



Understanding Your Historic Building

Historic Structure Reports & Steeple Assessments Overview

Malcolm (Mac) Collins, AIA, LEED AP, NCARB

Ellen Angel, NCARB, LEED AP
Artifex A/E

Housekeeping

- Feel free to have your video camera on or off – if your connection is unstable, turning it off may help
- Please be on mute when not speaking
- You can ask questions using the chat feature during the presentation or wait until Q&A pauses and then unmute and ask it!

Speakers

- Malcolm (Mac) Collins, AIA, LEED AP, NCARB
- Ellen Angel, NCARB, LEED AP, *Artifex A/E*

The Academy Hall



Malcolm Collins, AIA



August 1st, 2020





Project Team

UNIVERSITY OF
SOUTHERN MAINE



ELLEN ANGEL, NCARB
Principal In Charge



R. MICHAEL PULLEN,
AIA
Project Manager



MALCOLM COLLINS,
AIA
Historic Preservationist



SCOTT C. HOMER, PE
Structural Engineer



JASON BEAULIEU, PE
Mechanical Engineer



KYLA MAGNUSSON
Lead Estimator



PATRICK GUTHRIE, AIA
Building Forensics

Team Role Matrix



USM ACADEMY HALL WORK SCOPE	ELLEN ANGEL	MAC COLLINS	MIKE PULLEN	SCOTT HOMER	JASON BEAULIEU	PATRICK GUTHRIE	KYLA MAGNUSSON
1. EXISTING BUILDING REVIEW AND ASSESSMENT							
Historic Analysis		Responsible	Responsible			Support	
Building Elements and Systems		Responsible		Support	Support		
Exterior Envelope Assessment		Responsible	Support				
Causes of Deterioration		Support		Support		Responsible	
Conditions Assessment		Responsible		Support	Support		
Review of Applicable State, Federal, and Local Ordinances		Shared Responsibility	Responsible				
2. RECOMMENDATIONS FOR CORRECTIVE ACTION							
Rehabilitation Strategy for Interior and Exterior	Responsible	Responsible	Responsible	Support	Support		
Sustainable Preservation	Support	Support					
Zoning, Planning, and Historic Commission Reviews		Responsible	Responsible				
Recommendations for preservation, rehabilitation, and repair	Responsible	Responsible		Support	Support		
Preservation Treatment and Use		Responsible	Responsible				
3. PRIORITIZATION, PROBABLE COST, POSSIBLE FUNDING							
Building and Life Safety Code Review			Responsible				
Prioritization of Work	Support	Responsible	Support				
Estimate of Probable Cost	Support	Support	Support	Support	Support	Support	Responsible
Identify Funding Sources	Responsible	Responsible					
Construction Phasing		Support	Responsible				
PROJECT MANAGEMENT/TEAM COORDINATION							
Project Management and Team Coordination	Responsible						
Renderings and Support graphics			Responsible				

- Responsible
- Shared Responsibility
- Support



State Historic Preservation Office



- Identify + nominate eligible properties to the National Historic Register
- Conduct comprehensive surveys + maintain inventory of historic properties
- Prepare + implement a statewide historic preservation plan, administer state programs of Federal assistance
- Provide public information, education, training and technical assistance
- Work with local governments in the development of local historic preservation programs and help them become “certified local governments”



STATE OF MAINE
**MAINE HISTORIC
PRESERVATION
COMMISSION**



Code Review

The **Maine Uniform Building + Energy Code (MUBEC)**

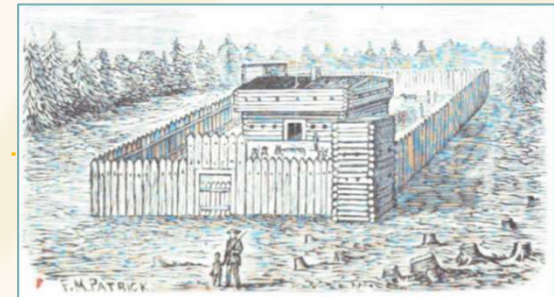
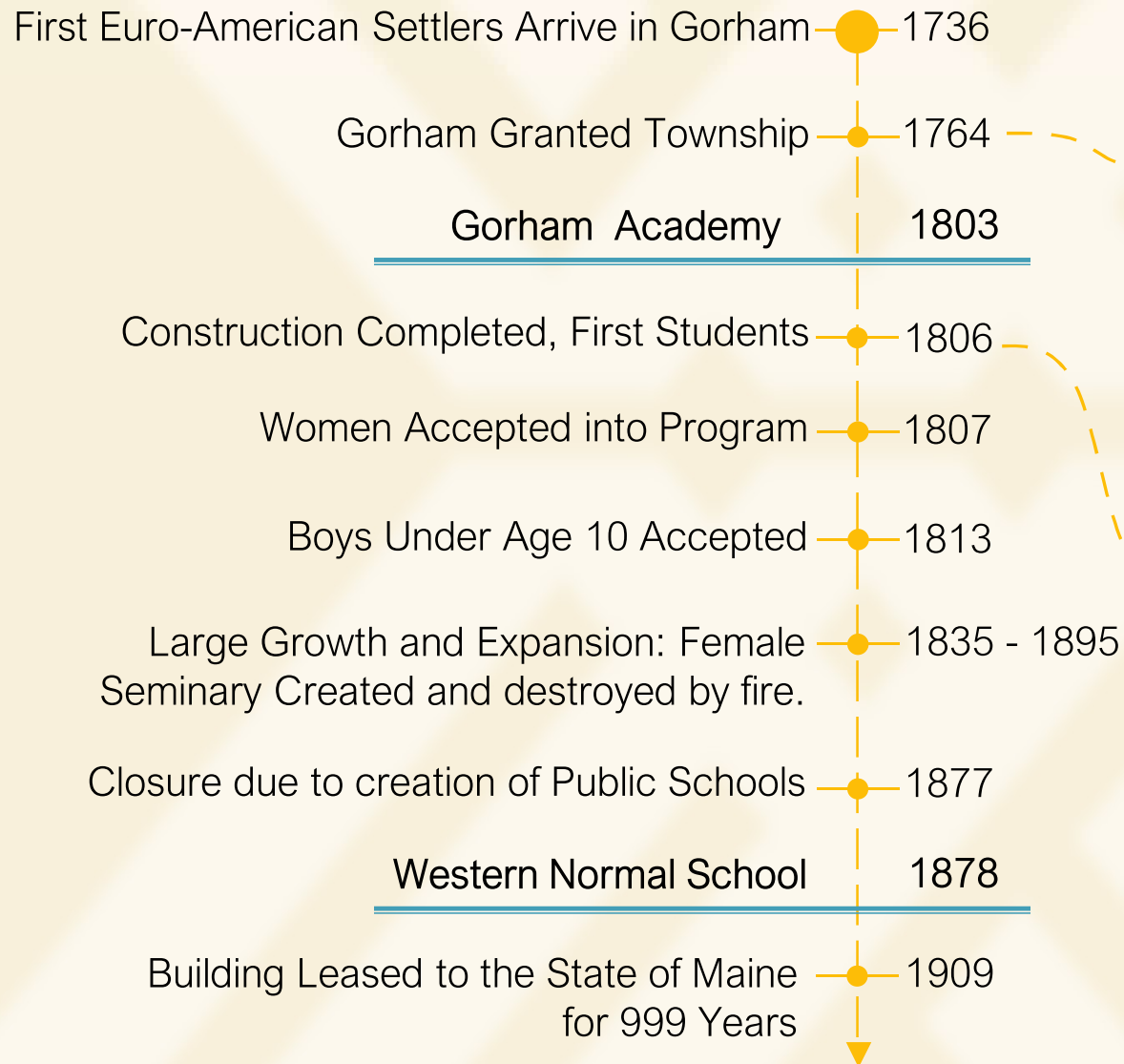
codes and standards that apply to the Academy Building:

- 2015 International Building Code (IBC)
- 2015 International Existing Building Code (IEBC)
- 2009 International Energy Conservation Code (IECC)
- ASHRAE 62.1-2013 Ventilation for Acceptable Indoor Air Quality
- ASHRAE 90.1-2013 Energy Standards for Buildings except Low-Rise Residential Buildings





Historical Overview





Historical Overview

Academy Building converted to house
Industrial Arts (IA) Program

1916

Institution name changes:

1965-1970

Gorham State College
Gorham State College of the University of Maine
University of Maine at Portland-Gorham

IA Program moves, Academy Building
used for art instruction

1966

University of Southern Maine

1978

Continued use as art instructional space

1978-present

ADA bathroom renovations

2013

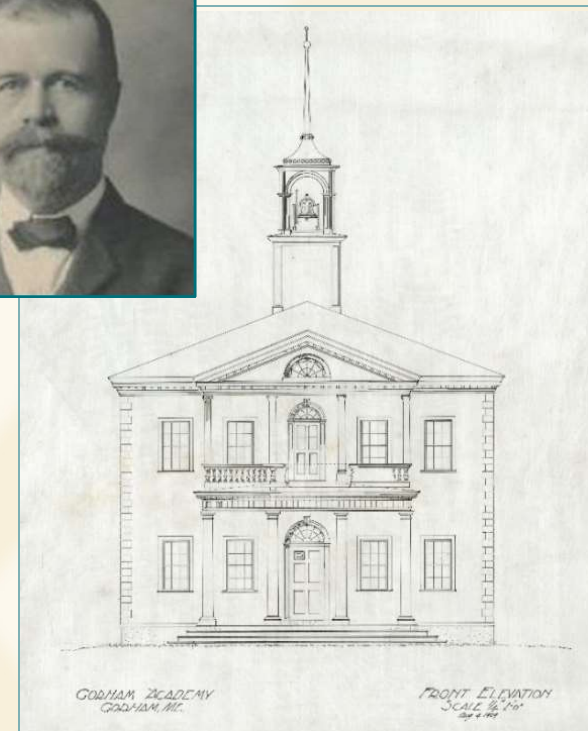




Historical Overview

John Calvin Stevens Renovation - 1909

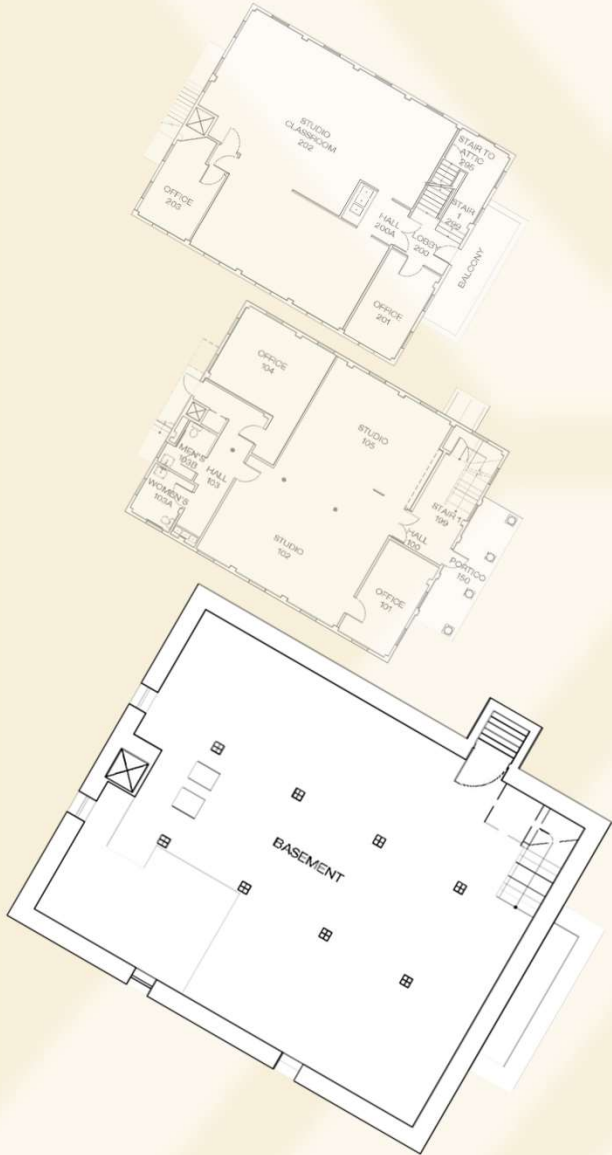
- Stevens is one of Maine's most notable architects
- His work helped restore the Academy Building, which by 1909 had fallen into disrepair (below)





Existing Conditions: Interior

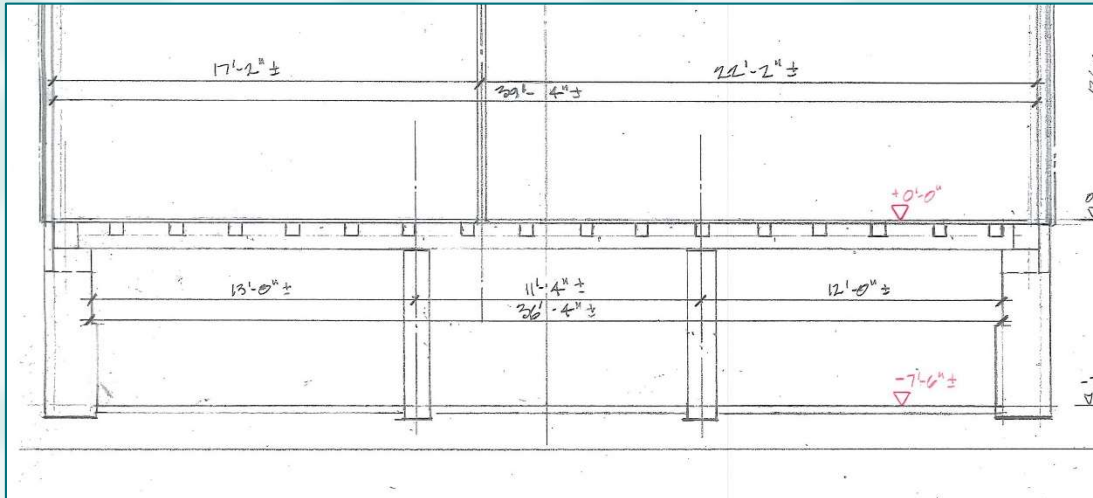
Basement



Existing Conditions: Structure



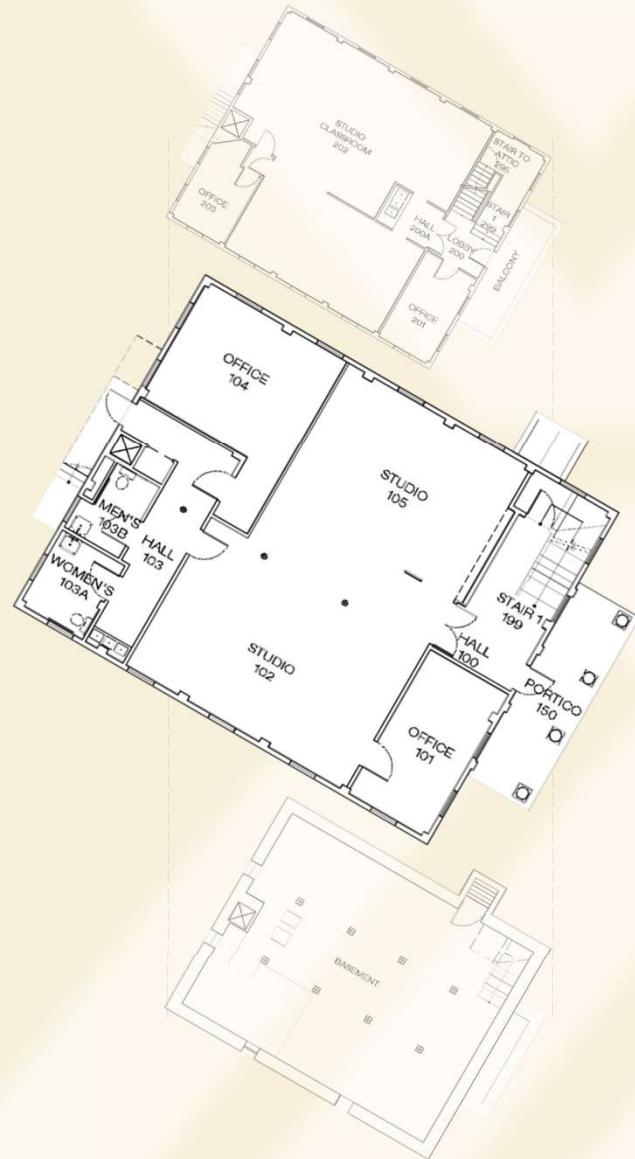
Foundation





Existing Conditions: Interior

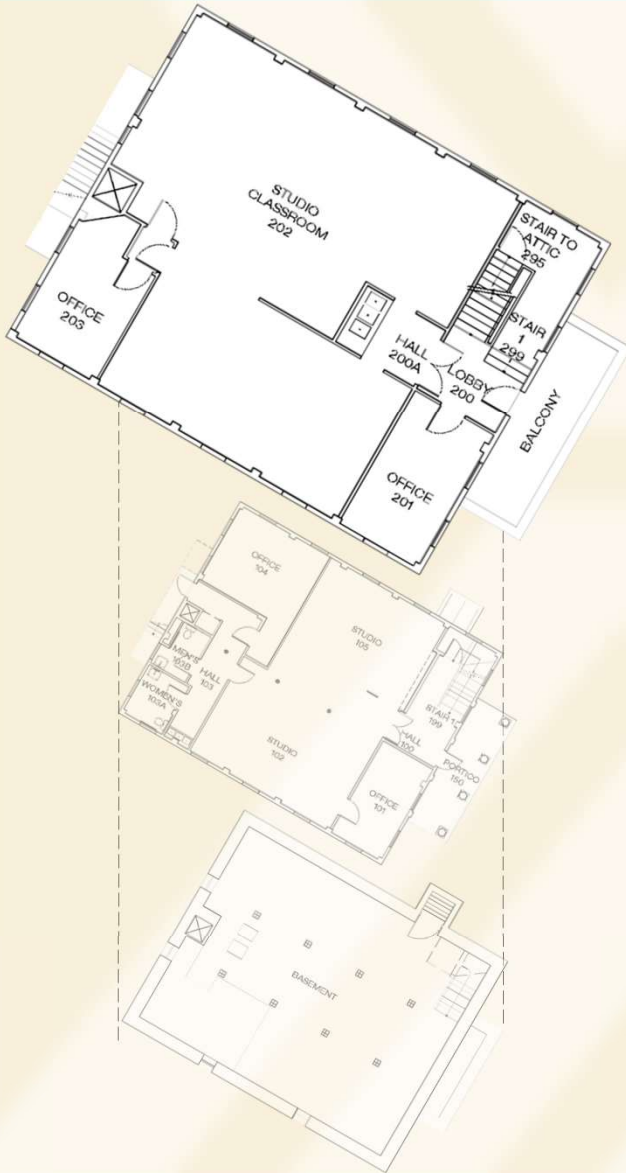
First Floor





Existing Conditions: Interior

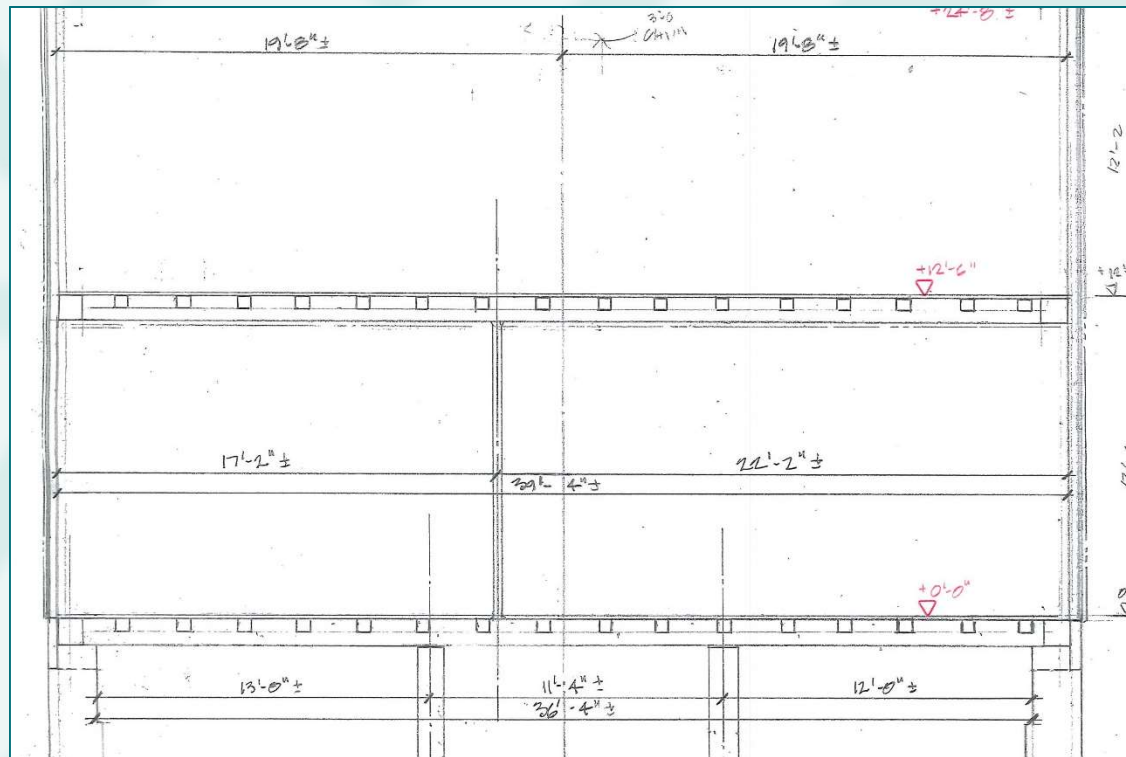
Second Floor



Existing Conditions: Structure



First Floor and Second Floor





Existing Conditions: HVAC



- The main HVAC system includes
 - 2 energy recovery ventilators
 - 2 natural gas boilers
 - 1 hot water expansion tank
- Current ventilation insufficient
- Boilers are approximately 10 years old and in good condition.
- Hot water heaters and insulated piping were installed in 2013 and remain functional

Existing Conditions: Exterior



North Elevation



South Elevation



West Elevation



East Elevation

Character Defining Features

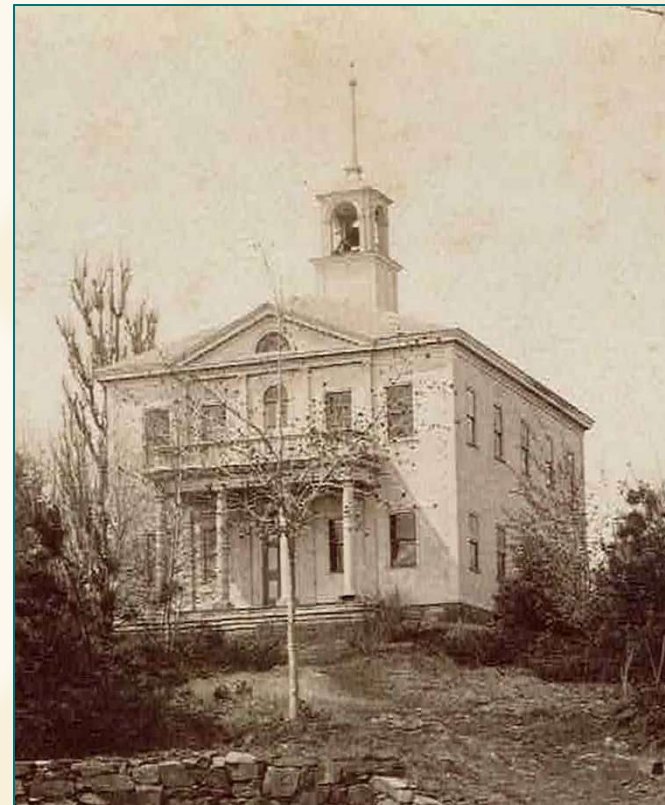




Academy Building Lease Agreement

Identified in the lease, the **University of Southern Maine** must maintain the Academy Building's architectural, historical, and cultural value. This can be achieved through...

Preservation or **Rehabilitation**





Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties

- Preservation
- Rehabilitation
- Restoration
- Reconstruction

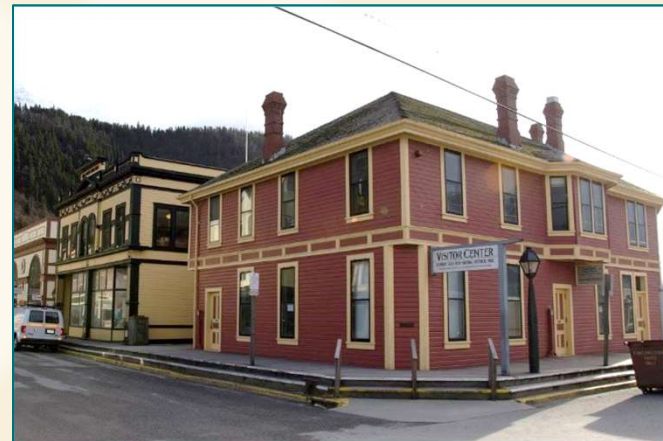




Treatment + Uses

Preservation is defined as “the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.”

- Maintenance and repair of historic materials rather than replacement
- Limited upgrading of MEP systems for code-required work and functionality
- Does not include new exterior additions



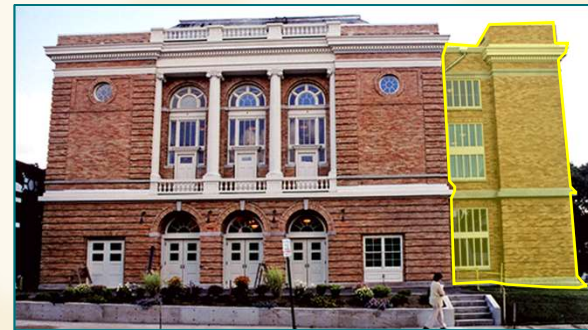
Historic Preservation of storefronts at Yukon Gold Rush National Historic Park (photos courtesy of NPS)



Treatment + Uses

Rehabilitation is defined as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values.”

- Modifications and additions are sensitive to building form and materials
- MEP upgrades should have minimal impact on character-defining features



Rehabilitation projects with sensible additions
(photos courtesy of NPS)

Rehabilitation is the method of treatment recommended by the Project Team



Secretary's Standards for Rehabilitation

- Use and Occupancy must be similar
- Historic character will be retained and preserved
- Cannot misrepresent historical development (style, additions, etc.)
- Distinctive materials or construction techniques will be preserved
- Features will be repaired rather than replaced. Replaced features will match in looks and material (when possible).



Replaced windows that damage historic character



Replaced column base that matches looks and material
(photos courtesy of NPS)



Treatment + Uses

- Chemical or physical treatments will be non-damaging
- Archeological resources will be protected and preserved in place
- New additions or alterations must be differentiated from and not affect historical character
- New additions or alterations, if reversed, must leave the essential form and integrity of building unimpaired.



Graffiti removed from historic building with poultice

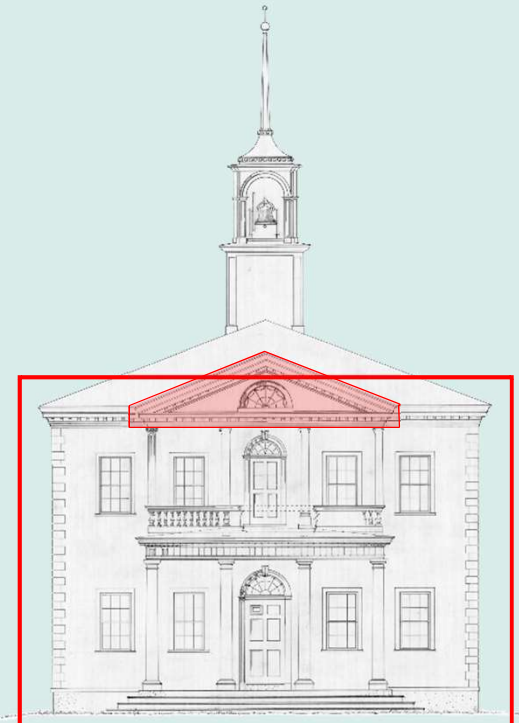
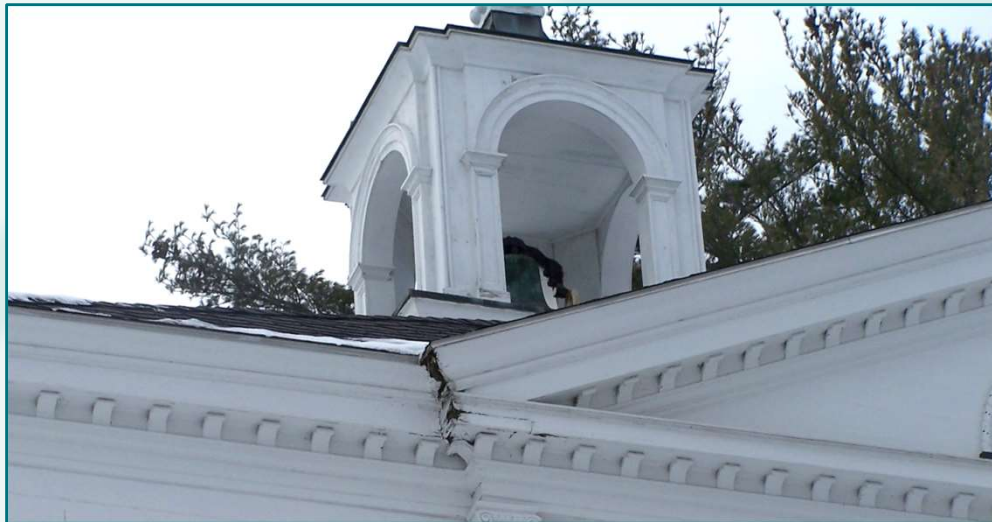


Bricks damaged from sandblasting (photos courtesy of NPS)

Project 1

Front Façade

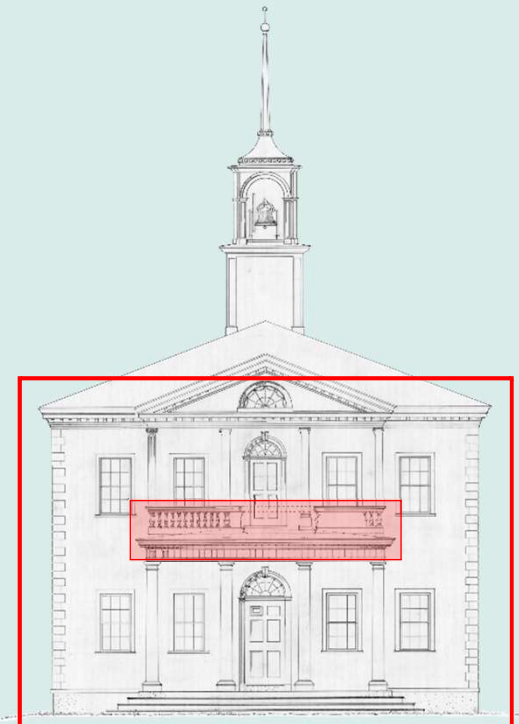
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Project 1

Front Façade

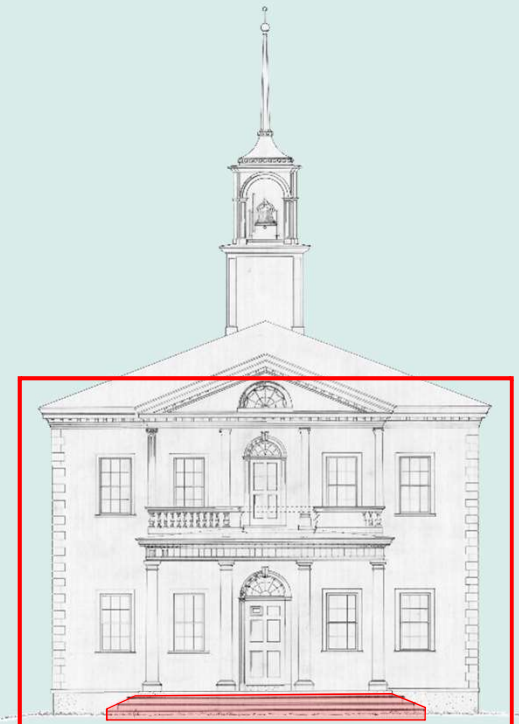
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Project 1

Front Façade

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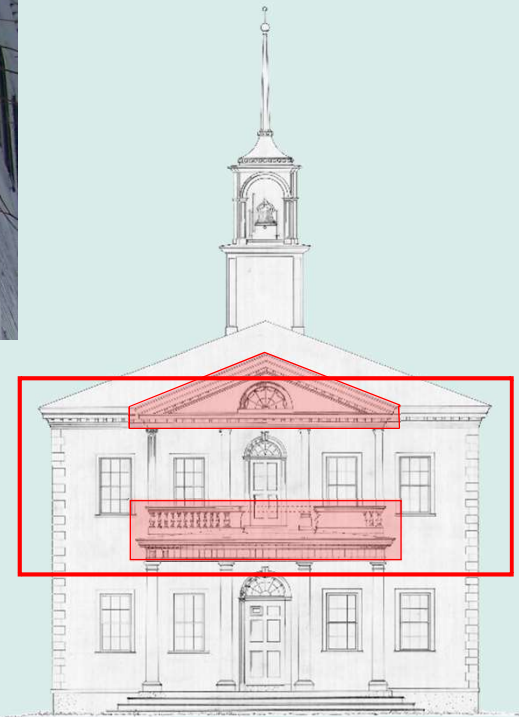
Project 1a

Front Façade

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Gable face and details, flashing, trim, some roofing, porch rails and details, soffit, building siding and painting above second floor



Project 1a

Front Façade

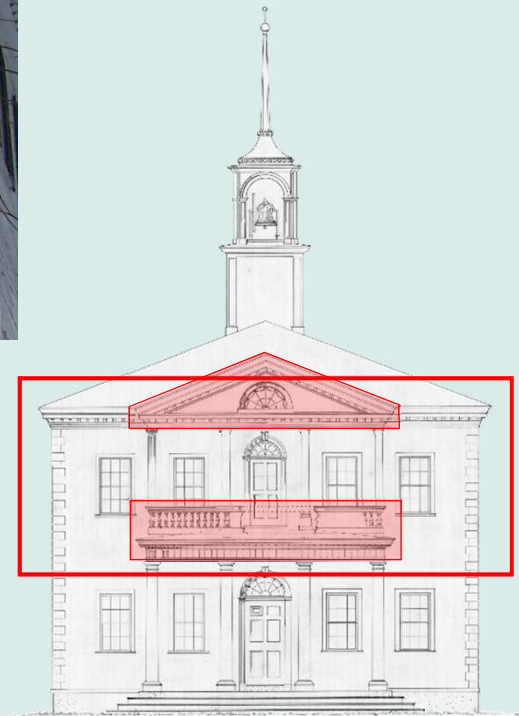
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Project 1a Cost: \$93,300



Gable face and details, flashing, trim, some roofing, porch rails and details, soffit, building siding and painting above second floor



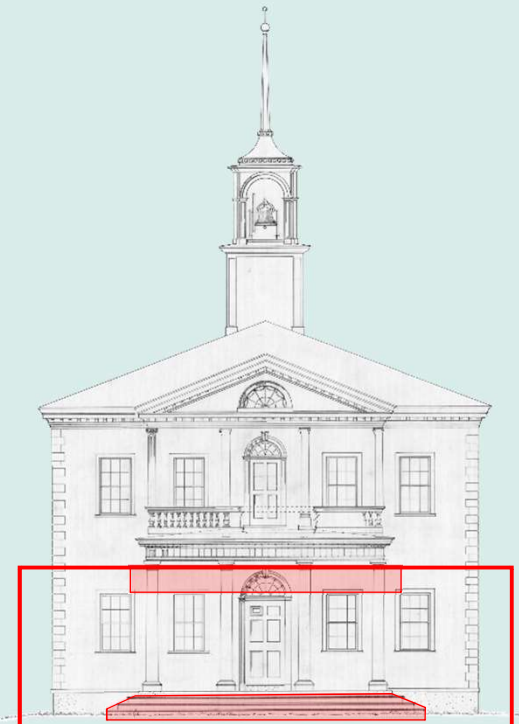
Project 1b

Front Façade

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Porch columns, base, capitols, and details;
remove and reset granite; repair foundation; new
wood steps; and siding repair and painting below
second floor



Project 1b

Front Façade

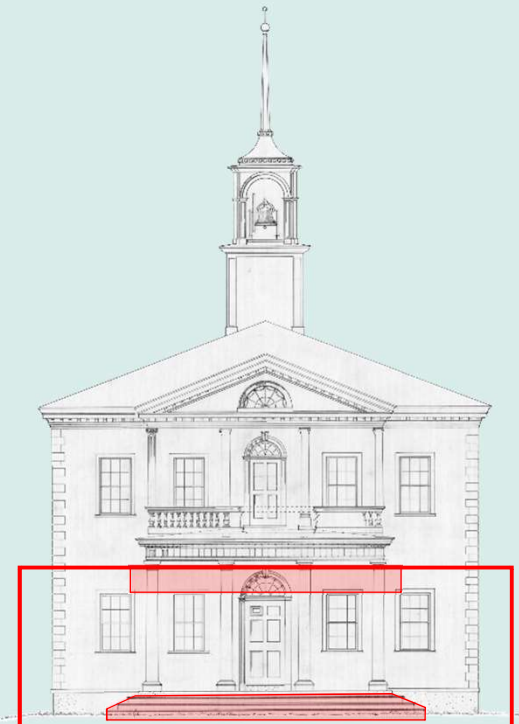
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Project 1b Cost: \$92,195



Porch columns, base, capitols, and details;
remove and reset granite; repair foundation; new
wood steps; and siding repair and painting below
second floor

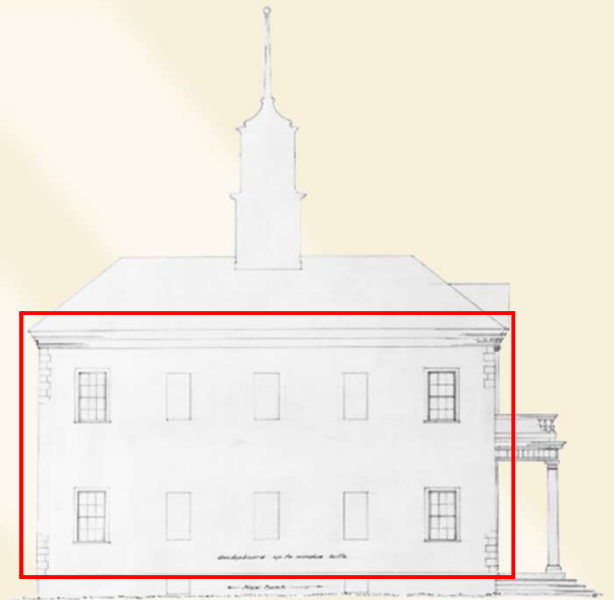




Project 2

Siding Restoration

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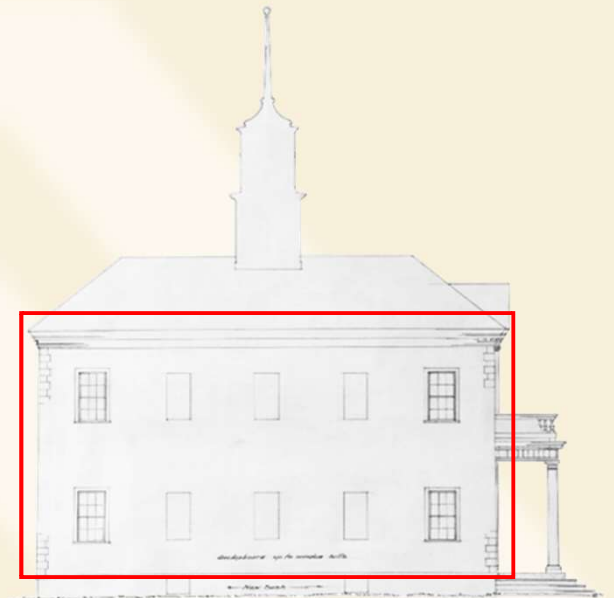
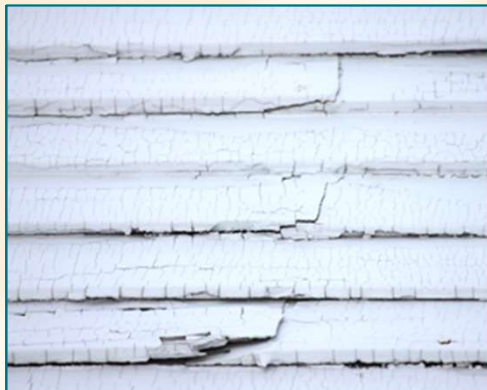


Project 2

Siding Restoration

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Project 2 Cost: \$84,600



Project 3

Foundation Restoration

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Project 3

Foundation Restoration

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Project 3 Cost: \$36,300

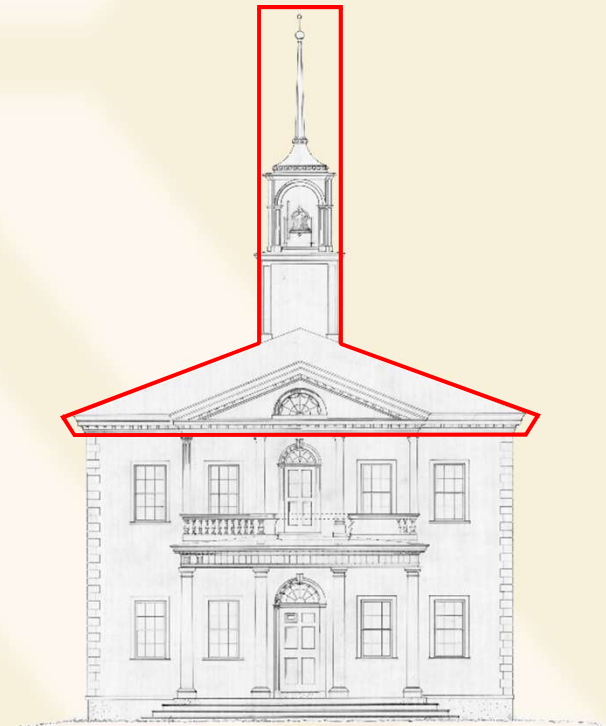
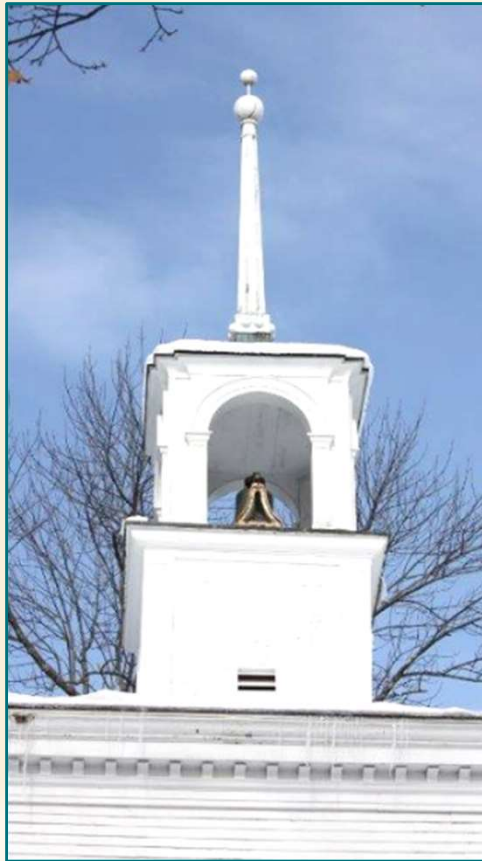




Project 4

Roof + Cupola Restoration

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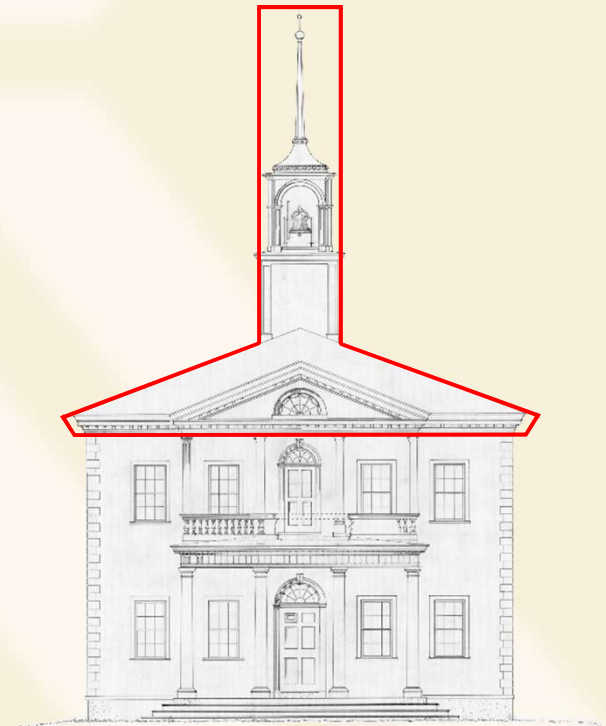
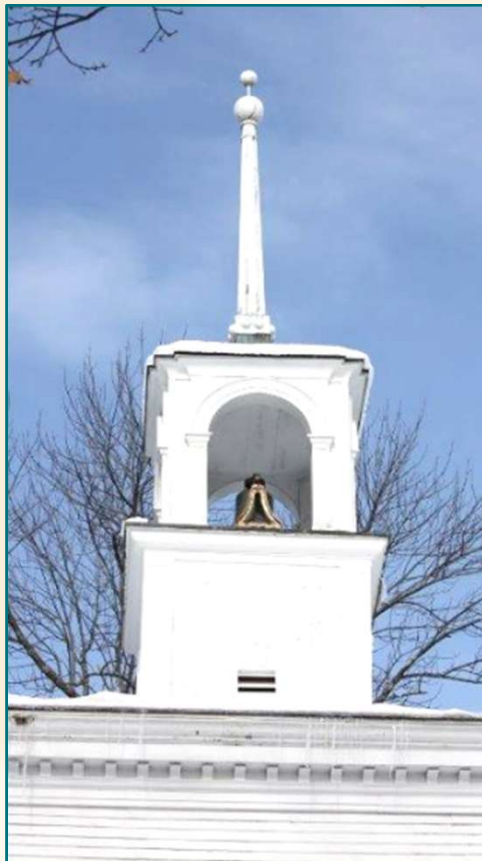


Project 4

Roof + Cupola Restoration



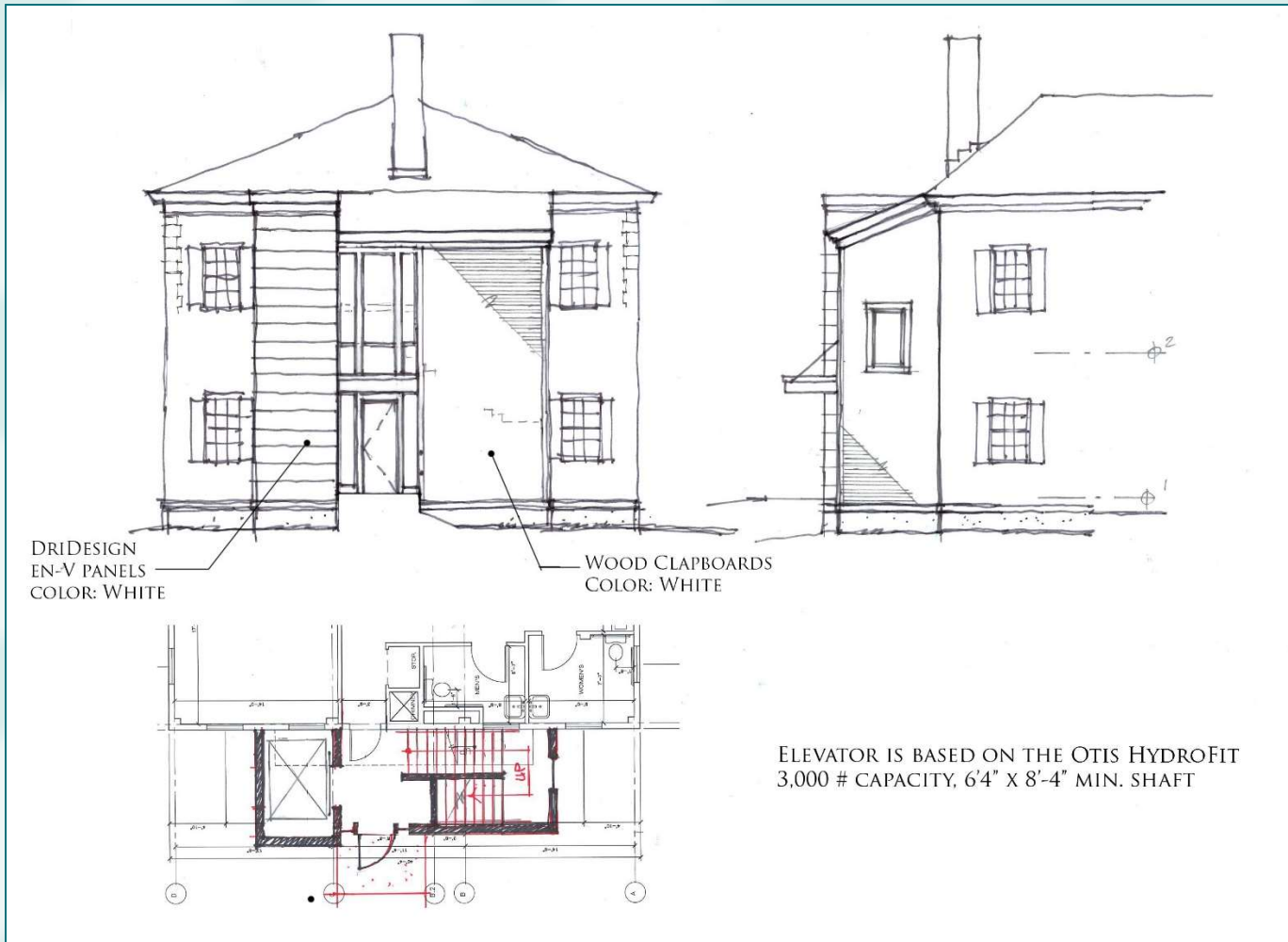
Project 4 Cost: \$49,500



Project 5

Elevator / Stair / ADA

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DRIDESIGN
EN-V PANELS
COLOR: WHITE

WOOD CLAPBOARDS
COLOR: WHITE

ELEVATOR IS BASED ON THE OTIS HYDROFIT
3,000 # CAPACITY, 6'4" X 8'-4" MIN. SHAFT

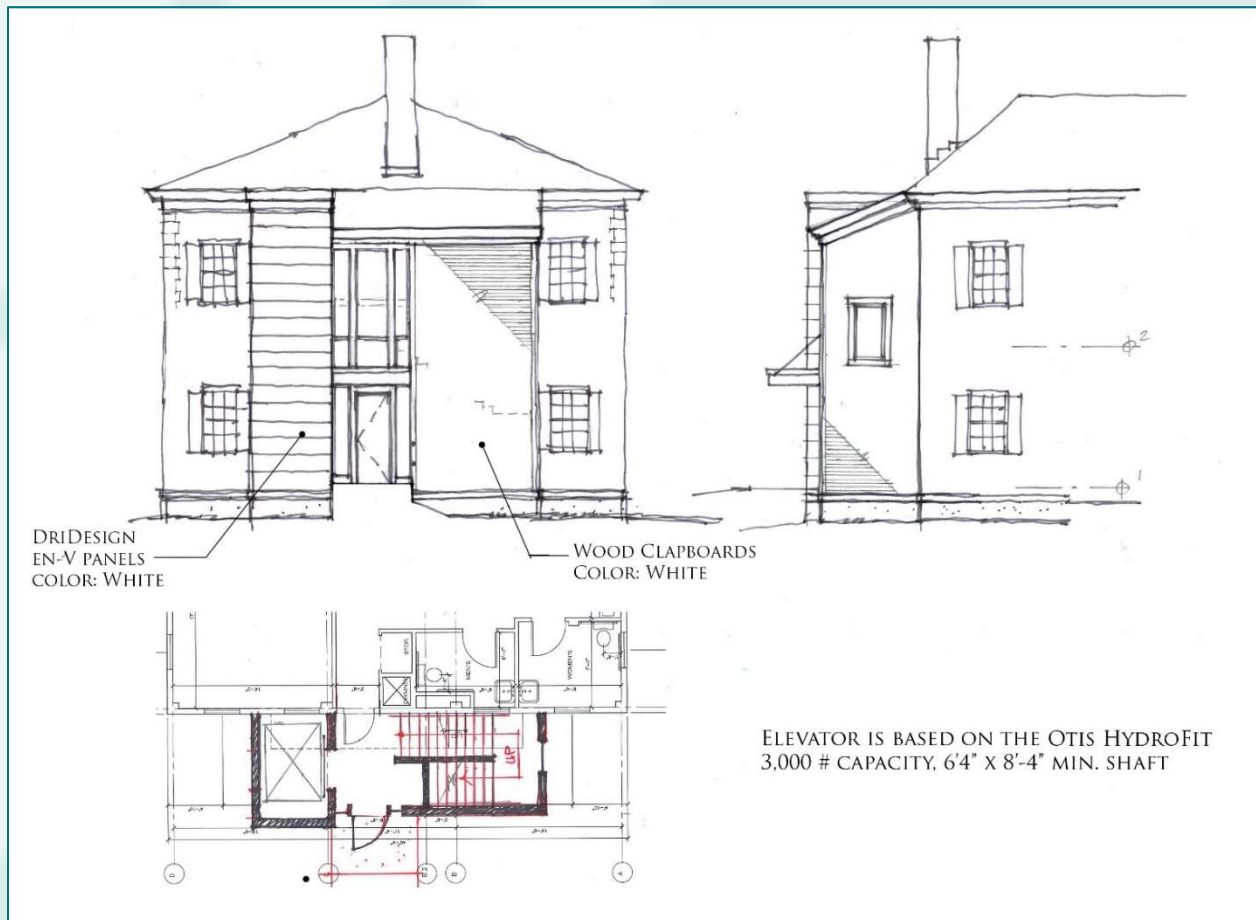
Project 5

Elevator / Stair / ADA

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Project 5 Cost: \$413,700





Project 6

Interior Stairwell

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Project 6

Interior Stairwell

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Project 6 Cost- \$80,600



Q & A

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Maine Licensed Architect

Architectural, Historic Preservation & Planning Concepts

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Upcoming Events



Historic Preservation Easements

Wednesday, December 9, 2020

4:00 PM 5:00 PM

Join Maine Preservation's Ali Barrionuevo for an introduction to preservation easements and Maine Preservation's Protect & Sell program. You'll learn what a preservation easement is, how an easement agreement protects a building, and how Maine Preservation's Protect & Sell program works to preserve Maine's historic resources.

Sign up: <https://www.maine Preservation.org/webinars-and-educational-programs>



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