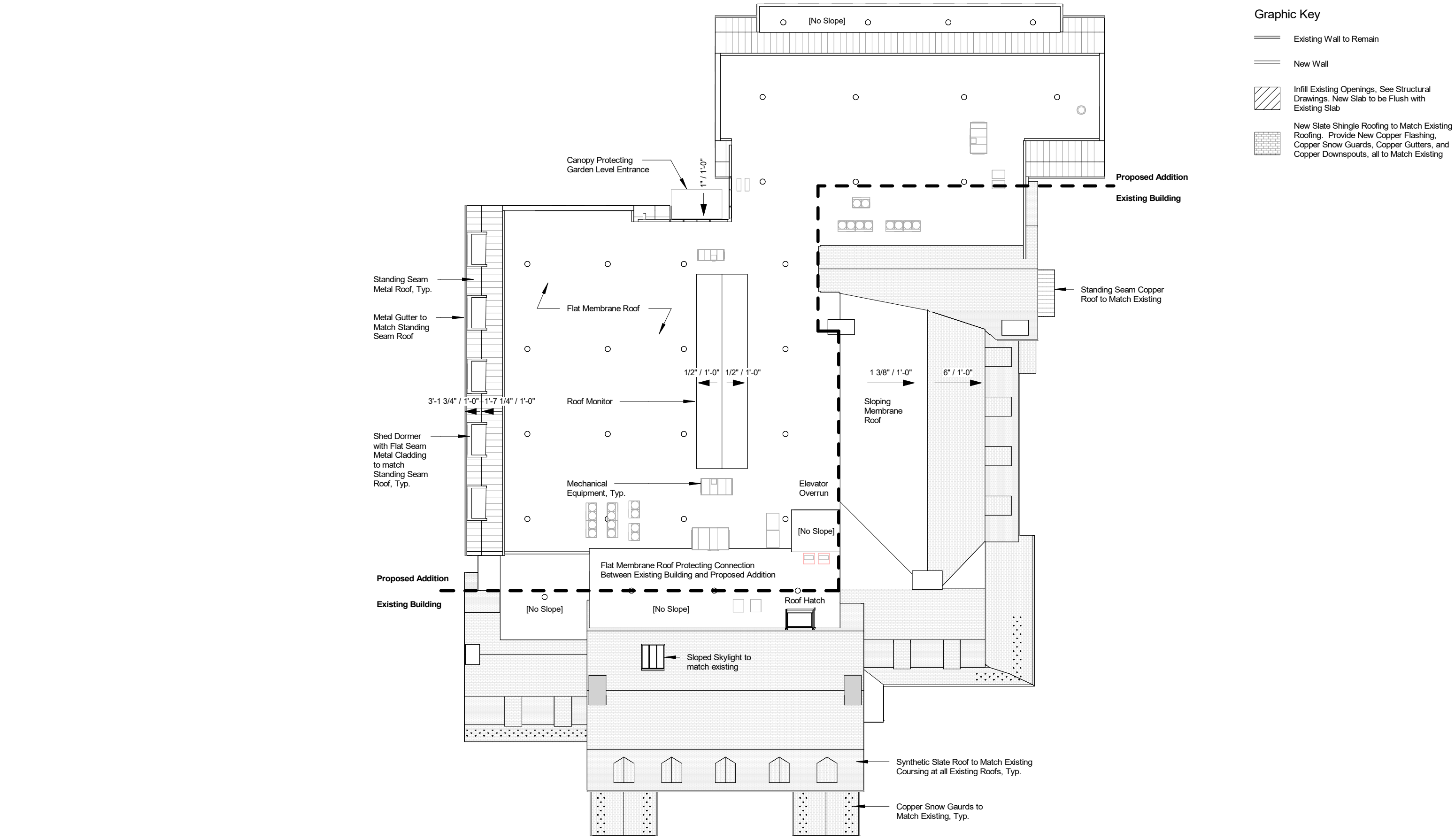


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
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**Graphic Key**

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**Specifications:  
Masonry and Wood Windows**

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SECTION 040110

EXTERIOR MASONRY REHABILITATION

Filed Sub-Bids Required

PART 1 GENERAL

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1.01 PROVISIONS INCLUDED

- A. The Conditions of the Contract and Division 01, General Requirements, apply to the work under this Section.
- B. Attention of the Contractor is drawn to provisions of the Contract Documents regarding the responsibility of all bidders to visit and inspect the site and to base all bids on conclusions drawn from such inspections.

1.02 SUMMARY

- A. The work of this section generally includes all exterior masonry repairs, restoration, alterations, and cleaning of the historic original Jones Library building indicated on the Drawings and specified herein. The work includes, without limiting the generality of the foregoing, the following categories:
  - 1. Stone and brick masonry restoration and construction, including all repairs, alterations and additions to existing stone and brick work, including work associated with building new openings and extending existing openings so as to match the original work. This includes removal of existing exposed masonry, including removal and salvage of masonry units to be removed for reuse in the work, and all indicated rebuilding of areas of deteriorated natural stone work and brickwork of exterior masonry walls. Restoration includes:
    - a. Restoring to original construction existing window and door openings as indicated or required, and restoring masonry around existing and extended openings, as indicated or otherwise required.
    - b. Replacing deteriorated steel lintels over openings, including removing and resetting stone header units.
    - c. Repairing unit masonry, including replacing units and patching.
    - d. Filling in existing openings with masonry construction to match existing, as at basement areaway windows.
    - e. Repairs and repointing of existing stone work, including repair of existing cracks and other defects, and replacement of stone units that cannot be satisfactorily repaired.
    - f. Matching of all new work, repairs and repointing to original conditions, represented by areas of the existing work that remain in original condition.
    - g. Through-wall and wall drainage flashing.
  - 2. Cleaning of existing and altered exposed to view masonry.
  - 3. Installation of all other all other items furnished under other Sections for installation in masonry restoration work.
- B. All indicated selective demolition and removal of exterior masonry shall be performed under this Section, and shall conform to indications on the Drawings and requirements herein. Provide all temporary shoring, supports and bracing required for all work.

1.03 FILED SUB-BIDS

- A. Sub-bids shall be submitted for the combined Work of this Section and related Sections 040001, Masonry, and 042000, Unit Masonry, in accordance with the provisions of M.G.L. c.149 §§44A-J. The time and place for submission of sub-bids are set forth in the Advertisement. The procedures and requirements

for submitting sub-bids are set forth in the Instructions to Bidders. Sub-bidders must be DCAM Certified in the listed trade and shall include a Current DCAM sub-bidder Certificate of Eligibility and a signed DCAM Sub-bidder's Update Statement with the bid.

1. In filling out the Form for Sub-Bid, enter Section as "040001" and Trade as "Masonry." Sub bid will be understood to include all work of the combined Sections.

B. The Work of this section is shown on Drawings **TBD**

C. SUB-SUBS

1. Sub-sub bids are not required for this. Paragraph E of the Form for sub-bid shall be left blank or marked N/A.

#### 1.04 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Principal classes of work related to the work of this Section are listed below, and are specified to be performed under the indicated Sections of the Specifications. Refer to the indicated Sections for description of the extent and nature of the indicated work, and for coordination with related trades. This listing may not include all related work items, and it is the responsibility of the Contractor to fully coordinate the work of this Section with that of all other trades.

1. Division 01 Section "Alterations to Existing Construction."
2. Division 02 Section "Selective Demolition" for selective demolition other than masonry removals described herein.
3. Division 04 Section "Unit Masonry" for new masonry elevator hoistway construction at Mitton House, for backup concrete masonry construction for infill of openings as indicated, and for alterations to interior masonry walls.
4. Division 05 Sections "Structural Steel" and "Miscellaneous Metals" for new steel items to be embedded in masonry work, and for beams and lintels to be installed in and supporting masonry work.
5. Division 07 Section "Sheet Metal Flashing and Trim" for metal flashing items to be installed in new and existing masonry, including repairs and alterations to existing flashing related to new roofing installations.
6. Division 07 Section "Joint Sealants" for elastomeric sealants to be installed in joints in cornices and other horizontally projecting masonry, as well as joints indicated to be prepared under this Section.

#### 1.05 DEFINITIONS

- A. Very Low-Pressure Spray: Under 100 psi (690 kPa).
- B. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- C. Medium-Pressure Spray: 400 to 800 psi (2750 to 5510 kPa); 4 to 6 gpm (0.25 to 0.4 L/s)].
- D. High-Pressure Spray: 800 to 1200 psi (5510 to 8250 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- E. Saturation Coefficient: Ratio of the weight of water absorbed during immersion in cold water to weight absorbed during immersion in boiling water; used as an indication of resistance of masonry units to freezing and thawing.

#### 1.06 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on masonry units as follows.

1. Provide test specimens as indicated and representative of proposed materials and construction.
2. Existing Stone: Test each type of existing stone indicated for replacement, according to ASTM C 170 for compressive strength, wet and dry, perpendicular and parallel to rift; ASTM C 99 for modulus of rupture, wet and dry, perpendicular and parallel to rift; and ASTM C 97 for absorption and bulk specific gravity. Carefully remove not fewer than six existing stones representative of the types of stone used on the building from locations designated by Architect. Take testing samples from these stones.
3. Existing Brick: Test each type of existing masonry unit indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove five existing units of each type of brick from locations designated by Architect. Take testing samples from these units. Existing Mortar: Test according to ASTM C 295, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength. Use X-ray diffraction, infrared spectroscopy, and differential thermal analysis as necessary to supplement microscopical methods. Carefully remove existing mortar from within joints at five locations designated by Architect or testing service.
4. Temporary Patch: As directed by Architect, provide temporary patching at locations from which existing samples were taken.
5. Replacement Brick and Stone: Test each proposed type of replacement masonry unit, according to sampling and testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).

#### 1.07 SUBMITTALS

- A. Conform to the requirements of Section 013300, Submittals, for schedule and form of all submittals.
- B. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each tem to be furnished.
  1. Include photographic documentation and stone identification notation for areas requiring reconstruction.
- C. Shop Drawings: For the following:
  1. Full-size patterns with complete dimensions for new stone units and specially molded brick shapes and their jointing, showing relation of existing to new units.
  2. Setting number of each new stone unit and its location on the structure in annotated plans and elevations.
  3. Provisions for expansion joints or other sealant joints.
  4. Provisions for flashing, lighting fixtures, conduits, and weep holes as required.
  5. Replacement and repair anchors. Include details of anchors within individual masonry units, with locations of anchors and dimensions of holes and recesses in units required for anchors.
    - a. Include details for new anchorage for reinstallation of refurbished stone balustrade at terrace.
  6. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.
- D. Mortar Mix Designs:
  1. Setting mortar.
  2. Pointing mortar.
- E. Samples for Initial Selection: For the following:
  1. Stone samples for replacement stone units, not less than 10 inches (250 mm) square.
  2. Brick proposed for use in replacements for exposed work, in form of sample boards.
  3. Pointing Mortar: Submit sets of mortar for pointing in the form of samples of pointing mortar

between two samples of stone approximating appearance and shape of existing stone, for stone work, and between two bricks, with joint width matching that of existing brick, for brick work. Mortar manufacturer's standard samples will not be acceptable.

- a. Have each set contain a close color range of at least three samples of different mixes of colored sands and cements that produce a mortar matching the cleaned masonry when cured and dry.
  - b. Submit with precise measurements of ingredients, proportions, gradations, and sources of colored sands from which each Sample was made.
4. Patching Compound: Submit sets of patching compound Samples in the form of plugs (patches in drilled holes) in sample units of masonry representative of the range of masonry colors on the building.
- a. Have each set contain a close color range of at least three samples of different mixes of patching compound that matches the variations in existing masonry when cured and dry.

F. Samples for Verification: For the following:

1. Each type of masonry unit to be used for replacing existing units. Include sets of Samples as necessary to show the full range of shape, color, and texture to be expected.
  - a. For each brick type, provide straps or panels containing at least four bricks. Include multiple straps for brick with a wide range.
  - b. For each stone type. Include at least two samples in each set for each type of stone, exhibiting extremes of the full range of color, exposed finishes and other visual characteristics expected in completed Work. Exposed face of samples shall be at least eight inches (400 mm) square. Provide sets of Samples for each different condition of existing stone to be replaced or extended.
2. Each type of sand used for pointing mortar; minimum 1 lb (0.5 kg) of each in plastic screw-top jars.
  - 1) For blended sands, provide Samples of each component and blend.
  - 2) Identify sources, both supplier and quarry, of each type of sand.
3. Each type, color, and texture of pointing mortar in small sample panels consisting of not less than four full size units (stone and brick) with jointing to match original work.
  - a. Include with each Sample a list of ingredients with proportions of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.
4. Each type of masonry patching compound in the form of briquettes, at least 3 inches (75 mm) long by 1-1/2 inches (38 mm) wide. Document each Sample with manufacturer and stock number or other information necessary to order additional material.
5. Accessories: Each type of anchor, accessory, and miscellaneous support.

G. Informational Submittals:

1. Qualification Data:
  - a. For restoration specialists including field supervisors and restoration workers, chemical-cleaner manufacturer and testing service.
    - 1) Include copies of material test reports for completed projects.
2. Preconstruction Test Reports: For existing and replacement masonry units.
3. Quality-Control Program.
4. Restoration Program.
5. Cleaning Program.
6. Cold-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with cold-weather requirements.

## 1.08 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1093 for testing indicated, as documented according to ASTM E 548.
- B. Source Limitations for Manufactured Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source

from a single manufacturer for each manufactured product required. Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.

C. Employee Qualifications:

1. Field Supervision: Masonry Subcontractor shall maintain experienced full-time supervisors on Project site during times that stone restoration and cleaning work is in progress. Supervisors shall not be changed during Project except for causes beyond control of Subcontractor.
2. Restoration Worker Qualifications: Persons who are experienced in restoration work of types they will be performing. When masonry units are being patched, assign at least one worker among those performing patching work who is trained and certified by manufacturer(s) of patching compound(s) to apply its(their) products.

D. Chemical-Cleaner Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project-site inspection and assistance at no additional cost.

E. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage due to worker fatigue.

F. Restoration Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials and Project site.

1. Include methods for keeping pointing mortar damp during curing period.
2. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

G. Cleaning Program: Prepare a written cleaning program that describes cleaning process in detail, including materials, methods, and equipment to be used, protection of surrounding materials, and control of runoff during operations.

1. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

H. Cleaning and Repair Appearance Standard: Cleaned and repaired surfaces are to have a uniform appearance as viewed from 20 feet (6 m) away by Architect in full day light. Perform additional paint and stain removal, general cleaning, and spot cleaning of small areas that are noticeably different, so that surface blends smoothly into surrounding areas.

I. Mockups: Prepare mockups of restoration and cleaning to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.

1. Masonry Repair: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches (1200 mm) in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:



- a. Replacement: Four brick units replaced; two stone units replaced.
  - b. Patching: Three small holes at least 1 inch (25 mm) in diameter for each type of masonry material indicated to be patched, so as to leave no evidence of repair.
  - 2. Repointing: Rake out joints in 2 separate areas, representing each type of masonry on the building, each approximately 36 inches (900 mm) high by 48 inches (1200 mm) wide for each type of repointing required and repoint one of the areas.
  - 3. Cleaning: Clean an area approximately 50 sq. ft. (5 sq. m) for each type of masonry and surface condition.
    - a. Test cleaners and methods on small samples of adjacent materials for possible adverse reactions. Do not use cleaners and methods known to have deleterious effect.
    - b. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.
  - 4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- J. Preinstallation Conference: Conduct conference at Project site.
- 1. Review methods and procedures related to masonry restoration and cleaning including, but not limited to, the following:
    - a. Construction schedule. Verify availability of materials, Restoration Specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
    - b. Materials, material application, sequencing, tolerances, and required clearances.

#### 1.09 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store all products in unopened original manufacturer's packaging. Store all materials in strict accordance with manufacturer's instructions and recommendations. Protect materials from all damage.
- B. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons.
- C. Deliver other materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- D. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- E. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- F. Store lime putty covered with water in sealed containers.
- G. Store sand where grading and other required characteristics can be maintained and contamination avoided.

#### 1.10 PROJECT CONDITIONS

- A. Protection of Masonry: Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
  - 2. Where 1 wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches (600 mm) down face next to unconstructed wythe and hold cover in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed

or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
  2. Protect sills, ledges, and projections from mortar droppings.
  3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- C. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry restoration, cleaning and sealing work to be performed according to manufacturers' written instructions and specified requirements.
- D. Repair masonry units and repoint mortar joints only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least 7 days after completion of the Work unless otherwise indicated.
- E. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least 7 days after completion of cleaning.
- F. Cold-Weather Requirements: Cold weather work not permitted. Do not use frozen materials or materials mixed or coated with ice or frost.
1. Work permitted only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- G. Hot-Weather Requirements: Work not permitted above 85 degrees F. Protect work from direct sun at ambient temperatures above 78 degrees F. Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required to minimize evaporation.

#### 1.11 SEQUENCING AND SCHEDULING

- A. Order replacement materials at earliest possible date to avoid delaying completion of the Work.
- B. Order materials for pointing mortar immediately after approval of mockups. Take delivery of and store at Project site a sufficient quantity to complete Project.
- C. Perform masonry restoration work in the following sequence:
1. Proceed only when demolition and removal of adjoining work has been completed and operations can be carried out without interference for other operations.
  2. Remove plant growth.
  3. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
  4. Remove paint.
  5. Remove signs, electrical conduit, piping, and other applied items not indicated to remain.
  6. Clean masonry surfaces to remove soiling and adherent matter, including mold and mildew.
  7. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
  8. Repair masonry, including replacing deteriorated existing masonry with new masonry materials.
  9. Rake out mortar from joints to be repointed.
  10. Point mortar joints. Coordinate installation of joint sealants in indicated joints under related Section.
  11. After repairs and repointing have been completed and cured, perform a final cleaning to remove

residues from this work.

- D. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units to comply with "Masonry Unit Patching" Article. Patch holes in mortar joints to comply with "Repointing Masonry" Article.

#### 1.12 WARRANTY

- A. Notwithstanding any other requirements of this Contract, the Subcontractor performing the work of this Section shall guarantee the performance of the installation and materials included in this Section for one year from the date of Substantial Completion as defined in the General Conditions. Should any defects in materials or workmanship appear during this period, they shall be corrected or replaced by this Subcontractor to the satisfaction of the Architect, and at no expense to the Owner.

## PART 2 PRODUCTS

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### 2.01 MASONRY MATERIALS

- A. Salvaged Brick: Salvaged brick from the building in sound, undamaged condition shall be reused for repairs of the same brick type wherever practicable. Clean off residual mortar.
- B. Face Brick: Where sufficient existing brick cannot be salvaged to complete the work, provide face brick, including specially molded, ground, cut, or sawed shapes.
  - 1. Provide units with colors, color variation within units, surface texture, size, and shape to match existing brickwork and with physical properties within 10 percent of those determined from preconstruction testing of selected existing units.
  - 2. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.
  - 3. Where arch headers over openings are to be repaired or replaced, provide fabricated tapered brick units matching the existing as required to rebuild the headers.
  - 4. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
  - 5. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
  - 6. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
  - 7. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
- C. Stone: Provide natural building stone of variety, color, texture, grain, veining, finish, size, and shape to match existing stone and with physical properties within 10 percent of those determined from preconstruction testing of selected existing stone.
  - 1. The existing stone is described in a report commissioned by the Owner as follows:

“[T]he building’s sidewalls are finished in natural rubble stone set in somewhat level courses. . . . The majority of stone used in the walls was obtained from the area. . . . [R]ubble stone was bought from farms in Pelham and North Amherst, and granite for cut cornerstones was obtained from a Pelham Cider Mill.”

- D. Other Natural Stone: If other natural stone is encountered and replacement is indicated or otherwise required, provide matching stone of similar properties and appearance.
- E. Building Brick: Provide building brick complying with ASTM C 62, of same vertical dimension as face brick, for masonry work concealed from view.
  - 1. Grade SW where in contact with earth.
  - 2. Grade SW, MW, or NW for concealed backup.
  - 3. Date Identification: Emboss in the clay body on an interior surface of each unit in easily read 1/2-inch- (13-mm-) high characters, "MADE <Insert year>." Manufacturer's name may also be embossed.

## 2.02 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, white or gray or both where required for color matching of exposed mortar.
  - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Factory-Prepared Lime Putty: ASTM C 1489.
- D. Quicklime: ASTM C 5, pulverized lime.
- E. Mortar Sand: ASTM C 144 unless otherwise indicated.
  - 1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
  - 2. For pointing mortar, provide sand with rounded edges.
  - 3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
- F. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
  - 1. Available Products:
    - a. Bayer Corporation, Industrial Chemicals Div.; Bayferrox Iron Oxide Pigments.
    - b. Davis Colors; True Tone Mortar Colors.
    - c. Solomon Grind-Chem Services, Inc.; SGS Mortar Colors.
  - 2. Pigments shall not exceed 10 percent of portland cement by weight.
  - 3. Organic pigments, such as "carbon black" shall not be used.
- G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- H. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with concrete masonry units, containing integral water repellent by same manufacturer.
- I. Water: Potable.

## 2.03 MANUFACTURED REPAIR MATERIALS

- A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Cathedral Stone Products, Inc.; Jahn M100 Cast stone and Brick Repair Mortar.
    - b. Conproco Corporation; Matrix.
    - c. Edison Coatings, Inc.; Custom System 45.
  2. Use formulation that is vapor- and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the masonry units being repaired, and develops high bond strength to all types of masonry.
  3. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
  4. Formulate patching compound used for patching brick and stone in colors and textures to match each masonry unit being patched. Provide sufficient number of colors to enable matching the color, texture, and variation of each unit.
- B. Stone Consolidation and Water-Repellent Treatment: Ready-to-use product designed for consolidation and water-repellent treatment of stone that has deteriorated due to weathering and exposure to pollutants. Treatment shall be composed of silicic-ethyl esters, a neutral catalyst, a silane water repellent, and solvents.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Cohalan Company, Inc.; Keim Silex H.
    - b. Diedrich Technologies Inc.; D50W.
    - c. PROSOCO; Conservare H100 Stone Strengthener with HCT pretreatment.

#### 2.04 ACCESSORIES

- A. Fully Concealed Anchors: Provide where necessary to stabilize construction, or to replace deteriorated anchors encountered, fabricated from stainless steel complying with ASTM A 240/A 240M, ASTM A 276, or ASTM A 666, Type 304.
- B. Exposed Anchors: Where required to replace existing deteriorated exposed anchorage, fabricated from steel complying with ASTM A 36/A 36M, and hot-dip galvanized to comply with ASTM A 123/A 123M.
- C. Dowels: Round stainless-steel bars complying with ASTM A 276, Type 304, and 1/2-inch (12-mm) diameter.
- D. Setting Buttons: Resilient plastic buttons, nonstaining to stone, sized to suit joint thicknesses and bed depths of stone units without intruding into required depths of pointing materials.
- E. Masking Tape: Nonstaining, nonabsorbent material, compatible with pointing mortar, joint primers, sealants, and surfaces adjacent to joints; that will easily come off entirely, including adhesive.
- F. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer or SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.
1. Use coating requiring no better than SSPC-SP 3, "Power Tool Cleaning" or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning" surface preparation according to manufacturer's literature or certified statement.
  2. Use coating with a VOC content of 420 g/L (3.5 lb/gal.) or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

G. Miscellaneous Products: Select materials and methods of use based on the following, subject to approval of a mockup:

1. Previous effectiveness in performing the work involved.
2. Little possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could do the following:
  - a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
  - b. Leave a residue on surfaces.

#### 2.05 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Where indicated and wherever flashing is exposed or partly exposed, furnish metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:

1. Copper: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet, 10-oz./sq. ft. (3-kg/sq. m) weight or 0.0135 inch (0.34 mm) thick for fully concealed flashing; 16-oz./sq. ft. (5-kg/sq. m) weight or 0.0216 inch (0.55 mm) thick elsewhere.
2. Fabricate through-wall metal flashing embedded in masonry from copper, with ribs at 3-inch (75-mm) intervals along length of flashing to provide an integral mortar bond.

B. Flexible Flashing: Only for flashing not exposed to the exterior, and where "Membrane Flashing" is indicated on the Drawings, use one of the following, unless otherwise indicated:

1. Copper-Laminated Flashing: 7-oz./sq. ft. (2-kg/sq. m) copper sheet bonded with asphalt between 2 layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.
  - a. Available Products:
    - 1) Advanced Building Products Inc.; Copper Fabric Flashing.
    - 2) AFCO Products Inc.; Copper Fabric.
    - 3) Hohmann & Barnard, Inc.; H & B C-Fab Flashing.
    - 4) Phoenix Building Products; Type FCC-Fabric Covered Copper.
    - 5) Polytite Manufacturing Corp.; Copper Fabric Flashing.
    - 6) Sandell Manufacturing Co., Inc.; Copper Fabric Flashing.
    - 7) York Manufacturing, Inc.; York Copper Fabric Flashing.
  2. Asphalt-Coated Copper Flashing: 7-oz./sq. ft. (2-kg/sq. m) copper sheet coated with flexible asphalt. Use only where flashing is fully concealed in masonry.
    - a. Available Products:
      - 1) Advanced Building Products Inc.; Cop-R-Cote.
      - 2) AFCO Products Inc.; Cop-A-Cote.
      - 3) Hohmann & Barnard, Inc.; H & B C-Coat Flashing.
      - 4) Phoenix Building Products; Type ACC-Asphalt Bituminous Coated.
      - 5) Polytite Manufacturing Corp.; Coated Copper Flashing.
      - 6) Sandell Manufacturing Co., Inc.; Coated Copper Flashing.
      - 7) York Manufacturing, Inc.; Copperseal.

#### 2.06 PAINT REMOVERS

A. Alkaline Paste Paint Remover: Manufacturer's standard alkaline paste formulation for removing paint coatings from masonry.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. ABR Products, Inc.; 800 Brush Grade.
  - b. Diedrich Technologies Inc.; 606 Multi-Layer Paint Remover or 606X Extra Thick Multi-Layer

- Paint Remover.
  - c. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean HT-716 Heavy Duty Paint Remover.
  - d. Price Research, Ltd.; Price Heavy Duty Paint Stripper.
  - e. PROSOCO; Enviro Klean Safety Peel 2, Sure Klean Heavy-Duty Paint Stripper or Sure Klean Heavy-Duty Paint Stripper D.
  
- B. Covered or Skin-Forming Alkaline Paint Remover: Manufacturer's standard covered or skin-forming alkaline formulation for removing paint coatings from masonry.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; Grip 'N Strip 800 Fast Acting.
    - b. Diedrich Technologies Inc.; 606 Multi-Layer Paint Remover or 606X Extra Thick Multi-Layer Paint Remover with pull-off removal system.
    - c. Dumond Chemicals, Inc.; Peel Away 1 System.
    - d. PROSOCO; Enviro Klean Safety Peel 1 or Enviro Klean Safety Peel 3 with Enviro Klean Overcoat.
  
- C. Solvent-Type Paint Remover: Manufacturer's standard water-rinsable, solvent-type gel formulation for removing paint coatings from masonry.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; Super Bio Strip Gel.
    - b. Diedrich Technologies Inc.; 505 Special Coatings Stripper.
    - c. Dumond Chemicals, Inc.; Peel Away 2.
    - d. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean HT-300 Solvent Paint Remover.
    - e. Price Research, Ltd.; Price Strip-All.
    - f. PROSOCO; Sure Klean Fast Acting Stripper.
  
- D. Low-Odor, Solvent-Type Paint Remover: Manufacturer's standard low-odor, water-rinsable solvent-type gel formulation, containing no methanol or methylene chloride, for removing paint coatings from masonry.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; Super Bio Strip Gel.
    - b. Cathedral Stone Products, Inc.; S-301, S-303 or S-305.
    - c. Dumond Chemicals, Inc.; Peel Away 6, Peel Away 7 or Peel Away 21.
    - d. PROSOCO; Enviro Klean Safety Peel 1 or Enviro Klean Safety Peel 3.

## 2.07 CLEANING MATERIALS

- A. Water: Potable.
  
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F (60 to 71 deg C).
  
- C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate, 1/2 cup (125 mL) of laundry detergent, and 20 quarts (20 L) of hot water for every 5 gal. (20 L) of solution required.
  
- D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate, 5 quarts (5 L) of 5 percent sodium hypochlorite (bleach), and 15 quarts (15 L) of hot water for every 5 gal. (20 L) of solution required.
  
- E. Chemical Cleaning Products, General: In event of stubborn soiling that resists cleaning with products specified above, propose for consideration of Architect compounds with which masonry contractor is

familiar and has a history of satisfactory cleaning of masonry of the kind for which the product is proposed.

1. Acidic or otherwise potentially chemically or mechanically destructive of masonry units or mortar will be acceptable only after demonstration to Architect that the use of the product and proposed application and treatment method will not be harmful to the masonry of this Project. Provide mockup samples of each proposed cleaning product and application proposed in location directed by Architect, as specified in Part 1 Article "Quality Assurance."
  2. The following paragraphs specify types of chemical cleaning products that may be considered for use on this Project.
- F. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents with chelating agents and is specifically formulated for cleaning masonry surfaces.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Price Research, Ltd.; Price Marble Cleaner-Gel.
    - b. PROSOCO; Sure Klean 942 Limestone and Marble Cleaner.
    - c. Or approved equal.
- G. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Diedrich Technologies Inc.; Diedrich 910PM Polished Marble Cleaner.
    - b. Dominion Restoration Products, Inc.; Bio-Cleanse.
    - c. Dumond Chemicals, Inc.; Safe n' Easy Architectural Cleaner/Restorer.
    - d. Price Research, Ltd.; Price Non-Acid Masonry Cleaner.
    - e. PROSOCO; Enviro Klean 2010 All Surface Cleaner.
- H. Two-Part Chemical Cleaner: Manufacturer's standard system consisting of potassium or sodium hydroxide based, alkaline prewash cleaner and acidic afterwash cleaner that does not contain hydrofluoric acid.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; 500 Limestone Prewash Cleaner followed by 500 Limestone Afterwash.
    - b. Diedrich Technologies Inc.; Diedrich 808 Limestone Pre-Wash or Diedrich 808X Black Encrustation Remover - Super Strong followed by 707N Limestone Neutralizer After-Rinse.
    - c. PROSOCO; Enviro Klean BioKlean followed by Sure Klean Limestone & Masonry Afterwash or Sure Klean 766 Limestone Prewash followed by SureKlean Limestone & Masonry Afterwash.
- I. Mild Acidic Cleaner - Only for Rust Stain Removal: Manufacturer's standard mildly acidic cleaner containing no muriatic (hydrochloric), hydrofluoric, or sulfuric acid; or ammonium bifluoride or chlorine bleaches.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; X-190 Limestone & Concrete Cleaner.
    - b. Diedrich Technologies Inc.; Envirostore 100.
    - c. Dominion Restoration Products, Inc.; DR-60 Stone and Masonry Cleaner.
    - d. EnviroSafe Manufacturing Corp.; Rust/Stain Remover.
    - e. PROSOCO; Enviro Klean BioWash.



J. General Cleaners: Provide the following:

1. SureKlean Heavy Duty Restoration Cleaner, ProSoCo, Inc. Kansas City, KS or approved equal.

K. Brushes: Tampico fiber bristles only.

L. Spray Equipment: Provide equipment for controlled spray application of water. All cleaners must be brush applied.

1. For spray application of water provide fan shaped spray-tip which disperses water at an angle of not less than 15 degrees.

## 2.08 MORTAR MIXES

A. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix to ASTM C 5 and manufacturer's written instructions before mixing with other materials.

B. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer. Mortar shall be mixed in small batches so that it will be used within one hour after preparation.

1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

C. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.

1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.

D. Do not use admixtures in mortar unless otherwise indicated.

E. Mortar Proportions: Mix mortar materials in the following proportions or in proportions recommended by testing agency to produce mortar having the same properties as the existing mortar in each area of the building for each type of masonry:

1. Pointing Mortar: match existing original mortar at each location.
  - a. Add mortar pigments and colored aggregate to produce mortar colors required.
2. Rebuilding (Setting) Mortar: Same as pointing mortar except mortar pigments are not required.

## 2.09 CHEMICAL CLEANING SOLUTIONS

A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical-cleaner manufacturer. Maintain concentration not greater than that used in approved mockup samples throughout the work.

## 2.10 TOOLS AND ACCESSORIES

A. Grinders: Blade width limited to 1/16-inch. Equip grinder with source extraction vacuum units to contain dust.

## PART 3 EXECUTION

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### 3.01 EXAMINATION

- A. Inspect all parts of the structure where masonry work is to be performed and the conditions under which the work must be performed. Report in writing to the Construction Manager, with copy to the Architect, any conditions which might adversely affect the installation. Do not proceed with the installation until defects have been corrected and conditions are satisfactory.
- B. It is not intended to alter the historic appearance of the masonry, and patching and replacement of existing masonry is only required where the deterioration of masonry units impairs the integrity and longevity of the overall building, or where masonry has previously been removed and is indicated to be replaced. The Architect may direct testing by a qualified testing agency in areas of possible structural deterioration. During the course of this work notify the Architect of any suspected structural deterioration of the existing masonry and suspend work in the affected area.

### 3.02 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
  - 1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.
  - 2. Erect temporary protective covers over all work to remain.
  - 3. Protect decorative copper and woodwork to remain.
- B. Comply with chemical-cleaner manufacturers' written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
  - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
  - 2. Keep wall wet below area being cleaned to prevent streaking from runoff.
  - 3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
  - 4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
  - 5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- C. Prevent mortar from staining face of surrounding masonry and other surfaces.
  - 1. Cover sills, ledges, and projections to protect from mortar droppings.
  - 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
  - 3. Immediately remove mortar in contact with exposed masonry and other surfaces.
  - 4. Clean mortar splatters from scaffolding at end of each day.

### 3.03 NEW AND ALTERED OPENINGS IN EXISTING MASONRY

- A. The Work of this Section includes participation in and supervision of selective demolition of masonry work involving existing masonry walls to remain and removal of chimneys and salvage of brick for reuse. Requirements and procedures for selective demolition in Division 02 Section "Selective Demolition" are included in this Section as if written out in full.
1. Demolition contractor under the Construction Manager is responsible for removing demolition material not needed for the alterations under this Section. Rough demolition of masonry required for new openings in masonry shall be performed under the continuous supervision of the Masonry Contractor.
  2. Masonry Contractor shall be responsible for the removal of masonry to or beyond the indicated finish openings, so as to properly finish the masonry openings, toothing new work into existing to maintain bond, in accordance with the best practice of the masonry trades. Openings in surfaces that will be exposed shall not be saw cut, but shall be made by extending removal beyond the finish and properly rebuilding the opening. Masonry Contractor shall be solely responsible for removal of existing masonry at heads of existing openings as necessary to install new flashing and lintels as indicated.
  3. Masonry Contractor shall be responsible for supervising the salvage under the "Selective Demolition" Section of a sufficient quantity of existing stone units to complete the alterations to the building as indicated. In the event that the quantity of salvaged masonry units is insufficient to complete the work, Masonry Contractor shall be responsible for obtaining masonry units matching the existing to the satisfaction of the Architect to complete the Work at no additional cost to the Owner. Cleaning and stockpiling of salvaged masonry units is specified in Selective Demolition Section.
  4. Masonry trade contractor shall be responsible for making all openings through masonry construction required for mechanical and electrical systems, and for properly rebuilding the masonry
- B. In brick masonry that will remain exposed or will be concealed, such rough demolition shall be to permit installation of structural elements under other Sections and to facilitate proper rebuilding to the indicated finish openings. Coordinate rebuilding of openings with embedded work of other trades.
- C. In existing stone facing, where existing openings are to be extended down to new floor levels, rough removal of stone masonry shall be close to intended finish opening to require only finishing under this Section.
- D. Where required to suit indicated door frames to accommodate required door dimensions, enlarge or otherwise alter masonry openings. Restore appearance of such openings to match original masonry work.
- E. In existing unit masonry, remove material beyond intended finished opening, in exposed work, or beyond rough masonry opening where masonry will be concealed by other finishes, vertically and horizontally, and build work back to final opening, toothing masonry units into existing units in coursing and bond to match existing. Install new steel lintels at opening heads where applicable.

### 3.04 UNUSED ANCHOR REMOVAL

- A. Remove masonry anchors, brackets, wood nailers, and other extraneous items no longer in use unless identified as historically significant or indicated to remain.
1. Remove items carefully to avoid spalling or cracking masonry.
  2. Where directed, if an item cannot be removed without damaging surrounding masonry, do the following:
    - a. Cut or grind off item approximately 3/4 inch (20 mm) beneath surface and core drill a recess of same depth in surrounding masonry as close around item as practical.
    - b. Immediately paint exposed end of item with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended dry

film thickness per coat. Keep paint off sides of recess.

3. Patch the hole where each item was removed unless directed to remove and replace the masonry unit.

### 3.05 BRICK WORK ALTERATIONS

- A. At locations indicated and as otherwise required, remove bricks that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
  1. When removing single bricks, remove material from center of brick and work toward outside edges.
  2. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
  3. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- B. Replace removed damaged brick with other removed brick and salvaged brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- C. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
  1. Maintain joint width for replacement units to match existing joints.
  2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- D. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. (30 g/194 sq. cm per min.). Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
  1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
  2. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
  3. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

### 3.06 STONE REBUILDING

- A. Cut out fully designated stones and adjacent stone determined to be loose and mortar from surrounding joints, including collar joint.
  1. Remove existing anchors. Where this is not feasible cut back metal to the greatest extent possible. At any remaining metal mechanically remove rust and paint all exposed metal surfaces with Rustoleum Rust Reformer.
- B. Repair exposed back-up masonry. Remove loose, friable or frozen mortar. Reset loose brick and stone to sound condition.
- C. Provide new 3/8-inch threaded stainless steel anchor rods or appropriate strap, butterfly or “up and down,” set into back-up masonry with epoxy gel adhesive. Embed 3 inches (or ½ the thickness of the stone if less than 6 inches) and 3 inches into back-up masonry. Provide 2 anchors for each square foot of face stone area, or as noted on the drawings.

### 3.07 STONE REFINISHING/REDRESSING

- A. Using masonry trade hand tools, remove loose, friable and delaminated stone to sound surface.
- B. Chisel and feather edges of removal areas to surrounding sound stone.
- C. Using chisels, hammers, tooth chisel and associated masonry refinishing equipment, finish newly exposed surfaces to provide surface matching and providing smooth transition to undamaged surrounding stone. Provide best visual effect to blend new surfaces with the finish and plane of surrounding stone.

### 3.08 MASONRY UNIT PATCHING

- A. Patch the following masonry units unless another type of replacement or repair is indicated:
  - 1. Units indicated to be patched.
  - 2. Units with holes.
  - 3. Units with chipped edges or corners.
  - 4. Units with small areas of deep deterioration.
- B. Do not patch brick units. Remove and replace significantly deteriorated, cracked or damaged brick units as indicated or directed.
- C. Remove and replace existing patches unless otherwise indicated or approved by Architect.
- D. Patching Stone:
  - 1. Remove deteriorated material as determined by sounding gently with a small hammer. Carefully remove additional material so patch will not have feathered edges but will have square or slightly undercut edges on area to be patched and will be at least 1/4 inch (6 mm) thick, but not less than recommended by patching compound manufacturer.
  - 2. Where mortar joints adjacent to patch are open, fill back of joints with pointing mortar and allow to cure before patching stone. Leave space for pointing joints according to "Repointing Masonry" Article.
  - 3. Mask adjacent mortar joint or rake out for repointing if patch will extend to edge of unit.
  - 4. Rinse surface to be patched and leave damp, but without standing water.
  - 5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
  - 6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch (6 mm) or more than 2 inches (50 mm) thick. Roughen surface of each layer to provide a key for next layer.
  - 7. Do not apply patching compound over mortar joints. If patching compound bridges mortar joints, cut out joints after patching compound hardens.
  - 8. Trowel, scrape, or carve surface of patch to match texture, details, and surrounding surface plane or contour of stone. Shape and finish surface before or after curing, as determined by testing to best match existing stone.
  - 9. Keep each layer damp for 72 hours or until patching compound has set.
  - 10. Remove and replace patches with hairline cracks or that show separation from stone at edges, and those that do not match adjoining stone in color or texture.

### 3.09 CLEANING MASONRY, GENERAL

- A. Clean brickwork and natural stone that will be exposed in the finished work by the least destructive method that proves effective from the following, as demonstrated in mockup samples required under this Section and described under related articles below:

1. Cold-water soaking.
  2. Cold or hot-water washing.
  3. Steam cleaning.
  4. Cleaning with TSP detergent, mold, mildew, and algae remover and/or nonacidic gel or liquid cleaner. Acidic cleaners are not acceptable unless demonstrated harmless in samples.
  5. Proceed with cleaning in an orderly manner; work from bottom to top of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water will not wash over cleaned, dry surfaces.
- B. Paint Removal: Where indicated or required, remove paint from masonry using cleaning methods specified above, if effective, or paint removal products specified herein as recommended by the manufacturer for the specific condition of the masonry surfaces and the paint to be removed.
- C. Use only those cleaning methods indicated for each masonry material and location.
1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
  2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
    - a. Equip units with pressure gages.
  3. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
  4. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
  5. For high-pressure water-spray application, use fan-shaped spray tip that disperses water at an angle of at least 40 degrees.
  6. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.
  7. For steam application, use steam generator capable of delivering live steam at nozzle.
- D. Mild Acidic Chemical Cleaning for Rust Stain Removal:
1. Wet stone with cold water applied by low-pressure spray.
  2. In strict accordance with chemical manufacturer recommendations, apply cleaner to stone by brush or low-pressure spray and let cleaner remain on surface for period as recommended by chemical-cleaner manufacturer.
  3. Rinse with cold water applied by low- or medium-pressure spray to remove chemicals and soil.
  4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.
- E. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
- F. Water Application Methods:
1. Water-Soak Application: Soak masonry surfaces by applying water continuously and uniformly to limited area for time indicated. Apply water at low pressures and low volumes in multiple fine sprays using perforated hoses or multiple spray nozzles. Erect a protective enclosure constructed of polyethylene sheeting to cover area being sprayed.
  2. Water-Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches (150 mm) from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.
- G. Steam Cleaning: Apply steam to masonry surfaces at the very low pressures indicated for each type of

masonry material. Hold nozzle at least 6 inches (150 mm) from surface of masonry and apply steam in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

- H. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding 50 psi (345 kPa). Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.
- I. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
  - 1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.
- J. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

### 3.10 PRELIMINARY CLEANING

- A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.
- B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, caulking, asphalt, and tar.
  - 1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
  - 2. Remove paint and caulking with alkaline paint remover.
    - a. Comply with requirements in "Paint Removal" Article.
    - b. Repeat application up to two times if needed.
  - 3. Remove asphalt and tar with solvent-type paint remover.
    - a. Comply with requirements in "Paint Removal" Article.
    - b. Apply paint remover only to asphalt and tar by brush without prewetting.
    - c. Allow paint remover to remain on surface for 10 to 30 minutes.
    - d. Repeat application if needed.

### 3.11 PAINT REMOVAL

- A. Paint Removal with Alkaline Paste Paint Remover:
  - 1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
  - 2. Apply paint remover to dry, painted masonry with brushes.
  - 3. Allow paint remover to remain on surface for period recommended by manufacturer.
  - 4. Rinse with hot water applied by low- or medium-pressure spray to remove chemicals and paint residue.
  - 5. Repeat process if necessary to remove all paint.
  - 6. Apply acidic cleaner or manufacturer's recommended afterwash to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended by chemical cleaner or afterwash manufacturer.
  - 7. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
- B. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:

1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted masonry with trowel, spatula, or as recommended by manufacturer.
3. Apply cover, if required by manufacturer, per manufacturer's written instructions.
4. Allow paint remover to remain on surface for period recommended by manufacturer or as determined in test panels.
5. Scrape off paint and remover and collect for disposal.
6. Rinse with cold water applied by low-pressure spray to remove chemicals and paint residue.
7. Use alkaline paste paint remover, according to "Paint Removal with Alkaline Paste Paint Remover" Paragraph, if necessary to remove remaining paint.
8. Apply acidic cleaner or manufacturer's recommended afterwash to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended by chemical-cleaner or afterwash manufacturer.
9. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.

C. Paint Removal with Solvent-Type Paint Remover:

1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply thick coating of paint remover to painted masonry with natural-fiber cleaning brush, deep-nap roller, or large paint brush.
3. Allow paint remover to remain on surface for period recommended by manufacturer.[ Agitate periodically with stiff-fiber brush.]
4. Rinse with cold water applied by low-pressure spray to remove chemicals and paint residue.

### 3.12 CLEANING MASONRY

A. Cold-Water Soak:

1. Apply cold water by intermittent spraying to keep surface moist.
2. Use perforated hoses or other means that will apply a fine water mist to entire surface being cleaned.
3. Apply water in cycles with at least 30 minutes between cycles.
4. Continue spraying until surface encrustation has softened sufficiently to permit its removal by water wash, as indicated by cleaning tests.
5. Continue spraying for 72 hours.
6. Remove soil and softened surface encrustation from masonry with cold water applied by low-pressure spray.

B. Cold-Water Wash: Use cold water applied by low-pressure spray.

C. Hot-Water Wash: Use hot water applied by low-pressure spray.

D. Steam Cleaning: Apply steam at very low pressures not exceeding 30 psi (207 kPa). Remove dirt softened by steam with wood scrapers, stiff-fiber brushes, or cold-water wash, as indicated by cleaning tests.

E. Detergent Cleaning:

1. Wet masonry with hot water applied by low-pressure spray.
2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.
3. Rinse with cold water applied by low- or medium-pressure spray to remove detergent solution and



soil.

4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

F. Mold, Mildew, and Algae Removal:

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
4. Rinse with cold water applied by low - or medium-pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

G. Nonacidic Gel Chemical Cleaning:

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply nonacidic gel cleaner in 1/8-inch (3-mm) thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively so area will be uniformly covered with fresh cleaner and dwell time will be uniform throughout area being cleaned.
3. Let cleaner remain on surface for period indicated below:
  - a. As recommended by chemical-cleaner manufacturer.
  - b. As established by mockup.
4. Remove bulk of nonacidic gel cleaner by squeegeeing into containers for disposal.
5. Rinse with cold water applied by low- or medium-pressure spray to remove chemicals and soil.
6. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

H. Nonacidic Liquid Chemical Cleaning:

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply cleaner to masonry in two applications by brush. Let cleaner remain on surface for period As recommended by chemical-cleaner manufacturer.
3. Rinse with cold water applied by low- or medium-pressure spray to remove chemicals and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

### 3.13 REPOINTING MASONRY

A. Rake out and repoint joints to the following extent:

1. All joints in areas indicated.
2. Joints where mortar is missing or where they contain holes.
3. Cracked joints where cracks can be penetrated at least 1/4 inch (6 mm) by a knife blade 0.027 inch (0.7 mm) thick.
4. Cracked joints where cracks are 1/16 inch (1.6 mm) or more in width and of any depth.
5. Joints where they sound hollow when tapped by metal object.
6. Joints where they are worn back 1/4 inch (6 mm) or more from surface.
7. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
8. Joints where they have been filled with substances other than mortar.
9. Joints indicated as sealant-filled joints.
10. Extend pointing into jambs and heads of openings before new window panning is installed, so that perimeter sealant will be applied to cured mortar joints.
11. The Drawings indicate the percentage of existing joints on each surface to be repointed, in addition to areas otherwise altered or repaired under this Section, as directed by Architect.

- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
1. Remove mortar from joints to depth of 2 times joint width, but not less than ½ inch (13 mm) or not less than that required to expose sound, unweathered mortar.
  2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
  3. Do not spall edges of masonry units or widen joints. Do not damage flashing in joints. Replace or patch damaged masonry units as directed by Architect.
    - a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders without Architect's written approval based on approved quality-control program.
  4. Joints indicated to receive sealant shall be raked out to depth indicated above and left open to receive joint backing and elastomeric sealant as specified in Division 07 Section "Joint Sealants."
- D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
  2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch (9 mm) until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumb print hard before applying next layer.
  3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch (9 mm). Fully compact each layer and allow to become thumb print hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to feather edge the mortar.
  4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
  5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
    - a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
    - b. Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.
  6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
- F. Pointing with Sealant:
1. After raking out, keep joints dry and free of mortar and debris.
  2. Clean and prepare joint surfaces according to Division 07 Section "Joint Sealants." Prime joint surfaces unless sealant manufacturer recommends against priming. Do not allow primer to spill or migrate onto adjoining surfaces.
  3. Fill sealant joints with specified joint sealant according to Division 07 Section "Joint Sealants" and the following:
    - a. Install cylindrical sealant backing beneath the sealant, except where space is insufficient. There, install bond-breaker tape.

- b. Install sealant using only proven installation techniques that will ensure that sealant will be deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
  - c. Install sealant as recommended by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
    - 1) Fill joints to a depth equal to joint width, but not more than 1/2 inch (13 mm) deep or less than 1/4 inch (6 mm) deep.
  - d. Immediately after first tooling, apply ground-mortar aggregate to sealant, gently pushing aggregate into the surface of sealant. Retool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant and aggregate from surfaces adjacent to joint.
  - e. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.
4. Cure sealant according to Division 07 Section "Joint Sealants."

- G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

### 3.14 FINAL CLEANING

- A. Pointing holes from scaffold and miscellaneous attachment: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance.
- B. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-fiber brushes, and clean water, spray applied at low pressure.
  - 1. Do not use metal scrapers or brushes.
  - 2. Do not use acidic or alkaline cleaners.
- C. Wash adjacent woodwork and other non-masonry surfaces. Use detergent and soft brushes or cloths.
- D. Clean mortar and debris from roofs and overhangs; remove debris from gutters and downspouts. Rinse off roof and flush gutters and drains.
- E. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash pavement surfaces to remove mortar, dust, dirt, and stains.

### 3.15 FIELD QUALITY CONTROL

- A. Inspectors: Owner will engage qualified independent inspectors to perform inspections and prepare test reports. Allow inspectors use of lift devices and scaffolding, as needed, to perform inspections.
- B. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- C. Notify inspectors and Architect's Project representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until inspectors and Architect's Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.

++ END OF SECTION 040110 ++

## SECTION 080152

### WOOD WINDOW REHABILITATION

#### PART 1 GENERAL

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##### 1.01 SUMMARY

- A. The work under this Section consists of repairs and alterations of existing wood window frames and exterior casings and sills, and preparation of window frames to receive replacement window sash, to be provided under a related Section, as follows:
1. Removal and salvage of indicated existing window sash to be replaced and of deteriorated trim, frame and sash components as necessary to complete the proper installation of windows throughout the existing building in coordination with operations under Division 02 Section "Selective Demolition." Removed sash shall be turned over to fabricator of replacement units under Division 08 Section "Wood Windows."
  2. Restoring and preparing existing wood frames and sills to receive new sash, balances and hardware.
  3. Restoring or replacing exterior brickmold casings at windows as indicated or necessary.
  4. New and existing window frames and exterior casings shall be primed for field painting.
- B. Related Work Specified in Other Sections:
1. Division 01 Section "Alterations to Existing Construction" for provisions relating to restoration of existing work.
  2. Division 02 Section "Selective Demolition" for removal and disposal of existing windows, in whole or part, in coordination with with this Section.
  3. Division 04 Section "Exterior Masonry Rehabilitation" for repairs and restoration of existing masonry openings to receive new or rehabilitated windows.
  4. Division 06 Section "Rough Carpentry" for necessary alterations to wood blocking at perimeter of windows.
  5. Division 06 Section "Interior Architectural Woodwork" for alterations to interior window surrounds, sills and casings.
  6. Division 07 Section "Joint Sealants" for sealant around full perimeter of new and existing windows, interior and exterior.
  7. Division 08 Section "Wood Windows" for full replacement window units and for replacement sash and balances in existing hung windows.
  8. Division 08 Section "Stile and Rail Wood Doors" for fixed transom lites above wood doors, side lites and door related interior borrowed lites.
  9. Division 08 Section "Glazing" for all glass and glazing, including standards for materials furnished under this Section.
  10. Division 09 Section "Painting" for field painting of windows.

##### 1.02 WINDOW SYSTEM DESCRIPTIONS

- A. Window System Component Descriptions: Window component terminology shall be as identified in AWI's "Architectural Woodwork Quality Standards," Section 1000.
- B. Wood window components for historic treatment work include the following:
1. Frame Components: Head, jambs, and sill.
  2. Sash Components: Stile and rails, parting bead, stop, and muntins.
  3. Exterior Trim: Exterior casing, brick mold, and drip cap.
  4. Interior Trim: Casing, stool, and apron.

- C. Glazing includes glass, glazing points, glazing compounds, and gaskets.
- D. Adjacent components include circular or arched heads, transoms, mullions, and flashing and drainage components.

### 1.03 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Replacement Member Shop Drawings: Show fabrication and installation of replacement wood window members. Indicate materials and profiles of each replacement member, joinery, finish, and method of splicing or attaching to existing wood window.
- C. Samples for Verification: For each type of wood window replacement component required, prepared on Samples of size indicated below.
  - 1. Main Frame Member: 12-inch- (300-mm-) long, full-size sections with applied finish.
  - 2. Replacement Members: 12 inches (300 mm) long for each replacement member; including frame parts, sash parts, exterior trim parts, and interior trim parts. Architect reserves the right to require additional Samples of replacement members that show fabrication techniques, materials, and finish.
    - a. Where original material is indicated as the model to create new duplicate replacement members, provide Samples of duplicate replacement wood window member matching the original member.
- D. Samples for Verification: The Architect reserves the right to require additional samples that show fabrication techniques, workmanship, and design of hardware and accessories.
- E. Historic Treatment Program: For each phase of historic treatment process, including protection of surrounding materials on the building and Project site during operations. Describe in detail the materials, methods, equipment, and sequence of operations to be used for each phase of historic treatment work.
  - 1. If materials and methods alternative to those indicated are proposed for any phase of historic treatment work, provide a written description, including evidence of successful use on other comparable projects, and a testing program to demonstrate their effectiveness for this Project.
- F. Informational Submittals:
  - 1. Qualifications: For historic treatment specialists.

### 1.04 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A firm or individual experienced in historic treatment of windows similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
  - 1. Field Supervision: Require that an experienced full-time supervisor be at Project site during times that historic treatment of wood windows is in progress.
- B. Mockups: Prepare existing windows to serve as mockups to demonstrate historic treatment methods and procedures for aesthetic effects and qualities of materials and execution. Use materials and methods proposed for completed Work and prepare mockups under same weather conditions to be expected during remainder of Work.
  - 1. Wood Window Repair: Prepare one entire window unit to serve as mockup to demonstrate sample repair of wood window members including frame, sash, glazing, and hardware.

2. Approved mockups shall become part of the completed Work if undisturbed at time of Substantial Completion.
- C. AWI Quality Standard: Comply with applicable requirements in AWI's "Architectural Woodwork Quality Standards" for construction, finishes, grades of wood windows, and other requirements.
- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to wood windows including, but not limited to, the following:
  1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  2. Review, discuss, and coordinate the interrelationship of wood windows with other exterior wall components. Include provisions for structural anchorage, glazing, flashing, weeping, sealants, and protection of finishes.
  3. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
  4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

#### 1.05 PROJECT CONDITIONS

- A. Field Measurements: Verify window openings by field measurements before fabrication and show recorded measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver patching and repair compounds to Project site in manufacturer's original and unopened containers, labeled with description of contents and name of manufacturer.
- B. Comply with manufacturer's written instructions for minimum and maximum temperature requirements for storage of patching materials.

### PART 2 PRODUCTS

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#### 2.01 MANUFACTURER

- A. Manufacturer of window components for work of this Section shall be the same firm as is used for production of window units and replacement sash under Division 08 Section "Wood Windows" to ensure compatibility between refurbished existing work to remain and new work.

#### 2.02 MATERIALS

- A. Comply with NWWDA I.S.2.
- B. Wood for Alterations of Existing Windows: Match original species with solid wood kiln dried to a moisture content of 6 to 12 percent at time of fabrication and free of defects impairing appearance or strength.
- C. Concealed Anchors, Clips, and Accessories: Fabricate of nonmagnetic stainless steel or hot-dip zinc-coated steel complying with ASTM B633 for SC3 (severe) service condition; provide sufficient strength to withstand design pressure indicated.

- D. Exposed Fasteners: Brass or bronze, in finish selected for window hardware. For removable items, such as sash stops, provide oval head countersunk brass wood screws with brass cup washers or recessed screw cup washers.

## 2.03 WOOD REPAIR/REPLACEMENT MATERIALS

- A. General: All requirements of Division 06 Section "Finish Carpentry" shall be considered as if fully repeated in this Section and shall apply to all replacement materials necessary for all windows.
- B. Wood materials used shall be of same species and similar in all characteristics, to the satisfaction of the Architect, as existing wood in each location.
- C. For Field Treatment of Non-Pressure-Treated Stock in Exterior Applications: Disodium octaborate tetrahydrate in polyethylene glycol solution, such as Bora-Care, manufactured by Nisus Corp., or approved equal. All sides of all wood elements, including all field and shop cuts, shall be treated. All unpainted existing wood, both finish and rough construction exposed during the course of repair work shall be treated. All new sash and frames, and existing sash and frames shall be treated.
- D. Materials for Conservation/repair of existing sills and frames:
  - 1. Epoxies to be LiquidWood for epoxy consolidant, and WoodEpoxy for epoxy filler, both manufactured by Abatron, Inc., 141 Center Drive, Gilberts, IL 60136 (312-426-2200), West System, or approved equal.
  - 2. Glue for installing inserts shall be waterproof.
    - a. Acceptable Products: Titebond III or Elmer's Glue Max.
  - 3. Wood inserts and new wood elements to match existing species unless otherwise indicated and direction of grain of element to be patched or replaced. Moisture content not to be greater than 15 percent.
  - 4. Joint Sealants: Polyurethane based, one part elastomeric sealant conforming to Division 07 Section "Joint Sealants."
  - 5. Backprime all new wood elements prior to installation with the priming paint specified in the Painting Section.
  - 6. Treat all bare wood before priming with Bora-Care, and treat all wood that will remain unpainted with Bora-Care.
- E. Paint removal:
  - 1. No heat based removal methods may be used at the site.
  - 2. No alkaline products may be used.
  - 3. No abrasive methods may be used.
  - 4. Acceptable product types: methylene chloride, citrus-based or N-methylpiperidone.
  - 5. Heat methods may be used off-site.
  - 6. Steam methods may be used off-site.
  - 7. Infrared methods may be used.

## 2.04 FABRICATION OF REPLACEMENT MEMBERS

- A. General: Fabricate window replacement members and units to comply with AWI Section 1000 requirements for Custom grade.
  - 1. Fabricate replacement direct glazed wood frame members to suit required glazing that are reglazable without dismantling sash members or framing members.
  - 2. Mullions: Provide replacement mullions as shown, matching existing units, complete with anchors for support to structure and installation of window units.
  - 3. Glazing Stops: Provide replacement glazing stops coordinated with glazing system indicated. Provide glazing stops to match sash frames.



4. Molded Profiles of Replacement Members: Match existing profiles.
5. Ease edges of replacement members as necessary to match existing members.

## PART 3 EXECUTION

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### 3.01 HISTORIC TREATMENT SPECIALIST

- A. Responsibilities: Coordinate historic treatment of wood windows.

### 3.02 PREPARATION

- A. Protect adjacent materials from damage caused by historic treatment of wood windows.
- B. Clean existing wood windows of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris. Use bristle brush and mildewcide to kill mildew. After cleaning, rinse thoroughly with fresh water. Allow to dry before patching, repairing, or painting.
- C. Treat existing wood window members to remain in place with water-repellent preservative treatment; apply liberally by brush to all lap and butt joints, edges and ends of wood members, and bottoms of window frames. Apply treatment after wood members are patched and filled.
- D. Condition replacement wood members and replacement wood windows to prevailing conditions at installation areas before installing.

### 3.03 HISTORIC TREATMENT PROCEDURES, GENERAL

- A. Window Removal: Where sashes or windows or window components are to be removed, cover resultant openings with temporary enclosures so that openings are weathertight during repair period.
- B. Identify removed windows, sashes, and members with numbering system to ensure reinstallation in same location. Key windows, sashes, and members to Drawings showing location of each removed unit. Mark units in a location that will be concealed after reinstallation.
- C. Remove all paint from existing wood frame, mullions and tracery components to bare wood during restoration work, and apply preservative treatment as specified in Preparation Article above. Sand surfaces smooth. Apply primer as specified in Division 09 Section "Painting" to interior and exterior wood and glazing compound surfaces, leaving windows ready for finish painting under the Painting Section.

### 3.04 REMOVAL AND SALVAGE

- A. As early as practicable in the progress of the overall work, remove window sash and, where indicated or necessary for the successful prosecution of the work of this Section, frames, trim and related components from the building. Early removal is required to ensure protection from other construction operations.
- B. As each item is removed from the building it shall be tagged or marked to identify the location from which the item was removed, and it shall be carefully packaged for transportation to the facility where restoration work will be performed.
- C. Take photographs of the condition of each item before removal and after removal before packaging, and of the opening from which the item was removed. Provide copies of each photograph to the Architect promptly, and retain copies of the photographs on site until all work of this Section is completed. Digital

photography is recommended, and distribution of photographs shall be by email or on compact disc media.

- D. Transport removed items to restoration facility promptly after removal. Do not store on site.
- E. Any damage to windows to be restored under this Section shall be the responsibility of the Construction Manager, and damaged units shall be repaired or replaced to the satisfaction of the Architect.

### 3.05 WOOD WINDOW MEMBER PATCHING

- A. Patch wood members that have been damaged and exhibit depressions, holes, or similar voids, and that have limited rotted or decayed wood. Remove rotted or decayed wood down to sound wood.
  - 1. Use of patching compound is limited to repairs no greater than 1/4 by 1/2 by 1 inch in dimension. Use wood dutchmen for repairs of larger dimensions.
  - 2. Treat wood members with wood pretreatment prior to application of patching compound according to repair and patching material manufacturer's written instructions.
- B. Apply patching compound to fill depressions, nicks, cracks, and other voids. Apply compound in layers as recommended by manufacturer until the void is completely filled. Sand patching compound smooth and flush, matching contour of existing wood member.
- C. Clean spilled compound from adjacent materials immediately.

### 3.06 WOOD WINDOW MEMBER REPAIR

- A. Repair wood members found to be damaged or unsound to satisfaction of Architect.
  - 1. Repair wood members by pretreating and filling with patching compounds or by replacing with new members spliced into existing wood members as indicated in the schedule.
  - 2. Repair windows by splicing in replacement wood sections where deterioration is structural, impairing stability or function of window.
- B. Repair by Pretreatment and Patching Compound:
  - 1. Clean wood surfaces prior to consolidation treatment and patching.
  - 2. If rotted or soft wood remains, remove down to sound wood according to patching manufacturer's written instructions.
  - 3. Apply wood pretreatment to soft wood fibers to remain, complying with manufacturer's written instructions. Coat surface of wood with consolidation treatment by brushing, applying multiple coats until wood is saturated. Allow treatment to harden before filling void with patching compound.
  - 4. Mix only as much patching compound as can be applied according to manufacturer's written instructions.
  - 5. Apply patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood. Apply compound in layers as recommended in writing by manufacturer until the void is completely filled. Sand patching compound smooth and flush and matching contour of existing wood member.
  - 6. Clean spilled compound from adjacent materials immediately.
- C. Repair by Wood Member Replacement: Custom fabricate new wood members to replace missing members or members deteriorated beyond repair. Either replace entire wood member or splice new wood member into existing member.
- D. Cut out deteriorated or damaged sections of wood members and replace them by splicing replacement wood members into existing remaining wood members.

1. Anchor new wood members by nailing and adhesive.
2. Install wood members with concealed fasteners. Fill nail holes and touch up the finish to match surrounding wood finish.

### 3.07 IN-PLACE REPAIR TO EXISTING FRAMES

#### A. General: Remove sash from frames and refurbish windows as follows:

1. Remove all sash balance hardware, including sash cords or chains, pulleys and attachments, and install new pulleys and chain. Where weatherstripping is intended to be in frame rather than or in addition to that in operable sash, install new weatherstripping, using appropriate sliding type product on jambs and compression type product at head and sill.
  2. Repair deteriorated portions of frames and exterior trim. Replace missing or severely deteriorated components that cannot be adequately patched. Repair of interior trim and sash stops is specified in Finish Carpentry Section: refer to that Section for repair procedures that apply to the window repairs also.
  3. Prepare all work for refinishing. Remove deteriorated or loose paint, and paint interfering with proper operation of the windows. Sand smooth, leaving surfaces ready for final finishing. Make all adjustments necessary for reinstallation and proper operation of windows before refinishing.
  4. Prepare frames to receive replacement sash and hardware under Wood Windows Section.
- B. Except at balance pockets for operable sash balance systems, perimeter of frames are to be sealed with injectable foam draft stopping system specified in Division 07 Section "Thermal Insulation." Coordinate installation of the foam with the trade contractor responsible for the sealant under that Section. Exterior and interior perimeter of frames and trim are to receive joint sealant under Division 07 Section "Joint Sealants."

### 3.08 CLEANING AND PROTECTION

- A. Protect restored window surfaces from contact with contaminating substances resulting from construction operations.
- B. Monitor restored window surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances contact window surfaces, remove contaminants immediately according to glass manufacturer's written recommendations.
- C. Clean exposed surfaces immediately after historic treatment of wood windows. Avoid damaging coatings and finishes. Remove excess sealants, glazing and patching materials, dirt, and other substances.

++ END OF SECTION 080152 ++

## SECTION 085200

### WOOD WINDOWS

#### PART 1 GENERAL

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##### 1.01 SUMMARY

- A. The work under this Section consists of furnishing and installing custom manufactured wood windows and replacement window sash, in coordination with window restoration work specified in Division 08 Section "Wood Window Rehabilitation," complete with all hardware, insulating glazing, weatherstripping, screens, and installation accessories, as follows:
1. Providing new wood windows to replace previous window replacements. New windows, including sash and frames, shall match the original windows and as shown on the Drawings and specified herein. Windows shall be manufactured to custom sizes for installation in existing window openings as indicated. Windows shall be single hung and fixed sash units as indicated.
    - a. New windows, including sash and frames, shall match the details of the original windows, subject to adjustment for required insulating glass, and shall be as shown on the Drawings and specified herein.
  2. Providing new wood sash with insulating glass to replace all existing window sash installed into wood frames restored under related Section. Replace cord and weight balances with new high performance spring balances. Replace parting beads and side stops. Lock operable hung units with replacement locks. Inject draft sealer in unused weight pockets. Seal full perimeter of fixed sash with elastomeric sealant, interior and exterior.
  3. Both existing and new double hung and triple hung windows shall have upper sash fixed: only the lower sash shall be operable.
  4. Exteriors of new window sash are to be furnished finished in color(s) selected by Architect: interior color may be different from exterior. New window frames and exterior casings shall be primed for field painting.
- B. Related Work Specified in Other Sections
1. Removal of existing windows: Division 02 Section "Selective Demolition" for complete removal of windows indicated to be entirely replaced, and for removal of sash from windows where frames are indicated to be retained and restored in place.
  2. Rough framed openings to receive windows, including treated wood blocking in masonry walls, and including alterations to existing openings: Division 06 Section "Rough Carpentry."
  3. Interior wood trim and stools, including interior wood jamb extensions and casings: Division 06 Section "Finish Carpentry."
  4. Division 06 Section "Interior Architectural Woodwork" for alterations to transparent finished interior window surrounds, sills and casings.
  5. Injected foam draft sealer around full perimeter of windows: Division 07 Section "Thermal Insulation."
  6. Metal sill and head flashing: Division 07 Section "Sheet Metal Flashing and Trim."
  7. Sealant around full perimeter of windows, interior and exterior: Division 07 Section "Joint Sealants."
  8. Division 08 Section "Wood Window Rehabilitation" for preparation and restoration of existing windows to receive new sash in coordination with work of this Section.
  9. Glass and glazing, including standards for materials furnished under this Section: Division 08 Section "Glazing."
  10. Division 09 Section "Painting" for field painting of windows.

##### 1.02 WINDOW SYSTEM DESCRIPTIONS

- A. Window System Component Descriptions: Window component terminology shall be as identified in AWI's "Architectural Woodwork Quality Standards," Section 1000.

- B. Wood window components for historic treatment work include the following:
  - 1. Frame Components: Head, jambs, and sill.
  - 2. Sash Components: Stile and rails, parting bead, stop, and muntins.
  - 3. Exterior Trim: Exterior casing, brick mould, and drip cap.
  - 4. Interior Trim: Casing, stool, and apron.
- C. Glazing includes glass, glazing points, glazing compounds, and gaskets.
- D. Adjacent components include circular or arched heads, transoms, mullions, and flashing and drainage components.

### 1.03 DEFINITIONS

- A. Performance class designations according to AAMA/WDMA 101/I.S.2/NAFS:
  - 1. AW: Architectural.
- B. Performance grade number according to AAMA/WDMA 101/I.S.2/NAFS:
  - 1. Design pressure number in pounds force per square foot (pascals) used to determine the structural test pressure and water test pressure.
- C. Structural Test Pressure: For uniform load structural test, is equivalent to 150 percent of the design pressure.
- D. Minimum Test Size: Smallest size permitted for performance class (gateway test size). Products must be tested at minimum test size or at a size larger than minimum test size to comply with requirements for performance class.

### 1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM E283--Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
  - 2. ASTM E330--Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  - 3. ASTM E547--Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
  - 4. ASTM E774--Specification for Sealed Insulating Glass Units.
  - 5. ASTM C 1036--Standard Specification for Flat Glass.
- B. American National Standards Institute/National Wood Window and Door Association (ANSI/NWWDA):
  - 1. ANSI/NWWDA I.S.2 Industry Standard for Wood Windows.
  - 2. ANSI/NWWDA I.S.4 Industry Standard for Water Repellent Preservative Treatment for Millwork.
- C. Consumer Product Safety Commission:
  - 1. 16 CFR 1201 Safety Standard For Architectural Glazing Materials.
- D. Sealed Insulating Glass Manufacturers Association/Insulating Glass Certification Council (SIGMA/IGCC).

E. Federal Specifications (FS):

1. FS DD-G-451D--Glass, Float or Plate, Sheet, Figured (Flat for Glazing, Mirrors, and Other Uses).

1.05 PERFORMANCE REQUIREMENTS

A. General: Provide wood windows capable of complying with performance requirements indicated, based on testing manufacturer's windows that are representative of those specified, and that are of test size indicated below:

1. Not less than actual size of existing windows to be replaced, and replacement sash.

B. Structural Performance: Provide wood windows capable of withstanding the effects of the following loads based on testing units representative of those indicated for Project that pass AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Structural Test:

1. Design Wind Loads: Determine design wind loads applicable to Project from basic wind speed indicated in miles per hour (meters per second) at 33 feet (10 m) above grade, according to ASCE 7, Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade, orientation and exposure indicated on Drawings and from the governing codes.
2. Deflection: Design glass framing system to limit lateral deflections of glass edges to less than 1/175 of glass-edge length or 3/4 inch (19 mm), whichever is less, at design pressure based on testing performed according to AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Deflection Test or structural computations.

1.06 SYSTEM DESCRIPTIONS

A. Hung Window Design and Performance Requirements:

1. Window units shall be designed to comply with ANSI/NWWDA I.S.2, Grade 40 or DP25 for wood single or double hung.
2. Air leakage shall not exceed the following when tested at 1.57 psf according to ASTM E283: Grade 40--0.25 cfm per linear foot of sash crack; DP25--0.25 cfm per square foot of frame.
3. No water penetration shall occur when units are tested at the following pressure according to ASTM E547: Grade 40--4.43 psf; DP25--3.75 psf.
4. Window assembly shall withstand the following positive or negative uniform static air pressure difference without damage when tested according to ASTM E330: Grade 40--40 psf; DP25--37.5 psf.

1.07 SUBMITTALS

A. Product Data for each type of wood window and each type of replacement sash required, including the following:

1. Construction details and fabrication methods.
2. Profiles and dimensions of individual components.
3. Data on hardware, accessories, and finishes.
4. Glass and glazing.
5. Recommendations for maintenance and cleaning of exterior surfaces.

B. Shop Drawings for each type of window required, including information not fully detailed in manufacturer's standard Product Data and the following:

1. Measured elevation and sectional drawings of existing window components in comparison with proposed window components showing least practical difference between proposed and new components.
2. Construction and installation details, including anchors, at scale not less than 3"=1'-0".

3. Elevations of each window at 3/8 inch = 1 foot scale and typical window unit elevations at 3/4 inch = 1 foot scale.
4. Component and assembly details, at not less than one-half full size:
  - a. Full-size section details of typical frame, sash, muntin, trim, and composite members, including reinforcement and stiffeners.
  - b. Mullion details, including reinforcement and stiffeners.
  - c. Joinery details.
  - d. Hardware, including operators and balance system.
  - e. Expansion provisions.
  - f. Flashing and drainage details.
  - g. Weather-stripping details.
  - h. Glazing details.
  - i. Accessories.
5. For installed products indicated to comply with design loads, include structural analysis data prepared by or under the supervision of a qualified professional engineer detailing fabrication and assembly of wood windows and used to determine the following:
  - a. Structural test pressures and design pressures from basic wind speeds indicated.
  - b. Deflection limitations of glass framing systems.

C. Samples for Selection and Comparison with Existing:

1. Wood material for all components of windows.
2. Glass unit and glazing.
3. Operating hardware.
4. Finishes, interior and exterior.
5. Wood moldings for each member of windows.
6. Sample window unit.

D. Samples for Verification: The Architect reserves the right to require additional samples that show fabrication techniques, workmanship, and design of hardware and accessories.

E. Informational Submittals:

1. Test reports from a qualified independent testing agency indicating that each type, grade, and size of window unit complies with performance requirements indicated based on comprehensive testing of current window units within the last 5 years. Test results based on use of downsized test units will not be accepted.
2. Warranties.

## 1.08 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firms whose windows have been certified under the NWWDA "Hallmark Program" for wood window units are listed in the current NWWDA "Membership and Product Directory" and comply with requirements indicated.

1. Provide only wood window units bearing an NWWDA "Hallmark Program" label certifying compliance with requirements of NWWDA I.S. 2.

B. AWI Quality Standard: Comply with applicable requirements in AWI's "Architectural Woodwork Quality Standards" for construction, finishes, grades of wood windows, and other requirements.

C. Testing Agency Qualifications: To qualify for approval, an independent testing agency must demonstrate to Architect's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

- D. Single-Source Responsibility: Obtain wood window units from one source and by a single manufacturer.
- E. Regulatory Requirements: Emergency Egress or Rescue: Comply with requirements for sleeping units of Massachusetts State Building Code.
- F. Safety Glass Standard: Provide products complying with testing requirements of 16 CFR, Part 1201 for Category II materials.
  - 1. Subject to compliance with requirements, provide safety glass permanently marked with the certification label of the Safety Glazing Certification Council (SGCC) or another certification agency acceptable to authorities having jurisdiction.
- G. Fenestration Standard: Comply with AAMA/WDMA 101/I.S.2/NAFS, "North American Fenestration Standard Voluntary Performance Specification for Windows, Skylights and Glass Doors," for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
  - 1. Provide WDMA-certified wood windows with an attached label for new windows.
- H. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.
- I. Insulating-Glass Certification Program: Provide insulating-glass units permanently marked on spacers or at least on one component pane of units with the appropriate certification label of the inspecting agency indicated below:
  - 1. Insulating Glass Certification Council (IGCC).

#### 1.09 PROJECT CONDITIONS

- A. Field Measurements: Check window openings by field measurements before fabrication and show recorded measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Where field measurements cannot be made without delaying the Work, guarantee opening dimensions and proceed with fabricating wood windows without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to guaranteed dimensions.

#### 1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store all products in unopened original manufacturer's packaging. Store all materials in strict accordance with manufacturer's instructions and recommendations. Protect materials from all damage.
- B. Deliver and all products just in time for installation. All storage shall be in locked and secure trailers or secure off-site locations. Protect materials from all damage.
  - 1. Coordinate and defer delivery and installation of replacement sash until restoration work of a related Section is complete and accepted. Installation be deferred until other operations that may risk damage to the repaired windows are complete. Installation of replacement sash under this Section shall be performed only in proper sequence and coordination with the repairs to frames and installation of restored sash.
- C. Screens for all window units shall not be installed in windows until immediately prior to the Architect's inspection for Substantial Completion. If delivery of screens cannot be deferred until they are required for installation, Contractor shall provide protected storage for all screens, and shall ensure that each



screen is clearly marked for the window opening in which it will be installed. Storage shall not be in any work area.

- D. Protect units from all damage during transportation, handling and installation.
- E. Remove all paper-type wrappings and interleaving. Store units indoors if possible, in a clean well-drained area free of dust and corrosive fumes.
- F. Stack units vertically or on edge, so that water cannot accumulate on or within units, using wood or plastic shims between units to provide drainage and air circulation.
- G. Cover units with tarpaulins or sheet plastic hung on frames, to provide air circulation and prevent contaminants contacting aluminum. Keep water away from stored assemblies.

#### 1.11 FIELD TESTING

- A. Architect reserves right to require on-site testing of installed units for both air and water infiltration, using an accredited testing agency acceptable to both Architect and window manufacturer. Architect will select units to be tested.
- B. Air infiltration tests shall conform to ASTM E283. Allowable infiltration during field test shall not exceed 1 times rate for laboratory testing.
- C. Water resistance tests shall conform to AAMA 501.3. No water leakage is permitted during field test.
- D. All tested units not meeting specified requirements, and all similar units, shall be satisfactorily modified in field, or removed and replaced.

#### 1.12 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty executed by wood window manufacturer agreeing to repair or replace window components that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:
  - 1. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
  - 2. Faulty operation of sash and hardware.
  - 3. Deterioration of finishes and other materials beyond normal weathering.
  - 4. Warranty Period: Two years after date of final acceptance of the windows.
- C. Warranty Period for Insulating Glass and failure of finish: 10 years after date of Substantial Completion.

## PART 2 PRODUCTS

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### 2.01 MANUFACTURERS

- A. Basis of Design Manufacturer: Subject to compliance with requirements, provide products as manufactured by KSD Custom Wood Products, or comparable products of one of the following:

1. Architectural Components, Inc., 26 North Leverett Road, Montague, MA 01351
2. Custom Wood Reproductions, Westfield, MA.
3. J.S. Benson Woodworking and Design, LLC.
4. H. Hirschmann LTD.
5. Parrett Windows and Doors, Dorchester, WI.

- B. Manufacturer of products under this Section shall be responsible for fabrication of replacement frames, sills and exterior trim specified in Division 08 Section "Wood Window Rehabilitation" to ensure compatibility between refurbished existing work to remain and new work.

## 2.02 MANUFACTURED UNITS

- A. Replacement Wood Windows: Custom manufactured wood sash, frames and trim, factory assembled windows, with simulated divided lite wood muntins, insulating glass, screens and hardware, fully factory finished, where indicated.
- B. Replacement Sash: Custom manufactured wood sash, factory assembled with true wood muntins, insulating glass, hardware coordinated with frame restoration work under a related Section, fully factory finished, where indicated.

## 2.03 NEW WINDOW MATERIALS

- A. General: Comply with requirements of NWWDA I.S. 2.
- B. Wood: Clear kiln dried Honduras Mahogany, Seietenian Macrophyllia, vertical grain all heartwood lumber, kiln dried to a moisture content of 6 to 12 percent at time of fabrication and free of visible finger joints, stain, knots, pitch pockets, and surface checks. Finger jointing is not acceptable.
1. Lumber shall be water-repellent preservative treated after machining per NWWDA I.S. 4.
- C. Anchors, Clips, and Accessories: Fabricate concealed anchors, clips, and window accessories of aluminum, nonmagnetic stainless steel, or hot-dip zinc-coated steel or iron complying with requirements of ASTM B 633 for SC 3 (severe) service condition; provide sufficient strength to withstand design pressure indicated. Exposed hardware shall be bronze or brass.
- D. Fasteners: Comply with NWWDA I.S. 2 for fabrication and with manufacturer's recommendations and standard industry practices for type and size of installation fasteners.
1. Use only stainless steel or brass nails and screws for window fabrication and installation.

## 2.04 WINDOWS

- A. Replacement Sash: Clear kiln dried Honduras Mahogany, Seietenian Macrophyllia, vertical grain all heartwood stiles, rails and simulated divided lite muntins. All profiles to match existing, subject to necessary adjustment for required glazing, unless otherwise indicated.
- B. Glazing: Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E774, conforming to all applicable requirements of Division 08 Section "Glazing."
1. Glass Type: Clear Northern Low E with Argon Insulating Glass Altitude Adjusted, tempered where required by installation conditions under governing codes and authorities.
  2. Glass unit thickness: As indicated, or as determined by performance requirements.
  3. Spacers to be dark bronze color, or as otherwise indicated or directed, aligned with muntins.
  4. Glazing Seal: Silicone bedding. Removable interior stops.

C. Finish:

1. Exterior: Factory prime and finish, including frame, brick mold trim, sill, and sash: two brush applied coats of cross-linked urethane/acrylic coating system equal to KTM-1, manufactured by Grafted Coatings, Inc., Stratford, CT, in color selected by Architect.
2. Interior: Factory finished frames, sash, stops and associated trim, stain and transparent finish to match original finish, as acceptable to Architect, conforming to Division 09 Section "Painting," primed for field painting where interior trim is indicated to have opaque finish.

D. Hardware:

1. Balances:

- a. Heavy duty Class 5 ultralift type capable of lifting 70 percent of sash weight, of size and capacity to hold sash stationary at any open position in accordance with AAMA 101, Section 2.2.1.3.2, and AAMA 902, Section 8.1. Balance system shall permit removal of sash from interior.
- b. Connected to self-locking balance shoes attached to the sashes using zinc die cast terminals.
- c. Balances concealed within frame.
2. Weatherstripping: Provide Zero #6 (10 ga bronze), or approved equal, at meeting rails, 9 ga bronze at jambs, and 16 ga bronze at sills (N.Y. Board of Ed. Std. 8F-04) for hung units. Provide Zero Series 18 full perimeter strips of 34 B&S ga spring bronze at awning sash.
3. Lock: cast bronze cam lock and keeper. Two locks on sash sizes of 36 inches and wider. Finish: US10. Phelps-Model # TC-75, or approved equal.
4. Sash Lift: Bronze, Hager 7435, or approved equal, US 10. Provide two lifts on sash 36 inches and wider.

E. Jamb Extensions: Provide factory installed jamb extensions for wall thickness indicated or required. Finish: Match interior frame finish.

F. Screens: Factory installed screens fitted to operable sash only, in prefinished aluminum frame retained by bale catches at sill and matching channel retainer at head. 18 by 16 mesh charcoal aluminum wire screen cloth. Frame Finish: Baked enamel in color to match exterior frame color. Assemble screening to frame with suitable spline.

## 2.05 FABRICATION

- A. General: Fabricate wood window units to comply with indicated standards. Include a complete system for assembly of components and anchorage of window units.
- B. Comply with requirements of NWWDA I.S. 2 for moisture content of lumber at time of fabrication.
- C. Fabricate windows to produce units that are reglazable without dismantling sash framing. Provide openings and mortises precut, where possible, to receive hardware and other items.
- D. Factory-Glazed Window Units: Except for light sizes in excess of 100 unglazed inches, glaze window units in the shop before delivery. Comply with requirements of Division 08 Section "Glazing" of these Specifications and NWWDA I.S. 2.
- E. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to the Project site, to the maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

## PART 3 EXECUTION

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### 3.01 EXAMINATION

- A. Inspect all parts of the structure where wood windows and replacement sash are to be installed and the conditions under which the work is to be performed. Report in writing to the Contractor, with copy to the Architect, any conditions which might adversely affect the installation. Do not proceed with the installation until defects have been corrected and conditions are satisfactory.
- B. Verify that opening is correct and sill plate is level. Do not proceed with installation until unsatisfactory conditions have been corrected.
  - 1. Masonry surfaces shall be dry and free of construction debris.
  - 2. Wood frames to receive replacement sash shall have been fully restored to Architect's satisfaction and shall be dry and clean.
  - 3. Wood framing and blocking shall be dry, clean, sound, well-nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches of corner.
  - 4. Coordinate window installation with wall flashings and other built-in components.

### 3.02 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installing window units, hardware, balances, accessories, and other components of the Work.
- B. Set window units plumb, level, true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place.
- C. Set sill members in a bed of sealant or with joint fillers or gaskets, as indicated, to provide weathertight construction.
- D. Sash Installation in Existing Restored Frames: Coordinate and sequence installation with frame restoration. Upper sash of double and triple hung windows shall be permanently fixed in place, with molded wood blocks secured to frames below sash; the full perimeter of fixed sash shall be sealed on exterior and interior with approved elastomeric sealant matching color of adjacent finish.
- E. Except at balance pockets for operable sash balance systems, perimeter of frames are to be sealed with injectable foam draft stopping system specified in Division 07 Section "Thermal Insulation." Coordinate installation of the foam with the trade contractor responsible for the sealant under that Section. Exterior and interior perimeter of frames and trim are to receive joint sealant under Division 07 Section "Joint Sealants."

### 3.03 ADJUSTING

- A. Adjust operating sash and hardware to provide a tight fit at contact points and weatherstripping for smooth operation and a weathertight closure. Lubricate hardware and moving parts.

### 3.04 CLEANING

- A. Clean interior and exterior surfaces immediately after installation. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealants, dirt, and other substances.
- B. Clean glass of factory-glazed units immediately after installing windows. Wash and polish glass on both faces before Substantial Completion. Comply with manufacturer's recommendations for final cleaning and maintenance.

- C. Remove nonpermanent labels from glass surfaces. Remove visible labels.
- D. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.

3.05 PROTECTION

- A. Protect window units from damage or deterioration until the time of Substantial Completion.

++ END OF SECTION 085200 ++

**Specifications:  
Slate Roofing**

---



1. Salvaged historic Buckingham slate, typical condition



2. Salvaged historic Buckingham slate, typical condition



3. Salvaged historic Buckingham slate, typical condition





# Sustainable Roofing



## Majestic Slate



*Environmentally friendly synthetic slate roofing tiles proudly made in the USA*

*Pioneers of sustainable roofing since 1993*

# Majestic Slate

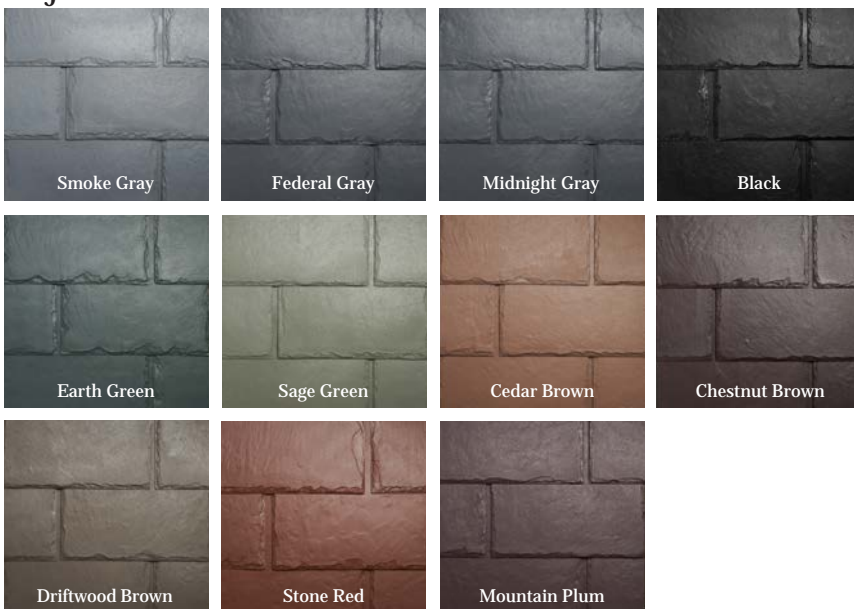


Historically, natural slate is one of the most appealing roofing choices, combining unmatched durability with aesthetic appeal. The cost of natural slate, as well as its weight and difficulty in finding a qualified slate installer, often makes its use prohibitive. EcoStar LLC, the leading manufacturer of premium synthetic steep-slope roofing products, combines classic appeal with modern technology to offer the lightweight and affordable alternative – Majestic Slate™.

Created with recycled rubber and plastics, Majestic Slate offers a sustainable, lighter and easy-to-install roofing product that provides the appearance of natural slate with lower application costs. Available in two widths and designer accents, this slate alternative offers endless possibilities for residential and commercial projects. The architectural detail of a project, whether historic or new construction, is further enhanced by a wide range of available color combinations using the palette of 11 standard color choices and array of custom options.

Curb appeal is everything when it comes to the look of your home, but protection from the elements must be a priority. Majestic Slate offers both.

## Majestic Slate Color Palette



Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that will appear on the roof. Before installation, ten tiles or so should be laid out and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions. <sup>1</sup>Significant property insurance discounts may be available when upgrading or building a roof to protect against hail, wind or fire damage in regions where severe weather is common. EcoStar tiles meet or exceed industry standards for Impact Resistance and Fire Resistance. Contact your insurance provider for details.

01/19 © 2019 by EcoStar LLC. EcoStar and Majestic Slate are trademarks of EcoStar LLC. See [www.ecostarllc.com](http://www.ecostarllc.com) for available warranties. P/N-602689 MAJESTIC SLATE CUT SHEET

## Advantages

- Weighs 1/3 to 1/2 as much as natural slate
- Easy application keeps installation costs down
- Significant property insurance discounts may be available when upgrading or building a roof to protect against hail<sup>1</sup>

## Architectural Flexibility

- Designer Series tiles can be blended together to add personal style to your home
- Staggered and offset installations accentuate roof texture and depth
- Available in 11 standard colors
- Enhance the historical look in both residential and commercial buildings

## Strength & Durability

- Provides superior durability and protection from extreme weather conditions that include wind, hail and driving rain
- Significant life cycle savings

## Warranty Options

- 50-Year Limited Material Warranty available
- 50-Year Gold Star Labor & Material Warranty available
- 90 mph (145 kph) Wind Warranty (standard)

## Environmental Sustainability

- Manufactured with post-industrial recycled rubber and plastics

## Technical Information

- UL listed Class C fire resistance (UL 790)
- UL Class 4 impact resistance (UL 2218)
- Wind resistance to 110 mph (ASTM D3161)
- Prolonged UV Exposure (ASTM G155)
- UL Evaluation Report to ICC AC07 (R18920-02)
- Texas Dept. of Insurance Evaluation (RC-135)
- May contribute to LEED® points
- Manufactured in strict adherence to ISO 9001:2015 Quality Management



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# Sustainable Roofing



## Designer Series Slate

*Beaver Tail | Beveled Edge | Chisel Point*



*Environmentally friendly synthetic slate roofing tiles proudly made in the USA*

*Pioneers of sustainable roofing since 1993*

# Designer Series Slate



Many unique shapes and designs have been seen in slate roofing throughout history. Designer Series Slate tiles allow building owners the opportunity to continue that expression of individuality. EcoStar LLC, the leading manufacturer of premium synthetic steep-slope roofing products, offers three classic shapes as part of the Designer Series Slate collection. Made with the same formulas and offering the same benefits as Majestic Slate and Empire Slate, Designer Series Slate offers unlimited creative possibilities.

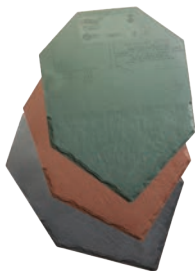
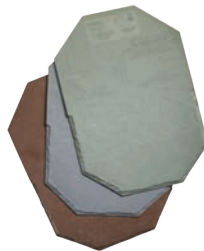


## Beaver Tail

The rounded look makes this classic slate tile perfect for designing unique roof patterns or creating a true carriage house appeal.

## Beveled Edge

The look of scalloped edges in a hexagonal pattern makes beveled edge tiles a classic. This rare style can be intermixed with traditional slate tiles or used separately for historical applications.



## Chisel Point

Chisel Point tiles form a beautiful diamond pattern on the roof, reminiscent of European roof designs.

## Available Colors:

Majestic Slate: 11 standard colors

Empire Slate: 14 standard colors and unlimited custom colors

Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that will appear on the roof. Before installation, ten tiles or so should be laid out and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications are subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions.

## Advantages

- Weighs significantly less than natural slate
- Minimum 4" of headlap protection
- Easy application keeps installation costs down

## Architectural Flexibility

- The various styles of Designer Series Slate can be blended together with Majestic Slate or Empire Slate traditional tiles to create unique designs
- Special shapes replicate those found in historical, carriage house and European architecture
- Available in a wide array of standard and custom colors
- Available in three different shapes: Beaver Tail, Beveled Edge and Chisel Point
- Natural appearance of real slate roofing

## Strength & Durability

- Provides superior durability and protection from extreme weather conditions that include wind, hail and wind-driven rain
- Significant life cycle savings

## Warranty Options

- 50-Year Limited Material Warranty available
- 50-Year Gold Star Labor & Material Warranty available
- 110 mph Wind Warranty available



## Environmental Sustainability

- Manufactured with up to 80% post-industrial recycled materials

## Technical Information

- UL listed Class C/A fire resistance (UL 790)
- UL listed wind resistance to 110 mph (D3161)
- UL Class 4 impact resistance (UL 2218)
- Prolonged UV Exposure (ASTM G155)
- UL Evaluation Reports, AC07-ULER 18920-01 and 18920-02
- May contribute to LEED® points
- Manufactured in strict adherence to ISO 9001:2015 Quality Management

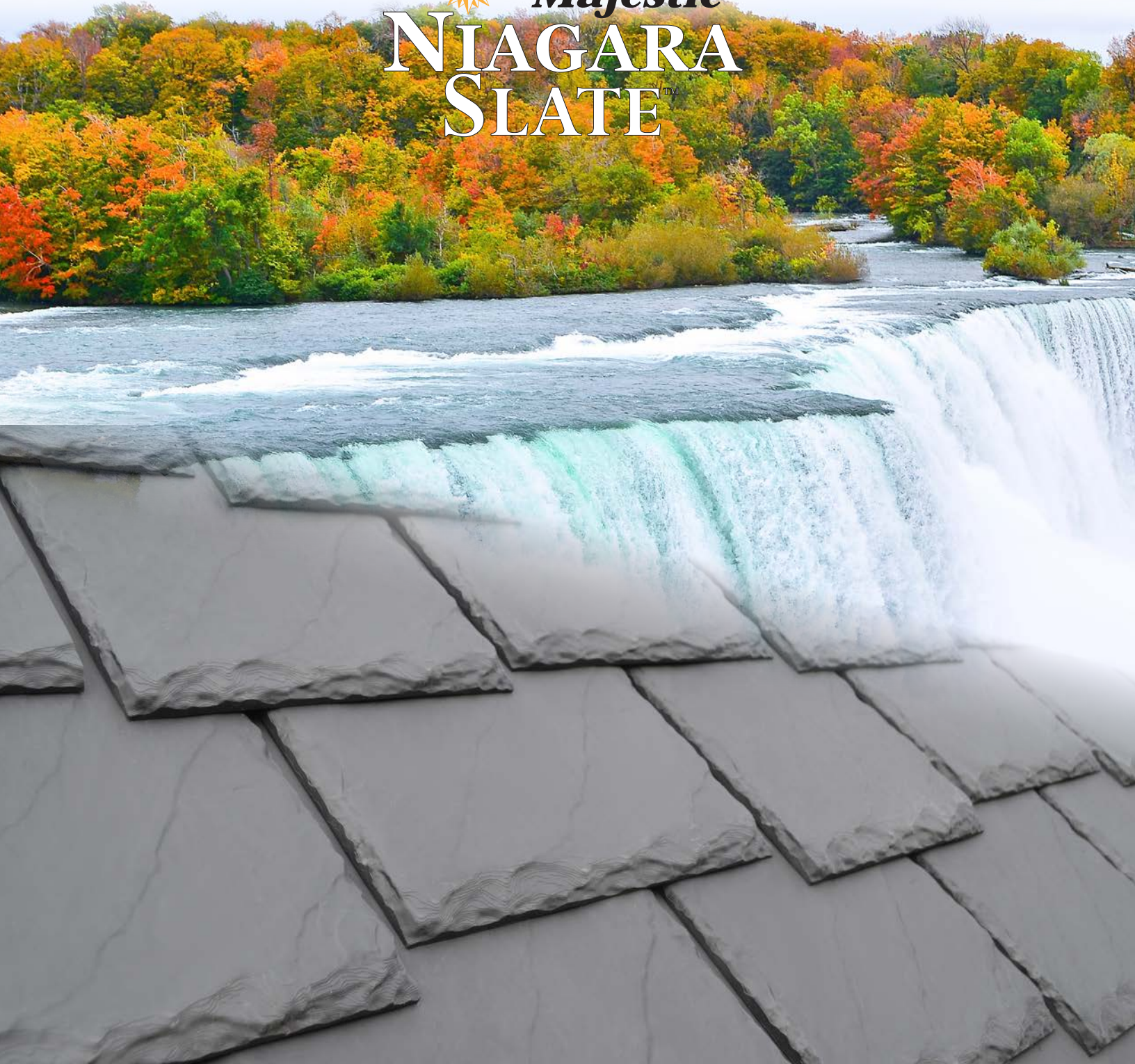


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Sustainable Roofing

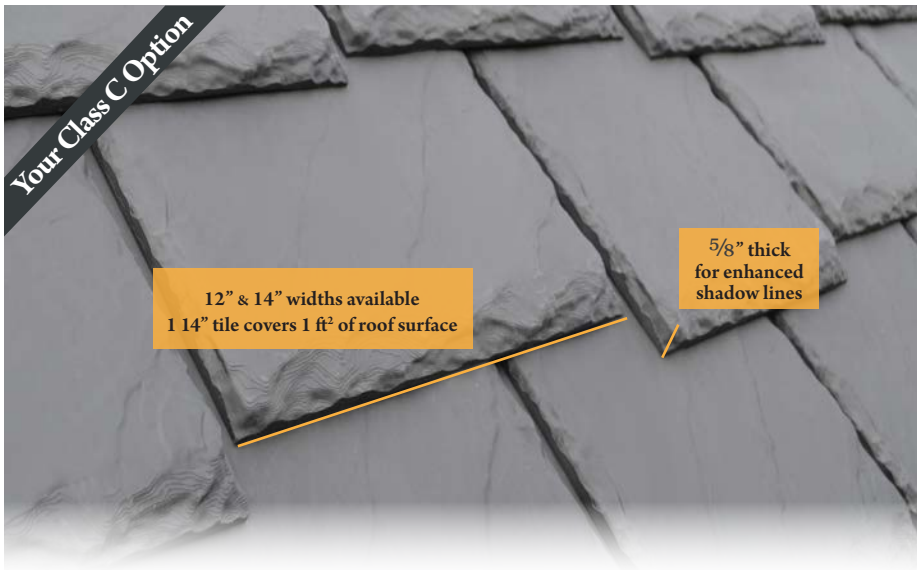
 **Majestic**  
**NIAGARA**  
**SLATE™**



*Environmentally friendly synthetic slate roofing tiles proudly made in the USA*

*Pioneers of sustainable roofing since 1993*

# Majestic Niagara Slate

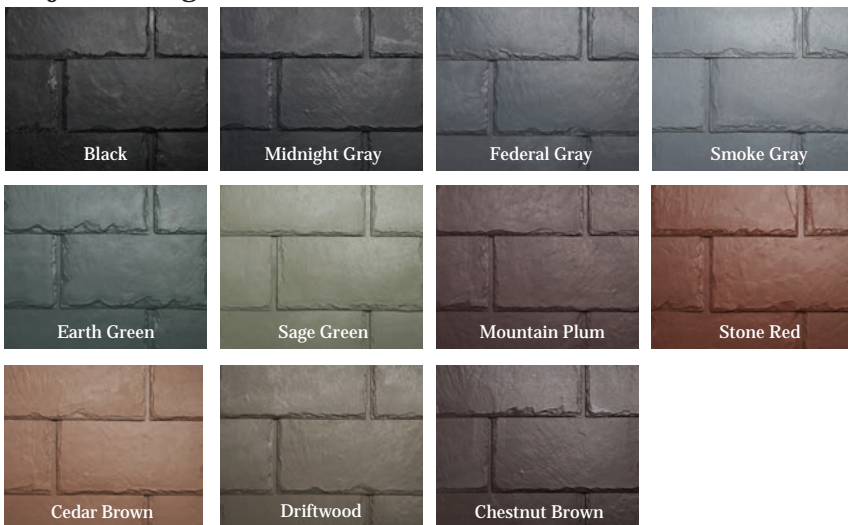


**B**igger is better when it comes to EcoStar LLC's latest innovation. Majestic Niagara Slate is a natural-looking,  $\frac{5}{8}$ " thick, synthetic slate roofing tile produced in 12" and/or 14" widths. This added size allows each Majestic Niagara Slate 14" tile to cover one square foot of roof deck at the 10" exposure (100 tile/square), maintaining a 2" headlap throughout. An additional 9" exposure option allows for the creation of unique looks using staggered, offset or random width installations.

This design consumes less raw material, reduces roof load by up to 20% and lowers installation labor by 30%. Unlike other synthetic slates, Majestic Niagara Slate is manufactured from 80% post-industrial recycled materials. EcoStar roofing tiles, including the larger Majestic Niagara Slate, provide long-lasting durability, superior protection against extreme weather conditions and 50 years of warranty coverage.

Available in 11 standard colors, Majestic Niagara Slate offers endless opportunity to showcase the beauty of natural slate at a fraction of the cost.

## Majestic Niagara Slate - Standard Color Palette



Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that may appear on a roof. Before installation, ten tiles or so should be laid out and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions. <sup>1</sup>Significant property insurance discounts may be available when upgrading or building a roof to protect against hail damage in regions where severe weather is common. EcoStar tiles meet or exceed industry standards for Impact Resistance. Contact your insurance provider for details.

## Advantages

- One 14" tile = 1 ft<sup>2</sup> of roof coverage
- Available in two sizes: 14" x 22" & 12" x 22"
- Weighs significantly less than natural slate
- Look of real slate without extensive maintenance
- Easy application keeps installation costs down
- Significant property insurance discounts may be available when upgrading or building a roof to protect against hail<sup>1</sup>

## Architectural Flexibility

- Natural appearance of real slate roofing
- $\frac{5}{8}$ " thick for enhanced shadow lines
- Available in 11 standard colors
- Staggered, offset and random width installation techniques enhance roof texture and depth

## Strength & Durability

- Provides superior durability and protection from extreme weather conditions that include wind, hail, driving rain and heavy snow
- 22" length provides up to 4" of headlap protection against wind-driven rain and ponding snow melt
- Significant life cycle savings

## Warranty Options

- 50-Year Limited Material Warranty standard
- 50-Year Gold Star Labor & Material Warranty available

## Environmental Sustainability

- Manufactured with 80% post-industrial recycled materials

## Technical Information

- UL listed Class C fire resistance (UL 790)
- UL Class 4 impact resistance (UL 2218)
- UL listed wind resistance to 110 mph (ASTM D3161)
- May contribute to LEED<sup>®</sup> points
- Manufactured in strict adherence to ISO 9001:2015 Quality Management



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# Sustainable Roofing



Empire Slate



*Environmentally friendly synthetic slate roofing tiles proudly made in the USA*  
*Pioneers of sustainable roofing since 1993*

# Empire Slate



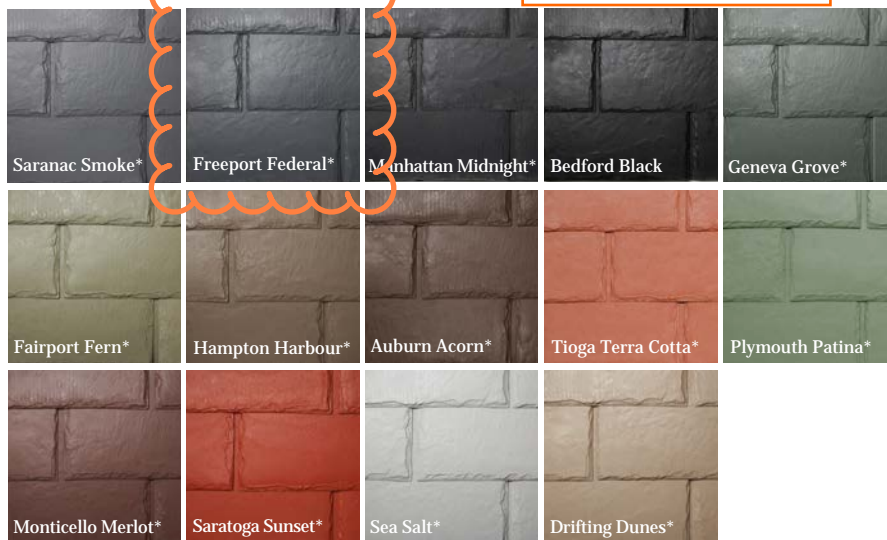
Embracing the continued progression of sustainable building practices and recognizing the numerous challenges which have impacted economic conditions, EcoStar LLC proudly offers Empire Slate in its collection of premium steep slope roofing products.

Committed to preserving natural resources, EcoStar's Empire Slate is manufactured from a proprietary compound of recycled content which creates long lasting durability while providing superior protection against extreme weather conditions. Available in 14 standard colors and unlimited custom color options, Empire Slate offers endless possibilities to achieve the beauty of natural slate at a fraction of the cost. Class A fire resistance (UL 790) is standard, making Empire Slate an exceptional choice for any commercial or residential roof.

The increasing awareness of the effects of climate change on the ecosystem and the economy continues to influence standards for environmental responsibility. Empire Slate offers a solution to the obstacles imposed by escalating regulations on building practices and can provide significant cost savings on roof maintenance expenses, cooling expenses<sup>1</sup> and property insurance.<sup>2</sup>

Final Color Selection to be Made in Field with Samples

## Empire Slate Color Palette



Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that may appear on a roof. Before installation, ten tiles or so should be laid out and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions. <sup>1</sup>Cool colors may provide energy savings in summer months by reducing air conditioning use. For more information about energy savings visit EPA.gov. <sup>2</sup>Significant property insurance discounts may be available when upgrading or building a roof to protect against hail, wind or fire damage in regions where severe weather is common. EcoStar tiles meet or exceed industry standards for Impact Resistance and Fire Resistance. Contact your insurance provider for details.

\*Available in Standard or Cool Color

## Advantages

- Weighs 1/3 to 1/2 as much as natural slate
- Significant property insurance discounts may be available when upgrading or building a roof to protect against hail<sup>2</sup>
- Cool colors help reduce energy used by air conditioning units, typically resulting in energy savings between 10-30%<sup>1</sup>

## Architectural Flexibility

- Designer Series tiles can be blended together to add personal style to your home
- Staggered and offset installations accentuate roof texture and depth
- Available in 14 standard colors and unlimited custom color options
- Preserve the historical look in both residential and commercial buildings

## Strength & Durability

- Provides superior durability and protection from extreme weather conditions that include wind, hail and driving rain
- Significant life cycle savings

## Warranty Options

- 50-Year Limited Material Warranty available
- 50-Year Gold Star Labor & Material Warranty available
- 110 mph (177 kph) Wind Warranty available

## Environmental Sustainability



- Manufactured with post-industrial recycled plastics
- Cool colors contribute to the mitigation of the urban heat island effect<sup>1</sup>

## Technical Information

- UL listed Class A or C fire resistance (UL 790)
- UL Class 4 impact resistance (UL 2218)
- Wind resistance to 110 mph (ASTM D3161)
- Prolonged UV Exposure (ASTM G155)
- UL Evaluation Report, AC07-UL ER18920-01
- Fungus resistant (ASTM G21-09)
- Miami-Dade County, Florida NOA No. 17-1227.10 11/07/23
- Texas Dept. of Insurance Evaluation (RC-420)
- May contribute to LEED® points
- Manufactured in strict adherence to ISO 9001:2015 Quality Management



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**Attachment C: National Endowment for the Humanities Delegation of Authority**



## NATIONAL ENDOWMENT FOR THE HUMANITIES

OFFICE OF GRANT MANAGEMENT

### **Notice of Delegation of Authority Section 106 Consultation under the National Historic Preservation Act (NHPA), National Endowment for the Humanities Infrastructure and Capacity Building Challenge Grants, and Sustaining Cultural Heritage Collections Programs**

Dear NEH Award Recipient,

After reviewing your organization's funded grant application, the National Endowment for the Humanities (NEH) has identified construction, alteration, renovation, or ground disturbing activities in your project that represent an "undertaking" under the National Historic Preservation Act (NHPA) ([54 USC 300101 et seq](#)). Consequently, NEH needs to conduct further review and consultation under Section 106 of the NHPA (Section 106) (54 [USC](#) § 306108) prior to releasing NEH funds.

Historic properties include any district, site, building, structure, or object that **is eligible for or listed on the National Register of Historic Places (NRHP)**. NEH has determined that the following activities constitute an undertaking subject to Section 106 review: 1) all new construction and facility expansion projects; 2) alteration and renovation projects where exterior changes to the building façade or surroundings may be made (including roof, windows, and parking lots); 3) projects where interior renovations may be made to a building that is over fifty (50) years old, or is historically, architecturally, or culturally significant; and 4) ground disturbances (such as grading, other site preparation or archeology).

Under Section 106, NEH must assess the potential effects of undertakings on historic properties in your project, and notify and consult with all interested parties, **before you commence work on the project. You may, however, conduct architectural and engineering planning, and acquire necessary licenses, permits, and other approvals before NEH completes its Section 106 review.**

The NHPA regulations [36 CFR §800.2\(c\)\(4\)](#) allow recipients or their authorized representatives – instead of the Federal funding agency – to initiate the Section 106 compliance consultations when authorized to do so by the Federal agency. **Therefore, NEH hereby authorizes your organization to initiate the Section 106 process directly with the State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officer (THPO) in your district. Your organization may not transfer this delegation of responsibility to any other agency or party.** Although NEH makes every effort to notify respective SHPO/THPOs that your organization is authorized to initiate Section 106 consultations, please present this letter as part of your consultation request. As part of this process, your organization will initiate the Section 106 process, identify historic properties and an assessment of adverse effect (36 CFR §§ 800.3 through

800.5) to the SHPO/THPO. The SHPO/THPO will concur or disagree in writing with the finding.

Your organization may independently perform the Section 106 work and consultation described in 36 CFR §§ 800.3 through 800.5 on behalf of the NEH, except when there is a:

1. Consultation with federally recognized Indian tribes in accordance with federal requirements for government-to-government consultation;
2. Dispute that cannot be resolved within 90 calendar days, regardless of the nature (designation of Area of Potential Effect, suitability of consulting parties, phased identification, eligibility, and effects determinations). The NEH shall be involved in the resolution in accordance with [36 CFR Part 800](#);
3. Consultation for projects where a recipient and SHPO have determined that adverse effects to historic properties are unavoidable;
4. Resolution of adverse effects through a Memorandum of Agreement (MOA) or Programmatic Agreements, where there is a dispute regarding the resolution of adverse effects; or
5. Potential for anticipatory demolition, removal, or abandonment as specified in Section 110(k) ([54 USC §306113](#)) of the NHPA.

In any of the circumstances above, your organization must notify NEH through eGMS Reach and coordinate Section 106 activities with me. In accordance with 36 CFR [§800.2\(c\)\(2\)\(ii\)\(B\) and \(C\)](#), NEH will ensure that it conducts all consultations with Indian Tribes in a sensitive manner respectful of tribal sovereignty and the government-to-government relationship between the Federal Government and Indian Tribes. This letter, therefore, is not intended to modify or limit such requirements nor mandate that Indian Tribes consult with recipients or provide information if the Indian Tribes conclude that consultation should be directly with NEH.

Your organization may use your non-federal matching funds to hire consultants to complete the Section 106 process and other related historic preservation responsibilities. In many cases, doing so is helpful and may streamline the process. Your organization's staff conducting Section 106 activities and any consultants your organization hires to conduct Section 106 activities must have qualifications that meet the [Secretary of the Interior's \(SOI\) Professional Qualifications Standards \(Qualifications\)](#).

**It is important to remember that physical work cannot be initiated on the project until NEH notifies the recipient organization that the Section 106 process is complete.** You must upload all documentation and correspondence with the SHPO/THPO and other consulting parties into eGMS Reach. Information regarding the Section 106 process, resources, and contact information for appropriate SHPO/THPO can be found at [/insert name of NEH Section 106 page once available/](#).

If you have any questions about your and NEH's Section 106 responsibilities, please contact Ann Piesen, the NEH Federal Preservation Officer, at 202.606.8576, or via email at [FPO@neh.gov](mailto:FPO@neh.gov).

Sincerely,



Ann Piesen  
Federal Preservation Officer

**Attachment D: Jones Library Historic Structure Report**

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# **THE JONES LIBRARY HISTORIC STRUCTURE REPORT**

**Prepared for:**

**The Town of Amherst, Massachusetts**

**Prepared by:**

**Ann Marshall, PI, Professor, University of Massachusetts**

**Eric Gradoia, Consultant, Architectural History & Building Conservation**

**Carly Regalado, Graduate Student, University of Massachusetts**

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*“-May it be that in 2027 our children’s children shall look back and say that they of 1927 loved truth and beauty, that they loved and chose the best, and that they built well-”*

Reverend John A. Hanley, Jones Library groundbreaking, July 25, 1927



*South elevation of the Jones Library shortly after completion, circa 1929 -*

## ***Introduction***

This historic structure report (HSR) was made possible by funding provided by the Community Preservation Act Fund for the Town of Amherst, Massachusetts. Funding was allocated to the Amherst Historical Commission which partnered with the University of Massachusetts (UMASS) School of Architecture to develop this report.

The purpose of this document is to help advise the trustees and staff of the Jones Library in stewardship of the library and guide decision-making through an informed understanding of the library's original design, construction, evolution, and current condition. Though exposed to decades of constant use and occasional renovations, the building has fared well and remains largely intact, save for some alterations. Now nearing its centennial, the Jones Library is at a crossroads, as plans to expand the library may significantly impact the original construction depending on the ultimate approach taken.

This HSR provides a comprehensive assessment of the 1928 library building, studying its design and construction and changes that have been made, and examines its current state in relation to its original construction. Work consisted of both archival research and a study of the building's existing fabric. Archival research focused on examining correspondence, photographs, and construction documents (drawings, specifications, field reports, etc.) related to the building of the 1928 library and the 1968 and 1993 campaigns of improvements that followed. A general survey and condition assessment of the 1928 building was performed to gain an understanding of the current state of the library, identify what character-defining features remain, and assess the overall integrity of the original building.

This project was executed in two phases. The first phase was performed by Dr. Eldra Walker, UMASS, School of Architecture, and her spring 2019 studio class. Work largely consisted of gathering archival materials and examining the historic context of the building. Completion of the historic structure report was overseen by Professor

Ann Marshall, UMASS, School of Architecture, during the fall semester of 2021. Architectural historian Eric Gradoia was brought on to assist in writing the architectural description, examine the architectural plans, and survey the physical condition of the building. Graduate student Carly Regalado, UMASS, School of Architecture, assisted with research and production of the final document.

Unlike past histories of the library—such as Frank Prentice Rand's *The Jones Library in Amherst, 1919-1969* (1969) and the more recent *Hearth and Soul: A History of the Jones Library at One Hundred* (2019) by Bruce Watson—which take a broad look at all aspects of the institution's history, this report focuses solely on the history and evolution of the 1928 library building. While these past histories provided valuable insight into the planning leading up to the construction of the building, much of what was learned about the structure came from the building itself, the archives of the Jones Library Special Collections department, and the staff of the Jones Library.

This historic structure report would not have been possible without valuable help from the staff of the Jones Library. The authors wish to thank Sharon Sharry, Library Director, for providing access to the building and sharing her time with us. The authors are also grateful to George Hicks, Facilities Supervisor, for sharing his time discussing the current state of the building and his knowledge of the architectural fragments that remain from past renovations. Lastly, we express our gratitude to Cynthia Harbeson, Head of Special Collections, and her staff for opening their collections to us, answering our questions, and supplying us with numerous files and images, much of which forms the foundation of this report.

The authors would also like to thank Benjamin Breger, Planner for the Town of Amherst, and Jane Wald, Chair of the Amherst Historical Commission for providing valuable help in reviewing the draft document and offering insightful suggestions.



## *Executive Summary*

Designed by the Boston architectural firm of Putnam and Cox and constructed between 1927 to 1928, the Jones Library has always been more than just a repository of the printed word. It has housed an auditorium for public lectures, an art gallery for paintings, and displays belonging to the Amherst Historical Society, and it has hosted countless individuals from all over the world, as well as generations of Amherst families and university students. It is a library in name and a community center in function. Appreciating this, it is no wonder that so many have such strong feelings about this building.

While the 1928 building is credited to the firm of Putnam and Cox, the design was largely the creation of partner Allen H. Cox, a highly educated and talented architect. Schooled in architecture at the Massachusetts Institute of Technology and the École des Beaux-Arts in Paris, Cox was born and raised in South Hadley. His design for the library reveals his roots, for while many describe the building as embodying the Colonial Revival style of architecture, this description fails to do the building justice. While the overall form of the library is representative of the Colonial Revival style in broad terms, many of the details found throughout the building are unique to Connecticut River Valley vernacular architecture and not found outside the area. What's most impressive about Cox's use of these details, is that at the time, the distinct character of the Connecticut River Valley vernacular had not been widely studied or written about. So while to the untrained eye it appears as simply an example of Colonial Revival architecture, it is in fact a celebration of Connecticut River Valley architecture and the tradition of the Valley. The Jones Library is listed as a contributing building within the Amherst Central Business District—a National Register district as of 1991—and is also listed in the State Register of Historic Places.

As the Jones Library nears its centennial, it has seen a fair amount of change over the course of its lifetime. In spite of past work performed on the library, the building has a high degree of historic

integrity, as it maintains nearly all of its core architectural characteristics, especially as they relate to the exterior of the library. Thankfully, the majority of improvements made to the library have been additions rather than subtractions. So, while on a large scale, the construction of the 1993 addition expanded the library and its footprint, only minor alterations were made to the original building to achieve this. Similarly, the library's interior retains its core attributes, which convey the architect's intent and how the library originally functioned. Mirroring the domestic appearance of the exterior, the interior of the Jones Library was designed and constructed on a scale and with an appearance reminiscent of a stately eighteenth-century home. This was achieved not only through the arrangement of spaces, but through the scale of the architectural treatment of the rooms, nearly all of which still exist.

Considering its age, the 1928 building appears to remain in good condition, a testament to accomplished design, the use of quality materials, and excellent construction. Any problems that have arisen largely relate to the age of the building and the fact that systems like the roofing, storm windows, and paint finishes have reached the end of their normal service life and need to be addressed. The most serious interior conditions observed relate to water infiltration brought on by roof problems. By and large, the physical condition of the building appears very good.

Perhaps a more far-reaching issue relates to the numerous incremental improvements made to the interior of the library over time in order to add and update modern systems introduced since the building's construction. The installation of ceiling lighting, fire detection and suppression equipment, and other services is often expensive and difficult to integrate into existing buildings. These things are most commonly installed as seen today, surface mounted on walls and ceilings and routed through rooms across floor levels. Decorative finishes, such as floor coverings and paint colors, change periodically as they wear out or as tastes dictate, so that over the decades, these incremental changes add up, slowly eroding the original

appearance and feel of the building, producing a much lesser design than was originally conceived and resulting in what we see today.

It is understood that the Jones Library is not a museum and can not remain static. While change is inevitable, it does not need to occur at the sacrifice of the historic integrity of the structure. Future growth can be achieved successfully; however, accomplishing this requires careful planning and skillful execution. Stewardship of any resource requires that goals be defined ahead of time in order to identify what needs to be accomplished. As stewards of the Jones Library, the Board of Trustees needs to establish an approach to managing the building with

long-term goals in mind, ideally including the preservation of the 1928 building. Guidelines have been included at the end of this document in an effort to establish an approach to the work that will protect the character-defining features of the building, both inside and out, so that future repairs and improvements can be planned and implemented with the least impact to the integrity of the building.

The ultimate goal is to help ensure the long-term preservation of the 1928 library—a work of architecture unique to Amherst that defines the town and serves as a place that for generations has been the vital core of the community.

## ***“Colonial” Architecture of the Connecticut River Valley: The Eighteenth-Century Mansion House as a Model***

The inland location of the central Connecticut River Valley towns and villages in the seventeenth and eighteenth centuries helped cultivate a uniquely provincial identity to the furniture and architecture produced there. Unlike urban hubs situated along the coast—Boston, Providence, Portsmouth—and the villages that surrounded them, which benefited from exposure to current tastes and trends from abroad, the rural nature of settlements throughout the Connecticut River Valley resulted in much slower change and fostering of a distinctive style of decorative arts. This manifested itself in many ways and forms, ranging from the ornamentation used to embellish furniture and architectural elements, to works as grand as dwelling houses distinct to the region (fig.1).

Whereas the coastal elites gathered their fortunes from trade abroad, the wealthy families of the Connecticut River Valley—known as the River Gods—acquired their wealth from the land. The steady rise in the populations of urban areas and their outlying towns increased demand for crops and livestock produced in the highly fertile valley of the Connecticut River. By the second half of the eighteenth century, the farming villages along the Connecticut River in Massachusetts were some of the wealthiest agricultural communities in all of the colonies.<sup>1</sup>

With the emergence of a wealthy upper class in the valley eager to establish and show off their status, a new form of domestic architecture began to appear, one that outwardly displayed the status and taste of those who lived within it. Emerging in the 1740s and lasting until the third quarter of the eighteenth century, the Connecticut River Valley mansion house introduced features that set it apart from the traditional center-chimney houses common to the area. This new type of house was born out of the fashionable Georgian style, popular along the coastal communities and inspired by classical English architecture, yet incorporated distinctive features and elements originating out of

the region’s customs. At their core, these houses strived to follow the foundations of classical architecture, employing bilateral symmetry in their facades, careful proportioning of the facade and individual features, and classical architectural elements to embellish both the exterior and the interior of the building. Their general form consisted of buildings two stories tall and either one or two rooms deep. Setting the Connecticut River Valley mansion house apart from its eastern companions, however was a combination of distinct characteristics that elevated its status and differentiated it from ordinary dwellings. Features most commonly associated with these houses include center passage plans, gambrel roofs, and highly decorative frontispieces.

Unlike their center-chimney predecessors, with their small entry vestibules housing tight winder stairs, this new dwelling employed a center passage running the full depth of the house (fig. 2). This deep passage allowed for a straight run of stairs rather than a small winder and replaced the single center chimney with two separate chimneys, each serving rooms to either side of the passage. As the focal point of the space, stairs and their surrounding woodwork were highly embellished, with decorative newel posts, turned balusters, carved end brackets, and raised paneling along the wall ascending the stair. On the exterior, paired chimneys projecting above the roof signaled both a change to the house plan and an occupant who could afford the luxury of building multiple chimney masses.

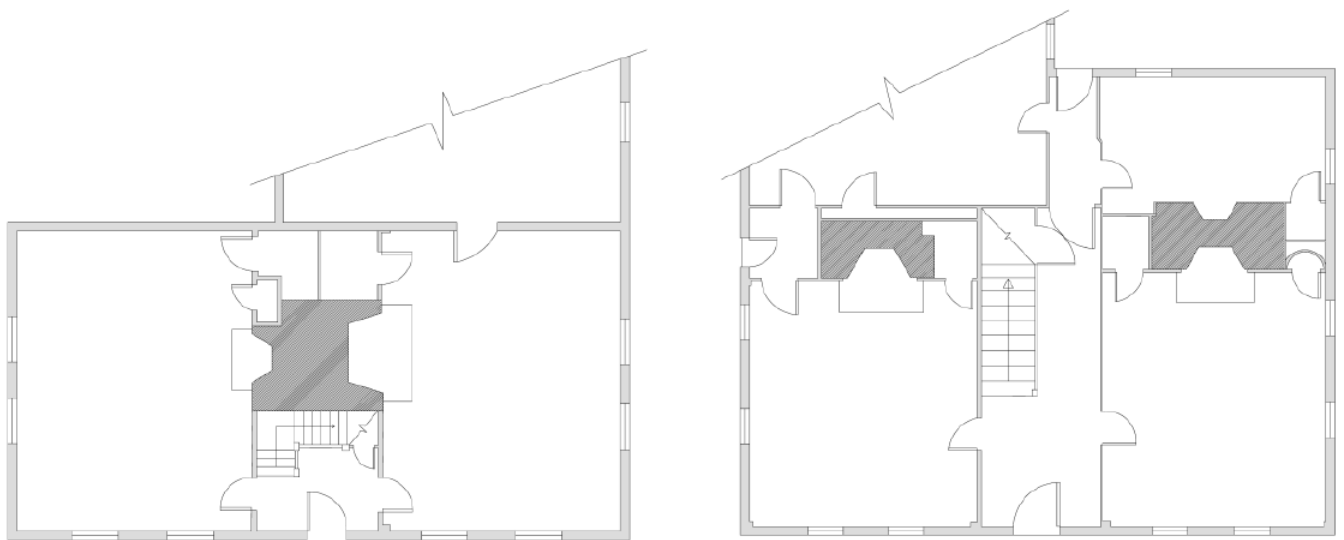
The use of a gambrel roof rather than the typical pitched roof further set these mansion houses apart from their neighbors (figs. 3 and 4). Gambrel roofs, with their double pitch and ability to accommodate a third floor within, emphasized the scale of these residences and enhanced their appearance. Less readily apparent was the added cost to construct such a roof, a detail that would not have gone unnoticed. In the event that the space under the gambrel was occupied, the added presence of dormers would further embellish both the roof and the overall facade.

Perhaps the most conspicuous feature to grace these dwellings was the highly decorative frontispieces produced in the region (fig.5). Inspired by the classical surrounds illustrated in English architectural treatises, the frontispieces crafted throughout the region were adapted to accommodate the double doors commonly used at entries and made use of a unique combination of details and ornamentation familiar to the valley. This included the use of rosettes, vines, fans, and elm tree motifs to decorate the surrounds, along with bold scroll pediments, pulvinated friezes, and raised paneling on doors and plinths. This combination of features produced what has come to be referred to as a Connecticut River Valley doorway—an architectural element unique to the valley throughout Massachusetts and Connecticut.<sup>2</sup>

This combination of elements and center-passage plan produced a house type distinct not just to the region- but to the time as well. By the third quarter of the eighteenth century, this provincial style had begun to wane, in favor of more “correct” classical tastes and evolving house forms. By the start of the American Revolution, gambrel roofs would begin to be replaced with hip roofs, and Connecticut River Valley door surrounds by more accurate representations of classical frontispieces.



*Fig. 1 Seventeenth- and eighteenth-century Connecticut River Valley furniture and architecture is often decorated with ornamental details unique to the region. These take many forms; however, some more common examples include multi-petaled rosettes, pilaster caps carved with foliage, pulvinated friezes, and vine motifs.*



*Fig. 2 Around the 1740s, the center-passage plan (right) began to appear in dwellings built by the wealthy elite of the Connecticut River Valley as an alternative to the traditional center-chimney plan (left) commonly used in dwelling-house construction. The center-passage plan created a space that not only accommodated a straight-run stair, but acted as a buffer between public and private spaces within the dwelling house.*



*Fig. 3 Reverend Eliphalet Williams House, East Hartford, Connecticut, built circa 1750. The gambrel roof, paired chimneys, and scroll top Connecticut River Valley doorway elevate the status of this house compared to typical dwellings of the time. Note the triangular pediments over the ground floor windows.*



*Fig. 4 Reverend Jonathan Ashley House, Deerfield, Massachusetts, built in 1734, gambrel roof added in 1780. Yet another example of a Connecticut River Valley dwelling house employing the characteristic details of the houses of the social elites of the time. The construction of an ell off the rear of a building provided space for domestic activities (cooking, weaving, sleeping) outside the main portion of the house.*



*Fig. 5 Two examples of Connecticut River Valley doorways. The Elijah Williams House, Deerfield, Massachusetts, 1760 (left), loaned to Historic Deerfield by Deerfield Academy. The Daniel Fowler House, Westfield, Massachusetts, circa 1762 (right), owned by the Metropolitan Museum of Art.*

### *Architectural Description*

While the Jones Library is commonly described as being designed in the Colonial Revival style, a close examination of the building reveals that there is much more to its composition than meets the eye. To be more precise, the architecture of the Jones Library is directly inspired by the early vernacular dwellings of the Connecticut River Valley, a region that, in the eighteenth century, had its own regional culture and produced an equally unique provincial style.<sup>3</sup> Completed in 1928, the Jones Library exhibits a studied understanding of the local historic architecture blended with design and construction methods characteristic of the early twentieth century. The building's form echoes the sprawling composition of early dwelling houses of the region. The library is composed of three parts—the “formal” center portion, flanked on the east and west sides by smaller wings, with an ell running north off the east wing (fig.6). Two unusual but functional “sun porches” (as described by the building’s architect, Allen Cox) project from the south facade. The construction of the library utilizes modern construction techniques of the early twentieth century blended with many materials typically associated with buildings of the previous century, such as local fieldstone, brick, slate, and clapboards. The walls of the library are built of a variety of local stone procured from farms in Pelham and North Amherst.<sup>4</sup> Gambrel roofs covered in gray-blue slate with multiple, tall stone chimneys are a prevailing feature throughout, punctuated by dormers serving the upper floors of the building, a further nod to its colonial roots. A decorative wood cornice inspired by Federal designs akin to those published by Asher Benjamin (the noted New England carpenter and father of American builders’ guides) runs under the eave of the roofline. Copper gutters and leaders control runoff from the roofs throughout the building.

The exterior architectural details draw entirely from the colonial palette. A Connecticut River Valley frontis graces the main entry, setting a prevailing tone that carries throughout the building (fig. 7). The frontis is designed after Connecticut

River Valley door surrounds popular in the region between the 1740s and the 1760s. This style of frontis was limited to the valley and employed designs and details unique to the local vernacular.<sup>5</sup> While closely modeled after eighteenth-century examples, it incorporates a number of twentieth-century modifications, as can be seen in its integrated transom and sidelights, single glazed door, and overall scale and proportions. The frontis is very skillfully designed and is a wonderful example of a Colonial Revival take on a uniquely Connecticut River Valley form.

The secondary entries were treated in a more creative manner, with glazed and paneled doors ornamented with traditional details. Each of these entries is less formal in its treatment than the main entrance, creating a rather domestic feeling to their design and space. The west entry into the children’s reading room is located under the eaves of the roof, forming a covered porch with a bay window (fig. 8). The east entry, now converted to universal access, is similar to the west only in function, in that the entry is located under cover of the projecting roof and flanked by large windows. The posts here are embellished with rosettes, moldings, and tombstone panels, all details based on Connecticut River Valley designs.

The library’s fenestration consists entirely of divided-light windows in a variety of configurations. The center portion of the building employs traditionally proportioned 12-over-12 double-hung wood windows in the main facade. Louvered shutters, now missing, originally flanked these openings (fig. 9). On the sun porches, large double-hung sash windows are located in each of the three elevations, allowing the rooms to receive large amounts of natural light. Elsewhere, where the design permitted, large fixed windows were placed to illuminate the interior.

The east elevation is the secondary facade of the building and is composed in a much more irregular arrangement than the south elevation. The composition is evocative of the rambling ells found on early dwelling houses of the area, spaces that originally housed kitchens, wood sheds, carriages, and so on, in structures that



organically evolved over time. The fall of the grade exposes the basement story at the north end, increasing the scale of the building here. The ell originally housed the library's auditorium, with each portion of the ell accommodating a specific function—entry, seating, and stage. As if to almost accentuate its lesser status compared to the front of the library, this elevation is constructed using a patch quilt of materials, including stone, brick, and clapboard. A set of stone steps with wood railings ascends alongside the building under cover of a standing-seam copper roof, providing a secondary means of access to what was once the auditorium. Double-hung, divided-light windows prevail on the first and second floors of the building. The dormer windows employ decorative tracery reminiscent of designs found in Federal architecture, but at a much larger scale. This detail has been seen in other buildings by architects Putnam & Cox, notably in the Kirstein Business Branch, Boston Public Library (fig. 10).

On the north elevation of the ell is the original end wall of the auditorium (fig. 11). Centered on the second floor of this elevation, set within a central pavilion finished in clapboards, is a Palladian window.

Attached to the north end of the ell, the 1993 addition extends to the west and returns south to meet the original west end of the library. This L-shaped addition creates a central court enclosed by a glazed pyramidal roof structure. The design of the addition is unpretentious, mimicking styles and forms found in the original building yet on a smaller scale and in different materials. The gambrel roof form creates a continuity among the old and the new, with standing-seam copper roofing replacing slate. Red brick set in a 1:5 common bond is the prevailing material for the side walls of the addition. The north elevation is relatively austere, with uniformly arranged fenestration and dormers. 12-over-12 double-hung windows on the first-floor and matched with 8-over-12 windows at the second-floor level. Gable roof dormers are illuminated with 6-over-6 sash windows. A magnificent elliptical fanlight salvaged from the Frank S. Whipple

House, once located on North Pleasant Street east of the library, and reused in the 1928 library, has been incorporated into the attic story of the 1993 addition's west wing (fig. 12 and 13).

The west elevation of the addition consists of a one-and-a-half story gambrel roof structure attached to the backside of the original library's west wing, with a two-story gable roof section tying the addition into the north end of the original library's west wing.

The interior of the Jones Library remains fairly intact, given its age and the past renovations performed on the building. Aside from significant interior alterations made to the spaces that served and housed the auditorium, the majority of the original floor plan remains largely intact throughout the first, second, and third floors (figs. 14-18). Furthermore, much of the interior finishes (surfaces, flooring, ceilings, cornices), along with nearly all of the millwork (stairs, doors, mantels, wainscoting and paneling, built-in cabinetry), have been retained and are in very good condition considering their age. Most impressive is that the natural wood finishes of the millwork—much of which is Philippine mahogany—have not been overpainted and remain in very good condition. Surfaces such as the floors, walls, and ceilings have been covered with later finishes—carpeting in the case of the floors, and paint on the walls and ceilings.

While the floor plans remain, the use of the spaces within them have changed considerably, radically altering the way the building was originally intended to operate. As a consequence, the way visitors experience the building today is very different from how it would have been experienced in the early decades of its existence. Entries have been reduced in number, rooms originally open to the public have been closed off for administrative purposes or storage, and the addition of the 1993 atrium has diminished the domestic feeling the interior was originally planned to have.

The ground floor currently consists of offices in the spaces east of the main stair, the children's stacks and reading area west of the stair, and

stacks throughout the area north of the main staircase. The second floor retains its original floor plan, consisting of three large rooms flanked by smaller rooms over the wings at the east and west ends of the building. The three principal rooms in the center block of the building currently include Technology Services in the north and west rooms, and the Amherst Room to the east. The room above the west wing is currently an extension of the children's stacks; this room ties into what was originally the Fine Arts Room and the end of the original part of the library. North of this is a passage housing stairs and an elevator, along with access to the Special Collections department located within the northernmost portion of the second floor, occupying portions of both the 1993 addition and the 1928 building.

The third floor of the library remains practically unchanged since its construction. It is a space unique to its time. Situated in the most private part of the building, the floor is divided into two areas; the trustees' meeting room occupies the western portion of the plan, and a series of small, private writing rooms fill the eastern part. The trustees' meeting room was originally intended as a studio for special exhibitions; however, in the 1960s the space became known as the Robert Frost Rooms, encompassing the meeting rooms and the adjacent Writing Room used as a secretary's office. On the opposite side of the stairs are five rooms, originally designed as private spaces for individuals to work in, providing writers close proximity to the library's collections. Each room receives natural light and ventilation from the dormer windows. These spaces are currently used for storage, with the exception of one being used as an office. A toilet room remains at the east end of the floor.

The basement has been heavily renovated to provide space for both library patrons and mechanical equipment. The majority of the area houses stacks and meeting spaces constructed as part of the 1993 improvements. Mechanical systems are located along the east side of the plan in rooms originally intended for these services.

The center court under the glazed roof and surrounding parts of the 1993 addition houses stacks, administrative stations, offices, and support spaces (mechanical rooms, storage rooms, restrooms, etc.). It is purely functional in plan, maximizing its use of space by offering large, open rooms for stacks and clustering smaller rooms together where support spaces are necessary.

Although the size and use of rooms vary greatly throughout the original portion of the library, a universal palette of materials was used to finish them. In keeping with the domestic theme of the architecture, the interior finishes are modeled after those typically found in formal examples of colonial dwellings, with key differences between the two lying in the materials used, the level of decorative treatment, and the methods in which they are employed (fig.19). In general, the principal areas of the library received hardwood flooring, ceilings with molded plaster cornices, and walls with wood wainscot and flat plaster above. Depending on their use, some rooms have specialty millwork, such as bookshelves, mantels, and built-in cabinetry.

The quality of the interior millwork is worth noting. When the building was constructed, the finish woodwork cost \$42,642, representing approximately 18 percent of the overall cost of the building, a significant sum and the single greatest line item of work in the payment schedule.<sup>6</sup> Records submitted by the general contractor show that 20,000 [board] feet of Philippine mahogany was used for the millwork in the building; 3,500 [board] feet of ake, referred to as Philippine walnut, was used for the main staircase; and 20,000 [board] feet of oak flooring was laid.<sup>7</sup> Enhancing the natural beauty of the wood is the design of the finish woodwork and its embellishment. From the execution of the main staircase—modeled after those found in eighteenth-century Georgian style homes of the area—to the built-in cabinetry located in the offices and second floor meeting rooms, along with the various mantels throughout the building, the level of design and workmanship is noteworthy (fig.20 and 21).

There is a certain restrained elegance to the treatment of the millwork. Much of the ornament used to embellish the woodwork is carved into the material, rather than being applied, similar to that found in Federal architecture. Examples of this abound throughout the library, such as punch and gouge work used on friezes and cornices along with paneled doors constructed using bead and butt work, a common construction detail seen at the turn of the nineteenth-century (fig. 22).

Some of the more interesting, uniquely original ornamentation found in the library can be found in the carvings used in the pilasters of the entry

vestibule and children's reading room (figs. 23 and 24). Inspired by decorative practices found in seventeenth- and eighteenth-century Connecticut River Valley furniture and architecture, in which floral and foliage motifs were carved into surfaces to decorate them, the same practice has been used here in the areas of pilaster capitals. Whereas the flower carving is indicative of the traditional tulip and vine design seen historically, the stems wheat is an original design symbolizing the town's ties to the land and agricultural heritage.



*Fig. 6 South elevation of the Jones Library, November 2017. Image courtesy of the Jones Library.*



*Fig. 7. The frontis at the south entry is based on Connecticut River Valley door surrounds popular during the mid-eighteenth century. These door surrounds drew from classical examples illustrated in English architectural treatises and found in urban areas along the coast; however, they employed architectural details and proportions unique to the valley. This twentieth-century adaptation takes the design one step further, incorporating a single glazed door and sidelights into the design. Note the carvings in the capitals and pineapple feature in the center of the scroll pediment.*



*Fig. 8 West wing. The door here originally provided access directly into the children's stacks and reading room. This entry is no longer used. The door here is very similar to the doors that were located at the east entry prior to being converted into a universally accessible entry.*



*Fig. 9 The Jones Library circa 1928. The majority of the window openings were flanked by painted wood shutters. These reinforced the domestic appearance of the building and helped break up the visual appearance of the facade.*



*Fig. 10 The dormers on the east side of the library are treated with decorative tracery that helps to break up the glazing in the opening. This window design shows up in the Kirstein Business Branch of the Boston Public Library designed by Putnam and Cox in 1930. Note the missing slates and condition of the roof in general.*



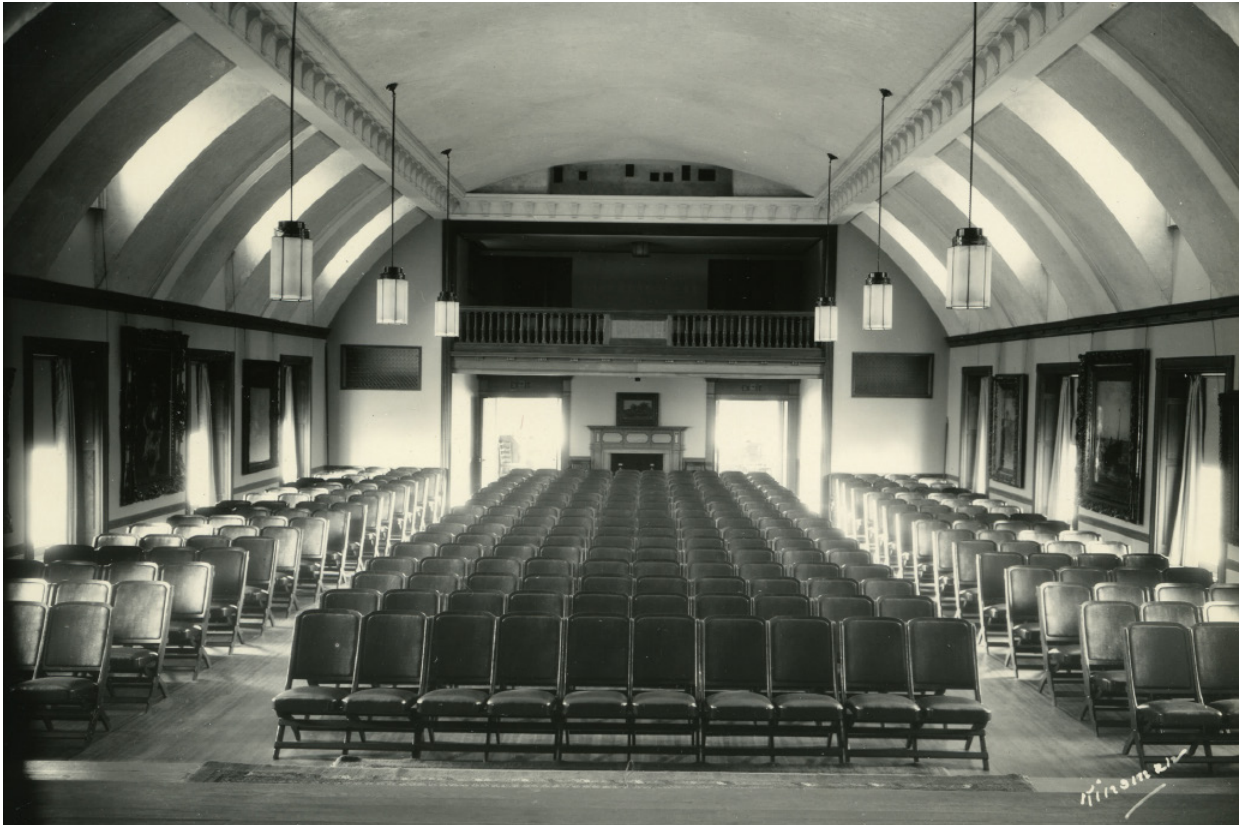
*Fig. 11 North elevation of the east wing. The five-bay composition with center pavilion and Palladian window is a wonderful surprise on this lesser facade of the building. On the interior, the Palladian window formed a backdrop to the auditorium's stage, located at this end of the building.*



*Fig. 12 The fanlight here was previously located in the north gable of the west wing and moved to this location during the 1993 campaign. The fanlight is originally from the Whipple House, which served for a short period as the Jones Library.*



*Fig. 13 The Dr. Belden Whipple House, January 1927. The Jones Library was housed in the Whipple House between 1926 and 1929, when it moved into the newly completed Putnam and Cox building. Note the fanlight window now in the north elevation of the library. The Whipple House was located on North Pleasant Street. Its parcel forms part of the land the library is constructed on.*



*Fig. 14 Interior of the Auditorium looking south. The projection booth can be seen at the rear of the space near the ceiling. Below the projection booth is a gallery for seating. At floor level, a set of doors opens to the foyer of the library's east entry. Note the mantel and fireplace between the door openings. Photograph circa 1928.*



*Fig. 15 Interior of the auditorium looking north. Note the Palladian window hidden behind curtains at the back of the stage. Photograph circa 1928.*



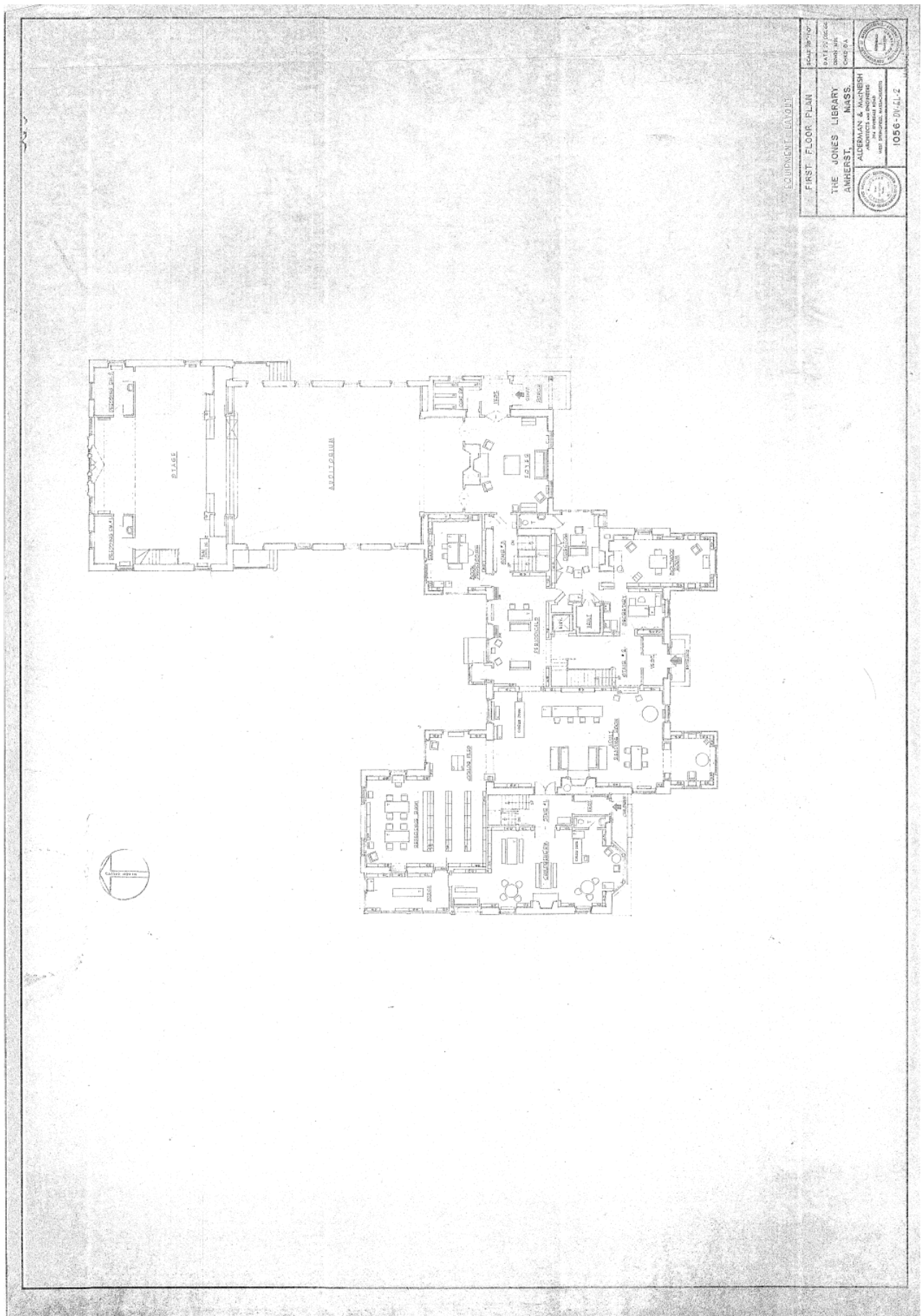


Fig.16 This drawing done in 1964 illustrates the 1928 plan of the first floor. Note the auditorium and stage in the east wing.

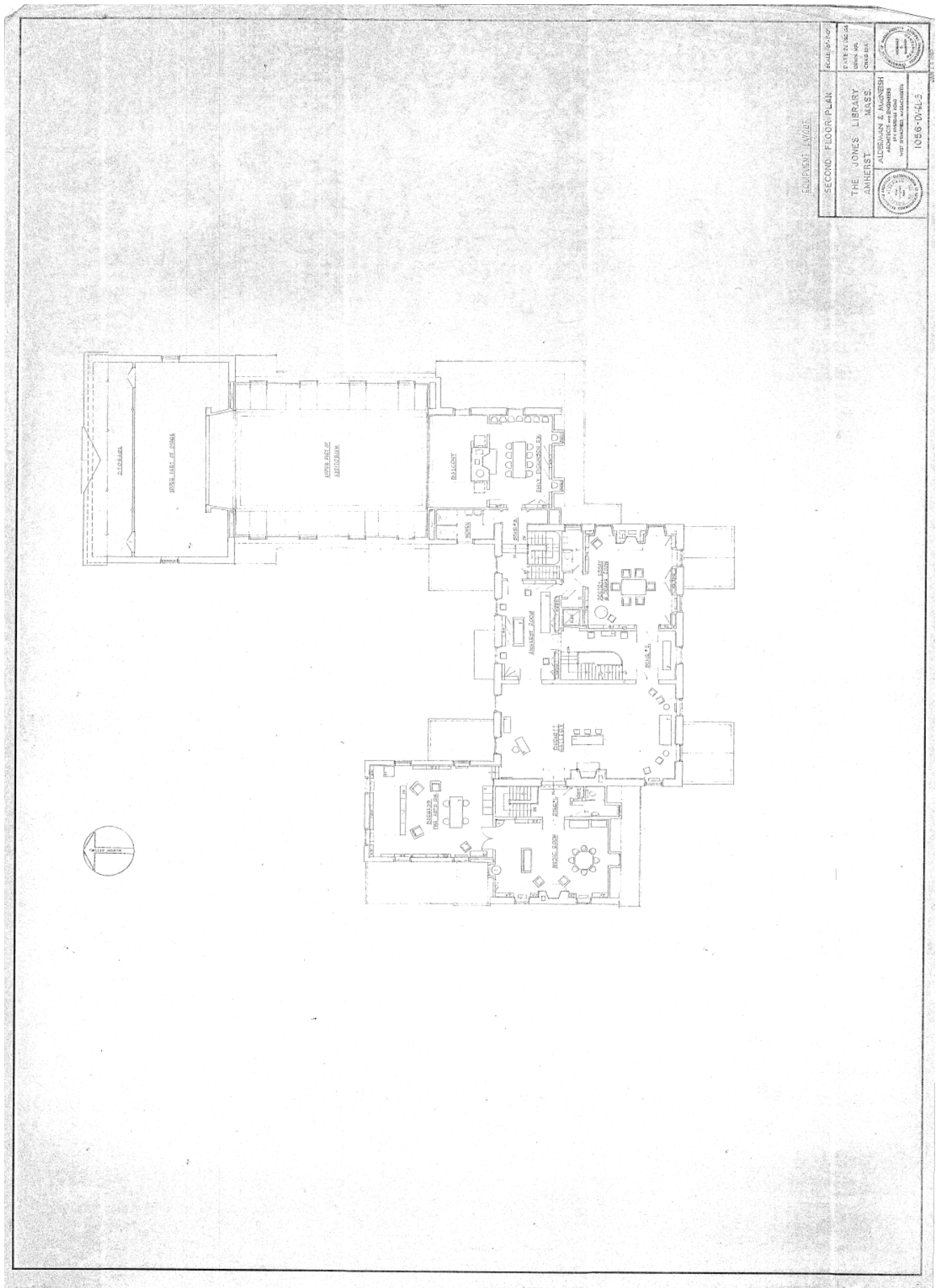
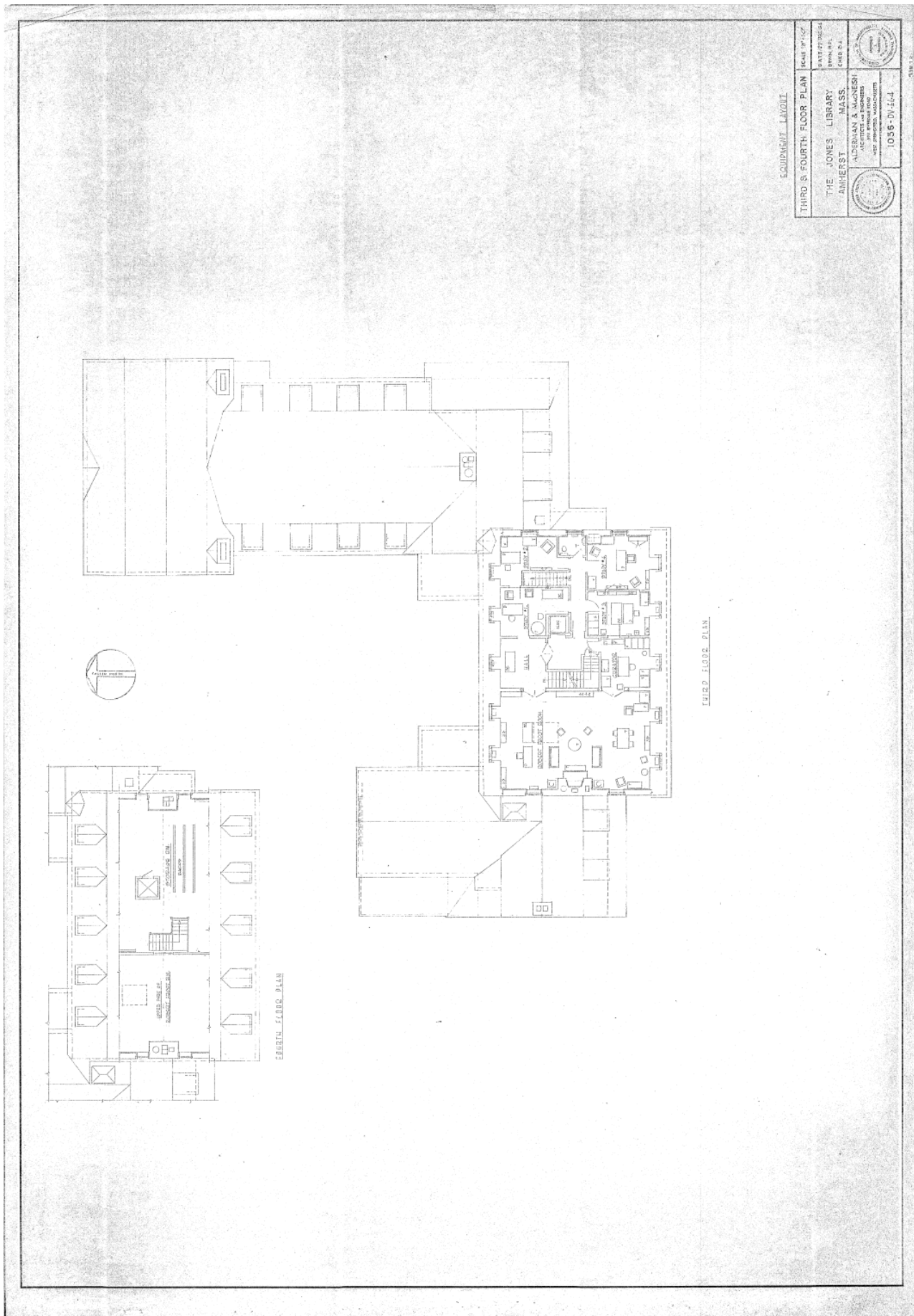


Fig. 17 This drawing done in 1964 illustrates the 1928 plan of the second floor.



EQUIPMENT LAYOUT	
THIRD & FOURTH FLOOR PLAN	SCALE 1/8" = 1'-0"
DATE 07-25-64	DRAWN BY J. J. O'NEILL
THE JONES LIBRARY	AMHERST, MASS.
ALCOCKMAN & ALCOCKMAN	ARCHITECTS AND ENGINEERS
1056-DV-11-1	1056-DV-11-1

Fig. 18 This drawing done in 1964 illustrates the 1928 plan of the third floor.



*Fig. 19 First floor office. Practically all of the finish woodwork is done in Philippine mahogany. Architectural details such as the fireplace mantel and overmantel are inspired by late eighteenth/early nineteenth-century designs; however, the three-panel door and the glazed door are unique to the early twentieth century. This mixing of old and new designs is a common feature of Colonial Revival architecture.*



*Fig. 20 The main staircase is built using akle or Philippine walnut. The staircase is modeled after fashionable stairs seen in the mid-eighteenth century. Note the carved spiral newel post and spiral balusters.*



*Fig. 21 Many of the mantels are based on Federal-style designs popular in New England between 1790 and the 1820s. Note the details in the reeded pilasters and center panel. As with the other millwork, the mantel is Philippine mahogany. Mechanical systems now close the opening to the fireplace.*



*Fig. 22 Second floor, main stair hall. Close-up of the architrave showing the level of detail employed in its design. Note the carved keystone and the punch and gouge work used on the flats and the transom light. The paneled jambs of the arch are an added delight.*



*Fig. 23 Wheat motif carved into the pilaster capitals of the bookcases in the children's stacks.*



*Fig. 24 Floral motif found on the pilaster capitals of the chimney breast in the children's stacks. Note the extent of the molded surfaces throughout.*

## ***Analysis of the Architectural Plans in Relation to the Original Interior Layout and Exterior Design***

### *The Architects*

The Boston architectural firm Putnam and Cox was formed in or around 1901 by William Edward Putnam, Jr. and Allen Howard Cox.<sup>8</sup> In about 1939, Allen's son, Gardner Cox, and Nathaniel Saltonstall joined the partnership, forming Putnam and Cox and Saltonstall, which lasted until 1944.<sup>9</sup> Over the four decades of their existence, the firm would be responsible for numerous buildings throughout Massachusetts and the surrounding states. The firm and their projects have largely been understudied, and the full body of their work is unknown; however, within Massachusetts there are fifty buildings and structures known to belong to them.<sup>10</sup>

Both Putnam and Cox were born and educated in Massachusetts. William E. Putnam, Jr. was born on January 12, 1873, in Newton Center, Massachusetts. He attended the Chauncy Hall school in Boston from 1884 to 1892, and graduated from Harvard University in 1896 and the Massachusetts Institute of Technology (MIT) in 1898.<sup>11</sup> Putnam married Helen Preston Haughwout in Fall River, Massachusetts, on June 10, 1908. He and his wife would go on to live in Milton, Massachusetts, for the majority of their lives.<sup>12</sup> Following Allen Cox's death, Putnam joined with Roger Griswold, Cecil Wylde, and Theodore Ames, establishing the firm Putnam, Griswold, Wylde, and Ames, where he practiced until his death. William Putnam died in Boston on August 4, 1947.<sup>13</sup>

Allen Howard Cox was born in South Hadley, Massachusetts, in 1873 (fig. 25). He attended school in Holyoke and at Williston Seminary (and now the Williston Northampton School).<sup>14</sup> Cox studied architecture at MIT as well at the École des Beaux-Arts in Paris.<sup>15</sup> He would go on to be an assistant professor at MIT until 1913.<sup>16</sup> Cox married his first wife, Catherine Gilbert Abbott, a portrait painter, in 1904.<sup>17</sup> Following her death in 1936, Cox married Blanche Brotherton, a faculty member of Mount Holyoke College.<sup>18</sup>

Cox resided in Cambridge for much of his adult life. He passed away at his country house in Granby, Massachusetts, on July 5, 1944.<sup>19</sup>

The firm Putnam and Cox was responsible for numerous private, public, and institutional buildings throughout Massachusetts. The firm's best known works are often cited as the Jones Library and the Lord Jeffery Inn (now the Inn on Boltwood), both in Amherst, Massachusetts. It has been credited with the design and construction of nine fraternity houses at Amherst College and the Skinner and Clapp science buildings at Mount Holyoke College. Putnam and Cox constructed numerous buildings in Boston and the vicinity, including the American Unitarian Association building at 25 Beacon Street (1926-27), the Boston Toy Theatre (later known as the Copley Theatre), Copley Square (1914), and additions to the Hotel Bellevue in Beacon Hill.

Putnam and Cox worked in a broad range of styles popular during the early decades of the twentieth century. Many of their institutional works are designed in what was called the "New Colonial" style, commonly referred to today as Colonial Revival architecture.<sup>20</sup> Inspired by the design of American building forms from the seventeenth, eighteenth, and early nineteenth centuries and their palette of materials and architectural elements, Colonial Revival architecture ranges from works employing a free use of design and ornament to very faithful works that draw exclusively from specific early styles of architecture. In this latter category, Putnam and Cox would be responsible for the reconstruction of Montpelier (1929)—General Henry Knox's 1795 home in Thomaston, Maine (demolished in 1871)—and the Kirstein Business Branch of the Boston Public Library (1930), 20 City Hall Ave.), a reconstruction of the center pavilion of Charles Bulfinch's Tontine Crescent (demolished in 1858).

While correspondence and original building documents clearly indicate that Allen Cox was principally responsible for the design of the Jones Library, along with oversight of its construction, one only needs to examine the building carefully to understand that whoever designed it must have

been from the region, specifically the Connecticut River Valley. While the overall form and massing of the library is characteristic of the Colonial Revival style in broad terms, many of the details found throughout the building are distinct to Connecticut River Valley vernacular architecture and not found elsewhere. What's most impressive about Cox's use of these details in the Jones Library, is that at the time, the unique character of the Connecticut River Valley vernacular had not largely been studied or written about. Its use here is clearly the influence of Cox's native architecture shaping the fashionable New Colonial style popular at the time, the most noticeable feature being the scroll-top Connecticut River Valley frontis, along with the composition and ornamentation found at the east and west entries as well as numerous interior elements.

### *The 1928 Library*

As the Jones Library nears its centennial, it has seen a fair amount of change over the course of its lifetime. In spite of past work done to the Jones Library, the building has a high degree of historic integrity, as it maintains nearly all of its core architectural characteristics, especially as it relates to the exterior of the library. Thankfully, the majority of improvements made to the library have been additions rather than subtractions. So while the construction of the 1993 addition expanded the library and its footprint, only minor alterations were made to the original building to achieve this. In comparison, the renovations to the auditorium made in 1968 and subsequently in 1993 were less sensitive and completely stripped the space of its early architectural fabric. Thankfully, these alterations were limited to the interior of the library, so they did not affect the exterior form or massing of the building, allowing its general appearance to remain undisturbed.

When viewed from the southeast (from the corner of South Pleasant and Amity Streets), the library appears nearly as it did when it was first constructed. From this angle, the building's form and massing are readily evident, displaying its boxy body, gambrel roofs, and single-story wings, along with the sprawling ell trailing off to the rear

of the lot. To the unfamiliar, it appears as if it is a large residence, as intended by the architect. This is reinforced by the use of traditional domestic details for many of the building's exterior architectural elements, which include the following:

- Frontis and door at the south entry
- Slate roof, dormers, and chimneys
- Classical cornice
- Copper gutter and leaders
- Fenestration and multi-light, wood sash windows throughout the building
- Sun porches
- East and west entries and surrounding treatments
- Ancillary entries along the east elevation

These elements and materials define the Colonial Revival style of the library.

Similarly, the library's interior retains core attributes that convey the architect's intent and how the library originally functioned. Mirroring the domestic appearance of the exterior, the interior of the Jones Library was designed and constructed in a manner and appearance reminiscent of a stately eighteenth-century home. This was achieved through the arrangement of spaces, the scale of the rooms, and their architectural treatment, nearly all of which still exist (Fig. 26).

The interior was originally organized as a series of discrete areas, each intended for specific uses or activities. A close inspection of the library's original plan shows a clear hierarchy of spaces by both floor and level, with the most public rooms located on the ground floor, and increasingly private spaces as one ascends through the building.<sup>21</sup> The primary functions of each floor were designated as follows:



#### Basement:

- Staff quarters (kitchenette, locker room, restrooms)
- Mechanical rooms (electrical, boiler, and coal room)
- Janitor rooms
- Storage room for the auditorium
- Display of Amherst Historical Society's stagecoach
- Garage for the library's book wagon

#### First Floor:

- Children's area (at west end of floor), consisting of children's reading room, stacks, and librarian's office
- Main reading room, stacks, newspapers and periodicals
- Art room and Special Collections
- Offices and meeting rooms
- Auditorium with approximately 260 seats and supporting spaces

#### Second Floor

- Exhibition room
- Amherst collection room (also used for committee meetings and small study groups)
- Jones Memorial Room (also for trustees' meetings and fine editions/collections of books)
- Special Book Room

#### Third Floor:

- The Studio (also used for special art exhibitions, evening study classes and special groups)
- Five writing rooms for private use

These were the intended functions of each floor as designed by the architect, but as with all buildings, once they began to be occupied, the spaces took on a life of their own, with each room adopting a function in response to how the building operated.

With the building campaigns of 1968 and 1993, changes began to be made to the original building plan. It appears from the construction documents for each campaign, that original doorways between rooms were closed off in some locations and new walls built in other rooms to partition them. This is most readily apparent in the main stair hall, where doorways into the west room have been closed, and in the east foyer, where doors that once led into the auditorium have been infilled. So spaces that were once traversable, with openings and direct access to other rooms, now act and feel like corridors experienced only while on the way to a destination.

The second and third floors of the library have changed very little since they were built, with the original floor plan remaining remarkably intact. Each of the upper floors is unique, with the large rooms of the second floor geared toward accommodating groups of people, and the third floor offering more intimate spaces. Slight changes to the second-floor rooms include the addition of an office partition in the western portion of Technology Services, changes to wall and floor treatments, and the addition of modern systems mounted to the ceilings and elsewhere in these spaces. The third floor does not appear to have been altered at all (except for surface treatments). Today its plan of small, separate rooms appears unconventional; however, it is a product of its time, when access to information was analog and the ability of a person to retrieve large amounts of documents necessitated being in close physical proximity to them, a foreign concept today.



*Fig. 25 Laying of the cornerstone for the Jones Library. From left to right: Rev. John J. O'Malley from St. Brigid Catholic Church; George Cutler, unknown; Arthur S. Pease, president of Amherst College; Roscoe W. Thatcher, president of Massachusetts Agricultural College; Allen H. Cox, architect; and Dr. John M. Tyler, unknown; unknown. October 18, 1927.*



*Fig. 26 View of the main reading room, circa 1929. Note the furnishings, floor coverings, artwork, and lighting placed throughout the space.*

### *Chronology and Description of Known Alterations and Reasoning Behind Changes*

Since its completion in 1928, the Jones Library has seen two large-scale campaigns of improvements made to the building, the first in 1967-68 undertaken by Alderman and MacNeish, Architects and Engineers, West Springfield, Massachusetts, and the second completed in 1993 by Mark Mitchell Associates, Hanover, New Hampshire. Both projects were undertaken in response to the need for additional space, not simply for stacks, but for library staff, modern accommodations, and updated building systems. Documentation shows that neither project was rushed into. Each project began with years of preplanning, exploring various options and configurations, and still the products of each campaign provided only about a thirty-year service life. The greatest impact to the 1928 building in both campaigns was largely isolated to the interior of the auditorium wing (described in the next sections); however, some removals were made to the north side of the building during the 1993 work to open the original building to the newly created atrium area.

For comparative purposes, the original library cost \$235,879.97 to build in 1928 and took sixteen months to construct.<sup>22</sup>

#### *1968 Alderman and MacNeish Campaign*

The September 1965 report titled *A Building Study of the Jones Library, Amherst, Massachusetts*, produced by Francis P. Keough, library building consultant and director of the Springfield City Library, begins by stating:

“At its meeting of June 24, 1964, the Board of Trustees of the Jones Library authorized the Library’s Director, William F. Merrill, to engage the services of Alderman & MacNeish, Architects and Engineers, to undertake a study of that Library. The purpose of the study was to produce a plan which would make more efficient the operation of the entire library.” He then goes on to outline the principal problems of the building. In short, he states that “the adult collection of books are spread out over three floors and need double the amount of shelving to accommodate them

adequately. Furthermore, many of the departments (Children’s, Special Collections, Library Work Room) have outgrown their spaces and need approximately double the amount of room.” Conversely, the auditorium was considered too large for the library’s needs and a waste of space.<sup>23</sup>

To solve these issues, the idea was to “better organize the library’s function, to provide adequately for the growing collections, and to make space for the ever increasing number of library users.”<sup>24</sup> Alderman and MacNeish developed a handful of schematic designs to resolve these problems, of which Scheme E was chosen as the best solution (fig. 27). This design reorganized and added to the existing shelving in the library, increased the amount of adult seating from 37 to approximately 112 seats, and converted the auditorium “from what is now a white elephant into prime library space” by installing a second floor into it, which would accommodate forty-five thousand volumes.<sup>25</sup> The design planned on converting the existing adult reading room and reference room into a new children’s room and relocating the Boltwood Room from the first floor to the second floor. The basement would be used for arts groups and staff work space. It is interesting to note that designs show the west doorway at the foot of the main staircase being closed off as part of this work.<sup>26</sup>

The project went from a schematic design to construction in 1967, when a building permit was issued in April for alterations totaling \$162,720 (the final project is believed to have cost in the area of \$183,500).<sup>27</sup> Work started at the end of the year and was completed in 1968. It appears that all of the recommendations were implemented, providing the library with the space and organization it needed for the time being.

### 1993 Mark Mitchell Associates Campaign

Plans for the next campaign to expand the library began in the late 1980s. Again, this work was spurred by the library's need for more space and the ability to accommodate new and modern forms of media and technology.

The library commissioned Mark Mitchell Associates to draft plans for an addition to the building in December 1988.<sup>28</sup> The plans proposed an 18,000-square-foot addition (ultimately scaled down to 12,000 sq. ft.) coming off the west side of the building and extending north. A second wing would extend off this new wing to the east, where it would meet the west end of the north ell (fig. 28). Enclosing the court formed by these new wings would be a glass atrium.

Interior additions and alterations included:

- Removal of the second floor of the former auditorium space to create a single floor of stacks open to the ceiling
- A new reference section
- An expanded basement area housing stacks
- A new Special Collections department housed in the north addition

- Reorganization of administrative spaces and meeting rooms
- New heating and cooling systems, lighting, an elevator, and universal access.

Some alterations and removals were made to the 1928 building at this time to accommodate the new additions and atrium. These appear to have been done to facilitate access between the spaces and to do away with features that became redundant as a result of the new construction, such as the north portico and door and window locations converted into openings to integrate the new spaces. This work also included adding some walls and closing existing openings to both create new spaces and control movement through the building. Most significant of these changes include closing the remaining original doorway in the west wall of the main stair hall and partitioning the east sun porch to create an office.<sup>29</sup>

A building permit was pulled in July 1990 for "an addition and interior alterations" totaling \$3,329,097.<sup>30</sup> The project was finished three years later, and on October 16, 1993, the library was rededicated and reopened to the public.<sup>31</sup>

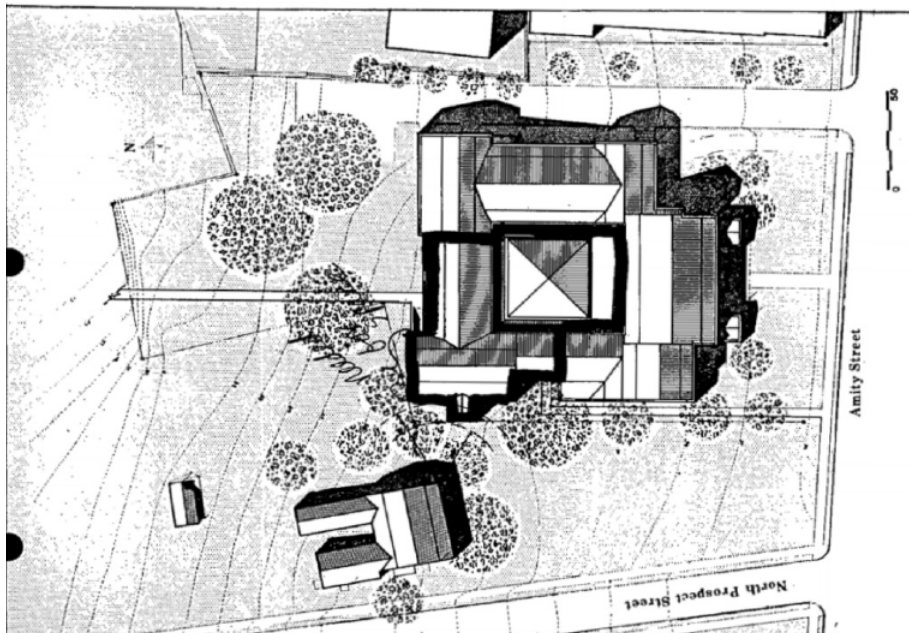


Fig. 28. The Mark Mitchell Associates addition completed in 1993 added to the north and west of the building and enclosed the court with a glass atrium, resulting in what is seen today.



## *Survey of Existing Conditions*

### *Roof*

The majority of the slate roof appears to be original and is at the end of its service life (fig. 29). The roof exhibits numerous problems typical of slate roofs of this age and design. It appears to have been well maintained over the decades; however, as with all forms of roofing, it is at a point where the roofing system needs to be removed and replaced in kind with a new slate roof matching the original design.

Monson slate (named after the source of the quarry, Monson, Maine) was originally specified; however, archival documents show that the architects approved a request by the contractor to switch the material to Buckingham, Virginia, slate without any difference in cost.<sup>32</sup> Although termed Oxford Gray, Buckingham slate appears gray-blue and is presumably the slate that remains on the roof. Unlike Monson slate, Buckingham slate is still quarried and available as a roofing material.

Typical problems observed across all the slated areas include the following:

- Broken slates missing their margin (exposed area)
- Cracked slates partially remaining
- Ill-fitting replacement slates
- Old repairs that have since failed

Historic images show that mitered hips were used on the east porch roof and that open valleys, specified to be lined in copper, were also used. It is interesting to note that the roof was laid with graduated coursing, so that as the slates neared the curb of the gambrel, their size and exposure to the weather slightly diminished (fig. 30). Roof flashings appear to be a mix of bright copper and either lead-coated copper or sheet lead, depending on the application.

A detail that cannot be seen but that relates to the roofing concerns the deck the slates are applied to. The architects originally specified that the slates were to be nailed into wood cleats embedded in

the cement roof deck. This detail was changed during the course of construction. Instead of embedding wood nailers into the concrete deck, a product called Nalecode was used on the upper slabs of the roof decks to create a nailing surface for the slates.<sup>33</sup> Recent repair of the east entry roof confirmed the use of this material under the slates.

Like the slate roof, the standing-seam copper roof over the double doors on the east side of the ell is at the end of its service life and should be replaced in kind (fig. 31). While the surface of the copper roof was not observable, a section of it along the eave edge has pulled up, and the head flashing where it meets the masonry side wall has been replaced in the recent past.

### *Chimneys*

The library still retains the six chimneys it was constructed with, though a number of them are no longer in use. Three of the chimneys originally served the active fireplaces in the library, one was used by the boiler, and two appear to have been designed to provide ventilation to the auditorium.<sup>34</sup> Close inspection of the chimneys was not possible for this report; however, discussions with facilities staff revealed that many of the chimneys are not capped and remain open to the elements. All of the chimneys appear to be in good condition; however, a close inspection of them is necessary to determine their individual conditions.

All of the chimneys were repointed in 2010–11. The mortar mix used to repoint the chimneys appears to be a modern, premixed pointing mortar and does not match the color and texture of the original pointing (fig. 32). Aside from its appearance, it's not likely causing any issues and is only an aesthetic concern.

The two arched cast concrete chimney caps on the north chimneys are original features, but they have been replaced with new caps that match the original design. An original cap has been saved by the library and is currently located along the drive on the east side of the site (fig. 33).

### *Gutters and Leaders*

The building was originally designed with half-round copper gutters and leaders on both the main gambrel and smaller surrounding roofs.<sup>35</sup> The existing gutters and leaders are in-kind replacements, matching the originals in material and design. The gutters and leaders remain in good condition; however, they suffer the typical problems all gutters face from New England winters: largely bent areas where snow and ice slides have made their best attempts to tear the gutters from the building.

### *Cornice*

The center block of the library has a deep, decorative wood cornice modeled after those found on fashionable dwellings of the late eighteenth century (fig. 34). These types of cornices were originally inspired by designs published in architecture books by Asher Benjamin. Benjamin, who is attributed with publishing the first American architectural treatise, lived in Greenfield, Massachusetts and published his first book, *The Country Builder's Assistant* (1797), there as well. While such a cornice may simply be present owing to the building's colonial precedent, one can only wonder if it was a conscious nod to Benjamin by architect Allen Cox, who most certainly would have been aware of Benjamin's work.

The raking cornices are not detailed and are instead made up of flat wood stock with a bead and painted.

The cornices appear to be in good condition and suffer only from failing and peeling paint. They should be prepped and painted to prevent any decay of the woodwork.

### *Masonry*

The bulk of the building's sidewalls are finished in natural rubble stone set in somewhat level courses. With the exception of a few isolated cracks (mentioned later) the stone walls and mortar are in excellent condition considering their age.

The majority of stone used in the walls was obtained from the area. Notes in the Progress Report kept by Stafford Fox Thomas, the trustees, clerk of the works, record that rubble stone was bought from farms in Pelham and North Amherst, and granite for cut cornerstones was obtained from a Pelham Cider Mill.<sup>36</sup> A small number of stones were donated to the library by various individuals and came from elsewhere. Notes in the library's Special Collections department identify the various donors and the approximate locations where these stones were used.<sup>37</sup>

The stones are set in a bedding mortar and finished with a pointing mortar. A close inspection of the original pointing mortar is visible in the current Special Collections department, where a portion of the north ell's west wall is present. Unlike modern- bagged pointing mortars (as seen on the chimneys), the original pointing mortar was site mixed using a combination of cement and different sands that produced a pointing mortar with a slightly buff appearance and pronounced aggregate displaying a variety of colors (fig. 35). A close inspection of the mortar here reveals a slight variation in color, the product of minor variations in proportions as a result of hand mixing the materials. Any large-scale repointing of the original building should use examples of the original mortar as a reference for matching the color, texture, and profile of new pointing mixes.

A couple of tight yet long vertical cracks are visible on the east wall of the northernmost portion of the ell, where the auditorium was originally located (fig. 36 and 37). The exact cause of these cracks is not known; however, given the amount of changes and alterations made to this location, they may relate to structural alterations performed here. Tie rods on the north end of the building here suggest that the walls have been reinforced sometime in the past. These cracks should be examined by a professional engineer to determine their cause and status.

While not readily noticeable, given its age and exposure to the elements, the masonry is likely soiled to a certain degree from atmospheric pollutants. Cleaning the sidewalls with a mild



masonry detergent formulated for the stone and mortar present may reveal a dramatic difference in the appearance of the building. Undertaking a small test area on an inconspicuous portion of the building can be done to weigh the results of cleaning.

A portion of the east elevation is constructed in brick set in 1:5 common bond, suggesting it is true brick construction rather than simply a veneer. The brickwork appears to be in good condition, with no noticeable issues or failures. It is interesting to note that the brick here was originally painted, likely the same color as the adjacent clapboards, creating a more unified appearance to the facade rather than the patch quilt of materials presently seen (fig. 38).

### *Sun Porches*

The two sun porches projecting off the front of the library are interesting features (fig. 39). Unlike the rest of the building, these elements lack any historic precedent and are entirely original features designed by Allen Cox, who justified them by stating that they would be “two of the most charming nooks in the interior.”<sup>38</sup> As the sun porches project out from the body of the building, their three sides, with large glazed window openings, would have allowed the space within to be flooded with natural light. With no air conditioning at the time of construction, the open windows would have provided ample ventilation during summer months.

While these features appear to be frame construction, they are only veneered with wood trim. Like the rest of the building, their underlying structure is brick and steel (fig. 40). Overall, the sun porches are in good shape. The greatest issue plaguing them is failing paint (fig. 41). Both need a proper paint job, including scraping, prep, prime, and top coats of a high quality paint finish. Paint analysis should be done to determine the original color prior to repainting the building. Like the rest of the building, the slate roofs are also at the end of their service life and should be replaced.

### *Windows and Shutters*

The library’s fenestration consists of divided-light windows in a variety of configurations. The south elevation of the main building employs traditionally proportioned 12-over-12 double-hung wood windows (fig. 42). Louvered wood shutters, now missing, originally flanked these openings. In the sun porches, large double-hung wood windows (6-over-9 and 5-over-15) are located in the three elevations, providing the spaces with as much natural light as possible. Elsewhere, where the design permitted, large fixed windows were placed to illuminate spaces.

Nearly all of the window openings were originally flanked by louvered wood shutters (fig. 43). Most, if not all of the shutter hardware remains mounted to the building. The shutters survived up until fairly recently, and were most likely removed as part of the 1993 renovations. A reference to the shutters in the construction Progress Report makes mention that Allen Cox “favored a lead color” for them.<sup>39</sup> Given the prominence of the shutters and the impact they had on the appearance of the building, they should be reinstated to enhance the exterior of the building. The library has one pair of shutters in storage. Paint analysis of these existing shutters would provide a basis for their original color.

All of the openings have been fitted with exterior, aluminum storm windows. These have protected the exterior surfaces of the wood windows from the elements in addition to tightening the building’s envelope. A number of the storm windows on the dormers have had UV-filter film applied to the glazing. This film has reached the end of its service life and is failing on nearly all of the windows it has been applied to (fig. 44). The storm windows are nearing the end of their service life and should be replaced with a high-quality, low-profile storm window system fitted to the configuration of the different sash arrangements.

The paint finish on the interior of the sash is failing on many of the windows. This is mostly occurring on the horizontals of the stiles, a typical problem on wood sash of this age. This type of

paint failure is caused when condensation forms on the window panes and runs off, saturating the sash. This, in combination with UV degradation of the paint, ultimately results in the conditions found here. (fig. 45 and 46).

### *Entries*

The three primary entries to the library are all located on the south elevation. There is a clear hierarchy to the original entries, with the center entrance having a very formal appearance and the two ancillary entrances designed akin to their use.

The principal entry to the library, located in the center bay of the main block, is inspired by the treatment of mid-eighteenth-century houses of the wealthy elite. The frontis is designed after Connecticut River Valley door surrounds popular in the region between the 1740s and the 1760s. This style of frontis was limited to the valley and employed designs and details unique to the local vernacular. While closely modeled after eighteenth-century examples, it incorporates a number of twentieth-century modifications, as can be seen in its integrated transom and sidelights, single glazed door, and overall scale and proportions (fig. 47). The frontis is very skillfully designed and is a wonderful example of a Colonial Revival take on a uniquely Connecticut River Valley form.

Overall, the entry appears to be in good condition and remains largely intact and complete. Like many of the painted surfaces, its finish is failing and exposing bare wood in places. It needs a proper paint job, including scraping, prep, prime, and top coats of a high-quality paint finish. It appears to have all of its original hardware, as well as the light fixture installed at the time the library was constructed. One detail that has been altered is the pineapple crowning the pedestal in the scroll. This feature, a symbol representing hospitality, originally had leaves surrounding the body of the fruit (fig. 48). It is unclear what these leaves were constructed of; however, there is a note dated May 15, 1931, from the librarian to Allen Cox stating,

“Another thing which has come up recently is that of painting the pineapple over the front doorway. You will probably remember the gilded spines. What is the best kind of paint or other material to be used? Something is needed right away, so I shall be glad to have your kind advice.”<sup>40</sup>

This would seem to indicate that the leaves were painted or gilded in some form of metallic finish, possibly gold leaf. It is likely that the original paint finish was not as brilliant white as the current paint; in fact, it’s possible that it wasn’t painted white at all. Paint analysis should be done to determine the original color prior to repainting the building.

Aside from changes in the grade leading up to the west entry, this location remains largely unchanged. Its design has a very domestic/residential feeling to it, with the doorway being flanked by a large bay window, both under cover of the deep eave. Unfortunately, this entrance is no longer active. The entry vestibule is currently being used for storage and not accessible to the public.

The east entry—originally the entry to the auditorium foyer—now provides universal access to the building. The original design of the entry has been altered to accommodate a ramp and an ADA compliant doorway. The design to accomplish this was not sympathetic to the historic fabric of the building, burying the bottoms of the portico posts in concrete, removing the original doors, and infilling the doorway with a modern generic clad door (fig. 49). The original double doors to this location still survive and have been reused on the small brick shed at the end of the east drive. Although they have been covered with plywood and are unrecognizable, they should be retained as examples of original material and, if plans allow, should also be used to replicate new doors for this location. The light fixture for the porch has been replaced with a modern one. The original fixture remains in the library’s collections and matches the type used at the west entry and elsewhere.

### *Site*

The landscape immediately surrounding the library is heavily planted and includes a number of large trees in close proximity to the building (fig. 50 and 51). The current state of the landscape presents a number of issues. The amount, type, and density of the surrounding plantings obscures the majority of the building's south (front) elevation when they are covered in leaves. In addition to hiding the building, this condition prevents natural light from entering the building and, more detrimental, slows moisture trapped around the perimeter of the building from drying after storms.

This latter condition encourages situations such as mold and mildew growth on the building and accelerates the deterioration of paint finishes. Ideally, the number of large deciduous trees in close proximity to the library should be kept to a minimum. In addition to the aforementioned issues, large trees risk damaging the building in the event severe storms cause limbs to break or trees to uproot. If plantings around the perimeter of the building are desired, they should be kept to low shrubs and ground-cover plantings with a two- to three-foot buffer between them and the building for future growth and maintenance.



*Fig. 29 Detail of slate roof, east wing. Multiple missing and broken slates. The conditions here are representative of what is seen elsewhere across the roof.*



*Fig. 30 The slate roof was laid with a graduated exposure, so the lower slates show more of their surface to the weather than those nearer the curb (where the pitch of the roof changes). Notice the snow guards that have slipped and the random broken slates.*



*Fig. 31 Copper roof at east barn doors. The roof is lifting away at the left end and is generally in poor condition. It has served its purpose and is at the end of its useful life. This roof should be replaced in-kind with new standing-seam copper roofing.*



*Fig. 32 The modern mortar used to repoint the chimneys lacks the variety of color and texture found in the original mortar. Given its uniform gray appearance, even set high up on the building it stands out.*



*Fig. 33 An example of one of the original chimney caps used on the building. This piece was saved when new caps were installed on the chimneys.*



*Fig. 34 Detail of the decorative wood cornice found on the building. Note the half-round copper gutter in front of the cornice and shutter hardware at the window openings.*



*Fig. 35 Detail of mortar in east wall of Special Collections. This closeup shows the color and texture of the original pointing mortar used in the building. This mortar is much different in appearance than that used to repoint the chimneys. Notice the variety of aggregate in the sand used. Any replacement mortar should be formulated to match the color of the original mortar and applied to match the profile and texture as well.*



*Fig. 36. East elevation of the east wing at the north end. Note the vertical crack running up the center of the image.*



*Fig. 37. This is a continuation of the crack seen in fig. 36.*



*Fig. 38 Detail of the east wing, circa 1928. Notice how the brickwork is painted. This would have presented a more finished appearance and tied the different portions of the wing together.*





*Fig. 39 Jones Library circa 1928. This historic view provides a good look at both sun porches which are now mostly hidden behind vegetation. The absence of perimeter plantings allows the stately nature of the architecture to show through.*



*Fig. 40 Jones Library under construction. The sun porches are brick and steel like the rest of the building's construction. The steel roof frame can be seen on the west wing at the left of the image.*



*Fig. 41 West sun porch, east elevation. Like much of the woodwork on the building, the paint on the sun porches is in poor condition. All of the painted surfaces need to be prepped and refinished with a high-quality paint system that includes priming areas of bare wood along with two top coats of finish paint.*



*Fig. 42 Typical 12-over-12 divided-light wood window found in the building. The wood windows are character-defining features of the building and should be repaired and retained throughout. The existing storm windows are at the end of their service life and should be replaced with high-quality, low-profile storm windows. Notice the holdbacks mounted in the masonry on either side of the window for the shutters.*



*Fig. 43 The library shortly after completion, showing the wood shutters flanking the window openings.*



*Fig. 44 Many of the storm windows on the third floor of the library have had UV-protective film applied to them. The film is well past its service life and is now bubbling and peeling from the surface of the glazing. Owing to the age and quality of the storm windows, it makes the most sense to replace them with a high-quality, low-profile storm windows.*



*Fig. 45 Representative examples of failing paint on the window sash and water-stained sills. These conditions are typically the product of condensation that forms on the window glazing and eventually drips down onto the sash and sills. The sill also looks to be dried out due to failure of its clear coat and decades of UV exposure.*



*Fig. 46 West wing, second-floor north window. This window exhibits the typical failures seen from condensation and UV damage. The window is situated in what appears to be a problematic location, where the upper roof discharges rain and snow onto the lower roof (seen through the window). Being the north side of the building, it likely holds moisture and snow longer than elevations that receive direct sunlight.*



*Fig. 47 The frontis at the south entry is based on Connecticut River Valley door surrounds popular during the mid-eighteenth century. These door surrounds drew from classical examples illustrated in English architectural treatises and found in urban areas along the coast; however, they employed architectural details and proportions unique to the valley. This twentieth-century adaptation takes the design one step further, incorporating a single glazed door and sidelights into the design. Note the carvings in the capitals and the pineapple feature in the center of the scroll pediment.*



*Fig. 48 Detail of the pineapple located in the pediment of the frontis. Note the leaves surrounding the body of the fruit. These may have been made from some type of sheet material, such as tin or copper, and gilded.*



*Fig. 49 East entry. This entry has been altered to provide universal access to the building. In doing so, the original double doors were removed and infilled to accommodate a single modern door. The original doors still exist and are used on the small shed at the end of the east drive. The design of this entry can be improved upon to both provide universal access and harmonize with the overall aesthetic of the architecture.*



*Fig. 50 East entry. The building is hidden behind a variety of different plantings that range in size and type. Vines should not be allowed to grow on wood surfaces. Large deciduous trees should be removed and kept well away from the perimeter of the building.*



*Fig. 51 West entry. Like the east entry, the west wing is surrounded by close plantings that hide the building's facades.*

## *Interior*

### *General Assessment*

Taking into consideration past large-scale alterations made to the library, such as the renovations made to the auditorium and the 1993 expansion, much remains of the 1928 library interior. Perhaps most important is that the majority of the 1928 plan remains (fig. 52). While some alterations have been made to the first floor plan, the upper floors remain largely unchanged. The changes made to the first-floor plan (excluding the auditorium area) are fairly minor and have not altered the original plan beyond comprehension. A number of changes made in 1993 included adding walls in places to partition spaces, changes that could easily be undone if desired. As a historic feature, a building's floor plan is as important as its exterior appearance, for it is the floor plan that explains how a building was used and how it operated; without it, a building becomes stripped of its personality.

### *Water Infiltration*

Evidence of past water infiltration is visible in sporadic areas throughout the interior of the library. Much of this exists around window openings and at the perimeters of ceilings adjacent to exterior walls, resulting in bubbling and crumbling of the gypsum surface. This is most noticeable around the dormer windows where the auditorium was located (fig. 53). Water staining in the second floor fireplace of the west wing may be a consequence of the chimney not being capped (fig. 54). The status of this leak is not known and should be monitored. All uncapped, unused chimneys should be capped to prevent water from entering.

The water stains around the dormers and upper floor areas most likely relate to roof issues brought on by the end of its service life, further reinforcing the need to replace the slate roof.

A recurring leak is present in the Special Collections department, where the end wall of the original building meets the 1993 addition.

Facilities staff noted that this occurs during unique circumstances or conditions, such as heavy snow and driving rains.

### *Retrofitting of Modern Building Systems*

Typical of public buildings of this age, the library suffers from numerous incremental improvements made over time to add and update systems introduced since its construction. The installation of modern building systems, such as ceiling lighting, fire detection and suppression equipment, and other services, is often expensive and difficult to integrate into existing buildings. They are most commonly installed as seen today, surface mounted on walls and ceilings and routed through rooms across floor levels (fig. 55). Their placement diminishes the original architectural intent of the spaces, and often their look and design appears out of place with the period fabric.

Decorative finishes, such as floor coverings and paint colors, periodically get changed as they wear out or as tastes change. Similar factors alter features like light fixtures and window coverings, so that over the decades, these incremental changes add up, slowly eroding the original architectural appearance and feel of the building, resulting in a much lesser design than was originally conceived. These changes are common, and it is generally not until a large-scale project occurs that plans are developed to either better integrate systems into the building or undo past alterations that may be detracting from the quality of spaces.

### *Architectural Finishes and Fixtures*

Much of the original 1928 interior finishes—flooring, millwork, windows, doors, mantels, and plasterwork—remain in the building; however, later improvements have altered or concealed portions of their appearance. For instance, nearly all of the natural wood floors have been covered with wall-to-wall carpeting, both hiding them from view and altering the appearance of the rooms. Modern light fixtures (a critical and necessary convenience) have replaced historic ones in their entirety, erasing any sense of how spaces were originally illuminated and by what means.



Perhaps the greatest change to affect the interior appearance of the library is the absence of color on the walls. A number of entries in the Progress Report make reference to Allen Cox choosing colors for the interior of the library:<sup>41</sup>

August 17, 1928 - "Mr. Cox at the building in the afternoon, he chose colors for walls of the Auditorium and First Floor and decided upon colors for the blinds."

August 28, 1928 - "Mr. Cox was here today choosing colors."

September 28, 1928 - "Mr. Cox here today also Mrs. Cox selecting colors for walls and fabrics."

Historic photographs of the library's interior clearly show differences in surface treatments. Because these are black-and-white images, colors cannot be discerned; however, based on the white of ceilings, it is clear not only that the walls of the rooms are painted a different color but that, in some locations, different colors were used above and below the chair rails (fig. 56 and 57).

The reference to fabric on the walls is equally interesting. A white fabric wall covering remains on the walls of the center stair hall; however, historic images show the walls appearing in a darker shade than this covering would produce.

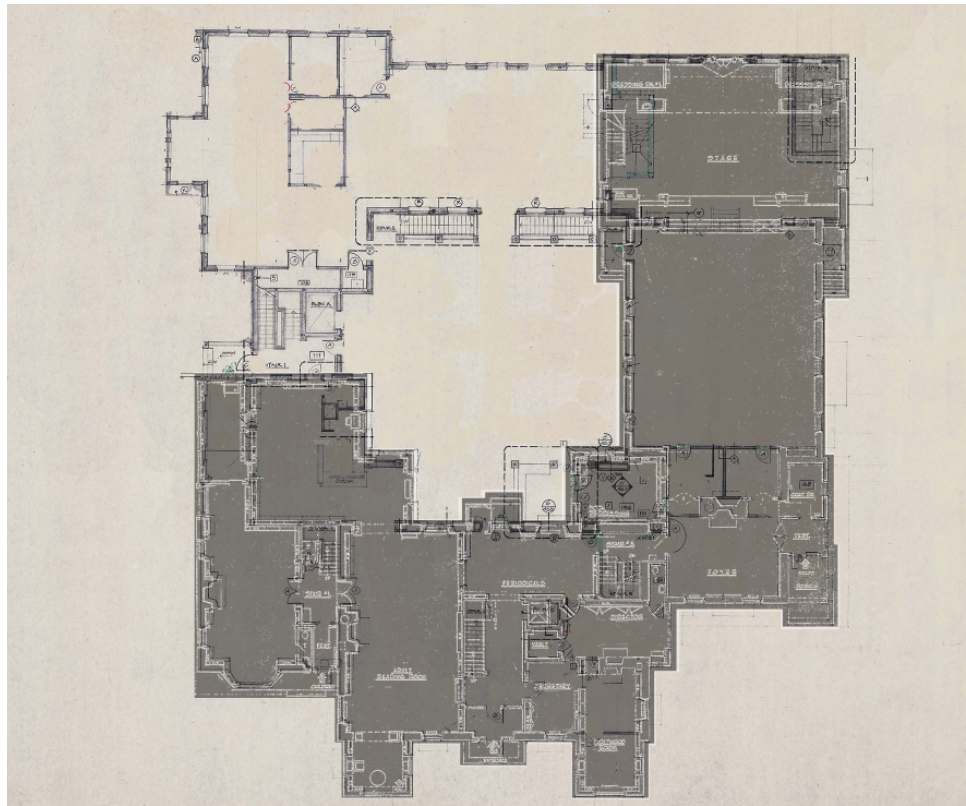
The library should undertake a paint study of the interior spaces to determine if original finishes can be identified. This would entail hiring a paint analyst to sample the surface finishes and examine them under a microscope at high magnification, a process known as cross section paint microscopy. At high magnification, colors can be identified and matched to either manufacturer paint colors or standard color notation systems. The reintroduction of color back into the interior of the library, especially period color schemes, would have a dramatic effect on the appearance of the rooms.

### *Use of Space*

A number of the library's original spaces are now shut off to the general public, having been converted to administrative offices or staff use. The library's desperate need for storage space has also resulted in underutilized spaces (such as the west entry) becoming pressed into service to meet these needs (fig. 58). This, in combination with changes made to the interior finishes and treatments of remaining spaces open to the public, lessens the unique identity originally conceived for the library.

### *Original Furnishings*

During the course of examining the library, it was surprising to discover how many pieces of original or early furnishings and objects still remain throughout the building. These include reading tables, chairs, upholstered furniture, and umbrella stands, andirons, and the tall clock on the landing of the main staircase (fig. 59-62). A large number of items have been cataloged and are stored in the trustees' meeting room and elsewhere by the Special Collections department; however, a variety of pieces are located throughout the library and are still in use. While the library staff appear to be aware of these pieces, it is uncertain if the full extent of what remains is known and if it has been cataloged in its entirety. While some pieces are labeled, such as tables and chairs in the children's reading room manufactured by Shaw Furniture Co., Cambridge, Massachusetts, other pieces are not and might only be identified by a professional knowledgeable in furniture of this period. Much documentation exists in the library's Special Collections archive, and it may be possible to match many of these pieces with original invoices or inventories.



*Fig. 52 First-floor overlay. This composite image shows the 1928 floor plan (in gray) laid over the 1990 footprint. The 1990 addition is basically attached to the original building without much alteration to the original floor plan.*



*Fig. 53 Southeast corner of the former auditorium. Past water infiltration has caused the gypsum plaster finish to bubble and deteriorate. This in turn has caused the paint finish to fail as well. This is representative of the plaster surrounding many of the dormers and is likely the result of roofing issues.*



*Fig. 54 West wing, second-floor fireplace. Note the water stains in the firebox and at the rear of the hearth. The white debris on the hearth extension is paint and plaster dust from the ceiling above. This location should be monitored to determine the status of water infiltration. The chimney here should be capped if it is not already.*



*Fig. 55 Children's stacks. This representative example of incremental change shows how the introduction of things like modern lighting, fire detection and suppression systems, emergency lighting, mechanical systems in the fireplace, and modern paint colors and carpeting has radically changed the original architectural design and feeling of the space.*



*Fig. 56 Exhibition Room. This image shows that the walls were painted in some type of color scheme. Note how the white of the cornice contrasts with the tone of the walls. This photo offers an excellent idea of how the rooms were furnished, as well as an example of the ceiling fixtures originally used in the building.*



*Fig. 57 Main stair hall, circa 1929. The dark tone of the walls indicated they were painted in a color other than the white seen on the ceiling. Note the treatments in the room beyond.*



*Fig. 58 West entry vestibule. Lack of space has forced secondary spaces like this entryway to be pressed into service as storage space.*



*Fig. 59 One of two original, Arts and Crafts style, umbrella stands located in the building.*



*Fig. 60 Drop leaf table likely dating to the opening of the 1928 library.*



*Fig. 61 Table and chair set labeled "Shaw Furniture Co. Cambridge, Mass." These pieces date to the construction of the library and were part of its original furnishings.*



*Fig. 62 Original trestle table still in use.*

### ***Guideline for the Treatment of the 1928 Library***

The preservation of historic buildings is a complex undertaking owing to their unique nature and individual characteristics. Unlike new construction, which centers around an original idea and modern materials, preservation involves treating existing construction in a manner that respects the original design and intent of the architecture. Stewardship of the Jones Library comes with a number of challenges, foremost of which is a responsibility to preserve the unique architectural qualities of the building while also responding to changing programmatic needs and modern amenities. Unlike the static nature of a museum building, the Jones Library is a dynamic institution serving the community. While change is inevitable, it does not need to occur at the sacrifice of the historic integrity of the structure. Future growth can be achieved successfully; however, accomplishing this requires careful planning and skillful execution.

As stewards of the Jones Library, the Board of Trustees needs to establish an approach to managing the building with long-term goals in mind, ideally including the preservation of the 1928 building and its historic integrity. The National Park Service defines *integrity* as “the authenticity of a property’s historic identity, evidenced by the survival of physical characteristics that existed during its historic period; the extent to which a property retains its historic appearance.”<sup>42</sup> The later additions made to the library are not of exceptional quality and do not contribute to the library’s overall significance. Considering its age, the 1993 addition does not meet the National Park Service criterion for evaluating properties that dictates, “With the exception in unique circumstances, properties must be at least 50 years old to be eligible for consideration as a historic resource.”<sup>43</sup>

Stewardship of any resource requires that goals be defined ahead of time in order to identify what needs to be accomplished. The following guidelines are intended to help establish a framework and shape an approach to work that preserves and protects the character-defining

features of the building, both inside and out, so that future repairs and improvements can be planned, implemented, and even removed with the least impact to the integrity of the building.

1. First and foremost, any work affecting the 1928 library should be done in a way that avoids altering or damaging the historic integrity of the building.
2. Respect for the original design intent, features, and elements must be considered in the planning, design, and implementation of improvements. Ideally, the use of spaces should be compatible with the original plan and function so as to minimize changes to the layout and volume of the spaces.
3. Original materials and character-defining elements should be retained to the greatest extent possible.
4. New programs introduced into the original library building should be sympathetic to the historic fabric of the spaces.
5. Materials used in the repair of the building should meet or exceed the quality used in its original construction.
6. Repairs made to original material should match the workmanship of the original construction in appearance and quality of execution.
7. All efforts should be made to ensure that the installation and replacement of modern services and systems do not adversely affect the integrity of the building.
8. Past alterations that detract from the integrity of the library should be reversed when circumstances allow.

The Jones Library is identified as a contributing building within the Amherst Central Business District—a National Register district as of 1991—and is also listed in the State Register of Historic Places. As such, any work performed using state or federal funding will require that the trustees file with the Massachusetts Historical Commission and undergo a Chapter 254, Section 106, review of



the project. Furthermore, if federal tax credits are being sought, all work will be required to comply with the secretary of the interior's Standards for Rehabilitation for the work to qualify as a certified rehabilitation.<sup>44</sup> The Standards for Rehabilitation parallel the preceding guidelines but in more broad terms.

### *The Standards for Rehabilitation*

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

## Endnotes

1. Kevin M. Sweeney, "Mansion People: Kinship, Class, and Architecture in Western Massachusetts in the Mid Eighteenth Century," *Winterthur Portfolio* 19, no. 4 (1984): 231–55.
2. Amelia F. Miller, *Connecticut River Valley Doorways: An Eighteenth-Century Flowering* (Boston, Mass.: Boston University for the Dublin Seminar for New England Folklife, 1983).
3. For a comprehensive look at the society, culture, and arts that define the regional identity of the Connecticut River Valley, see *The Great River: Art and Society of the Connecticut Valley, 1635-1820* (Hartford, Conn.: Wadsworth Atheneum, 1985).
4. Stafford Fox Thomas, Progress Report, Jones Library, July 14, 1927—November 3, 1928, Jones Library Collection, Special Collections, Jones Library, Amherst, Massachusetts (hereafter cited as Jones Library Collection).
5. Miller, *Connecticut River Valley Doorways*.
6. Estimate of labor and materials furnished by Casper Ranger Construction Company, January 1, 1928, Jones Library Collection.
7. See Appendix A for a list of materials used in the construction of the library, along with quantities.
8. There is a discrepancy among sources about when exactly the firm began. Albert Nelson Marquis, ed., *Who's Who in New England: A Biographical Dictionary of Leading Living Men and Women of the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut*, 3rd ed. (Chicago: A.N. Marquis, 1938), 1044, lists the year as 1901, whereas Henry F. Withey and Elsie Rathburn Withey *Biographical Dictionary of American Architects (Deceased)* (Los Angeles: New Age, 1956), 143, lists the year as 1904.
9. Withey and Withey, *American Architects*, 143.
10. MACRIS: Massachusetts Cultural Resource Information System, Massachusetts Historical Commission, [mhc-macris.net](http://mhc-macris.net). A search of all towns in Massachusetts for areas, buildings, burial grounds, objects and structures by Putnam and Cox was conducted on December 3, 2021.
11. *Who's Who in New England*, 1044.
12. *Who's Who in New England*, 1044.
13. Withey and Withey, *American Architects*, 493.
14. Withey and Withey, 143.
15. Withey and Withey, 143.
16. "Massachusetts Institute of Technology Chooses Successor to the Late Professor Despradelle," *American Architect* 104 (July—December 1913).
17. Mary Sayre Haverstock, Jeannette Mahoney Vance, and Brian L. Meggitt, eds., *Artists in Ohio 1787-1900: A Biographical Dictionary* (Kent, Ohio: Kent State University Press, 2000).
18. "Allen H. Cox Dies; Boston Architect," *New York Times*, July 7, 1944, 15.
19. "Allen H. Cox Dies," 15.
20. For a concise overview of the history and details of the Colonial Revival style of architecture, see Vincent J. Scully Jr., *The Shingle Style and the Stick Style: Architectural Theory and Design from Richardson to the Origins of Wright* (New Haven, Conn.: Yale University Press, 1955).
21. For a complete room-by-room breakdown of original uses, see Appendix B.
22. Estimate of labor and materials furnished by Casper Ranger Construction Company, January 1, 1928. Duration of the project is based on Thomas, Progress Report, Jones Library Collection.
23. Francis P. Keough, *A Building Study of the Jones Library, Amherst, Massachusetts*, September 1965, Jones Library Collection.
24. Keough, *Building Study*.
25. Keough, *Building Study*.
26. Keough, *Building Study*.

27. Amherst Building Permit no. 40, *Springfield Union*, November 28, 1967, Jones Library Collection.
28. Planning committee for the study of the Jones Library expansion, 1986-92, Jones Library Collection.
29. Architectural drawings of Jones Library expansion, 1990, Mark Mitchell Associates, Jones Library Collection.
30. Amherst Building Permit no. 91B-34, dated July 1990, Jones Library Collection.
31. Bruce Watson, *Hearth and Soul: A History of the Jones Library at One Hundred* (Amherst, Mass.: Off the Common, 2019), 77.
32. Putnam and Cox to Stafford F. Thomas, clerk of the works, October 27, 1927.
33. Thomas, Progress Report, Jones Library Collection.
34. Putnam and Cox, construction drawings for the Jones Library, June 1927, Jones Library Collection.
35. Putnam and Cox, construction drawings for the Jones Library, June 1927, Jones Library Collection.
36. Thomas, Progress Report, Jones Library Collection.
37. A collection of eight hand-written index cards recording the various donors of stones for the exterior of the Jones Library building, Jones Library Collection.
38. Frank Prentice Rand, *The Jones Library in Amherst, 1919-1969*. (Amherst, MA: Jones Library, 1969), 26.
39. Thomas, Progress Report, Jones Library Collection.
40. Librarian of the Jones Library to Allen H. Cox, May 15, 1931, Jones Library Collection.
41. Thomas, Progress Report, pp. 117, 120, and 131, Jones Library Collection.
42. "Definitions—I," Denver Service Center Workflows, National Park Service, accessed December 1, 2021, [www.nps.gov/dscw/definitionsdc\\_i.htm](http://www.nps.gov/dscw/definitionsdc_i.htm).
43. See National Register of Historic Places regulation 36 CFR 60, section 4, Criteria for Evaluation, [www.ecfr.gov/current/title-36/chapter-I/part-60/section-60.4](http://www.ecfr.gov/current/title-36/chapter-I/part-60/section-60.4). See also *How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: National Parks Service, 1998). The National Park Service defines a historic resource as a "building, site, district, object, or structure evaluated as historically significant."
44. "Secretary's Standards for Rehabilitation," Rehabilitation Standards and Guidelines, Technical Preservation Services, National Park Service, accessed December 1, 2021, [www.nps.gov/tps/standards/rehabilitation.htm](http://www.nps.gov/tps/standards/rehabilitation.htm).

*Appendix A: Materials Used in the Construction of the Jones Library*

THE JONES LIBRARY, Incorporated

October 4, 1929

Furnished Building		400,037.83
Real Estate	100,983.85	
Architect's Fee	14,844.90 ✓	
Engineering Expense	671.10 ✓	
Clerk of Works	3,600. ✓	
Insurance	745.27	
Labor	3,705.61 ✓	
E. S. Puffer	1,621.50 ✓	
Casper Ranger (contract with extras)	235,879.97 ✓	
George Cutler, Treas.	4,800. ✓	
Amherst Water Co.	6.75	
Electrical Fixtures	4,290.42	
Lumber	2.60	
Furniture	18,524.92	
Loam	525. ✓	
Surveying	89.50 ✓	
Grading	2,493.13 ✓	
Furnishings	7,251.06	
Office Expense	<u>2.25</u>	
		400,037.83

C. M. C.  
10/4/29



ESTABLISHED 1880

TELEPHONE 2530

INCORPORATED 1912

BOSTON OFFICE

129 NEWBURY ST.  
TEL. KENMORE 2160

HOLYOKE, MASS.

October 26, 1928.

RE:

Mr. Charles R. Green, Librarian  
Jones Library  
Amherst, Mass.

Dear Sir:-

In reply to your letter of October 5, the following are the main items required in the building of your new Library.

- 2500 Barrels Cement
- 1200 Tons Trap Rock
- 2000 Yards Sand in Concrete, Partition Blocks and Plaster
- 320,000 Brick
- 400 Cu. Yds. Stone for Exterior Walls
- 24,000 Sq. Ft. Terra Cotta Partitions and Wall Furring
- 400 ft. in length Flue Lining for chimneys
- 120,000 ft. Lumber in Building Forms
- 20,000 Ft. Material in finished oak floors
- 3500 ft. of Akle, trade name of which is Phillipine Walnut
- 20,000 ft. Phillipine Mahogany for interior finish
- 15,000 Yds. Plaster
- 80 Tons Structural Steel
- 150 squares Slate Roof.

We trust this information will prove of interest and beg to remain

Very truly yours

CASPER RANGER CONSTRUCTION CO.

Per *John A. Barrett*

JPB:V

W. B. CROWLEY  
MANAGER

TELEPHONES  
WALNUT 204 AND 205



# INTERSTATE ELECTRIC CONSTRUCTION CORPORATION

DEALERS IN  
GENERAL ELECTRIC  
PRODUCTS

CONTRACTING  
ENGINEERING  
REPAIRS

STEARNS BUILDING  
301 BRIDGE STREET

SPRINGFIELD, MASSACHUSETTS

Oct. 27, 1923

Mr. C. R. Green  
The Jones Library  
Amherst, Mass.

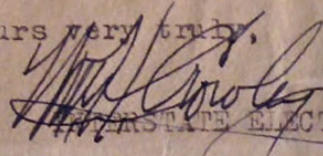
Dear Sir:

Replying to your letter of October 25 there is approximately 25,000 feet of electrical conduits in your building and about 80,000 feet of different sizes of wires and cables.

There is also about 600 outlets, this would include switches, receptacles, bracket outlets and ceiling outlets.

We trust that this is the information that you desire.

Yours very truly,

  
W. B. CROWLEY  
INTERSTATE ELECTRIC CO.



WHC:C

MUIRHEAD'S SHOPS OF MERIDEN, INC.

DERECKTOR BUILDING

9 WEST MAIN ST. MERIDEN. CONN.

TELEPHONE 3472

Oct. 26, 1928

Mr. Charles R. Green, Librarian  
The Jones Library  
Amherst, Mass.,

Dear Sir:

In accordance with your letter of the 25th we are listing below the approximate amounts of some of the material used on the new library building.

9954	Lbs	Paint Pigment
250	Lbs	Coloring
600	Lbs	Dry Material
200	Gals	Liquids

Trusting that this is the information you desire, we are

Very truly yours,

MUIRHEAD'S SHOPS OF MERIDEN, INC.,

*W. R. Muirhead, 2nd*  
*A.*

WRM:H



MEMBERS OF INTERNATIONAL MASTER PAINTERS' ASSOCIATION

*Appendix B: Jones Library Schedule of Rooms*

The Jones Library  
Incorporated  
Amherst, Massachusetts

SCHEDULE OF ROOMS

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Basement

- Rooms 1, 2, 3. Storage rooms. Wired and equipped with ceiling lights for future stack storage rooms. Well lighted and dry. At the base of the chimney stack in Room 3 there has been installed a twenty-inch fan to aid in ventilating, especially during the summer time.
- Room 4. The front or south end has been used for the electrical switch, high voltage room, and similar equipment. The north or back end will be used for the packing of bindery material, and so on.
- Room 8. Service hallway.
- Rooms 5, 6, 7, 8. Staff quarters.  
Room 5. Rest room for the young women members of the staff.  
" 6. Kitchenette.  
" 7. Locker room.  
" 8. Toilet.
- Rooms 9 and 10. Men's wash room and toilet.
- Room 11. Corridor.
- Room 12. Janitors' rest room.
- Room 13. Janitors' supply department and work room.
- Room 14. Boiler room.
- Room 15. Coal Pocket.
- Room 16. Storage room, with a trap door opening from the auditorium, so that settees or other things may be removed from the auditorium and so that tables, chairs, or other things may be sent up to the auditorium.
- Room 17. Corridor, widened at the east end in order to take care of an old stage coach belonging to the Amherst Historical Society.



- Room 18. Work room, originally planned as a book bindery.  
" 19. Garage for automobile book wagon.

First Floor

- Room 101. Children's reading room.  
" 101-A. Extension of children's reading room, to be used by the children's librarian as a work room and also available as a special book room on other special occasions which may arise later on.  
" 102. Stack area and art room. One side of the three tiers of wooden book stacks has been made to accommodate large size art books, royal folios, and so on, with a battery of picture filing cases along the north wall between two windows.  
" 103. Main reading room.  
" 104. Periodical and newspaper room.  
" 105. Secretary's office.  
" 106. Boltwood room, containing a special book collection devoted to town histories and genealogies; also, a buffer office room.  
" 107. Librarian's office.  
" 108. Cataloging room.  
" 109. Last Room, to be used for committee meetings and reception room, or as the lobby or foyer to the auditorium.  
" 110. Coat room.  
" 111. Auditorium; seating capacity, 300.  
" 112. Stage.  
" 113 and 114. Dressing rooms.

Second Floor

- Room 201. Children's exhibition room.
- " 202. Story telling room; also available for a teacher's library, selected home library; also meetings for adults.
- " 203. Exhibition room.
- " 204. Amherst Collection room; also available for committee meetings and small study groups.
- " 205. Jones Memorial Room; also trustees' meeting room, room for fine editions, good sets.
- " 206. Special book room. Available for committee meetings, small study groups, Hi Y.
- Moving picture booth just off Room 206 has been raised so that the balcony is entirely clear and now has a seating capacity of perhaps 20.

Third Floor

- Room 301. The studio, available for special art exhibitions, evening study classes, or other special groups.
- " 302-306. Small study rooms for individual use.
- " 307 and 308. Corridors.

Fourth Floor

East or right-hand section available for storage.

· AMHERST MEMORIAL ROOM.

A room which, by its equipment and furnishings, will be at once a memorial to Amherst men in the World War and a place of deposit for all records about these men and anything else of record or information about other men and women of Amherst. It will always be a beautiful room, one of inspiration and appeal, in memory of all those who served their country, and at the same time it will be a useful room in that all available records about these patriots and all other sons and daughters of this "Village Among the Trees" shall be made available and yet kept safe for all time.

PROFESSIONAL IMPROVEMENT FUND

This name is given to the money deposited in the Amherst Savings Bank in the name of The Jones Library, Inc., Emergency Account; payable to the Librarian. The money so deposited is fine money, so-called, and money received from the sale of waste paper, etc. Money may be drawn from this fund for the payment of bills incurred on account of sickness, travel, or other purposes for the help of the employees of The Jones Library or the help of other libraries or library people as The Jones Library people may decide.

READING ROOM - the heart of the building, with adjoining room for consultation room.

CHILDREN'S DEPARTMENT - reading room and children's library.

CATALOGING DEPARTMENT - staff working quarters, rest room, kitchenette.

LIBRARIAN'S SUITE - Librarian, Trustees, and Jones Room.

AUDIENCE ROOM - Auditorium, assembly, music, drama.

BURNETT ART COLLECTION - a suite of three adjoining rooms.

JANITOR'S SUITE - adjoining

HEAT AND LIGHT DEPARTMENT - Boiler room, work room, bindery.

TEACHERS - study clubs, study rooms.

EXHIBITION SPACE - Upper hallway, walls in various rooms.