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Velcome, Robert M Ross	Procurement Budgeting Accounts Receivable Accounts Payable
Solicitation Response(SR) Dept: 0211 ID: ESR04192300000005184 Ver.: 1 Function: New Phase: Final Modified by balch , 04/20/2023	
Header @ 2	
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General Information Contact Default Values Discount Document Information Clarification Request	
Procurement Folder: 1199702	SO Doc Code: CEOI
Procurement Type: Central Contract - Fixed Amt	SO Dept: 0211
Vendor ID: VS000013207	SO Doc ID: GSD230000008
Legal Name: MONTUM ARCHITECTURE LLC	Published Date: 4/6/23
Alias/DBA:	Close Date: 4/20/23
Total Bid: \$0.00	Close Time: 13:30
Response Date: 04/20/2023	Status: Closed
Response Time: 10:41	Solicitation Description: EOI: Building 10 Holly Grove Renovation
Responded By User ID: Montum	Total of Header Attachments: 2
First Name: Thomas	Total of All Attachments: 2
Last Name: Pritts	
Email: tom@montumarch.com	
Phone: 304-276-7151	



Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

State of West Virginia **Solicitation Response**

Proc Folder:	1199702				
Solicitation Description:	EOI: Building 10 Holly Grove Renovation				
Proc Type:	Central Contract - Fixed Amt				
Solicitation Closes		Solicitation Response	Version		
2023-04-20 13:30		SR 0211 ESR04192300000005184	1		

VENDOR					
VS000013207 MONTUM ARCHITECTURE LLC					
Solicitation Number:	CEOI 0211 GSD2300000008				
Total Bid:	0	Response Date:	2023-04-20	Response Time:	10:41:32
Comments:					

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor

Signature X

FEIN#

DATE

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc		Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1 EOI: Building 10 Holly Grove Renovation					0.00	
Comm	Code	Manufacturer		Specifica	ntion	Model #
811015	508					

Commodity Line Comments:

Extended Description:

EOI: Building 10 Holly Grove Renovation



Proposal Prepared for: West Virginia General Services Division

Architectural and Engineering Services for Building 10, Holly Grove Mansion CEOI GSD 230000008

April 20, 2023

Department of Administration Purchasing Division

2019 Washington St. E Charleston, WV 25305

Montum

Moss Preservation Works, LLC

MICHAEL GIOULIS 💻









April 20, 2023

State of West Virginia Department of Administration, Purchasing Division 2019 Washington St. E. Charleston, WV 25305

Subject: EOI: Building 10 Holly Grove Renovation, CEOI 0211 GSD230000008

Dear Selection Committee:

Montum Architecture, LLC is pleased to submit this Statement of Qualifications to provide architectural and engineering services. Montum is headed by Tom Pritts, an architect with 20 years of experience designing a multitude of project types. He will be the primary contact for the duration including construction administration services, provide all architectural design efforts, and lead the design team.

The architectural design team will include Jordyn Henigin from his staff plus two Historic Preservation specialists: Elizabeth Moss and Mike Gioulis. Both have extensive Historic Preservation and renovation experience. Elizabeth was formerly employed by Swanke Hayden Connell Architects, whom developed many design projects on the Capitol Complex, including work at Holly Grove. Mike's preservation work remains focused within the state borders and has extensive experience working in Charleston and with the State Historic Preservation Office.

Montum has teamed with CAS Structural Engineering, Inc. and Miller Engineering, Inc. which were design consultants on the prior Holly Grove restoration. Miller will provide mechanical, electrical, and plumbing design services. CAS Structural will provide structural design services. This team has worked on numerous projects together in various capacities, including for WV GSD, WV DNR, and WV National Guard.

Boggs Environmental will assist in evaluation of the building for hazardous materials and biological concerns and preparing documentation for remediation, if necessary. Boggs has substantial experience working in historic facilities.

The design team has reviewed the four goals listed in the Goals/Objectives section of the EOI solicitation and have addressed those in the Methodology and Approach section of the response. Further documentation is presented in the firm profiles, qualifications, and experience sections of the EOI response.

The primary goal for this project is to re-establish the Holly Grove Mansion as a vital part of the WV Capitol campus by rehabilitation of the Mansion, reopening historic public space, and creating a modern office suite within the confines of this authentically restored cultural resource. This will be completed while also providing exemplary designs that function to the greatest extent possible for the given budget constraints. We feel that striving to spend every project dollar to our best ability will inherently serve our client's best interest.

Thank you for taking the time to review the attached information on the design team and we are grateful for your consideration.

Respectfully submitted, Montum Architecture LLC Thomas Pritts, AIA, CSI-CCS, LEED-AP

Montum Architecture, LLC



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A. Methodology & Approach



The primary approach to the Holly Grove project is to bring the same professionals that were instrumental to the prior investigations and design efforts. Elizabeth Moss was the Director of Historic Preservation for Swanke Hayden Connell during the 2009 Exterior Restoration and 2014 Interior Rehabilitation project. Elizabeth has been operating her own business since 2015. Mike Gioulis, in addition to his wealth of Historic Preservation knowledge, provides a local component to the design team, both for the investigative and construction observation roles. Consultants for the prior projects, CAS Structural Engineering (2009 & 2014) and Miller Engineering (2014), are both included on this design team. Carol Stevens with CAS has substantial structural restoration experience. Miller Engineering prides themselves on their renovation project work. The constraints of an existing building is an added challenge that requires practical and thoughtful design decisions. Boggs Environmental will assist in materials and biological testing as the need arises. Tom Pritts with Montum has completed projects in multiple 19th century and early-20th century buildings, including Section 106 submission and WV Capitol Building Commission approvals. Montum is proud to lead this very knowledgeable and highly accredited team.

GOALS/ OBJECTIVES

Method to Goal/Objective 1

In order to create new, viable adaptive re-use scenarios that adhere to the requirements set by the State Historic Preservation Office (SHPO), the design team will carry out a thorough examination. This entails an in-depth assessment of the building's current conditions, a probe investigation to find obscured historic components, an evaluation and dating of the remaining historic materials, the repair of deteriorated structural components, a careful modernization to make the space comfortable and fully code-compliant for occupants, and research to determine the historical appearance of each construction era. The design team will identify elements that should be eliminated, historic features that should be restored, and suitable designs for elements from missing eras that should be replicated. The examination will specify the wallpaper and paint colors from the 1815 era. Initial expectations for the project approach would be to return the building to its original state using the team's prior knowledgebase, the findings of new research, and field observation. Recommendations within the report will be based upon existing condition's constrains/opportunities, end-users' needs, and budgetary constraints.

The design team has completed various evaluation reports and CBC/SHPO submissions in the past for General Services, which can be referenced as examples. Additional example assessment reports are provided as a separate package under the "proprietary" attachment portion of the WVOASIS submission, not to be published publicly to protect the interests of our clients. Additional examples can be provided upon request.

Method to Goal/Objective 2

A crucial aspect of maintaining the finished appearance of Holly Grove after completion will be controlling the indoor environment, both in temperature and humidity control. All new mechanical systems will be designed to meet the heating, cooling, ventilation, and humidity requirements while not detracting from the historical appearance of the facility. All lighting would either be minimally intrusive or have a historical appearance. All security, access control, and life safety systems would be incorporated to meet life safety codes, blend into the aesthetic to the greatest extent, and incorporate

into the capitol complex central monitoring. The previous design of Holly Grove renovations utilized multiple smaller fan coil units concealed in the basement, void spaces, and closets to effectively hide the HVAC systems. The fan coil units were tied to the campus hot and chilled water loops. All ductwork will be designed for concealment, with chases and bulkheads kept to a minimum. As many of the existing penetrations will be utilized for new work to minimize new penetrations. Work on a historic building should have the least possible impact on the historical fabric of the building. Issues that endanger life safety, restrict accessibility, or cause deterioration must be addressed.

Method to Goal/Objective 3

All further enhancements should be compared against the building's value as a historic landmark. All work will be conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation where modifications are required for the structure's continued viability. For our work on historic structures, Montum will abide by the Secretary of the Interior's Standards for the Treatment of Historic Properties. By adhering to these criteria, the team members have been able to complete historic preservation projects to a high degree that not only meet but exceed the Secretary's Standards.

Method to Goal/Objective 4

The success of the project relies upon the development of technical specifications and construction drawings. Innovative solutions will be created to achieve the client's objectives with the greatest level of design integrity through comprehensive documentation of the building's existing conditions and collaboration within the project team and the Owner.

DESIGN PROCESS

Evaluation

Montum Architecture will begin the design process by reviewing all existing documentation regarding Building 10, Holly Grove Mansion. These include construction documents, submittals, and asbuilt drawings. Montum will review the floor plans for compliance with modern building codes, ADA requirements, and any other applicable life safety codes. Miller Engineering (MEI) will perform an evaluation of the MEP systems including HVAC, plumbing, electrical, fire alarm, fire protection, and telecommunications. CAS Structural Engineering will serve to evaluate the structure, both current conditions and for any previous modifications. Boggs Environmental Consultants will serve to evaluate and establish potential risks associated within the project. The gathering of historical research, consultations, and documentation will be headed by Elizabeth Moss and Mike Gioulis. The information provided will help to properly restore the building to its original condition, or rehabilitating to serve a new purpose while maintaining its historic appearance. Input from all team members will be used to create BIM (building information modeling) models of the Mansion. Autodesk software, both REVIT and AutoCAD, will be used to create the models, perform drafting, and incorporate both to create the design documents.

Schematic

Montum will review its findings during the site evaluation along with the reviews from Miller Engineering, CAS Structural Engineering, Boggs Environmental Consultants, Elizabeth Moss, and Mike Gioulis. The reviews will determine the required modifications to bring Holly Grove up to the current applicable code and standards along without impacting the historic components and character. Montum will combine these requirements with the needs and wants of the Owner on the project to create a prioritized list of items needing to be addressed on the project. Montum will work with the sub-

consultants to determine the best approach to meet code requirements in addition to improving the floor plans for both appearance and flow. The result of this collaboration will direct Montum on the design direction. Montum will coordinate with all sub-consultants to create the 35% design documents. A budget will be created using material takeoffs and vendor quotes where available. All budgets will be broken out to better convey to the Owner the cost implications of the required items and Owner's additional requests. Both the documents and budget will be transmitted to the Owner for review with follow up meetings to discuss the next steps of the project. The design team approaches estimating project budgets with the same process contractors utilized in bidding the project. Material takeoffs are performed, labor efforts are calculated, and quotations are gathered from vendors for larger line items. Work scopes and construction methodologies are reviewed with builders and tradesmen where further clarification is needed.

Design Development

Montum will take input from the Owner based upon review of the 35% design documents and proceed. While the requirements of the EOI give specific milestones for progress sets (35%, 65%, 95%, & 100%), Montum will immediately communicate any items discovered that could lead to delays or increases in probable construction costs. All decisions made by the design team or by the Owner will be reflected in the estimates and these changes will be relayed to the Owner. This provides the Owner the necessary information to make informed decisions. The 65% and 95% progress sets will reflect the outcomes of the formal and informal discussions with the Owner. Montum will lead document review meetings with the Owner to discuss changes made in progress design sets and make revisions based upon Owner review. Montum will also facilitate coordination between sub-consultants and the Owner for coordinating integration of new systems to the Owner's systems on site (fire alarm, access control, surveillance, etc.), providing a clear point of demarcation on the documents. Discussions regarding budgets will involve both firstcosts and life-cycle costs, helping to determine the types of systems used.

Construction Documents

The previous reviews of design documents with the Owner will lead to the creation of the construction documents for competitive bidding. Montum will also ensure coordination between the designs of subconsultants to reduce the chance of conflicts which can lead to change orders during construction. All estimates will be updated and combined to create the final estimate of probable construction costs. Final drawings and specifications will be transmitted to the Owner. Montum will assist the Owner in creating the project manual from the technical specifications and Owner's front-end contract documentation.

Bidding

During bidding, Montum will take part in all activities to ensure the Owner receives clear and complete bids. The design team will take part in the pre-bid meeting to relay the technical scope ofwork, review and answer questions from bidders, and prepare addenda, as necessary. The design team will work to inform and engage potential bidders prior to bidding to increase interest in the project, while respecting the owner's procedural blackout policy. Montum will also assist in reviewing bids received and make recommendations to the Owner. Montum has completed many projects through WV State Purchasing and understands the requirements to successfully bid a project with the state of West Virginia.

Construction Administration

During construction, Montum will take the role as the point of contact between the Owner, contractor, and sub-consultants. This role is to ensure a clear path of communication between all members. Montum Architecture's construction administration services will include answering any RFIs

(requests for information) and reviewing submittals, shop drawings, and progress applications for payment. Montum will conduct the progress meetings, prepare the official meeting minutes, and attend site visits to verify that the project is being constructed in compliance with the documents and on schedule. Montum believes that frequently communicating with the Owner and contractors will reduce the probability of issues found during construction which could lead to delays and change orders. Quick turnarounds on submittal reviews and RFI responses will also keep the project on schedule. As construction winds down, Montum will ensure that all systems are properly started up, tested, and commissioned. The documents will be written to require the contractor to train the Owner's personnel on all new systems. Our team will not disappear once the project is completed. We will be available to the Owner through the warranty period to provide support as needed, and will conduct an 11th month review of the project prior to the warranty expiring.



B. Organization Chart



Architecture, LLC

B. Organizational Chart





C. Qualifications, Experience, and Past Performance



Montum Architecture, LLC Firm Profile

Who We Are.

Montum Architecture, LLC was founded in 2017 to provide architectural design and consulting services. Montum Architecture is a Limited Liability Corporation filed in the state of West Virginia. The company is also registered in the State of Maryland as a foreign LLC. Montum is staffed by a licensed principal architect and a design professional. They work manage projects together, from conceptual to construction administration, allowing the utmost coordination of building plans and specifications with minimal potential for miscommunication.

Our Services

Government	Planning
Institutional	Building Assessment
K-12 schools	Architectural Detailing
Higher Education	Specification Writing
Multi-Dwelling	Contract Administration
Medical	Design/Bid/Build
Retail	Renovation
Emergency Services	Renderings
Automotive	Life Safety Evaluations
Financial	Design/Build
Warehouse	Project Management

Why Choose Us.

Communication

Tom Pritts will be the primary point of contact for Montum's architectural services. Montum will manage communication with the Owner, Contractor, and sub-consulted team of members on this project.

Project Budget

Previous work experience has shown a consistent +/-2%bid-to-budget ratio.

Project Schedule

Montum will monitor and adjust the design tasks in order to complete the design work in the established timetables. They will also work diligently during project construction to maintain the contractual constraints placed as part of the contractor's bid.

Design Software

Montum utilizes Autodesk Revit for all design projects incorporating three-dimensional modeling and parametric reporting. Existing condition documentation includes drone imaging, 360 camera shots, and handheld LiDAR telemetry.

Montum





Thomas Pritts, AIA, LEED-AP, CSI-CCS

Tom founded MontumArchitecture in 2017. He has more than 15 years experience in design, specification, and project management. During his former employment, Tomhas designed and managed dozens of built projects. His experience encompasses a wide range of projects including K-12 and higher education facilities, financial Institutions, emergency services buildings, and automotive dealerships. A native of Mineral County, Tom is member of the West Virginia Chapter of American Institute of Architects and was involved in the establishment of the US Green Building Council's West Virginia chapter. He is highly skilled in the design of complex building systems, technical construction detailing and specifying, and construction contract administration. These skills were critical in the development and maintaining of many multi-year, multi-project relationships with Clients in his previous employment.

Project Role: Relationship Manager – Primary Point of Contact

- Principal in Charge
- Design and Project Management

Professional History

2017- Present 2004-2017 2003

Montum Architecture Alpha Associates Marshall Craft Associates

Education

2004

Virginia Tech

Licenses and Certifications

- Licensed Architect (West Virginia, Maryland)
- NCARB Certificate
- Construction Specifier Institute Certified Construction Specifier

Associations and Memberships

• American Institute of Architects

- Concept and Construction Design
- Quality Assurance and Control

Architect Associate and Architect Architectural Intern

Bachelors of Architecture

- LEED-AP Certified
- Part 107 Remote Pilot
- 30-hour OSHA Card
- Mineral County Chamber of Commerce 1st Vice President

Professional Project Highlights

- Potomac State College Bachelor of Nursing Renovation
- Wyoming East High School HVAC Renovation Wyoming County Schools, WV
- Mountainview and MTEC HVAC Renovation Monongalia County Schools, WV
- Berkeley Springs State Park Pool Bathhouse Roof Replacement
- Berkeley Springs State Park Old Roman Bath Renovation
- Blackwater Falls State Park Boiler Room Renovation
- Our Lady of the Mountains Parish Bathroom Renovation
- Mountain View Assembly of God Rec Hall Ceiling Design

Montum

Architecture

Professional Project Highlights (former employment built projects)

- Potomac State College ADA Connector Building, Church-McKee Plaza, Shipper Library Façade
- WVU Engineering Sciences Building East Wing Addition, 10th Floor Fit-Out, Basement Renovation
- WVU Engineering Research Building G07 & G08 Renovation
- WVU Equine Education Center
- WVU College of Physical Activities and Sports Sciences/ Student Health Center
- WVU Center for Alternative Fuel Engines and Emissions
- WVU Colson Hall Water Infiltration Repairs
- WVU Mountainlair Water Infiltration Repairs
- WVU Chemistry Research Laboratories Fit-Out
- WVU Creative Arts Center Wheelchair Lift
- Alderson Broaddus University Pyles Arena Deck Replacement
- Glenville State College Morris Stadium Skybox
- Washington High School, Jefferson County Schools, WV
- Pineville Elementary School, Wyoming County Schools, WV
- Huff Consolidated School, Wyoming County Schools, WV
- Aurora School Addition, Preston County Schools, WV
- Riverview High Field House Design-Build, McDowell County Schools, WV
- Safe School Entries, Monongalia County Schools, WV
- Morgantown High Elevator, Monongalia County Schools, WV
- 2010 Comprehensive Education Facilities Plan- Monongalia County Schools, Wyoming County Schools
- Clear Mountain Bank Branches, Oakland, MD Reedsville, WV Kroger-Sabraton, WV
- Grant County Bank, Petersburg, WV
- Fairmont Federal Credit Union, Bridgeport, WV
- Freedom Ford, Kia, and VolkswagenAutomotive Dealerships, Morgantown and Clarksburg, WV
- Jenkins Subaru Addition, Bridgeport, WV
- Elkins Fordland Renovation Elkins Chrysler Dealership, Elkins, WV
- Harry Green Nissan Design-Build, Clarksburg, WV
- Cool Green Automotive Addition and Renovation, Shepherdstown, WV
- Veteran's Affairs OI&T Office Fit-Out, Shepherdstown, WV
- OPM, Eastern Management Development Center Addition, Shepherdstown, WV
- National Energy Technology Laboratory Building B-8 Roof Replacement, Morgantown, WV
- US Coast Guard Conference Room Renovation, Martinsburg, WV
- Eastern Panhandle Transit Authority Addition, Martinsburg, WV
- Cacapon State Park Old Inn HVAC and Interior Renovation
- WV National Guard Armory Office Fit-out, Parkersburg, WV
- South Berkeley Fire Station, Inwood, WV
- Jefferson County Emergency Services Agency New Headquarters
- Berkeley County Ambulance Authority South Station Renovation and Addition
- Poolhouse Renovation, McMechen, WV
- Community Center, Ridgeley, WV
- Wastewater Treatment Plant Renovations, Martinsburg, WV
- Public Works Building, Fairmont, WV
- Oatesdale Park Little League Fields, Martinsburg, WV
- St. Luke Canopy Replacement, Morgantown, WV
- Freshwater Institute Aquaculture Building, Shepherdstown, WV
- Clarion Hotel Renovation, Shepherdstown, WV
- Shenandoah Village Apartments Façade and Deck Replacement, Martinsburg, WV
- Regional Eye Associates/ Surgical Eye Center, Morgantown, WV
- Bavarian Inn Infinity Pool/ Pool Bar, Shepherdstown, WV



Jordyn Henigin, M.Arch

Jordyn joined Montum Architecture in May 2020. A recent graduate of Fairmont State University, She has been eager to enhance her skills in the business field and develop a stronger knowledge of architectural design principals and methods. Jordyn is in the process of perusing her goal to become licensed Architect.

Project Role: Design Professional

- Concept and Construction Design
- Building Information Modeling Revit
- Architectural Rendering Lumion

Professional History

Montum Architecture	Design Professional
Fairmont State University	Bachelors of Architecture
Fairmont State University	Masters of Architecture
	Montum Architecture Fairmont State University Fairmont State University

Licenses and Certifications

- LEED-Green Associate
- 30-hour OSHA Card

Associations and Memberships

Assoc. AIA

Professional Project Highlight

- Watters Smith State Park, Lost Creek WV
- Mon Co Schools Transportation Addition, Morgantown WV
- Jackson Co ARFC Wash Bay, Millwood WV
- BUMFS Staggers Recovery, Burlington WV
- BUMFS Knobley Rehab, Burlington WV
- Aging & Family Services of Mineral County Keyser Senior Center, Keyser WV
- Mineral County Detention Center, Courthouse, and Annex addition and renovations, Keyser WV
- New Covenant UMC, Cumberland MD
- Larenim Park Amphitheater, Burlington WV
- Building 25 HVAC, Parkersburg WV
- WVGSD Elevator Modernizations
- Westside HVAC and Roof, Clear fork WV
- Ed Kelley Memorial, Keyser WV
- Cass Campground, Cass WV
- Waxler Warehouse, Keyser WV
- Greenbrier SF Headquarters, White Sulphur Springs WV
- FWAATS, Bridgeport WV





Berkeley Springs State Park Old Roman Bathhouse renovations

Description of Project:

West Virginia Division of Natural Resources contracted Montum Architecture to design repairs and improvements to the Old Roman Bathhouse at Berkeley Springs State Park. The structure was built in 1815 with various changes and updates since then. Work includes repairs to the tub structure and plumbing, replacement of the boiler, floor tile replacement, and other updates to fit and finish.



Architecture



Construction Cost \$782,800

Project Size 2,500 SF Renovated

Project Location Berkeley Springs, WV

Construction Completion Spring 2020

Contact

Carolyn Mansberger DNR Project Manager 304-558-2764











Architecture



West Virginia General Services Division Various Elevator Modernizations

Description of Project:

Miller Engineering, Richard Kennedy & Associates, and Montum Architecture partnered for the project. They were tasked with evaluating 31 current elevator systems and developed modernizations for each in a three-phase project method. Modernizing the machine rooms and bringing the systems into compliance with as few or no deviations as possible is a key aspect in the scope of service. To ensure that State decision-makers better understand the findings, the team created a full report including discussions, projections, suggestions, an executive summary, and an elevator system "primer". Phase I included seven elevators at the West Virginia Capitol Building, two at WV Building 7, and two at WV Building 25. Work at the Capitol Campus was reviewed and approved by the Capitol Building Commission, including historic restoration and complimentary aesthetics in the WV Capitol Building. Phases 1 & 2 are currently in construction. **Construction Cost** \$20M

Project Size N/A

Project Location Charleston, WV

Construction Completion

In Construction

Contact

Pat O'Neill Project Manager WV General Services Division 112 California Ave Charleston, WV 304-957-7133 Patrick.s.oneill@wv.gov





Architecture



Mineral County Commission Facility Renovations and Additions

Description of Project:

The Mineral County Commission operates three primary buildings at the Courthouse Complex which are the Courthouse, the Judicial Annex, and Sheriff Building. Additional office space is provided via a second-story addition to the Sheriff Building with elevator access. The Courthouse gains a security checkpoint vestibule, egress stair, and elevator access to all three existing floors. The Judicial Annex improvements include the fitout of the existing second floor, an addition of a security checkpoint vestibule, egress stair, and elevator. The project includes fire alarm and sprinkler system installations for code compliance. The existing courthouse and annex structures are under the purview of the State Historic Preservation Office. Section 106 approvals were gained before construction began. **Construction Cost** \$8.5 Million

Project Size 40,000 SF Existing 10,500 SF New

Project Location Keyser, WV

Construction Completion

Spring 2025 **Contact** Luke McKinzie County Coordinator 304-788-5921





Wyoming County Schools

Wyoming East High School & Westside High School HVAC & Roof Replacement

Description of Project:

The West Virginia School Building Authority funded replacement of the HVAC systems and roofing at the existing Wyoming East High School in 2017. The County received ARP ESSER funds through the West Virginia Department of Education for HVAC system upgrades at Westside High School in 2021. The County locally funded the replacement of the EPDM roofing in sequence with this HVAC project. Work was performed within a occupied buildings with close coordination of school daily schedules and calendar of events. Many of the units are being replaced one-for-one with some zones being split into multiple units to allow flexibility of new curriculum within the spaces or needs for additional comfort control. Ceilings are being replaced to meet updated guidelines for educational facility acoustics.



Architecture



Construction Cost \$3.2M & \$3.3M

Project Size 130,000 SF Existing, Each

Project Location

New Richmond, WV Clear Fork, WV

Construction Completion

WEHS – Summer 2019 WES – Spring 2023

Contact

Robert Lyons Director of Facilities 304-732-6262

ELIZABETH MOSS, LEED AP

Historic Preservation Specialist

Ms. Moss's 25 years of experience have been focused on restoration, preservation, rehabilitation and adaptive reuse of existing commercial, civic, religious and residential buildings. She is experienced in all phases of the design and construction process and is an expert in the evaluation and preservation of historically significant structures. Ms. Moss is experienced in historic archaic materials investigation and the subsequent preparation of conservation studies, historic structure reports, specifications, construction documents, and construction administration. Her technical training and research abilities enable her to perform detailed hands-on field surveys and investigations as well as in-house laboratory paint color identifications. As Owner of Moss Preservation Works, LLC, she is involved with all aspects of business development, staffing, project management and oversight of the design and technical development of work on historically significant structures of all building types.



.Protessional	rofessional University of Pennsylvania, Master of Science, Historic Preservation, 1998				
Education	McCrone Research Institute, Microscopy for Art, Conservators, IFA, 1994				
	Vassar College, Bachelor of Arts, 1992				
Professional	Moss Preservation Works, LLC 2015 to Present				
Experience	Director of Historic Preservation, Swanke Hayden Connell Architects, 2000 – 2015				
	Designer, SUPERSTRUCTURES Engineers + Architects, 1999				
	Architectural Conservator, Jablonski Berkowitz Conservation, 1997 – 1999				
	Conservator, ECR Antiques Conservation & Restoration, 1994 – 1996				

Select Project Experience

Cooper Hewitt Museum – Miller/Fox, New York, NY

Preservation assistance to Contractor awarded the Miller Fox Building Envelope Repair project of this National Register Landmark. Preparation of Historic Preservation Program plan, submittals review, pre-construction investigations and construction administration.

Barnum Museum, Bridgeport, CT

Preparation of a comprehensive conditions evaluation and subsequent construction documents to restore the 1890s National Register listed museum, including 79 windows (incl. leaded glass), clay tile roof, terra cotta, brick and stone. All work coordinated with CT SHPO.

Bulova Watchcase Factory Building, Sag Harbor, NY

With BLD Architects, performed exterior conditions assessment, materials testing program and preparation of Historic Preservation repair documents of this 100,000-sf 1881 National Register Landmark for conversion to residential properties.

First Presbyterian Church, Charleston, WV

Subsequent to an initial conditions assessment report, this \$2.8 million exterior restoration of an historic 1915 church included the restoration of stained glass windows, limestone and terra cotta façade and cupola and roofing replacement.

The Women's Building, New York, NY

Evaluation and condition assessment phase of a complete renovation and adaptive re-use of this 111,000-sf 1931 Art Deco building that most recently served as a women's prison. Work reviewed by the New York State Historic Preservation Office.

Tavern on the Green Restoration, New York, NY*

\$15.8 million core and shell rehabilitation, building envelope restoration and infrastructure upgrades for a subsequent interior fit-out for Tavern on the Green. The project was designed to achieve LEED Silver certification for sustainable design.

West Virginia State Capitol, Charleston, WV*

\$12 million restoration of 1932 Cass Gilbert landmark building, including structural repairs and regilding of the dome, masonry repairs, cleaning and bronze and steel window rehabilitation, as well as selective interior paint color characterization and chandelier conservation.

Internal Revenue Service Headquarters, Washington, DC*

Comprehensive materials investigation and testing program to prepare prescriptive technical specifications as part of the restoration of a 1.4 million-sf Beaux Arts federal office building.

Moss Preservation Works, LLC

504 West 48th Street. #3E, New York, NY 10036

Holly Grove Mansion, Charleston, WV*

Preparation of a comprehensive conditions evaluation and subsequent construction documents to rehabilitate the 1815 National Register listed mansion, including infrastructure upgrades, façade restoration & ADA compliance. Project subject to WV SHPO review.

Soldiers' and Sailors' Monument, New York, NY

Evaluation and condition assessment of this historic war memorial in Manhattan's Riverside Park, dedicated by Theodore Roosevelt in 1902. Significant repairs are needed throughout the landmarked site to restore the Beaux-Arts marble and bronze to its original condition.

Home Life Insurance Building and Postal Telegraph Building, 253-256 Broadway, New York, NY*

\$15 million restoration project of two interconnected 1894 municipal buildings as part of a comprehensive façade and window repair and replacement project.

National Society Daughters of the American Revolution, Washington, DC*

Assisted with master plan, facilities assessment and subsequent rehabilitation of the 500,000-sf, 3-building complex, which includes a concert hall, museum and office headquarters.

Awards and Honors

- Lucy G. Moses Award, New York Landmarks Conservancy, 2015
- Silver Award, Building Design + Construction, 2014
- Lucy G. Moses Award, New York Landmarks Conservancy, 2013
- Gold Award of Excellence, Society of American Registered Architects (SARA) NY Design Awards, 2013
- Award of Honor, Society of American Registered Architects (SARA) NY Design Awards, 2012
- Lucy G. Moses Award, New York Landmarks Conservancy, 2012
- Lucy G. Moses Award, New York Landmarks Conservancy, 2011
- Award of Merit, Society of American Registered Architects (SARA) NY Design Awards, 2011
- Excellence in Historic Preservation Award, Preservation League of New York State, 2001
- Lucy G. Moses Award, New York Landmarks Conservancy, 2001
- Samuel H. Kress Fellowship: 1994, 1996, 1997 and 2001 field seasons at Caesarea, Israel and Catalhoyuk, Turkey

Liberty Theatre/Famous Dave's, New York, NY*

Preparation of preservation plan and oversight of restoration of this historic 42nd Street 1904 theatre auditorium for adaptive restaurant use.

PS 157, Brooklyn, NY*

\$12.5 million façade restoration of historic 1907 public school that required the fabrication of over 6,000 new terra cotta units, as well as underlying structural steel repairs and an exterior maintenance manual.

Hall of Records, 31 Chambers Street, New York, NY*

\$4 million façade restoration of 1899 Beaux Arts landmark; \$3million second floor rehabilitation, including a building systems upgrade and tenant improvements.

24 Fifth Avenue, New York, NY*

Restoration of scagliola, marble, travertine, wood, ornamental metal and decorative finishes for this 420unit, 18-story circa 1926 apartment building.

132-140 Greene Street, New York, NY*

Comprehensive rehabilitation of three 6-story 19th century cast-iron NYC landmarked façades, including energy efficient wood window replacement.

*Prior experience.

Professional Qualifications & Affiliations

- Historic District Commissioner, Town of New Shoreham, RI
- Board of Directors, Association for Preservation Technology Northeast Chapter, 2003 – 2013
- US/ICOMOS, Brick Masonry and Ceramics Committee
- LEED[®] Accredited Professional, U.S. Green Building Council
- NYC DOB 16-hour Scaffold Training Certification
- JOS Microabrasion and Manufacturer Certification
- Asbestos Awareness Training
- OSHA 10-hour Training

Publications and Presentations

- "Withstanding the Test of Time: The WV Dome Revisited Ten Years Later," *Durability and Design*, June 2015
- "Asphalt Green's Fresh Face: A Construction Team Copes with the Unexpected in Restoring a NY Landmark," *Durability* and Design, May 2014
- "Use of Contemporary Painted Coatings in the Restoration of Exterior Historic Elements at the WV State Capitol," SSPC PACE Conference Expo Proceedings, February 2010
- "Temporary Site Protection for Earthen Walls and Murals at Catalhoyuk, Turkey," Conservation and Management of Archaeological Sites, 2004
- "Notwithstanding the Test of Time: The Dilemma of the NY Public School System," APT Conference Proceedings, 2001

Moss Preservation Works, LLC

504 West 48th Street. #3E, New York, NY 10036



MICHAEL GIOULIS - Historic Preservation Consultant

Years of Experience 40+

Mike started his own consulting practice in 1984 and works on a wide range of historic preservation projects for many types of clients. He is fully versant in interpreting standards for the rehabilitation of existing and historic buildings, and meets the Secretary of the Interior's professional qualifications for Architectural Historian as outlined in 36 CRF 61 through the West Virginia Division of Culture and History, State Historic Preservation Office. This certification assures that the Gioulis firm is qualified and has a background in the performance of historic preservation in accordance with specified standards. Mike's expertise includes rehabilitation projects, master

plans, building analyses, design guidelines, tax credit applications, Section 106 proceedings, National Register nominations, historic surveys, and grant applications and management. He has been the Design Consultant to the Main Street West Virginia Program since 1988. His Main Street services relating to design assistance programs for downtown structures have resulted in over 1,200 individual design projects, as well as numerous workshops, committee trainings, resource team visits and technical assistance responses. Multiple entities and individuals consult with Mike for his professional expertise in all phases of historic rehabilitation.

PROJECT EXPERIENCE FEDERAL PROJECTS

Consulting and recommendations for Sidney Christie Federal Bldg., Wheeling Federal Bldg., Mt. Hope Federal Bldg., Huntington Federal Bldg., and Abingdon Federal Bldg. (VA) for increased energy and operational efficiency through window replacement and other upgrades; selection of color, manufacturer and glass for doors and windows; rest room rehabilitations for ADA compliance; interior and exterior repair and finish recommendations; façade maintenance and restoration processes; courtroom renovations

WV MAIN STREET/ON TRAC PROGRAM

Design assistance for 20+ communities Rehabilitation recommendations Consulting Conceptual design drawings Workshops Committee training Resource team visits Technical assistance response Annual contract since 1988

HISTORIC RESOURCE SURVEYS

Reconnaissance and intensive surveys to document existing resources in cities, towns, and counties; New Deal Era resources in Monongalia County; and CCC resources in selected WV state parks and forests

SECTION 106 REPORTS

Review and documentation for projects including federal, state, and municipal buildings; housing projects; commercial buildings; flood mitigation areas; mine sites; schools; refuse piles; railroad depots; coal company stores; and individual properties

COURTHOUSE PROJECTS

Rehabilitation recommendations for exterior and interior work, master plans, facilities studies, ADA compliance, and renovation designs for courthouses and courtrooms

RAILROAD DEPOTS

Rehabilitation of depot buildings including site work, masonry, roofs, windows, doors and interior spaces to stabilize, preserve, and adapt for viable alternative community uses and ADA compliance

NATIONAL REGISTER NOMINATIONS

Research, document, prepare and submit nominations for downtown historic districts, residential historic districts and individual commercial and residential properties

CIVIL WAR CONNECTIONS

Master plans developed for Laurel Hill Battlefield, Camp Bartow, Rich Mountain Battlefield and Corrick's Ford

TAX CERTIFICATIONS

Advise, review and prepare tax credit applications for multiple property types including large commercial buildings, schools, private residences, apartment buildings, hotels and individual commercial buildings

GENERAL CONSULTING

Additional consulting on rehabilitation efforts, historic preservation, adaptive reuse plans, storefront restorations, sensible but sensitive additions and renovations, streetscapes, downtown building revitalizations, paint analyses, street and building signage, design guidelines, retrofitting for ADA compliance and grant applications and oversight

EDUCATION

Bachelor of Science in Architecture; Bachelor of Science City University of New York, City College

Continuing Education

Ongoing workshops, conferences and training related to advancements in historic preservation and tax incentives for historic rehabilitation

AFFILIATIONS/REGISTRATIONS

Certified Architectural Historian under 36 CRF 61 through WV Division of Culture & History, SHPO

West Virginia Preservation Alliance Board Member

Speaker/Guest Lecturer

National Main Street Conferences Preservation Alliance of West Virginia Shepherd College Pittsburgh Art Institute City University of New York, Hunter Charleston College of Graduate Studies University of Charleston

PUBLICATIONS

Articles and/or Contributions Wonderful West Virginia Goldenseal WV Encyclopedia and E-Encyclopedia

Author/Co-Author

Historic Resource Surveys in WV Tax Credits for Historic Properties Courthouses of WV Documentary Home Grown Video Downtown Property Owner's Maintenance Manual



LIST of PROJECTS RELATED TO COURTHOUSES

NATIONAL REGISTER NOMINATIONS

Nicolas County Courthouse, Summersville, Nicholas County Pocahontas County Courthouse, Marlinton, WV

COURTHOUSE PROJECTS

Braxton County Courthouse Courtroom Rehabilitation Braxton County Courthouse Roof Replacement Braxton County Annex, Family Court Courtroom rehabilitation Harrison County Courthouse Rehabilitation Jackson County Courthouse Courtroom Rehabilitation & Elevator Installation Kanawha County Courthouse Rehabilitation; roof, masonry and interior Marion County Courthouse Report Marion County Jail, (now Marion County Museum) Conservation Assessment Report for Marion County Historical Society Mason County Courthouse, Family Court Rehabilitation McDowell County Courthouse Facility Study & Master Plan McDowell County Courthouse Consulting Mercer County Courthouse, Window Restoration Project Nicholas County 911 Center adaptive reuse (in Historic Summersville Post Office) Monongalia County Courthouse Square Report Pocahontas County Courthouse ADA Compliance Pocahontas County Courthouse Renovation Consulting Pocahontas County Courthouse & Jail National Register Nomination Preston County Courthouse Memorial Plaza Rehabilitation PBS Video about select West Virginia Courthouses, with the Walkabout Company Living Monuments: The Courthouses of West Virginia, West Virginia Association of Counties; a book about WV Courthouses, with the Walkabout Company Assessment Studies of all 55 WV County Courthouses for Renovations and Future Plans, WV Courthouse Facilities Improvement Authority, with Silling Associates

WV STATE CAPITAL

Building 3 rehabilitation study Main Building roof restoration Building 3 Exterior glazed terra cotta bas relief restoration West Virginia Capitol Roof consulting, Charleston, Kanawha County Building 1 elevator restoration

REHABILITATION, REPORTS, CONSULTING

Lawrence County Jail building rehabilitation, Phases I & II, Lawrence County, Ohio Pocahontas County Clerk's Office restoration, original courthouse, Huntersville, WV Randolph county original Courthouse, study, Beverly, WV

FEDERAL COURTHOUSES

106 reviews, consulting, rehabilitation etc.
Corps of Engineers Federal Building, Huntington, Cabell County
Christie Courtroom, Cabell County
Sidney Christie Federal Building, Huntington, Cabell County
Federal Courthouse, Wheeling, Ohio County
Bostetter Courthouse, Alexandria, VA
Walter E. Hoffman Courthouse, Norfolk VA
Baltimore Customs House, Baltimore, MD
Elizabeth Key Federal Courthouse, Bluefield, WV: roof, windows, masonry
Clarksburg Post Office and Courthouse: roof, windows, masonry
Fallon Federal Building, Baltimore, MD
Federal Building, Baltimore, MD

Rev. 03/30/2023



PROJECT SUMMARY

WV State Capitol Complex Charleston, West Virginia

Office Building 3

106 Report Consulting 2008 - 2016 Interior Paint Color Analysis Restoration of Bas Reliefs

Research was conducted on the significant extant fabric and character defining elements of the building, designed by Cass Gilbert Jr. A plan was devised to preserve the lobby, first floor public DMV space and other significant spaces. Included in that plan was research on the conservation of painted surfaces. Samples were used to reveal accumulated paint layers, as well as the original paint used in these areas.

During construction we provided advice on restoration of the bas relief ornamentation over the entrance bays. We then provided on site supervision during the restoration process.

Building 1, Main Capitol Building 2015, 2022/23

We consulted on the roof replacement, which included historic lead coated copper gutters in the entablature and balustrade, lead coated copper flashing at the flat roofs, flat roof replacement, hyphen walkway connectors with appropriate handrails and walking surfaces, skylight restoration above the Legislative Chambers and Supreme Courtroom and other sheet metal work. Also consulted on Historic Elevator door restoration.

Contact/Reference: Mr. Robert Krause, Mr. Patrick ONeill General Services Division Capitol Complex Charleston, WV 25305 304-352-5514









Belle Boyd House Restoration *Martinsburg, West Virginia* 1990-2000

The Belle Boyd House is located in Martinsburg, Berkeley County, West Virginia. It is a two-story brick residential structure that was constructed in 1853 by Benjamin Reed Boyd. It was purchased by the Berkeley County Historical Society in 1992. The building houses a museum, a house museum, and a gift shop/bookstore. The building is listed in the National Register of Historic Places and is located with the Downtown Martinsburg Historic District. Historically, the house is associated with Belle Boyd, famous for her activities during the Civil War as a Confederate spy.

Mr. Gioulis has been involved with the restoration of the house since the Historical Society purchased it through the Main Street Martinsburg program. He also conducted an Architectural Conservation Assessment of the house through the CAP program in 1996. The Historical Society went on to purchase two other nearby buildings to use for their research files and archives. Mr. Gioulis was involved in the restoration of both of these dilapidated buildings as well as with landscaping issues.



Contact/Reference: Mr. Don Wood 304-267-4713





Elmwood Estate Master Planning/Restoration Project Union, West Virginia 2010-2017

Elmwood was built ca. 1830 and is a large, two-story, brick mansion situated in Monroe County. The Greek Revival style house is located within the Union Historic District, 1990, and is individually listed on the National Register of Historic Places, 1976. The current owners are undertaking a historically accurate restoration of the house, and a master plan was developed for the project. Due to the scope of the restoration and the owners' out-of-country residency during the project, the plan is crucial for the overall coordination and success of this complex and large undertaking.

Issues being addressed include building stabilization, installation of updated services, alterations for new uses, and total refurbishment of the interior. Locating and identifying other buildings and sites on the property are also part of the project. All work is being done in a manner to protect the historic integrity of the house and conform to the Secretary of the Interior's Standards for Rehabilitation. Necessary alterations to meet the needs and uses by the owners are planned in keeping with the historic aspects of the property. The project was completed in 2017 and is in use now as an event venue.

Contact/Reference: Anita and Christopher Wszolek Union, WV











Federal Government, GSA Projects 106 and Consulting

Sidney Christie Federal Building Huntington, West Virginia 2006-2010, 2022/23

Our firm has worked on several projects on this building, including the rehabilitation of the courtroom, exterior work, and a window and door replacement project. The courtroom project entailed the rehabilitation of the interior of the courtroom. The exterior work included site improvements and canopy restoration. The window and door replacement project included color selection, selection of manufacturers, glass selection, etc. Landscaping improvements included plantings, curbs and bollards. New fence and gates for security control.



Wheeling Federal Building Wheeling, West Virginia 2005-2010, 2022/23

As part of Section 106 Review, our firm was involved in a window restoration project, masonry repair, roof restoration, courtroom repair and a rest room rehabilitation project for this building. We investigated the historic window and door configurations, as well as the existing conditions, and proposed treatments and provided recommendations for the repair, finishes and replacement of the doors and windows. The rest room rehabilitation project entailed the rehabilitation of the rest rooms for ADA compliance.

Mt. Hope Federal Building *Mt. Hope, West Virginia* 2009-2010

Our firm conducted a Section 106 Review for the Mt. Hope Bundle Project, addressing increased energy and operational efficiency of the building through various upgrades. Several options were presented to increase the thermal performance of the existing windows, with recommendation that all windows be replaced to match the originals. All individual heat pumps and the cooling tower were also replaced.





Corps of Engineers Federal Building, *Huntington, West Virginia* 2010-2015

We provided 106 compliance, design consultation and mitigation activities for the façade rehabilitation of the Modernist Style Federal Office Building. Mitigation included educational brochures, documentation and a 15 minute video explaining the Modernist Movement Architecture and its role in Huntington's Historic District.

Federal Courthouse

Abingdon, VA

The Courthouse is within the Abingdon historic District. As such, the project to replace windows and other minor façade work was reviewed.

Post Office Rehabilitation Grafton, WV 2016

We provided 106 review compliance for the rehabilitation and repairs to historic masonry entrance plaza and stairs, stone balustrade, and stone stairs and plaza on the side entrance.

Walter E Hoffman Courthouse

Norfolk, VA

2022

We provided 106 review compliance for the rehabilitation and repairs to historic masonry, parking and parking lot rehabilitation and security fence and gate installation.

Baltimore Customs House Baltimore, MD 2019

We provided 106 review compliance and historic fabric consulting for the rehabilitation and repairs to historic masonry and roofing.

Elizabeth Kee Courthouse *Bluefield, WV* 2020-2023

We provided 106 review compliance and historic fabric consulting for the rehabilitation and repairs to historic masonry, tera cotta, window replacement and roofing.











Clarksburg Post Office and Courthouse *Clarksburg, WV* 2020-2023

We provided 106 review compliance and historic fabric consulting for the rehabilitation and repairs to historic masonry, tera cotta, and roofing.

Fallon Federal Building Baltimore, MD 2022

We provided 106 review compliance and historic fabric consulting for the rehabilitation and repairs to historic masonry, and window replacement.

Boestetter Courthouse

Alexandria, VA 2019-2022

We provided 106 review compliance and historic fabric consulting for the rehabilitation and repairs to historic masonry, roofing, and window and door replacement or repair.

Contact/References: Mr. William R. Whittington, Jr. General Services Administration 300 Virginia Street East Charleston, WV 25301 (304) 347-5155

Robert H. Fiedler, AIA Robert Stern, AIA Riddick Fiedler Stern 261 Butte Street Norfolk, VA 23510 757-827-2791

Dave Snider Sheryl Snider Paradigm Architecture, Inc. 2223 Cheat Rd. Morgantown, WV 26508 304-284-5015








Garlow House Rehabilitation & Adaptive Reuse Project Morgantown, West Virginia 2003-2005

The Garlow House, a 1906 Queen Anne Revival style house, is located within the Downtown Morgantown Historic District. A master plan and analysis of the historic residence was conducted for its adaptive reuse for the Morgantown Library. The building was rehabilitated for use as a research and genealogical library.

The house is constructed of stone and has a beveled glass entrance with opalescent stained glass windows and a curved wraparound porch with clustered Ionic columns. Mr. Gioulis worked with the property owners through grants from the state and the municipality to restore the interior and exterior to its original appearance.

Contact/Reference: Mr. William Marquette Morgantown Public Library 373 Spruce Street Morgantown, WV 26505 304-291-7425 ext. 136









Kisar House Rehabilitation Project Point Pleasant, West Virginia *2010-present*

The Kisar House, constructed ca. 1884, is a large brick building that is a contributing structure in the Point Pleasant Historic District. Both exterior and interior renovations are planned in order to restore the building. The work will be completed in phases, with the first one being roof repairs.

The roof was extremely deteriorated, and as a result, there is interior structural deterioration as well as other water damage issues. The original slate roof has been removed and replaced with new slate, and other repairs made to prevent water damage including new gutter installation. As part of returning the building to its original appearance, a non-original dormer was removed and a new slate roof constructed to match the original lines.

The masonry on the exterior was repaired. The nonoriginal porch enclosure on the front was removed and the original porch reconstructed. Windows and doors in the porch have been restored. A new ADA ramp has been installed for access to the building. The porch and ramp and entrance work included historic details such as railings, columns etc. have been restored. New windows in the front and side elevation have been installed.

Grants used include Transportation Enhancement Programs and WV SHPO grants. Additional phases will address the interior finishes; additional windows and doors; and HVAC, electrical and plumbing systems.

Contact/Reference: Mr. Charles Humphreys Point Pleasant Main Street 305 Main Street Point Pleasant, WV 25550 304-675-3844







Main Street West Virginia Towns Throughout West Virginia 1988-Present

The Main Street Program addresses comprehensive economic development and community revitalization within a historic preservation framework. This includes overall analyses of a town's resources and planning for its sustainable utilization, as well as focusing on individually



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targeted buildings. In addition to master planning, streetscape renderings and building rehabilitation drawings are provided as part of the comprehensive overall design package. These are designed to comply with the community's design guidelines where applicable, and with the Secretary of the Interior's Standards when a town does not have individual guidelines.

Michael Gioulis has held a contract with the WV Development Office as its Main Street West Virginia Design Contractor since 1988. As such, he provides services to all the Man Street towns and ON TRAC communities. ON TRAC is a precursor to Main Street designed to assist smaller, underserved communities.

- Supports 12 Main Street towns; up to 25 in past \checkmark
- ✓ Supports 16 ON TRAC communities
- \checkmark Annual contract since 1988 as Design Consultant
- ✓ Over 1,000 individual building rehab recommendations/site visits
- ✓ Over 50 Resource Team visits
- ✓ Wrote Maintenance Manual for downtown property owners
- \checkmark Numerous community assessment teams
- ✓ Many training workshops in towns
- ✓ Multiple training workshops at regional meetings/national conferences

Contact/Reference: Ms. Jennifer Brennan WV Department of Commerce Capitol Complex, Building 6 Charleston, WV 25305 304-957-2049







Carol A. Stevens, PE, F.ASCE

Structural Engineer



EDUCATION

West Virginia University, BSCE, 1984 Chi Epsilon National Civil Engineering Honorary The Pennsylvania St ate University, ME Eng Sci, 1989

PROFESSIONAL REGISTRATION

P.E.	1990	Pennsylvania
P.E.	1991	West Virginia
P.E.	1994	Maryland
P.E.	2008	Ohio
P.E.	2010	Kentucky
P.E.	2013	Virginia

BACKGROUND SUMMARY

2001 – Present	CAS Structural Engineer
1999 – 2001	Structural Engineer Clingenpeel/McBrayer & Assoc, Inc.
1996 – 1999	Transportation Department Manager Structural Engineer Chapman Technical Group, Inc.
1995 – 1996	Structural Engineer Alpha Associates, Inc.
1988 – 1995	Structural Department Manager Structural Engineer NuTec Design Associates, Inc.
1982 – 1988	Engineer AAI Corporation, Inc.

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers National Society of Professional Engineers American Concrete Institute American Institute of Steel Construction West Virginia University Department of Civil and Environmental Engineering Advisory Committee West Virginia University Institute of Technology Department of Civil Engineering Advisory Committee

<u>EXPERIENCE</u>

West Virginia, Riverview at Clendenin School: Structural evaluation report and construction documents for renovations to a 1912 historic school. Proposed use was senior apartments and a non-profit community health center.

West Virginia, State Capitol Complex, Holly Grove Mansion: Structural evaluation report for preliminary condition assessment of building structure. Another project included complete analysis of structure for new use. Building is on the National Register of Historic Places and was constructed in 1815.

West Virginia, State Capitol Complex, Main Capitol Building Dome: Exploratory investigation of structural steel components of Lantern Level of dome and development of contract documents for repairs. Building is on the National Register of Historic Places and was constructed in the 1930's. Received a NYAIA Merit Award for Design Excellence.

West Virginia, State Capitol Complex, Main Capitol Building Exterior Façade Restoration: Investigation and preparation of details for repairs to limestone and terra cotta exterior façade. Building is on the National Register of Historic Places and was constructed in the 1920's and 1930's.

West Virginia, Roane County Courthouse:

Structural analysis of existing floor framing for addition of new high-density file storage system on upper floor level.

West Virginia, Lewis County Courthouse:

Structural investigation for work required to update structure and apply for grant monies through WVCFIA.

West Virginia, Tucker County Courthouse: Structural investigation for work required to update structure and apply for grant monies through WVCFIA.

West Virginia, Boone County Courthouse: Structural analysis of existing floor framing for addition of high-density file storage systems at different locations.

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PROVIDING STRUCTURAL ENGINEERING SOLUTIONS FOR YESTERDAY, TODAY AND TOMORROW COMMERCIAL, GOVERNMENTAL AND INDUSTRIAL STRUCTURAL DESIGN, ANALYSIS AND RESTORATION A WEST VIRGINIA CERTIFIED DBE CONSULTANT + CERTIFIED IN THE PRACTICE OF STRUCTURAL ENGINEERING WWX WA WY ON MOD PA West Virginia, Gilmer County Courthouse: Structural analysis of existing floor framing for addition of high-density file storage system on upper floor level.

West Virginia, First Presbyterian Church Restoration:

Structural renovations of steel in lantern level and terra cotta cornice, overview of repairs to limestone and terra cotta façade of 1920's structure.

West Virginia, State Capitol Complex, Governor's Mansion: Structural analysis and design in addition to evaluation report for modifications and renovations to several areas of mansion. Building is on the National Register of Historic Places and was constructed in the 1920's.

West Virginia, State Capitol Complex, Building 5: Structural design and analysis for support of new boilers and other mechanical equipment to be placed in

West Virginia, State Capitol Complex, Building 7: Investigation and development of Construction Documents for new elevators.

mechanical penthouse.

West Virginia, State Capitol Complex, Building 3: Structural design and construction administration of repairs to limestone canopy. Building is eligible to be placed on National Register of Historic Places and was constructed in the 1950's. West Virginia, Upshur County Courthouse: Developed construction documents for structural repairs to main entrance, dome and monumental sandstone columns of 1899 structure. Work was recently completed and received a WVAIA Honor Award for Design Excellence.

West Virginia, State Capitol Complex, Governor's Mansion: Structural analysis and design in addition to evaluation report for modifications and renovations to several areas of mansion. Building is on the National Register of Historic Places and was constructed in the 1920's.

Ohio, Mahoning County Courthouse: Completed preliminary structural observation report of exterior façade conditions to recommended phased repairs for terra cotta and granite façade. Building is on the National Register of Historic Places and was constructed in the early 1900's.

PREVIOUS EXPERIENCE

West Virginia, State Capitol Building, North Portico Steps: Designed structural system to replace deteriorated reinforced concrete slab at landing on north side of Capitol steps. Building is on the National Register of Historic Places and was constructed in the 1930's.

West Virginia, Upshur County Courthouse Annex: Performed structural evaluation and design for repairs to existing multistory Annex addition.

FIRST PRESBYTERIAN CHURCH EXTERIOR FACADE RESTORATION

Charleston, West Virginia



The terra cotta and limestone exterior of this 1910's building was in need of being restored to prevent continued damage to the exterior and interior of the build-

ing. The structural steel in the lantern level was replaced with stainless steel members and wind bracing

The terra cotta balustrade was re-built after the iron components were found to be deteriorated.

The corners of the terra cotta cornice exhibited significant deterioration of the mortar joints and rotation of the units. It was found that the supporting steel members were not adequate for the load that was being supported. They were also replaced with stainless steel components.





CAS

STRUCTURAL ENGINEERING, INC

DIVISION OF MOTOR VEHICLES—BUILDING 3 CAPITOL COMPLEX

Charleston, West Virginia



The limestone at the canopy was deteriorated to the point that pieces were loose and ready to fall. The project included an investigation to determine the support conditions for the stone.

During the investigation, it was determined that the support structure was not as shown on the original construction documents.





The repair of this element was completed in 2002.



COLLETT HOUSE

Beverly, West Virginia



The original portion of this structure was constructed as a log cabin in the 1770's. This project included foundation stabilization and log wall and floor framing repairs.

The foundation had settled over the years. As a result, the rear portion of the building had to be jacked up approximately 6-inches and new foundation supports were installed.







EXTERIOR FAÇADE RESTORATION MAIN CAPITOL BUILDING

Charleston, West Virginia



Exterior façade restoration included cleaning, pointing, and repairs to the limestone and terra cotta components, windows and doors.

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Portions of the limestone cornice were damaged to the point that they fell when work was being conducted and had to be pinned back in place.





Other repairs included various spall repairs, pinning and epoxy injection of larger cracks and lifting and pinning keystones over windows.



GOFF HOUSE CHIMNEY

Beverly, West Virginia



This 1700's structure was purchased on 1830 by Col. David Goff and the front porch was added soon afterward. This structure is listed on the National Register of Historic Places.

The roof in the vicinity of the chimney was exhibiting signs of distress and was investigated.





The investigation led to an emergency project where the chimney was removed below the roof level as it was not being supported correctly. The former hole through the roof was covered.

Additional support for the first floor framing was also to be installed as part of the project.



WEST VIRGINIA GOVERNOR'S MANSION RENOVATIONS

Charleston, West Virginia



Renovations of this red brick Georgian Colonial 1920's structure was completed in several phases, some by staff of the General Services Division at the State of West Virginia and the remainder by a general contractor. This structure is listed on the National Register of Historic Places.

During the renovations, a number of deficiencies were discovered, some of which had been covered by prior construction and some as a result of prior construction.



The structural repairs were made with masonry, wood framing and steel as required to support the loadings that were anticipated.







HOLLY GROVE MANSION Charleston, West Virginia





Completed some exterior envelope repairs on this early 1800s structure including repointing, lintel repair and other exterior work to porches.





Performed extensive investigation of interior structural framing for interior restoration and repairs that were bid but not completed.



ROBINSON GRAND THEATRE RESTORATION

Clarksburg, West Virginia



Additional framing and reinforcing of the existing structure was installed below the ballroom on the second floor to comply with current building codes.



The design included a large two-story addition to the side to provide dressing rooms for performers on the 1st floor and conference space on the 2nd floor. Additional structural modifications and additions were included for accessibility and egress. Construction is expected to be completed during the fall of 2018. This early 1900's structure was devastated by fire and partially re-built in 1939. The front portion of the building was salvaged, and the rear of the auditorium and stagehouse were reconstructed. This structure is listed on the National Register of Historic





UPSHUR COUNTY COURTHOUSE STONE COLUMN RESTORATION

Buckhannon, West Virginia



The structural sandstone columns were coated with a cementitious coating that helped to deteriorate the natural stone by trapping moisture within the stone.

After the coating was removed, additional areas of the columns and bases required extensive repairs.





The repairs included pinning the columns across cracks, building up architectural elements with Cathedral Stone Jahn Repair Mortars, and also included pinning new stone to the original host stone.





AIA West Virginia Honor Award 2008



Firm Profile



MILLER ENGINEERING is a solely held (S) corporation owned by Craig Miller PE, President. The corporation maintains a Certificate of Authority with the WV State PE Board and has carried professional liability insurance since its inception. Neither the firm nor its professional engineers have ever faced disciplinary action in any form from the states in which they are registered.

Our engineered solutions involve a detailed assessment process: investigation, observation, communication with stakeholders, system analysis, building modeling and engagement from our entire team. We approach each and every project with this process and the guiding principle that buildings are designed to be livable and function in their intended purpose.



Over the past 18 years Miller Engineering, Inc. (MEI) has engineered solutions for over \$45M in MEP system upgrades, repairs and renovations for projects of all scopes and sizes, with clients ranging from private owners to local and state governments. With a strict attention to detail and commitment to delivering a job done well and done right the first time, every time, **MEI has accumulated a change order percentage of less** than 0.1% over the past 11 years.



Our team has unique skill-sets regarding engineered renovation solutions. Each member of the team has hands-on mechanical system experience including installation, construction, design and maintenance.

Miller Engineering takes pride in being **different by design**, and that difference shines through in all phases of our work and continued relationships with our clients.

- Experienced and Licensed Professional Engineers
 - Quality, Value-Engineered Project Delivery
- Qualified Construction Representative on Staff
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 - Below Industry Change Order Status
 - Building Information Modeling
 - Emergency Facility Response

Engineering Design and Consultation

- Mechanical
- Electrical
- Plumbing
- HVAC Design
- Renovation
- New Construction
- Building Information Modeling

Aquatic Facility Design Public Pools & Areas ADA Compliance Indoor & Outdoor (air flow) Chlorination/Filtration

Construction Administration Maintenance/Facility Improvement Plans Contract Administration Code Observation

> Communication System Intercomm & Public Address Voice/Data/CATV Urgent Response

Energy Power Supply (main & backup) Green & Renewable Consulting Systems Utilization & Upgrades Sustainable Solutions

Facility Utilization Systems Assessment & Solutions Adpative Re-use Planning/Life-Cycle Control Engineered Replacement

Life Safety Inspection/Design Fire Protection & Alarm Systems Access Control Fire & Electrical Investigation

> Industry Experience Education Local & State Government Commercial Development Healthcare







B. Craig Miller, PE

Craig founded Miller Engineering in 2003, and serves as President and Principal Engineer. He has more than 20 years experience in design, specification, operations and project management. During his employment with WVU, Craig was directly involved with approximately \$130 million in new capital construction. His experience with a wide range of projects including HVAC, electrical, plumbing, infrastructure upgrades, building automation, energy efficiency and maintenance/renovation, among others, allows him to serve in multiple capacities within a given project. Craig will serve as the "Relationship

Manager" for Miller Engineering as the main communication interface between the Owner, the design team, contractors and end users.

Project Role: Relationship Manager - Primary Point of Contact

- Engineer in Responsible Charge
- Design and Project Management of Mechanical, Electrical, Plumbing Projects
- Concept and Construction Design
- Business Operations and Financial Management Oversight
- Quality Assurance and Control

Professional Project Highlights

- Advanced Surgical Hospitals
- Holly Grove Manor
- Elevator Modernizations (Phase I & II)
- Mapletown High School HVAC Replacement Phase I & II
- Morgantown Met Theatre
- Holly River State Park Primary Electric Service Replacements Phase I & II
- Cacapon Resort State Park Lodge Addition & Renovation
- Capitol Complex Chiller Plant Modifications
- Various VA Outpatient Clinics

Professional History

2003- Present	Miller Engineering, Inc.	President, Relationship Manager
2002-2003	Casto Technical Services	Existing Building Services Staff Engineer
2001-2002	Uniontown Hospital	Supervisor of Engineering
1995-2001	West Virginia University	Staff Engineer
1990-1995	BOPARC	Caretaker – Krepps Park
1983-1988	University of Charleston	Electrician/HVAC Mechanic

Education

1995	West Virginia University	BS- Mechanical Engineering
1988	University of Charleston	BA- Mass Communications

Licenses and Certifications

- Professional Engineer (West Virginia, Pennsylvania, Maryland, and Ohio)
- Licensed Master Plumber
- LEED-AP Certified





Travis Taylor, PE

Experience in project management facilitates Travis's ability to create and design constructible projects. Prior to joining the Miller Engineering team he was directly responsible for managing \$10 million in electrical construction budgets. His experiences encompass both new construction and renovation. Travis maintains professional competencies by attending seminars and continuing education classes. As lead engineer he provides HVAC, mechanical, plumbing and electrical design solutions and services for our clients. In addition, he is part of our team's complete assessment process in both

planning and MEP design through construction administration.

Project Role: Lead MEP Engineer

- Design of Mechanical, Electrical, and Plumbing Systems
- Building Information Modeling Revit
- Constructible Materials Evaluation
- Site Evaluation and Mechanical System Review
- Submittal and RFP Review
- RFI Coordination, Review, and Response
- Construction Observation

Professional Project Highlights

- Huntington Floodwall Pump Station Automation
- Holly Grove Manor
- MHS Area 4 HVAC
- Berkeley Springs Old Roman Bathhouse
- Pipestem Lodge McKeever Lodge (HVAC Piping, Plaza / Pool HVAC, Fire Alarm, Boilers)
- Mineral County Detention Center, Judicial Annex, & Courthouse
- WVDA Ripley Warehouse Electrical Upgrades
- WV Building 25 (HVAC Piping, Façade, HVAC, Lighting)
- WVANG Bridgeport FWAATS Restroom Renovations

Professional History

2011-Present	Miller Engineering, Inc.	Staff Engineer
2006-2011	Tri-County Electric, Co.	Project Manager
2006-2006	Schlumberger	Field Engineer Trainee - MWD

Education

2006 West Virginia University, BS – Mechanical Engineering

Licenses and Certifications

- Professional Engineer State of West Virginia, Maryland
- OSHA 10-hour Course: Construction Safety & Health





Tyler Trump

Tyler joined Miller Engineering in August 2022. A recent graduate of West Virginia University, he has been eager to learn the means and methods of MEP consulting. Tyler assists the MEP design team with design calculations and is rapidly learning design software such as Autodesk REVIT and Hourly Analysis Program by Carrier. He is also learning construction administrations along with building, electrical, and plumbing codes and standards. Tyler is currently preparing to take the Fundamentals of Engineering Exam.

Project Role: MEP Designer

- Design Calculations
- Drafting of MEP Systems
- Assist with Construction Administration

Professional Project Highlights

- Cass Scenic Railroad State Park Campground
- Lost River Campground
- Mountain Line Transit Authority Office Renovation
- Ronald McDonald House Morgantown Renovation & Addition

Professional History

2022- Present Miller Engineering, Inc. MEP Designer

Education

2022 West Virginia University, BS - Mechanical Engineering

Licenses and Certifications



Descriptions of Past Projects Completed – MEP

Cacapon Old Inn Berkeley Springs, WV

Services Provided:

- HVAC
- Plumbing
- Electrical

MEP Budget: \$98k Facility Area: 5,500 ft² Owner: West Virginia Division of Natural Resources





Project Contact: Debbie Demyan, Project Engineer State Parks Section (304) 550-4892

The Old Inn at Cacapon State Park is a popular lodging choice for large gatherings at the park. The Old Inn only had window AC and heating only through fire places. MEI designed a complete HVAC renovation which includes propane fired furnaces with DX air conditioning to serve the first floor common areas. The guest rooms on the second floor utilize mini-split system units, allowing for individual room control. The kitchen area was completely renovated including new appliances making it more useful for large gatherings. The HVAC renovation required architectural and structural modifications to the facility. The guest rooms were updated with new furniture and bathrooms were undated as well. Great detail was taken to keep any modifications in-line with the historical component of the Old Inn.



Experience – Electrical & Mechanical

Capital Complex Chiller Plant Evaluation and Modifications

Services Provided:

- Evaluation Study
- Electrical
- Mechanical
- Plumbing

Project Cost: \$7.26 mil Facility Area: Approx. 7,500 ft² Owner: WV GSD



Project Contact: Dave Parsons Energy Manager WV GSD 112 California Ave. Charleston, WV 304-957-7122



The existing chiller plant serving the WV State Capital Complex is 20 years old. The Owner wishes to reduce energy costs associated with the peak electrical demand metering applied to the plant's electrical service. MEI was retained to evaluate multiple options to reduce electrical demand, and thereby the operating costs. The determined optimal solution is to use large, medium voltage, natural gas generators which could operate select chillers during peak demand to reduce electrical peak demand. A 5kV switchgear will allow the select chillers and their respective pumps to operate under generator load when they are required to come online. A new 2,300 ft² building will be constructed to house the new switchgear, pumps, and heat exchangers to allow the chillers to still operate as a plant. The project was completed in May of 2022.



Descriptions of Past Projects Completed – Renovation

Metropolitan Theater

Services Provided:

- Electrical
- Plumbing
- Fire Alarms
- Sprinkler Systems

Estimated Budget: \$400k Facility Area: 15,400 ft² Owner: BOPARC of Morgantown





Project Contact: Terry Hough, PE, PS, CFM Public Works Director, City Engineer Phone: (304) 284-7412

The project required extensive field discovery and detailed coordination with the owner, architect, historical consultant, structural engineer and Miller's engineering team. Construction administration consisted of direct communication with the contractor in order to monitor project progress and slight adjustments, typical of a project involving renovation to a historic building. The MEP design involved included electrical, lighting, egress lighting, completion of the heating and cooling in the wing dressing rooms and safety updates to maintain the facility's public utilization. Electric and data requirements for the new marquee were also designed. Updates to the fire alarms, sprinklers and exit signage were implemented to meet modern day code requirements while maintaining the historical integrity of the building.



Boggs Environmental Consultants OVERVIEW

LOCATIONS : WV/MD SERVICES : Engineering, Mining, Remediation, Oil & Natural Gas, Environmental



Boggs Environmental Consultants (BEC) offers the highest quality of Environmental Science, Environmental Engineering and Industrial Hygiene services provided by our team of experienced, educated and certified individuals:

- Industrial Hygiene
- Environmental Health & Safety Audits (EHS)
- Risk Exposure Assessments
- Indoor Air Quality
- Safety & Health Compliance Programs & Training
- Infrared Thermography
- Additional Environmental Services
 - Site Characterization
 - Environmental
 - Oil & Natural Gas Sampling
 - Wastewater Treatment Facility Design & Environmental Testing
 - Permitting: NPDES, Stormwater, Air Emissions, Wastewater
 - Underground Storage Tanks
 - Building Condition Assessments

BOGGS ENVIRONMENTAL CONSULTANTS, INC.



CORPORATE EXPERIENCE

National Institutes of Health- Bethesda, MD

BEC has been supporting the NIH capital improvement projects (CIP) program on an on-going basis, since 2006. These CIP programs require relocation of NIH staff and facilities to swing space to accommodate not only comprehensive but also select building area(s) renovation projects. These modernization projects include wholesale and partial demolition of building space for complete retrofit to facilitate mechanical/electrical/plumbing (MEP) upgrades, architectural and functional space use re-design, life-safety upgrades, etc. BEC staff have completed to date- 138 projects within 36 NIH buildings, as a sub-consultant to ACM Services, Chugach WSI, and KIC Development, each as the Prime Contractors, to US DHHS NIH, whom are responsible for completing campus-wide modernization projects at both the Bethesda Main Campus and Poolesville- Animal Research Facility.

Department of Veterans Affairs - Martinsburg, WV & Clarksburg, WV

Comprehensive visual inspection and testing to determine the presence of asbestos, LBP, mercury, PCBs and prepare specifications and drawings for their safe removal prior to renovation of individual WWII era buildings located on the grounds of the Veterans Affairs Medical Centers in Martinsburg, WV and Clarksburg, WV. Abatement contractor submittals review and onsite project monitoring- regulated access work area visual inspections and environmental testing- is performed during subsequent hazardous materials abatement projects. All services are provided via a multiple year IDQ/IDC contract vehicle issued by the Veterans Administration directly to BEC.

USDA - Knipling - Bushland U.S. Research Laboratory (KBUSLIRL) - Kerrville, TX

BEC has been supporting the USDA ARS KBUSLIRL campus modernization project located at 2700 Fredericksburg Road, Kerrville, Texas on an on-going basis, since 2018. The modernization project includes a phased demolition of nearly all of the current 35 onsite structures and the construction of new USDA ARS facilities including an Administrative/Laboratory Building, Fly and Tick Research, Building, Stanchion Barn, and two Maintenance Buildings.

USDA -Weed Science Research Unit, Fort Detrick Building #374 - Frederick, MD

BEC has been supporting the USDA ARS NAA- FDWSRU modernization of Building #374 located on the grounds of the US Army Garrison Ft. Detrick, Frederick, Maryland on an ongoing basis, since 2009. The modernization project requires extensive and complex phasing due to the requirement to maintain active FDWSRU staff work environment and negative pressurization of a unique P-3 plant pathogen laboratory and greenhouse biocontainment facility. These modernization projects include wholesale and partial demolition of building space for complete retrofit to facilitate mechanical/electrical/plumbing (MEP) upgrades, architectural and functional space use re-design, life-safety upgrades, etc. BEC task orders completed include, but are not necessarily limited to, the following:

United States Naval Support Activity, NAVFC - Mechanicsburg, PA

BEC supported the US Naval Support Activity, NAVFAC renovation of the west half of Building #407 at the South Fire Bay – Enterprise Resource Planning (ERP) area during the 2013-2014 time period. This renovation required relocation of NAVFAC staff and facilities to swing space to accommodate not only comprehensive but also select building area(s) renovation projects.

BEC staff completed the hazardous materials technical consulting work, as a sub-consultant to EBA Enterprises, Inc of Frederick, Maryland. EBA, as the Prime Contractor, to NAVFAC (Contract No.N40085-13-C-1359) is responsible for all facets of the Design Analysis and Construction Specifications as well as Contract Administration associated with Building #407 modernization project.

These modernization projects included wholesale and partial demolition of building space for complete retrofit to facilitate mechanical/electrical/plumbing (MEP) upgrades, architectural and functional space use re-design, life-safety upgrades, etc.

PROJECT FEATURES

Hazardous Materials Investigation

Hazardous Materials Abatement Design Analysis

Hazardous Materials Abatement Contract Documents

Hazardous Materials Abatement Contract Administration

Hazardous Materials Abatement Project – Quality Assurance & Quality Control (QA/QC) – Inspection & Environmental Testing

NEPA-Environmental Assessment

Subsurface Investigation

Cultural Resource Evaluation





Mr. Morris is a certified industrial hygienist with 30 years of experience in all facets of industrial hygiene an environmental health and safety. He has extensive experience in Contract Document (Specification/ Drawings) development and Contract Administration.

SELECT PROJECT EXPERIENCE

Federal Government Projects:

- ➢ US Department of Defense, Nationwide
- > NOAA Administration Offices, Silver Spring, MD
- VA Hospital Centers, Nationwide
- Raven Rock Complex, Adams County, PA
- > US Customs & Border Patrol Training Facility, Harpers Ferry, WV

State & Local Government Projects:

- City of Annapolis, Annapolis, MD
- State of West Virginia Division of Natural Resources, Marlinton, WV
- State of West Virginia Department of Administration, Charleston, WV
- Monongalia County School Board, Morgantown, WV
- Morgan County School Board, Berkeley Springs, WV
- Jefferson County School Board, Charles Town, WV
- Frederick County Watershed Study, Frederick, MD
- City of Wheeling, Wheeling, WV

Higher Education Projects:

- Hood College, Frederick, MD
- Frostburg College, Frostburg, MD
- Shepherd University, Shepherdstown, WV
- ➤ West Virginia University, Morgantown, WV
- Alderson Broaddus University, Philippi, WV

Gary Morris

CERTIFIED INDUSTRIAL HYGIENIST

EDUCATION

WEST VIRGINIA UNIVERSITY

MS, 1989

ENVIRONMENTAL HEALTH AND SAFETY



Richard Robinson is the Vice President of Boggs Environmental Consultants, Inc, with 17 years of experience in all facets of Site Assessment & Corrective Action Plans. He has extensive experience in Contract Document development & Contract Administration along with the possession of knowledge, skills, and abilities to support traditional Industrial Hygiene duties. Additionally, Mr. Robinson has served as an expert witness for asbestos related claims. Mr. Robinson is a licensed trainer for asbestos related services through West Virginia Bureau of Public Health.

SELECT PROJECT EXPERIENCE

Federal Government Projects:

- USDA Research Centers, Nationwide
- VA Hospital Center, Martinsburg, WV
- ➢ VA Hospital Center, Clarksburg, WV
- Raven Rock Complex, Adams County, PA
- > US Customs & Border Patrol Training Facility, Harpers Ferry, WV
- Berkeley Springs Train Depot, Berkely Springs, WV

State & Local Government Projects:

- State of West Virginia Division of Natural Resources, Marlinton, WV
- State of West Virginia Department of Administration, Charleston, WV
- Monongalia County School Board, Morgantown, WV
- Morgan County School Board, Berkeley Springs, WV
- Jefferson County School Board, Charles Town, WV
- Frederick County Watershed Study, Frederick, MD
- ➢ City of Wheeling, Wheeling, WV

Higher Education Projects:

- ➢ Hood College, Frederick, MD
- Frostburg College, Frostburg, MD
- Shepherd University, Shepherdstown, WV
- > West Virginia University, Morgantown, WV
- Alderson Broaddus University, Philippi, WV

Richard "Ricky" Robinson

Vice President

EDUCATION

SHEPHERD UNIVERSITY

BS, 2007

ENVIRONMENTAL RESOURCE MANAGEMENT





Bill began his career with BEC in 2014 and leverages over 30 years of experience serving as BEC's Principal Environmental Scientist. Bill has conducted and managed hundreds of Phase I and Phase II Environmental Site Assessments (ESAs) that include the evaluation of the presence or absence of environmental conditions in accordance to the current ASTM E-1527 standard. Bill also has conducted compliance audits of environmental regulated activities such as RCRA hazardous waste, treatment storage and disposal facilities (TSDFs), wastewater treatment ponds, NPDES permits (discharges to surface water), air emissions, USTs, and SARA Title III notifications.

SELECT PROJECT EXPERIENCE

Federal Government Projects:

- ➢ Federal Aviation Administration, Martinsburg, WV
- ➢ US Department of Defense, Nationwide
- USDA Research Facilities, Nationwide
- ➢ US Department of State, Nationwide
- ➢ VA Hospital Centers, Nationwide
- > US Customs & Border Patrol Training Facility, Harpers Ferry, WV

State & Local Government Projects:

- Berkeley Springs Train Depot, Berkeley Springs, WV
- Monongalia County School Board, Morgantown, WV
- Morgan County School Board, Berkeley Springs, WV
- ➤ Frederick County School Board, Frederick, MD
- ➤ Jefferson County School Board, Charles Town, WV
- ➢ City of Wheeling, Wheeling, WV

Higher Education Projects:

- Hood College, Frederick, MD
- Frostburg College, Frostburg, MD
- Shepherd University, Shepherdstown, WV
- Alderson Broaddus University, Philippi, WV
- West Virginia University, Morgantown, WV9

William "Bill" Warfel

PRINCIPAL ENVIRONMENTAL SCIENTIST

EDUCATION

UNIVERSITY OF UTAH

BS, 1980

PARK PLANNING & RESOURCE MANAGEMENT

WEST VIRGINIA LICENSED LAND REMEDIATION SPECIALIST



Andrew Hanson began his career at BEC in 2008. Andrew's career encompasses over 14 years of experience and currently serves as a BEC Project Manager, where he oversees performance of hazardous materials inspections; hazardous material remediation oversight; and building surveys for hazardous construction materials including lead-based paint, asbestos, mercury, polychlorinated biphenyls, mold, and biological contaminants. Andrew also currently holds Council-certified Indoor Environmental Consultant (CIEC) certification.

SELECT PROJECT EXPERIENCE

Federal Government Projects:

- ➢ US Department of State, Washington, DC
- ➢ US EPA Headquarters, Washington, DC
- USDA Research Facilities, Nationwide
- NOAA Administration Offices, Silver Spring, MD
- VA Hospital Centers, Nationwide
- USDA Animal Research Center, Kerrville, TX
- ➤ US Customs & Border Patrol Training Facility, Harpers Ferry, WV
- ➤ US Army Core of Engineers Ranger Station, Elk Garden, WV

State & Local Government Projects:

- The Annapolis State House, Annapolis, MD
- Frederick County Watershed Study, Frederick, MD
- Monongalia County School Board, Morgantown, WV
- Morgan County School Board, Berkeley Springs, WV
- Jefferson County School Board, Charles Town, WV
- City of Wheeling, Wheeling, WV

Higher Education Projects:

- Hood College, Frederick, MD
- Frostburg College, Frostburg, MD
- ➢ Shepherd University, Shepherdstown, WV
- Alderson Broaddus University, Philippi, WV
- West Virginia University, Morgantown, WV

Andrew Hanson

PROJECT MANAGER

EDUCATION

UNIVERSITY OF ALASKA

CIEC





Garrett Kehler is an Environmental Scientist with 12 years of experience at Boggs Environmental Consultants, Inc. He is responsible for conducting hazardous materials surveys, hazardous materials abatement A/E design surveys, air quality surveillance and remediation contractor oversight, Indoor Air Quality investigations, Phase I-Environmental Site Assessments, Phase II-ESA subsurface contamination investigations, including periodic free-product recovery and groundwater sampling. Additionally, Mr. Kehler's knowledge, skills, and abilities support traditional Industrial Hygiene duties including US EPA and OSHA contaminant sample collection and analytical protocol selection, and performance of workplace chemical, physical, and biological workplace hazard assessment, and generation of associated reports. Mr. Kehler is responsible for maintaining a working knowledge and enforcement of US EPA, DOT, and OSHA standards during Hazardous Materials/Waste Remediation projects.

SELECT PROJECT EXPERIENCE

Federal Government Projects:

- ➤ The White House, Washington, DC
- ➢ US Department of State, Washington, DC
- ➢ US EPA Headquarters, Washington, DC
- Fort Detrick USDA Building #374, Frederick, MD
- NOAA Administration Offices, Silver Spring, MD
- FEMA National Training Center, Emmitsburg, MD
- VA Hospital Center, Martinsburg, WV
- ➢ VA Hospital Center, Clarksburg, WV
- USDA Animal Research Center, Kerrville, TX

State & Local Government Projects:

- The Annapolis State House, Annapolis, MD
- Frederick County Watershed Study, Frederick, MD
- Monongalia County Schools, WV

Higher Education Projects:

- Hood College, Frederick, MD
- Frostburg College, Frostburg, MD
- Shepherd University, Shepherdstown, WV

Garrett Kehler

ENVIRONMENTAL SCIENTIST

EDUCATION

MOUNT OLIVE UNIVERSITY

BS, 2009

ENVIRONMENTAL SCIENCES





D. Signed Forms





Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

State of West Virginia Centralized Expression of Interest Architect/Engr

Proc Folder:	1199702		Reason for Modification:
Doc Descriptio	n: EOI: Building 10 Holly G	rove Renovation	Addendum No.1
Proc Type:	Central Contract - Fixed	Amt	
Date Issued	Solicitation Closes	Solicitation No	Version
2023-04-06	2023-04-20 13:30	CEOI 0211 GSD230000008	2

BID RECEIVING LOCATION			-
BID CLERK			-
DEPARTMENT OF ADMINISTRATION			
PURCHASING DIVISION			
2019 WASHINGTON ST E			
CHARLESTON WV 25305			
US			
VENDOR	Call Control of Call		123
Vendor Customer Code: VS0000013	207		
Vendor Name : Montum Architecture	e, LLC		
Address: 55			
Street : ER Path			
City: Keyser			
State: West Virginia	Country : USA	Zip : 26726	
Thomas Pritts Al	۵		

Principal Contact : Thomas Pritts, AIA

Vendor Contact Phone: 304-276-7151

Extension:

FOR INFORMATION CONTACT THE BUYER Melissa Pettrey (304) 558-0094 melissa.k.pettrey@wv.gov

Vendor Signature X

FEIN# 82-1385831

DATE April 20, 2023

All offers subject to all terms and conditions contained in this solicitation

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title)	nas Pritts, Member
(Address) 55 ER Path, Keyse	r, WV 26726
(Phone Number) / (Fax Number)	304-276-7151
(Email address) tom@montum	arch.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below. I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Montum Architecture, LLC

(Company)

(Signature of Authorized Representative)
Thomas Pritts, MemberApril 20, 2023(Printed Name and Title of Authorized Representative) (Date)304-276-7151(Phone Number) (Fax Number)
tom@montumarch.com

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: CEOI 0211 GSD23*8

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification. Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received: (Check the box next to each addendum received)

✓ Addendum No. 1
△ Addendum No. 2
△ Addendum No. 2
△ Addendum No. 3
△ Addendum No. 4
△ Addendum No. 9
△ Addendum No. 5
○ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Montum Architecture, LLC

Company Authorized Signature

4/20/23

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Montum



PROPRIETARY

Example Report Submission

West Virginia General Services Division

Architectural and Engineering Services for Building 10, Holly Grove Mansion CEOI GSD 230000008

April 20, 2023

Department of Administration Purchasing Division

2019 Washington St. E Charleston, WV 25305

CONTENTS:

- 1. Moss Preservation Works Liberty Theater
- 2. Moss Preservation Works Barnum Museum (Exterior)
- 3. Moss Preservation Works Barnum Museum (Windows)
 - 4. CAS Structural Wyoming Hotel
 - 5. CAS Structural First Presbyterian
 - 6. CAS Structural Job's Temple
 - 7. CAS Structural Old Clendenin Middle School
 - 8. Montum Old Roman Bathhouse

PROVIDED FOR EOI EVALUATION PURPOSES ONLY

PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY.

Montum Architecture, LLC

55 ER Path, Keyser, WV 26726 ● 304-276-7151 ● tom@montumarch.com montumarch.com



Inspection and Documentation Report – Liberty Theater

Prepared by

Moss Preservation Works, LLC 504 West 48th Street, New York, NY 10036

May 5, 2020 (Final)

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		(Swanke Hayden Connell Architects)	

ATRIA BUILDERS PROBE REPORT (Sent via email dropbox link) https://www.dropbox.com/sh/ivz28klprgfz4kj/AACKsSkBQ7JO7f6gZ64iEDoLa?dl=0

Liberty Theater – 243 West 42nd Street

MOSS PRESERVATION WORKS, LLC

PROVIDED FOR EXAMPLE REPORT PURPOSES PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY.
1.0 BUILDING HISTORY

1.1 Liberty Theater History of Use

Liberty Theater, located at 234 West 42nd Street, opened in 1904. Designed by Herts and Tallant, it specialized in musicals and musical comedy productions for the production partnership of Klaw & Erlanger. The first performance was "The Rogers Brothers in Paris", which ran from October 10 through November 12, 1904. The theater's interior finishes were renovated in 1917 by Joseph Urban. The first production in the renovated theater was Raymond Hitchcock's "Hitchy-Koo", which relocated from the Harris Theater on August 27, 1917 and ran through September 1917. The final theatrical production was March 18, 1933, after a single performance of "Masks and Faces", written by A.J. Minor.



Playbill cover March 18, 1933 - Theater plans included with program, identifying 18 exits.

Adjusting to economic factors, in 1933, the theater was converted to a movie house, initially featuring musical film and current hits. From the 1970s to its closure in the early 1990s, movies included Kung Fu and Horror genres, also reflecting the current economic factors.



1904 façade. 1935 "Scandals" with Eleanor Powell. 1989 with partial sign and stripped upper façade and 1991.

Liberty Theater – 243 West 42nd Street

Inspection and Documentation Report – For DUO Compliance May 5, 2020 Page 2

MOSS PRESERVATION WORKS, LLC



1993 before and after theater closing. Movie notices replaced with Jenny Holzer "Truism" Marquees Art Installation.

In 1990, New York State's Urban Development Corporation (now Empire State Development, or ESD) secured ownership of a nine-acre site, including six of the historic theaters on 42nd Street between Seventh and Eighth Avenues. ESD's subsidiary, the 42nd St. Development Project, Inc. ("42 DP"), helped create The New 42nd Street, Inc. (New 42) as an independent non-profit organization to oversee the renovation and long-term operation of the remaining undeveloped historic 42nd Street theaters, with a 99-year lease. In 1996, 42DP signed a Ground Lease with the developers Forest City Ratner. The current lease holder is FC 42ND STREET ASSOCIATES, L.P.

Per the lease, Liberty Theater is broken into three distinct areas, with distinct requirements.

- Liberty Box: auditorium, roof truss above auditorium, stage and fly-loft above the stage, and the walls, ceilings and floors thereof.
- Liberty Support Space: shaded portions of the Property indicated by single hatching on drawings in Exhibit A of the Ground Lease, Fifth Amendment, 2005.
- Shared Egress Areas: cross-hatched areas indicated on drawings in Exhibit A of 2005 amended Ground Lease.



2013 photo of Liberty Diner entrance on 42nd Street, immediately west of original theater entrance (currently located at the adjacent Ripley's Believe it or Not).

Liberty Theater – 243 West 42nd Street

MOSS PRESERVATION WORKS, LLC

Inspection and Documentation Report – For DUO Compliance May 5, 2020 Page 3

1.2 DUO Requirements

The lease agreement between the building Owner, 42nd St, Development Project, Inc. (Landlord), and the Lessee, FC 42nd Street Associates L.P., formulated the Design, Use and Operation Requirements (DUO) with detailed protocols for design and construction of the development. Schedule D - Historic Preservation Requirements, one of the DUO's over twenty Schedules (Schedules A through U), identifies the specific protocols for approval of projects impacting the three historic theaters. Section C - Submissions in Schedule D contains submission requirements and establishes a group of three individuals (The Committee) to approve or disapprove of plans for theater rehabilitation. According to Section C.1 – Submission Requirements, The Committee includes three members representing: 1) the Landlord (42nd St, Development Project, Inc.); 2) New York City Economic Development Corporation (EDC), and; 3) An experienced professional nominated by the New York City Landmarks Preservation Commission Chair. Section C also stipulates submission of three items in order to gain approval: Section C.2 - Inspection & Documentation Report; Section C.3 – The Preservation Plan; and Section C.4 – Final Plans and Specifications.

This Inspection & Documentation Report herein has been prepared to comply with the requirements of Section C.2 of the DUO.

1.3 Summary Timeline of Liberty Theater Use

1904-1933: Theatrical productions (specializing in musicals and musical comedy)
1933-1990 (circa): Movie theater
1990: New 42 Street signs 99-year Master Lease
1995: Memorandum of Understanding signed between New 42 Street and Forest City Ratner for
Liberty, Harris and Empire Theaters.
1996: Landlord (42 DP) and Tenant (Forest City Ratner) enter into Agreement of Lease (Amended
1997, twice in 1998, 2000 and current fifth Amendment 2005)
1997: Construction began for multi-use entertainment complex. Liberty Theater's entrance
corridor, dressing rooms and other support spaces are demolished to accommodate adjacent new
construction.
2010-2013: Famous Dave's Barbeque casual dining restaurant
2013-2015: Liberty Diner and Cabaret
2020: Current lease negotiations between Tenant Lease Holder FC 42nd Street Associates, L.P. and Bwy 4D

For additional information on the building's history, see the Appendix.

Liberty Theater - 243 West 42nd Street

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2.0 PROJECT INTRODUCTION

On behalf of the proposed new Tenant, Broadway 4D, Moss Preservation Works (MPW) is submitting this Inspection and Documentation Report to *The Committee* to comply with the first of three items for project approval per the Design, Use and Operation (DUO) Requirements: Schedule D, Section C.2 – Inspection & Documentation Report for the Liberty Theater. Per Schedule D, Section B.2, specific required areas for inspection and documentation include the 42nd Street Entrance, 41st Street Entrance and Auditorium.

The focus of the Conditions Assessment will be the historic elements within the "Liberty Box" as defined by the 2005 amended Ground Lease. Included with this submission is a Probe Findings Report and Probe Drawing location, prepared by Atria Builders (See Appendix).



First, second and third floor plans from 2005 Amended Ground Lease, identifying "Liberty Box" and adjacent support and shared spaces.

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3.0 INSPECTION AND DOCUMENTATION

3.1 <u>42nd Street Entrance and Lobby</u>

Conditions Documentation – Following the mid-1990s development project, the historic Liberty Theater 42nd Street entrance façade is no longer connected to the Auditorium, but now it is the entrance of "Ripley's Believe or Not". Current entry to the theater on 42nd street is through a non-historic common lobby and area designated as "Liberty Support Space", outside the "Liberty Box" area per the Lease Agreement; therefore, inspection and documentation or conditions is not applicable for this submission.



View of 1997-era shared common lobby, Liberty Support Space entrance from 42nd street lobby, and stairs to Auditorium.

3.2 <u>41st Street Façade</u>

Conditions Documentation – Restored in the late 1990s when the adjacent multi-use development was erected, the historic 41st Street elevation is in overall good condition. Current deterioration includes minor mortar deterioration, limited vertical brick cracking, spalled cast stone sills and paint deterioration of the aluminum panels. The prominent feature of the red brick façade is the monumental blind arcade, composed of five segments. During the late 1990s restoration campaign, brick was cleaned and repointed, new doors and painted aluminum sidewalk level masonry opening panels were installed. Six painted black aluminum globe light fixtures were installed the length of the façade at the height of the top of the lower door. An additional five up-lights were also installed, attached to the brickwork.

Currently, there is minor mortar deterioration at the parapet level and vertical brick cracking at the ground floor, west side of the building at the rectangular brick inset.



Image on left 1997 prior to renovation; image on right restored façade ca. 2013 prior to current sidewalk shed installation.



Overview upper and lower halves of elevation – selected open joints at parapet, vertical brick cracking, spalled cast stone.

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Vertical brick cracking (2 ½-feet) ground floor, edge of west bay. Note paint deterioration of aluminum frame & panel.



Vertical brick cracking (1 ½-feet) ground floor, east corner (two view same condition).

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A central monumental wood paneled double door (which originally led to the back of the stage) is at the base of the central arch, several feet above the sidewalk. A smaller doorway is to the west. A similar opening to the east is filled solid with brick. Neither of the doors are functional and they are sealed with additional wall framing on the interior. As evidenced by the "ghosting" of previous door framing set closer to the brick façade than the existing doors, the existing period-appropriate doors are not original but likely replaced in the 1990s campaign. The door sills are bluestone (and appear to be original). Water-table sills of the first-floor brick insets are pinkish cast stone, from the late 1990s restoration campaign. Masonry openings at the sidewalk level are covered with solid aluminum panel and frames painted the same green color as the doors. Paint coatings are failing on all the aluminum assemblies at the sidewalk level.



Image on left – central door 1997 prior to restoration – center and right images current condition with spalled water table.



Two of the six painted aluminum fixtures. Note rust staining from concealed ferrous fittings, typ.

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3.3 <u>Auditorium</u>

The current conditions assessment of the Auditorium focuses on areas and elements identified per DUO Requirements – "The grand proscenium and flanking arches shall be Preserved, Restored or Reconstructed as Needed. The existing domed and paneled ceiling shall be Preserved, and Restored and Reconstructed as Needed. Best efforts shall be made to Preserve and Restore the existing boxes...."

"....Best efforts shall also be made to Preserve and Restore the existing boxes and Reconstruct the missing lower boxes."

The Auditorium

Significant alterations were made to the space starting with the 1997 construction of the adjacent multiuse entertainment complex, and further during the 2010-11 project to convert use of the theater to a casual dining restaurant. Much of the Auditorium was restored or stabilized in the 2010 campaign for the casual dining restaurant use. Some elements were significantly altered, several with reversible noncontributing treatments to the historic spaces.

3.3.1 Stage

Little, if any, historic fabric remains at the Stage. The original stage door entrance on 41st Street is sealed from the interior with built-out wall construction. All back of house theatrical support spaces and equipment were previously removed, and the fly loft partially demolished as part of the 1997 construction of the adjacent multi-use entertainment complex. The decorative asbestos fire curtain, dating from the 1917 restoration, was removed from site in the late 1990s and stored off-site for several years, while the Project sought a new home for the curtain. Ultimately, the curtain was disposed of as a new location could not be identified.



Plan of first floor stage and mezzanine level above stage – 2013 drawings for Liberty Diner configuration.

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View from stage, ca 1997 and 1996 Andrew Moore photo of the fire curtain prior to removal for off-site storage.

In 2010, Liberty Theater was renovated in an adaptive use project to re-purpose the theater as "Famous Dave's BBQ", a casual dining establishment. In 2013, alterations were filed with the NYC DoB to change the name to Liberty Diner and expand use to include nightclub/cabaret provisions. Currently, the stage is fit-out with non-contributing alterations from recent adaptive use renovation project to convert the theater to a dining and night-club uses. The stage floor currently has built-up tile floor system throughout and commercial kitchen and toilet facilities added in the 2010 campaign. Side stairs from the auditorium to the stage and a central platform extension from the stage was installed, accessed by new staircase from the west side of the stage. The mezzanine platform is set-back from the historic plaster of the theater's proscenium. In 2013, a wet-bar and toilet rooms were added to the east side of the mezzanine level.



2014 and 2015 images of mezzanine bar and platform during event at Liberty Diner and current view from orchestra.

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3.3.2 Grand Proscenium, Sidewall Arches Boxes -

The stage is framed by the plaster proscenium arch, with sidewall arches and theater boxes on either side.



Overall, the plaster elements of the Proscenium and Sidewall Arches are in good condition requiring minor repairs; there are isolated areas of chipped or missing decorative elements. During the 2010 adaptive use project, existing ornamental and flat plaster elements were preserved in accordance with DUO requirements. Most missing elements were reconstructed. Loose paint was removed, and all plaster elements were cleaned and repainted. However, the finish painting does not match the glazes and metallic coatings identified in the "Preliminary Finishes Assessment" prepared in 2000 by Integrated Conservation Resources, Inc (Refer to Appendix). The existing finishes are a simplified and exaggerated approximation of the basic color palette identified. None of the historic glazes, metallic coatings or stencil patterns were used in the current painted finishes. In the 2010 campaign, the missing plaster pendants on each side of the lower proscenium arch were reconstructed using historic photos as a basis of design.

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East side plaster ornamental arch, proscenium arch (with kitchen and mezzanine on stage) and west side arch.



Proscenium arch base – 1904 image; 2010 drawing of missing elements of proscenium arch base & lower box to be replicated, existing condition of replicated plaster pendant and "boxed out" base adjacent to new stairs to stage.

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During the 2010 rehabilitation, the four missing lower boxes were replicated from molds from the existing upper boxes. An approximation of the lower cartouches was replicated using historic photos as a basis of design. The cartouche design was modified to meet height and depth requirements necessary for the casual dining restaurant seating. Since the lower boxes were intended for aesthetics and not occupancy, the painted iron pipe railings were not replicated as part of the last rehabilitation project.



Image 2.02.Q from 2010 Liberty Theater Historic Preservation Plan (See Appendix). Reconstruction of missing Lower Boxes is shaded in blue. Red area indicates furred walls removed and restored plaster beyond.

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Overview of west sidewall arch and boxes – replicated lower boxes without railings and with modified cartouches.

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1904 cropped photo showing lower boxes and image on right of showing close-up of modifications of replicated missing plaster elements installed during the 2010 rehabilitation campaign.



Example of impact-damaged plaster on lower west box and missing decorative plaster on east upper box.



Typical railing condition of Upper Box – deteriorated paint, missing upholstered rail cap.

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3.2.3 Ceiling

The coffered ceiling is overall in good condition, with isolated areas requiring repair. There are areas of deterioration in the lattice ventilation grille at the perimeter of the central panel, as well as penetrations from previously removed light fixtures from the 2010 rehabilitation. The ceilings have not been restored at the back of the upper and lower balconies; they are currently concealed from view behind gypsum board wall partitions that were installed as part of the 2010 adaptive use project. The ceiling areas behind the 2010-era partitions typically exhibit extensive coating deterioration and areas of damage to the lattice ventilation grilles. None of the original light fixtures remain. Typical to the painted wall finishes, the paint coatings from the 2010 campaign did not attempt to incorporate the historic stencils visible in the 1904-era photograph.



View of main auditorium ceiling (note holes and damaged ventilation grille) and typical condition of ceiling behind the 2010-era partition walls at the lower and upper balconies.



View of original light fixtures and stencil pattern on main auditorium ceiling, ca. 1904.

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3.3.4 Lower and Upper Balconies -

The balconies are currently inaccessible for occupation as there is no code-compliant access or compliant front railing. Currently, the east boxes and lower balcony are accessed via stairs too narrow to comply with current egress requirements; in addition, several treads are loose. West boxes are accessed via stairs on the stage installed during the 2010 project.



East side - view from front of orchestra to stairs to east boxes and lower balcony. Loose treads, typical

The 2010 rehabilitation/adaptive use project minimally restored the balconies. The seats 1930s-era movie theater seats were removed, and a gypsum-wall partition was introduced at north of both balconies. Since the previous Tenants did not use the lower balcony for public functions, MEP/FA piping was run through the seating area of the lower balcony. Limited piping is exposed on the west and east walls. The areas behind the partition walls (installed in the 2010 campaign) were not restored and are filled with seats and miscellaneous items, including construction debris. The upper balcony still has the 1930s-era projection booth. In front of the 2010-era partitions, the exposed plaster elements are in overall good condition, requiring minimal repairs. Both balconies have painted ferrous pipe guardrails with cast fittings. Paint finishes are deteriorated. Originally, the railings sat on top of an upholstered wood rail cap, which no longer exist. Previously, the guardrail of the Upper Balcony was raised eight inches in height by the additional of wood supports added below the bronze fittings. Simple painted metal pipe hand railings exist on the west and east sides to access the seating area of the Upper and Lower Balconies. These railings are not securely attached. As with the front railings, painted coatings are deteriorated, and no treatment was performed in the last rehabilitation project.

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Section and elevation of Upper and Lower Balconies, including new wall partitions from 2010 adaptive use project.



Upper & Lower Balconies with removed seats and partition walls (left); underside (right) with 2010-era lighting.



Lower Balcony – exposed fire suppression system along wall and through seat risers full length west to east.

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Lower Balcony - fire suppression piping through seating area and electrical conduits back face of balcony, typ.



Typical railing condition of Lower Balcony – Paint deterioration and missing upholstered rail cap.



Typical railing condition of Upper Balcony – Paint deterioration and missing upholstered blocking and rail cap.

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Upper Balcony – currently inaccessible through historic theater. Loose ferrous pipe railing typ. west and east stairs.



View behind partition of the Upper Balcony. Note projection booth, seating and debris (image on the right is from 2010 prior to restoration before partition walls were installed – projection booth prominent on ceiling.

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3.3.5 Auditorium Floor Rake -

Very little of the original raked floor of the Orchestra remains. Most of it was removed during the 2010 rehabilitation/adaptive use project to accommodate a raised seating platform at the north side of the Orchestra (located beneath the balconies), with new stairs leading to a new flat concrete slab floor in front of the stage to for a seated dining area. The existing east and west egress doors were maintained and used as the datum point for the new level flooring. Lightweight decking and concrete were used for the new floors. The raised seating area at the north of the Orchestra is constructed of steel beams, steel decking and concrete with a CMU wall faced with wood paneling. At the east and west sides of the auditorium, a bit less than 10% of the original floor rake was maintained; the resultant ramps are not ADA-compliant. New painted steel pipe railings were installed on the east and west walls along the rake. The railings typically are poorly attached and do not contribute to the historic elements in the Auditorium.



Orchestra Floor: Left image from 2010 Preservation Plan (See Appendix) showing structural floor plan of new framing to support new dining platform at north of Orchestra below the balconies. Area in red indicates removed historic rake. Area in blue indicated limited portion of existing rake on either side and floor at north side of orchestra to remain. 2011 construction photo on right shows removal of historic rake and installation of new concrete floor and dining platform



View of orchestra floor – leveled concrete in front of stage and raised platform under balconies.

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Remaining rake along east and west walls of auditorium. Center plan of orchestra shows remaining historic floor rake outlined in blue.



Typ. plaster damage at poorly secured pipe railing hand railing attachment along remaining east and west rake.

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3.3.6 Rear Orchestra Passage –

The Rear Orchestra Passage, with a smooth plaster barrel-vault ceiling, runs east-west at the north edge of the Auditorium. The north wall is a straight flat-plaster wall, while six round, unadorned columns at the south of the passageway support the Lower Balcony. The columns are aligned in a gentle curve and sit below a decorative plaster beam. The round columns do not match the configuration shown on the original 1903 architectural drawings; as these unadorned columns do not match remaining decorative historic features, it is likely that these columns were previously stripped of any original ornamentation and altered. However, no documentation was found to indicated when the columns were altered. The plaster is in overall good condition.

A wet bar niche is located at either end of the passageway. Decorative plaster angled beams are above the bar area, matching the curved beam above the round columns. Flat plaster fills the arch formed by the decorative beam and barrel-vault ceiling. Originally, the main entrance to the theater was through the passage that is currently occupied by the east bar. The main entrance to the theater was permanently altered to accommodate the late 1990s construction of the adjacent multi-use complex. The auditorium is currently accessed from a shared lobby from 42nd street, into a dedicated Liberty Theater support space identified in the 2005 Ground Lease. The Orchestra passageway is now accessed from steps leading from the support space, immediately north of the Auditorium.

During the 2010 project, the east and west angled walls at either end of the rear barrel-vaulted passage were heavily modified. Prior to that project, there was extensive damage and both loss of functional use and loss of decorative elements. Original circulation patterns of the theater from these locations were no longer viable due to the adjacent modifications related to the 1997 multi-use complex now engulfing the Liberty Theater. The east side of this corridor originally served as main entrance to the theater, entering below the 12-foot wide decorative plaster beam. In the 2010 project new side bars were added at the angled end walls. Using 1903 drawings as a basis of design, missing decorative plasters were replicated.



Plan (arrow indicates stairs from dedicated Liberty support space to Auditorium) & section of Rear Orchestra Passage.

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Rear Orchestra Passage looking east towards 2010 bar and replacement pilasters (1903 dwgs were basis of design).



Rear Orchestra Passage looking west towards 2010 bar and replacement pilasters (1903 dwgs were basis of design).



1903 drawing or Rear Orchestra Passage looking east. This drawing and extant plaster fragments were used as basis of design for the 2010 project.

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3.3.7 Auditorium Doors –

There are 11 pairs of original three-panel metal-clad double doors set in molded wood door frames. Doors exist at each level on the east and west walls. Of these, only the southwest double doors provide egress (to the shared space leading to the adjacent Hilton Hotel). On the east side, a contemporary single hollow-metal door exits to a shared corridor that exits to 41st Street. None of the remaining historic doors are functional. All metal-clad doors have dents and missing hardware. The alterations and removal of the adjacent support spaces in the late 1990s, as well as the introduction of structural framing for the new superstructure enveloping the historic theater, resulted in obsolete functionality of the doors, which are all currently blocked from behind and inaccessible.

At the onset of the 2010 project, a single panel metal door at the southwest corner of the Auditorium existed, leading to the west box stairway. Currently, there is no record of that door remaining on site and it is believed to have been destroyed during the 2010 construction project.



2015 plan of Auditorium first floor showing two egress doors. (Egress in north wall of rear Orchestra passageway has no door and is an opening to stairs to the dedicated Liberty support area leading to the shared lobby at 42nd Street).

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East side egress door from of Orchestra leading to hallway to 41st Street (structural bracing and construction from 1990s multi-use complex blocking historic doors at north end of corridor).



Orchestra east wall historic doors along remaining floor rake. Both doors blocked from behind and inaccessible for use.



Orchestra west wall historic doors along remaining floor rake. Door at start of the rake is active egress to shared space to adjacent Hilton hotel. Door half-way up the rake is blocked from behind and inaccessible for use.

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East doors Lower Balcony are blocked from behind and inaccessible for use.



East doors at Upper Balcony are blocked from behind and inaccessible for use.

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West doors at Lower Balcony are blocked from behind and inaccessible for use.



West doors at Upper Balcony are blocked from behind and inaccessible for use.



Door opening to inaccessible west stairs that originally was used to access to boxes and balconies. This door existing in 2010 and currently no record of it being on site. It is presumed to have been demolished during 2010 construction.

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APPENDIX

(Liberty Theater Historic Preservation Plan, 2010 -

Prepared by Swanke Hayden Connell Architects)



42nd Street Barbecue, LLC Famous Dave's Restaurant

LIBERTY THEATER HISTORIC PRESERVATION PLAN

100% DRAFT January 15, 2010

PROVIDED FOR EXAMPLE REPORT PURPOSES

PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY.

Liberty Theater -Preservation Plan

42nd Street Barbecue, LLC Famous Dave's Restaurant 100% Submission DRAFT

Swanke Hayden Connell Architects 295 Lafayette Street New York, New York 10012

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Image 1.01.A - 42nd Street Facade, photo dated April 15, 1911.



Image 1.02.A - Henry B. Herts.



Image 1.02.B - Hugh Tallant.

1.0 INTRODUCTION

1.1 Introduction

During its heyday in the 1920's nine theaters operated on 42nd Street between 7th and 8th Avenues making this block the epicenter of the world's entertainment capital, New York City's Times Square. By the 1970's after years of decline, the Times Square district had become saturated by adult uses and street crime. In April 1990 New York State was successful in securing ownership of a nine-acre site including six of the theaters on this block. Later that year a non-profit organization, *New 42nd Street, Inc.*, was created to oversee the renovation and long-term operation of these six historic 42nd Street's theaters.

In 1997 developer, Forest City Ratner Companies (FCRC), began construction on a thirteen-story, mixed-use entertainment complex that incorporates three of the six, state-owned historic theaters: the Empire Theater; the Harris Theater; and the Liberty Theater. The mixed-use development houses the 25 screen AMC Cineplex that incorporates the Empire Theater as its entrance/lobby, and Madame Tussaud's Wax Museum in the Harris Theater, as well as a Hilton Hotel and a variety of other dining and entertainment establishments. The remaining historic features of the Liberty Theater's original 42nd Street entrance façade (presently obscured by signage) and the entire 41st Street rear façade were restored during the 1997 construction. Remnants of the theater's original interior entrance vestibule and lobby were removed at that time and its 42nd Street facade is no longer connected to the Liberty Theater Auditorium. In 2007 the 42nd Street facade was further restored with reconstruction of its historic monumental entrance doors. The mixed-use complex was constructed above and on three sides of the Theater's Auditorium and Stage with the fourth side opening directly onto 41st Street from the Stage. The Liberty Theater Auditorium and Srage have yet to be renovated and reused.

Following exploration of multiple adaptive reuse scenarios for the theater over the past 10 years, *42nd Street Barbecue, LLC* (Sammy and Jacob Ben Moha), owners of a *Famous Dave's Barbeque* franchise, approached FCRC with a proposal to locate a themed, "casual dining" type restaurant in the theater. As part of this proposed project, Swanke Hayden Connell Architects (SHCA) has been retained as the Preservation Architect and has prepared this Preservation Plan for review and approval as required under FCRC's lease.

1.2 Building History ¹

Hotel and entertainment development in the Times Square area in the early 1900s resulted in the erection of a number of new theaters. The Liberty Theater was one of several new theatres built during that period of expansion. Each one of the new theaters had its own particular style and character, varying from the classical design of the Empire to the Art Nouveau of the New Amsterdam.

1 Sources:

- "Liberty Theater Ready", New York Times, (1857-Current File); Sept. 25, 1904; NYT (1851-2005): 7
- "Hitchy-Koo Moved", New York Times, (1857-Current File); Aug. 28, 1917; NYT (1851-2005): 5
- Van Hoogstraten, Nicholas, Lost Broadway Theaters. Princeton Architectural Press, 1997: 82-8
- Bill Morrison, The Theaters of Herts and Tallant, Marquee, Vol 22: No 4. Fouth Quarter, 1990: 3-15
- Bloom, Ken, Broadway: An Encyclopedia, Routledge, 2004: 295-298



Image 1.02.C - Joseph Urban.



Image 1.03.A - 42nd Street facade c. 1904.

The firm of Herts and Tallant designed the Liberty Theater, which opened in 1904. Henry Beaumont Herts (1871-1933) came from a family of decorators and studied at the City College of New York before entering the office of renowned architect Bruce Price (1845-1903), and later attended Columbia College. Hugh Tallant (1869-1952) graduated from Harvard in 1891. The two men met in 1892 during their first year at the École des Beaux-Arts in Paris, and graduated in 1896. In 1897 Herts and Tallant formed a partnership in New York that lasted until 1911, and resulted in the design of numerous theaters, including the Lyceum and the New Amsterdam Theater.

Herts and Tallant designed the Liberty Theater in 1902-1904 for the theatrical production partnership of Klaw & Erlanger, two of the most powerful men in theater industry at the turn of the 20th Century. Along with five other theater managers, Marc Klaw and Abe Erlanger formed the Theatrical Syndicate, which created a monopoly on the business until it was ultimately broken up by the 1920's. In contrast to Klaw & Erlanger's lavish New Amsterdam Theater down the street, the Liberty Theater was designed to serve as a more moderate theater specializing in musicals and musical comedy productions. The Liberty Theater's premier (opening October 5, 1904) was the "Roger Brothers in Paris", showcasing the talents of the popular comedy team, which returned the following year with the "Roger Brothers in Ireland". During its heyday as one of Broadway's most successful musical houses, the Liberty Theater presented some of the best talent of the day, including works by George M. Cohan and Jerome Kern. During its tenure as a theater, many well-known artists performed at the Liberty, such as Fred and Adele Astaire in "Lady, Be Good!" in 1924. The last big theatrical hit to play the Liberty was "Blackbirds of 1928", which opened on May 9, 1928 and had 519 performances.

During the summer of 1917, the Vienna-born Architect/Illustrator Joseph Urban redecorated the interiors of the Liberty Theater to prepare for the opening of J. Hartley Manner's comedy, "Out There." However, the first performance in the newly renovated interior was actually Raymond HItchcock's "Hitchy-Koo", which relocated to the Liberty on August 27, 1917. This was Urban's first major theatrical commission in America.

In 1932, in response to economic conditions of the Depression, the theater began a vaudeville policy before becoming a movie house in 1933. In 1989, the Seymour Durst Organization acquired the theater with hope of reviving it as a performance space. The last play was a short run of T.S. Eliot's "The Waste Land" in 1996.

1.3 Building Description

1.3.1 Original Design

Exterior – The original 42nd Street façade was a three story single-bay stone and terra cotta elevation, with a pair of caryatids flanking the main entrance. As part of the patriotic theme at the building, the monumental arched window at the top floor was surmounted by a carved Liberty Bell. An eagle with a spread wing span crowns the front facade. It was designed to match the Auditorium's Sidewall Arch elevations with similar deeply recessed niche, highly decorated arch and elaborate patriotic crown. On the 41st Street, the rear stage façade



Image 1.03.B - Drawing of Auditorium.



Image 1.03.C - Example of a Joseph Urban Mural.



Image 1.03.d - 42nd Street facade c. 1987.

consists of a high blind arcade and gallery attic above constructed with fine brickwork forming a high quality rear theater façade.

Interior – The auditorium and stage are located on 41st Street originally connected to 42nd Street by a 100-foot long corridor leading to a box office vestibule. The auditorium had seating capacity for 1,210 people. From the box office one accessed the auditorium from the sides via an elaborate foyer. Unfortunately none of the elements of the former entrance or lobbies are still extant.

The patriotic theme continues in the Liberty Theater Auditorium. The most significant features include the proscenium arch, side arches and four boxes. Over the boxes, on each side of the proscenium, is a cast plaster eagle surmounting a liberty bell. A series of cast plaster torches (which would have originally been gilded) crowns the proscenium and side arches. The central dome is surrounded by rhomboid coffers, originally adorned with elaborate stencil work. As described in period articles at the time of the theater's opening, the original color scheme was primarily amber, gold and ivory.

A decade after the theater's construction, the interior was transformed by the hand of Joseph Urban. As described in a 1917 New York Times article, Urban changed the overall color scheme and added a series of vibrantly colored murals to the rear wall of the auditorium and purportedly in the arches of the angled box walls that were reproductions of previously published illustrations for a volume of fairy tales. Walls were painted gray, with selective trim and carpeting in gold. In addition, the same article describes a recurring leit-motif of the mask of Comedy painted in white and green. It was at this time that Urban's asbestos fire curtain was installed depicting a the discovery of Manhattan Island.

1.3.2 Alterations; c. 1930 - 1997

Exterior – During this time period the exterior 42nd Street façade was significantly altered with removal of the elaborate ornamentation at the cornice, and modification of the street level entrance doors and surrounds. By 1989 the first and third floors of this elevation were completely obscured by signage and a prominent, non-original marquee. We do not know what alterations had occurred to the 41st Street elevation by 1997 but it must have been fairly intact as evident from the present fully restored façade.

Auditorium - Alterations were made in the 1930's when the theater was converted to a motion picture house. Based upon the Moderne style of some existing elements alterations from this campaign presumably include: New seating throughout the house; The wood and glass screen and one pendant light fixture at the barrel-vaulted Passageway at the rear of the Orchestra; and the Projection Booth at the Upper Balcony. Other alterations with no definitive date include: Replacement of wood door surrounds, chair rails and baseboards at the first floor, Orchestra level; Removal/alteration of original leaded glass exit signs; Removal of the original main Auditorium ceiling light fixtures and central chandelier; and Installation of unsightly ventilation grilles at the main Auditorium ceiling. All these alterations are either poorly constructed and/or their designs are incongruous with the theater's Beaux Arts style and detract from the Auditorium's historic character.
Boxes - But more significant is the removal of the projecting portions of all four Lower Boxes and infill of the recessed niche below the Upper Boxes with a flush plaster wall. This infill wall intersects the Upper Box soffit ornamentation abruptly leaving it cut in half and unresolved. It also conceals the recessed portion of the Lower Boxes and the elaborate ornamentation (which remains extant behind the wall). Likewise, the both arches at the Sidewall Arch elevations have also been infilled with flush plywood panels concealing a significant portion of the perimeter ornamentation. The end result is large flat walls devoid of ornamentation at principal focal points in the Auditorium. Connected with this alteration is removal of the lower run of the marble and cast iron box stairs at the east boxes preventing access to either the Lower or Upper Boxes.

1.3.3 Alterations; 1997 Development Project

Exterior – Remaining portions of the Liberty Theater's original 42nd Street front entrance facade were restored and missing elements reconstructed in a simplified, contemporary manner as part of the 1997 development project. The façade is presently obscured by signage and, presently, does not connect to the Liberty Theater's Auditorium. In 2007 the façade's monumental entrance doors were replicated to match the original by SHCA for the new tenant of that space, *Ripley's Believe It or Not*. The theater's 41st Street rear façade was also restored during the 1997 project.

Interior – The original entry sequence from 42nd Street no longer exists. The remaining portions of the entrance corridor, box office, lobby, toilet rooms and grand stairways to the Lower and Upper Balconies were removed as part of the new surrounding construction. In addition, most of the 18 original pairs of egress doors in the Auditorium are blocked by new construction and cannot be made fully functional.

Stage - The decorative asbestos stage fire curtain was consolidated in-situ and removed to an off-site location. All back of house support spaces and equipment have been removed and the fly loft partially demolished as part of the surrounding new construction. Little, if any, historic fabric remains on the Stage.

1.3.4 Period of Significance

The majority of the remaining historic fabric in the Auditorium dates from the original 1904 construction with modifications from the 1917 renovation by Joseph Urban. Later alterations, in a Moderne-style design dating from the 1930's, are limited primarily to the orchestra level. These 1930 alterations have are physically substandard compared to the original materials and are typically in fair to poor condition. As a whole elements from the 1930's era do not make up a cohesive design ensemble and their design is incongruous with the original Beaux Arts style that gives the theater its architectural integrity. Therefore a Period of Significance has been established at 1904 -1917 and the Auditorium finishes from that period will be preserved and restored and missing elements reconstructed to their 1904 appearance. However, in respect to the historical significance of the Theater's change to a movie house in 1932, items dating from that period including the three rear Orchestra pendant light fixtures, will be salvaged and stored in the Project Booth (which will also be preserved).

1.3.5 Remaining Integrity

In spite of the alterations the theater retains a tremendous amount of architectural integrity with the elaborate Auditorium principally intact and the 41st Street stage façade completely restored.

1.4 Proposed Project

1.4.1 Existing Configuration

Presently the existing Auditorium Orchestra, Lower and Upper Balconies, Box Vestibule Stairways and the Stage occupy their original historic footprint. Unfortunately the Stage has had its fly loft removed and no longer has access to its original back-of-house support space. However, there is support space dedicated to the theater below the Stage and at the second floor to the west of the Stage albeit the access to this second floor space is complicated by the intervening structure. The theater also does not have its original Lobby or connection to its original entrance façade. But a presence on 42nd Street is assured through dedicated Lobby space north of the Auditorium with access to a shared entrance directly onto 42nd Street.

1.4.2 Proposed Use

The most fundamental consideration in the re-use of a historic building is identifying an appropriate use that is compatible with the character, configuration and functional characteristics of the original building. In this case the Liberty Theater has undergone radical alterations compromising its potential for use as a theater. It lacks a fly loft and the generous support space of a conventional theater although backof-house space is dedicated to the house below the Stage and at the second floor west of the Stage. Although it does have a dedicated Lobby space north of the Auditorium the theater does not have its original presence on 42nd Street lacking connection to the original Liberty Theater façade. Direct access to 42nd Street is via am entrance shared with other commercial tenants of the development. Given the limited functional support space combined with low demand for a relatively small, two-balcony playhouse, viable proposals to return the structure to a theater have not come forth.

This essentially leaves two large, functionally-specific, spaces consisting of an ornate Auditorium with raked floors and a raw, utilitarian Stage devoid of historic features, isolated within a larger multi-use development. Any new use should maintain the assembly function and theatrical qualities that give this historic resource integrity. It should also maintain all existing historic fabric to the greatest extent possible and, although not mandated in the DUO, retaining the existing balconies is obviously desirable. Potential economically viable uses, especially ones that can retain a significant amount of historic fabric, for the theater are therefore limited.

So it is astounding that the current project is being proposed and it represents a rare opportunity to adaptively reuse the historic areas of the theater while maintaining nearly all historic fabric and meeting all requirements of the DUO. This project proposes to reuse the Liberty Theater as a "casual dining" restaurant.

1.4.3 Design Concept

The restaurant will be entered from 42nd Street through the existing shared lobby, then through the dedicated lobby space which will function as a Bar / Dining Area and give the theater an active presence on 42nd Street. The Bar will provide direct access to the historic theater through the Auditorium's north wall into the reconstructed passageway at the back of the Orchestra with its curving barrel vault and undulating ornamental plaster beam supported on ornate columns.

The overall design concept for the project is to use the Auditorium envelope as a historic backdrop for the dining area that occupies only the Orchestra level. Unfortunately the raked Orchestra level floor is not compatible with a restaurant function and will be leveled into two tiers. However, the raked floor will be exposed at the side (east and west) walls for circulation ramps, thereby allowing retention of the Auditorium original sidewall configuration including retention of nonoperational doors in-situ. In addition, the dining tiers will be of additive construction and will preserve the original wood floor below to the greatest extent possible.

The Upper and Lower Balconies are not proposed for use in this project allowing both balconies to be preserved in-situ, unaltered except for the construction of new partition walls midway up each balcony. Although at first glance these partition walls might appear inappropriate from a preservation perspective, they will actually allow for retention of the historic finishes behind each partition wall in a completely unaltered state. This includes retention of the 1932-era Projection Booth at the Upper Balcony with its original projector and memorabilia, a time capsule from that the 1930's.

In the Auditorium proper all Orchestra level finishes will be preserved / restored / reconstructed to their 1904 appearance including the Orchestra level doors since the rake will be maintained at the perimeter east and west walls. Remaining original historic elements are generally to be preserved and restored to the greatest extent possible. Where minor elements are missing or beyond repair they are to be replicated in kind. More importantly both Sidewall Arch elevations will be restored and reconstructed to their original 1904 appearance with removal of the infill walls below the Boxes and at the Arches, and reconstruction of the missing front portions of the Lower Boxes. This reconstruction will restore the intended spatial relationship of deeply recessed niches flanking the Proscenium. All Auditorium elements and finishes will be restored including reconstruction of substantial amounts of missing ornamental plaster principally at the Sidewall Arches and the Auditorium ceiling including reconstruction of the missing ornamental globe light fixtures.

The kitchen will be located on stage along with toilet facilities and a mezzanine above the kitchen for additional dining. Support space and storage areas for the Kitchen are to be located below the Stage and at the second floor dedicated space to the west of the Stage.

New MEP and fire protection systems are to be installed. All new MEP and fire protection system distribution will be concealed beneath the original wall, floor and ceiling planes and all visible appurtenances required for these systems are to be designed in a discreet manner that does not draw attention. This historic backdrop is to be contrasted by contemporary materials and a themed approach representing the restaurant brand and contrasting the historic features. This themed design will be used at the Stage (which is devoid of historic fabric) and at the Auditorium seating areas where new structural elements and guardrails are required.

1.4.4 Salient Project Features

- *Wood Floor*& *Rake* The Project will preserve the floor rake and expose almost 10% of it and about 30% of the floor overall.
- *Balconies to be Unaltered* Both balconies will not be occupied and visible locations will be restored.
- Auditorium Restoration All existing 1904 era finishes will be preserved and restored to their 1904 appearance.
- Auditorium Ceiling Reconstruction Missing elements at the Auditorium ceiling will be reconstructed including the ornamental globe light fixtures.
- Sidewall Arch Elevation Reconstruction Infill panels will be removed and all missing ornamentation will ornamentation will be reconstructed including the Lower Boxes and Pilaster.
- *Rear Orchestra Reconstruction* The passageway at the back of the Orchestra will be reconstructed including the ornate plaster columns, pilasters, and angled walls at each end.
- Building Systems Replacement All new primary and branch distribution for MEP and Fire Protection Systems will be concealed behind historic finishes. Any required disturbed.robed fin ishes will avopid areas of ornamental plaster

1.5 DUO Compliance

1.5.1 DUO Requirements

The lease agreement between the building Owner, 42nd St, Development Project, Inc. (Landlord), and the Tenant, FC 42nd Street Associates L.P. (FCRC), formulated the Design, Use and Operation Requirements (DUO) with detailed protocols for design and construction of the development. Schedule D - Historic Preservation Requirements, one of the DUO's over twenty Schedules (Schedules A through U), identifies the specific protocols for approval of projects impacting the three historic theaters.

Section C – Submissions in Schedule D contains submission requirements and establishes a group of three individuals (*The Committee*) to approve or disapprove of plans for theater rehabilitation. According to Section C.1 – Submission Requirements, The Committee includes three members representing: 1) the Landlord (42nd St, Development Project, Inc.); 2) New York City Economic Development Corporation (EDC), and; 3) An experienced professional nominated by the New York City Landmarks Preservation Commission Chair. Section C also stipulates submission of three items in order to gain approval: Section C.2 - Inspection & Documentation Report; Section C.3 – The Preservation Plan; and Section C.4 – Final Plans and Specifications.

This Preservation Plan herein has been prepared to comply with the requirements of Section C.3 of the DUO.

DUO Section B - Historic Preservation Program - Schedule D includes Section B - Historic Preservation Program which establishes requirements and guidelines for theater rehabilitation as well as specific definitions for the work prescribed. **Specific requirements** for the Liberty Theater are identified in Section B.2 – Theater Specific Requirements and Guidelines; B.2.3 – The Liberty Theater. **General requirements** that apply are identified in Section B.3 – General Requirements which contains a list of seven (7) requirements applying to all three theaters. The Preservation Plan is structured to explicitly address each of these requirements.

DUO Section C.3 – The Preservation Plan – Section C.3 of Schedule D identifies seven (7) specific requirements for the content of The Preservation Plan. These requirements are identified as items (a) through (g) and constitute the minimum content required in The Preservation Plan. Since the Tenant's development project began over twelve years ago work has occurred to areas and elements of the Liberty Theater that are identified in Section B – Historic Preservation Program. SHCA's understanding is that some of The Preservation Plan requirements have been satisfied. Likewise, some of The Preservation Plan requirements are not applicable to the current Project or require explanation. Therefore, following is a description of the current Project relative to Items (a) through (g) of The Preservation Plan for the Liberty Theater Famous Dave's Barbeque Restaurant project:

<u>Item (a) - Inspection & Documentation Report</u> – This document was previously prepared and accepted by The Committee. Documentation of our recent field survey and documentation of applicable historic elements and finishes is contained in *Part 2.0 – Auditorium Evaluation* of this Report.

<u>Item (b) - List of Historic Features Required to be Preserved ,</u> <u>Restored or Reconstructed</u> – A list of historic elements and finishes impacted by this Project is included as *Part 1.5.5 – DUO Summary Matrix* of the this Report.

<u>Item (c) - Preliminary Plans and Specs</u> – Preliminary documentation of the project scope has been previously given to the Landlord. Furthermore the *Final Drawings and Specifications* required for compliance under Section C.4 have been provided to the Landlord so SHCA's understanding is that this requirement has been satisfied or is not applicable.

<u>Item (d) - Description & Test Results of Proposed Restoration /</u> <u>Reconstruction Techniques</u> – The *Treatment* section of *Part 2.0 – Auditorium Evaluation* identifies a general description of proposed restoration work. The historic preservation technical specifications submitted as part of DUO *Section C.4 - Final Drawings and Specifications* explicitly identify the proposed restoration techniques. As outlined in those technical specifications field mock-ups are to be performed prior to execution of the work to demonstrate the acceptability of the proposed treatments both in terms of the physical/aesthetic <u>Item (e) - Description & Test Results of Proposed Cleaning</u> <u>Techniques</u> – There are no finishes that will be cleaned as part of the Project other than stripping, cleaning and coating the bronze handrails at the Boxes and Balconies. These techniques for bronze refinishing are covered in Item (d) above.

<u>Item (f) - Description of Color Schemes & Finishes</u> - A description of the proposed color schemes are indicated in *Section 2.0 – Auditorium Evaluation* of this Report. The only applicable materials include *Item* 2.1 – Wood Floors and *Item 2.6 – Handrails* which will be restored to match the existing original cleaned surfaces. The balance of the Auditorium will be painted and two proposed color schemes are presented in *Item 2.13 – Decorative Painting*. SHCA is proposing to mock-up both color schemes in the field under proper lighting conditions to determine which is the most appropriate for the space. The finishes investigation performed by ICR in 2000 is also included in *Section 3.0 – Appendices* for reference. The recommendations of that investigation are the basis for the proposed paint color schemes.

Item (g) - Fabric Sample of Non-architectural Items – Only one fabric is being specified as part of the Auditorium restoration and reconstruction, the velvet fabric for the Box / Balcony plush rail cap and the curtains at doorways in the Boxes and rear Orchestra (to screen the spaces beyond from view). Samples of this material will be provided to The Committee.

1.5.2 Theater Specific Requirements and Guidelines

Specific requirements for the Liberty Theater are identified in Section *B.2 – Theater Specific Requirements and Guidelines; B.2.3 – The Liberty Theater.* To address these requirements SHCA formulated a methodology based upon objective criteria so that *Treatment* recommendations could be made to the project team in order to ensure DUO compliance. This methodology and specific criteria used is described in *Part 1.6 – Evaluation Criteria* of this Report. These recommendations follow the Historic Preservation Program definitions for *Preservation, Restoration* and *Reconstruction* included in Schedule D - Section B.1 of the DUO.:

The following specific requirements for the Liberty Theater are cribbed verbatim from the DUO although we have edited thetext to include only the salient information. For the most part compliance for each requirement is described according to the *Material / Elements Categories* included in *Part 2.0 – Auditorium Evaluation* of this Report. Because some of the requirements are general we have further broken down the evaluation according to the applicable area within the Auditorium.

42nd Street Entrance

DUO Requirement - "Treatment of this façade will depend on how much of the original historic fabric remains. An investigation is to be undertaken to determine what original features remain. If the inspection determines that the original flat arch motif flanked by headed stelae do not remain, a proposal for a new design shall be submitted to the Committee."

Explanation of Compliance – N/A; Our project does not impact the historic Liberty Theater 42nd Street entrance façade.

41st Street Entrance

DUO Requirement - "The 41st Street façade shall be preserved."

Explanation of Compliance – N/A; Our project does not impact the historic Liberty Theater 41st Street rear façade. The Tenant does not plan on using the stage doors for access or deliveries..

<u>Auditorium</u>

DUO Requirement - "The grand proscenium and flanking arches shall be Preserved, Restored or Reconstructed As Needed. The existing domed and paneled ceiling shall be Preserved, and Restored and Reconstructed As Needed. Best efforts shall be made to Preserve and Restore the existing boxes . . "

"... Best efforts shall also be made to Preserve and Restore the existing boxesand Reconstruct the missing lower boxes."

Explanation of Compliance; Grand Proscenium

• Plaster - All existing ornamental and flat plaster elements of the Proscenium wall are to be preserved and fully restored in-kind. Where restoration is not possible because an element is missing or too deteriorated, it will be reconstructed in-kind to match the original. There are very few elements at the Proscenium that will require reconstruction.

Explanation of Compliance; Flanking Arches

• Plaster - All existing ornamental and flat plaster elements of the east and west Arched Walls are to be preserved and fully restored inkind. Where restoration is not possible because an element is missing or too deteriorated, it will be reconstructed in-kind to match the original. There are several substantial missing pieces of ornament such as the corners of the arched walls adjacent to the boxes at both the east and west side walls.

• Arch Furred Wall - The furred wall at each arch is to be removed and ornamental plaster surround will be restored. We expect some reconstruction to be required at these locations and it will be accomplished in-kind with plaster.

• Wood Trim – the historic original baseboard and chair rail will be removed to serve as models for the new matching baseboard/chair rail to be reconstructed around the perimeter of the Orchestra level to replicate the missing original ones. At the lower dining tier the floor will be raised to level; the baseboard will be installed in the configuration that it existed in at the rear Orchestra in order to preserve the relationship with the stage front.

Explanation of Compliance; Domed and Paneled Ceiling

• Plaster - All existing ornamental and flat plaster elements of the Main Auditorium Ceiling, and the Balcony Soffits/Fronts is to be preserved. The Upper Balcony will be partially closed off by a full height partition wall at the large beam one coffer bay from the north wall. No further treatment to the ceiling behind this wall other than stabilization of the existing finishes. The ceiling in front of this new partition wall



Image 1.5.A – Portion of historic photograph c. 1904



Image 1.5.B - Proposed Sidewall Arch restoration. Reconstruction of missing Lower Box fronts & ornament is shaded blue.

(and visible to the patrons) will be fully restored; missing or waterdamaged elements will be reconstructed in-kind at the Auditorium ceiling and both Balcony fronts / soffits (there is significant water damage to this ceiling).

• Auditorium Globe Light Fixture Surrounds – The missing light fixtures and ornamental surrounds in the Auditorium main ceiling coffers are to be reconstructed based upon the historic photograph of the Auditorium (included in this report) and visible scars on the existing coffer finish are to be repaired. The project requests consideration to accept using a substitute material in lieu of plaster due to budget considerations.

• Auditorium Main Ceiling Finishes – The existing visible stenciled finishes extant on the Auditorium main ceiling are to be preserved. Select examples will be covered with a barrier coat prior to application of new painted coatings, making future documentation feasible in the event restoration of the original finishes is to be considered.

Explanation of Compliance; Existing Boxes

• Plaster - All existing ornamental and flat plaster elements of the east and west Upper Boxes and conceal recessed portions of the Lower Boxes are to be preserved and fully restored in-kind. Where restoration is not possible because an element is missing or too deteriorated, it will be reconstructed in-kind to match the original. There are several substantial missing pieces of ornament such as the undersides of the boxes and the conspicuous hole in the side of one of the east boxes.

• Furred Wall at Lower Boxes - The non-original cement plaster wall below the boxes down to the line of the underside of the lower boxes is to be removed to allow for restoration of the missing four boxes. The hidden ornamental plaster at the recess of the lower boxes will be exposed and it will be preserved and restored in-kind.

• Handrails & Rail Cap – The bronze handrails and plush rail cap will be restored. Some sections of the original velvet rail cap are still extant which will serve as the basis for new fabric selection.

Explanation of Compliance; Missing Boxes

• Plaster – the missing elements are currently called out for reconstruction in-kind in plaster. They will be reconstructed with molds from the Upper Boxes and physical evidence once the furred walls are removed. The supporting cartouches will be reconstructed based upon the historic photograph (included in this report). The project requests consideration to use a substitute material in lieu of plaster due to budget considerations.

• Handrails & Rail Cap – The bronze handrails and plush rail cap will be reconstructed using the Upper Boxes as a model.

• Interior Box finishes – The inside of the new projecting portions of the boxes will be finished off with wood tongue and groove flooring and wood baseboard matching the original based upon the Upper Boxes.

Fire Curtain

DUO Requirement - "The fire curtain shall be maintained on the stage. . . ."

Explanation of Compliance - N/A; The fire curtain has been previously removed from the site.

<u>Lobby</u>

DUO Requirement - "Best efforts shall be made to Preserve and Restore As Needed the existing remaining elements in the lobby."

Explanation of Compliance – N/A; The historic Lobby is not presently extant.

1.5.3 General Requirements

The following general requirements that apply to the Liberty Theater are identified in *Section B.3 – General Requirements* of the DUO. That section identifies a list of seven (7) requirements which are indicated verbatim in this section. The consistent evaluation methodology and criteria identified in *Part 1.6 - Evaluation Criteria* of this report was also sued here in order to determine compliant Treatments for materials and elements.

<u>General Requirement 1.</u> - "The committee shall approve all techniques and materials used to be used to Preserve, Restore and/or Reconstruct the required Historic Features."

Explanation of Compliance – All *Preservation, Restoration* and *Reconstruction Treatments* are in accordance with accepted Historic Preservation practice and conform to the requirements of the U.S. National Park Service and New York City Landmarks Preservation Commission. Materials / Elements are being retained and repaired wherever possible. Where repair is not possible they are being replaced in-kind to match the existing original material. Where Reconstruction is identified, missing elements are calling for replacement in-kind to match the original based upon sound documentary evidence. However, due to the extent of proposed reconstruction of missing features (beyond that recommended or required in the DUO), the Client requests consideration of substitute materials in the event project cost and/or schedule concerns make replication in a substitute material desirable.

~ See also Section 2.0 – Auditorium Evaluation..

<u>General Requirement 2.</u> - "In the event a rake is altered in any of the theaters, every effort shallbe made to avoid permanent alteration."

Explanation of Compliance – Only the Orchestra level will be occupied and both balconies will remain unchanged and be *perserved*. The Orchestra floor must have a level surface for dining. It will be constructed in two tiers that are at the highest point of their respective raked floors allowing *preservation* of the raked floor in-siti. Furthermore the tiers will be pulled back from the east and west walls, and the upper tier will align with the existing level floor at the rear Orchestra allowing *+*/- 8% of the existing rake and *+*/- 30% of the existing floor surface to be exposed, viewed and used.



Image 1.5.C - Structural floor plan of new stem walls & floor framing t



Image 1.5.D - East / West Section of MEP Routing.



Image 1.5.E - North / South Section of MEP Routing.



Image 1.5.F - Plan of MEP Routing.

However, impact to the rake is unavoidable with this magnitude of construction and the existing floor and rake will be impacted. To support the new floor beams / deck, two trenches must be cut across the Auditorium east to west for construction of footings and stem walls. The floor beams are attached to the existing stage front masonry wall and bolted to the existing beam at the rear Orchestra column line. At these locations, openings will be discreetly cut for each beam connection. In order for the tiers to meet existing critical elevations (1.41-feet at the west Auditorium exit door, and 4.10-fett the existing elevation of the level rear Orchestra) +/- 10-inch wide slots will be cut into the rake where it daylights above the bottom flange of the beam.

- ~ See also Part 2.01 Wood Floor & Rake.
- See also DUO C.4 Final Plans & Specifications submission; Sheets S-101 & S-102.

<u>General Requirement 3.</u> - "All exterior and public areas of the interiors shall be cleaned in a manner that will." . . ",

Explanation of Compliance – N/A. All finishes to be restored or reconstructed have a painted finish.

<u>General Requirement 4.</u> - "All lighting and mechanical and safety systems shall be discreetly incorporated into the theater décor. Intrusive alterations made in the past to accommodate mechanical and other systems, or non-theatrical uses shall be removed."

Explanation of Compliance – All building systems in the Auditorium, including mechanical, electrical, plumbing, fire protection, power/data and lighting, will be wholly new. These systems will be fed from various points to lessen their impact but the mechanical and chilled/heated water systems have the potential to be the most intrusive. All new building systems' primary and branch distribution will be discreetly hidden from view at the areas of the Auditorium that are visible including the entire first floor Orchestra level, the Upper and Lower Balconies in front of the new partition walls (to be installed approximately midway up each balcony) and the entire area in front of the balconies up to the main Auditorium ceiling.

The mechanical and plumbing lines will originate at the Third Floor Mechanical Room, run east to the Stage and then north along the west side of the Auditorium to the northwest corner of the Upper Balcony. The Stage ceiling is lower than the main Auditorium ceiling so both duct and pipe lines will be routed into the triangular Box Stairway/Vestibule at the southwest corner of the Auditorium to gain access to the attic above the main Auditorium ceiling. At the northwest corner of the Upper Balcony the duct / pipe chase will utilize existing floor penetrations and areas of damaged plaster ceilings to gain access back down to the 1st Floor and Bar. The ductwork and pipes will be concealed from view at the Upper and Lower Balconies due to the new balcony partition walls as will the mechanical unit which is to be placed at the rear Lower Balcony. The duct / pipe chase will be screened from view at the first floor rear Orchestra by reconstruction and infill of the original angled walls that once served as the principal entrances to the theater.

Branch lines to supply new diffusers, return air grilles, lighting, smoke detectors and fire sprinklers will be concealed above the historic plas-

ter ceilings of the Upper and Lower Balconies and Main Auditorium. Cutting and patching of plaster will only occur at areas of flat plaster and all decorative plaster will be *preserved* undisturbed and protected in place. This unfortunate yet unavoidable necessity to penetrate the historic flat plaster will be mitigated by using existing openings and damaged areas of plaster. All existing diffusers and light fixtures (none of which are original) will be removed and all areas of removed and missing plaster will be *reconstructed* in-kind with new 3-coat plaster system.

- ~ See also Part 2.03 Flat Plaster.
- ~ See also DUO C.4 Final Plans & Specifications submission.

<u>General Requirement 5.</u> - "All public areas shall be repainted with color schemes and finishes in keeping with the overall décor."

Explanation of Compliance – The original gilded, stenciled and glazed finish scheme is too costly to reconstruct. However, remaining examples of these finishes will be *preserved* and covered with a barrier coat before they are painted so that their physical archival record remains to allow future consideration of finish reconstruction. Furthermore the ceiling and wall surfaces behind the new Upper and Lower Balcony partition walls will not be painted preserving the existing wall and ceiling finishes in their existing unaltered state.

The finishes investigation conducted by ICR in 2000 served as the basis for the color scheme proposed for the project. SHCA has selected specific colors and coating sheens and proposes to perform mock-ups in the field under the correct lighting conditions in order to evaluate which scheme to select.

~ See also Part 2.13 – Decorative Painting.

<u>General Requirement 6.</u> - "New seats fabrics curtains, etc. shall be compatible with the overall décor."

Explanation of Compliance – New curtains are planned for doorways at the boxes and in the reconstructed angled partition walls at walls at the rear Orchestra passageway to screen the adjacent non-public spaces from view. The curtains will be velvet, lined, pleated and reinforced with a bottom leather panel. The plush rail caps at the Balcony and Box railings will be *reconstructed* to match samples of the original that still exist.

- ~ See also Part 2.6 Handrais.
- See also DUO C.4 Final Plans & Specifications submission; Sheets HP-204 & HP-706.

General Requirement 7. - "All existing historic marquees shall be. . . "

Explanation of Compliance – N/A; No existing historic marquee is part of the project.

LOCATION	REQUIREMENT	TREATMENT	REFERENCE
Sections 1.5.2 - Theater Specific Requirements and Guidelines			
42nd Street Entrance	Inspect & propose new design	N/A	Not impacted by Project
41st Street Façade	Preserve façade	N/A	Not impacted by Project
Grand Proscenium	Preserve, Restore & Reconstruct as needed	Plaster - Restore & Reconstruct	Section 2.2
Flanking Arches	Preserve, Restore &	Plaster - Restore & Reconstruct	Section 2.2
	Reconstruct as needed	Concealed Arch - Remove furred wall	Section 2,2; Page II-4
		Wood Trim - Reconstruct baseboard in new location due to raised floor.	Section 2.4
Dome & Paneled Ceiling	Preserve, Restore &	Plaster - Restore & Reconstruct	Section 2.2
ne oliver en al exercición en en havangen	Reconstruct as needed	Globe Light Fixtures - Reconstruct missing fixtures	Section 2.2
		Icoat.	Sections 2.15 & 5.1
Existing Boxes	Best effort to Preserve & Restore	Plaster - Restore & Reconstruct	Section 2.2
		Concealed Niche - Remove furred wall	Section 2.2; Page II-8
		Handrails - Restore bronze handrail & plush cap.	Sections 2.6
Missing Boxes	Best Efforts to Reconstruct,	Plaster - Reconstruct	Section 2.2
		Wood Interior - Reconstruct wood floor & trim	Sections 2.1 & 2.4
		Handrails - Reconstruct bronze handrail & plush cap.	Section 2.6
Fire Curtain	Maintain on the Stage	N/A	Curtain no longer present
Lobby	Best efforts to Preserve & Restore	N/A	Lobby no longer present
Sections 1.5.3 - General Requirement			
1.) Explanation of Compliance	Preserve, Restore & Reconstruct	Preserve, Restore & Protect according to NPS & LPC guidelines	Sections 2.1, 2.2, 2.3, 2.4, 2.6, 2.13, 3.1, 3.2
2.) Avoid Permanent Alteration of Rake	Preserve & Design in Reversible manner	Structural Impact unavoidable; Mitigation - Cutting for footings, stem walls & beams to be selective and 8% of rake to be exposed & used as ramos.	Section 2.1
3.) Cleaning of Exterior & Public Areas	Preserve & Do Not Damage	N/A	No historic materials will be cleaned as part of Project
4.) Discreetly Conceal New Building Systems. Remove Existing Obtrusive Ones	Preserve & Restore Existing Finishes. Reconstruct Altered Areas.	Existing systems 100% removed. New systems to be concealed from view. Existing openings & damaged areas to be utilized for access to concealed spaces. Preserve ornamental plaster. Reconstruct removed plaster.	Sections 1.5.3 & 2.3
5.) Paint Color Schemes are to be Appropriate	New Design to be Compatible with Historic Scheme	New color scheme based upon historic one verified through paint analysis	Sections 2.13, 3.1, 3.2
New Fabrics are to be compatible	New Design to be Compatible with Historic Scheme	Plush Rail Cp & Curtains are to be based upon original velvet extant at Boxes.	Section 2.6
7.) Remove Marquees & Conform to Design Guidelines	New Design to follow Guidelines	N/A	Marquee is not part of Project

1.6 Evaluation Criteria

1.6.1 Evaluation Methodology

SHCA's methodology for evaluating historic buildings, spaces, elements and finishes takes a holistic approach by using a broad set of guidelines, *The Secretary of the Interior's Standards for Rehabilitation of Historic Properties*, in reviewing the project scope with respect to its impact on historically significant features and finishes. This methodology is well suited to the Liberty Theater project since the DUO, although very prescriptive on certain requirements, is also permissive in determining precisely which areas and materials are subject to compliance. SHCA has addressed the latitude given The Committee in their review by erring conservatively and advising the Client to retain all historic elements to the greatest extent possible as interpreted by the Secretary's Standards.

Field Survey & Evaluation – In order to conduct a comprehensive field survey of the Auditorium SHCA organized ALL extant architectural elements / materials into fourteen categories. Those categories are identified in *Section 2.0 - Auditorium Evaluation*. Using the data obtained from the field survey combined with additional historic research SHCA made a professional estimate of the age of each element. Based upon the *Age* of the element and using objective *Evaluation Ratings* a defined under Part 1.6.2 of this section the attributes of every architectural element in the Auditorium were established with regards to:

- Age Relative to the Period of Significance (1904 1917)
- Historic Value Professional judgment of historic importance
- Condition The element's degree of fitness

DUO Compliance & Treatments - The specific and general DUO requirements in Sections B.2.3 and B.3 were overlaid on the historic elements to determine which explicitly were applicable for DUO review. Again, to facilitate approval of this Preservation Plan, we have included architectural elements that are not explicitly called out in the DUO, yet have historic relevance. In the final step a Treatment is identified for all elements that have Historic Value.

Organization of Detailed Evaluation - To facilitate review of this project, *Part 2.0 - Auditorium Evaluation* organizes all of the historic elements according to 14 different materials / elements representing the complete palette of materials encountered and evaluated. Each material is explicitly identified overall relative to:

- DUO Requirement
- Historic Value
- Condition

The text description for each material / element includes:

- Description of physical characteristics / location
- Condition assessment
- *Treatment* in Compliance with DUO

1.6.2 Evaluation Ratings

The firm determined the *Historic Value* or historical significance of the component on a four-point scale ranging from *Very Significant* to *Non-contributing*. Once the historic significance was established, SHCA determined the *Condition*, or degree to which element had deteriorated or been altered. The Condition rating is a four-point scale ranging from *Excellent* to *Poor*.

Historic Value

Historic value entails a professional judgment of the historic importance of each component based upon research in historic documents and on-site observation. There are four ratings:

Very Significant - The space or components are central to the building's architectural and historic character.

Significant - The space or components are associated with the qualities that make the building historically significant. They make a major contribution to the structure's historic character.

Contributing - The space or components may not be extraordinarily significant as isolated elements but contain sufficient historic character to play a role in the overall significance of the structure

Non-contributing - The space or components are not historic, or are historic but have been substantially modified. Little or no historic character remains.

Condition

Condition describes the degree of fitness of rooms or components: *Excellent* - The space or components are in virtually original condition. *Good* - The space or components are intact and sound. Few imperfections are visible, and they require only minor repair work. *Fair* - The space or components show signs of wear or deterioration. *Poor* - The space or components are no longer performing their original function or are missing.

Unknown - The space or components are inaccessible and condition cannot be assessed.

1.6.3 DUO Treatment Definitions

In Schedule D, *Section B.1 - Definitions* the terminology used to identify Treatment Requirements of the Historic Preservation Program of the DUO are defined. Following are the definitions that are applicable to the Project - *"Preservation," "Restoration,"* and *"Reconstruction."* These definitions are taken verbatim from the DUO but have been abbreviated relative to their application to this Project:

"Preservation " or "Preserve" means stabilizing an element of a building by preventing further change or deterioration.

"Restoration" or "Restore" means putting an element of a building nearly as is physically practicable into the form it held at a particular date or period of time when it acquired its significance.

"Reconstruction" or "Reconstruct" means recreation of an element of a building to its original design based upon historical evidence.

1.7 Acknowledgements

<u>42nd Street Development Project, Inc.</u> ~ *Landlord* Naresh Kapadia, Assistant VP of Planning & Design Judith Saltzman, Landlord's Representative

The Committee

~ DUO Historic Preservation Compliance Review Naresh Kapadia, Landlord Representative Sandy Tomas, EDC Representative Duncan Hazard, AIA, LPC Representative

FC 42nd Street Associates L.P. (FCRC) ~ Tenant Sadie Mitnick, Tenant Representative

<u>42nd St. Barbecue, LLC</u> ~ *Client / Sub-Tenanat* Jacob Ben Moha Samuel Ben Moha

<u>Macro Consultants, Inc.</u> ~ *Client's Representative* Michael Fromm

David Turner Architect, P.C. ~ Architect-of-Record David Turner, RA, Principal

<u>Morris Nathanson Design</u> ~ *Restaurant Designer* James Souza, Project Manager Josh Nathanson, Designer

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2.0 Auditorium Evaluation

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2.1 Wood Floor & Rake

- 2.1.1 Description
- 2.1.2 Condition
- 2.1.3 Treatment

2.2 Ornamental Plaster

- 2.2.1 Description
- 2.2.2 Condition
- 2.2.3 Treatment

2.3 Flat Plaster

- 2.3.1 Description
- 2.3.2 Condition
- 2.3.3 Treatment

2.4 Wood Trim

- 2.4.1 Description
- 2.4.2 Condition
- 2.4.3 Treatment

2.5 Doors

- 2.5.1 Description
- 2.5.2 Condition
- 2.5.3 Treatment

2.6 Handrails

- 2.6.1 Description
- 2.6.2 Condition
- 2.6.3 Treatment
- 2.7 Exit Signs
- 2.7.1 Description
- 2.7.2 Condition
- 2.7.3 Treatment

2.0 Auditorium Evaluation

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2.8 Fire Hose Cabinets

- 2.8.1 Description
- 2.8.2 Condition
- 2.8.3 Treatment

2.9 Seating

- 2.9.1 Description
- 2.9.2 Condition
- 2.9.3 Treatment

2.10 Wood and Glass Partition

- 2.10.1 Description
- 2.10.2 Condition
- 2.10.3 Treatment

2.11 Light Fixtures

- 2.11.1 Description
- 2.11.2 Condition
- 2.11.3 Treatment

2.12 Air Diffusers & Grilles

- 2.12.1 Description
- 2.12.2 Condition
- 2.12.3 Treatment

2.13 Decorative Painting

- 2.13.1 Description
- 2.13.2 Condition
- 2.13.3 Treatment

2.14 Projection Booth

- 2.14.1 Description
- 2.14.2 Condition
- 2.14.3 Treatment

2.0 AUDITORIUM EVALUATION

The existing Auditorium is composed of the fourteen architectural elements and finishes that follow in this section. Significant alterations have been made to the space and many elements do not date from its *Period of Significance*. The project intends to remove elements added after 1917 and *reconstruct* missing historical features to their 1904 appearance. The space is also significantly deteriorated and overall its finishes are in fair to poor condition. The project intends to *preserve* all extant elements dating from 1904 - 1917 and to *restore* those at the Orchestra level and in front of the new partition walls at both balconies.



Image 2.02 - Auditorium south and west elevation c. 1904.

2.1 Wood Floor & Rake

DUO Requirement: Orchestra Raked Floor Historic Value: Significant (Rake) / Contributing (Flooring) Condition: Poor

2.1.1 Description

The raked floors of the Orchestra are 5½-inch wide tongue and groove hardwood plank flooring, while the Lower Balcony, Upper Balcony, and the Box floors are 2½-inch wide tongue and groove hardwood plank flooring.



Areas of flooring at the Orchestra level near the stage have been previously removed and replaced with thinner width planking. Significant areas of flooring at all levels have been removed (presumably for probe investigations) and replaced with plywood. The balance of the remaining tongue and groove flooring is in poor condition with severe wear and tear, splitting, holes, and is soft at some locations where the wood is water damaged.

2.1.3 Treatment

Orchestra Floor Rake – Two raised tiers will be constructed on top of the existing raked Orchestra floor to create level dining areas that the restaurant requires. The lower tier will be at elevation 1.41-feet, about 16-inches below the Stage, which is at elevation 2.85-feet. It is designed to align with the west door threshold which will serve as a means of egress. The upper tier will be located at elevation 4.10-feet aligning with the floor of the barrel-vaulted passage at the back of the Orchestra which is level. The tiers will be pulled back from the east and west walls in order to utilize the existing rake as circulation ramps. The resulting exposed wood floors at the side ramps and the rear Orchestra will be *reconstructed* with new wood planks matching the original.

The existing Orchestra rake will be *preserved* to the greatest extent possible with each tier constructed above the highest respective point of the existing floor. However, because the new tiers require structural support, impact to the historic raked floor is unavoidable. Two new concrete footings topped by CMU stem walls will be constructed east to west across the Auditorium to support new steel floor beams running north to south. One stem wall is located at the level change between the two tiers and the other is midway between that stem wall







Image 2.01.B - Structural detail of new stem wall at intersection of platforms. Shading indicates area of work existing floor rake.



Image 2.01.C - Structural detail of new stem wall at lower tierintersection of platforms. Shading indicates area of work existing floor rake.



Image 2.01.D - Wood plank flooring at Orchestra; note wear and tear.



Image 2.01.E - Wood plank flooring at Lower Balcony; note missing and damaged sections.

and the stage front. These stem walls will require an approximately 3-foot wide trench across the Auditorium at each location. Both stem walls have been carefully located to avoid impacting the existing electrical trench, utility chamber and orchestra pit below.

The new floor beams must also be supported at the north and south sides of the Auditorium. At the south end new floor beams will sit in pockets cut into the existing masonry wall at the stage front. At the north end the floor beams will be bolted to the existing steel beams that run between the rear Orchestra columns. Selective removal of the floor rake assembly will be required at the location of each beam connection. In addition, strips of the floor assembly will have to be cut at select locations to accommodate the +/- 10" wide floor beams. As demonstrated during past probe investigations, the existing flooring is difficult to remove intact and resulted in splitting and traumatic damage due to its deteriorated condition. Given the poor condition of the material where it is to be exposed, it will be discarded and replaced with new $5\frac{1}{2}$ -inch wide plank flooring to match the original.

Lower & Upper Balcony Floors - Since only the Orchestra level is to be occupied by the proposed restaurant, impact to the Lower and Upper Balcony floors will be minimal. Work at these levels includes removal of remaining seating and construction of new partition walls at each balcony. Therefore the floors will be *preserved* in-situ at these levels. Although open holes presenting a safety hazard will be repaired, no other rehabilitation work is planned.

2.2 Ornamental Plaster

DUO Requirement: Proscenium, Sidewall Arches Balcony Fronts & offits, Auditorium Ceiling Historic Value: Very Significant Condition: Good to Excellent

2.2.1 Description

The most highly significant historic feature in the Auditorium is the elaborate ornamental plaster that accentuates the proscenium, side-wall arches, balcony fronts/soffits, box fronts/soffits and main ceiling.

Proscenium & Sidewall Arches - The proscenium wall is ornamental plaster on expanded metal lath. The stage opening is framed by a continuous row of dentils and low-relief plaster moldings. The entablature consists of highly figured, ornamental plaster incorporating eclectic imagery expressing a vaguely American patriotic theme. This entablature is set against a backdrop of flat, unadorned plaster.

The Sidewall Arches are capped by an ornamental plaster crown with a flat plaster backdrop. Archivolts with running plaster molding are supported by two partially engaged pilasters. The pilaster bases were previously removed, presumably at the same time that the lower boxes were removed. The crown of the flanking arches is an eclectic composition containing highly figured and some fully-sculpted ornamental plaster incorporating classical and American patriotic imagery (eagles, Liberty Bell, etc). As with the proscenium entablature this ornate feature is set against a flat plaster backdrop. The niches above the arch springline have been infilled with a furred painted plywood panel that is obscuring a significant part of the original ornamental archivolt. There are two partially engaged ornamental plaster





The Lower Balcony front has a moderately figured ornamental plaster fascia incorporating a running pattern of shields topped by a wood



Image 2.02.B - West Sidewall Arch showing furred wall infill within arch & below Upper Boxes. .



Image 2.02.C - Condition of west Sidewall Arch ornament within furred enclosure. Note excellent condition of plaster and period bare bulb light fixtures.



Image 2.02.D - West Sidewall Arch showing furred wall infill within arch.





Image 2.02.E - Overall view of Upper and Lower Balconies. cap. The soffit immediately below the lower balcony fascia consists of flat plaster panels with simple plaster moldings. The Upper Balcony fascia and soffit are similar to the Lower Balcony except the underlying structure has a slightly different radius and rise at the crown.

Rear Orchestra Passage - A curving plaster beam and matching angled beams at each end form a passageway at the back of the Orchestra. The curved beam supports the Lower Balcony and, in turn, is supported by six plain round columns. The beams are all decorated with ornamental plaster relief on the sides with recessed profiled panels on itheir underside.

Ceiling - The suspended plaster main ceiling consists of a central dome with flanking and perimeter coffers. The dome and coffers are formed by deep plaster ribs that carry simple, rounded, moldings. The coffers have flat plaster panels and are ringed by continuous ventilation grilles at the dome and perimeter coffers. These grilles are canted against the ribs at the dome and horizontal at the perimeter coffers. The grilles consist of plaster fillets attached to metal mesh and arranged in a diamond pattern. Plaster scars at the location of original perimeter light fixtures are evident. Originally the perimeter coffers had an ornamental globe light fixture while the center coffer held a large center chandelier flanked by these globe fixtures. Stenciling is still visible at the center fixture, along the coffers and at the recessed panels.





Image 2.02.G - Lower Balcony soffit.



Image 2.02.1 - Sidewall Arch surround at Upper Balcony west side, note minor damage to ornamental plaster.



Image 2.02J - Missing ornamental plaster at bottom of west Sidewall Arch adjacent to underside of Lower Balcony.



Image 2.02.K - Traumatic damage to base of Proscenium surround at west side.



Image 2.02.H - Upper Balcony front and soffit.

2.2.2 <u>Condition</u>

Proscenium & Sidewall Arches - The plaster at the proscenium wall is generally sound and intact. The ornamental plaster is in overall very good condition. Isolated damage is primarily located at the lower portions of the stage opening from traumatic damage. There are also holes at the upper corners of the stage opening surround caused by the installation of metal brackets. The ornamental plaster entablature features are in excellent condition, with only minor chips, spalls and cracks.

The two partially engaged ornamental plaster pilasters framing each Sidewall Arch are in good condition with minor chips and cracks. However, the lower sections of each pilaster are missing -- from the underside of the south Upper Boxes down at each Sidewall Arch and form the Lower Balcony down at the north side of each Sidewall Arch. These sections were probably removed when the Lower Boxes were demolished. The condition of the pilaster returns below the Upper Boxes (if extant) cannot be discerned, as they are concealed by non-original furred plaster wall. The archivolts feature running and figured ornamental plaster that is in good condition with only minor chips, cracks, and holes. Again the condition of the concealed portions of the archivolt ornamentation is unknown due to the furred plywood wall.

Box & Balcony Fronts / Soffits - The projecting portions of the original Lower Boxes at the Sidewall Arches are missing. The recessed portions of these Lower Boxes are still exist and are in reasonably good condition except where the plaster was cut for the furred wall infill. The surviving upper boxes are in fair condition. The ornamental plaster is sound and intact, but has minor cracks, chips and a few holes. The sidewall arch soffits are stained and exhibit lightly cracked paint. The egg-and-rope molding of the upper box soffits is mostly intact, with the exception of the return leg of this molding, which is missing. Original plush velvet caps still exist at the west Upper Boxes.

Both balcony plaster fascias and soffits are sound and intact with minor chips, cracks, and holes and are heavily painted. The paint is



Image 2.02.N - Detail of grille ornamentation.at perimeter of each coffer.



Image 2.02.O - Auditorium ceiling at rear Upper Balcony; note missing sections of ornamental plaster grille.



Image 2.02.P - Concealed section of Lower Box at west Sidewall Arch showing ornament at center wall.



Image 2.02.L - Auditorium ceiling at proscenium; note plaster water damage.

cracked and peeling is some areas. There is also localized paint and plaster blistering at the balcony soffit paneling, indicating water damage. Most of the remaining plaster is in good condition.

Rear Orchestra Passage - The curving beam at the rear Orchestra and its plaster relief is overall in good condition. It is heavily painted and has minor chips and cracks.

Ceiling - The dome and coffer plaster ribs are also generally sound, intact and in good condition, although a section at the southwest corner of the dome ribbing has been severely damaged by water. The exterior edges of the coffers are edged with a classical foliate motif. Water damage is also evident at the northeast corner of the main ceiling resulting in paint loss and some plaster damage. Some ribs are missing in the vicinity of the suspended projection booth. The plaster ventilation grilles are extremely deteriorated with many broken and water-damaged sections. The grille fillets are crumbling in many areas. The water infiltration appears to have been controlled and further water damage arrested.

2.2.3 Treatment

Proscenium & Sidewall Arches - All existing ornamental plaster will be *preserved* and *restored* with minor plaster damage repaired in-situ.



Image 2.02.M - Auditorium ceiling; note severe water damage at central coffer and ghosting from missing original plaster medallion at coffer at right.



Image 2.02.R - Concealed section of Lower Box at west Sidewall showing ornament at outer wall.



Image 2.02.S - Upper Boxes at east Sidewall Arch. Note traumatic damage at side of Box.



Image 2.02.T – Portion of historic photograph c. 1904 showing original configuration of west Sidewall Arch niche.

Missing sections of ornamental plaster at the stage opening and sidewall arch pilasters will be *reconstructed* to match their original appearance. Missing portions of the upper box arch ornamentation that are exposed as part of removal of the furred infill will also be *reconstructed* to match the original.

Balcony & Box Fronts / Soffits - The existing ornamental plaster boxes and balcony fronts and soffits will be *preserved* and *restored* with minor plaster damage repaired in-situ. All deteriorated and missing ornamental plaster elements will be *reconstructed* to restore the balcony fronts and soffits to their original appearance. In addition, the four lower boxes are to be *reconstructed* to match their original appearance, including the cartouches supporting each box.

Ceiling, Rear Orchestra Passage - All existing ornamental plaster will be *preserved* and *restored* with traumatic and water-damaged sections repaired in-situ. Ornamentation beyond repair or missing will be *reconstructed* in-kind at their original locations. The curving beam and angled beam plaster relief will be *preserved* and *restored* in-situ.



Image 2.02.Q - Proposed Sidewall Arch restoration. Reconstruction of missing Lower Box fronts & ornament is shaded blue. Finishes & ornament concealed behind furred walls that are extant & will be restored are shaded red.



Image 2.03.B - Detail of ornamental plaster curved beam at rear Orchestra passageway.



Image 2.03.C - Rear Orchestra wall looking east.

2.3 Flat Plaster

DUO Requirement: Proscenium, Sidewall Arches, Ceilings Historic Value: Contributing Condition: Poor to Excellent

2.3.1 Description

Flat plaster forms the majority of the wall and ceiling surfaces throughout the Auditorium. Although a somewhat humble material its integrity forms a key relationship with the ornamental plaster surfaces.

Proscenium & Sidewall Arches - Ornamental plaster elements at the entablature of the proscenium and sidewall arches are set against a backdrop of flat plaster. Flat plaster also forms the interior of the sidewall arch niches. The lower portions of the sidewall arches are original. The lower portions of the sidewall arches below the level of the missing Boxes are original. However, the sidewalls above the original sections up to the underside of the Upper Boxes are non-original furred walls that concealed the original recessed portions of all four missing boxes.

Rear Orchestra Passage - The six round, unadorned columns that support the Lower Balcony and form a passageway at the back of the Orchestra do not match the configuration shown on the original architectural drawings. Their design is incongruous with the original Auditorium features and they have either been altered or are replacements.

At each end of this passage a flat plaster wall fills in the arch above the decorative plaster beam. An approximately 12-foot wide opening below each beam once served as the main entrance into the theater and was framed by pilasters that would have matched the adjacent column design. The opening has been filled with temporary construction and the pilasters are missing with only bulging plaster remnants to mark their original location.

Side & Rear Walls - The auditorium side and rear walls at all levels consist of flat plaster with simple wood chair rail and baseboard. Flat plaster forms the wainscot at the Orchestra and Upper Balcony



Image 2.03.A - Condition of angled wall at west side of rear Orchestra. Note missing pilasters at each side of opening (original entrance).

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Image 2.03.D – Lower Balcony flat plaster ceiling and walls. Notes extent of damage. New curved wall will close off back half of balcony.

levels. A wood paneled wainscot occurs at the bottom of the Lower Balcony walls while the Upper Balcony has additional simple wood panel trim on the upper flat plaster walls.

Ceilings - The Orchestra and Lower Balcony ceilings are suspended flat painted plaster, spanning from the soffit to the back wall and echoing the slope of the floor. Both of these ceilings are coved where they meet the front soffits and rear walls. The Orchestra also contains a barrel-vaulted passage between the round columns and rear wall. The main auditorium ceiling is suspended plaster consisting of a central dome with flanking and perimeter coffers. The coffers have flat plaster panels.

2.3.2 Condition

Proscenium & Sidewall Arches - The flat plaster at the proscenium and sidewall entablature is in overall good condition with some minor cracks at the east side of the proscenium wall. The flat plaster in the exposed portion of the sidewall niches and at the bottom portion of these walls is in good condition though heavily painted with some paint peeling. The condition of the original flat plaster surfaces beneath the furred walls where it could be observed was good.



Image 2.03.E - East wall at Lower Balcony.Plaster wall finish is buckling due to long term water damage.



Image 2.03.F - Water damage at west wall of Lower Balcony.



Image 2.03.G - Ceiling at rear Lower Balcony.

Rear Orchestra Passage, Side & Rear Walls - The openings at the rear northeast and northwest corners of the Orchestra have been infilled with temporary plywood construction to prevent access to unfinished areas beyond. The rear wall of the Orchestra level is in poor condition with severe traumatic and water-related damage. Sections of the side and rear walls have also been removed for investigative probes. All portions of the Orchestra level walls including the wainscot have been skim-coated. The wainscot at the rear wall is concealed by a vinyl covering.

At the Lower and Upper Balconies the flat plaster is overall in fair to poor condition with water damage, large cracks and displacement in several locations. These walls are heavily over-painted. There is a profusion of surface applied conduit throughout all wall areas that has caused damage as a result of the anchors used in its installation.

At the Lower Balcony level, the east wall plaster is in fair condition above the chair rail, and in poor condition below. The rear wall has a large hole from a probe. The west wall shows poor plaster conditions localized near the balcony soffit with paint and plaster peeling and blistering, indicating water damage from above. At the Upper Balcony level, the east wall plaster is in good condition, with only one small area of serious deterioration at the rear corner. The rear wall is in fair to good condition, except at the northwest corner where there is an uneven surface, large cracks, and general poor condition. The west wall is in good condition.

Ceilings - The ceiling below the Lower Balcony at the Orchestra exhibits extensive flaking paint but very good plaster condition, although there is some water damage at the west side. The barrelvaulted ceiling of the rear Orchestra passage exhibits extensive flaking paint and isolated holes cut into the ceiling for ductwork.

The Lower Balcony ceiling exhibits extensive flaking paint and some surface plaster cracks as well as isolated holes cut into the ceiling for ductwork, especially at the northwest corner. Most of the plaster is in good condition. There is also paint and plaster blistering at the balcony soffit paneling at the west wall where the flat plaster meets the soffit, indicating water damage.



Image 2.03.H – Orchestra ceiling below Lower Balcony; note the decorative curved plaster beam supported by unadorned round columns.



Image 2.03.1 – Water staining and paint loss at Auditorium ceiling coffer. Note scar from missing historic ornamental globe light fixture.



Image 2.03.J – Rear Orchestra as shown on 1903 drawings. Note that the ornament style is different from what was built but the same column design is depicted for a pilaster in the Lower Boxes.

2.3.3 Treatment

Proscenium & Sidewall Arches - These walls will be *preserved* and *restored* and all existing damaged sections of flat plaster will be repaired in-kind. Any areas of displacement or water damage will be sounded and de-keyed material cut out and replaced in-kind.

Rear Orchestra Passage - Based upon review of the original 1903 architectural drawings, the round flush columns at the rear Orchestra are not in their original configuration. Their original configuration will be *reconstructed* with new ornamental plaster column covers cast from a remaining ornamental pilaster in the west Lower Boxes. Although indicating a different type of ornamentation in the theater, the original drawings show similar designs for the Box pilasters and rear Orchestra columns. The extant Box pilaster also has the correct proportion and size for the proposed location; its capital is the same width as the existing original plaster beam it will support and the round columns are the same dimension as the pilaster shaft.



Image 2.03.K – Barrel-vaulted passage at rear Orchestra.

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Image 2.03.M – Proposed column design copied from extant pilaster in Lower Boxes at west Sidewall Arch..



Image 2.03.L – Proposed design for reconstructed west angled wall elevation.

Remnants of the original pilasters flanking the entrance / exits at the rear angled corner walls can be discerned and the original Box pilaster will serve as the model to recreate those missing elements. The large openings at the angled walls between these pilasters can no longer serve their original egress function and will be in-filled with new flat plaster walls set back from the face of the beam. These two new infill walls will have cased openings providing access to the small triangular rooms beyond.

Side & Rear Walls - In addition to their severe damage and missing sections, the Orchestra walls have been skim coated using poor workmanship. The stability of this treatment is questionable and we recommend removal of failing sections and replacement with a three-coat plaster system. In addition all original door casing and baseboard trim is missing. The entire wall surface is to be skim coated to blend old and new sections and achieve a uniform surface. Since no original door casing or baseboard trim is extant, new door casings and baseboards will be installed following plaster wall repair eliminating any potential impact to molding profiles due to skim coating.

The Lower and Upper Balcony walls are also in fair to poor condition with a large area of displaced and potentially unstable flat plaster at the east wall of the Lower Balcony. This large area of displacement is to be removed and replaced in-kind with new plaster and areas of other plaster damage in front of the Lower and Upper Balcony new partition walls (visible to restaurant patrons) will be repaired. Behind the new partition walls (and not visible to restaurant patrons) other areas of loose and displaced plaster will be stabilized but these walls will not be restored.

Ceilings - The flat plaster ceilings that will be visible to restaurant patrons (those at the Orchestra level and in front of the new partition walls at the Lower and Upper Balconies) will be *preserved* and *restored* and all existing damaged sections of flat plaster will be





Image 2.04.B - Top Image is original base & chair rail profiles used at front of Auditorium. Lower image is proposed composite baseboard profile used at sides and rear of Auditorium.



Image 2.04.C - Original chair rail at Orchestra Wall.

repaired in-kind. Furthermore, sections of flat plaster removed for installation of new lighting, mechanical ductwork, piping and fire sprinklers will also be *reconstructed* in-kind. While it is not the intent to replicate any missing ceiling elements located behind the new wall partitions at the Lower and Upper Balconies, any deteriorated and failing plaster is to be sounded and de-keyed material cut out to fully stabilize all areas.

2.4 Wood Trim

DUO Requirement: Sidewall Arches Historic Value: Significant Condition: Fair to Good

2.4.1 Description

Profiled wood baseboards, base paneling, chair rails, panel trim, door casings and door side panels exist at the Sidewall Arches, and east, west and north walls of all levels on the Auditorium.

Orchestra Level - At the first floor original 3-1/2 inch wide profiled wood chair rail and 15-inch high baseboard exist only at the west Sidewall Arch elevation. All other remaining baseboard, chair rail and door casings at the first floor are not original as evidenced by examining historical photographs of the space soon after its completion. The original baseboard followed the rake of the floor while the chair rail formed a uniform level datum that aligned with the top of the stage and grounded the Auditorium walls. Where the baseboard and chair rail originally intersected at the side walls (just north of the southernmost exit doors) the top half of the chair rail molding profile became a baseboard cap and the unified baseboard followed the rake of the floor along the sidewalls up to and across the level rear wall elevation.

A historic photograph taken soon after the theater's opening also confirms that there was one unified door surround configuration at all floors and the original door casings at the first floor matched the extant Lower and Upper Balconies door casings. The first floor door side panels may be original as they closely resemble the original door side panels at the Lower and Upper Balconies.



Image 2.04.A - Historic chair rail and base at West Sidewall at the Audtorium.



Image 2.04.F – Non-original baseboard, chair rail and vinyl covering at Orchestra north wall.



Image 2.04.G - Non-original door surround at Orchestra.



Image 2.04.H – Original door casing at Lower Balcony.



Image 2.04.1 – Original door, casing and side panels at the Lower Balcony.



Image 2.04.D – Portion of the historic photograph c. 1904 showing the intersection of the baseboard and chair rail at the right side of the doors in the image. Examination of the full photo indicates the original door surrounds at all floors were the same.

Lower Balcony - At the Lower Balcony original 18-inch high wall paneling runs along the side and rear walls in lieu of a baseboard. The original chair rail positioned at approximately 48-inches above the floor is intact and its profile matches that of the remaining original first floor trim. The interior face of the balcony front is covered by a wainscot of stained bead-board. The original wood door surrounds at this level are heavily-profiled 7-1/2 inch wide composite moldings projecting 3-1/2 inches from the wall. The pairs of original double doors are recessed 16-inches into the wall with the sides and head of the recess faced with original profiled wood panel trim.

Upper Balcony - At the Upper Balcony the original baseboard, with similar profile as at the Orchestra level baseboard, runs along the side and rear walls. The original 4½ inch chair rail with a cyma reversa profile differs from that on the Orchestra and Lower Balcony levels. This chair rail follows the slope of the floor and steps at the sidewalls and runs straight across the rear wall. It is also used as a panel trim across the field of the upper walls. Like the Lower Balcony the interior face of the balcony front and box front are covered by a wainscot of stained bead-board. The sets of double doors at the Upper Balcony are original and their casing and recessed panel configuration matches those at the Lower Balcony.



Image 2.04.E - Profile of original door, casing and side panels .This configuration was used at all levels of the Auditorium.



Image 2.04.K - Chair rail and paneled base at Lower Balcony.



Image 2.04.L - Upper Balcony wall; note panel trim.



Image 2.04.M – Original baseboard & chairrail at Upper Balcony.



Image 2.04.J - Paneled base at Lower Balcony.

2.4.2 <u>Condition</u>

Chair Rails, Panel Trim, Wainscot & Baseboards - The chair rails are in fair condition, though worn and dented with failing paint. Positioned at a height out of reach to wear and tear the Upper Balcony wall panel trim is in excellent condition. The bead-board wainscot is stained but in good condition although some sections are missing at the interior face of the balcony fronts. The Lower Balcony level wall paneling is primarily in good condition, except in a few areas where it is pulled out from the wall.

Door Surrounds - The wood door casing and recessed side and head paneling are worn and show chips, dents, holes, and failing paint but otherwise are in good condition. The non-original first floor door casing, chair rail and baseboard are of substandard quality compared to the original materials. As such they have not held up as well and are in poor condition overall.

2.4.3 Treatment

Chair Rails, Panel Trim, Wainscot & Baseboards - The original chair rail at the Orchestra level that intersects with the Stage cap is to be salvaged and used as the profile for replication of new moldings. New wood chair rail and baseboards are to replicate the original in profile and configuration, with the chair rail level at its original height and the baseboard following the rake of the floor and eventually intersecting and forming a composite baseboard. The wood bead board wainscot material at the interior face of the balconies and boxes fronts will remain in place and be repaired as necessary. Where missing, new wainscot material will be fabricated to match existing. All existing baseboard, chair rail and wainscot at the Lower and Upper Balconies will be retained and repaired. Areas of missing trim will be replaced with matching trim.

Door Surrounds - Some existing doors and door opening locations will require modification to function as exit doors and meet accessibility requirements; their locations must be modified to accommodate access with the existing surrounding construction. Representative samples of door surrounds and the recessed panels will be salvaged to serve as models for replication. New material matching the original profiles and panel configuration will be fabricated and installed at all new and modified door locations.

DUO Requirement: N/A Historic Value: Significant Condition: Poor

2.5.1 Description

Doors - Original pairs of three-panel metal-clad wood double doors set in simple molded door frames exist at each level of the Auditorium's east and west walls. Each door leaf is 2'-4" by 6'-11".

Two single panel metal doors at the first floor south elevation originally provided access to boxes via the box stairway and vestibule tower. Only the west stairway is intact while the door has been removed at the east stairway along with the lower part of the staircase. The extant west door is 2'-11" wide and 6'-9" high with a single glass panel.

2.5.2 Condition

Doors - Out of the 12 pairs of existing original doors in the Auditorium only two pairs (the southernmost pairs on the west elevation at the first floor and Lower Balcony) can provide access out of the theater through the adjacent new construction. All paired doors are dented and scratched with failing paint coatings. Nearly all door hardware is missing or not working properly but there are a few remaining fine examples of the original early 20th C. hardware.

Door Frames - The door frames are worn and exhibit chips, dents, holes, and failing paint. The stair tower door is worn and heavily painted but serviceable. The boxes do not contain doors (door open-





Image 2.05.B - Typical door damage.

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ings at the east boxes have been infilled with brick) but the wood door frames survive and are chipped, dented, heavily worn and over-painted.

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2.5.3 Treatment

Doors - The only pair of original historic doors at the first floor that can access through the adjacent construction will be utilized as a means of egress. Unfortunately, this pair of doors (the southernmost pair at the west elevation) is seriously deteriorated and cannot be rehabilitated to a functioning condition. Therefore, these doors will be *reconstructed* to match the original in configuration but as a modern, code-compliant assembly. The doors will be fitted with period-appropriate pulls, butts, closers and open-bar style panic hardware. The other accessible door opening is at the west elevation of the Lower Balcony level. Since the Lower Balcony will not be an occupied space as part of the project, this historic pair of doors will be *restored* to a functioning condition to allow access for maintenance personnel only. This pair of doors will be fitted with similar period-appropriate hardware.

The existing single door at the first floor providing access to the west Box stair tower will be salvaged, *restored* to its original condition and reinstalled in a new opening at the same location. The existing door opening will need to be raised to accommodate the higher floor elevation of the new lower dining tier. This door will be fitted with *restored* hardware. The remaining 10 pairs of non-operational historic doors will have their hardware removed, will be *restored* and will then be fixed in place in their original openings as decorative elements.

Door Openings - The door openings of the Upper and Lower Boxes (the existing Lower Box doorways exist behind the existing furred wall) will be *restored/reconstructed* with repair of the existing original door frame and new wood casings replicating the original. The Box doorways openings will be covered with heavy velvet curtains hung from brass curtain rods. The door opening that originally provided access to the east Box stair tower will need to be raised to accommodate the new lower dining tier. A new opening will be *reconstructed* matching the original in dimension and frame detail.

Three new openings will be constructed at the north Orchestra level. A wide central opening in the north wall will serve as the new entrance to the Liberty Theater from 42nd Street via the bar. In addition, openings are planned for the two new angled infill walls to be constructed at the northeast and northwest corners of the Orchestra level. These corners with decorative angled beams overhead were originally flanked by pilasters forming the primary entrances to the first floor of the theater. Since this relationship no longer exists and the passageways do not lead anywhere it is necessary to close off the original full width opening. However, the original spatial arrangement will be maintained by introducing a wide doorway into each new partition walls that will be constructed below each angled beam. In an effort to make the introduction of the three non-original openings discreet each opening will be treated the same as all the historic Auditorium doorways, with wood casings and recessed side panel returns matching the historic ones and giv-





ing depth to each new opening. The corner angled openings will be covered in the same manner as the Box doorways, with heavy velvet curtains hung from brass curtain rods.

2.6 Handrails

DUO Requirement: Balcony & Box Fronts Historic Value: Significant Condition: Good

2.6.1 Description

Continuous bronze pipe guardrails with cast bronze fittings occur at the balcony and box fronts. The guardrails sit on top of an upholstered wood rail cap. The bronze guardrails of the Upper Balcony were previously raised eight-inches in height by the addition of wood supports added below the bronze fittings during an earlier alteration.

Simple painted ferrous metal pipe railings exist in the seating areas of the Upper and Lower Balconies. It is unclear whether these seating area railings are original as they may have been installed when the seating was replaced.

2.6.2 <u>Condition</u>

The bronze guardrails at the balconies and box fronts are intact. The railings have been largely over-painted and exhibit oxidation where the painted coatings have flaked off the surface. The wood rail cap is intact, but virtually all of the period pale orange plush velvet upholstery has been removed. The ferrous metal pipe railings are in good condition with only failing paint, although at some locations they are not well attached and are loose.

2.6.3 Treatment

The bronze guardrails and fittings are to be *preserved* and refinished to *restore* them to their original appearance. The wood rail caps are to be re-upholstered with fabric in keeping with the spirit of the original. At the Upper Balcony, the non-original wood blocks are to be removed from the base of the railing support fittings so the railing



Image 2.06.A - Bronze railing at boxes..



Image 2.06.B - Detail of railing and plush rail cap at boxes.



Image 2.06.C - Non-original wood block retrofit supporting original handrail.


Image 2.07.A - Existing exit sign box c. 1920; glass is missing, typ.



Image 2.08.A - Original leaded glass fire hose cabinet.

assembly can be lowered *restoring* it to its original height matching the Lower Balcony and Boxes.

Very little work is planned for the Lower and Upper Balconies and the ferrous metal pipe railings are to be *preserved*.

2.7 Exit Signs

DUO Requirement: N/A Historic Value: Contributing Condition: Poor - Fair

2.7.1 Description

Based on documentary evidence of the historic photographs, all original leaded glass exit signs and their decorative surrounds no longer exist. The existing simple decorative panel trim that exists in its place appears to be from the 1920s and it is unclear whether the light fixture boxes also date from that era. These exit sign boxes are positioned over every door pair on all levels of the Auditorium and all are missing their original painted glass signage.

2.7.2 Condition

Most frames and boxes have been damaged and exhibit dents and some missing parts. Paint is peeling. While most of it is missing, none of the remaining glass signage exists in an undamaged state.

2.7.3 Treatment

The existing non-original exit signage is an early alteration that is period-appropriate for the style of the theater. It is to be remain in place at most locations with installation of an opaque panel and repair of the trim at locations in front of the new Balcony partition walls. The exit sign box at the west exit door is to be made operational with restoration of its trim ring and reconstruction of a period exit glass sign panel. In order to maintain a consistent discreet appearance two existing exit sign boxes are to be salvaged from the rear Lower Balcony similarly rehabilitated and installed at the north and south doorways which lead to egress routes out of the building.

2.8 Fire Hose Cabinets

DUO Requirement: N/A Historic Value: Significant Condition: Poor

2.8.1 Description *

Original 3'-2" by 3'-2" fire hose cabinets with wood frames, profiled wood surrounds and metal and glass doors are located on every level at each corner of the Auditorium north. Only the cabinet at the northwest corner of the Orchestra level retains its original amber-colored leaded glass door with the words "Fire Hose" in white glass surrounded by dark glass. All other have a simple glass panel with painted letters.

2.8.2 Condition

The cabinets retain major parts of their original wood frame, but are in poor condition. The one remaining original stained glass door is heavily damaged with missing parts, but enough original material remains to allow for a restoration. The other cabinet doors retain their glass.

2.8.3 Treatment

Only the leaded glass fire hose cabinet located at the northwest corner of the rear Orchestra will be impacted by the project. There is no requirement for use of these cabinets in the project so this one will be salvaged and stored in the Upper Balcony Projection Booth. The other fire hose cabinets will remain in place and be preserved.

2.9 Seating

DUO Requirement: N/A Historic Value: Non-contributing Condition: Good

2.9.1 Description

Upholstered metal fixed seating exists at the Lower Balcony. Designed in a streamlined motif, the seating is not an original part of the theater having been added during renovations c. 1930.

2.9.2 Condition

All seating was been previously removed from the Orchestra, Boxes and Upper Balcony. Approximately 30% of the seating is still extant at the east side of the Lower Balcony. The seating is in good and serviceable condition.

2.9.3 <u>Treatment</u>

All part of the current project the incongruous appearance of some of the seating in one location is undesirable visually. Although the Lower Balcony will not be occupied, the remaining seating will be removed to achieve a uniform clean aesthetic effect.



Image 2.09.A - Non-original c. 1930 seating previously removed. from Upper Balcony.



Image 2.09.B - Non-original Modernestyle fixed seats.



Image 2.11.A - Non-original Moderne-style light fixture at rear Orchestra.



Image 2.11.B - Non-original pendant light fixture at rear Orchestra.

2.10 Wood & Glass Partition

DUO Requirement: N/A Historic Value: Non-contributing Condition: Good

2.10.1 Description

A freestanding partial height wood and glass partition supported by exposed angled brackets exists at the rear of the orchestra adjacent to the columns. Raised half-round wood elements divide the glass panels. This partition is a later addition as it lacks the level of ornamentation consistent with the original theater construction.

2.10.2 Condition

This partition is in good condition with the exception of two missing glass panels.

2.10.3 Treatment

The non-original partition has no historic value and is to be removed and discarded.

2.11 Light Fixtures

DUO Requirement: Auditorium Ceiling Historic Value: Non-contributing Condition: Fair to Good

2.11.1 Description

Three pendant light fixtures hang from the barrel-vault of the rear Orchestra level; one Art Deco style fixture and two wrought iron chandeliers. These pendant fixtures appear to have been added after the original construction. There are also several non-original sheet metal sconce light fixtures that exist above each door at the Auditorium Sidewall Arches.

As illustrated in the historic photograph, elaborate surface-mounted decorative globe fixtures encircled the central chandelier within each coffer of the main Auditorium ceiling. All are missing and have been replaced at some locations with unsightly ceiling diffusers.

2.11.2 Condition

Three existing light fixtures and are in fair to good condition.

2.11.3 Treatment

As non-original yet historic elements of the theater, the three remaining c. 1920-1930s-era pendant light fixtures are to be preserved by salvaging and storing them in the Upper Balcony Projection Booth as elements of the theater's early history.

The non-original sheet metal sconces have no historic value and are to be removed and discarded. Resulting holes in historic plaster finishes will be *reconstructed* in-kind.

The original Auditorium ceiling decorative globe light fixtures are to be

reconstructed based upon available historic documentation and installed in their original locations after removal of the existing unsightly diffusers and restoration of the ceiling. The missing central chandelier whose appearance is not known is to be replaced with a themed contemporary chandelier.

2.12 Air Diffusers & Grilles

DUO Requirement: N/A

Historic Value: Contributing (Original) & Non-contributing (not original) Condition: Poor - Good

2.12.1 Description

Simple frame orthogonal pattern original bronze grilles are located in the steps of the seating area and in the base of the Lower and Upper Balconies. A variety of non-original ceiling diffusers exist at all levels.

2.12.2 Condition

Most are of the bronze grilles are in place and in good condition although a handful have been damage or dislodged. The non-original ceiling diffusers are in poor condition with failing components.

2.12.3 Treatment

The original grilles are not connected to and operational ventilation or heating system. They are not in areas that will be utilized for the project and will remain non-operational. However, all original grilles are to be *preserved* in-situ as historic elements.

All non-original ceiling diffusers are to be removed and discarded. The resulting holes in historic plaster ceilings will be reconstructed inkind.

2.13 Decorative Painting

DUO Requirement: Proscenium, Sidewall Arches, Auditorium Ceiling Historic Value: Significant Condition: Poor

2.13.1 Description

Historic photographs and descriptions, along with previously conducted site and laboratory finishes investigation performed by Integrated Conservation Solutions (ICR) for Beyer Blinder Belle in 2000, indicate that the flat and decorative plaster interior elements were originally finished with a polychromatic color scheme, accented with metal leaf to simulate gilding. A stenciled banding on the walls adjacent to the ceilings and around the perimeter of the main ceiling coffers was also part of the original design. Typically, the more readily accessible areas of the auditorium and balconies have been more heavily over-painted than the less accessible ceiling and entablature of the proscenium. The results of the ICR investigation are included in *Part 3.0 Appendices* of this report.

Proscenium & Sidewall Arches - The ornamental plaster elements at the entablature of the proscenium and sidewall arches are currently



Image 2.13.A - Period ornamental finish at Sidewall arch.



Image 2.13.B - Period finish and stenciling at Auditorium ceiling coffer; note in-painted area where plaster medallion has been removed.

painted a monochromatic dark brown color. This color purportedly coincides with the third finish campaign. The more accessible side moldings, flanking arches and boxes, currently painted gray, have additional paint layers.

Auditorium Side and Rear Walls -There are no exposed historic finishes on the auditorium side and rear walls.

Balcony & Box Fronts / Soffits - The Lower and Upper Balconies display no exposed historic finishes.

Ceilings - Period historic decorative finishes accentuate the central oval dome flanked by rhomboid coffers. The beams have a repetitive simple stencil pattern employing stringing and circular motifs.

2.13.2 Condition

Proscenium & Sidewall Arches - The ornamental plaster elements at the entablature of the proscenium and sidewall arches are in overall good conditions, exhibiting limited coating failure. According to the 2000 Finishes Investigation Report prepared by ICR in 2000, the upper ornamentation, which is currently painted brown, most likely corresponds to the third finishes campaign. The side moldings, flanking arches and boxes, which are more accessible, have been painted more often and currently exhibit extensive paint flaking.

Auditorium Side and Rear Walls -The damage to the painted surfaces is largely due to impact. Paint failure is also associated with isolated damage to the flat-troweled surfaces.

Balcony & Box Fronts / Soffits - The Lower and Upper Balconies both exhibit extensive paint flaking.

Ceilings - The northern section of the ceiling, in the vicinity of the projection booth, has been over-painted and displays no early finishes. The historic decorative finishes are best preserved in areas of the main coffered ceiling that are difficult to access. Although the finishes are in poor condition at this location due to previous water damage, results of the 2000 Finishes Investigation Report by ICR suggests that the exposed stenciled finish campaign corresponds to the second or third painting campaign.

2.13.3 Treatment

The existing ornamental finishes throughout the Auditorium will remain in-situ and be *preserved*. Due to the poor condition of the existing ornamental finishes in addition to significant areas of over-painting, all areas of the Auditorium in front of the new balcony partition walls (and ultimately visible to patrons) will be repainted in their entirety in a color scheme sympathetic to the original. Representative areas of decorative stenciling currently visible will receive a barrier coat prior to repainting to ensure *preservation* of the decorative scheme for the historical record. Areas behind the new balcony partition walls will be *preserved* as is and not receive any treatment.

The original finishes were composed of a series of paints, glazes, varnishes, and metallic surface treatments in keeping with theater design of the period. Given the theater's adaptive use as a restaurant and the high cost of authentically replicating the original ornamental finishes, it is not feasible for the project to replicate the original paint color and finishes scheme and will not use metallic leaf to simulate gilding. Therefore the existing coatings will be encapsulated so the original coatings will still remain underneath for future opportunity for a more extensive investigation.

Proposed Finishes Scheme - The intent of the proposed finishes scheme is to use a simplified version of what originally existed in the Auditorium, without the stenciling and without the metallic paint/leaf. Based on the finishes investigation and period documentation flat walls, doors and wood trim to be painted a yellowish-brown/amber color with the areas of decorative plaster painted an ivory/cream-color. There are two potential scenarios. In order to determine the most appropriate one for the space, mock-ups will be performed under the proper lighting conditions to assess the aesthetic qualities of each scheme. These mockups may also require fine-tuning the specific colors and sheen but the colors and sheen presented here for each particular element are appropriate for the building.

Scenario #1:

- ~ Wood Trim & Doors (Semi-Gloss): Benj. Moore OC-91 "Ivory Tusk"
- ~ Flat Plaster Walls (Satin): Benj. Moore 2159-30 "Apple Crisp"
- ~ Decorative Plaster (Semi-Gloss): Benj. Moore OC-91 "Ivory Tusk"
- ~ Main Coffered Ceiling Flat recessed areas (Satin): Benj. Moore 2159-30 "Apple Crisp"
- ~ Main Coffered Ceiling Raised Areas (Semi-Gloss): Benj. Moore OC-91 "Ivory Tusk"
- Lower Ceilings Flat Areas under Balconies (Satin): Benj. Moore OC-91 "Ivory Tusk"

Scenario #2:

- ~ Wood Trim (Semi-Gloss): Benj. Moore OC-91 "Ivory Tusk"
- ~ Flat Plaster Walls (Satin): Benj. Moore 2159-30 "Apple Crisp"
- ~ Decorative Plaster (Semi-Gloss): Benj. Moore OC-91 "Ivory Tusk"
- All Ceilings (Satin): Benj. Moore 2159-40 "Amber Waves" (a lighter version of the amber wall color)



Image 2.13.C - Decorative painting scheme identified in ICRI finishes investigation report.

Proscenium & Sidewall Arches - Prior to repainting, repair any damaged plaster, remove flaking paint and stabilize existing finishes. During repair work, document any decorative finishes that become exposed prior to repainting.

Auditorium Side and Rear Walls - Prior to repainting, repair any damaged plaster, remove flaking paint and stabilize existing finishes. During repair work, document any decorative finishes that become exposed prior to repainting.

Balcony & Box Fronts / Soffits - Prior to repainting, repair any damaged plaster, remove flaking paint and stabilize existing finishes. During repair work, document any decorative finishes that become exposed prior to repainting, particularly on the walls of the Upper Balcony.

Ceilings - Prior to repainting, fully document the decorative finishes using photographs and drawings. Repair any damaged plaster, remove flaking paint and stabilize existing finishes. Select a representative area of the ceiling to clean and document prior to repainting. The area is to include a minimum of one coffer and section of the ceiling beam exhibiting the stenciled pattern. Prior to repainting the ceiling, a barrier coat shall be applied to the entire ceiling to facilitate the possibility of restoring the ceiling to its original decorative scheme at a future date. The barrier coat may be either a plaster skim coat or a clear acrylic coat.

2.14 Projection Booth

DUO Requirement: N/A Historic Value: Non-Contributing Condition: Fair

2.14.1 Description

At the rear of the Upper Balcony a projection booth was constructed presumably when the theater was converted to a movie house in the 1930's. The booth, housing a small, intact period toilet room and still containing its c. 1930 motion picture projector, is a simple rectangular plaster box suspended from the ceiling. It obscures the ornamental plaster Auditorium ceiling which is still extant within the booth.

2.14.2 Condition

The project booth is structurally sound. Its finishes are in serviceable condition with minor plaster cracking and failing paint.

2.14.3 Treatment

The Upper Balcony will not be used by the restaurant and this area Booth will be screened from view with construction of the new partition wall in the seating area of this balcony. A handful of historic elements which will not be required or used for the current project will be stored here including the fire hose cabinet and the three light fixtures salvaged from the rear Orchestra. The Projection Booth is to be *preserved* intact as a time capsule of the theater's earlier history.



Image 2.14.A - Original motion picture projector in Projection Booth to remain in-situ.

3.0 Appendices: III Finishes Evaluation

- 3.1 ICR Preliminary Interior Finishes Analysis, 04/2000
- 3.2 ICR Preliminary Color Projection, 01/2000



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PRELIMINARY INTERIOR FINISHES ANALYSIS: LIBERTY THEATER NEW YORK, NEW YORK

PREPARED FOR: BEYER BLINDER BELLE ARCHITECTS AND PLANNERS, LLP NEW YORK, NEW YORK

APRIL 2000

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INTRODUCTION

This interior finishes report has been prepared by Integrated Conservation Resources, Inc. (ICR) in response to a request by Mr. Kip Wicke of Beyer Blinder Belle Architects and Planners LLP, regarding preliminary review of existing finishes at the interior of the Liberty Theater. Specific tasks included in the scope of this initial submission include: 1. Determination of appropriate locations for sampling and extraction of selected samples for visual laboratory analysis; 2. Preliminary visual microscopic cross-section evaluation of the representative samples taken; 3. Development of a basic understanding of the original decorative scheme based on visual review, site survey and review of historic documents provided; and 4. Recommendations for specific additional site and laboratory testing required to reach the restoration goals established by the Client.

OVERVIEW OF AVAILABLE HISTORIC DOCUMENTATION

Historic documentation uncovered to date has been limited, but consists of a historic black-and-white photograph presumed to date from the theater opening in 1904, as well as a book chapter which describes the interior space as follows: "The patriotic theme of the exterior was carried over into the proscenium arch and boxes. Gold eagles and Liberty Bells gleamed high on each side of the theatre, framed by ivory-colored decorative carvings, soft amber walls, and crowned by a Colonial-style ceiling dome."

The photograph and this description were used as a guide in selecting locations for sample extraction, as well as in stratigraphy analysis.

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METHODOLOGIES

SITE SAMPLING/INVESTIGATION

The methodology for this paint analysis involved microscopic examination of samples extracted from representative areas of the theater interior, including the proscenium arch, flanking arches and boxes, pediments, balconies and ceiling. Sample locations were documented photographically, and each sample was assigned a reference number according to area, in addition to an individual, sequential number. For the purposes of this study, the theater space was assigned the following terms to describe general areas:

Orchestra	the main floor of the space, generally describing the area
	beneath the lower balcony, including west, east and north
	walls, and rear passage;
Lower Balcony	the lower balcony, including parapet face, east, west and
	north walls and trim elements;
Upper Balcony	the upper balcony, including parapet face, east, west and
	north walls and trim elements, and ceiling section;
Proscenium Arch	the surround to the stage opening, including decorative
	moldings at the pediment (termed "ornaments" for the
	purposes of this study) and wall field above;
Flanking Arches	the canted wall areas to each side of the proscenium arch,
	containing the boxes, and including the tympanum arch,
	pedimental ornament, and wall field above;
Boxes	the surviving box fronts and interior space;
Concealed Boxes a	and Stairhall The surviving stairhall leading to the
	west boxes, and the interior of the lower pair of boxes,
	currently concealed behind a later furred-out wall;
Ceiling	the central ceiling panels and beams, to the south of the
	balcony ceiling.

STRATIGRAPHY ANALYSIS

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One hundred fifty-nine (159) samples, ranging in size from three to ten millimeters in length and up to 1/8" in depth, were extracted using razor knives.

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All extracted samples include the substrate to ensure proper orientation of the paint sequence. At the time of sample extraction, use of a field magnifier allowed for preliminary observations regarding the completeness of the stratigraphy and the nature of the initial layers. Samples were previewed in the laboratory for consistency prior to analysis, then examined with the aid of a stereo binocular microscope (10x-63x). Information obtained from laboratory observation included the color chronology of each cross-section.

SITE AND LAB OBSERVATIONS

GENERAL OBSERVATIONS

Despite heavy dust and soiling conditions in the theater, the interior remains in good condition. There are no signs of structural damage or cracks, and any damage or loss is largely due to interventions, impact or wear, with some isolated water damaged areas. The flat trowelled plaster has suffered more, in general, from interventions, skim-coating, and water damage, while the decorative molded plaster has survived overall in near- pristine condition.

Site and lab observations indicate that the finishes were likely never stripped, nor was there frequent over painting. The higher-exposure areas at the orchestra level were more frequently painted in recent years than the upper areas of the theater space. At least one, possibly two, decorative paint schemes, incorporating decorative patterns or stencils, followed the original decorative finish. Specifically, a metallic flake paint emulating gilding appears to have been used liberally on most of the moldings in a 2nd finish scheme. On specific areas, such as the molded pedimental ornament and ceiling, there has been no overpaint since the current "woody" brown finish scheme, believed to be the 3rd paint campaign. Other more exposed or accessible areas of the balconies and orchestra have been over-painted several times since. Paint cleavage was observed to occur often in these areas at the same brown-tone finish, revealing the matching wall treatments in these areas. More advanced paint flaking is occurring at the plaster interface.

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Microscopic observation of the samples indicates that the initial observed finishes agree largely with the historic description as well as the historic photograph, including "amber" and "ivory" colors, with artificial "gilding" as accents.

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ORCHESTRA

Conditions

The orchestra area, as the most heavily trafficked and accessible area, has suffered from much intervention and damage. The west and east openings, where there were previous stairs to the balconies, have been closed off. A new partition was erected in the passageway in the rear of the space, and the original passage columns appear to have been replaced or covered over. Damage to the flat trowelled plaster of the walls is largely intentional, the result of driving anchors, making openings for wiring, or impact, and the east and west walls appear to be largely skim-coated. At the rear wall, the original wainscot has been covered over with a vinyl covering, and the chairrail has been replaced. The east wall has a large opening, now filled with plywood, and other isolated damage. The coved ceiling at the rear passage, and the underside of the lower balcony exhibit extensive paint flaking and loss, as well as isolated holes cut in the plaster for ductwork. There is an isolated area of water damage at the west end of the balcony.

Finishes

Areas sampled in the orchestra (samples #140 through 145 and #150 through 152) included the west wall field above the chair rail, below the chair rail, as well as approximately 3" above the existing chair rail, where decorative stencilling is expected based on the historic photograph. The north wall was also sampled, behind a missing chair rail, as well as the west side door frame, the metal door leading to the boxes, and molded elements of the entablature at the rear passageway.

The east and west walls above the wainscot have been more recently skimcoated, and early finishes were not observed. Early wall finishes were observed on the sample from below the chair rail and from the north wall sample from behind a missing chair rail (the chair rail was non-original). Both samples reveal an initial layer of **yellowish-brown** followed by a thin clear glaze, an appearance likely equivalent to **"amber."**

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The moldings of the entablature at the rear passage have retained original finishes, the first a metallic treatment, incorporating a system of **aluminum leaf applied over an orange size and with a yellow varnish**, a finish commonly used to emulate gilding.

LOWER BALCONY

Conditions

The formal doorway at the rear of the west side of the lower balcony has been filled in, while the same doorway on the east side has been concealed behind a built-out partition. As at the orchestra, a vinyl covering has been applied to the wainscot of the walls all the way around. On the east wall, an area of plaster and baseboard has bulged out, while the west wall exhibits extensive water damage to the plaster. The ceiling, or underside of the upper balcony exhibits extensive paint flaking and loss, along with a number of holes cut into it for ductwork, especially at the north-west corner.

Finishes

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Areas sampled in the lower balcony area (samples #092 through 101, #134 through 137, and #146 through 149) included elements of the molded parapet face, based on shade differences in the historic photograph (the "shield" versus canted field), the east wall above and below the chair rail as well as the chair rail trim and baseboard, the north wall, the rear door frame, and the moldings at the underside of the balcony. In addition, based on the historic photograph, two samples were taken at the west wall near the top, to correspond with possible original stencilling in that area.

The parapet face moldings were found to be treated initially with a cream (likely corresponding to "ivory"), followed by a thin clear glaze, with the shields and the scallops additionally picked out with a treatment of aluminum leaf on an orange size with a yellow varnish, a system to emulate gilding. The east and north walls were also found to have been treated initially with a yellow-brown ("amber") followed by a thin clear glaze. The chair rail molding and baseboard are likely to be more recent replacements, based on apparent finish stratigraphy.

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PRELIMINARY FINISHES ASSESSMENT: LIBERTY THEATER

The door frame also exhibits an initial yellow-brown/"amber" finish. The area of the west wall, where stencilling was expected, was also found to have been finished initially with yellow-brown. One small fragment of one sample from this area exhibits a discrete dark brown layer over the initial yellow-brown, possibly an element of a decorative design. The subsequent finish, a warm yellow color, also received a decorative treatment in this area, with an observed bright orange and pinkish-white applied. This was not observed elsewhere on the wall surfaces.

UPPER BALCONY

Conditions

As at the lower balcony, the west side formal doorway at the second balcony has been filled in, although the trim molding remains, and the east side doorway has been concealed behind a built-out partition. The rear wall exhibits extensive flaking of the paint finishes, while there is extensive water damage to the plaster at the east wall. As at the lower levels, there are numerous holes in the plaster walls made to accommodate conduits, ductwork or fixtures, etc. The wall surfaces, along with panel moldings, have survived at the upper balcony, and a previous stencil pattern is visible where overpaint has flaked away, as well as in raking light. The pattern, however, appears to be non-original, a later design with brown tones matching the current finishes on the pedimental ornament at the proscenium arch.

A projection booth has been added, suspended at the rear of the theater. The ceiling over the balcony area, while it matches the central ceiling in design, has been more recently and more frequently overpainted. To the east of the projection booth, the ceiling exhibits major flaking of paint with some plaster loss as a result of water damage.

Finishes

Areas sampled in the upper balcony (samples #102 through 111, and #153 through 159) included the east and west wall field and panel moldings, including areas of visible ochre and dark brown stencilling, the tongue-and-groove

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panelling at the stair, the iron suspension rod, and elements of the ceiling at the northwest corner. In addition, two samples were taken at the top of the west wall, where stencilling is indicated on the historic photograph.

The east wall samples were found to also have been treated uniformly with a **yellow-brown** ("amber") finish followed by a thin clear glaze. The panel moldings are believed to have been added later, as they do not appear in the historic photograph; this is reflected in the finish stratigraphy.

As at the lower balcony, the samples from the top of the west wall at the upper balcony indicate an initial finish of **yellow-brown**, or amber, followed by a thin clear glaze but there is no visible evidence of a discrete decorative treatment until the second finish sequence.

The samples from the ceiling reveal a more advanced state of paint deterioration; while the initial finishes appear to be in the yellow-brown family, it is difficult to say for certain they were originally the same "amber" shade, or if they have deteriorated over time and changed color.

PROSCENIUM ARCH

Conditions

The molded plaster ornament at the pediment above the stage opening have survived largely intact. There is very little overpaint on them, indicating that they were not re-painted at often as lower areas of the theater. Damage to the moldings was observed as small isolated chips, and flaking of paint is also very minor. The molding of the stage opening itself has suffered several larger losses, due to the installation of cables, presumably for hanging a projection screen. Otherwise, there is extensive paint flaking on this molding. There were observed to be very small cracks in the flat wall finishes above the

pediment to the east side of the theater, likely due to water damage or efflorescence of the plaster beneath.

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Finishes

Areas sampled in the proscenium arch (samples #018 through 060) included elements of the molded frame to the stage opening, key elements of the decorative molded ornaments of the pediment above the stage opening, and the flat wall field behind.

The finishes of the outer moldings of the frame of the stage opening are largely deteriorated. Those of the cove and inner moldings suggest treatment first with yellow-brown/"amber" but also that the dentils and adjacent molding received a varnished aluminum leaf on orange size, to emulate gilding, and the cove appears to have been picked out in bright orange-red.

The molded plaster ornaments above the stage opening appear to have received an initial treatment of **cream**/"ivory" followed by a thin clear glaze. Select elements additionally received a metallic treatment of varnished **aluminum leaf over an orange size**, to emulate gilding, including the spiral edging on the small vertical piers, the large scallop shell, a recessed panel in the pier between the scallops, the torchiere elements, and the shield element. Other elements may have originally received the metallic leaf also, but may have lost this evidence over time.

A discrete **bright orange-red** was also observed after the cream/"ivory" on selected moldings, including a small scroll element, the flat field beneath the scallops and on horizontal banding.

The whole of this ornamental pediment was later re-painted using a metallic flake paint, and the current brown treatment is likely to be the third finish applied to this area.

The flat wall field behind the moldings appears to have received the same yellow-brown/"amber" finish. A single sample taken from the wall return at the west corner near the engaged torchiere element reveals traces of the aluminum leaf following the initial yellow-brown layer. This could be due either to overlap from the "gilding" of the torchiere, or it could have been applied as part of the decorative running pattern at the wall, as seen in the historic photograph.

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FLANKING ARCHES AND BOXES, EAST AND WEST

Conditions

The lower pair of boxes, both east and west, have been removed and a new wall furred out to cover them. The original recessed spaces at the interior of these boxes still remains behind the new wall and is, on the west side, still accessible. The finishes in the space behind the wall, while early and decoratively done, are not the original, indicating that the boxes were covered over later in the theater's history. All flat plaster below the upper boxes, therefore, is believed to be replacement. The decorative engaged columns nearest the stage both east and west were also removed, presumably at the time the boxes were removed. The major archway or tympanum over the box area appears to have been built-out at the top with a plywood structure, as it does not appear in the historic photo, and the crude edges on the structure are indicative of plywood construction. A canvas covering on it was previously decoratively painted, as seen at areas of flaking overpaint.

The flat trowelled plaster walls to the rear of the boxes has largely lost paint finishes, and at the east side, the doors to the boxes have been bricked in.

Finishes

Areas sampled in the west flanking arch and boxes (samples #001 through 017, 031, 061, 066 through 077, 086 through 091, and #122 through 128) included elements of the molded arch and engaged columns, the box parapet front, the interior box surfaces including wall, panelling and railing, and the pedimental ornaments above the arch, including eagle and Liberty Bell. In addition, samples (#112 through 121) were extracted from the interior of the concealed lower boxes, and from the stairhall behind.

The initial finish of the molded arch appears to be cream/"ivory" with the scallop shell picked out in varnished aluminum leaf over an orange size, to emulate gilding. The engaged pilasters were treated similarly, with the spiral edging picked out with the metallic leaf treatment. The molded parapets of the boxes were treated as were the balcony parapets, in cream/"ivory" with the shield

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elements and the scallop shells treated with an aluminum leaf over orange size to emulate gilding.

The tongue-and-groove interior panelling was initially finished in cream, while the railing scroll was treated in bright yellow. The finishes on the rear wall field did not survive intact.

The finishes on the pedimental ornaments above the arch match those above the stage, with an initial cream/"ivory" finish, followed in select areas by a varnished aluminum leaf over orange size. Such elements include the eagle, the Liberty Bell, and the frame of the bell shield (though not the shield background).

Samples from the concealed boxes and rear stairhall indicate that much of the trim, including door frames, was either added or replaced later. A sample from the wall field in the stairhall in an area behind a missing piece of door trim shows several paint sequences before the door frame was added or replaced. The initial finishes in the rear stairhall match those in the main theater space, with **yellow-brown/"amber"** followed by a glaze used for the walls as well as for the iron balustrade. The current decorative finish in these concealed spaces, which includes a very simple stenciled pattern, is a later finish, believed to be contemporaneous with the brown tones currently seen at the molded ornaments above the stage.

CEILING

Conditions

The ceiling was observed to have a very subtle stencilling pattern in red, black, brown and white, and generally matches the color on the proscenium arch pediment, indicating that this scheme was likely applied contemporaneously. Conditions vary across the ceiling: in some isolated areas, the ceiling plaster and finishes appear sound, while in others there is damage to the finishes from flaking, water damage or efflorescence of the plaster substrate. The plaster itself appears largely intact, except for one corner beam at the south-west corner which appears to have been patched. The ghost outline of the now-missing original light fixtures at the center of each flanking panel are visible, and have been

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crudely overpainted. The same over-paint was also observed applied in spot locations throughout the ceiling, presumably to address isolated conditions of flaking or loss of paint.

Finishes

Areas sampled in the central ceiling (samples #062 through 065, 078 through 085, and #130 through 133) included the moldings of the cornice at the west wall, the primary beams including areas of visible stencilling, the field of the recessed panels, and the moldings at the center recessed field.

The samples from the ceiling, overall, are in very poor condition, and in both areas chosen for sampling (the west edge moldings, and the center beam and field), little if anything survives of the original finishes. It is likely that poor environmental conditions at the ceiling level, relative to the rest of the theater space, have lead to the deterioration of any original finishes. The existing finish layers represent a single paint campaign, which matches the later finishes as seen currently at the decorative pediment above the stage.

Additional, more thorough sampling in this area as well as in the ceiling above the second balcony, would be required to gain a better understanding. One option for understanding the original finish on the central ceiling may be to extrapolate from any initial finishes which survive in the ceiling above the second balcony, which is similar in design. This area, however, was also observed to have retained few if any early finishes, and conditions are poor.

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INITIAL RECOMMENDATIONS

The theater interior will require a certain amount of plaster repair, removal of flaking paint and stripping and/or stabilization of existing paint before recreation can be considered either for the whole space, or for part of it. In order to fully document the existing evidence, the following investigative measures are recommended.

- Conduct more thorough historic research, to uncover any additional historic photographs or descriptive literature which may guide in developing a more complete understanding of the original finishes.
- Conduct more thorough sampling in those areas which are believed to be decorative, such as the stencilled wall area and the ceilings.
- Conduct more thorough sample review and stratigraphy analysis of those samples already extracted, with color-matching of the original finishes noted.
- Perform small-scale exposures to uncover any surviving stencil patterns in areas indicated in the historic photo, as well as to show the original appearances of the "ivory" and "amber" finishes;
- Execute a mock-up panel recreating the original finishes once they are understood and documented, in order to assess the overall appearance of the space as it looked when the theater opened.

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Appendix A: Extracted Paint Sample Locations

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APPENDICES

SAMPLING LOCATIONS

AREA	SUBSTRATE	LOCATION	OBS/NOTES	SAMPLE #
Flanking	plywood	plywood panel - stencilled circle	added later	9941.W.001
Arch - West	molded plaster	arch molding - volute		9941.W.002
Artas ricor	molded plaster	arch molding - leaf		9941.W.003
	molded plaster	and molding scallon		9941.W.004
	molded plaster	arch molding based hand		9941 W 005
	molded plaster	arch molding - beaded band		9941 W 006
	molded plaster	arch molding - har molding border		0041 147 007
	molded plaster	arch molding - frame		9941.007
	plywood	plywood panel - edge molding	added later	9941.W.008
	plywood	plywood panel - border	added later	9941.W.009
	molded plaster	pilaster - cap		9941.W.010
	molded plaster	pilaster - acanthus band		9941.W.011
	molded plaster	pilaster - urn at panel		9941.W.012
	molded plaster	pilaster - capital, leaf	9941.W.013	
	molded plaster	nilaster shaft - sniral edging		9941.W.014
	molded plaster	(riaza (hox zaveal) - field		9941 W 015
1	molded plaster	Aligner (how reveal) higherer		9941 W 016
	molded plaster	meze (box reveal) - blossom	9941 W 017	
	plywood	prywood panel cening	9941 W (131	
	tr Plactor	wall field at corner below clg beam	9941.W.061	
	molded placter	Embellishement - eagle's chest		9941.W.066
	molded plaster	pediment ornament - shield field	9941.W.067	
	molded plaster	pediment ornament - liberty bell		9941.W.068
	molded plaster	pediment ornament - shield frame		9941.W.069
	molded plaster	pediment ornament - left flank arch field		9941.W.070
	molded plaster	pediment ornament - left flank rosette panel		9941.W.071
	molded plaster	pediment ornament - vertical pier		9941.W.072
	molded plaster	pediment ornament - left flank segmented s	piral	9941.W.073
	molded plaster	pediment ornament - dentils		9941.W.074
	molded plaster	pediment ornament - frame of scallops		9941.W.075
	molded plaster	pediment ornament - background at scallop	\$	9941.W.076
	molded plaster	pediment ornament - topmost bracket		9941.W.077
	molded plaster	upper box fronts - dentils at corner		9941.W.086
	molded plaster	upper box fronts - scallops	prev. gilded	9941.W.087
	molded plaster	upper box fronts - canted field		9941.W.088
	molded plaster	upper box fronts - shields	prev. gilded	9941.W.089
	molded plaster	upper box underside - spiral molding "acorr	n"	9941.W.090
	molded plaster	upper box underside - field		9941.W.091
	tr. Plaster	flat wall field, box rear		9941.W.122
	wood	tongue+groove panel, inside parapet		9941.W.123
	iron	railing, scroll support	prev. gilded	9941.W.124
	molded plaster	pilaster edge, vertical flat molding	prev. gilded	9941.W.125
	molded plaster	pilaster edge, leaf in capital		9941.W.126
	molded plaster	pilaster edge, laurel leaf shaft panel		9941.W.127
	molded plaster	pliaster edge, large spiral molding, thin strip	p	9941.W.128

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SAMPLING LOCATIONS

AREA		LOCATION	OBS/NOTES	SAMPLE #	
Proscenium	molded plaster	frame molding - fascia adj to dentil molding		9941.S.018	
Arch	molded plaster	frame molding - dentil		9941.S.019	
	molded plaster	frame molding - cove		9941.S.020	
	molded plaster	frame - sm. Fascia adj to cove		9941.S.021	
	molded plaster	frame - outermost molding		9941.S.022	
	molded plaster	pediment ornament - shaft		9941.S.023	
	molded plaster	pediment ornament - spiral edging		9941.S.024	
	molded plaster	pediment ornament - larger spiral shaft		9941.S.025	
	molded plaster	pediment ornament - dropped rosette		9941.S.026	
	molded plaster	pediment ornament - sm. Comice molding		9941.S.027	
	molded plaster	pediment ornament - fascia		9941.S.028	
	molded plaster	pediment ornament - larger cornice mldg	9941.S.029		
	molded plaster	nediment ornament - scroll		9941.S.030	
	molded plaster	pediment ornament - field		9941.5.032	
	molded plaster	nediment ornament - horiz. Band		9941.S.033	
	molded plaster	nediment ornament - square panels		9941.5.034	
	molded plaster	pediment ornament - sm. Scroll		9941.S.035	
	molded plaster	pediment ornament - vertical flat molding	9941.S.036		
	molded plaster	nediment ornament - volute term. Of scallop		9941.S.037	
	molded plaster	pediment ornament - volute at drop		9941.S.038	
	molded plaster	pediment ornament - fascia above drop		9941.S. 039	
	molded plaster	pediment ornament - colonnette base		9941.S.040	
	molded plaster	pediment ornament - molded drop		9941.S.041	
	molded plaster	pediment ornament - scallon		9941 S 042	
	molded plaster	pediment ornament - frame adi to colonnette	2	9941.5.043	
	molded plaster	pediment ornament - sm scotia molding		9941.5.044	
	molded plaster	pediment ornament - rosette		9941 S.045	
	molded plaster	nediment ornament - sm dentils		9941 5.046	
	molded plaster	pediment ornament - cove comice molding		9941 \$ 047	
	molded plaster	pediment ornament - core connice moraning	1. State	9941 5 048	
	molded plaster	nadiment ornament - shield		9941 5 049	
	molded plaster	rediment ornament - Jaural leaf hand		9941 5 050	
	molded plaster	pediment ornament - horiz hand		9941 5 051	
	molded plaster	pediment ornament - nonz bard		9941 \$ 052	
	molded plaster	adjunct arrament torchiors at ton		0041 C 052	
	molded plaster	pediment ornament - torchiere at top		0041 C 054	
	molded plaster	pediment ornament angaged tower side pre	a los	0041 0 055	
	the Dianter	peculierit ornanierit - engaged tower center	ALL .	0041 0 05/	
-	molded platter	wan neid adj to engaged tower	lda	9941 6 057	
	molded plaster	pediment ornament - corner tower cornice in	alory torshippe	0041 0050	
	molded plaster	pediment ornament - corner tower, beaded b	elow torchiere	7741.5.050	
	molded plaster	pediment ornament - corner tower top forch	ere	7941.5.059	
	tr. Plaster	wall field below cig beam at corner		9941. 5.060	

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SAMPLING LOCATIONS

AREA	SUBSTRATE	LOCATION	OBS/NOTES	SAMPLE #
Ceiling	molded plaster	fascia at west wall		9941.C.062
	plaster	beam terminus at corner - red in stencil		9941.C.063
	plaster	beam terminus at corner - white in stencil		9941.C.064
	plaster	side of beam at corner		9941.C.065
	molded plaster	comice - bottom most cove		9941.W.078
	molded plaster	comice - fascia panel		9941.W.079
	molded plaster	comice - rounded molding		9941.W.080
	molded plaster	flat perimeter band		9941.W.081
	molded plaster	small flat molding		9941.W.082
	molded plaster	flat field, edge (side panel)		9941.W.083
	molded plaster	flat field edge, black in border stencil		9941.W.084
	molded plaster	flat field edge, red in border stencil		9941.W.085
	plaster	center opening, beam face	1	9941.C.130
	plaster	beam fascia facing in, with round stencil		9941.C.131
	plaster	small round mldg below fascia (131)	10	9941.C.132
	plaster	canted join of beam to ceiling		9941.C.133
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SAMPLING LOCATIONS

AREA	SUBSTRATE	LOCATION	OBS/NOTES	SAMPLE #
Balcony,	molded plaster	parapet face, organic inset		9941.N.092
Lower	molded plaster	parapet face, shield		9941.N.093
	molded plaster	parapet face, canted field		9941.N.094
	molded plaster	parapet face, scallop molding		9941.N.095
	tr. Plaster	wall return behind boxes, east		9941.E.096
	molded plaster	molding adj spiral at boxes return, east		9941.E.097
	tr. Plaster	east wall above chair rail		9941.E.098
	tr. Plaster	east wall below chair rail		9941.E.099
	tr. Plaster	north/rear wall above chair rail		9941.N.100
	wood	rear door frame, west		9941.W.101
	molded plaster	balcony underside-soffit, flat edge		9941.N.134
	molded plaster	balcony underside-soffit, 2nd flat panel		9941.N.135
	molded plaster	balcony underside-soffit, round molding		9941.N.136
	molded plaster	balcony underside-soffit, center panel mldg		9941.N.137
	wood	east wall, chair rail molding		9941.E.146
	wood	east wall, baseboard		9941.E.147
	tr plaster	west wall field, 4" from top (stencil?)		9941.W.148
	tr. plaster	west wall field, left and below 148		9941.W.149
	100012 2000 U.S.			9941 E 102
Balcony,	tr. Plaster	wall return adj to boxes, east		9941 E 103
Upper	tr. Plaster	east wall, between panel moldings		0941 E 104
1.000	tr. Plaster	east wall, within panel moldings		9941 E 105
	molded plaster	wall return molding, drop		9941.E.106
	wood	east wall outer panel molding		0041 E 107
	tr. Plaster	east wall, btween moldings, area of stencil	_	9941.E.10/
	tr. Plaster	east wall, between moldings (stencil?)		9941.E.100
	tr. Plaster	west wall, stencil around door (=107/108)		9941.00.109
	wood	tongue+groove panelling at stair, west		9941.00.110
	iron	suspension rod		9941.00.111
Ú	molded plaster	northwest ceiling, lattice		9941.W.153
	molded plaster	northwest ceiling, flat mldg inside lattice		9941.W.154
	molded plaster	northwest ceiling, cove		9941.W.155
	plaster	northwest ceiling, flat field		9941.W.156
	tr. Plaster	west wall, inside panel molding (stencil?)	1	9941.W.157
	tr. Plaster	west wall above rear doorway, 2' down		9941.W.158
	tr. Plaster	west wall above rear doorway, 6" down		9941.W.159

SAMPLING LOCATIONS

AREA	SUBSTRATE	LOCATION	OBS/NOTES	SAMPLE #
Lower Boxes	molded plaster	edge frieze, field		9941.W.112
West,	molded plaster	edge frieze, blossom		9941.W.113
Concealed	molded plaster	edge frieze, loose chunk from bottom		9941.W.113A
	wood	doorway to rear hall, frame molding	prev. gilded	9941.W.114
	wood	doorway to rear hall, frame		9941.W.115
	tr. Plaster	flat wall rear of box		9941.W.116
Stairhall	wood	panel molding at walls		9941.W.117
at Boxes	tr. Plaster	wall field, inside panel molding		9941.W.118
	tr. Plaster	wall field, upper level		9941.W.119
	tr. Plaster	wall field, upper level, behind missing trim		9941.W.119A
	wood	doorway to upper boxes, frame		9941.W.120
	iron	stair balustrade		9941.W.121

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SAMPLING LOCATIONS

AREA	SUBSTRATE	LOCATION	OBS/NOTES	SAMPLE
Orchestra	tr. Plaster	wall field west, below chair rail		9941.W.140
Primary	tr. Plaster	wall field west above chair rail	prev. light fixture	9941.W.141
floor)	tr. Plaster	wall field west, 3° above chair rail (stencil?)	A share the	9941.W.142
	wood	west side door, frame molding	prev. gilded	9941.W.143
	metal (Al?)	door to stairhall to boxes	prev. faux wood	9941.W.144
	tr. plaster	wall field north, behind missing chair rail		9941.N.145
	molded plaster	rear passage, entablature mldg, cove		9941.N.150
	molded plaster	rear passage entablature, leaf		9941.N.151
	molded plaster	rear passag entablature, top cove		9941.N.152
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Appendix B: Representative Finish Stratigraphies

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Project/Site Liberty Theater Interior	(Sample #	9941.W.140	
ICR project # 9941		Sample Location	ORCHESTRA wall west, fiel	d below chairrail
		Date extracted	12/20/1999	By TR
		Date examined		By: TR
Mounted/Unmounted? unmounted	Substra	te_plaster		
F	Finish S	Stratigraphy:		Notes/Comments:
Photomicrograph	1.	shellac primer		primer coat
	2.	amber + clear glaze		finish
The second s	3.	amber		
	4.	pinkish-white		thin layer
A CONTRACTOR OF THE PARTY OF TH	5.	bright red		2 coats
	6.	bright red		
	7.	dark varnish		
A REAL PROPERTY AND A REAL	8.	bright red		
	9.	light grey		
	10.	dark blue		2 coats
	11.	tan		
Magnification $x30$	12.	dark varnish		thick layer
	13.	tan		
Pigments identified	14.	dark varnish		
	15.	medium brown		etc
		Suspected original	amber with c	lear glaze
Medium identified		Munsell Color match		Color swatch
		Commercial color match		

Project/Site Liberty Theater Interior	Sample #	9941.N.150	
ICR project # 9941	Sample Location	ORCHESTRA rear passage,	entablature molding cove
	Date extracted	12/20/1999	by TR
	Date examined		ву: TR
Mounted/Unmounted? unmounted Su	ubstrate plaster		
Fir	nish Stratigraphy:	I	Notes/Comments:
Photomicrograph	1. shellac		primer coat
	2. ivory		
	3. <u>aluminum leaf/yellow</u>	clear coating	artificial gilding system
the second s	4. metallic flake paint		
a week a company of the second s	5. dark red		areas only
	6. tellow-tan		
	7. medium brown		
	8. black		
the second se	9. medium brown		
	10. white		
	11. varnish		
Magnification X30	12. peach-pink		
	13. blue-grey		
Pigments identified	14. bright red		final/current paint layer
	15.		
	Suspected original	aluminum lea	f system
Medium identified	Munsell Color match		Color swatch
	Commercial color match		

	4			
Project/Site Liberty Theater Interior		Sample #	9941.W.066	~
ICR project # 9941		Sample Location	FLANKING A ornamental ea	ARCH WEST agle at pediment
		Date extracted	12/20/1999	By TR
		Date examined		By: TR
Mounted/Unmounted? unmounted 5	Substra	te plaster		
F	inish S	Stratigraphy:	I	Notes/Comments:
Photomicrograph	1.	shellac		primer coat
	2.	ivory		base coat
	3.	yellow size/aluminum	n leaf/clear cg	artificial gilding system - finish
	4.	tan		
	5.	dark brown glaze		final layer
	6.			
Construction of the State of th	7.			
	8.			
	9.			
	10.			
	11.			
Magnification	12.			
	13.			
Pigments identified	15.			
			-1	((
		Suspected original	aluminum lea	I system
Medium identified		Munsell Color match		
		manio ca conor match		
		Commercial color match		

Difference Libertry Theorem Interview			0044 144 450		
Project/Site LIDerty I heater Interior		Sample #	9941.W.159		
ICR project #		Sample Location	West wall abo	ONY ve rear do	orway, 6" below
		Date extracted	12/20/1999		By TR
		Date examined			ву: TR
Mounted/Unmounted? unmounted	Substra	te plaster			
I	Finish	Stratigraphy:	1	Notes/Comn	nents:
Photomicrograph	1.	shellac		primer c	oat
	2.	amber + clear glaze		finish	
	3.	amber			
	4.	bright orange		decorati	ve treatment
Area And Department of the Area	5.	pinkish-white			
No. 1040 - Contraction of the Co	6.	bright red			
	7.	dark red		2 coats	
	8.	light tan			
	9.	orange-peach			
	10.	dark brown			
	11.	light tan			· · · · · · · · · · · · · · · · · · ·
lagnification X30	12.	dark varnish			
	13.	rose			
igments identified	14.	blue-grey			
	15.	beige			
		Suspected original	amber with cl	ear glaze	
ledium identified					Color swatch
		Munsell Color match			
		Commercial color match			

Project/Site Liberty Theater Interior		Sample #	9941.W.118	
ICR project # 9941		Sample Location	CONCEALED BOXES/ stairhall wall field, with	STAIRHALL in panel mldg
		Date extracted	12/20/1999	By TR
		Date examined		ву: TR
Mounted/Unmounted? unmounted	Substra	te <u>plaster</u>		_
	Finish 8	Stratigraphy:	Notes/Com	nents:
Photomicrograph	1.	shellac	primer	coat
	2.	amber + clear glaze	finish	
	3.	amber		
and the second	4.	bright red		
and the second of the second	5.	dark red	2 coats	
	6.	tan	2 coats	
	7.	dark glaze (or dirt)		······································
	8.	warm tan		
	9.	medium brown		
	10.	dark glaze	final lay	er
	11.			
Magnification x25	12.			
	13.			
Pigments identified	14.			
	15.			
		Suspected original	amber with clear glaze	
Medium identified				Color swatch
		Munsell Color match		-
		Commercial color match		_



NOTE: STENCIL PATTERN DERIVED

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LIBERTY THEATER INTERIOR PRELIMINARY COLOR PROJECTION based on initial findings

INTEGRATED CONSERVATION RESOURCES, "NC. JANUARY 2000

LEGEND:

NOTE: COLORS HAVE BEEN MATCHED FOR THE PURPOSE OF THIS RENDERING TO PAINTLAYERS IN CROSS-SECTION, AND ARE NOT PRESENTED AS THE FINAL SURFACE APPEARANCE OF THE ORIGINAL FINISHES (EXPOSURE WINDOWS WOULD BE REQUIRED)

BECAUSE OF THE VARIABILITY IN PRINTER INKS, THE RENDERED COLORS ARE ONLY APPROXIMATIONS TO THE COLORS OBSERVED.

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METALLIC



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Pre-Schematic Exterior Condition Documentation

Prepared for

The Barnum Museum 820 Main Street, Bridgeport, Ct.

Prepared by Moss Preservation Works, LLC July 23, 2018 <u>DRAFT</u>

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- Terra Cotta Frieze, Pilasters, and Column 2nd Floor
- Brownstone
- South Elevation Brick (and Terra Cotta Copings)
- Windows
- Doors

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A. Existing Elevations (Exterior)

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- Appendix A: Structural Assessment by GNCB
- Appendix B: MEP Assessment by LFG
- Appendix C: Eagle View Roof Report/Estimates (2/21/18)

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION

I. Purpose and Scope

A. PURPOSE OF REPORT

This report was prepared by Moss Preservation Works (MPW) for Antinozzi Associates. It includes an assessment of the exterior of the Barnum Museum, located at 820 Main Street, Bridgeport, Ct.



Photo 1: Articulated lift survey June 6, 2018.

B. SCOPE OF WORK

MPW was retained to perform historic preservation-related services on the Barnum Museum. MPW visited the site on May 15, 2015 to prepare pre-survey drawings and performed a close inspection via 125-foot articulated lift on June 4-6, 2018 to survey and photograph the existing conditions. Photos from the last articulated lift survey in 2008 have been reviewed for any indication of specific on-going conditions deterioration. This report is an updated and more comprehensive exterior assessment than what was performed for the Condition Assessment specifically prepared following the disaster impact damage.

C. LIMITATIONS

This report is based preliminary on visual observations by MPW in May and June 2018. The investigation was not aided during this phase by probes, borings or testing of materials.

II. Background Information

A. THE BARNUM MUSEUM

Original Construction

The Barnum Museum is located at 820 Main Street in downtown Bridgeport, Ct. Commissioned by P.T. Barnum, the architectural firm of Longstaff and Hurd designed the "Barnum Institute of Science and History, which was completed in 1893. This is the last surviving structure attributed to the life and accomplishments of P.T. Barnum.

The Romanesque Revival style exterior was constructed primarily of heavy brownstone blocks, buff-colored brick and ornamental terra cotta; secondary façades have red brick and simple brownstone lintels and sills. Particularly striking are the tiled tower and main dome roofs and the high relief terra cotta relief panels at the base of the dome. These panels, designed by the sculptor Henry Plasschaert, depict historic events and icons from various periods in American history.

The Barnum Institute of Science and History was commissioned to house P.T. Barnum's collection of primarily 18th and 19th century American material culture and decorative arts, biological specimens and selective ancient relics including a 4,000-year-old Egyptian mummy. Barnum conceived the museum to function as a meeting space, research archive, and repository of his personal collection as well as the collections of the Bridgeport Scientific, Bridgeport Medical, and Fairfield County Historic Societies to help promote public knowledge.

Alterations

According to the 1972 National Register Nomination Form, the City of Bridgeport took possession of the building in 1934 for office use and relegated the museum functions to the third floor. At this time, the exterior of the building was cleaned. In 1966, the municipal workers were re-located, and the interior was renovated, and the exterior stone and terra cotta façade was sand-blasted. In 1972, the Museum was still essentially a free-standing structure, prominently displayed at the end of Main Street.

In 1986, Richard Meier Architects designed a new corporate headquarters for the People's Bank, on the plot of land adjoining the Museum. The adjacent new bank building wraps around the secondary east and south elevations, thereby reconfiguring the streetscape and encapsulating part of the historic structure. The new footprint changed the building's original visual experience as well as has negatively impacted weather conditions at the east elevation, where the bricks are almost always in shade and no longer have the chance to "dry out" at their original rate. Coordinated with the building of the adjacent People's Bank Building, a large-scale interior and exterior restoration of the Museum occurred between 1986 and 1989.

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 4

The bank connects to approximately two-thirds of the south elevation and consists of a 7,000 square foot exhibition gallery and classroom for the Barnum Museum. During the 1980s restoration, significant amounts of the historic interior finishes at the second and third floor were covered with gypsum wall board. During that time, some of the missing historic hardware was replaced with period-appropriate replications.

In 2010, the significance of the Barnum Museum was reinforced by the amended listing in the National Register of Historic Spaces, which elevated its historical status since the initial 1972 listing.



Photo 2: Historic photo of the Barnum Institute of Science and History.



Photo 3: Historic post card of the Barnum Institute of Science and History (ca. 1908).

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III. Existing Conditions Assessment

& Recommendations

A. ARCHITECTURAL ASSESSMENT

Overall, the building envelope is in good to fair condition, with all elevations requiring remediation work. Most significant deterioration is associated with the tiled roofs, windows, terra cotta balcony parapets, exterior distress from associated interior structural deficiencies, and systemic deteriorated mortar joints throughout the north, west and south elevations.

<u>1. Roof</u>

The Barnum Museum has a complex system of roofing systems ranging from flat roofs at the balconies and main roof, sloped tiled roofs to domed tiled tile and sheet metal roofs. The main flat EPDM roof was installed most recently and is in overall in good condition with no evident signs of leaks. The sheet metal domed roof shows no obvious signs of distress or breaks in the solder seams. All the tiled roofs are in fair to poor condition and should be replaced. The built-up flat membrane roofing at the west and north balconies are also in poor condition and have exceeded their service life and should be replaced in coordination with additional terra cotta repairs at the balconies.



Photo 4: Aerial photo provide by Eagle View, 2018.

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Photo 5: Annotated Roof Plan.

Tiled Dome Roof

One of the most prominent features of the Barnum Museum is the 40-foot hemispherical dome clad in red clay terra cotta tile and copper cap topped by a gilded eagle. The tiles are laid up in 16 rows high that incrementally decrease in size with each successive course to accommodate the spherical dome configuration. At the top of the dome, the tile terminates at a copper sheet metal cap, from which rises the gilded eagle. Eight (8) oculus wood windows, flashed with lead-coated copper, penetrate the northwest corner.

The condition of the dome exterior is in overall poor condition. Based on historic photographs, the last major restoration of the tiled dome was in the early 1980s, before the construction of the People's Bank Building. Over time, stresses from the original structural configuration, exacerbated by the 2010 tornado, led to deflection of the dome. The tile and wood windows should be replaced. Several tiles have slipped and show signs of previous repairs that have reached the end of their service life. All the single-glazed wood windows are deteriorated and should be replaced with energy-efficient windows that match the historic profiles.

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Photo 6: Construction photo ca. 1980 showing new tile installation almost complete at the dome.



Photo 7: Current dome showing distortion, view from southwest.



Photo 8: Current dome showing distortion and slipped tile, view from southeast.

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Photo 9: Cracked dome tile and broken tile fallen into gutter below first window at west elevation.



Photo 10: Cracked and chipped dome tile on west elevation, above sidewalk.



Photo 11: Area of cracked dome tile previously and inappropriately repaired with caulk.

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Tiled Tower Roof (Southwest Corner)

The southwest corner is dominated by a steeply pitched tiled roof, topped with decorative copper cap and lightning protection. Each of the four sides of the tower is composed of 24 rows high of tile, with 18 rows of barrel-shaped capping tiles at each corner. A sheet metal access hatch at the base of the roof on the east elevation is accessible from the main flat roof. Since the last close inspection was performed in 2008, the tower roof has substantially deteriorated and is in overall poor condition with potential hazards from loose tiles.

Photos from the 2008 close survey performed by GNCB show that the copper finial was in overall good condition, with selective areas of copper pitting and minor material loss. However, the current June 2018 survey confirms that the condition of the Stair Tower Roof is deteriorating at an accelerated rate. Three ridge cap tiles have fallen from the southeast corner, just below the copper cap, resulting in exposed wood underlayment that allows for increased water infiltration into the roofing system (condition first observed and documented in 2011). The copper finial cap has detached and is only held by the lightning protection cabling. The loss of the cap encourages seagull roosting, resulting in excessive droppings that contribute to the copper deterioration.



Photos 12 and 13: South view of copper cap of tower roof taken in 2008 (left), in 2011 (middle) and again in 2018 (right). Note detachment of top cap, two missing tiles and exposed wood underlayment that have occurred since last close inspection in 2008. Deleterious seagull droppings have continued to accumulate on the copper and tile.



Photo 14: Missing copper element at southwest corner of copper cap.

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Photos 15 and 16: East elevation overview and close-up of a perching seagull at top of roof.



Photos 17 and 18: South elevation broken tile in the gutter and west elevation close-up of previous repair starting to fail.

West Tiled Sloped Roof (Between Dome and Tower and above West Balcony)

There is a sloped roof on the west elevation located between the Main Dome and the Tower Roof. The roof is composed of 19-courses high of S-shaped red clay tile by approximately 22 courses wide, capped by "camel-back" coping tiles. The southwest corner of the dome drains onto the West Sloped roof, which has a copper gutter that slopes to an internal drain at its south side. Approximately 1-foot high of copper flashing is exposed below the bottom of the lowest course of tile. The base of the gutter is approximately 4-inches wide and approximately 5 ½-inches deep. The flashing is screwed in place and the seams soldered. The West Sloped Roof is overall in much better condition than the other tiled roofs on the building. However, based on the extent of adjacent roofing and masonry repairs, replacement coordinated with adjacent roofing should be considered instead of extensive and expensive protection plan.

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Photos 19 and 20: West Sloped Roof viewed to the north (left) and to the south (right). Note copper leader from Dome gutter to West Roof gutter.



Photos 21 and 22: West Sloped Roof viewed to the south overview (left) and drain close-up (right).

North Tiled Sloped Roof (Between Dome and East Gable Roof and above North Balcony)

There is a sloped roof on the west elevation located between the Main Dome and the East Gable Roof. The roof is composed of 17-courses high of S-shaped red clay tile, capped by "camel-back" coping tiles. The northeast of the dome drains onto the North Sloped roof, which has an interior gutter at the east side of its gutter.



Photos 23 and 24: North Sloped Roof overview (left) and top half (right) between East Gable and Main Dome.

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The tiles are in overall good condition with limited cracked units. The major concern that should be addressed is at the base of the roof, where the gutter is bowed and rolling outward. The base of the wall below at the north balcony does not appear to be sufficiently tied back to the base of the interior roofing structure. No repairs should be made to the exterior without structural repair coordination.



Photos 25 and 26: North Roof gutter filled with water and bowing outward (left); isolated cracked tiles (right).



Photos 27 and 28: Photo on left from 2008 shows gutter clear; photo on right shows gutter filled with water from clogged drain.

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 13



Photos 29 and 30: Top of north roof ridge - note slight bowing outward in center (sim. to bowing at base of roof).

North Gabled Roof and East Sloped Roof

There is a tiled gabled roof at the east side of the north elevation at the attic level. The portion of the roof at the gable is capped with barrel-tile ridge caps; at the southern extension beyond the gable, the eastern sloped roof is caped with camel-backed tile coping units. This roof is in overall fair to poor condition. Several tiles on the west face of the gable are broken and have fallen into the gutter below. The gutter drain is clogged with broken tiles and remains of a dead pigeon, preventing proper water drainage. The front masonry wall and terra cotta coping units has pulled away from the building structure and is not sufficiently secured. The sealant joint between the roof tiles and the coping stones is substantially wider at the top of the roof, where the separation from the building is most pronounced. In 2015, the Museum hired a contractor to perform temporary repairs to apply new sealant at this location to minimize water infiltration until structural diagnosis and repairs are made. Also in 2015, contractors replaced isolated missing and broken tiles. In addition, liquid waterproof coating was applied to the inside of the gutter to seal the regular interval of holes in the gutter caused from galvanic action of ferrous nails used on the roof deteriorating the copper gutter below. In 2015, the repairs were considered temporary until a full-scale roof and gutter replacement could occur.

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Photos 31 and 32: Overview of west side of north gable. Image on left from 2011 showing one missing tile and clear gutter drain. Image on right from 2018 shows additional missing and cracked tiles and clogged gutter drain.



Photo 33: June 2018 image of gutter filled with water due to clogged drain from fallen tiles and pigeon remains.



Photos 34 and 35: Photos from 2015, prior to temporary sealant repairs. Note the separation of sealant between tile and copings related to the leaning wall detached from the building. Photo on right taken from attic, looking up to daylight through cracks between masonry and roof structure. This was temporarily sealed (but not structurally repaired) in 2015.

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Small Dome Roof

The southeast stair tower is topped by an 18-foot diameter flat-seamed sheet metal domed roof. A lighting bolt projects from the top of the dome. Because of the location, close-survey of the dome via articulated man-lift survey was not possible. However, as viewed via binoculars and from inside the dome, there is no evidence of active water damage. From the interior, there is evidence of previous patches to the underside of the wood sheathing. The 11 courses of interlocked sheet metal panels appear to be sound and soldered; however, an allowance for selective repairs should be included for any holistic exterior restoration project. The open-air ventilation between the base of the dome and top of the brick structure below is currently protected by screening to prevent infiltration of birds.



Photo 36: view of small dome roof taken from articulated lift near southwest corner.



Photo 37: Interior of small dome roof; no obvious active deterioration but minor paint coating discoloration and evidence of previous patch repairs.

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West and North Balcony Roofs

Both balcony roofs are composed of flat built-up membrane construction that has reached the end of its service life. Both roofs are in very poor condition and lack proper flashing.



Photos 40 and 41: North balcony roof overview and close-up deterioration and improper flashing at west balcony roof.

Main Flat Roof

The main flat roof is composed of an EPDM roofing system manufactured by FiresStone and installed in 2005. The roof has several ducts and other penetrations. Overall, the EPDM roof appears to be in good condition. However, during a comprehensive exterior restoration program, roof replacement should be considered to upgrade the roofing system to current energy code standards for maximum efficiency, and to accommodate mechanical upgrades.

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Photos 42 and 43: Aerial of Main Roof and view from southeast stair tower looking west towards southwest tower.



Photos 44 and 45: Main roof looking northwest (left) and north (right). Not of Main Roof and view from southeast stair tower looking west towards southwest tower.

2. Façade

Materials that make up the façade are predominantly composed of red and buff-colored brick, red and buff-colored terra cotta (including both plain and decorative elements), wood-framed windows and brownstone. In general, the materials have performed well. Typically, deterioration can be traced to a combination of natural weathering, often exacerbated by previous cleaning or repair treatments, inappropriate anchorage systems, and structural deficiencies inherent with the original design.

Chimney

A buff-colored and red-brick chimney rises above the south elevation parapet on the Main Roof. The chimney is capped with red terra cotta coping stones. The chimney is overall in fair to poor condition, with open mortar joints and brick and terra cotta displacement at the upper courses. Virtually all of the mortar joints are deteriorated. Much of the red brick exhibits deterioration and loss of the protective "fire skin" from inappropriate previous sandblasting.

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Photos 46 and 47: Overview of west and south elevations of chimney; close-up of deteriorated mortar joints and loss of protective "fire skin".



Photos 48 and 49: Displaced brick and terra cotta at upper courses of chimney.

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 19

Southeast Domed Stair Tower

The exterior of the two-story high, 18-foot diameter tower is predominantly composed of buff-colored brick with terra cotta trim. A hollow-metal door (in poor condition), leads to the main roof. The brick tower rests on a red terra cotta base, including a built-in perimeter gutter at the south elevation (currently covered with roofing tar). The terra cotta base, in turn, sits on common red brick on the exposed portions of the north, east and south elevations. The mortar joints of the terra cotta and red brick are fully deteriorated. The lowest course of the terra cotta base is typically cracked and spalled where conduits have inappropriately been attached directly to the terra cotta instead of into the mortar joints. Three metal-clad windows (in poor condition) are on the first level, set within terra cotta arched openings with terra cotta sills. Twelve wood-framed single-glazed oculus windows (in fair condition) are at the base of the second level. The oculi windows are set within brick and terra cotta arches, with repeating pattern of three distinct decorative terra cotta faces (in good condition).

An area of pronounced step cracking through the mortar joints is visible on the north elevation. This crack telegraphs through to the interior, where it is more pronounced. In general, the condition of the interior red brick is in much worse condition, exhibiting mortar deterioration and diagonal step cracking. Any long-term repair should be coordinated with structural stabilization to address the current lack of any tension ring.



Photos 50 and 51: View of north and west elevations of the southeast stair tower.

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Photos 52 and 53: Terra cotta mortar deterioration and spalls from conduit attachments. Interior view of second level with extensive mortar deterioration and diagonal step cracking.

Southwest Stair Tower and Perimeter Turrets

The southwest corner is dominated by the stair tower, which rises above the brownstone entrance. Decorative elements are found on the west and exposed north elevations. The south and limited exposure of the east elevation are faced with common red brick. The west elevation second floor is composed of buff-colored brick with red terra cotta window trim. The monumental wood windows of the third floor are surrounded by terra cotta pilasters and window trim. The attic level of the west and north elevations is predominantly buff-colored brick with red terra cotta courses. Corner brick turrets (58 courses high), capped with terra cotta (a four-piece base with a solid rounded cap), rise from the attic level and extent about a 1/3 of the roof height. The turrets are composed of specialty-shaped rounded bricks.

Overall, the exterior masonry elements of the southwest stair tower are in good condition, with extensive mortar deterioration and selected cracked brick and terra cotta higher up. All the perimeter turrets suffer mortar deterioration. The terra cotta caps have lighting protection anchored directly into the terra cotta; as a result, the southwest corner unit exhibits hairline cracking. The northeast turret has cracked brick where the lightning protection was anchored into the brick instead of the mortar joint. At the north elevation, there are areas of extensive inappropriate caulk repairs, which contribute to adjacent mortar deterioration and infiltration into the building.

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 21



Photos 54 and 55: Top floor of tower and close-up of cracked southwest terra cotta corner cap.



Photos 56 and 57: Typ. mortar deterioration of turrets and terra cotta, and inappropriate caulk at northwest of tower.



Photos 58 and 59: Brick spall at northeast corner at main roof, deteriorated terra cotta joints and inappropriate caulked joints at north elevation.

At the third floor, overall the terra cotta is in good condition, with limited cracked units. Most of the mortar joints are deteriorated, particularly at the horizontal projections and the units around the oculus window.

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 22



Photos 60. 61 and 62: Deteriorated terra cotta mortar joints, typ. and cracked capital between monumental windows.

The brick and terra cotta at the second floor are overall sound. However, there is mortar deterioration at this level. The column base in front of the lower second floor windows has previously repaired cracks. The two northern units of the terra cotta lintel at the upper windows have horizontal hairline cracking.



Photos 63. 64 and 65: Previous repairs at column shaft and base; horizontal cracks in terra cotta lintel (north window).

Sculptural Frieze

A monumental terra cotta frieze wraps the building from north to south, just below the main dome. The frieze, divided into panels, measures approximately four-feet high. Made by the sculpture Henri Plasschaert, the panels depict American history from Native Americans to the Industrial Revolution in Bridgeport. Three horizontal courses of red architectural terra cotta at the base of the main dome frame the top of the decorative frieze. The frieze is composed of approximately 135 uniquely shaped units. Despite evidence of previous inappropriate sand-blast cleaning, the frieze is in overall good condition. There is evidence of previous repairs using stabilizing pins and epoxy at some of the high relief areas. Overall, except for discoloration of the repairs, they appear to have held up fairly well. About ¼ of the mortar joints of the frieze exhibit deterioration and should be repointed. In general, the three courses of horizontal red terra cotta courses above and the one course below exhibit mortar deterioration.

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Photos 66 and 67: Overview of frieze at north elevation (left) and west elevation (right). In the five rows of photos, find a photomontage of the frieze from north to west.



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Photos 68 and 69: Two examples of previous repair and damage. On left note neck repair and missing oxen horn. Photo on right shows previous mechanical anchors and crack repairs, now discolored.

West Balcony - Terra Cotta Parapets, Columns and Wall Tiles.

The west balcony is accessed from single-leaf in-swing door on the third floor. The balconies are generally in poor condition. The 2-foot high buff-colored terra cotta parapet is composed of five courses high, topped by a seven-inch tall red terra cotta coping course (same as on north balcony). The west balcony is in very poor condition and poses a potential hazard from falling spalls. At the time of the recent articulated lift survey, all immediately loose spalls were physically removed and left on the balcony. The decorative wall tiles are in overall good condition. The balcony has two previously repaired columns flanking the door. At the time of the survey, the repaired cracks appear to be performing well.

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Photos 70 and 71: West Balcony from front and view of one of the previously repaired columns.



Photos 72 and 73: Cracks, spalls and failing previous repairs throughout the buff-colored terra cotta parapet.



Photos 74, 75 and 76: Loose spalls physically removed during June 2018 articulated lift survey.

North Balcony - Terra Cotta Parapets, Columns and Wall Tiles.

The north balcony, which is slightly smaller than the west, is in similar condition. Although the parapet is in better condition, there are several cracked units and evidence of previous repairs that are at or near the end of their service life. The balcony is accessed from singleleaf in-swing door on the third floor, which opens directly in front of a column, which has a hairline crack in its capital. The north balcony masonry wall is displaced and bowing forward at the top of the wall at the gutter line. There is pronounced terra cotta displacement, which was documented in 2008. The cause of the displacement appears to be structural

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deficiencies tying the wall to the roof structure. Displacement may continue until the structural deficiencies are addresses.



Photos 77 and 78: Front view of north balcony in front and behind the parapet.



Photos 79 and 80: Displaced northwest corner of north balcony wall at base of roof line (left); brick mortar deterioration and inappropriate sealant application west side of north balcony.

North Gable

The north gable suffers from 100% mortar deterioration of the brick and terra cotta. At the time of the articulated lift survey, five distinct areas of plant growth were observed in the brick mortar joints. The top of the gable is not sufficiently attached to the building structure and is leaning forward. This condition was observed in 2015 and the sealant joint was temporarily replaced between the coping and roofing to minimize further infiltration until long-term structural and architectural repairs could be made.

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Photo 81: North gable – discoloration and staining of brick is in areas of most severe mortar deterioration.



Photo 82: At least five locations of active plant growth in the mortar joints observed.

Terra Cotta and Steel Lintels – 3rd floor below Main Dome

Overall the terra cotta elements are in good condition and require minor repairs and repointing. The exception is the terra cotta at the lintel and column of the first window on the north elevation. Active pressure related to structural deficiencies from the truss end rotations in at the dome is affecting the façade materials at this location. In addition to the perimeter cracking, structural forces over time have increased the mortar joint width between the terra cotta column and the lintel. The joint at this column capital is

July 23, 2018, 2018 DRAFT Page 28 approximately 1 ³/₄-inch wide mortar; based on the large piece of mortar that was easily removed by hand, it appears that the movement is still active. If collateral structural conditions are not corrected, the conditions will continue to deteriorate. Similar condition (but to a lesser extent), exists at the first two windows below the dome on the west elevation.



Photos 83 and 84: First two windows on north elevation (left) and loose mortar removed from excessively wide joint (right). Deteriorated mortar joints in brick and terra cotta typical at third floor.



Photos 85 and 86: Cracked and spalled terra cotta at window surround of first window below Dome, north elevation.



Photos 87 and 88: Loose mortar removed from second window capital on North (left); image of west windows (right).

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Photos 89 and 90: Wide joint and mortar deterioration at first window below dome on west elevation (left); all exposed steel lintels below terra cotta exhibit paint loss and minor surface rusting.

Terra Cotta Frieze, Pilasters and Column – 2nd Floor

Overall the terra cotta elements are in good condition, with few active cracks or spalls observed. The mortar joints in the red terra cotta band course above the buff-colored frieze are 100% deteriorated. The frieze has elements that were previously repaired, that overall appear to be performing well; a few small cracks will likely require re-assessment during construction phase of restoration project. About half of the mortar joints are deteriorated.



Photos 93 and 94: North elevation - extensive mortar deterioration in terra cotta below the north balcony.

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Photos 95 and 96: Typical example of previous terra cotta crack repair next to steel window lintel (left). All exposed steel lintels exhibit paint loss and surface rusting. Image on right shows previously repaired cracked column at 2nd floor above west elevation entrance.

Brownstone – First Floor West and North Elevations

The ground floor is constructed of brownstone ashlar blocks and trim, with a granite curb. Decoratively carved arched openings frame the west and northwest entrances; a simple arched opening frames the north side entrance. Windows on the north elevation are framed with brownstone pilasters. Overall, the brownstone is in good condition, with biological growth and soiling on the north elevation, minor deterioration from ferrous nails and anchors above the west elevation, and cementitious patches at locations of previously removed storefront awnings. The most significant brownstone deterioration occurs on the north elevation. Rusting loose lintels have resulting in spalling of the front face of the brownstone lintel drip edges. In addition, the northernmost brownstone capital is spalled where the lintel rests on it.



Photos 97 and 98: North elevation ground floor (left) and west elevation entrance surround (right).

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Photos 99 and 100: North elevation first window with rusting exposed lintel and brownstone spall (overview on left and close-up on right).



Photos 101 and 102: North elevation typ. steel lintel rusting and loss of brownstone drip edge of stone lintel above (left); image on right shows one of the three cementitious patches at locations of previously removed window awnings.

South Elevation Brickwork (and Terra Cotta Coping)

The south elevation is primarily composed of unadorned red brick, which is in overall poor condition. There is evidence of previous selective brick stitching. Virtually all the remaining historic brick has been severely damaged from previous sandblasting campaigns; the "fire skin" is typically missing and the bricks exhibit extensive loss and surface spalls, which result in a hazardous condition from falling material. During the close-up survey, several loose and spalled brick fragments were physically removed. Some of the removed fragments initially appeared in-tact until they were hammer sounded and found to have voids behind.

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Photos 103 and 104: South elevation overview and vertical crack near southwest corner of ground floor.



Photos 105 and 106: South elevation overview and vertical crack near southwest corner of ground floor.



Photos 107 and 108: Severe mortar deterioration and brick spalling at base of wall and top of wall under small dome tower.

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Photos 109 and 110: Deteriorated mortar joints and brick face spalling spread throughout south elevation.



Photos 111 and 112: Two locations of face spall removal. Due to previous inappropriate sandblasting, bricks on south elevation are typically compromised and in poor condition.

Windows

Most of the windows are wood-framed with single glazing. In general, they are in poor condition and sub-standard in terms of energy performance. There is extensive paint and sealant deterioration and extensive areas of exposed and deteriorating wood elements. Windows have been grouped into distinct window types, based on similarities of configuration and sizing.

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There are four storefront windows, with fixed glazing, on the ground floor of the west and north elevations (Types A-1 and A-2). Very little historic material remains; much of the window trim was previously replaced and is in fair condition, with the plywood panels and trim at the top in overall poor condition. Previous wood patch repairs are at the end of their service life.

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Photos 113 and 114: Ground floor Type A-1 storefront windows and close-up of deteriorated replacement elements.

There are three paired "Type B" windows on the north elevation. Overall, the condition of the wood frames and sash of these windows appear to be in overall good condition. The window profiles are sharp and there are relatively few coats of paint, indicating that these windows are replacements and not original to the building.



Photos 115 and 116: North Elevation Type B windows.

There are three rectangular double-hung "Type C" windows on the ground floor of the east elevation. These are inaccessible and blocked from the interior.

There are seven arched double-hung "Type D" windows on the east elevation (two on the ground floor and one on the 3rd floor). These windows are in overall poor condition and are covered from the interior. In the 2015 repair campaign, one of the windows on the 3rd floor was secured from the outside with protective plywood to prevent pedestrian hazard from it falling out.

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Photo 117: East Elevation Type D window (photo taken 2013 before brick repointing of east elevation)

At the second floor of the southwest stair tower, there is one paired "Type E" window joined by wood paneling behind a terra cotta column; above the Type E window assembly are two outswing casement windows set within terra cotta ashlar surround ("Type F"). These windows are original to the building and are in overall fair condition. The larger and more exposed Type E windows are in worse condition, exhibiting excessive paint loss and wood sill deterioration.



Photos 118, 119 and 120: West elevation, overview of Types E and F (left) and close-up of Type E window assumbly.



Photos 121 and 122: West elevation, Type F left and right out-swing casement windows.

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There are three arched double-hung windows at the second floor, west elevation (Type G). The single-glazed windows exhibit paint loss and wood deterioration at the sills. Unlike the Type D east elevation arched windows, the contiguous Type G windows share wood mullions behind the terra cotta column that separates the windows.



Photos 123 and 124: West elevation, Type G overview (left) and close-up at frame and columns intersection.

The fenestration on the second floor is dominated by paired and triple windows assemblies with full width fixed transoms. The two triple window assemblies (Type H-1) each have one operable center pivot window. There are three curved double-window assemblies (Type H-2) that front the northwest corner of the building. Each of these assemblies has one center-pivot window. The north elevation has four double-assembly windows (Type H-3), which are similar to Type H-2, except they are not curved. Overall, the Type H-1, H-2 and H-3 windows are in poor condition. The center pivot mechanisms no longer properly function as designed. All the windows exhibit paint loss and severe weathering of the wood elements. As described earlier in this report, all the loose-laid steel lintels above the windows exhibit paint loss as well.



Photos 125 and 126: 2nd floor Window Types H-1 and H-2 (H-3 similar but not curved and not shown).

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Photos 127 and 128: Typical exterior deterioration of Window Types H-1, H-2 and H-3.

There are five "Type I" double-hung windows with a fixed transom above a sandstone lintel, all located on the second floor of the east elevation. These single-glazed windows are all blocked from the interior. The exterior conditions are overall in fair to poor condition, exhibiting typical paint loss and wood deterioration found on other wood windows.



Photos 129 and 130: East elevation Window Type I (left from 2012 and right from 2015 during repair project).

Two monumental "Type J" windows are located at the third floor of the southwest stair towner. These over-sized single-glazed wood windows are composed of a combination of 17 distinct fixed and operable casement lites. These windows are in overall poor condition and exhibit extensive point loss, loss of glazing putty and wood deterioration.



Photos 131and 132: West elevation Window Type J overview and close-up of paint and wood deterioration.

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Photos 133 and 134: Typical Window Type J paint and wood deterioration.

A fixed oculus "Type K" window is situated about the two Type J Windows. are located at the third floor of the southwest stair towner. The condition is fair.



Photos 135, 136 and 137: Window Type K paint loss and separation of wood trim elements.

The entrance door to the north and south balcony are flanked by fixed windows. The larger west balcony has a pair of fixed windows (Window Type L-1) on either side of the door; the north balcony has one fixe window (Window Type L-2) on either side of the door. The balcony windows are set within an area of very thin wall section.



Photos 138 and 139: Exterior view of west and north balcony window Types L-1 and L-2.

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The fenestration of the west and north 3rd floor elevations is dominated by seven pairs of wood windows (Window Types M-1, M-2, M-3 and M-4) set within a terra cotta masonry opening. The windows are hereby given different types based on slight variations in the operability configuration (center pivot, casement) and cured versus flat. The operability of the windows is poor. All windows exhibit paint and exterior wood deterioration. All variants of the Type M windows are separate by a thin wood wall panel behind the exterior terra cotta capitals. In the arched opening of each window above the decorative terra cotta lintel sits a stained-glass window, which is discussed as a separate window "Type S" further in the report.



Photo 140: Type M window.

There are six rectangular fixed windows at the west and north elevation of the southwest stair tower, attic level (Type N). All the windows are in poor condition and exhibit severe paint loss, sealant and glazing putting deterioration and loss and deterioration of exposed wood.



Photos 141 and 142: Window Type N at attic level of southwest stair tower. Typical paint and wood deterioration.

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A single masonry opening at the attic level of the north elevation gable accommodates three windows (Type O). Previously, the two side windows were replaced with louvers for mechanical venting. A thin wood mullion panel behind the exterior terra cotta columns divides the window/louvers. The overall condition of the "Type O" window/louver assembly is poor.



Photo 143: Window assembly Type O at attic level of north gable.

The west and north elevations of the main dome have eight oculus windows framed by eyebrow dormers (Window Type P). The single-glazed fixed windows are framed with wood and lead-coated copper flashing. These windows are in overall poor condition and allow air and moisture infiltration into the interior of the dome.



Photos 144 and 145: Window Type P Dome windows, typ. condition from exterior.



Photos 146 and 147: Window Type P Dome windows, typ. condition from interior (taken 2011)

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The lower level of the double-height southeast stair tower has three metal clad windows (Type Q) that are in very poor condition and are not weather-proof.



Photos 148, 149 and 150: Window Type Q lower level southeast stair tower metal windows exterior and interior.

The upper level of the double-height southeast stair tower has twelve oculus wood windows (Type R). The fixed single-glazed windows are in fair condition and exhibit paint and sealand deterioration.



Photos 151 and 152: Window Type R upper level southeast stair tower oculus windows exterior and interior.

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There are seven stained glass windows located on the west and north elevations of the third floor. These windows are set within terra cotta arches above the decorative terra cotta lintels immediately above the "Type M" windows. The exterior face of the stained-glass windows are covered by a protective plexiglass cover mounted directly to the wood frame. The plexiglass cover has deteriorated and obscures the full affect of the windows. Additionally, the plexiglass covers do not provide adequate ventilation for the windows.



Photos 153 and 154: Window Type S, exterior view of stained glass through deteriorated plexiglass cover, typ.

Exterior Doors

The original building has three doors on the ground floor, two at the third-floor balconies and one at the entrance to the main roof from the southeast domed tower. An additional entry door at the east elevation is part of the 1980s addition of the adjacent People's Bank building. The existing door at the west elevation is a multi-glazed set of aluminum doubledoors that were installed in the 1980s. Although functional, the white doors are incongruous with the historic building.



Photo 155: West elevation door at odds with historic masonry surrounds.

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A pair of historic arched wood doors is at the northwest corner entrance (currently not used as an entrance). The doors are in fair condition with loss of protective coating resulting in damage to areas of wood veneer. The steel sill plate is rusted and has no protective coating.



Photos 156 and 157: Northwest door overview and close-up of damaged wood veneer and rusting sill plate.

There is a pair of historically significant wood doors at the east side of the north entrance (this door is also not currently in use). One of the most significant features of the door is the arched window above, which is composed of individual tiles of Luxfer prism glass set in lead caming. As the Luxfer Prism Company was named in 1897, this building has one of its earliest glass applications. The innovation of Luxfer glass was the addition of horizontal prisms to the back side of square glass tiles, which redirected sunlight from the windows back into rooms where light was scarce. The door itself is in fair condition with loss of protective wood coating. While the door hardware is missing and the backplate is damaged, the historic newspaper slot is in good condition.



Photos 158 and 159: West door overview and close-up of Luxfer prism glass transom tiles.



Photos 160 and 161: North door overview of wood condition and close-up of Newspaper slot.

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The two in-swing single-leaf painted wood doors on the 3rd floor balconies are in overall fair to poor condition. The exteriors have typical wood damage where the coatings have worn away. The doors have large single-glazed vision light. Both doors are damaged at the locksets from years of use. The relatively thin doors do not meet current energy code standards.



Photos 162 and 163: General view of north and west balcony doors.

An out-swing hollow metal door exits the southeast tower to the main roof. The door, which was repaired a few years ago is currently functional, but nearing the end of its life expectancy.



Photo 164: Overview of door to main roof.

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B. ARCHITECTURAL RECOMMENDATIONS

All proposed exterior repairs will require the review and approval of the Connecticut State Historic Preservation Office (SHPO). Except for overall mortar deterioration, the most serious exterior masonry conditions relate to associated interior structural deficiencies in localized areas. Therefore, before any exterior repairs are performed, MPW strongly recommends that all structural deficiencies are addressed first.

<u>1. Roof</u>

Tiled Roofs

As part of a comprehensive exterior rehabilitation program, all tiled roofs and associated flashings should be replaced with matching materials. Roof replacement should be coordinated with any required structural repairs (particularly at the north gable, north sloped and main dome roofs). Based on the exposed roof sheathing at the southwest tower roof, one should expect some sheathing replacement in addition to the tile and underlayment.

Sheet Metal Clad Dome Roof

Although hands-on close inspection was not performed, the lack of visual deterioration of the roofing suggests that full replacement will not be required at this time. However, for budgetary purposes, one should assume selective seam repairs and also consider application of a protective coating to the whole dome.

West and North Balcony Roofs

Full replacement of these two roofs is required. Because of their age, these roofs should be tested for Asbestos Containing Materials (ACM) and abated if any ACM is found. Because of the original design and flashing flaws with these roofs, proper replacement will be complicated by coordination with the existing terra cotta columns and parapets.

Main Flat Roof

Even though the overall condition of the 2005-installed EPDM roof is good and should only require protection and isolated repairs, depending the level of impact from new mechanical design and from collateral exterior envelope repairs, more extensive replacement may be required.

2. Façade

Chimney above Main Roof

The top quarter of the chimney (bricks and terra cotta copings), which exhibits severe open joints and displacement, should be removed and reset. Any bricks missing their "fire skins" should be replaced. The remaining chimney below requires 100% repointing with mortar mix to match historic properties (color, texture and strength). Similar to bricks above, any bricks missing their "fire skins" should be replaced.

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Southeast Domed Stair Tower

Repairs to the southeast stair tower need to be coordinated with structural reinforcement to help alleviate stress to the brick walls that are cracked due to an inability to properly withstand the dome's thrusting. Once structural repairs are implemented, all masonry should be repointed, particularly the interior brick. The diagonal step cracking should be repaired with combination of selective brick stitching and grout injection. The heavy steel plate that sits between the cylindrical tower and the main building structure below needs to be scraped and painted. Deteriorated interior red bricks should be removed and replaced with sound bricks. While the surface of the sheet metal dome appears sound, it needs to be closely inspected during the construction phase and likely coated with a specialty metal paint coating compatible with the material and allows for thermal movement.

Southwest Stair Tower and Perimeter Turrets

Most of the brick and terra cotta mortar joints are deteriorated and require repointing. All previously applied sealant at mortar joints must be removed. The southwest terra cotta turret cap exhibits hairline cracking and should be removed for evaluation to determine if salvageable for re-use or if it needs to be fabricated new to match for safety reasons. As a rule, every effort should be made to salvage, safely repair and reuse historic architectural terra cotta elements. Any lighting protection attached to the bricks should be removed and reset into sound mortar joints. Damaged flat bricks can be selectively removed and replaced, but any damaged curved bricks will be more difficult to find a suitable replacement, and therefore every effort should be made to repair and reuse them.

Sculptural Frieze

Any repairs to the sculptural frieze will have to be performed by a qualified specialty contractor. Expected repairs include selective repointing (assume 25%), limited protective coating application in areas previously damaged by previous sandblast cleaning, and upgrades to some of the previous repairs from the 1980s that have discolored. All mortar joints in the red terra cotta banding above and below the sculptural frieze should be 100% repointed.

West Balcony

The requires extensive repair work. The front parapet is in such poor condition that is needs to be removed and rebuilt. Most the buff-colored terra cotta block units that make up the parapet are so badly spalled and cracked that they should be replaced with new matching terra cotta units. The red terra cotta coping units should be carefully removed, salvaged and reinstalled. Parapet rebuild must be coordinated with roof replacement and any updated repairs to the terra cotta columns and adjacent brickwork.

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North Balcony

Although the north parapet is in better condition than the west parapet, it will also need to be removed and rebuilt to properly allow for required roof replacement. All units should be properly labeled and stored for reinstallation in same configuration. Any spalled or cracked terra cotta parapet units should be replaced with new matching units (Assume 25% replacement units of the buff-colored units). Repairs to the bowed masonry walls should only be performed in coordination with required interior structural repairs and upgrades to reinforce and properly tie the façade back to the main building structure. Once structural repairs are satisfied, then brick and terra cotta can be repointed; however, unless the wall is rebuilt (which is excessive and unnecessary at this time) one should expect that the repairs do not correct the existing deflection but will make the area weathertight.

North Gable

The north gable suffers from 100% mortar deterioration of the brick and terra cotta and required full repointing. However, no exterior work should be performed until interior structural repairs are performed to tie back the gable to the building structure. The existing terra cotta coping units should be removed and reset in coordination with structural repairs and roof replacement. Exterior repointing should also be coordinated with roof replacement and application of a new sealant joint between the gable coping and the roof.

Terra Cotta and Steel Lintels – 3rd floor below Main Dome

All steel lintels need to be scraped and painted with rust-inhibitive paint to match existing historic color. Once the structural repairs are performed to relieve the pressure exerted from the truss end rotations in the main dome, then terra cotta repairs can be executed at the first window on the north elevation. Every effort should be made to repair and salvage the cracked terra cotta units at the window surround; however, if the units cannot be properly repaired to guarantee both safety and weather proofing, then they should be replaced with matching material. All terra cotta capitals, lintels and most of the window surrounds need repointing.

Terra Cotta Frieze, Pilasters and Column – 2nd Floor

100% of the mortar joints in the red terra cotta band course above the buff-colored frieze are deteriorated are require repointing. As with the high relief sculptural frieze above, any repairs to the 2nd floor frieze will have to be performed by a qualified specialty contractor; a few small cracks will require re-assessment during construction phase of restoration project. About half of the mortar joints are deteriorated and require replacement.

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Brownstone – First Floor West and North Elevations

All miscellaneous obsolete ferrous attachments should be removed from the brownstone. All deteriorated mortar joints should be repointed. The existing cementitious patches at locations of previously removed storefront awnings should be removed and reinstalled with material closely matching color, texture and performance of adjacent stone. All exposed steel lintels need to be scraped and painted with rust-inhibitive paint to match existing historic color. Installation of stone Dutchman or patching is recommended to replace the missing and spalled drip edges from windows at the north elevation. The large spall on the northernmost brownstone capital should be carefully removed and reinstalled with epoxy and stainless-steel pins.

South Elevation Face Brick and Terra Cotta Copings

Based on the level of deterioration and hazardous conditions observed on the south elevation, it is recommended that the out wythe of red common brick be removed and reskinned with brick matching as closely as possible in size, color and properties. The terra cotta copings should be reset with flashing and repointed with new lead caps.

Windows

Based on the physical condition of the frames and sash, in addition to the sub-standard thermal performance requirements for the museum, MPW recommends replacing all windows with thermally upgraded windows to match material, configuration and color as closely as possible to the historic windows. Window replacement will need to be coordinated with MEP recommendations of thermal upgrades for locations with exceedingly thin wall sections.

Exterior Doors

Every effort should be made to restore and maintain the two historic wood doors at the north and north west entrances. If modifications need to be made for code compliance (including ADA), they must be carefully considered and reviewed with the Ct. SHPO. The existing white aluminum set of doors at the west elevations should be replaced with new doors that are sympathetic with the historic building. The two wood doors at the balconies should be replaced with sympathetic new wood doors that comply with the more stringent current energy requirements. The hollow metal door to the main roof should be replaced with a similar door. Consideration should be given for color of the new door to blend more closely with the tower color.

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A. EXISTING ELEVATIONS



WEST ELEVATION

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(1) NORTH ELEVATION



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1 SPITH ELEVATION

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APPENDICES

APPENDIX A: S	Structural Assessment by GNCB
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APPENDIX B: MEP Assessment by LFG

APPENDIX C: Eagle View Roofing Report/Estimates (2/21/18)

Moss Preservation Works SCHEMATIC DESIGN REPORT – DRAFT BARNUM MUSEUM, BRIDGEPORT CT – EXTERIOR ENVELOPE REHABILITATION July 23, 2018, 2018 DRAFT Page 57



Structural Engineering Geotechnical Engineering Historic Preservation

June 19, 2018

Elizabeth Moss Moss Preservation Works 504 West 48th Street, #3E New York, NY 10036 elizabeth@mosspw.com

Re: Barnum Museum – Lift Survey

Dear Elizabeth:

The three items I noted during my lift tour with Jim Schmittberger were:

 The masonry elements at the base of the dome where the 6 ft. deep supporting, curved truss bears on these exterior walls. Current movement and displacement cracks are occurring at these bearing ends and have been doing so for a number of years. This is due to this truss being heavily loaded by the dome above, and carrying about 6 to 8 lineal feet of solid brick wall that projects in from the front wall. This extended wall provides the closure for the adjacent sloped tile roof. See Fig 1. and Fig. 2 for front (west) wall condition and Fig. 3 and Fig 4. for side(north) wall condition.



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Principals Charles C. Brown, P.E. James F. Norden, P.E.

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Figure 2



Figure 3

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Figure 4

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2. The northwest tall masonry gable end wall is leaning out at its top at the ridge intersection. This condition has existed for a number of years and has been the cause of numerous roof leaks and patches. this condition is due to the fact that the sloped roof structure is not tied to this masonry wall element allowing it to tip outwards to the north. See Fig. 5.



Figure 5

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3. The north side sloping roof between the dome and the northwest gable end wall is sagging and pushing the roof's eave at the gutter outward, bowing to the north. This eave movement is pushing the top of the masonry supporting wall outwards causing this wall to now tilt to the north. This is due to this roof's ridge not being properly supported causing the rafters to thrust down and outwards. This is bowing the eave and titling the wall. This relates to the ridge beam being supported by the large dome truss which has failed and sagged. Please note that this is why this truss is currently shored, See Fig. 6.



Figure 6

Moss Preservation Works June 19, 2018 Page 6 of 6



The items discussed and shown above are related to the interior structural issues of the attic/roof structural assemblies. These are the current group of structural issues we are currently in the process of remediating, the most recent being the large dome stabilization which is now under construction following our Phase 2 Bid Documents.

While the lift survey has made these apparent to us, it should be noted that these interior structural issues will need to be reviewed and stabilized prior to any exterior restoration work beginning.

In addition the remaining two feature areas of the roof/exterior are the small dome in the S/E corner and the pyramidal roof in the S/W corner. The existing condition assessment of these two building structures has yet to be accomplished by GNCB. This will be done in the near future from viewing them from the interior of each and documenting their support framing and its current condition. The repair or restoration work required will be defined at that time and added to the overall plan for the Museum's renovations.

Please contact us if you need any further information.

James F. Norden, P.E.

BARNUM MUSEUM

820 Main St, Bridgeport, CT



Review of Climate Control Performance Concerns for Exterior Envelope

Landmark Facilities Group, Inc 252 East Avenue Norwalk, CT 06855

June 2018

INTRODUCTION

The restoration of the Barnum Museum is intended to restore the interior of the iconic building to its former glory while providing an interior climate suitable for the long term preservation of the precious collections. The exterior envelope of the building presents a number of challenges both from an energy perspective and a climate control perspective. The museum has a target of maintaining interior conditions of 68F and 40% relative humidity. This translates into a dew point of about 43F meaning any interior surface dropping below that level during the winter could experience condensation and/or mold. Most of the exterior walls are thick masonry and should be able to support the temperature and RH conditions. However, the windows throughout the building and several areas where there are thin wall sections are potential problem areas for a humidified interior climate.

The areas identified as Ares of Concern are identified below:

Area of Concern # 1: There is a section of exterior wall with a door, several windows, and a thin wall section located on the third floor as shown in Figures 1 and 2.



Figure 1. Area of Concern #1



Figure 2. Inside view of Area of Concern #1



Figure 3 is photo showing the thin wall section and edge of existing door. This area is going to require insulation and an interior vapor barrier to make the wall suitable for supporting the interior conditions. More than likely, the wall thickness will need to be increased to accommodate the necessary insulation. Likewise, the door will have to be replaced or modified to improve thermal performance and reduce infiltration.

Figure 3. Area of Concern #1 Wall section

The windows are single glazed in wood frames as shown in Figure 4. The window glazing will need to be replaced with double glazed units. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance. Figure 4 also shows a small section of thin masonry above the windows that need to be addressed as well.



Figure 4. Single glazed windows in Area of Concern #1

Area of Concern # 2: There is a curved section of exterior wall with several windows and a thin wall section located on the third floor as shown in Figures 5 and 6.



Figure 5. Area of Concern #2



Figure 6. Inside view of Area of Concern #2



Much of the exterior wall in this area is thick masonry and should be able to support the temperature and RH conditions. However, there are thin wall sections between the window pairs in 5 locations as shown in Figure 7. It is going to be necessary to increase the thermal performance of these wall sections to prevent issues with condensation and/or mold growth during the winter.

Figure 7. Thin wall section between window pairs

Figure 8 shows the windows and stained glass windows in the curved section of the wall. Some of these windows were once operable. The windows need to be upgraded and we recommend removing the mechanism that makes them operable because they will likely create a thermal bridge between interior and exterior. The stained glass presents a unique challenge. In addition to needing a U value of at least 0.5 for environmental requirements, the stained glass needs to be physically protected from physical damage and heat build-up from solar heat gain. A stained glass expert should be engaged to evaluate options and provide recommendations.



Figure 8. Single glazed windows and stained glass windows
Area of Concern # 3: There is a another section of exterior wall with a door, several windows, and a thin wall section located on the third floor as shown in Figures 9 and 10.



Figure 9. Area of Concern #3

The issues and recommendations in this area are the same as those for the Area of Concern #1



Figure 10. Inside view of Area of Concern #3

Area of Concern #4: There is a straight section of exterior wall with two pairs of windows and a thin wall section located on the third floor as shown in Figures 11 and 12.



Figure 11. Area of Concern #4

While this wall section is straight, it presents the same challenges as the curved wall section identified in Area of Concern #3 including a thin wall section between the window pairs and stained glass windows (covered)



Figure 12. Inside view of Area of Concern #4

Area of Concern #5: Another area requiring consideration is the main stair hall at the third floor level as shown in Figures 13 and 14.



Figure 13. Area of Concern #5



Figure 14. Inside view of Area of Concern #5.

Barnum Museum Exterior Envelope Review

While this area will not be directly humidified, it can be expected that the moisture from the gallery systems will migrate here. There are large windows in the stair hall with single glazing and wood framing shown in Figure 15. There are also numerous small windows high in the wall with single glazing. The window glazing, and associated frames will need to be replaced with double glazed units or supplemented with storm windows. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance.



Figure 15. Large Single glazed windows with wood frames and small windows near ceiling

Area of Concern #6: The second floor stair hall has two single glazed windows and a thin wall section as shown in Figures 16 and 17.



Figure 16. Area of Concern #6





Like the third floor, this area will not be directly humidified, but it can be expected that the moisture from the gallery systems will migrate here. Much of the exterior wall in this area is thick masonry and should be able to support the temperature and RH conditions. However, there is a thin wall section between the window pair shown in Figure 18. It is going to be necessary to increase the thermal performance of this thin wall section to prevent issues with condensation and/or mold growth during the winter. The window glazing, and associated frames will need to be replaced with double glazed units or supplemented with storm windows. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance.

Barnum Museum Exterior Envelope Review



Figure 18. Single glazed windows and thin wall section between windows

Area of Concern #7: The second floor gallery facing Main Street has several single glazed windows and thin wall sections as shown in Figures 19 and 20.



Figure 19. Area of Concern #7

Much of the exterior wall in this area is thick masonry and should be able to support the temperature and RH conditions. However, there is a thin wall section between the windows as shown in Figure 21. It is going to be necessary to increase the thermal performance of this thin wall section to prevent issues with condensation and/or mold growth during the winter. The window glazing, and associated frames will need to be replaced with double glazed units or supplemented with storm



Figure 20. Interior view of Area of concern #7

windows. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance.



Figure 21. Single glazed window and thin wall section

Area of Concern #8: The second floor gallery has numerous single glazed windows as shown in Figures 22 and 23.



Figure 22. Area of Concern #8



The windows are single glazed in wood frames as shown in Figure 24. The window glazing, and associated frames will need to be replaced with double glazed units. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance.

Figure 23. Interior view of Area of Concern #8



Figure 24. Single glazed windows

Area of Concern #9: The first floor gallery and lobby has temporary storefront glazing and/or plywood due to the tornado damage as shown in Figure 25.



Figure 25. Area of Concern #9

The exterior doors will have be carefully considered to ensure they have proper thermal characteristics and low air leakage to maintain the desired interior conditions. If possible, any exterior entrances should be separated from the gallery spaces by a vestibule. The window glazing, and associated frames will need to be at least double glazed units. The new windows will need to have a U value of at least 0.4 to have the requisite thermal performance.

Conclusion

There are a variety of exterior wall and window conditions that need to be addressed to allow the interior spaces to be humidified without creating future difficulties for the Museum. In several cases, it is likely the wall sections will have to be increased in thickness to accommodate insulation. This will require careful consideration due to the aesthetic impacts and will require coordination with the State Historic Preservation Office.

These areas will require computer modelling to simulate both thermal and moisture migration through the wall sections and predict how those conditions change with different insulation and vapor barrier options.

We recommend the exterior wall sections in the areas of concern be investigated and documented so accurate cross sections can be drawn. These sections will be necessary to conduct an accurate analysis of how much insulation must be added to ensure adequate performance of the wall sections



Report: 21688603



In this 3D model, facets appear as semi-transparent to reveal overhangs.

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MEASUREMENTS

Total Roof Area =7,513 sq ft Total Roof Facets =105 Predominant Pitch =12/12 Number of Stories >1 Total Ridges/Hips =674 ft Total Valleys =76 ft Total Rakes =4 ft Total Eaves =439 ft Total Penetrations =35 Total Penetrations Perimeter = 292 ft Total Penetrations Area = 176 sq ft

Measurements provided by www.eagleview.com



Certified Accurate

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IMAGES

The following aerial images show different angles of this structure for your reference.

Top View



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IMAGES

North Side



South Side



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IMAGES

Premium Report 2/21/2018

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East Side



West Side



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LENGTH DIAGRAM

Total Line Lengths: Ridges = 50 ft Hips = 624 ft

Valleys = 76 ft
Rakes = 4 ft
Eaves = 439 ft

Flashing = 72 ft Step flashing = 118 ft Parapets = 272 ft



Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

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Report: 21688603

820 Main St, Bridgeport, CT 06604-4912

PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 12/12



Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater. Gray shading indicates flat, 1/12 or 2/12 pitches. If present, a value of "F" indicates a flat facet (no pitch).

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AREA DIAGRAM

Total Area = 7,513 sq ft, with 105 facets.

Report: 21688603



<u>Note: This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top</u> of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

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NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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Report: 21688603



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820 Main St, Bridgeport, CT 06604-4912

PENETRATIONS NOTES DIAGRAM

Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 35 Total Penetrations Perimeter = 292 ft

Total Penetrations Area = 176 sq ft Total Roof Area Less Penetrations = 7,337 sq ft



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REPORT SUMMARY

Areas per Pitch																	
Roof Pitches	0/12	1/12	5/12	7/12	8/12	9/12	12/1	14/1	18/1	20/1	22/1	23/1	30/1	34/1	36/1	51/1	52/1
Area (sq ft)	971.	1139	382.	45.2	105.	420.	1456	316.	170.	447.	159.	467.	91.6	100.	472.	690.	78.2
% of Roof	12.9	15.2	5.1	0.6	1.4	5.6	19.4	4.2	2.3	6%	2.1	6.2	1.2	1.3	6.3	9.2	1%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Waste Calculation Table										
Waste %	0%	10%	12%	15%	17%	20%	22%			
Area (sq ft)	7,513	8,264	8,415	8,640	8,790	9,016	9,166			
Squares	75.1	82.6	84.1	86.4	87.9	90.2	91.7			

This table shows the total roof area and squares (rounded up to the nearest decimal) based upon different waste percentages. The waste factor is subject to the complexity of the roof, individual roofing techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only roof area is included in these waste calculations. Additional materials needed for ridge, hip, valley, and starter lengths are not included.

Penetrations	1	2	3	4	5	6	7	8	9	10
Area (sq ft)	0.2	0.3	0.4	0.8	0.4	0.6	0.7	0.5	0.7	0.8
Perimeter (ft)	2	2	4	4	4.1	4.2	4.3	4.4	4.4	4.8
	11	12	13	14	15	16	17	18	19	20
Area (sq ft)	0.8	0.7	1	1.1	1.1	2	2.3	2.2	2.4	2.6
Perimeter (ft)	4.8	5	5.3	5.5	5.8	6	6	7.3	7.6	7.8
	21	22	23	24	25	26-28	29-33	34	35	
Area (sq ft)	2.6	4	4.6	5	7.5	12.2	12.3	12.1	20.3	
Perimeter (ft)	7.9	8	8.6	9	11	14	14	17.4	18	

Any measured penetration smaller than 3.0x3.0 Feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

* Rakes are defined as roof edges that are sloped (not level).

** Eaves are defined as roof edges that are not sloped and level.

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Total Roof Facets = 105 Total Penetrations = 35

Lengths, Areas and Pitches

Ridges = 50 ft (2 Ridges) Hips = 624 ft (96 Hips). Valleys = 76 ft (4 Valleys) Rakes* = 4 ft (1 Rakes) Eaves/Starter** = 439 ft (38 Eaves) Drip Edge (Eaves + Rakes) = 443 ft (39 Lengths) Parapet Walls = 272 (21 Lengths). Flashing = 72 ft (10 Lengths) Step flashing = 118 ft (18 Lengths) Total Area = 7,513 sq ft Total Penetrations Area = 176 sq ft Total Roof Area Less Penetrations = 7,337 sq ft Total Penetrations Perimeter = 292 ft Predominant Pitch = 12/12

Property Location Longitude = -73.1881948 Latitude = 41.1756574

Notes This was ordered as a commercial property. There were no changes to the structure in the past four years.

Parapet Wall Area Ta	ble						
Wall Height (ft)	1	2	3	4	5	6	7
Vertical Wall Area	272	544	816	1088	1360	1632	1904

This table provides common parapet wall heights to aid you in calculating the total vertical area of these walls. Note that these values assume a 90 degree angle at the base of the wall. Allow for extra materials to cover cant strips and tapered edges.

Online Maps

Online map of property

http://maps.google.com/maps?f=g&source=s_q&hl=en&geocode=&q=820+Main+St,Bridgeport,CT,06604-4912 Directions from alden bailey to this property

http://maps.google.com/maps?f=d&source=s_d&saddr=80+sand+pit+road,danbury,CT,06810&daddr=820+Main+St,Bridgeport,CT,06

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Existing Windows Assessment

Barnum Museum 820 Main Street, Bridgeport, Ct

Prepared by Moss Preservation Works December 1, 2020

Window Summary

The following windows assessment for the Barnum Museum is intended as a more comprehensive supplement to the overall Pre-Schematic Exterior Condition Documentation prepared for the Barnum Museum in July 2018. Review of the windows include documentation from the hands-on exterior survey from a 125-foot articulated lift on June 4-6, 2018, in addition to multiple subsequent site visits through autumn 2020 to observe conditions from the ground, interior and from the roof.

The Barnum Museum has 79 windows. With the exception of three metal-clad windows at the southeast tower, all are wood-framed with single glazing. Configuration includes fixed, double-hung and pivot windows. In general, they are in overall fair to poor condition. Every window exhibits deterioration and. they are sub-standard in terms of energy performance, particularly in relation to meeting contemporary museum performance requirements. Paint and sealant deterioration is typical, as well as extensive areas of exposed and deteriorating wood elements (checking, splitting and separation of joints), particularly on the most exposed west and northwest elevations. T

he majority of second and third floor west and north elevations originally were designed with operable pivot windows; most of these windows were previously sealed from the exterior with incompatible mastic coating, which has contributed to underlying wood deterioration throughout. In addition to exterior wood deterioration (most notably on sills, lower sash rails and lower frames), most windows on the second and third floor west and north elevations suffer some water damage from condensation accumulation from the poorly insulated single-glazed windows.

Based on the overall condition of the windows, we recommend the sash be replaced with new IGU (insulated glass units) with UV protection, coordinated to meet the museum collections and programmatic requirements. Replacement windows should consider several factors including aesthetics to match the original, life-cycle costs, performance and future maintenance and upkeep. Every effort should be made to maintain and restore in-situ the existing frames (most sills and lower portion of frames are badly deteriorated and will require wood Dutchman repairs/replacement).

Barnum Museum

MOSS PRESERVATION WORKS, LLC

Windows

There are a total of 79 windows on building. They are classified as follows:

TYPE	FLOOR /ELEV.	DESCRIPTION	CONDITION	WINDOW #s	QTY
A-1	1 st fl, West	Storefront – N.O.	Poor	1.01	1
A-2	1 st fl, West. North	Storefront – N.O.	Poor	1.02-1.04	3
В	1 st floor North	Paired Fixed – N.O;	Fair	1.05-1.07	3
C	1 st floor East	Arched Double-Hung	Fair to Poor	1.09, 1.12	2
	3 rd floor East	1 st floor - G, 3 rd fl		3.13-3.17	5
D	1 st floor East	Double-Hung – O	Fair	1.08, 1.10, 1.11	3
Е	2 nd floor West	Paired - O	Poor	2.01	1
F-1	2 nd floor West	Casement, O	Fair to Poor	2.02	1
F-2	2 nd floor West	Casement – O	Fair to Poor	2.03	1
G	2 nd floor West	Arched Double-Hung – O	Poor	2.04, 2.05, 2.06	3
H-1	2 nd fl, West, North	Trip. Center Pivot w/	Fair to Poor	2.07, 2.11	2
		Transom. O			
H-2	2 nd fl West, North	Double Center Pivot –	Fair to Poor	2.08, 2.09, 2.10	3
		BENT GLASS (curved); O			
H-3	2 nd floor North	Double Center Pivot – O	Fair to Poor	2.12, 2.13, 2.14, 2.15	4
Ι	2 nd floor East	Double-Hung w/ Transom- O	Good to Fair	2.16-2.20	5
J	3 rd floor West,	Monumental – O	Poor	3.01, 3.02	2
	SW Tower				
K	3 rd floor West,	Oculus– O	Fair to Poor	3.03	1
	SW Tower				
M	3 ^{ra} fl West, North	Double Casement (w/ leaded	Fair to Poor	3.05-3.09 (Bent Glass)	5 (Bent)
		glass above) – O		3.11, 3.12 (Straight Glass)	2 (Straight)
N	Attic, SW Tower	Single Fixed – O	Poor	4.01-4.05	5
	West, North				
0	Attic, North	Single Casement – O	Poor	4.06	1
		(Location identified for			
		mech. Louver)		4.07.4.14	
P	Main Dome	Oculus – O	Poor	4.07-4.14	8
Q	Small Dome Tower	Metal Clad – O	Poor	5.01-5.03	3
I R	Small Dome Tower	Fixed Oculus – O	Poor	5.04-5.12	12

O – Likely Original N.O. – Not Original,

In addition, there are five leaded glass arched transoms located above the bent-glass Type M windows. The leaded glass windows, which currently have exterior plexiglass coverings, are intended to be restored offsite by a qualified firm specializing in preservation and rehabilitation of historic leaded glass (Refer to Project Specifications for additional information on these windows).

With the exception of the three metal Type Q Windows, all window frames and sash are painted wood. All windows have single glazing.

Windows have been grouped into 21 window types, based on similarities of configuration and sizing.









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Window Condition Summary December 1, 2020 Page 3

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Types A-1 and A-2:

The ground floor fixed storefront windows on the west and north elevation are wood replacement windows set within the original masonry openings. There is no known date for these replacement windows, but the wood infill panels are fabricated from contemporary plywood panels, which are in fair to poor condition. Interior supplemental steel support channel braces the monumental window framing. Following the 2011 tornado that hit the building, the City of Bridgeport replaced the broken storefront windows with standard annealed glass instead of tempered or laminate safety glass; as a result, for security reasons, the Museum has temporarily covered the standard glazing with protective plywood decorated with Barnum-themed graphics until a safe permanent solution is installed.



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Type B:

There are three Type B paired wood windows on the first floor north elevation (#1.05-1.07 from right to left). These are non-original fixed windows that were likely installed in the 1980s restoration campaign. The overall condition of these windows is fair. All windows exhibit exposed nail heads and separation of the joints, with evidence of water infiltration into the end grains and preliminary splitting of the grains. Window 1.05 has gauges in the wood from impact damage suffered from the 2010 tornado that hit the building.



Window 1.05 - east side with impact damage; wood joint separation and grain splitting typ.

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Window 1.06 – exposed nail heads, distorted glazing bead, joint separation, typ.



Window 1.06 – close-up of joint separation and grain splitting.

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Type C:

There are seven Type C double-hung wood windows with a curved upper sash on the east elevation. The two on the first floor (#1.09 and 1.12) are in overall fair condition. The five on the third floor (##3.13-3.17 from right to left) are in poor condition, all exhibiting deterioration from exposed wood from loss of paint coating and moisture damage from years of excessive water exposure from the hanging copper gutter located immediately above the windows (the gutter was temporarily repaired as part of an emergency stabilization project in 2014 and surrounding brickwork and mortar joints were repaired to prevent further water infiltration and damage). The condition of window #3.14 is so badly deteriorated that is was deemed a safety hazard for pedestrians below and sealed from the exterior with temporary protective plywood cover. The frames and sash joints of the remaining exposed four windows on the third floor are weak and exhibit separation, resulting in increased water absorption into the wood end grains, resulting in loss of structural integrity of these windows.



Third floor east elevation windows - typically poor condition



Typical third floor east frame and sash deterioration conditions – exposed wood, joint separation, loss of structura integrity, grain splitting.

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Window 1.12 (left) and 1.09 – overall fair condition.

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Type D:

There are three Type D wood double-hung windows on the first floor east elevation. The overall condition of these windows is fair. All sash exhibit paint loss and some separation at the joints.



Window 1.11 (left) and 1.10



Window 1.08 (left) and 1.110 - exposed wood, separation of joint at lower sash rail, typ,

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Window 1.10 showing joint separation at lower sash rail and exposed wood and separation of grains at lower sash corner typical.

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Type E:

There is one Type E paired wood window (#2.01), located at the 2nd floor of the southwest tower. This original paired wood fixed window with wood panel set within the masonry opening is in overall fair to poor condition. The sills and bottom sash rails are deteriorated and exhibit separation at the joints, allowing excessive moisture infiltration to the end grains. The top rails of the sash exhibit wood deterioration and loss of material.



Type E– 2nd floor SW Tower, #2.01.

Type $E - 2^{nd}$ floor SW Tower, #2.01 - fair to poor.



Type E (#2.01) sill, frame and sash deterioration displaced joints and loss of material.



Type E (#2.01) Sash deterioration – loss of wood material.

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Type F (F-1 and F-2):

Windows Types F-1 (#2.02) and F-2 (#2.03) are mirror image outswing wood casement windows located on the west elevation of the southwest stair tower, between the 2^{nd} and 3^{rd} floors. The overall condition of these windows is fair to poor.



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Type G:

There are three Type G (#2.04-2.06) double-hung windows with a radius on the upper sash located on the west elevation. The overall condition of these windows is poor, exhibiting exposed wood graining with separation at the joints. The most severe deteriorate at the base of the windows, where wood deterioration is evident on both the exterior and interior of the sash.



Windows 2.04-2.06 (right to left). Overall poor condition with wood deterioration and separation of joints.



Type G windows – most severe wood deterioration at sills, lower frames and lower sash, extending to interior. Lower rail of upper sash exhibit joint separation, typ.

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<u>Туре Н (Н-1, Н-2, Н-3):</u>

There are two Type H-1 windows, one located at the 2nd floor west elevation (#2.07) and the other on the north elevation (#2.11). The Type H-1 windows have triple wood sash with a fixed horizontal transom above; the center sash was originally designed with a center pivot hinge. These windows are in fair to poor condition, with most severe deterioration at the sill, lower frames and bottom sash rail. None of the operable windows are weathertight and most have been sealed from the exterior with an incompatible mastic coating that is contributing to wood deterioration where the coating has failed.

There are three Type H-2 windows (#2.08, #2.09 and #2.10) with double sash units and horizontal transom. The glazing on these windows is bent (aka curved) to match vocabulary of the curved walls on the 2nd floor below the main dome. On each of these windows, one sash is fixed and one was fabricated with a center pivot hinge. These windows are in fair condition, with most severe deterioration at the sill, lower frames and bottom sash rail.

There are four Type H-3 double sash with transom windows (#2.12-2.15) located on the north elevation. On each window, one sash is fixed and one has a center pivot. All wood sills and lower frames are badly deteriorated.

All type H windows exhibit some interior deterioration caused by condensation accumulation.



Type H-1 (#2.07) - severe deterioration at sills, lower sash rail and sides of sash and frames.



Type H-2 (#2.08) sim. condition to #2.07.

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Window 2.10 -exposed wood and separation of graining at sill, sash, frames and lower transom rail. Typ.



Window 2.10 - deterioration & separation of sash joints and sill, exterior and interior. Typical of Type H windows.



Type H windows, typ. interior sash damage from on-going water accumulation from condensation and joint separation.

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Type I:

There are five Type I wood double-hung windows, located at the second floor east elevation (#2.16-2.20). Each of these windows has a fixed transom above a brownstone lintel. Overall, these windows are in fair condition.



Type I – typical condition of double-hung wit transom) – overall fair condition.

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Type J:

There are two Type J windows (#3.01 and 3.02) located on the third floor of the southwest stair tower. These monumental, multi-lite wood windows are in overall poor condition (sash and frames). Excessive paint loss and exposed deteriorated wood exhibits splitting at wood grain and separation at joints. These windows are subject to severe weather conditions and effects of on-going corrosive bird excrement. All glazing putty is deteriorated, allowing additional water infiltration. Previously, selective sash have fallen out and been replaced with temporary in-fill glass. The interior conditions exhibit long-term affects of water infiltration and condensation accumulation as exhibited by extensive plaster damage surrounding the windows.



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Type K:

There is one Type K (#3.03) fixed oculus window located on the third floor Southwest Tower. The overall condition of these windows is poor, with most severe deteriorate at the lower half of the window. The wood window elements have extensive paint loss, which reveal underlying splits and at the wood graining and separation of the joints, resulting in increased water infiltration to the end grains and also to the interior of the building (as evidenced by the active plaster damage to the interior stairwell in the vicinity of all windows in the southwest stair tower).



Type K – Oculus window at southwest tower.



Typ condition of Type K window - separation at joints, wood splitting at grains, overall loss of integrity.

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Type M (M-1, M-2, M-3):

The Type M windows, located at the third floor west and north elevations, each have double-sash with central wooden panel in a wood frame set below terra cotta and steel lintels; above the lintel is an arced leaded glass window (to be restored separately by leaded glass window specialist – see project specifications for additional information).

Five Type M windows have bent/curved sash and glass (#3.05-3.09), to match the curved masonry walls below the main dome. Window #s 3.11 and #3.12 on the north elevation each have conventional straight sash and glass. The Type M sash have combination of fixed, casement and center pivot configurations. The windows were previously sealed on the exterior with incompatible mastic coating (presumably during the 1980s restoration campaign) as a means of weather protection; over time, the mastic coating has failed and is contributing to increased water infiltration into the wood substrate and deterioration. The overall condition of the Type M windows is poor; there is extensive wood deterioration on the exterior. Type M windows also exhibit interior deterioration caused by condensation accumulation.



Window #3.05 and #.3.06; detail of #3.05 showing mastic sealant between frame and sash, typ., wood deterioration at base.



Window #3.05 – severe deterioration at sill, lower frames and lower sash rail exacerbated by incompatible mastic.

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Window #3.08 (right) and 3.09; detail of #3.09 with failing mastic and exposed splitting of wood grains.



Windows # 3.11 (right) and 3.12 (left) - windows sealed with incompatible & failing mastic; exposed wood and split graining, typ.



Window #3.12 interior condition – paint loss from condensation accumulation, moisture infiltration and wood deterioration at sill and lower sash.

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Interior overview of Type M windows with curved glass (#3.05-3.09 on left and straight glass (#3.11 and 3.12 on right); extensive plaster damage around all windows from water infiltration from exterior and interior condensation.



Type M – typical interior conditions with paint loss and moisture damage from condensation accumulation.



Type M – typical interior conditions with exterior deterioration telegraphing through to sills and damage from condensation accumulation at lower sash rails.

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Type N:

There are five Type N (#4.01-4.05) fixed windows located at the attic level of the southwest stair tower. These windows are in overall poor condition, with sills, lower sash rails and lower frames all exhibiting exposed wood with grain splitting and separation at the joints. The active plaster damage to the interior stairwell in the vicinity of all windows in the southwest stair tower).



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Type P:

There are eight Type P fixed oculus windows in the main dome attic (#4.07-4.14). Overall, these windows are in poor condition due to exposure and lack of maintenance. The sash exhibit extensive paint loss and deteriorated wood, including splitting at wood grain and separation at joints. Glazing putting is missing or severely deteriorated on all windows. The window frames are designed to incorporate with the roof framing. The wood infills between the frames and sash at the base of the window are plywood construction from the 1980s campaign – all window connections between sash, frame and flashing have failed.



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<u>**Type Q:**</u> There are three Type Q windows at the base of the small southeast dome tower (#5.01-5.03). Originally paired window sash in steel frame, these windows are in poor condition and boarded up from the elements. Sash are missing and the frames exhibit corrosion.



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Type R:

There are 12 Type R (#5.04-5.15) fixed oculus windows located below the small southeast dome. The wood frames and sash are set within brick masonry opening and are in overall poor condition. Wood joints exhibit separation, allowing increased water infiltration to deteriorate end grains. Exterior and exterior are missing wood sash and frame trim in several locations.



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February 14, 2022

Todd Boggess, AIA, NCARB President / CEO ET Boggess Architect, Inc. 101 Rockledge Avenue Princeton, WV 24740



Re: Wyoming Hotel Structural Observation Report Project No. 22005

Dear Mr. Boggess:

Per your request, we met with you on October 11, 2021 and again on February 8, 2022 at the Wyoming Hotel building located near 200 1st Street in Mullens, WV. The purpose of the visit was to attempt to assess the condition of the building and determine a temporary stabilization solution for the rear of the structure. The 5-story building is approximately 100 years old and has been closed for a number of years. Many of the windows in the rear wall are missing, leaving the building open to weather and animals/birds/bats, etc. Photos taken during the visits are attached to this letter report. Additionally, some limited building drawings were made available and portions of the floor plans are included with this letter report.

OBSERVATIONS

As noted above, the building is a 5-story structure with a basement consisting of unreinforced brick masonry exterior walls with some steel columns embedded in the walls and additional steel interior columns. The drawings indicate that there are steel beams at the column lines which support wood framing for the floors and the roof. There is a mezzanine level between the first and second floor levels that covers a portion of the plan area.

At the rear of the building, there are windows at each level with a steel fire escape. Most of the windows at the rear are missing and the roof and floors have collapsed at the different levels. There is a column line roughly 15 feet from the rear of the building and the majority of the deterioration is from this location to the rear. There is some deterioration at the roof level of the structure at the alley side of the building.

Currently, there is a 6-foot high chain link fence immediately behind the rear of the building. A few bricks have already fallen outside of the fence. Additionally, the gate at the fence is not secure and was actually open during the site visit.

The bank also owns some of the property behind the Wyoming Hotel and patrons can park at that location.

PO Box 469 • Alum Creek, WV 25003-0469 PHONE 304-756-2564 FAX 304-756-2565 WEB WWW.casstruceng.com PROVIDING STRUCTURAL ENGINEERING SOLUTIONS FOR YESTERDAY, TODAY AND TOMORROW COMMERCIAL, GOVERNMENTAL AND INDUSTRIAL STRUCTURAL DESIGN, ANALYSIS AND RESTORATION A WEST VIRGINIA CERTIFIED DEE CONSULTANT • CERTIFIED N THE PRACTICE OF STRUCTURAL ENGINEERING

IMMEDIATE RECOMMENDATIONS FOR SAFETY

We recommend that an 8-foot high chain link fence be installed from the rear corner of the building straight back along the line of the alley to the rear fence and prevent access to the rear of the building. Any gates that are installed in the fence should be locked at all times.

SHORT TERM RECOMMENDATIONS FOR STABILIZATION

We recommend that the rear 15 feet of the building be removed after shoring is installed from the basement to the roof level. There currently walls located at this line with doors into the guest rooms. The doors (and transom units over the doors) could be removed, walls filled in and sheathed with plywood to form a new temporary shear wall that would provide support for the exterior walls until the new construction can be completed. The location of the wall at the current beam line is shown on each of the levels in the attached drawings.

Construction documents (plans and specifications) should be developed for the support and demolition of the rear of the structure. Additional work will most likely be required at the basement level to provide support for the basement wall and to secure that level as well.

If you have any questions or comments, please do not hesitate to contact us.

Sincerely,

CAS Structural Engineering, Inc.

Carol A. Stevens, P.E., F.ASCE President







Photo 2. Side Elevation of Building Showing Alley to Bank PROVIDED FOR EXAMPLE REPORT PURPOSES

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Photo 3. Side Elevation at Building Opposite of Alley to Bank



Photo 4. Front Corner Opposite of Alley to Bank



Photo 5. Alley Side Showing Deterioration at Roof

Photo 6. Closer View of Deterioration at Roof



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Photo 7. Cornice at Front Elevation



Photo 8. Rear of Building Showing Fire Escape Structure



Photo 9. Rear of Building at Grade Showing Bottom of Fire Escape



Photo 10. Close-up View of Fire Escape and Openings at Rear



Photo 11. Collapsed Floor Structure at Rear of Building



Photo 12. Collapsed Floor Structure



Photo 13. View of Interior of Rear Wall Showing Missing Brick

Photo 14. View of Interior of Rear Wall Showing Partition Wall and Missing Brick



Photo 15. Interior Wall with Door and Transom

Photo 16. Rear of Building Showing Bank Building and 6-Foot High Fence



Photo 17. View of Rear of Building and Fencing



Photo 18. Open Gate in Fence













First Presbyterian Church Façade Inspection and Observations Report





PO Box 469 Alum Creek, WV 25003-0469



INTRODUCTION

On August 24 and 25, 2022, we performed up close inspections of the upper portion of the façade at the First Presbyterian Church in Charleston, West Virginia. The purpose of the visit was to observe and document the condition of the upper portions of the structure.

In the past few years, a couple of terra cotta rosettes at the cornice fell, as well as a portion of the cornice. The Church retained Wilson Restoration to perform repairs to those conditions. Although the exact location of these repairs was not provided for this study, these conditions are what precipitated the current up-close inspections.

There was a significant façade restoration project completed in 2007, led by Swanke Hayden Connell Architects, in which repairs were made to the entire building envelope. The exterior façade consists of limestone and terra cotta components with brick backup. Repairs included pinning masonry components, repointing, installing lead cap and sealant, removing and reinstalling parapet components, securing terra cotta rosettes and general masonry cleaning. Significant repairs were made to the cupola and new terra cotta clay tile was installed on the dome roof. Other repairs were made to railings and stained glass windows.

During the previous 2007 restoration campaign, the Architect originally detailed for the rosettes to be anchored using a helical stainless steel wall tie. However, during construction, the Contractor was not

able to install the helical ties without cracking the terra cotta rosettes. Another repair method had to be found. The rosettes were originally designed to be anchored by an iron pin that was supported by the large terra cotta unit and slipped through a hole in the stem of the rosette. Over time, these pins began to rust and fail, allowing the rosettes to become loose and fall. It was decided to install two-part epoxy around the annular space between the rosette and the terra cotta component. The material that was used was Hilti HY 20 paste. One mock-up was performed and after the epoxy was cured, a 25-pound



weight was hung from the rosette for a period of one week. The epoxy held and all the other rosettes were anchored using this method.

At several of the corners of the cornice, the terra cotta units were removed and new, stainless steel angles and anchorage devices were installed to better support those locations. A total of seven (7) locations were to be completed in this fashion, with the exact locations to be determined during construction. At the time of this investigation, no As-Built drawings could be located either by the Owner or Contractor (General Contractor or Masonry Sub Contractor), so exactly which corners were repaired is not known.

INSPECTIONS, OBSERVATIONS and RECOMMENDATIONS

The up-close inspections were performed on all four (4) elevations. Partial elevation drawings and photos are included with this report. The partial elevations show locations where the photos were taken and also show a basic Scope of Work for repairs that need to be completed. An articulated lift was used to access the upper portion of the façade to perform the actual "hands-on" observations. Every rosette that could be physically touched was grabbed by the contractor operating the lift and pulled. There were two (2) that were loose and subsequently removed. At both of these rosettes, the epoxy was discolored compared to the other locations (an amber color instead of limestone color). The reason that the epoxy was discolored is not known but could be a future indicator of possible loose rosette locations if the epoxy starts to discolor around additional rosettes. At the location of the loose rosettes, it is possible that the two-part epoxy may not have been mixed properly initially or possibly moisture has gained access to those locations. Testing of the epoxy could be performed by a specialized materials testing lab (if desired) to attempt to determine if there was a mixing problem or another chemical issue. All the outside projecting cornice corners were checked for movement with pressure being placed on each one, again by the contractor. No movement could visually be seen at any of the locations. There are a number of mortar joints that have moss growing from them which is an indication that moisture is gaining access to those locations. This occurs at both the rosette cornice and frieze.

Based on our inspections and observations, there are several locations on the building that will need to have remedial work. The partial elevation drawings and corresponding photo numbers indicate the locations of required repairs. For clarity and consistency, the following terms are used in the report:

- Rosette Cornice or Projecting Rosette Cornice: The area where the terra cotta rosettes are located
- Frieze: The upper portion of the walls
- Pediment Roof: North elevation (front of the building) gabled roof area
- Column Capitals: The tops of the columns at the front or north elevation

NORTH ELEVATION

On the north elevation, there are several items that need attention as follows:

- The column capitals have several locations where the mortar needs to be repaired. (Photos 4, 5)
- The horizontal joint at the bottom of the terra cotta frieze needs to be repointed 100% based on the number of locations where mortar is failing. (Photos 14, 29)
- There is also some deterioration of the upper joints at the frieze that will require repointing.
- The horizontal skyward facing joints at the bottom of the frieze show evidence of moisture infiltration and will need to be repointed and have sealant installed. (Photo 29)
- There is some stair-stepped mortar joint cracking in the limestone on the west side of the north elevation in a location where repairs were made in 2007/2008. Further investigation of this location is recommended to help understand the cause of the recurring step cracking, but repointing should be done soon to prevent moisture infiltration. (Photo 16)
- Any open joints should be repointed.
- There are a few locations where repointing and/or sealants need to be repaired at the top horizontal joint at the projecting cornice. (Photo 13)

- Where the pediment roof intersects the projecting rosette cornice, it appears that the original flashing at that location may not be properly shedding water and may be allowing moisture infiltration. A liquid applied flashing product that can be applied to cleaned copper and glazed terra cotta components should be used at this location to seal up this condition. (Photos 3, 18)
- Remove and replace sealants at the parapet. (Photos 14, 15)
- Allow for selective repointing at the dome drum.
- Cleaning of the façade.
- All rosettes appeared to be anchored sufficiently and do not need repairs.

WEST ELEVATION

On the west elevation, there are several items that need attention as follows:

- The horizontal joint at the bottom of the terra cotta frieze needs to be repointed 100% based on the number of locations where mortar is failing. (Photos 29, 30)
- There is also some deterioration of the upper joints at the frieze that will require repointing.
- The horizontal skyward facing joints at the bottom of the frieze show evidence of moisture infiltration and will need to be repointed and have sealant installed. (Photos 29, 30)
- One rosette was loose and was taken down and is being stored at the church. Another was already missing but has been found by church personnel and is also being stored. All other rosettes appeared to be anchored sufficiently and do not need repairs at this time. (Photos 21 through 25)
- Any open joints should be repointed.
- There are a few locations where repointing and/or sealants need to be repaired at the top horizontal joint at the projecting cornice. (Photo 19)
- Where the pediment roof intersects the projecting rosette cornice, it appears that the original flashing at that location may not be properly shedding water and may be allowing moisture infiltration. A liquid applied flashing product that can be applied to cleaned copper and glazed terra cotta components should be used at this location to seal up this condition. (Photos 3, 18)
- The entry stairs are exhibiting failing mortar and sealants which need to be replaced. (Photos 63 through 66)
- Repair cracks/chips/spalls.
- Remove and replace sealants at the parapet. (Photos 26 through 28)
- Allow for selective repointing at the dome drum.
- Cleaning of the façade.

SOUTH ELEVATION

On the south elevation, there are several items that need attention as follows:

- The horizontal joint at the bottom of the frieze needs to be repointed 100% based on the number of locations where mortar is failing. (Photo 29)
- There is also some deterioration of the upper joints at the frieze that will require repointing.
- The horizontal skyward facing joints at the bottom of the frieze show evidence of moisture infiltration and will need to be repointed and have sealant installed. (Photo 29)
- All rosettes appeared to be anchored sufficiently and do not need repairs.
- Any open joints should be repointed.

- There are a few locations where repointing and/or sealants need to be repaired at the top horizontal joint at the projecting cornice.
- Repair cracks/chips/spalls. (Photos 34 through 36)
- Remove and replace sealants at the upper and lower parapets. (Photos 32, 33, 38)
- Allow for selective repointing at the dome drum.
- Cleaning of the façade.

EAST ELEVATION

On the east elevation, there are several items that need attention as follows:

- The horizontal joint at the bottom of the frieze needs to be repointed 100% based on the number of locations where mortar is failing. (Photos 29, 59)
- There is also some deterioration of the upper joints at the frieze that will require repointing. (Photo 29)
- The skyward facing joints at the bottom of the frieze show evidence of moisture infiltration and will need to be repointed and have sealant installed. (Photo 51)
- One rosette was loose and was taken down and is being stored at the church. All other rosettes appeared to be anchored sufficiently and do not need repairs. (Photos 60, 61)
- Any open joints should be repointed. (Photos 47, 48)
- There are a few locations where repointing and/or sealants need to be repaired at the top horizontal joint at the projecting cornice.
- Where the pediment roof insects the projecting rosette cornice, it appears that the original flashing at that location may be allowing moisture infiltration. A liquid applied flashing product that can be applied to cleaned copper and glazed terra cotta components should be used at this location to seal up this condition. (Photos 53 through 57)
- Repair cracks/chips/spalls. (Photo 46)
- Remove and replace sealants at the parapet.
- Allow for selective repointing at the dome drum.
- Cleaning of the façade.

It is important to seal up the façade to prevent moisture infiltration and further damage. However, this can be costly and we therefore recommend that the work be completed in phases. Trisco Systems, Inc. has prepared construction cost estimates (not bid numbers at this time) based on the field observations and recommendations.

Phase I (Group A): The Rosette Cornice is a priority to prevent any additional rosettes from falling. During the construction, the rosettes can be pulled on again to make sure that they are adequately secured. The rosettes which are being stored will also be re-installed at that time. Other repairs at this level of the façade will also be completed all the way around the structure. These include, repointing mortar joints, replacing sealants, re-installing rosettes, and applying liquid applied flashing at the pediment roof/rosette cornice intersection.

Phase II (Group B): A later phase can address items at the frieze level which include repointing mortar joints and replacing sealants.

Phase III (Group C): Additional repair areas to be worked on in a third phase include repointing at the dome drum, repairs at the column capitals, terra cotta repairs, work at the west stairs, and cleaning. A more-inclusive list of repairs for each phase is located later in this report.

The rosette cornice needs the most attention with repointing as this is an exposed area that experiences the majority of the weather. The glazed terra cotta joints typically have a shorter life-span than the limestone joints, resulting in repairs being required more often.

CONSTRUCTION COST ESTIMATE AND PRIORITIES

Trisco Systems prepared a Probable Estimate of Construction costs based on the up-close inspection and observations and recommendations for repairs. As it is likely that all repairs will not be completed at one time, it is important to prioritize those repairs such that the work can be completed in phases.

The anticipated repairs were broken into three (3) groups consisting of the Rosette Cornice (Group A repairs), the Frieze (Group B repairs), and Other Areas (Group C repairs). These areas are defined earlier in this report and those definitions are included here for convenience.

- Rosette Cornice or Projecting Rosette Cornice (Group A): The area where the terra cotta rosettes are located
- Frieze (Group B): The upper portion of the walls
- Other Areas (Group C) which includes the Pediment Roof: North elevation (front of the building) gabled roof area, Column Capitals: The tops of the columns at the front and other areas as noted in the documents.

The Scope of Work and associated estimated cost for each of the areas is as follows:

Group A - Rosette Cornice - \$59,708.

- Remove horizontal mortar joint above bracket/rosettes at specific locations and install new matching mortar (allow for 200 LF)
- Remove vertical mortar head joints above bracket/rosettes at specific locations and install new matching mortar (allow for 200 EA)
- Prep and coat skyward portions of stone reveal with Kemper Liquid Flashing (allow for 2 locations or approximately 10 LF)
- Prep and epoxy fracture in rosette and base to match surrounding façade (allow for 1 EA)
- Remove lead caps at specified locations and reinstall to match surrounding units (allow for 4 EA)
- Prep, epoxy, and reinstall loose or displaced rosettes (allow for 8 EA)
- Prep and repair cracked terra cotta with specified material and coat to match existing in color and finish (allow for 3 LF)
- Prep, patch and finish damaged terra cotta brackets with specified terra cotta materials to match e4xisting in color and finish (allow for 6 EA)

Group B – Frieze - \$127,547.

 Remove all mortar joints at bottom horizontal frieze joint and install new matching mortar (943 LF)
- Remove mortar joints at top horizontal frieze joint and install new matching mortar (allow for 25% of joints or 238 LF)
- Remove mortar joints at bottom skyward horizontal frieze joint, repoint mortar joints, rake mortar joints, and install new backer rod and urethane sealant (allow for 25% of joints or 238 LF)
- Remove frieze vertical head joints at specified locations and install new matching mortar (allow for 943 EA)
- Remove vertical mortar joints below frieze at specific locations and install new matching mortar (allow for 120 EA)
- Remove all mortar joints at horizontal cornice joint, repoint mortar joint, and rake joint to install backer rod and urethane sealant (872 LF)

Group C – Additional Areas - \$130, 363.

- Remove and re-install bird netting at top of column capitals, repoint mortar joints, rake mortar joints, and install backer rod and urethane sealant (allow for 6UA)
- Remove fractured, failing, or missing mortar joints on dome elevation walls and install new matching mortar (allow for 10% of wall surface)
- Remove horizontal sealant on front and backside of parapet at cap bed joint and install new backer rod and urethane sealant (allow 830 LF for each side)
- Remove sealant on face of parapet cap head joints and install new backer rod and urethane sealant (allow for 830 EA)
- Prep, patch, and coat damaged sections of terra cotta cap at specified locations with specified patching materials (allow for 4 EA)
- Remove mortar joints at identified locations and install new matching mortar (allow for 51 locations or 94 LF)
- Chemically clean exterior stone veneer coupled with low-medium water pressure rinse. Not all areas are in need of cleaning at this time, but the cost estimate does include all areas.
- Remove west entrance stair step end and bed sealant joints and install backer rod and urethane sealant
- Remove all west entrance steps check wall mortar joints and install new matching mortar

The main reason that the repairs have been grouped in this manner is to address the moisture infiltration at the rosette cornice location. It has been noted that at least two (2) rosettes have become loose and fallen and two (2) additional rosettes were removed during the inspection due to them being found to be loose. Even though these last two were not easy to remove, it is imperative to stop the moisture infiltration at this level. It is recommended that the Group A repairs be made during the 2023 to 2024 construction season. Waiting for these repairs to be completed risks additional damage to the building envelope and building interior, as well as a chance that another rosette may come loose, as well as increasing the cost for construction. At this point in time, since the two rosettes were removed, there are no safety-related issues. Making the repairs in a timely fashion will prevent safety issues from occurring.

Group B repairs should be done in the 2024 to 2025 timeframe and the Group C repairs can wait for 5 years or so. Developing a maintenance and visual inspection plan for the building envelope is also important and will help to identify issues before they have severe consequences.

DRAWINGS





- 1. COLUMN CAPITALS REPOINT TOP JOINTS (ALL) -HOLD MORTAR DOWN AND INSTALL SEALANT ON TOP OF JOINT. TAKE CARE TO REMOVE & RE-INSTALL BIRD NETTING.
- 2. 100% REPOINT HORIZ. JOINT @ BOTTOM OF FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- 3. SELECTIVE REPOINTING & SEALANT @ SKYWARD FACING JOINT @ TOP OF FRIEZE (25%).
- 4. SELECTIVE REPOINTING/SEALANT @ SKYWARD FACING JOINT @ BOTTOM OF FRIEZE (25%).
- 5. SELECTIVE REPOINTING/SEALANT @ TOP HORIZ. JOINT PROJECTING CORNICE.



NORTH ELEVATION



- 1. COLUMN CAPITALS REPOINT TOP JOINTS (ALL) -HOLD MORTAR DOWN AND INSTALL SEALANT ON TOP OF JOINT. TAKE CARE TO REMOVE & RE-INSTALL BIRD NETTING.
- 2. 100% REPOINT HORIZ. JOINT @ BOTTOM OF FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- 3. SELECTIVE REPOINTING OF HORIZ. JOINT @ TOP OF FRIEZE (25%).
- SELECTIVE REPOINTING & SEALANT @ SKYWARD 4. FACING JOINT @ BOTTOM OF FRIEZE (25%).
- SELECTIVE REPOINTING/SEALANT @ TOP HORIZ. 5. JOINT @ PROJECTING CORNICE.





- FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- 2. OF FRIEZE (25%).
- 3.
- 4 JOINT @ PROJECTING CORNICE.
- 5.
- 6. PRODUCT THAT CAN BE APPLIED TO CLEANED COPPER & GLAZED TERRA COTTA.
- 7. REMOVE/REPLACE SEALANTS @ UPPER & LOWER PARAPETS.





- FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- OF FRIEZE (25%).
- 3.
- 4 JOINT @ PROJECTING CORNICE.
- 5.
- 6. PRODUCT THAT CAN BE APPLIED TO CLEANED COPPER & GLAZED TERRA COTTA.
- PARAPETS.









- 1. 100% REPOINT HORIZ. JOINT @ BOTTOM OF FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- 2. SELECTIVE REPOINTING OF HORIZ. JOINT @ TOP OF FRIEZE (25%).
- 3. SELECTIVE REPOINTING & SEALANT @ SKYWARD FACING JOINT @ BOTTOM OF FRIEZE (25%).
- 4. SELECTIVE REPOINTING/SEALANT @ TOP HORIZ. JOINT @ PROJECTING CORNICE.
- 5. REPOINT DOME DRUM SELECTIVE (10%).
- 6. REMOVE/REPLACE SEALANTS @ UPPER & LOWER PARAPETS.
- 7. REMOVE/REPLACE SEALANTS @ PARAPET ALL ELEVATIONS.





- 1. 100% REPOINT HORIZ. JOINT @ BOTTOM OF FRIEZE. MAKE SURE BACK UP MORTAR IS REMOVED.
- OF FRIEZE (25%).
- 3.
- 4
- 5.
- 6.



PHOTOS



Photo 1. North Elevation Frieze Level



Photo 2. North Elevation Rosette Cornice Showing Corner



Photo 3. Corner Showing Rotation and Open Joints



Photo 4. North Elevation Showing Open Joints at Column Capital



Photo 5. North Elevation Showing More Open Joints at Column Capital



Photo 6. North Elevation Showing Pediment and Rosettes



Photo 7. Rosette at North elevation



Photo 8. North Elevation Showing Pediment and Rosettes



Photo 9. North Elevation Showing Rosette



Photo 10. North Elevation Showing Rosette with Epoxy



Photo 11. Close-up of Rosette Showing Epoxy at North Elevation



Photo 12. Open Joints at Corner at North Elevation



Photo 13. North Elevation Corner Rosette Cornice



Photo 14. Sealant at Top of Frieze and Gutter



Photo 15. Another view of Sealant and Lead Cap at Top of Frieze



Photo 16. Stepped Mortar Joint Cracks at North Elevation



Photo 17. Rosette Cornice at North-West Corner of Building



Photo 18. Projecting Rosette Cornice at Front Corner of Building at Pediment Roof



Photo 19. Projecting Rosette Cornice in North-West Corner



Photo 20. Cracked/Chipped Terra Cotta at Rosette Cornice at West Elevation



Photo 21. Rosette at West Elevation with Darkened Epoxy Around Stem



Photo 22. Rosette was Loose and Taken Down



Photo 23. Hole in Terra Cotta where Rosette was Removed



Photo 24. Location of Missing Rosette at West Elevation (is being stored at the church)



Photo 25. View Inside Terra Cotta Unit where Rosette Was Missing



Photo 26. Copper Flashing at Top of Frieze and Gutter at West Elevation





Photo 28. View of Copper Flashing and Gutter at Top of Frieze at West Elevation



Photo 29. Moss at Frieze Mortar Joints is Evidence of Moisture Infiltration



Photo 30. More Evidence of Moisture Infiltration at West Elevation



Photo 31. Parapet at West Elevation with Lead Cap and Sealants



Photo 32. Sealants on Back Side of Parapet Should be Removed and Replaced



Photo 33. Chipped and Cracked Terra Cotta Coping at Parapet



Photo 34. Patch Repair at Terra Cotta Coping



Photo 35. Close-up of Cracks in Terra Cotta Coping



Photo 36. Cracks and Chips in Terra Cotta Coping at South Elevation



Photo 37. View of Lower Roof and Parapet



Photo 38. Sealants at Coping to be Replaced



Photo 39. Another View of Sealants to be Replaced at Parapet



Photo 40. View of Upper Wall at South Elevation



Photo 41. View of South-West Corner of Building



Photo 42. Repaired South-West Corner of Projecting Rosette Cornice



Photo 43. Crack on Face of Terra Cotta Unit at Rosette Cornice



Photo 44. Crack Goes through Terra Cotta Unit at Rosette



Photo 45. South-East Corner of Projecting Rosette Cornice



Photo 46. Mortar Joint Repair Required at East Elevation PROVIDED FOR EXAMPLE REPORT PURPOSES PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY.



Photo 47. Open Joists at Rosette Cornice on East Elevation



Photo 48. More Open Joints at Rosette Cornice on East Elevation


Photo 49. Projecting Rosette Cornice at North-East Corner of Building



Photo 50. Moss Growing at Joint is Evidence of Moisture Infiltration



Photo 51. Frieze at East Corner with Joints that Need to be Repointed



Photo 52. North-East Corner of Building



Photo 53. Lead Cap and Failing Sealant at Pediment Roof/Cornice Interface



Photo 54. Failing Sealant



Photo 55. Close-up of Failing

Photo 56. Failing Sealant and Cracked Mortar Joint



Photo 57. Pediment Roof and Cornice Interface and Flashing



Photo 58. Projecting Rosette Cornice at South-East Corner



Photo 59. Moss at Vertical Joint at Frieze



Photo 60. Rosette Cornice at East Elevation with Loose Rosette

PROVIDED FOR EXAMPLE REPORT PURPOSES PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY.



Photo 61. Location of Removed Rosette at East Elevation



Photo 62. Chipped Brackets at Frieze at East Elevation



Photo 63. Steps at West Side En-



Photo 65. Failing Sealants at Cheekwall

Photo 66. Failing Sealants and Mortar at Cheekwall



May 17, 2010

Mr. Bob Maxwell Job's Temple Association President bamaxwell@htcnet.org

Job's Temple Structural Observations Re:

Dear Mr. Maxwell:

We made a site visit on April 17, 2010 to look at the conditions of the structure. The purpose of the site visit was to determine what structural issues may exist with the roof and exterior walls. The building is a log structure dating back to the 1860's that is currently having some maintenance work completed on the logs

and chinking in the walls.

The reason for this report is

related to issues with the roof. There is a pronounced sway in the roof on the back side (slope side) of the building. There is

also a large amount of deflection along the side wall (slope side wall). It appears that the timber beam at the top of the wall that supports the roof joists and rafters is experiencing a significant

amount of deterioration, allowing the roof rafters to push the beam laterally. This lateral force is bowing the deteriorated beam, which in turn, is bowing the entire wall.



A closer look at the beam at the top of the wall shows not only a split at the end of the beam, but also deterioration of the wood itself.



(304) 756-2565 (fax)





(304) 756-2564 (voice) Alum Creek, WV 25003-0469 P.O. Box 469 A West Virginia Certified DBE Consultant Certified in the Practice of Structural Engineering AIA Awards in Historic Preservation and Restoration PROVIDED FOR EXAMPLE REPORT PURPOSES PROPRIETARY INFORMATION - DO NOT PUBLISH ON INTERNET OR DISTRIBUTE PUBLICLY. We recommend that a structural analysis of the roof system be completed to ensure that the structural elements are in compliance with code recommended loads for snow and wind loadings. In addition, the large wood beam at the top of the wall supporting the roof structural elements should be either repaired (if possible due to the extent of the damage) or replaced. Since this important structure is listed on the National Register of Historic Places, care must be taken with the repairs that they are in compliance with the requirements set forth in the Secretary of the Interior's Standards for Historic Preservation. This analysis should be completed as soon as possible in order to mitigate any danger of the wall blowing out and roof collapsing should there be another winter with snow levels that were seen this past year. In addition, the repairs should be completed by a contractor who is experienced in this type of specialized historic preservation work.

If you have any questions or comments, or need additional information, please do not hesitate to contact me.

Sincerely,

CAS Structural Engineering, Inc.

Carol A. Stevens, P.E. President



STRUCTURAL OVERVIEW AND ANALYSIS OLD CLENDENIN MIDDLE SCHOOL

INTRODUCTION

The Old Clendenin Middle School is a 3 story structure that was originally constructed in 1912. It appears that there may have been an addition at some later time to the original classroom building consisting of additional classrooms and alterations to the roof structure. This is based on the fact that the exterior brick appears to be different and multiple layers of roof framing are visible. A later addition consisting of a stairtower and gymnasium is located at the East end of the classroom building. The first floor is partially below grade and consists of a concrete slab on grade. The second floor level framing consists of wood floor joists for the classrooms, concrete slab on open web steel joists supported by steel beams and columns for the library. The third floor level consists of wood floor joists for the classrooms, concrete slab on definition of the classroom definition.

supported by steel beams for the flat roof over the library. The attic and roof framing consist of wood framing for floor, ceiling and roof rafters, and heavy wood trusses supporting the roof rafters.

The exterior of the building is multi-wythe brick with some stone and block walls below grade. The interior bearing is provided by multi-wythe brick walls as well. There has been substantial settlement of the NE corner of the original classroom building, as seen in the photograph.



OBSERVATIONS

<u>First Floor</u>

The first floor concrete slab on grade appears to be in reasonably sound condition, with



the exception of the area where the settlement has occurred at the NE corner of the building. **The slab** and walls in this area have cracked and settled

with the exterior of the building, leaving a condition in need of

attention. The remainder of the first floor area appears to be in relatively good condition. The block walls at the main stair are cracked and need



to be removed or repaired and there are obvious moisture issues.

Second Floor

The second floor framing consists of wood floor joists in the classrooms and other areas except the library and the corridor. The floor joists typically span from the exterior north and south walls to the interior corridor masonry bearing walls. In some cases, the original plaster ceiling has been removed, but most original ceilings are still in place.

In the corridor, the framing consists of open web steel



joists and concrete slabs. Steel beams and columns support the joists for the library floor.

Third Floor and Low Flat Roof

The third floor framing is very similar to the second floor framing in that it consists of wood floor joists in the classrooms and other areas except for the corridor. The floor

joists typically span from the exterior north and south walls to the interior corridor masonry bearing walls. At the NE corner of the building, the floor slopes approximately 4 ¹/4" where the settlement has occurred. A portion of the framing (above the library) is actually roof framing that consists of wood roof rafters supported by steel beams. There is a large built-up steel girder that supports low flat roof framing (over the library), third



floor framing, the exterior brick wall and roof framing. There are a few connections where bolts were missing, even allowing one connection to possibly rotate. Some

of the wood to steel beam connections are questionable at best and will need to be modified.

As with the second floor in the corridor, the framing consists of open web steel joists and concrete slabs. Once again, most original plaster ceilings are still in place.

Attic Floor

The attic floor framing consists of wood joists spanning between main roof trusses.



Main Roof

The main roof framing consists of wood roof rafters and heavy wood trusses. It appears that there may have been a roof modification at some point due to the fact that there are several layers of framing and sheathing present. There are a few roof



rafters that are split at the bearing, anchorage of the sill plate to the top of the brick wall could not be verified in a few locations, **and there appears to be a**



serious problem on the back side of the roof.

There is a sway in the roof as seen from above

the roof level. Below the roof, there is some damage visible, but the large amount of ductwork in addition to the plaster and lath that are still in place have made it extremely difficult to examine this area. There are



bearing locations for the roof rafters that have pulled

apart. This area must be addressed in order to prevent a future roof failure. Additionally, there is a truss bearing condition that is compromised. The structure directly below the truss bearing has been

removed to install ductwork. **A**

tension failure in the wood plate is occurring. This issue must also be addressed in order to prevent a future roof failure. There were a few locations where it appeared that roof members showed evidence of moisture damage. Stair step cracking in the multi-wythe brick was observed in some locations at the north and east walls below the roof level.



ANALYSIS

The structural analysis of the existing framing was completed in accordance with the requirements set forth in the International Existing Building Code 2003. Dead loads were assumed as follows for classrooms and areas supported by wood framing other than the roof in order to determine the available allowable live load:



Floor sheathing:	5.5 psf (1/2" T&G, plank)
Mech/Elec:	4 psf
Floor covering:	1 psf
Drop Ceiling:	<u>3 psf</u>
TOTAL DEAD LOAD:	13.5 psf

For the corridor and library, the dead loads were assumed as follows:

Concrete slab:	37.5 psf
Mech/Elec:	4 psf
Floor covering:	1 psf
Ceiling:	4 psf
TOTAL DEAD L	OAD: 46.5 psf

It should be noted that all existing plaster ceilings in areas of wood framing should be removed and were not included in the dead loads for the analysis.

Code required live loads for the proposed use vary and are as follows:

Office: 50 psf Lab: 60 psf Exam Room: 40 psf X Ray Room: dependent on equipment in room Corridor: 80 psf Storage: 125 psf (assumed as light storage) Pharmacy: 50 psf (special consideration should be given to shelving areas) Stairs: 100 psf Apartment/residence areas: 40 psf (including corridors serving these areas)

Second Floor Framing

The wood floor framing at the second floor ranges in allowable live load from 42 psf to 48 psf. The corridor steel joist framing is capable of supporting in excess of 80 psf. The steel beams in the original library are capable of supporting in excess of 100 psf and the steel joists can support approximately 80 psf.

Third Floor Framing

The wood floor framing at the third floor ranges in allowable live load from 31 psf to 50 psf. The corridor steel joist framing is capable of supporting approximately 80 psf.

Low Flat Roof Framing

The low flat roof framing was not originally designed for snow sliding and stacking that is a requirement in current codes. Consequently, the framing is undersized and will require reinforcement.

Main Roof Framing

A comprehensive analysis of the entire roof framing system was not completed at this time. Due to the issues related to the existing plaster and lath currently in place and all of the ductwork, it was not possible to access all of the framing members. Generally, the roof appears in adequate condition, with the exception of those areas indicated in the Observations section of this report. Additional analysis can be completed once the ductwork and plaster have been removed from the area.

CONCLUSIONS AND RECOMMENDATIONS

It is recommended that a geotechnical engineer be contacted to evaluate the movement at the NE corner of the existing building structure. Foundation stabilization will be required in this area. It is doubtful that the corner of the building will be able to be lifted back to proper elevation without expending a large amount of funds, but any active movement can be stopped.

For the areas of wood floor framing on the second and third floors that currently cannot support the anticipated live loads, the joists could be easily reinforced by sistering new wood members to the side.

The flat roof area will need to be reinforced to support current code snow loads. A complete design of this area will be needed.

The main roof will require some repairs in the areas indicated in the Observations Section of the report. As noted above, a complete analysis could not be completed due to the amount of ductwork and plaster in the space. This can be completed once the ductwork and plaster have been removed from the area.

These observations and recommendations are based on site visits made in January and April 2010. Conditions differing from these should be brought to the attention of a structural engineer before any modifications to the structure are made.

Carol A. Stevens, PE
CAS Structural Engineering, Inc.
PO Box 469
Alum Creek, WV 25003-0469

Date

Review and Compliance Staff State Historic Preservation Office WV Division of Culture and History 1900 Kanawha Boulevard East Charleston, WV 25305

West Virginia SHPO

Information Sheet for Section 106 Review Projects

I. General Information regarding all project submissions:

Is this project a new submission or supplemental information relating to a previously submitted project? The renovation project is a contributing structure to the Town of Bath Historic District as listed on the National Register of Historic Places. Previous discussions with SHPO office did not find a previous file for this structure.

If this is supplemental information, please identify the project FR# (our project file number).

N/A

a. Project Name

Berkeley Springs State Park - Old Roman Bath House Renovations

b. Federal Agency, if applicable (agency providing funds, permit, license or assistance)

N/A

c. Federal Agency Contact Person: Name, Street Address, Phone Number, email

N/A

d. State Agency, if applicable

West Virginia Division of Natural Resources - Parks and Recreation

e. State Agency Contact Person: Name, Street Address, Phone Number, email

DNR Chief Engineer Brad Leslie 324 4th Ave South Charleston, WV 25303 304-558-2775 Brad.S.Leslie@wv.gov

f. Project Contact Person: (individual(s) who are knowledgeable of project activities). Name, Street Address and Phone Number, email

Montum Architecture – Design Lead Tom Pritts 37 ER Path Keyser, WV 26726 304-276-7151 tom@montumarch.com

DNR Project Manager Carolyn Mansberger 324 4th Ave South Charleston, WV 25303 304-558-2775 Carolyn.M.Mansberger@wv.gov

g. Project Street Address, City, County, Zip Code

2 South Washington Street Berkeley Springs, WV 25411

h. Project Location: Please attach the appropriate USGS Topographic Quadrangle Map indicating the location of the project. If applicable, attach a street map indicating the location(s) of specific addresses. If providing UTM coordinates, please specify whether the projection is NAD 27 or 83. For DEP projects, it is required that a 1"-500' scale (Engineering Map) be submitted in addition to the USGS Topographic Map. All maps must clearly depict the project boundaries.

See Appendix 1.

g. Project Description: Describe the activities proposed within the defined project area and provide any available information regarding past land use of the project area. Provide the project size, including acres or project right-of-way length and width. If applicable, describe proposed construction depths. If the project will involve building rehabilitation or renovation, please identify materials and provide any available drawings, plans and specifications. If demolition is proposed, please provide cost comparison of repair vs. demolition, explanation of alternatives considered or justification as to why structure cannot be rehabilitated. This may include copies of building inspection or engineering reports.

Proposed work of the mechanical, electrical, and plumbing renovations is to correct and improve operations of the soaking tubs inside the building. This includes replacement of boilers and drain lines. Minor HVAC work also included. Architectural work includes:

- Replacement of windows (windows were previously replaced in 1994 with non-period correct style) with divided-lite style windows. Current windows are failing due to high humidity.
- Re-configuration of one tub, construction of one bathroom, and removal of raised floor sections to provide improved handicapped accessibility to the facility.
- Removal of tile overlay from 1994 renovation and restoration of hexagon mosaic and subway tile motif for areas above water level. Proposing large format (12" x 24") tiles below water level for improved operational hygiene.

- Expansion of lobby area for formalized reception desk. (1949 renovation drawings added the bathroom storage suite to what was an open waiting area)
- An additive alternate may be incorporated into the project if funds allow, that includes re-pointing of exterior brick, painting of the building in same color scheme, and replacement of gutters and downspouts in-kind.

See attached drawing set for details of work. See appendix 3 for visuals of updated finish selections.

h. Project Photographs: These should document the project area showing general views, known disturbances, any rock outcrops, and buildings and/or structures (50 years or older) within

and adjacent to project area. All photographs should be clear, concise, clearly labeled and keyed to a project map.

Photographs of buildings should incorporate the entire building. These may include photographs of the front, back and sides of the building. It is important that you provide photographs that show the entire building as well as photographs of any particular areas where any alterations will occur (e.g., a change in the windows, doors, lighting, etc.).

See Appendix 2.

i. Date of Construction for existing buildings that will be directly or indirectly impacted by the project.

1815 per park records. No original building drawings or photographs are available for reference.

II. Identification of Cultural Resources

Please provide any information regarding the following within or adjacent to project area:

- a. Known archaeological sites None Known, No excavation expected in the project.
- b. Cemeteries None Known, No excavation expected in the project.
- c. Structures Per Town of Bath Historic District.
- d. Historic Structures or Districts Per Town of Bath Historic District.

If there are standing structures within or adjacent to the project area, please provide photographs. You may be asked to submit an WV Historic Property Inventory Form for any structure 50 years or older within the project area or if with the line of sight of the project. Forms and instructions can be found at http: www.wvculture.org/shpo/forms.html. Information regarding National Register listings may be found at <u>http://www.wvculture.org/shpo/nr.html</u>

Per Town of Bath Historic District.

Appendix 1



GPS Coordinates: -78.228856, 39.627309 (NAD 83 UTM 17N 737843, 4390063)

Appendix 2









360 degree photos can be viewed at: <u>https://bit.ly/2JvJW3Q</u>

Appendix 3

Paint Colors:



All other walls

(Ceilings to be white)

Tile:



Below waterline floor and wall tile in tub





Above waterline tub walls

Floor tile above waterline



Lobby Light



Tub Room Light

Corridor Light

Lighting: