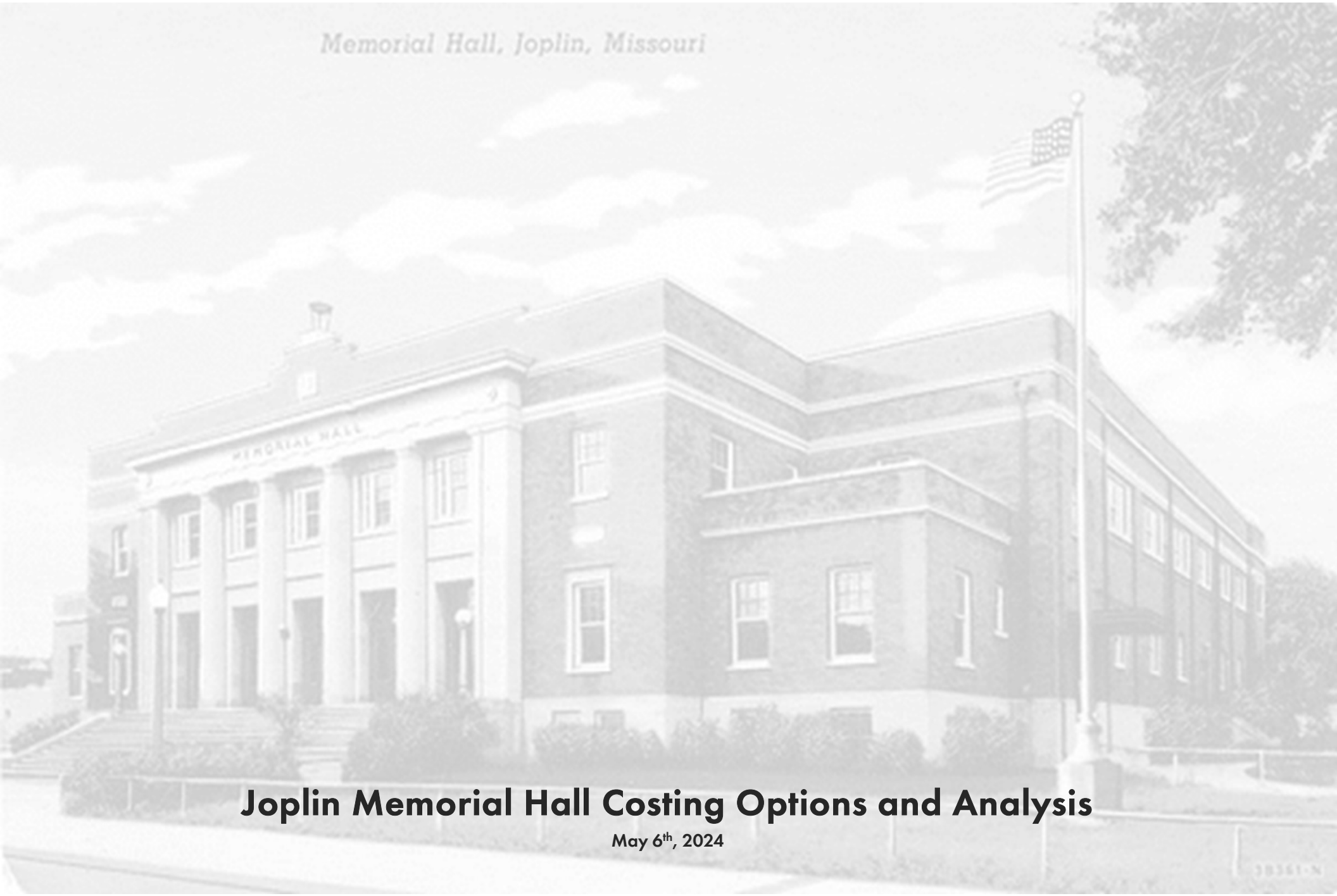


Joplin Memorial Hall Costing Options and Analysis

May 6th, 2024

sfsarchitecture
drivenbyconnections

AGENDA

Scope / Process

Findings

Cost Options

Scope / Process

Task 1 Provide a current structural and major systems analysis of Memorial Hall.

Task 2 Provide itemized cost-estimates for building repairs and to major systems scaled to degrees of intended use:

1. Minimally stabilize the structure to:

   - abate further deterioration and protect the interior.

   - remove front entrance ramp and secure building.

2. Minimal costs to stabilize building as above but include major systems and other repairs to provide basic services and programming and meet code compliance, ADA compliance, loading dock repairs, and other items to utilize space for basic community/civic use, parks department programming, meeting space, limited sports programming space, usage by veterans group, emergency operations use.

3. Updated demolition costs and site cleared.

Consultant Team

SFS Architecture	Prime Consultant | Architecture
Olsson	Civil/Site
Bob D. Campbell & Co.	Structural Engineering
Smith & Boucher Inc.	Mechanical, Electrical, Plumbing
Strategic Value Solutions	Cost Estimating

S. JOPLIN AVENUE
W. 8TH STREET
S. WALL AVENUE

Background / Timeline

Original Construction **1925**

Last Major Renovation **1976**

- Full Renovation (addition of elevator, building systems, & finishes).

Task Force Report **1998**

Accessibility Improvements **2003**

EF-5 Tornado Hits Joplin **May 2011**

Seismic Event in Oklahoma **November 2011**

- Settlement and cracking progression noted in basement.
- Terracon assessment report dated May 30, 2012.

COVID-19 Pandemic **March 2020**

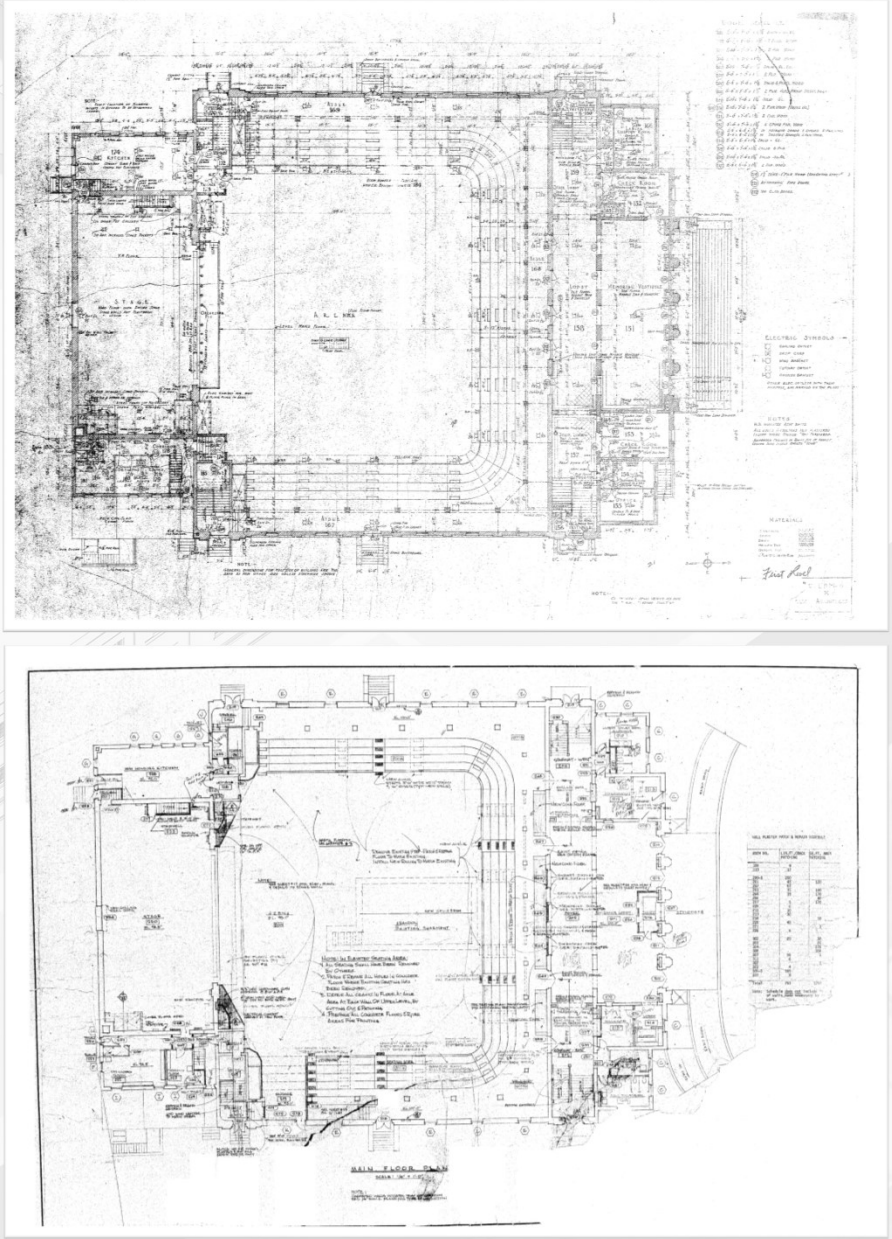
- Building programming stopped; used for municipal court.

Partial Roof Failure/Collapse **June 2020**

- *No further public occupancy since this time.*

Future Use Study **January 2021**

- Public engagement resulting in recommendation of major renovation and addition for $30m. Funding referendum rejected in 2021.



Floor plans from original construction of Memorial Hall (top) and 1976 renovation (bottom).

March 2024: Field Observations

- Olsson provided site, utility, and exterior accessibility observations; followed up with site survey and additional utility research for the property.
- SFS Architecture, Bob D. Campbell, and Smith & Boucher were on-site on March 8th and provided existing conditions assessment and major systems review:
  - BDC reviewed structural conditions and changes since last observed in August 2020.
  - SBI reviewed building systems throughout the facility
  - SFS reviewed changes since last observed in August 2020

Site

- **Generally POOR to FAIR condition.**
- **Poor drainage conditions around base of building and leading into basement level via ramp.**
- **Accessibility non-compliance issues.**
- **Progressive deterioration of the primary entry ramp on the north side.**
- **Missing or damaged exterior lighting.**



View looking at northeast corner of Memorial Hall.

Site

- **Generally POOR to FAIR condition.**
- **Poor drainage conditions around base of building and leading into basement level via ramp.**
- **Accessibility non-compliance issues.**
- **Progressive deterioration of the primary entry ramp on the north side.**
- **Missing or damaged exterior lighting.**



Brick veneer delamination occurring at the primary ramp structure exposing unreinforced masonry within assembly.

Site

- Generally POOR to FAIR condition.
- Poor drainage conditions around base of building and leading into basement level via ramp.
- Accessibility non-compliance issues.
- Progressive deterioration of the primary entry ramp on the north side.
- Missing or damaged exterior lighting.



Lamp post separated from anchorage at north entry.

Building Exterior

- Generally POOR to FAIR condition.
- Several issues resulting from differential settlement observed in 2020 and prior are beginning to accelerate (cracking, displacement, leaking).
- Water infiltration at exterior masonry walls resulting in biological growth, deterioration, corrosion, and other detriments.
- Western entry canopy separating from building and allowing water into the exterior masonry assembly.
- Roof structure and parapet walls failing.

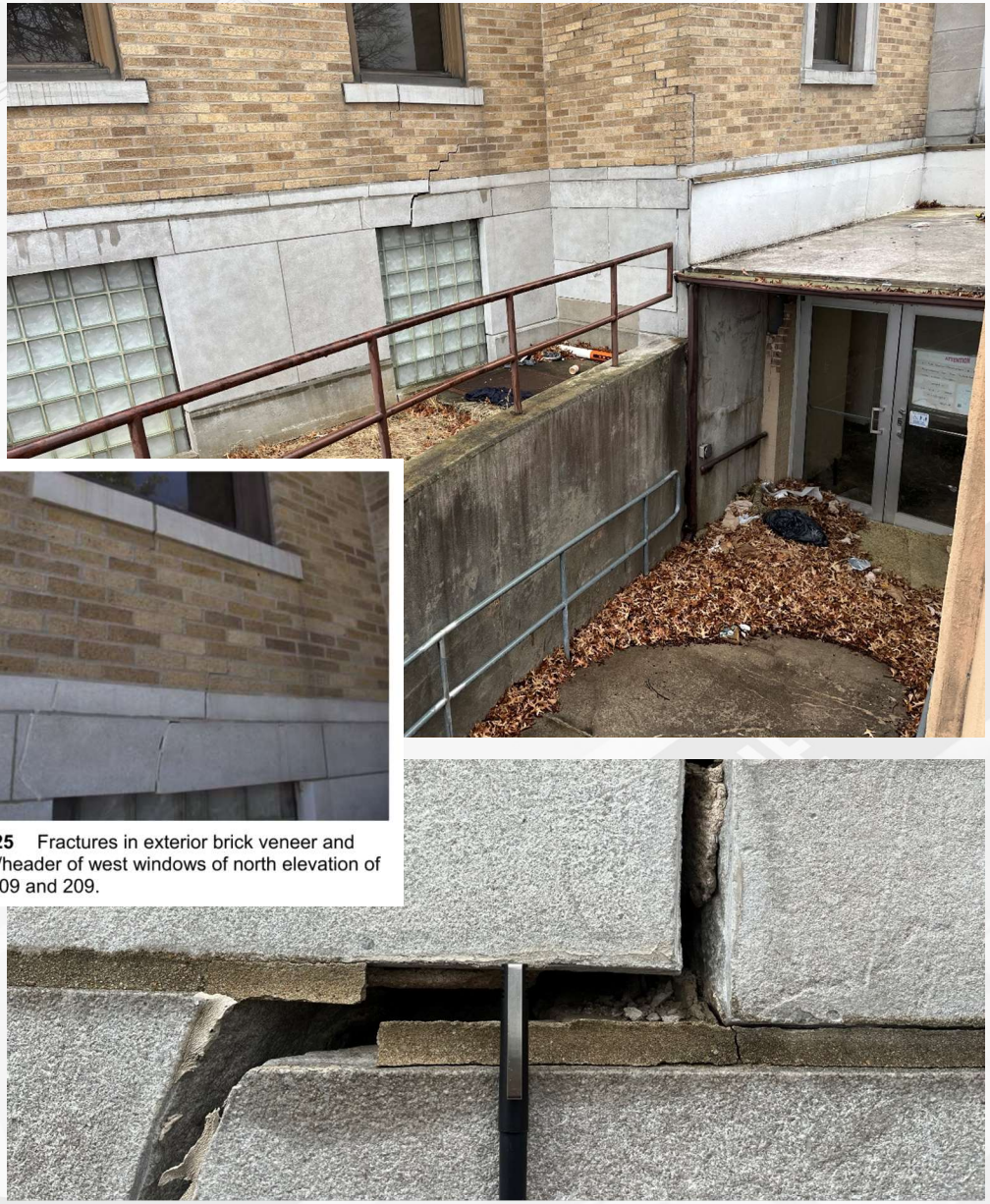


Photo #25 Fractures in exterior brick veneer and stone sill/header of west windows of north elevation of Rooms 109 and 209.

View looking down ramp to basement level (top) and crack at window head stone (bottom). Photo from 2012 Terracon report of same window head (middle).

Building Exterior

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- Several issues resulting from differential settlement observed in 2020 and prior are beginning to accelerate (cracking, displacement, leaking).
- Water infiltration at exterior masonry walls resulting in biological growth, deterioration, corrosion, and other detriments.
- Western entry canopy separating from building and allowing water into the exterior masonry assembly.
- Roof structure and parapet walls failing.



West entry canopy which can be seen separating from building.

Building Exterior

- **Generally POOR to FAIR condition.**
- **Several issues resulting from differential settlement observed in 2020 and prior are beginning to accelerate (cracking, displacement, leaking).**
- **Water infiltration at exterior masonry walls resulting in biological growth, deterioration, corrosion, and other detriments.**
- **Western entry canopy separating from building and allowing water into the exterior masonry assembly.**
- **Roof structure and parapet walls failing.**



Closer look at west canopy separating from building along with corroded and delaminated structural steel lintels.

Building Exterior

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- **Western entry canopy separating from building and allowing water into the exterior masonry assembly.**
- **Roof structure and parapet walls failing.**



Typical back of parapet wall condition which have been painted and impact moisture in the wall assembly.

Building Interior

- Generally POOR to FAIR condition throughout the building.
- Temporary structural shoring in place since 2020 in auditorium roof.
- HVAC systems partially operationally.
- Elevator inoperable.
- Differential settlement issues progressing.
- Water infiltration in masonry wall assembly and roof/parapets continue to occur resulting in:
  - Finishes and assemblies deteriorating.
  - Potential for future structural failures.
  - Environmental/indoor air quality issues (mold, rot, etc) appearing throughout.
  - Some issues may be contributed to 1976 renovation approach, others due to deferred maintenance.



View of lobby looking west.

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West entry showing deteriorated drywall due to moisture issues in wall and canopy assembly.

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West entry interior wall where plastic sheet vapor barriers were installed in a previous renovation. Furring and drywall were added over the plastic sheeting which has resulted in trapped moisture in wall assemblies.

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Typical condition behind wall coverings applied in the lobby area showing likely development of mold growth over time.

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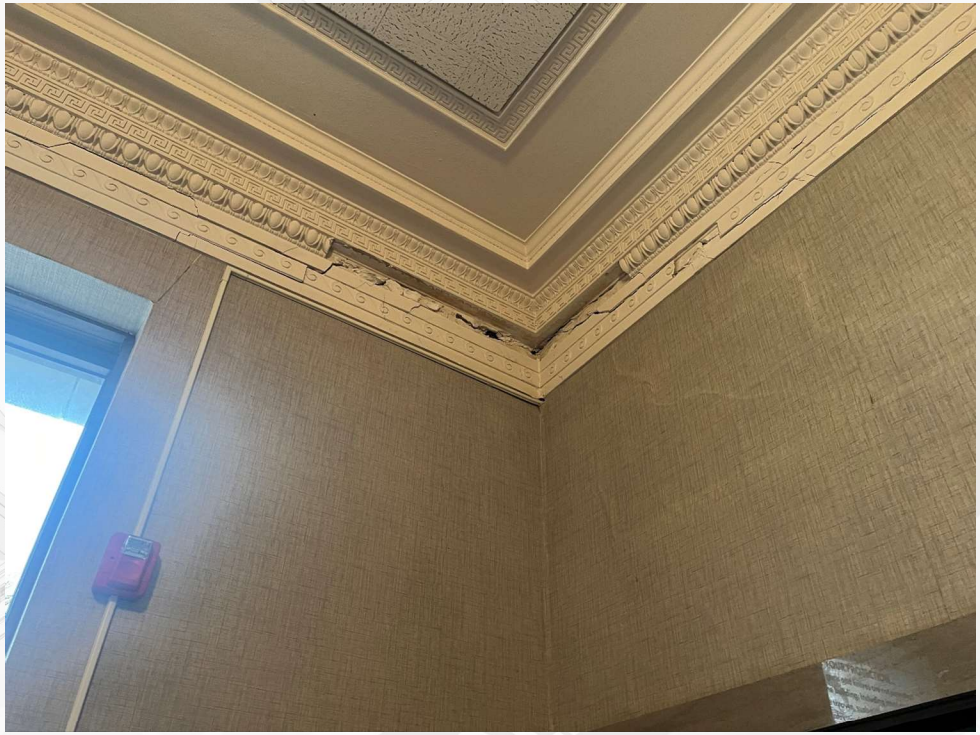

Cracked crown molding near elevator in the northeast corner of the lobby due to differential settlement. Cracking also apparent behind wall coverings.

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View looking at southwest in auditorium.

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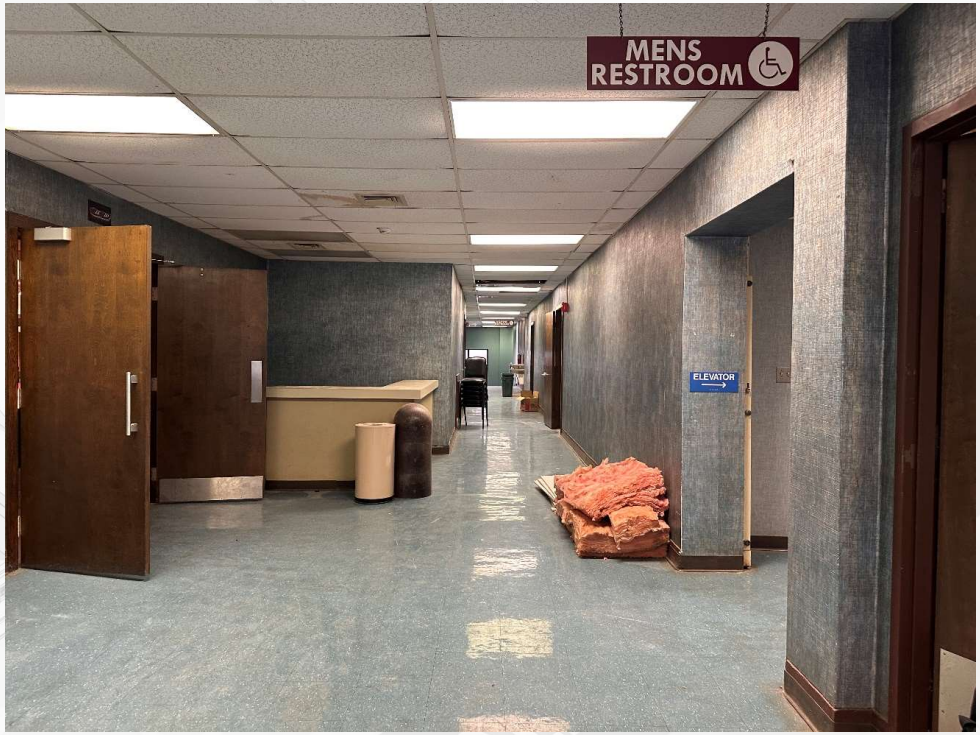

View looking west in second level lobby area.

Building Interior

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- Elevator inoperable.
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- Water infiltration in masonry wall assembly and roof/parapets continue to occur resulting in:
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  - Potential for future structural failures.
  - Environmental/indoor air quality issues (mold, rot, etc) appearing throughout.
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Original plaster assembly was removed for previous renovation projects, then concealed above acoustic ceiling tiles with exposed concrete roof structure that is deteriorated and exposing the reinforcing steel which has become corroded.

Building Interior

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Roof leaks and failures above server/IT room on second floor. Ceiling tiles show likely mold growth prior to or after failure.

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  - Some issues may be contributed to 1976 renovation approach, others due to deferred maintenance.



Crack in floor slab at second floor entering auditorium mezzanine.

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Photo #30 Room 102

Significant cracking and failure in wall assembly in the basement and ongoing water infiltration at basement entry beyond (bottom). Same location photographed in 2012 Terracon report (top left).

Building Interior

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- Water infiltration in masonry wall assembly and roof/parapets continue to occur resulting in:
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American Legion meeting room in basement where floor has settled and is deteriorating. Wall assembly behind wood paneling is crumbling and mold appears to be evident on walls throughout this space.

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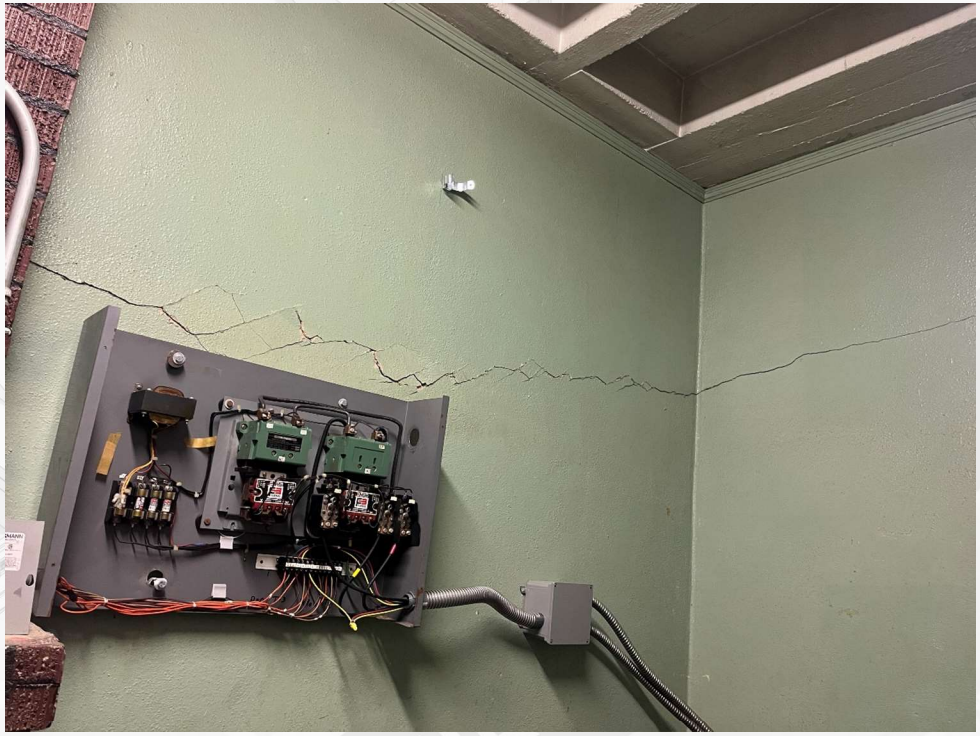

Horizontal and diagonal wall cracking due to differential settlement in the basement level elevator equipment room.

Building Interior

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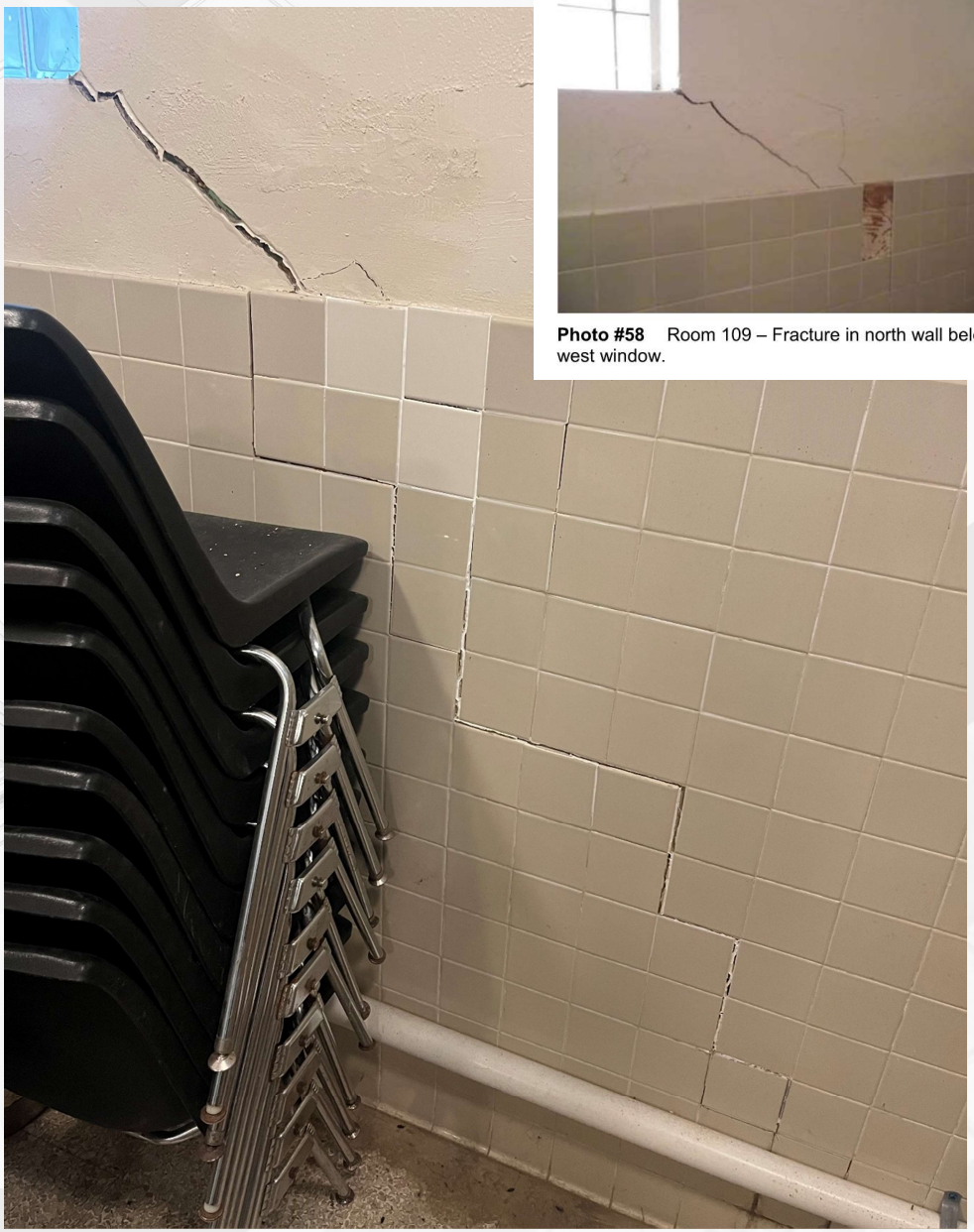

Photo #58 Room 109 – Fracture in north wall below west window.

Diagonal cracking in wall at basement restrooms, northeast corner and photo from 2012 Terracon report (top right).

Building Interior

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- **Water infiltration in masonry wall assembly and roof/parapets continue to occur resulting in:**
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Basement level outside the American Legion meeting room which appear to exhibit mold growth throughout.

Requested Scope

1. Minimally stabilize the structure to:
   - abate further deterioration and protect the interior.
   - remove front entrance ramp and secure building.

2. Minimal costs to stabilize building as above but include major systems and other repairs to provide basic services and programming and meet code compliance, ADA compliance, loading dock repairs, and other items to utilize space for basic community/civic use, parks department programming, meeting space, limited sports programming space, usage by veterans group, emergency operations use.

3. Updated demolition costs and site cleared.

Cost Options

1. Stabilization and Mothballing

2. Rehabilitation and Improvements for Public Occupancy

3. Demolition of Memorial Hall and site cleared.

Costing Options

Stabilization and Mothballing

- Environmental surveying, testing, and abatement. Result is the likely removal of all interior finishes and soft substrates.
- All major structural repairs and roof replacement.
- Removal of primary entry ramp.
- Removal of elevator system.
- Foundation waterproofing.
- Remove and salvage entry canopies.
- Masonry cleaning, repair, replacement, and stabilization.
- Remove all electrical branch circuits.
- Selective replacement of non-functional HVAC for minimally conditioning and ventilation.
- Mothballing.

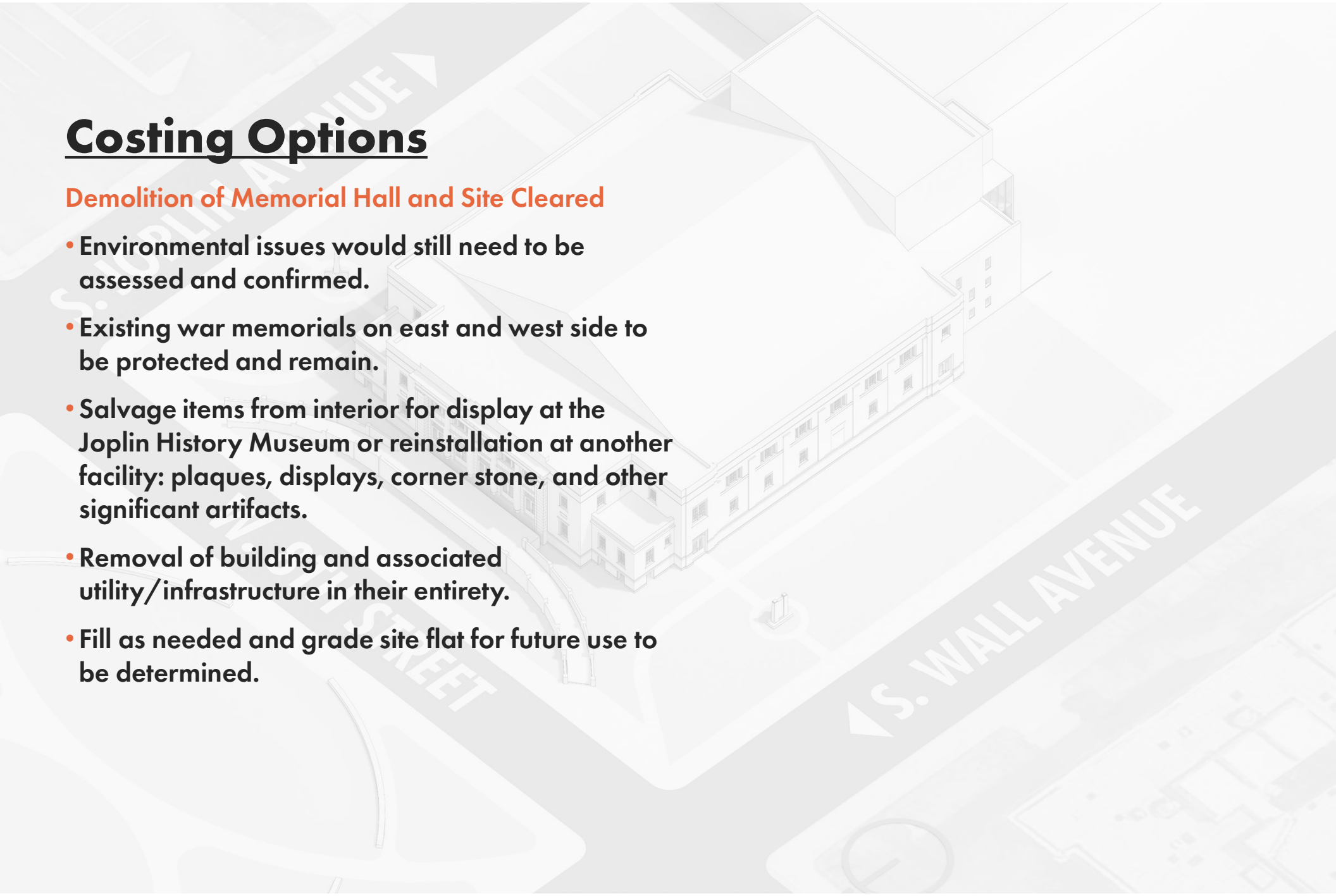
Rehabilitation / Improvements for Occupancy

- Meet current codes and compliance standards for public occupancy to allow the majority of the facility to be utilized as it has typically been utilized (concerts, events, meetings, gatherings, etc).
- Construct new primary accessible ramp and stairs on the north, east, and west sides.
- Restore and install east and west canopies.
- Restore, clean, replace any remaining masonry not addressed in stabilization and mothballing.
- Restore and/or replace entrances and windows.
- Replacement of all interior partitions, finishes, furnishings, and systems throughout the building.

Costing Options

Demolition of Memorial Hall and Site Cleared

- Environmental issues would still need to be assessed and confirmed.
- Existing war memorials on east and west side to be protected and remain.
- Salvage items from interior for display at the Joplin History Museum or reinstallation at another facility: plaques, displays, corner stone, and other significant artifacts.
- Removal of building and associated utility/infrastructure in their entirety.
- Fill as needed and grade site flat for future use to be determined.



Cost Options Analysis

Strategic Value Solutions (Cost Estimator) Clarifications and Notes:

- Costs are for construction cost only and do not include other owner soft costs.
- No construction contingency has been included.
- No Phasing is assumed in each cost option.
- Unsuitable soils or site amendments are assumed in detailed costs.
- Escalation to construction mid-points and design contingencies have been included as follows:
  - Stabilization: Escalation to mid-point July 2025, or 6.56%. Design contingency of 20%.
  - Rehabilitation: Escalation to mid-point September 2026, or 13.03%. Design contingency of 25%.
  - Demolition: Escalation to mid-point May 2025, or 5.69%. Design contingency of 10%.

Cost Options Analysis

Stabilization and Mothballing — $8,700,000 (~$124/SF)

- Assumes environmental abatement cost of approx. $1.7m.
- Prevents further progression and major issues.
- Allows future use by the city or another entity.
- Alone this would not allow for any form of public use.

Rehabilitation / Improvements for Occupancy — $28,000,000 (~$400/SF)

- In addition to stabilization costs.
- Some mothballing costs may not be relevant.
- Returns previously usable spaces for public use.

Demolition of Memorial Hall and Site Cleared — $4,800,000 (~$68/SF)

- Future site use was not confirmed.
- Requires similar environmental abatement approach.
- Existing memorials assumed to be protected and remain.

DISCUSSION