SOLDIERS & SAILORS MEMORIAL
BUILDING REHABILITATION
KEY TO SYMBOLS:

- Red: Dismantle and rebuild brick wall construction
- Green: Dismantle and rebuild stone foundation construction
- Orange: 100% repointing brickwork to remain
- Yellow: Cut and point stonework to remain
- Blue: Re-knit crack through brick wall construction
- Red: Jet clean, point and grout crack through brick wall
- Blue: Point and grout crack through stone wall construction
- Yellow: Investigate and stabilize deformed brick wall construction on the interior
- Orange: Rebuild front steps and wood column bases

STABILIZATION SCOPE - N & W ELEVATIONS

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**Soldiers and Sailors Memorial Building**

<table>
<thead>
<tr>
<th>Description: Scope of Work</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 0000 Site</td>
<td></td>
</tr>
<tr>
<td>Removals: Remove vines</td>
<td>$500</td>
</tr>
<tr>
<td>Perimeter drainage: Provide foundation drain. Tie foundation drain and downpouts to a drywell</td>
<td>$8,000</td>
</tr>
<tr>
<td>Site improvements: Accessible walk to north door</td>
<td>$8,000</td>
</tr>
<tr>
<td><strong>02 0000 Site Subtotal</strong></td>
<td><strong>$16,500</strong></td>
</tr>
<tr>
<td>04 0000 Masonry</td>
<td></td>
</tr>
<tr>
<td>Mortar joints: 100% cutting and painting of mortar joints in brick</td>
<td>$60,000</td>
</tr>
<tr>
<td>Masonry repair: Brick inlaid at removed north door</td>
<td>$4,500</td>
</tr>
<tr>
<td>Foundation: Painting and rebuilding stone foundation</td>
<td>$4,000</td>
</tr>
<tr>
<td>Masonry repair: Rebuild turret, including new crenelations and chimney</td>
<td>$110,000</td>
</tr>
<tr>
<td>Masonry repair: Rebuild chimney top</td>
<td>$4,000</td>
</tr>
<tr>
<td><strong>04 0000 Masonry Subtotal</strong></td>
<td><strong>$182,500</strong></td>
</tr>
<tr>
<td>06 0000 Wood &amp; Plastics</td>
<td></td>
</tr>
<tr>
<td>Exterior trim: Selective wood repairs at entry</td>
<td>$10,000</td>
</tr>
<tr>
<td>Exterior trim: Minor repairs to soffit and rafter tails</td>
<td>$4,000</td>
</tr>
<tr>
<td><strong>06 0000 Wood &amp; Plastics Subtotal</strong></td>
<td><strong>$14,000</strong></td>
</tr>
<tr>
<td>07 0000 Thermal and Moisture Protection</td>
<td></td>
</tr>
<tr>
<td>Roofing: Replace missing and broken slates</td>
<td>$12,000</td>
</tr>
<tr>
<td>Sheet metal: New copper gutters and downsputs</td>
<td>$10,000</td>
</tr>
<tr>
<td>Sheet metal: New flashing at chimney</td>
<td>$2,500</td>
</tr>
<tr>
<td>Roofing: New roofing and flashing at rebuilt turret</td>
<td>$12,000</td>
</tr>
<tr>
<td><strong>07 0000 Thermal &amp; Moisture Subtotal</strong></td>
<td><strong>$36,500</strong></td>
</tr>
<tr>
<td>08 0000 Windows &amp; Doors</td>
<td></td>
</tr>
<tr>
<td>Windows: Restore existing windows</td>
<td>$24,000</td>
</tr>
<tr>
<td>Windows: New replica window at North elevation</td>
<td>$4,500</td>
</tr>
<tr>
<td>Doors: Restore south door, add hardware</td>
<td>$4,500</td>
</tr>
<tr>
<td>Doors: New replica door, frame, hardware at north elevation</td>
<td>$6,000</td>
</tr>
<tr>
<td><strong>08 0000 Windows &amp; Doors Subtotal</strong></td>
<td><strong>$39,000</strong></td>
</tr>
<tr>
<td>09 0000 Finishes</td>
<td></td>
</tr>
</tbody>
</table>
REGULATORY ANALYSIS

Zoning Code Summary
The Soldiers & Sailors Memorial is a municipal building and use, which is permitted in all districts in West Newbury.

The building is located in the following zoning district:

**Residence C (RES C)**

The RES C District is intended as a primarily residential area. The regulations for building height, lot coverage, and setbacks in the RES C district are established for residences, but required setbacks would probably apply for any additions to the structure. The minimum lot area is 20,000 SF. The maximum lot coverage by all buildings is 35%. The minimum depth of front yard is 40 feet, the minimum depth of rear and side yards is 20 feet. The maximum height of buildings is 35 feet. The building appears to be in conformity with these dimensional requirements.

The building is not in a Groundwater Protection Overlay District and is located in an area of Minimal Flood Hazard according to the NFIP flood insurance rate map 2500C0111F. However the building is within 100' of a wetland and therefore activity within the 100' buffer zone, which includes parts of the lot as well as the building, will be regulated by the Massachusetts Wetlands Protection Act. It is recommended to obtain a detailed wetlands survey in order to determine the exact locations of the 100' buffer zone demarcation line and its intersection with the property and building.

Changes to a non-conforming use or structure may be awarded by the Board of Appeals if it is determined that such changes would not be detrimental to the existing non-conforming use or the neighborhood. Any extension or structural change that increases an existing non-conformity or creates a new non-conformity requires the issuance of a variance.

Any planned additions to the building would need to conform to these zoning requirements.

Building Code Summary
This section of the report briefly describes the applicability of the 9th edition of the Massachusetts State Building Code (2015 International Existing Building Code – with Massachusetts Amendments) and architectural access regulations (521 CMR Rules and Regulations of Massachusetts Architectural Access Board, or MAAB).

The purpose of the building code is to:

- Establish minimum requirements to safeguard public health, safety and welfare.
- Provide life safety from fire and other hazards to building occupants.
- Protect the building from loss or damage due to fire or other environmental events.
- Provide safety to fire fighters and emergency responders during emergency operations.

In general, existing buildings are not retroactively required to conform to the current building code, except where existing health and safety conditions are considered hazardous by the local building official.
The International Building Code for new construction (IBC) would be referred to for any substantial renovation of the existing building, or if a new addition was contemplated. Existing buildings are governed by the International Existing Building Code (IEBC). Broadly speaking, buildings that are not being changed in use or occupancy may continue to be occupied and used in the manner they have been used historically. If significant reconfiguration of spaces is contemplated, the requirements for work in affected areas would be required to conform largely to the building code for new construction, although there is some latitude for existing or historic buildings. New building systems (mechanical, electrical, plumbing, fire protection, etc.), or upgrades to existing building systems, will need to conform to the building code for new construction in effect at the time of their installation.

The IEBC divides work on existing buildings into “Repairs” and “Alterations.” “Repairs” are considered in-kind replacements of existing materials and systems, and would be considered as guidelines for building maintenance. “Alterations” are categorized into three (3) levels depending upon the amount and scale of work involved.

Most recommendations for work to be undertaken at the Soldiers & Sailors Memorial would be considered Alterations – Level 2, i.e., reconfiguration of space.

Broadly speaking, buildings that are not being changed in use or occupancy may continue to be occupied and used in the manner they have been used historically. If significant reconfiguration of spaces is contemplated, the requirements for work in affected areas would be required to conform largely to the building code for new construction, although there is some latitude for existing or historic buildings.

New building systems (mechanical, electrical, plumbing, fire protection, etc.), or upgrades to existing building systems, will need to conform to the building code for new construction in effect at the time of their installation.

The building currently has no automatic fire suppression system (sprinklers). Per Massachusetts amendment to the International Building Code (Table 903.2), alterations to existing building systems, to abatement of hazardous materials, or to retrofit of automatic sprinklers, and does not involve the alteration of any elements or spaces required to be accessible under 521 CMR.

We have summarized below what we believe are the most pertinent sections from the building code for the work we recommend:

**Applicable Codes & Standards (Model Code Basis)**


* Massachusetts Board of State Examiners of Plumbers and Gas Fitters Regulations (248 CMR)
* Massachusetts Comprehensive Fire Safety Code (527 CMR 1.00 – 2012 NFPA 1: Fire Code with amendments)
* Massachusetts Electrical Code (527 CMR 12.00 – 2014 NFPA 70: National Electrical Code with amendments)
* Massachusetts Architectural Access Board Regulations – MAAB - (521 CMR)
* Americans with Disabilities Act (ADA)

**Rules and Regulations of the Massachusetts Architectural Access Board (MA-AB)**

Architectural access regulations in Massachusetts (521 CMR) are written to encourage making buildings and spaces barrier free to persons with physical or mental disabilities.

Note that this building is not retroactively required to outfit its facility for Universal Access. However, there are several “triggers” where work done will need to incorporate accessibility. Note that the guidelines below describe a minimum standard. Exceeding these requirements is at the discretion of the Town.

Generally speaking, all new work including construction, reconstruction, alterations, re-modeling, additions, and changes in use should conform to the access regulations. This means all additions, reconstruction, remodeling, and alterations or repairs to existing public buildings or facilities which require a building permit.

If the building permit value of the work being performed amounts to less than 30% of the assessed building value and less than $100,000, only new work or renovated spaces would be required to comply. The Town of West Newbury tax assessment for fiscal year 2019 is $325,500 ($150,700 building; $174,800 land), so the 30% threshold of the building only would be $45,210.

If the building value is under 30% of the assessed building value, but over $100,000, the work must be made accessible and both an accessible entrance and rest room are required.

If the value of the work to be done is determined to be greater than 30% of the “full and fair cash value” of the building, which is $45,210, then the entire facility would have to be made fully accessible. If spaces cannot be made accessible, a variance may be sought to allow their continued use by the public, or for exemption for certain uses. This process requires application for variance to the Massachusetts Architectural Access Board.

Whether performed alone or in combination with each other, the following types of alterations are not subject to 521 CMR 3.3.1 and do not count towards the 30% trigger. When performing exempted work, a memo stating the exempted work and its costs must be filed with the permit application or a separate building permit must be obtained. Exceptions not counting towards the 30% trigger are:

- Alteration work which is limited solely to electrical, mechanical, or plumbing systems, to abatement of hazardous materials, or to retrofit of automatic sprinklers, and does not involve the alteration of any elements or spaces required to be accessible under 521 CMR.
• Roof replacement or repair, window repair or replacement, repointing and masonry repair work.

• Work relating to septic system repairs, site utilities and landscaping.

However, if the above work alone or in concert with additional work exceeds the 30% trigger, then it is as if the work is not exempted. Note that the cost of work is tracked over a three year span, so phased projects may be cumulative.

**Code Summary**

The summary below identifies some basic information about the Soldiers & Sailors Memorial and how it relates to current building code requirements. The review should be used as a guide when contemplating building renovations.

**A. Work Area and Classification of Work**

1. It is important to note that the Soldiers & Sailors Memorial is individually listed on the National Historic Register. As such, exceptions to the building code for existing construction, described in IEBC, 2009 ed., ch. 12 “Historic Buildings” may apply to the present uses and characteristics of the building.

2. This code summary is based on the Work Area Method. The renovation in the existing building will be classified as Level 1 Alterations. The work of this project must comply with Chapters 6-8 of the IEBC.

3. Structural upgrades will take place at the basement foundation walls to ensure waterproofing.

4. Structural upgrades will take place at the basement floor to install a moisture barrier and slab to ensure waterproofing.

5. Structural and framing upgrades will take place at floor 1 to increase loading capacity.

6. Spatial reconfiguration of the building will be undertaken at floor 1, where new occupiable spaces will be created.

7. Spatial reconfiguration of the building will be undertaken to include a lift serving all floors.

8. Spatial reconfiguration of the building will be undertaken to optimize the use of space in the currently existing building.

9. Additions may be added to the existing structure to accommodate new program elements including vertical lift or accessible bathrooms.

10. Hazardous materials abatement will be performed throughout.

**B. Summary of interior square footage at each floor:**

- **Floor 1 = 1,237 NSF +/- existing**
- **Floor 2 = TBD NSF +/- existing**
- **Existing SUBTOTAL NSF = 2,474 NSF +/-**
- **Additions SUBTOTAL NSF = TBD NSF +/-**
- **TOTAL = TBD NSF +/-**

**C. Minimum Construction Type:** The Soldiers & Sailors Memorial most closely resembles Construction Classification IIIIB (ISO 2), a combination of building construction comprised of exterior walls of masonry or concrete and roof/floors of combustible material with no fire rating.

**D. Fire Resistance Ratings:**

1. Building Element (Table 601, Fire-Resistance Rating Requirements):
   - **Primary Structural Frame:** 0-hr. rating
   - **Bearing Walls, Exterior:** 2-hr. rating
   - **Bearing Walls, Interior:** 0-hr. rating
   - **Non-bearing Walls & Partitions, Exterior:** 0-hr. rating
   - **Non-bearing Walls & Partitions, Interior:** 0-hr. rating
   - **Floor Construction & Secondary Members:** 0-hr. rating
   - **Roof Construction & Secondary Members:** 0-hr. rating

**E. Interior Finishes:**

1. **Interior Walls & Ceilings (IBC Table 803.11), Group B (For new construction):**
   - **Exit Enclosures & Passageways:** Class B
   - **Corridors, Use Group B**
   - **Class C**
   - **Rooms & Enclosed Spaces, Use Group A-3**
   - **Class C**

**F. Means of Egress:** 2015 IBC 1006 “Number of Exits and Exit access Doorways” governs the required number of means of egress. Table 1006.2.1 provides for spaces with one exit so long as the maximum occupancy and maximum length of egress path are not exceeded. Table 1006.3.2(2) regulates occupancy for second-floor spaces with only one exit.

1. **Floor 1 is served by two means of egress.**

2. **Floor 2 will be served by a single means of egress.** Table 1006.2.2(2) allows a maximum occupancy of 29 in a second-floor Group B space where the maximum path of egress is less than 75 feet in length. Table 1004.1.2 allows a maximum occupancy of 100 GSF per person in a Group B space. Floor 2 workspace is approximately 845 SF, yielding a maximum occupancy of 8, which does not exceed the stipulations in Table 1006.2.2(2).

**G. Massachusetts Plumbing Code:** Plumbing fixture count is determined by the occupancy count for each use group. The occupancy count is first determined by MSBC Table 1004.1.2, and then the number of toilets per occupancy count is determined by 248 CMR 10.10 Table 1.

1. **Proposed Occupancy Count:** MSBC Table 1004.1.2 Max. Floor Area Allowances and Section 1004.4;
a. The proposed occupancy for Assembly Use on Floor 1 will be greater than the proposed occupancy count for Business Use on Floor 2, so the Assembly Use will be used for determining occupancy. The current Massachusetts State Building Code calculates occupancy for Assembly use (without fixed seats – concentrated chairs only, not fixed) at 7 NSF per occupant. Occupancy for Business is at 100 GSF per occupant.

b. The public seating areas of the Soldiers & Sailors Memorial are approximately 626 NSF on Floor 1. Floor 1 could support a maximum of 89 occupants using unconcentrated tables and chairs. Floor 2 is a Group B space with maximum occupancy of 8. This yields a theoretical total occupancy for the building of 97 persons. The working assumption is that business and assembly uses will not occur simultaneously, but even with the total theoretical occupancy the plumbing counts remain the same.

2. Proposed Plumbing Fixture Count (248 CMR 10.10 Table 1):

<table>
<thead>
<tr>
<th>Proposed Population:</th>
<th>97 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% Female:</td>
<td>49 Female</td>
</tr>
<tr>
<td>50% Male:</td>
<td>48 Male</td>
</tr>
</tbody>
</table>

**Fixture Calculations based on Assembly Use:**

- Toilets Required, Female @ 1 per 50: 1 required
- Toilets Provided, Female: 1
- Toilets Required, Male @ 1 per 100: 1 required
- Toilets/Urinals Provided, Male: 1
- Lavatories Required, M / F @ 1 per 200: 1 per gender
- Lavatories Provided, Female: 1
- Lavatories Provided, Male: 1
OPTION 1 - WITHIN EXISTING FOOTPRINT

REGRADE TO ACHIEVE ACCESSIBLE ENTRY
COMBINATION OF RAMPS AND REGRADING FOR ACCESSIBLE ENTRY

MOVE FIREPLACE LOCATION WEST TO CREATE ACCESSIBLE PASSAGE

REBUILD TOWER
CAPACITY: 89

REBUILD TOWER
CAPACITY: 8

OPTION 1 - FIRST FLOOR PLAN
SCALE: 1" = 10'-0"

OPTION 2 - SECOND FLOOR PLAN
SCALE: 1" = 10'-0"
OPTION 2 - SIDE ADDITION

OPTION 2 - FIRST FLOOR PLAN

- Assembly Space: 844 SF
- Men's WC Toilet
- Women's WC Toilet
- Lift
- Workspace: 845 SF
- Capacity: 8

OPTION 2 - SECOND FLOOR PLAN

- Lift
- Office
- Workspace

Notes:
- Regrade to achieve accessible entry
- Combination of ramps and regrading for accessible entry
- Move fireplace location west to create accessible passage
- Rebuild tower
- View from northeast
- View from southeast
OPTION 3 - REAR ADDITION

OPTION 3 - FIRST FLOOR PLAN
- Assembly Space: 844 SF
- CAPACITY: 99 (@ 1 toilet per gender)
- 120 (additional toilets req.)
- Coats Assembly Space: 844 SF
- CAPACITY: 99 (@ 1 toilet per gender)
- 120 (additional toilets req.)
- Windows Removed

OPTION 3 - SECOND FLOOR PLAN
- Workspace: 845 SF
- CAPACITY: 8

REGRADE TO ACHIEVE ACCESSIBLE ENTRY
COMBINATION OF RAMPS AND REGRADING FOR ACCESSIBLE ENTRY
MOVE FIREPLACE LOCATION WEST TO CREATE ACCESSIBLE PASSAGE
REBUILD TOWER

SCALE: 1" = 10'-0"