

ROOF ASSESSMENT REPORT

**TOWN HALL MAIN ROOF
ONE AVENUE A
TURNER FALLS, MA 01376**

Prepared For:

Mr. Steven Ellis
Town Administrator
Town of Montague, Massachusetts



Prepared By:

**Northeast Roof Consultants, LLC
2 Peggy Drive
Southborough, MA 01772
(508) 277-0284**

Date: January 14, 2022
NRC Project No. 22-001

January 14, 2022

Mr. Steven Ellis
Town Administrator
Town of Montague
One Avenue A
Turners Falls, MA 01376
(Email: townadmin@montague-ma.gov)

RE: Roofing Consulting Services
Roof Assessment and Report
Town Hall Main Roof
Turners Falls, MA

I. INTRODUCTION

On Thursday, January 6, 2022, Northeast Roof Consultants (NRC) was on site to perform a visual assessment of the existing steep-slope roofing system on the Town Hall. While on site NRC inspected the condition of the upper low-slope roof located at the top of the rear stairwell. The upper stairwell roof provided up close access to rear of the sloped shingle roof. Access to the Town Hall attic space was provided by personnel of the Highway Maintenance Department. The weather on the day of the inspection was mostly clear with temperatures in the 30's. Following are the results of our assessment. As exploratory test cuts were not taken as part of this assessment, the number of shingle layers on the main roof could not be verified. The report includes a general overview of the building construction, verified roof sizes and areas, general roof observations, existing issues, conclusions and recommendations with cost estimates for the recommended scope of work. Photo documentation of the assessment and a roof sketch showing the locations of the problem areas is also included.

II. GENERAL DESCRIPTION

The Town Hall, which was built in approximately 1880, is covered with a steep-slope shingle roof over the main section of the building and a low-slope roof over the rear stairwell. Several one story roofs in the rear of the Town Hall were recently replaced and will be discussed in a separate report. The Town Hall is a brick and wood framed structure with a roof pitch of 8:12. Access to the attic space revealed that the roof framing consists of wood rafters that are 5¾" to 6¼" deep by 2½" wide and spaced at approximately 24' on center. Large wooden framing members are spaced under the wood rafter to provide additional roof support. The roof deck appears to be nominal one inch thick and of varying widths. Water stains on the bottom of the roof decking and along the rafters was evident throughout the attic. We also noted large checks in the rafters and large framing members in isolated areas. The tongue and groove wood roof deck appeared in generally good condition with only isolated pockets of damaged or deteriorated decking observed.

Rooftop attachments and penetrations in the main roof include plumbing vents, three brick masonry chimneys, two small wooden hatches (only one has attic access) and several antenna bases. Ventilation is not present at the main steep-slope roof. NRC noted no eave, ridge or gable venting, nor power vents through the roof decking. The stairwell roof, which is surrounded by a wide parapet, has a roof hatch and elevator exhaust vent on the roof.

The deck type over the rear stairwell roof could not be determined as a finished ceiling was present on the underside and no exploratory test cuts were included in this assessment. Drainage occurs over the edge of the roof eaves on the main steep-sloped roof (no gutters present) and through parapet scuppers on the low-slope stairwell roof.

Roof Measurements

- Roof Height - 30'+-(front of building) -40'+- (rear of building).
- Roof Area –Main Roof: 100' x 51' = 5,100 sq. ft.
- Roof Area – Stairwell Roof: Approximately 21' x 20' = 392 sq. ft.
- Total all areas: **5,492 sq. ft.**

Existing Roof Components

The steep-sloped main roof is covered with lightweight three-tab asphalt shingles (number of layers not verified) over #15 asphalt felt underlayment (assumed due to age and type of roof). The shingle exposure is 5" per row. Aluminum drip edge metal is present along the eaves and rakes.

The existing roofing assembly on the Stairwell roof is an adhered 60 mil reinforced Ethylene Propylene Diene Monomer (EPDM) membrane over rigid insulation, with tapered saddles to enhance drainage to the through wall scuppers. The underlying roof deck is most likely metal or wood. The surrounding parapets have been fully covered with EPDM membrane and finished with a copper coping with standing seams. An estimate of the roof assembly age is ten years.

III. ROOFING/FLASHING ISSUES

(Main Steep-Sloped Roof) - Our inspection of the Main Steep-Sloped Roof revealed the following issues and concerns:

- The three-tab shingles are drying, splitting and cupping throughout the roof.
- Shingles are torn and have blown off the roof in three different areas on the southwest side of the roof.
- A line of raised shingles over a roof rafter is apparent on the rear of the roof. Deck fasteners may have backed out due to leaks affecting the integrity of the underlying wood rafter.
- The red copper flashings at plumbing stacks and chimneys are aged and covered with plastic roof cement and are in need of replacement.
- The concrete chimney cap on one chimney is damaged.

- The aged copper crickets behind the brick chimneys require replacement.
- Penetrations and antenna bases through the sloped roof are not properly sealed and do not appear to be watertight.
- The wooden covers over the interior roof accesses are deteriorated and should be removed and decked over with compatible sheathing, or completely replaced with a roof hatch with safe access.
- Previous water damage is evident on the bottom side of the roof deck and along the wooden rafters.
- Damaged roof decking is present in isolated locations.
- Ventilation of the roof and attic space is not present and venting of the eave appears to be difficult due to the construction of the roof the wall intersection.

(Rear Stairwell Roof)

- Strip in vertical edge of copper wall panel with EPDM stripping, where the parapet intersects the brick masonry wall.
- The EPDM parapet membrane is slightly delaminated in several areas.
- Clean roof of all debris and remove mud buildup adjacent to through wall scuppers.

IV. CONCLUSIONS/RECOMMENDATIONS

(Main Steep-Slope Roof) - The existing three-tab asphalt shingle roof is near the end of its' useful service life and should be removed and replaced in the near future. Cupping and lifting of the existing shingles may telegraph through a new shingle overlay, which results in a recommendation for a total replacement of the shingles, underlayment, metal flashings and fasteners. This will provide an opportunity to inspect the condition of the wood plank decking and replace any cracked, split or deteriorated areas with new materials. Decking that requires resecurement to the structural members can be done while the deck is exposed. Any abandoned or nonfunctioning antennas, projections or access hatches through the roof should be removed and decked over as necessary. Although eave to ridge ventilation does not appear to be an option, we would recommend opening up the ridge area and installing a ridge vent to release any accumulated warm air in the attic space during the summer months. Repair and repointing of the three brick masonry chimneys should be included in this project.

Options for new roof materials include heavyweight architectural shingles, synthetic slate, metal and even a single-ply membrane with heat welded PVC ribs that mimics a standing seam metal roofing system. Metal or single-ply options would require snow guards to protect vehicles and pedestrians from falling ice and snow. Architectural grade shingles which come with a limited lifetime warranty, multiple colors and the lowest cost option of the four choices listed, are a good fit for the Town Hall roof.

Heavy grade architectural shingles can weigh 100 pounds per square more than lightweight three-tab shingles. The integrity of the roof structure by a structural engineer

should be considered prior to installing a new steep-sloped roofing system on the Town Hall.

(Recommendations – Roof Replacement - Fall 2022- Spring 2023)

(Proposed Scope of Work)

- Remove all abandoned antennas, roof projections and wooden access areas as designated by the Town.
- Remove the existing asphalt shingle roofing system down to the wood deck including, three-tab shingles, underlayment, metal drip edge, step and cricket flashing and fasteners.
- Remove all existing materials including roof membrane, flashing membrane, insulation, one way relief vents, metal flashings, fasteners, plates and perimeter metal down to the existing structural metal deck.
- Repair/replace deteriorated wood plank decking on a unit price basis as needed. A 5% contingency (250 square feet) should be carried by the roofing Contractors in their bids. Frame and infill openings in deck where access panels exist.
- Install self-adhering ice and snow barrier along eaves (six feet), rake edges (three feet) and around roof penetrations and chimneys.
- Install new aluminum metal drip edge at eaves and rake edges. Replace copper crickets behind all chimneys, chimney step flashings and ppe sleeves with new red copper.
- Install a synthetic underlayment over the prepared roof substrate.
- Replace copper step flashings, chimney crickets and pipe sleeves with new red copper.
- Install new architectural grade asphalt shingles including starter strip, field shingles and ridge shingles.
- Install ridge venting along the ridge line and cover with matching ridge shingles.
- Reinstall any antennas as required by the Town.
- Repair/repoint the brick masonry chimneys.
- **Cost Estimate - \$95,000-\$100,000 (Based on 2022 Costs). Includes mobilization, set-up, disposal, access, safety, deck repair, materials and roof labor.**

(Rear Stairwell Roof) - The rear stairwell roof is in good condition with only minor items recommended.

(Proposed Scope of Work)

- Strip in edge of copper wall panels (two total) where they overlap EPDM parapet wall flashing.
- Clean roof of all debris, shingle remnants, leaves and mud accumulation around the through wall scuppers.
- **Cost Estimate - \$1,000 (Based on 2022 Costs).**

These above referenced cost estimates do not include the cost for design fees, permitting, hazardous material testing, removal of large antenna sitting on the Town Hall Annex roof or hidden conditions. We hope this provides you with the information you require. After your review of this report, feel free to call with any questions, comments or concerns. Please see the following photo pages to view the existing conditions and areas of concern at each location.

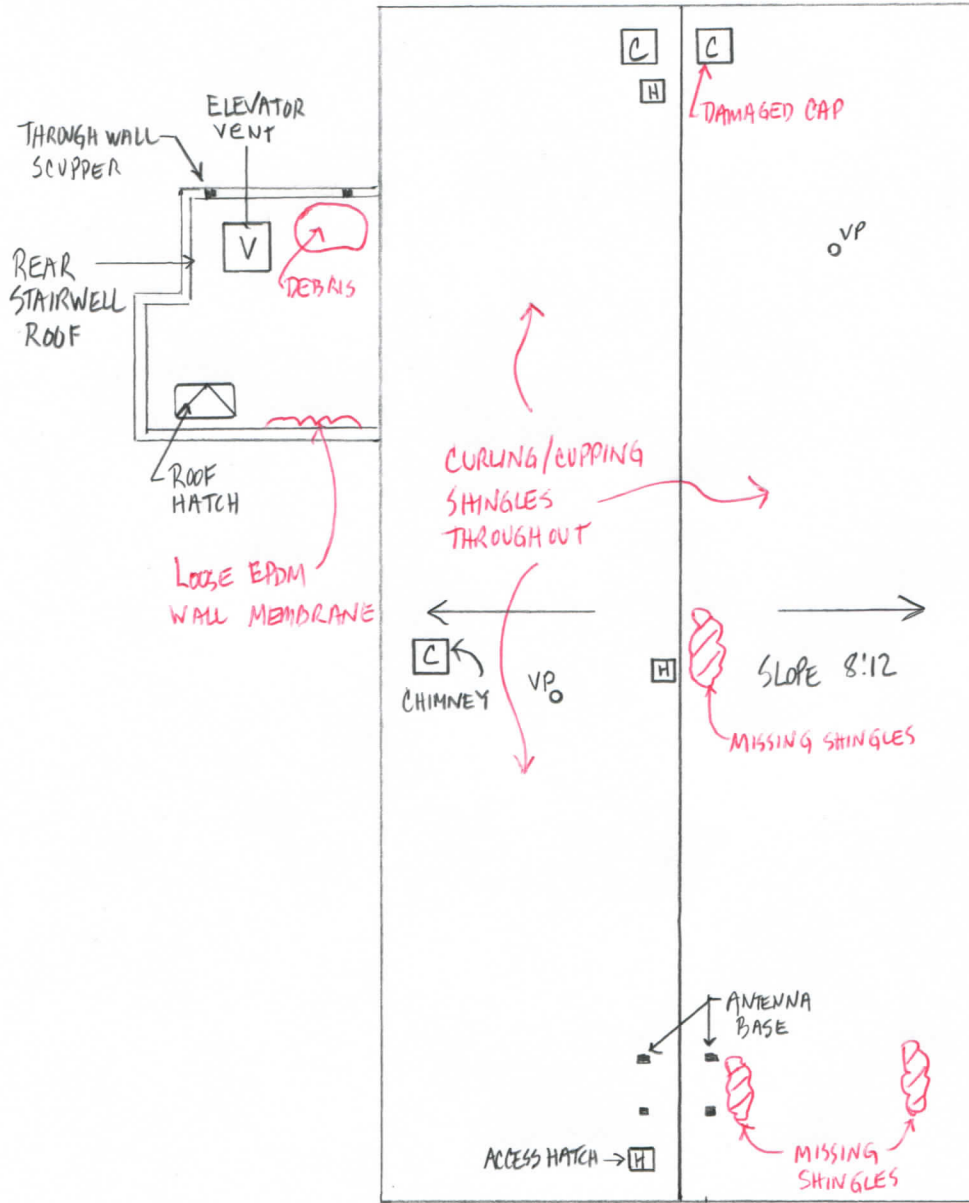
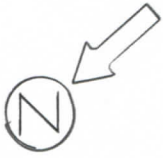
Sincerely,



John R. Skypeck, RRC
President
Northeast Roof Consultants, LLC

Reliance:

This report is for exclusive use and may be relied upon by the Town of Montague officials. No parties or persons other than those identified as authorized users may use or rely on the information or opinions in this report without the express written consent of Town of Montague officials and Northeast Roof Consultants, LLC.



← AVENUE A →

ROOF PLAN

NORTHEAST ROOF CONSULTANTS, LLC 2 PEGGY DRIVE SOUTHBOROUGH, MA 01772 508-277-0284	2022 ROOF ASSESSMENT TOWN HALL ONE AVENUE A TURNERS FALLS, MA 01376 MAIN SLOPED ROOF	DRAWN BY:	SCALE:	DRAWING NUMBER:
		JRS	NTS	
		DATE:	REV. DATE:	
		1/6/2022		
		DESCRIPTION:		
		ROOF AREA PLAN		SK-1

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R1
01/06/22

Photo Location:
Town Hall Attic
Space

Description:
View of wood
rafters and wood
decking of varying
width. (Note:
Previous water
stains on rafters
and bottom side of
wood decking.)



Photo R2
01/06/22

Photo Location:
Town Hall Attic
Space

Description:
View of splits in
wood roof decking
and checks in
structural wood
members below
roof.

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R3
01/06/22

Photo Location:
Town Hall Attic
Space

Description:
Closeup of split
decking and
previous water
stains.



Photo R4
01/06/22

Photo Location:
Main Steep-Sloped
Roof

Description:
View of existing
shingle roof and
roof mounted
antennas in the
front of the south
elevation.

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R5
01/06/22

Photo Location:
Main Steep-Sloped
Roof

Description:
View of existing
three-tab shingles.
Note cupping and
curling of shingles
and overall aging.



Photo R6
01/06/22

Photo Location:
Main Steep-Sloped
Roof

Description:
View of existing
shingles. (Note:
Line of lifting
shingles up roof
over wood rafter.)
Metal chimney
flashings covered
with plastic roof
cement.

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R7
01/06/22

Photo Location:
Main Steep-Sloped
Roof

Description:
View of roof eave
where brick
courses start under
bottom of roof deck
and first course of
shingles making
eave venting
difficult.



Photo R8
01/06/22

Photo Location:
Main Steep-Sloped
Roof

Description:
View of multiple
chimneys on east
elevation and
unused roof access
hatch. (Note:
Damage to far
chimney cap.)

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R9
01/06/22
Photo Location:
Rear Stairwell Roof

Description:
View of loose/delaminated EPDM wall flashing and edge of copper wall panel sealed with butyl base lap sealant.



Photo R10
01/06/22
Photo Location:
Rear Stairwell Roof

Description:
View of new roof hatch and standing seam copper parapet coping in good overall condition.

ROOF ASSESSMENT REPORT
TOWN HALL, ONE AVENUE A, TURNERS FALLS, MA
(Photo Documentation)



Photo R11
01/06/22

Photo Location:
Rear Stairwell Roof

Description:
Debris
accumulating
around through wall
scupper in parapet.



Photo R12
01/06/22

Photo Location:
Rear Stairwell Roof

Description:
View of vent over
elevator chase and
second through
wall scupper at
base of parapet.