Hopedale Town Hall Renovation Project

Hopedale, Massachusetts

Building Conditions Assessment and Recommendations Report

Prepared by

Bargmann Hendrie + Archetype, Inc.
Boston, Massachusetts

Bolton & DiMartino, Inc.
Worcester, Massachusetts

Allied Consulting Engineering Servince, Inc.
Sudbury, Massachusetts

Universal Environmental Consultants
Framingham, Massachusetts

for
Town of Hopedale, Massachusetts
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Entry hallway


Second floor auditorium

Introduction

The Town of Hopedale is fortunate to have retained as one of its key municipal facilities the building that was dedicated in 1887 as Hopedale's first Town Hall. This building, constructed in the Richardsonian Romanesque style, was a state-of-the-art facility in its day. The granite and brownstone structure is notable for its grand arched entryway, decorative leaded glass windows in the main stair, and community meeting space at the upper level. The building has served the town well. It is a hub of activity in the center of town, and is a reminder of the town's proud history. The building has aged, however, and its systems have become obsolete. The Town of Hopedale has been anticipating a renovation of this facility to bring it into the current century and provide for current and future needs.

The purpose of this report is to provide conditions information and recommendations for the rehabilitation of the existing components of the Hopedale Town Hall, as part of the proposed Town Hall Renovation project. The scope here covers a review of existing building conditions as well as program uses. Bargmann Hendrie + Archetype, along with its consultant team, surveyed the building and interviewed staff in December 2012 and January 2013, and has prepared findings based on that effort. Information from other sources such as previous renovations and studies, has also been incorporated into this report and will be used in identifying options for the town to consider

This document is not intended to identify specific design solutions, as that effort will be performed as a follow-up to this report. The process will be for several design options to be developed. Those, together with items identified as part of this report, will be organized into definable scope items. Cost estimates will be prepared based on the options, and a review of the town's needs together with the associated costs will allow for a scope of work to be identified. The project will then move into a more detailed Schematic Design phase.

The intent of this first phase of the overall renovation project is to identify a scope of work and related cost that can be presented to Town Meeting for approval in May 2013.

Executive Summary

The building conditions review portion of the report consists of an assessment of the exterior and interior building components, structural components, and building systems. A general summary of the findings is as follows:

Substructure:

The basement floor is in poor condition. The building did not originally have a finished basement, and the rough concrete flooring was covered over in various ways over the years to allow for some office uses. The finished floor level creates a difficult relationship with the main stairs, as the raised floor results in an unacceptably short bottom riser. The building code will not allow this to remain as part of a renovation project.

Stone foundation walls appear to be generally sound. Footings cannot be seen. The only anticipated work that affects the footings would be the addition of an elevator or the lowering of the grade around the building.

Shell:

Structurally, floor joists at the front of the attic have separated from the masonry gable, and some other connections of the framing and exterior wall need attention as well.

The roof should be looked at more closely. Deteriorated gutters are resulting in moisture getting into the brownstone cornice and running down the face of the building. Some slates are broken. This, along with worn valleys and gutters, might dictate roofing work is needed to prevent water infiltration to the interior.

Stone is generally in good condition, but requires some minor work at the location of one crack..

Windows include some original wood windows as well as some aluminum replacement windows and aluminum storm windows. All windows are in need of work, either with replacement or restoration.

Frozen water at stone resulting from gutter leak.

A range of window conditions exist.

Interiors:
The interior framing is in generally good condition. If little is done to change structural elements loads are not increased there is no need for upgrades. If substantial structural alteration is done, there will need to be an analysis to demonstrate that the building meets wind load and seismic requirements.

Interior walls and partitions are a combination of masonry and stud, most with plaster finish. These are in good condition. Wood trim throughout is sound, but has been stripped. Vinyl floor tile and acoustic ceilings are in need of replacement.

Site:
The employee parking lot at the rear of the building should be looked at in terms of how it might need to relate to an accessible entrance.

Services:
The heating system has outlived its useful life and does not perform well. This should be replaced with a system that allows for more zones and for proper ventilation.

The electrical system is outdated and needs to be completely replaced.

The plumbing system includes piping that is likely original to the building and should be replaced. Bathroom fixtures in some cases are in serviceable condition, but bathrooms need to be made accessible, the number of fixtures increased, and locations made to work with the program spaces.

Hazardous Materials Abatement:
There is asbestos in caulking, floor tiles and pipe insulation, all of which needs to be removed. Additionally, lead-based paint exists and needs to be disposed of appropriately.

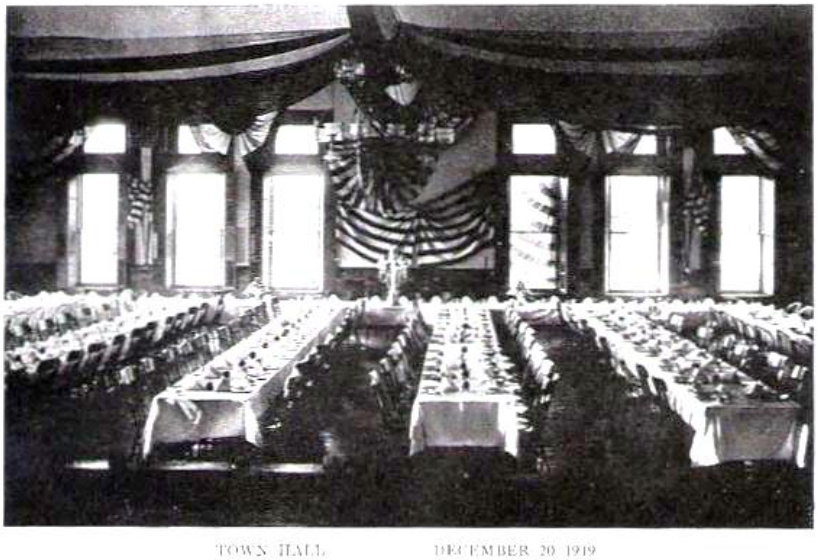
The review of the existing program components was based on discussions with existing users as well as town administrators. Conditions were looked at in terms of overall size, amenities, and suitability of location. Additionally, discussions about uses not currently in the building were included, as some additional functions might be included if there is space. Program elements that fall into this category include the cable tv group that used to occupy the second floor stage area, and offices and possibly more activity space for the Council on Aging.

The next step will be for the design team to prepare conceptual options for how the building might be modified in order to best provide for a functioning Town Hall. Cost estimates for each option will be prepared, and the town will decide which of the options is most suitable to develop further and present to the larger town. The scheme will be further developed and a more detailed cost estimate obtained. The intent is to have a project that is approved for construction funding at the May 2013 Town Meeting.

BUILDING HISTORY

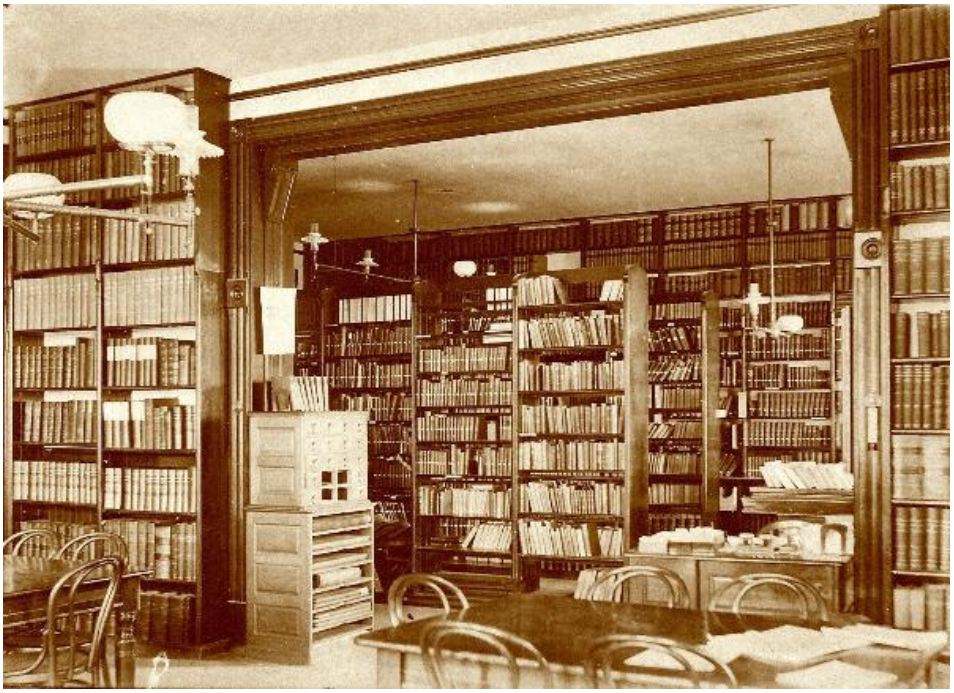
Hopedale Town Hall was built in 1886 as a gift for the Town of Hopedale from George Draper, a prosperous business man, inventor, and benefactor of Hopedale. The Town Hall was an office building for Town Officials and a space for town meetings, but also incorporated town departments and retail spaces such as the Post Office, Police Department (with jail cells in the basement), and restaurant. The Town Library was located in the southwest corner room from 1886 to 1898. As part of its history, a dentist office, barber shop and grocery store also found space in the Town Hall. A large auditorium on the second floor was used for town meetings, receptions, high school basketball and plays, as well as performances by other groups in town. The claim to fame of the auditorium is that it was the site of one of Aerosmith's first concerts in 1970.

Hopedale Post Card. Date unknown. Hopedale Town Hall and Post Office.



"Welcome Home" reception in the auditorium for men returning to Hopedale after World War I in 1919. (www.hope1842.com)

Hopedale Town Hall, 1919. Decorated for a "Welcome Home" reception for men returning to Hopedale after World War I (www.hope1842.com)



Hopedale Town Library in Town Hall. (www.hope1842.com). View from current Selectmen's Meeting room into current Town Clerk's office.

Hopedale Town Library in Town Hall. (www.hope1842.com). Current Selectmen's meeting room.

A renovation of Town Hall was undertaken in 1975 with the assistance of CETA employees. The total cost of renovation was $8,565, but would have been about $31,000 if an outside contractor had been used. As part of this work, the brick jail cells in the basement were removed and restrooms were built in their place. The Draper room (now Health Department) and the Ballou room (now Building Department) were also constructed in the basement. These rooms were used for meeting areas and storage for the Town Boards. The Selectmen's Room was located at this time in southwest corner of the building. During this renovation, a foyer and an administration assistant's office was constructed and updated finishes on the walls made this room the highlight of the renovation. Two new offices were built on the stage level on the second floor for the EEA and CETA program staff to use during the day and town Boards to use in the evening.

Dates for other renovation work are not known. At some point, what looks to be a white membrane roof was installed at the flat roof area, and in 2003-2004 some slate repairs were done.

In 2002, the Hopedale Village Historic District, roughly bounded by the Milford Town Line, Malquin Dr., Mendon Town Line, and Upton Town line, was added to the National Register of Historic Places.

Selectmen's Meeting Room, 1975. (www.hope1842.com).

Finance Committee members in their new office from left are Raymond Andreotti, chairman, Victor Lamothe, Ralph Boccasile, standing, Anita Drisko, clerk, Bruce Lutz, Rudy Ferrucci. The room is named after Ballou. Town scales are shown recessed in wall behind the meeting table.

Ballou Room (now Building Department), 1975. (www.hope1842.com)

BUILDING ASSESSMENT AND RECOMMENDATIONS

The building conditions portion of the report is based primarily on visual inspections. There was minimal removal of materials and no invasive investigations other that samples taken for hazardous materials testing. The expectation is that the information here will be suitable for preparing conceptual cost estimates and allowing for a scope determination to be made. Once the desired scope of work has been identified, a more detailed review of some elements will be required. That might include removal of some materials, detailed documentation of conditions and dimensions, and access to upper regions of the building to inspect areas that are difficult to see from below. This more detailed information will inform future cost estimates and the bid documents.

Definitions for terms used in the condition assessment:

- *Excellent condition*: Element is in new or equivalent condition. No work needed other than routine maintenance.
- *Good condition*: Element is performing its intended function or is otherwise serviceable, although it may show signs of wear. No repair required other than routine maintenance.
- *Fair condition*: Element may require work, usually minor, to better perform its intended function, bring to a maintainable state, or return to a condition resembling its historic appearance.
- *Poor condition*: Major work needed to for element to perform its intended function or to bring item to a maintainable state.
- *Original*: Dates to the period of initial construction.

SUBSTRUCTURE

FOUNDATIONS

Standard Foundations: Condition Unknown.
(Refer to page 1 of Bolton & DiMartino's structural assessment report).

Recommendations:
Geotechnical exploration (test borings) will be required for any new construction (such as an elevator), as well as any structural foundation work to the existing building. A preliminary assumption based on other Hopedale projects is that the site has glacial till and bedrock.

Slab on Grade: Poor Condition
(Refer to page 1 of Bolton & DiMartino's structural assessment report).

The basement slab differs in each section of the basement. The original slab is brick, rubble stone and concrete and is exposed in the center storage room. Metal-covered pipe trenches cross the basement and are visible at some locations.

The Health and Building Department office and restrooms sit on a subfloor 4-1/2" above the original floor. This floor is built of wood 2x4 framing, a sheathing layer, and vinyl tile floor covering. The subfloor steps back down to the rubble floor at the doorway into the center storage room. Movement of the subfloor is visible in the in cracks in the vinyl tile in the hallways and building department office. A grate is located in the floor in the closet of the Health department office. Referenced from the Indoor Air Quality Assessment in June of 2000, a trough in the floor beneath the Health department office had water running through it. This area needs to be examined more closely when the subfloor is removed.

A concrete slab has been poured in the northeast and southeast storage rooms. This slab is about 3" above the rubble floor in the center storage room. A trench was dug at the north and west walls of the northeast storage room. This was provided to drain water in the basement. It is currently dry and a hose is laying in it and is connect to the supply pipe on the east wall.

Carpet covers the Council on Aging floor and the slab condition is unknown. From looking at the door thresholds at the west basement entrance and the Council on Aging entrance, the floor of the basement offices is higher than the Council on Aging rooms. Because of this, it is thought that the Council on Aging area has a 3" poured concrete slab, and is not the same construction as the subfloor in the Health Department office.

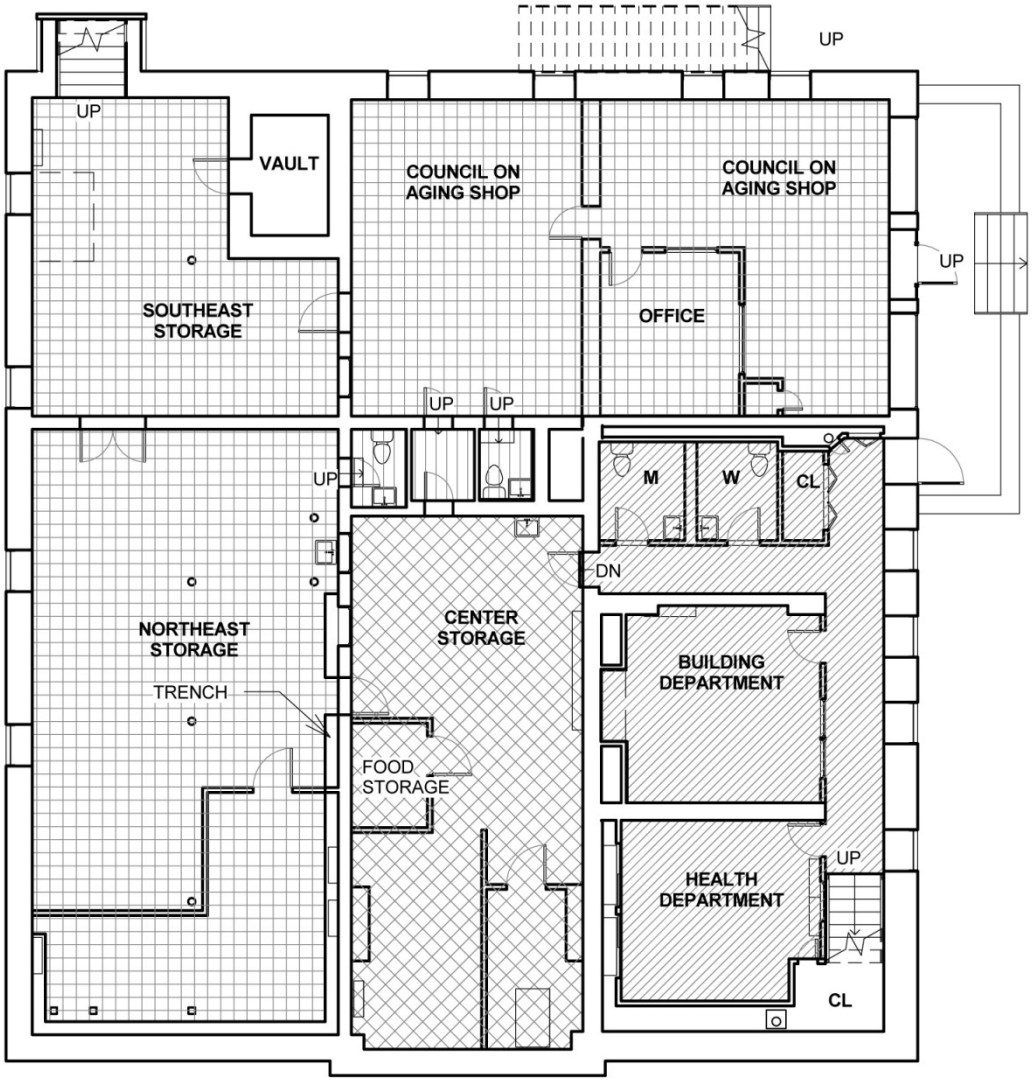
A code issue related to the stairs affects the use of the basement and the approach to the floor. At both the front and rear stairs, the raised floor levels have resulted in the bottom risers being considerably shorter than the other risers in each run. This condition is not allowed by code, as it is considered to be unsafe as part of an egress route. If the existing stairs are to remain, the basement floor adjacent to these stairs needs to be lowered.

Recommendations:
Remove the added subfloor in the northwest and northeast areas of the basement if these areas are to be used for program space or public access. Provide a new floor structure that allows for code-compliant bottom stair risers should be provided. The best way to do this is by removing the rubble concrete and providing a new concrete slab with vapor barrier, then a new finish. Some sort of leveling finish could be considered, but given the existing concrete conditions and extent of existing trenching and likely underslab pipe work, this does not appear to be the most suitable option.

Original concrete, brick, and stone floor in center storage area of basement.

Vinyl tile on wood framing in offices and restroom

Step down into original level of basement at doorway from offices and restroom into center storage area.



BASEMENT FLOOR - FLOOR CONDITIONS

CONDITIONS LEGEND

- ORIGINAL RUBBLE CONCRETE FLOOR. ELEV 0"
- CONCRETE FLOOR. ELEV 3"
- WOOD FRAMING AT FLOOR. ELEV 4-1/2"
- WOOD FLOOR. ELEV +/- 16"

Trough at northeast storage floor.

Steam pipe and grate at floor behind north wall in Board of Health office.

BASEMENT CONSTRUCTION

Basement Walls: Good to Fair Condition
(Refer to page 1 of Bolton & DiMartino's structural assessment report).

The basement exterior bearing walls are cut granite stone with rubble stone at the interior. The south and east exterior walls are 24" thick, while the west wall at the hallway is about 29" thick. This wall is built out about 5" from the interior brick, most likely with wood studs and a layer of drywall or plaster.

The interior bearing walls are constructed of unreinforced brick and are painted. These walls are in good to fair condition overall, but the base of the south and west walls of the northeast storage room and the west wall of the center storage room have missing mortar and spalling brick due to moisture damage. Cased window openings in some of the interior bearing walls, basement exterior storefront windows, and original toilet rooms are indications that at least some of the basement was originally used as occupied space.

Interior partition walls such as the restroom, closet, hallway, Council on Aging office, and rooms in the center and northeast storage areas are wood stud partition walls and are not load bearing. See wall construction diagram for specific information.

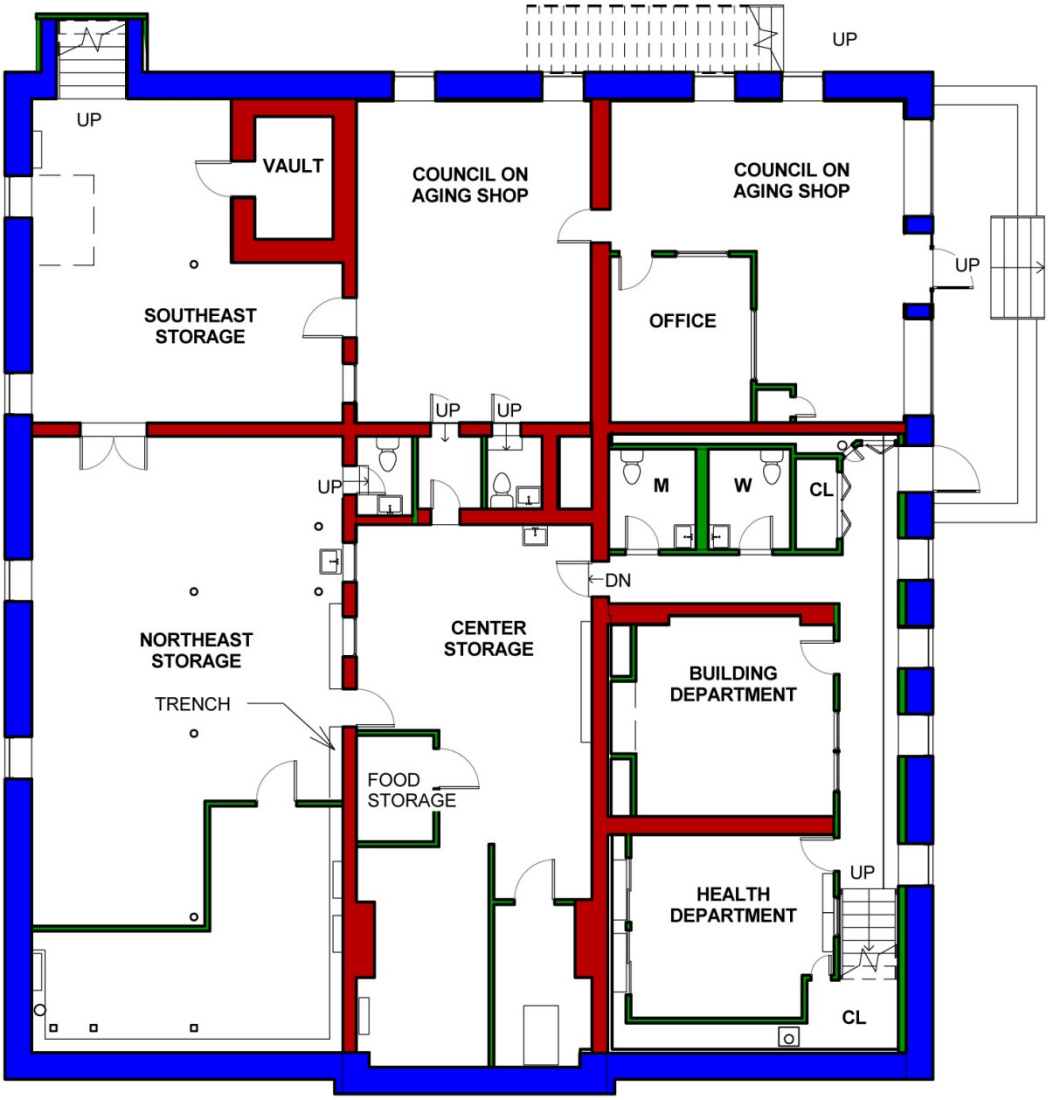
Stone exterior wall, brick load-bearing interior wall, and concrete floor in northeast storage room.

Brick load-bearing interior partition wall in northeast storage room.

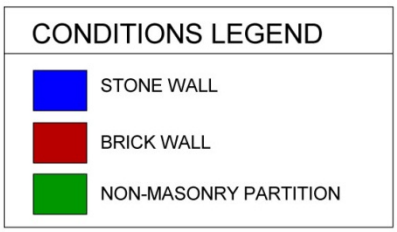
Cast iron column capital at basement supporting first floor framing.

There are a few different types of columns in the northeast and southeast storage rooms. Four cast iron columns support a large wood beam running the length of the first floor in the third bay. Two round columns support an I-beam under the door from the Selectmen's meeting room to the general office on the first floor. The floor may have needed extra support because this area is the location of a large steel vault. Three square steel columns support an I-beam that is providing extra support to the first floor around the front/east entrance to the general office.

Recommendations:
Once finishes can be removed, inspect for additional moisture damage and repair.
Remove spalled brick at wall bases, and repoint mortar where deteriorated.



BASEMENT FLOOR - WALL CONSTRUCTION



SHELL

SUPERSTRUCTURE

Floor Construction
The first, second, and attic floors are wood joists with a tongue-and-groove subfloor.

First Floor: Fair Condition
(Refer to page 3 of Bolton & DiMartino's structural assessment report).
The wood joists are 10-3/4" deep. The wood joists are imbedded in the brick exterior wall and have a header course of brick under them for added support. An opening in the floor (seen from the basement) indicates that a wood stair running from the first floor to the basement was located under the southeast stair in the present Town Administrator's office.


Wood first floor joists at exterior wall.


Location of a former stair to the basement.

Second Floor: Fair Condition
(Refer to page 8 of Bolton & DiMartino's structural assessment report).
The stage and storage rooms are raised 3'-0" from the auditorium floor level. The auditorium floor joists and subfloor continue under the stage and tie in to the exterior wall. The framing for the stage is supported by wood braces at the first floor.


Framing of stage and second floor framing runs to exterior walls.


Under the stairs to the stage where the original wood floor and subfloor is exposed.

Floor boards at the floors and attic do not provide adequate diaphragm action and should be reviewed while planning for the renovation.

Recommendations:
Remove the floor finishes and wood flooring to expose the wood decking members and install a plywood diaphragm over the existing framing. The new plywood could serve as the floor underlayment. This may not be fully required by the building code, depending on the scope and design decisions, but at a minimum it would be a voluntary seismic improvement to the existing structure to tie the floors and walls together. (Refer to page 9 of Bolton & DiMartino's structural assessment report).

Roof Construction: Fair Condition
(Refer to page 9 of Bolton & DiMartino's structural assessment report).

The mansard roof framing is exposed in the large attic on the third floor. There is water damage present at the valley between the south dormer roof and mansard roof and also at the center of the flat roof and access hatch. It is unknown if the water stains on the wood are from active leaks.

View of attic, roof framing and south dormers.

Recommendations:
Attic floor joists at front gable have pulled away from exterior masonry wall and must be supported and connected to the exterior wall. A new ledger attached to the masonry wall and wood framing will need to be installed. (Refer to page 10 of Bolton & DiMartino's structural assessment report).
The end of one roof truss appears to have shifted laterally a couple of inches over the years. Scope should include blocking the ends of the trusses to each other and also blocking the roof trusses to the roof diaphragm to arrest any movement. (Refer to page 10 of Bolton & DiMartino's structural assessment report).

EXTERIOR ENCLOSURE

Exterior Walls: Good Condition
The exterior walls are constructed with rough-cut grey granite face stone and brick back up. Bands of dark pink granite wrap the building and the pink granite is also used for quoins at the corners of the walls and window openings and dentils at the cornice. The stone is generally in good condition. A major crack recently occurred in the stone above the north window on the west wall at the entrance of the Council on Aging shop. Some staining has occurred at locations where metal has rusted and dripped down the stone. A small amount of green algae is growing on window sills and other locations around the building. See condition assessment elevations for a more detailed assessment and location of deficiencies.


Northwest view of Hopedale Town Hall.


Southeast view of Hopedale Town Hall.

There are many intricate carvings in the pink granite stone including one in the front of the building with the year the building was built, 1886 AD, and the initials of George Draper, the donor of the building (Anno Domini, MDCCCLXXXVI). These are all in good condition, except for the carvings on the north transoms that have black staining.

Stone carving at north wall.

North elevation of granite carvings above windows, and at top and bottom of dormer.

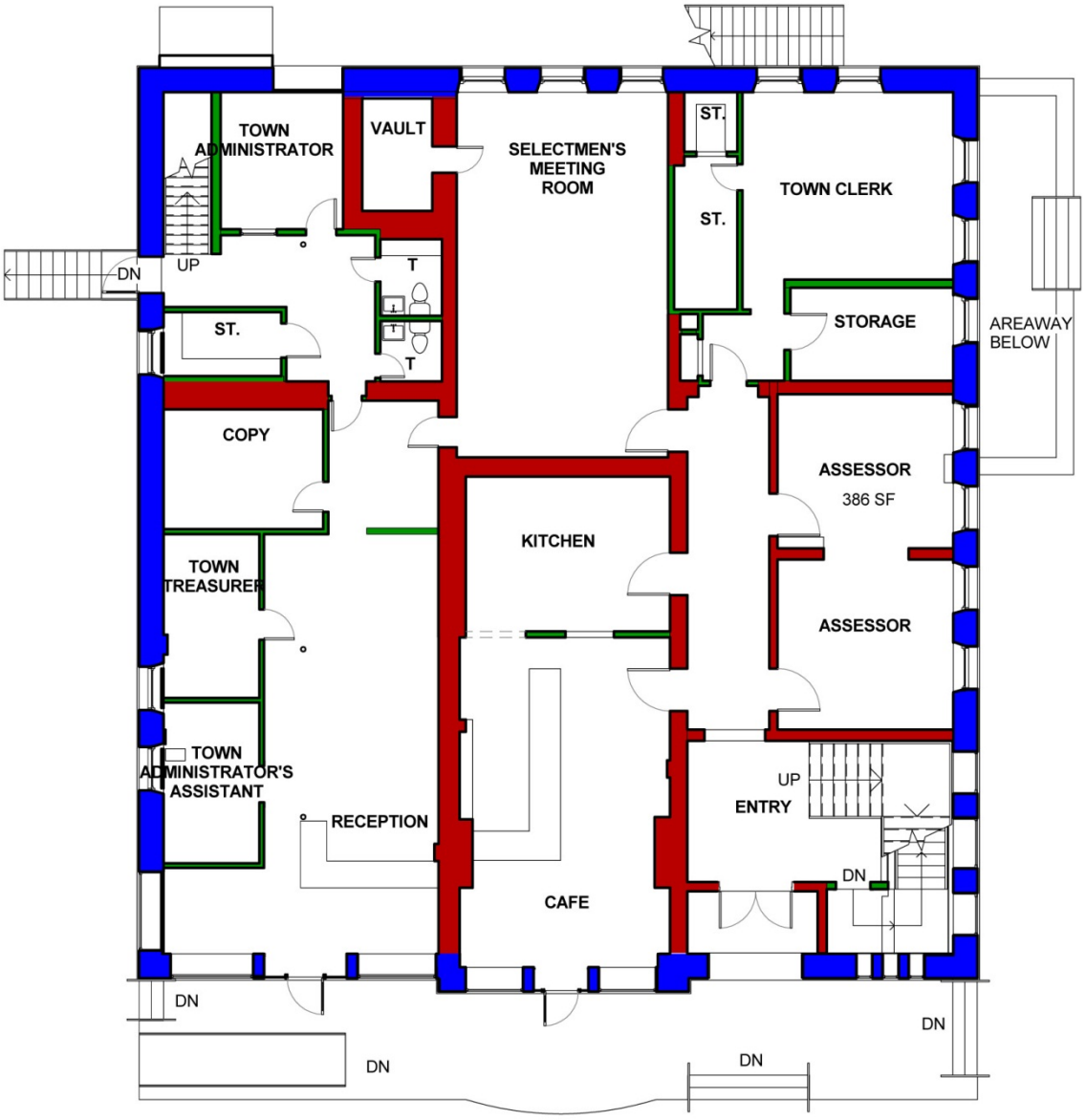
The grapevine joint mortar is a dark pink with noticeable pink and white aggregate. There are some deteriorating mortar joints at various locations and other areas of spot repointing. The poor and messy application of an incompatible mortar does not match the color or texture of the original mortar.

Large crack in granite above storefront window in basement

Incompatible mortar at a few stone locations.

<u>Recommendations:</u>

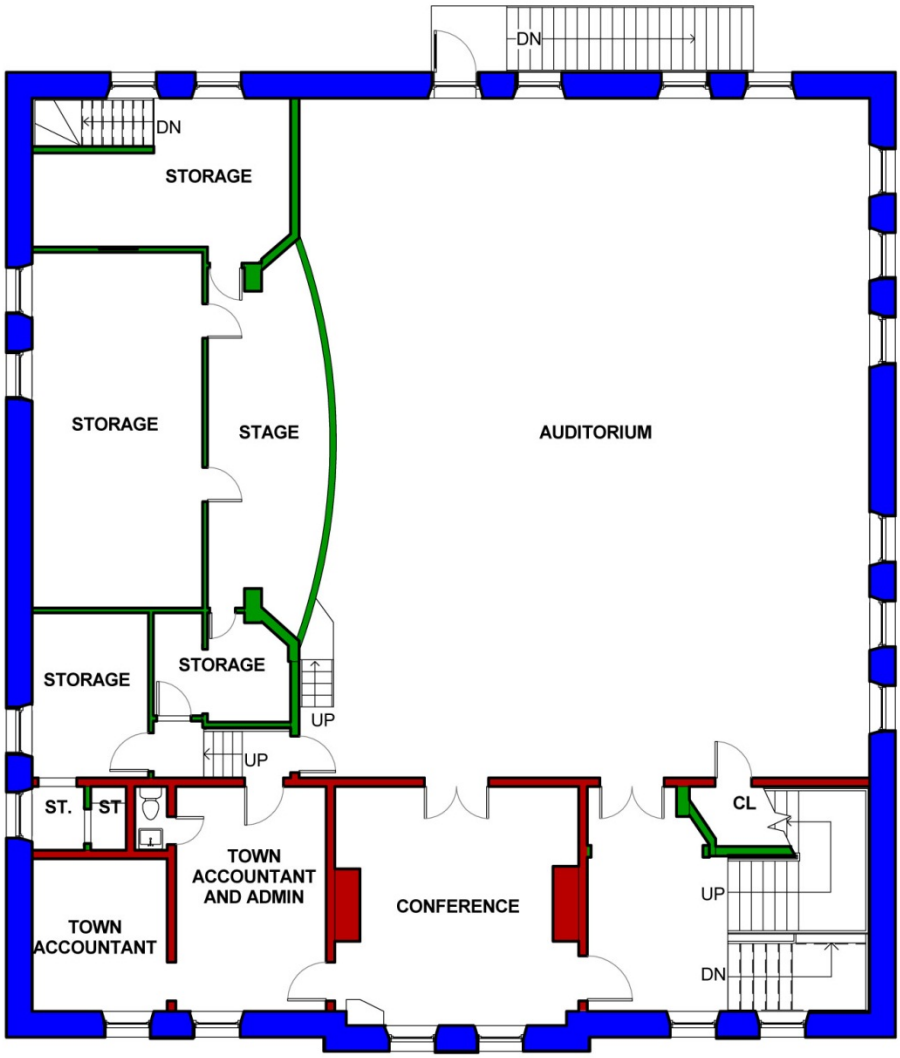
Remove interior finishes to better etermine the reason for the large crack in the granite stone, whether it was from rusting tie rods, shifting structure, or failed lintel support.
Cut and repoint missing, deteriorating, and incompatible mortar
Use a stain remover to remove rust and other stains on the stones.
Use a mild cleaner to brush away the algae growth.
Front gable wall is unreinforced masonry that extends to the ridge and does not appear to be adequately connected to the roof framing. Connections and additional framing to secure the ridge at the gable wall must be installed. (Refer to page 10 of Bolton & DiMartino's structural assessment report).



FIRST FLOOR - WALL CONSTRUCTION

CONDITIONS LEGEND

- STONE FACE WITH BRICK BACKUP
- BRICK WALL
- NON-MASONRY WALL



SECOND FLOOR - WALL CONSTRUCTION

CONDITIONS LEGEND

- STONE FACE WITH BRICK BACKUP
- BRICK WALL
- NON-MASONRY WALL

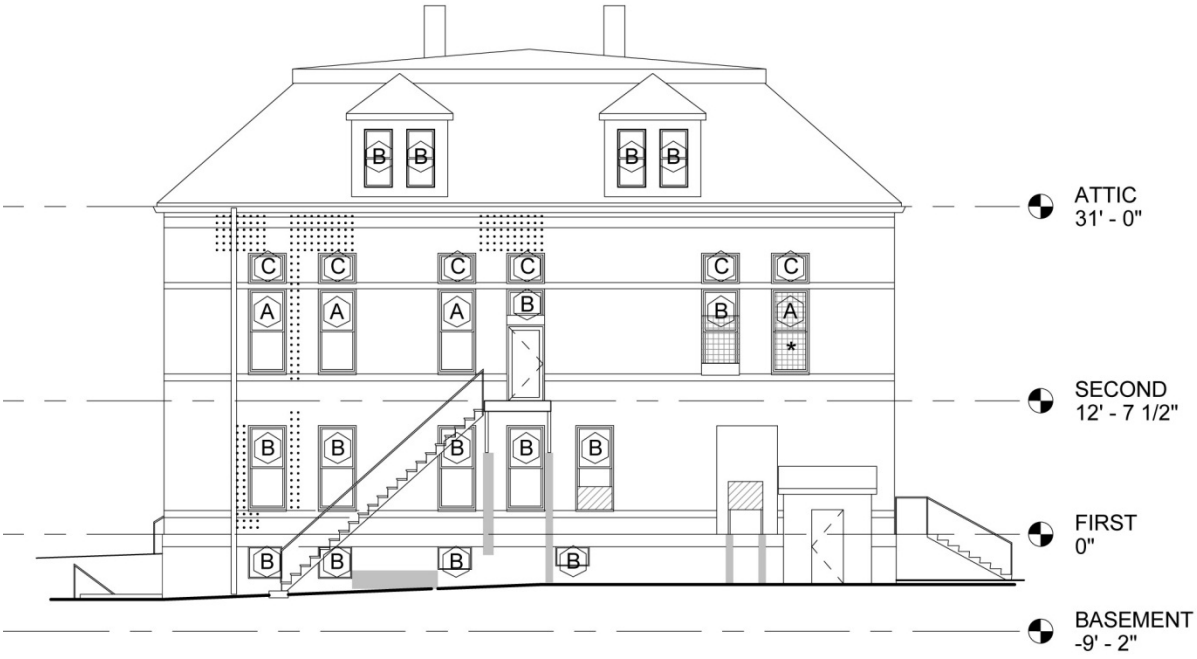
Note: The diagrams represent our best estimate of existing wall construction. More investigation will be done to confirm wall construction.

NORTH ELEVATION - CONDITIONS

EAST ELEVATION - CONDITIONS

WINDOW LEGEND			
A	WOOD FRAME AND DOUBLE HUNG SASH	D	ALUMINUM STOREFRONT
B	ALUMINUM FRAME AND SASH	E	WOOD FRAME STOREFRONT
C	WOOD FRAME TRANSOM	F	WOOD FRAME LEADED GLASS

CONDITIONS LEGEND			
	BOARDED UP WINDOWS		AIR CONDITIONER OR VENT
	WATER STAINING		CRACK IN STONE
	RUST STAINING	*	CONDITION OF WINDOW UNKNOWN



SOUTH ELEVATION - CONDITIONS

WEST ELEVATION - CONDITIONS

WINDOW LEGEND		CONDITIONS LEGEND	
A WOOD FRAME AND DOUBLE HUNG SASH	D ALUMINUM STOREFRONT	BOARDED UP WINDOWS	AIR CONDITIONER OR VENT
B ALUMINUM FRAME AND SASH	E WOOD FRAME STOREFRONT	WATER STAINING	CRACK IN STONE
C WOOD FRAME TRANSOM	F WOOD FRAME LEADED GLASS	RUST STAINING	* CONDITION OF WINDOW UNKNOWN

Exterior Windows

Aluminum Storefront Windows: Poor Condition

The entrance to the general office and the Town Common café on the first floor and Council on Aging store at the basement level have aluminum storefront windows. The original storefront windows were wood with a center wood muntin and a transom. The windows had a thick wood sill and wood paneling below. The storefront window on the east elevation is still original, but has storm windows screwed into the wood frames. This window is not visible from the interior because it is blocked with wood veneer paneling.

The storefronts on the north façade are replacements, with stone tile replacing the original wood paneling. The cast iron pilasters are rusting due to peeling paint and being exposed to the weather.

The Council on Aging room's storefront windows and wood paneling are original, but the storm windows were added at a later date. The wood trim around the windows seem to be in good condition. The top trim piece on the south window has been replaced, but not painted. The wood trim at the paneling is deteriorating, especially near the water drain.

Aluminum storefront windows at north elevation.

Original wood framed storefont windows at Council on Aging basement entrance.

Recommendations:
Remove wood veneer paneling from the interior of first floor east façade window.
Retain the original windows and wood trim at the east and west façade.
Storefront windows and doors at the north façade will need more investigation to see if they are causing air infiltration or are past their useful life. It may be desired to replace them for system efficiencies.
Retain the stone tile wall under the windows

Windows: Poor Condition

The double hung wood and stained glass windows are a great example of craftsmanship of the 1880's and are character-defining features of the original building. Twelve known (3 unknown) original wood sash on the first floor have been removed and replaced with aluminum windows. The frames and trim remain intact. These large windows are hard to operate and the occupants complain that the hopper sash fall in on them. The wood sash have been retained for the most part on the second floor. Unfortunately, many of the double-hung windows are in poor condition. The joinery of some of the sash has failed and many of the pulley and weight systems are missing, leaving the windows inoperable.

The beautifully crafted stained glass windows on the first and second floors in the stair hall and transom windows in the second floor offices and conference room are still in good condition and do not show signs of lead failure. The rest of second floor transom windows are plain vision glass instead of the leaded glass. One historic photograph shows a grid pattern on the east transom windows, suggesting all of the transoms were originally leaded glass. All of the windows, except the first floor aluminum windows have exterior storm windows screwed to the wood frame to prevent air infiltration into the building.

The attic windows in the south dormers are replacement windows from Pella. The two windows at the dormer on the north elevation are wood double hung windows with aluminum exterior storm windows. The wood windows are in poor condition and should be replaced.

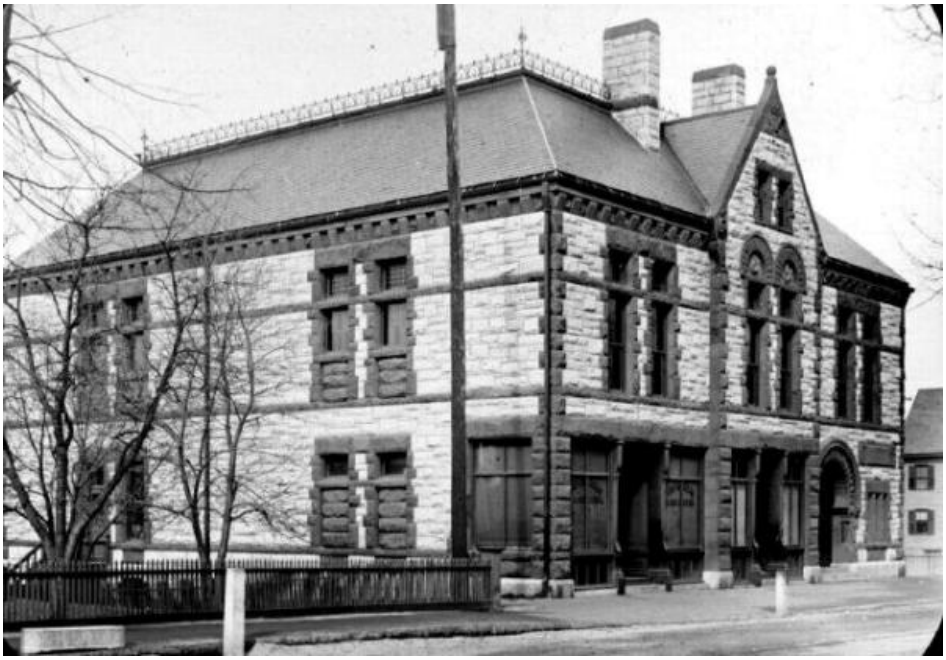


Image showing leaded glass at east windows and pink granite at first and second floor east window openings. The granite has been removed from the first floor windows with a new window inserted into the opening. (www.hope1842.com).

The interior wood trim is in fair condition and still has a varnish or paint protecting the original wood, unlike the exterior wood trim that is exposed and showing signs of deterioration. The windows in the occupied office and conference room on the second floor are in much better condition than the windows in the unused auditorium. These windows were wrapped in plastic years ago to prevent air infiltration to the auditorium. All of the window openings on the east elevation of the general office have been blocked off and paneled over, as well as the transom windows on the second floor of the east elevation.

Interior of window at auditorium. Windows have temporary frames and plastic around them to keep out air infiltration.

Interior of window at second floor conference room. Wood double hung sash and leaded glass in fair condition.

Broken wood sash at auditorium window.


Exposed wood exterior trim with storm window screwed to wood frame.

First floor east windows boarded from interior with wood veneer and exterior with plywood.

Recommendations: Note: See the condition assessment elevations for all window types. Condition of boarded up windows are unknown.
Provide new exterior storm windows for all windows
Remove all wood veneer paneling from the interior of first and second floor windows.
Retain the original wood storefront windows (Type E).
Remove and replace the aluminum storefront windows (Type D).
Retain all transom windows (Type C). More investigation is needed to determine if transom windows that have been blocked off on east elevation are still in sound condition.

A few different options can be reviewed for the renovation or demolition of the windows.

1. Demolish existing double hung wood (Type A) and aluminum windows (Type B). All new aluminum windows in existing openings. New wood trim at exterior to match original.
2. Demolish existing double hung wood (Type A) and aluminum windows (Type B). All new aluminum clad wood windows in existing openings. New wood trim at exterior to match original.
3. Demolish existing double hung aluminum windows (Type B). All new aluminum clad wood windows in existing openings. Demolish sash in wood double hung windows (Type A). Strip paint and repair frames. Prime and paint frames. Provide new aluminum clad wood sash with jamb liner and spring hardware. Retain exterior wood trim.
4. Demolish existing double hung aluminum windows (Type B). All new wood windows (to match existing Type A) in existing openings. Strip paint and repair frames. Restore existing wood sash in Type A windows. Retain exterior wood trim.

Exterior Doors: Poor Condition

All of the exterior doors on the building are replacements rather than the original wood doors, and therefore are not character defining features of the building. The aluminum northwest entrance double doors are wide enough and swing in the correct direction for code compliance, but are not air tight and actually swing open when the wind blows. The weatherproofing is inadequate and leaves a gap between the doors, making the entrance vestibule very drafty.

To meet the MAAB and ADA regulations, a door threshold cannot be higher than ½". At the west entrance to the basement, the door threshold is a few inches high to accommodate the raised interior basement floor. The Council on Aging shop entrance door sits on a granite threshold that is not flush with the existing concrete areaway. Although the sunken entrance areaway is not now accessible, regarding to make this an accessible entrance is possible.

The south exterior basement entrance shed is in fair condition, but does not match the aesthetic of the Town Hall building.

Recommendations:
Replace all doors with new code compliant doors and thresholds to prevent air infiltration.
Depending on reuse option, the basement shed entrance can either be demolished or retained.

Exterior doors at main entry.


Exterior door at south basement entrance.


Exterior storefront door at Council on Aging.


Exterior door at basement office area.

Exterior Stairs/Ramps: Fair to Poor Condition

The Town Hall building originally had stairs at each north entrance, without a way for disabled persons to enter the building. In 1990, the Town contracted Robert Nichols Designs to solve the accessibility issue. Robert Nichols Designs designed a raised concrete plaza at the same elevation of the exterior doors, to connect all three entrances. The plaza has a north, east, and west stair as well as a ramp at the east side. Although the ramp is 1:20 slope and meets MAAB requirements, the ramp handrails are not continuous because of the posts, and will need to be upgraded. The ramp is 4'-6" wide, but will need to keep at least a 4'-0" clearance between the handrails. The stair handrails are not code compliant because they do not have the required length of handrail extension at the base of the stairs.

Exterior plaza at north elevation in 1989. Note the stone steps and base of wall and pilasters visible. (www.robertnicholsdesign.com)

Stair and ramp at east elevation

Stair at west elevation

At the west elevation, the sunken entrance areaway has stairs to access the basement and Council on Aging doors. The granite stair has irregular riser heights and irregular tread depths, causing this stair to not meet IBC 2009 code. The cast iron handrails do not have handrail extensions and should be replaced.

The concrete stairs at the east elevation are in good condition, except for some rust staining near the handrail posts. The landing at grade is sloped, causing the last riser to differ in height from one side to the other. This condition is not code compliant and will need a flat landing. Because the stair is more than 30" above grade, it will need guardrails as well as code compliant handrails.

At an unknown date, the easternmost window on the south wall of the auditorium was removed and replaced with an emergency exit door and metal fire escape. The signs that it was not always a door are the different stone type at the exterior threshold and the break in the original wood flooring at the interior wall. The metal stair has an open grate landing and open risers.

West basement entrance to the Council on Aging Shop.

Concrete stairs at east elevation.

Rusting fire escape at south elevation.

Emergency egress door at auditorium was a later addition

Recommendations:

Retain existing stairs and ramp at main north entrance platform.
Provide new stair handrails and ramp handrails at north elevation.
The new options for reuse will determine if the existing concrete steps at east elevation will be retained or demolished.
Remove rusting metal fire escape at south elevation.
Depending on new options, provide accessible entrance and new stairs and handrails to west basement areaway.

ROOFING

Roof Coverings: Fair to Poor Condition

The mansard roof has original thin, grey-colored slate shingles, copper gutters, and copper down spouts. Many of the slate shingles look to be worn and have started to delaminate. A few are broken and chipped, revealing the course of slate beneath it. Some nails appear to have failed, allowing some of the slate to slide out of place. The age of this slate and its origin is not known, but slate is expected to last about 75-100 years depending on its quality and installation.

Wood roof sheathing is exposed at the attic and looks to be in good condition. There are some stains, but no moisture and no evidence of active leaks. It is not known what underlayments exist between the sheathing and slates.

In a conditions assessment report by Haynes, Lieneck, and Smith Architects in 1999, the flat roof is described as having a slight pitch from the center and is constructed of asphalt and felts that are capped with imbedded pea stone gravel. There was no access to the roof as part of this study, but from Google Earth views it is evident there is a white-colored membrane or gravel.

The Indoor Air Quality Assessment prepared in June, 2000, suggests sealing the unused chimneys on the roof to eliminate water penetration. It was not possible to see if chimneys have been sealed, and there are no caps visible from the ground.

The copper gutters are severely worn in several locations, with open holes that allow water to pour out. Gutters are also deteriorating at the downspout connections and causing water to leak out of the seams instead of flowing into the

downspouts. Water is finding its way between the gutter and the brownstone, and is flowing out of the bottom of the gutter. This was particularly evident after a heavy snow, when a stream of water froze at the face of the building at the west end of the street façade. The leaks at the gutter system have resulted in staining and efflorescence at the brownstone cornice. While no spalling is yet evident, allowing this gutter condition to remain will lead to deterioration of the brownstone.

Metal netting is fastened to the north gutters and sticking straight up in the air. It is undetermined if this was supposed to stop debris from getting in the gutters, or act as a secondary ice dams to the ones already installed on the roof.

Some repairs have been made to the roof, suggested in the 1999 assessment performed by Haynes, Lieneck, and Smith. They recommended repairing the cap flashing and repainting the wood trim on the south dormers. They also recommended removing and replacing individual broken slate with new slate and the built-up roofing on the flat roof replaced with a single ply roofing. It is unknown what has actually been done since this report. Information provided by the Town indicates that that some missing and broken slates were replaced in 2003-2004.

From ground-level examination it appears that the flashing on the flat roof, as well as the ridge caps on the hips and south dormers are relatively new. The ridge cap on the north dormer has a green patina and original and shows signs of deterioration. Newer ridge caps appear to be lead-coated copper. The condition of valleys could not be seen from the ground.

Recommendations:
The roof should be inspected close up, with the use of an aerial lift and by accessing the flat roof from the attic. Some shingles at the gutter should be removed in order to identify underlayments, and the slate should be reinstalled. Some slate could be retained for testing, to see if it is suitable for reuse.
Based on what has been seen to date, the recommendation is as follows:
Remove slate, underlayments and metal gutters and flashings. Provide new slate to match the existing dimensions and color. (Options to slate could be considered.) Provide a secondary waterproof membrane at gutter edge, under gutters, and at valleys and ridges.
Replace elbows at downspouts. The remainder of copper leaders could be retained.
Inspect chimneys for water penetration. Seal or cap chimneys, depending on use.


Worn gutters and missing slate on roof at south elevation.


Water pouring under gutter at north elevation.

Staining on granite, worn gutters, and some missing slate at south elevation.

INTERIORS

INTERIOR CONSTRUCTION

Partitions: Fair to Good Condition

First Floor

Many of the partitions on the first floor are brick bearing walls, including the wall between the main hallway and the café, and between the café and the general office. The vault in the Selectmen's Meeting room has thick masonry walls and a small metal door. Masonry walls have painted plaster finish that is generally sound. Exceptions are isolated areas that suffer from moisture infiltration, related to radiators, windows or roof leaks. Spaces such as the main hallway have wood wainscot that has had finish stripped.

The storage partitions in the Town Clerk's office are stud partition walls. A boarded up cased opening is visible in the east storage room, suggesting these storage rooms are not original to the plan.

The Town Administrator's Assistant and the Town Treasurer's office in the general office have modern interior storefront partition walls with the bottom half being sold wood veneer. These walls are not full height in order to create an open work environment with some privacy. Three original cast iron columns are exposed, running down the center of the general office.


Main hallway with existing interior finishes.


General office at first floor.


Cast iron column capital at first floor supporting second floor framing.

Second Floor

The interior walls for the Auditorium, Conference, Town Accountant, and Town Accountant and Administration offices are original to the building and are structural bearing walls. The wood stud partition walls on the stage were built at a later date. Finishes are similar to the first floor with original walls and partitions having painted plaster finish.

Brick construction at fireplace in Conference room

Wood stud partition at stage with elaborate wood casing

Recommendations:
Cut out any loose plaster and patch.

Interior Doors: Fair to Good Condition

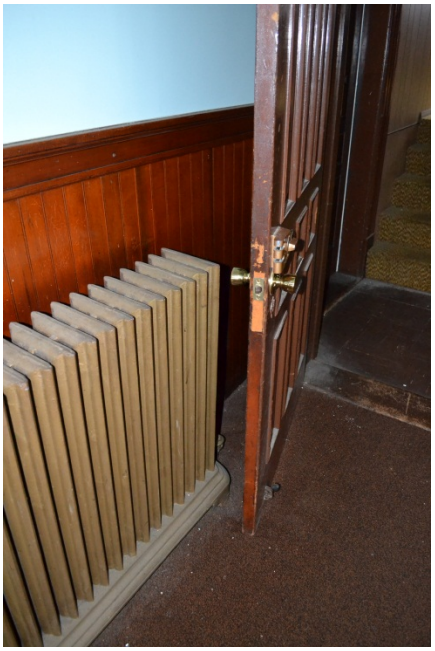
Many doors in the building appear to be original, finely crafted, paneled wood doors. Some of these doors have glass lites in the upper half and glass transoms above. The glass transoms are missing from the two interior doors into the café and kitchen. The original wood thresholds are raised ¾" and will require action to meet code compliance. The threshold for the auditorium door has a concrete threshold raised ¾". The auditorium double doors are replacement hollow core doors and are not the same quality and detail that the original doors were. Doors and door trim has been treated similarly to the wood wainscot, with the wood stripped and dry.

Original Interior door to kitchen at main hall on the first floor

Double door at conference room on second floor

There are some code issues relating to the doors, including door width, clearances, and hardware. While many of the (assumed) original paneled wood doors are wider than average, some of the modern doors do not meet the minimum clearance needed to meet MAAB standards. All door openings into rooms need to be at least 32" clear. The door from the Selectmen's meeting room to the general office and the door from the Town Administrator area to the general office are only 30" clear. The toilet room doors on the first floor are only 24" clear and do not meet requirements. The cast iron column outside of the Town Administrator's office door is blocking the 12" clearance space needed at the latch side of the door. Another clearance issue is the door at the stair behind the stage on the second floor does not clear the radiator when fully open. Many doors have decorative knob hardware that does not comply with accessibility requirements.

Doors to bathrooms do not meet minimum MAAB clearances



Door to backstage hits existing radiator when open

Original cast iron column blocks required clearances to Town Administrator's office.

Recommendations:

Replace missing transoms with new transoms to match original.
Replace older auditorium double doors with higher quality wood doors and new hardware.
Modify wood and concrete thresholds to be no higher than ½".
Remove radiator from auditorium to provide clearance for door swing.
Relocate the Town Administrator's office door to meet door clearance requirements from MAAB.
Provide new lever handle hardware where doors are to remain but hardware is non-compliant.

Stairs

Grand Wood Staircase: Fair to Poor Condition

A grand wood staircase is located in the northwest corner of the Town Hall and is the main access to the second and attic levels. The original wood risers and treads have a rubber non-slip material covering and metal nosing nailed into the treads from the first to second floor. The wood treads are worn but are in fair condition. Vinyl tile has been applied to the wood landings, but it is assumed that the original wood is still under the tile. The original nosing has an ogee curve molding piece under the curved tread profile. The applied metal nosing does not meet MAAB requirements because the underside of the nosing is straight and not angled. Riser heights need to be uniform in height on the flight of stairs to meet MAAB requirements. Although most of the riser heights are uniform at 7-1/4", some are 7" and 6-3/4".

The handrails and guardrail are not code compliant for several reasons; they are not continuous, they are not at the height regulations for guardrails and handrails, and they do not have the required extensions. The existing handrails that are mounted to the walls are 24" tall; MAAB requires the handrail to be mounted between 34" and 38". The handrail/guardrail at the interior of the stair is about 29" tall; IBC 2009 code requires the guardrail to be 42" tall. Also, the interior handrail is a bit shaky and will need to be repaired.

The flight of stairs from the second floor to the attic has two winder stairs which means that the stairs do not have uniform tread widths and is not in compliance with MAAB. Action will depend on the use and occupancy in the attic. The first 8 risers before the winders are 7-1/4" tall while the rest of the risers to the attic are 8-1/4" tall. Six balusters are missing at the top of the attic stairs.


Wood corner post at landing of first and second floor.


Stair leading to attic.

Southeast Stair: Poor Condition

The second egress stair from the second floor stage level to the first floor is located in the southeast corner or the building. There most likely was a stair at this location in the original plan because of the tongue-and-groove beadboard paneling located at the walls, but it may not have started up at the stage level. The stair and stage elevation is at a higher level than the double-hung window sill. This stair is not compliant because it has winder treads at the landing and has a non-compliant handrail at the inner stair and no handrail at the exterior wall.

Stage stair and Back of Stage stair

The stage stair is not original to the stage, but is in sound condition. At the top of the stair, there is a 3" step down to stage level. The narrow stair from the second floor up to the stage elevation at 3'-0" high does not have handrails. It is hard to tell if this stair is original to the building.

Stair to backstage does not have handrails

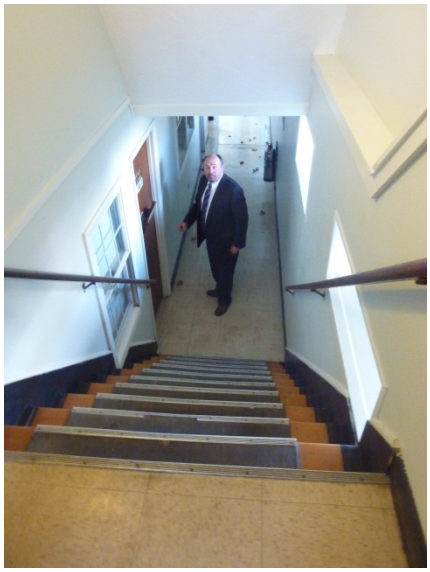
Southeast stair from first to second floor has winders and collides with the existing window.

Basement Stairs: Fair to Poor condition

The main basement access is from a stairway located under the grand northwest stair. This stair is wood, with the same non-slip material and metal nosing as the northwest stair above. The risers are at differing heights; most of them are 8", but the first few, starting at the first floor, are 7", 7-1/4", and 6-3/4". The last riser at the basement level is 5" high because of the raised subfloor at this level. This stair and handrail are not code complaint.

The second egress stair out of the basement is located at the southeast corner of the building. This concrete stair exits to grade at the rear of the building. The top stair is obstructed by the threshold of the shed door and the bottom riser at the basment level is 5" tall while the other risers are 8" tall, because of the slab poured over the existing basement.

Stair to basement from parking lot.



Northwest stair from first floor to basement.

Recommendations:
Remove metal nosing and rubber tread and risers from northwest wood stair.
Remove vinyl tile from northwest stair landings. Sand and restore wood treads and risers if possible. (Wood treads might be worn or damaged. Allow for some replacement.) Provide non-slip material if wood is not suitably slip-resistant
Retain and restore existing baluster handrail at northwest stair, but add a code compliant guardrail and handrail. Add continuous handrail at walls of stair.
Demolish and rebuild southeast stair to allow for max. 7" risers and other code upgrades.

Restrooms

There are two unisex restrooms on the first floor and a designated men's and women's single restroom in the basement. There are also two restrooms in the basement and one in the Town Accountant's office that are not in working order and have been out of use for an undetermined time.

The two unisex toilet rooms on the first floor for employees are not ADA/MAAB compliant. They do not have large enough doors to meet code, and to not have the required clearances in the rooms. The existing first floor is the only accessible floor, and will need accessible restrooms.

The two single unisex toilet rooms on the basement level for public use are thought to be accessible, though clearances at doors and sinks should be confirmed. Unfortunately, this basement is not accessible because it only has stairs to get to this level and not an elevator or ramp.

To comply with the plumbing code, the building does no need a restroom on all levels. Employees and the general public are able to go up or down one level to access a toilet room, but an accessible toilet needs to be located on an accessible level. Right now, there is an accessible toilet on an inaccessible level and an inaccessible toilet on an accessible level. Town Hall restrooms are undersized for the allowable occupancy of the building.

Basement accessible toilet room.

First floor inaccessible toilet room

Basement abandoned restroom

Second floor abandoned restroom

Recommendations:
Reconfigure restrooms to be accessible.
(See plumbing section for comments on fixture condition.)

INTERIOR FINISHES

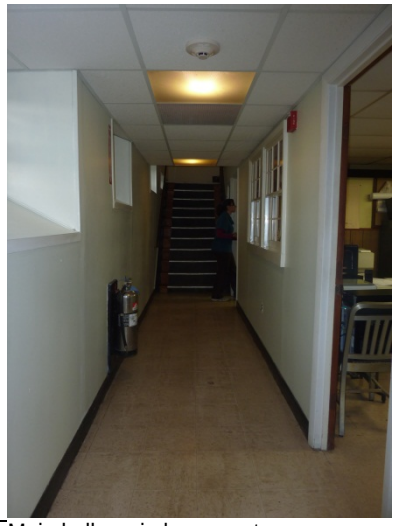
Wall Finishes

The majority of the original wall finishes were horse-hair plaster and tongue-and-groove beadboard paneling up to the height of the chair rail. The window and door trim are a very good condition and still mostly intact.

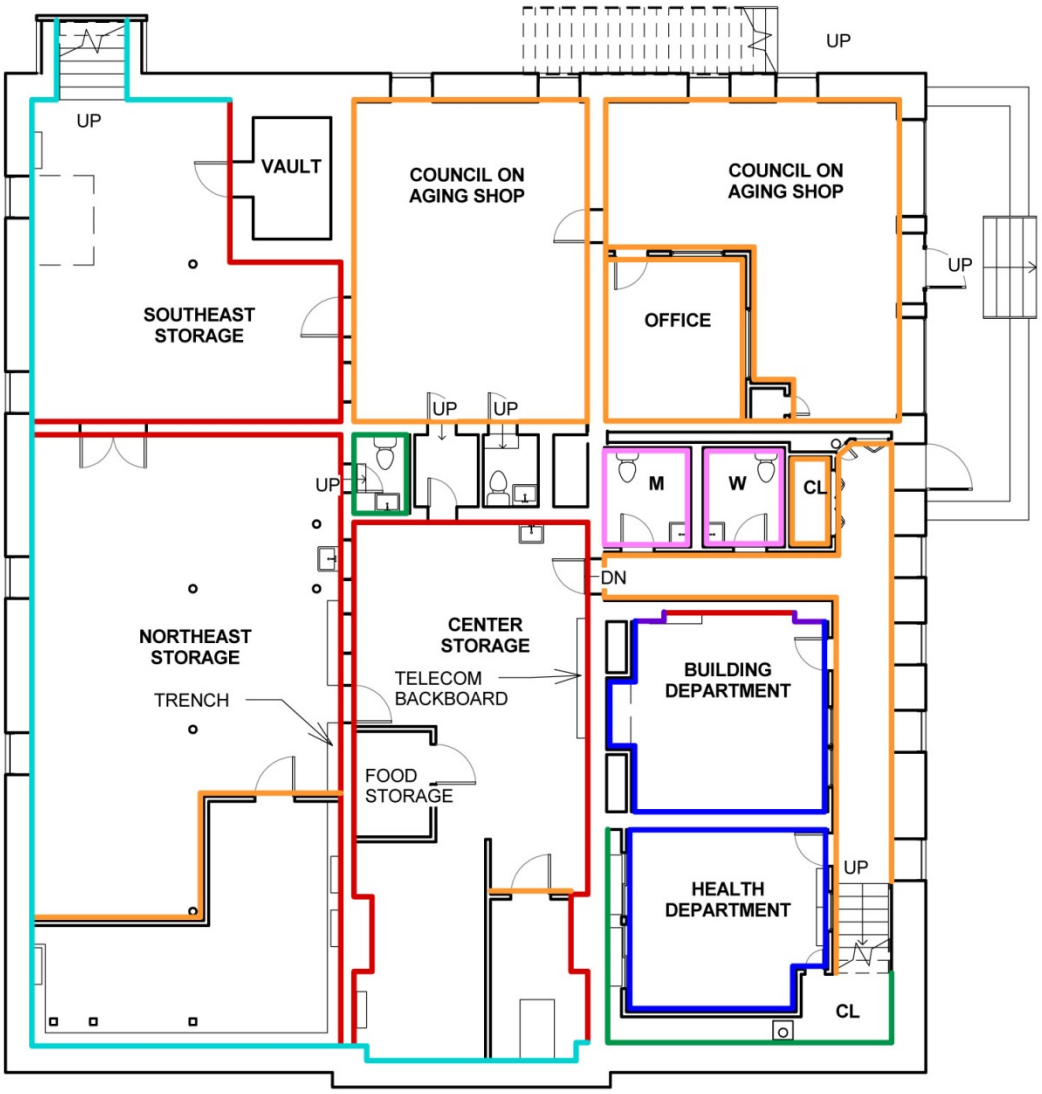
Basement: Poor Condition

The finished office rooms in the basement have wood veneer up to the chair rail and drywall above. These finishes are outdated and in poor condition. The storage closet in the Health department office still retains the original plaster, wood beadboard, and chair rail.


Original beadboard and plaster in Heath department office closet.


Main hallway in basement.


Exposed brick at Building department office in basement.



BASEMENT FLOOR - WALL FINISHES

CONDITIONS LEGEND

- PLASTER OR DRYWALL FINISH
- WOOD BEADBOARD BELOW CHAIRRAIL / PLASTER ABOVE
- WOOD VENEER FINISH
- WOOD VENEER BELOW CHAIRRAIL / DRYWALL ABOVE
- EXPOSED BRICK
- FRP PANELS
- EXPOSED STONE

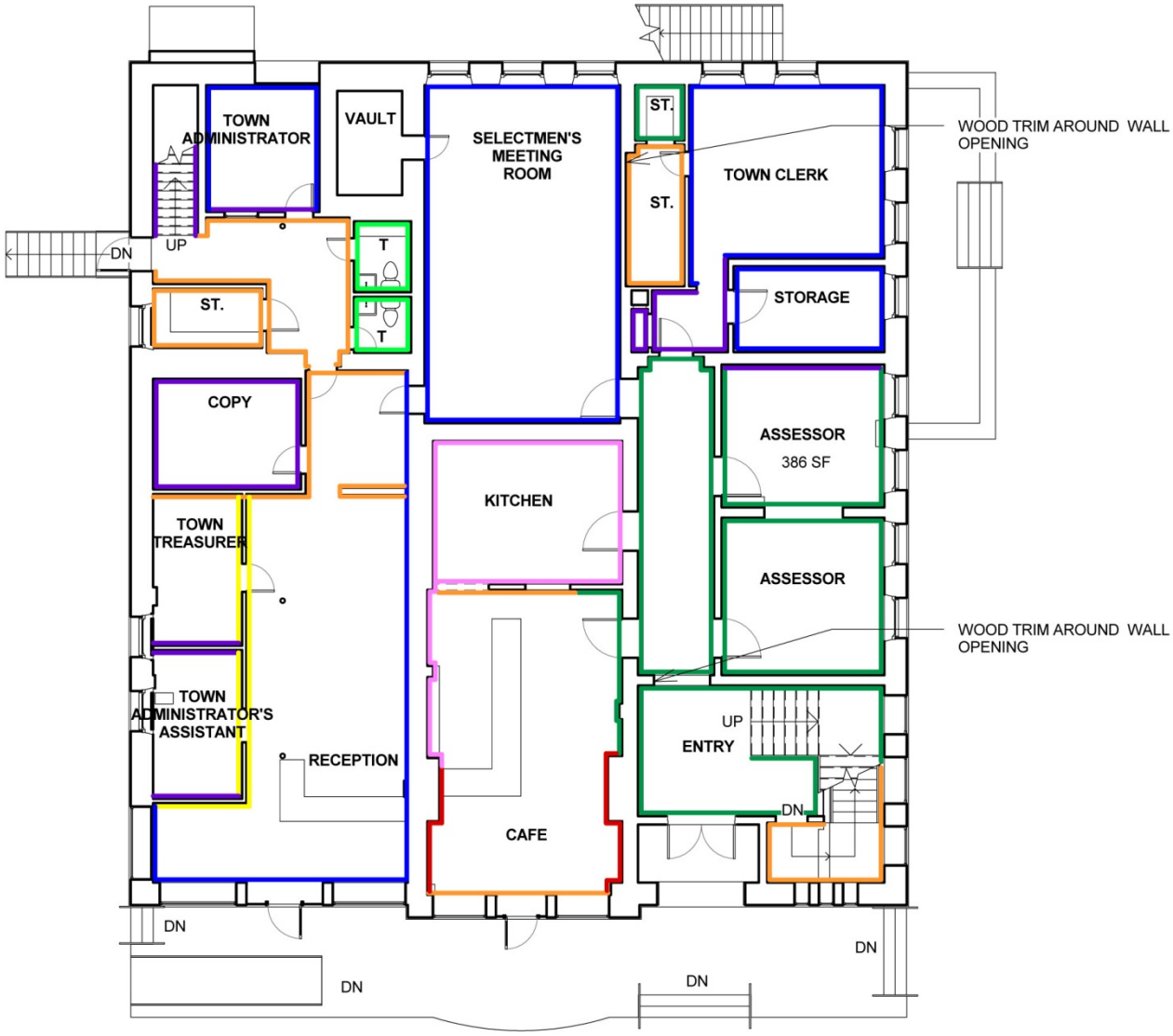
First Floor: Fair Condition

The first floor is a mixture of original beadboard and wood veneer paneling applied at a later renovation. The main entry, hallway, Assessor's offices, and café have the original beadboard paneling and chair rail molding. The Town Clerk, Selectmen's Meeting Room, General Office area, and Town Administrator's Office have a combination of plaster and wood veneer wall paneling. The first floor wood trim in the hallway, the stair hall and wood paneling, and the second floor paneling in the stair hall have been stripped to reveal the bare wood.

Original dark stain and varnish has been striped to reveal color of original wood at attic level.

Café has a combination of exposed brick walls, plaster with wood beadboard, and fiber-reinforced plastic panels.

Wood veneer paneling at the general office and Selectmen's Meeting Room.



FIRST FLOOR - WALL FINISHES

CONDITIONS LEGEND

- PLASTER OR DRYWALL FINISH
- WOOD BEADBOARD BELOW CHAIR RAIL / PLASTER ABOVE
- WOOD VENEER FINISH
- WOOD VENEER BELOW CHAIR RAIL / DRYWALL ABOVE
- EXPOSED BRICK
- GLASS PARTITION WALL WITH WOOD VENEER BELOW
- TILE BELOW CHAIR RAIL / DRYWALL ABOVE
- FRP PANELS

Second Floor: Poor Condition

The Auditorium, Town Accountant offices and the conference room all have original wall finishes and door and window trim. The conference room has a fireplace mantel and marble built-in sink in very good condition. The rooms on the stage have wood veneer on the walls and many of the window transoms boarded up with veneer. (This space was at one point used for the town's cable tv company.) The room to the north of the stage is interesting because it has a metal panel wall covering with graffiti on it.

The original plaster at the auditorium exterior walls is deteriorating most likely due to water infiltration and change in temperature from exterior to interior conditions. Most of the deterioration occurs at the chair rail elevation and at radiator locations. Deteriorating plaster also exists at exterior wall behind the wood veneer board at southeast corner stairway.

Deteriorating plaster on lath at west auditorium wall.

Location of original stairway from the stage elevation to the second floor

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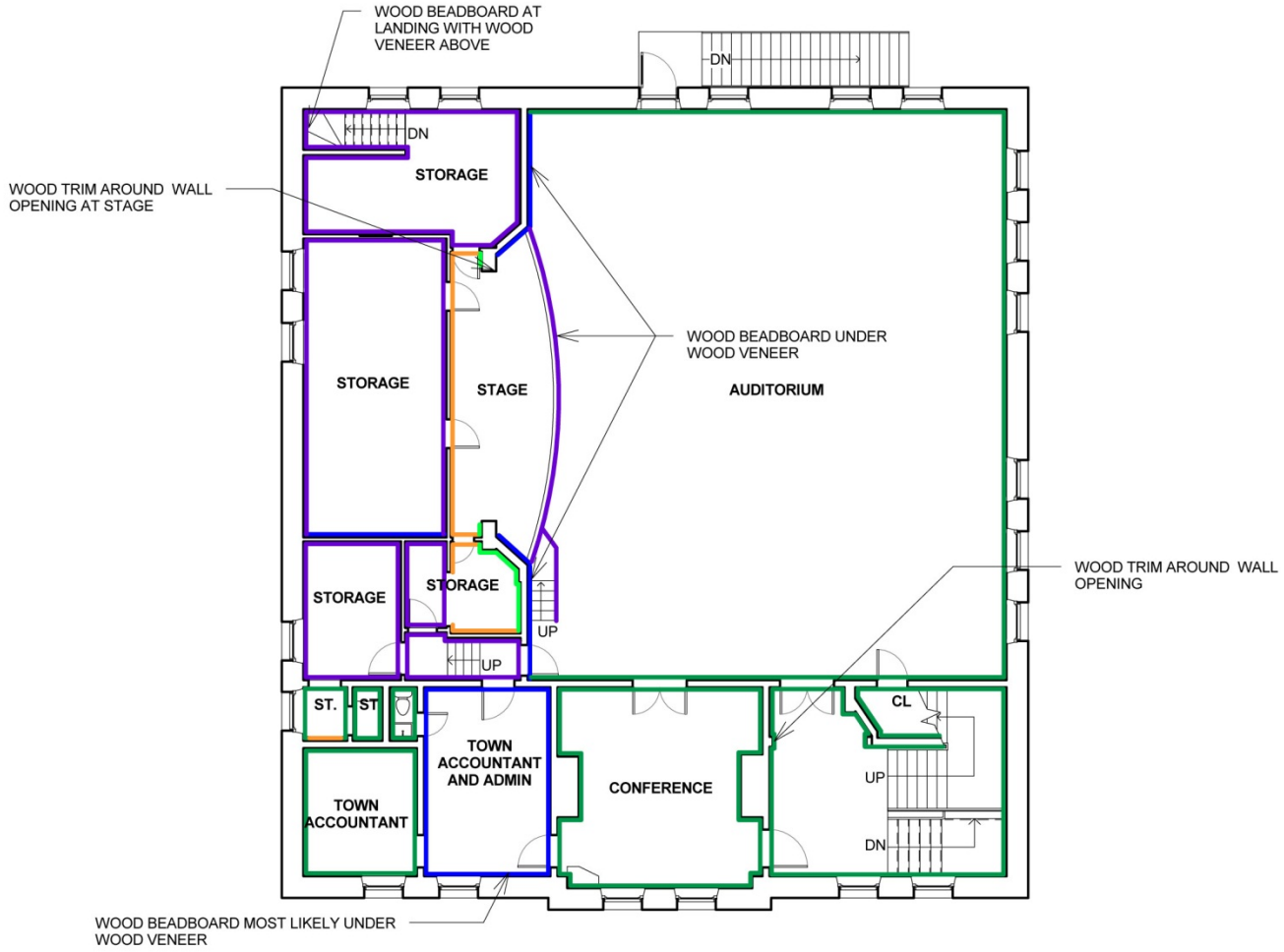
Tongue-and-groove beadboard wraps around stage walls, but has a layer of wood veneer applied to it.



Recommendations:
Repair deteriorating plaster at walls and ceilings.
Retain existing and original tongue-and-groove bead board, wood trim, and window and door trim.
Remove wood veneer paneling from walls.
Sand, stain and varnish existing wood trim

Floor Finishes

Basement Floor: Poor Condition

The basement vinyl tile in the offices and restrooms is in poor condition. The raised wood floor is settling and constant wear is causing the tile to crack and buckle. The carpet in the Council on Aging rooms is older and should be replaced. The rest of the storage areas in the basement have unfinished floors.


Vinyl tile in hallway at restrooms.


Vinyl tile chipping in Building Department office.


Painted concrete in northeast storage area.

BASEMENT FLOOR - FLOOR FINISHES

CONDITIONS LEGEND

- ORIGINAL RUBBLE CONCRETE FLOOR
- POURED CONCRETE FLOOR
- VINYL TILE FLOORING
- CARPET FLOORING
- WOOD FLOORING

First Floor: Poor Condition

Vinyl tile is located in the main entry and hallway of the first floor. Vinyl tile was also discovered under the carpet in the Town Clerk's office. In the Assessor's offices, there most likely is a layer of ¼" plywood nailed to the top of the existing wood floor, with carpet as a finish layer. The condition of the original wood floor is not known.

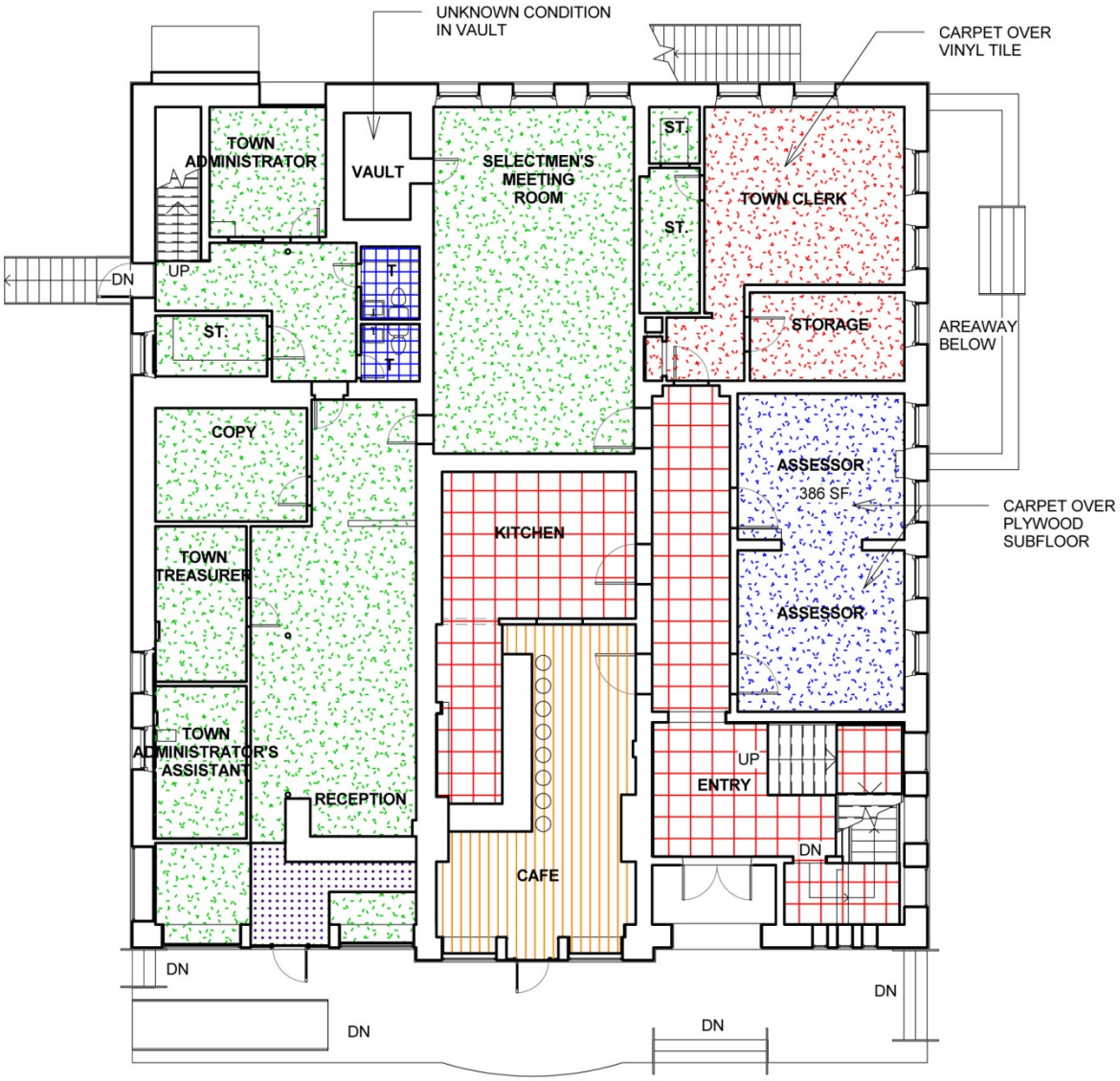
The café has exposed wood floors that are assumed not to be original because the floor level is higher than the door threshold level. There is a slight ramp up to the level of the café floor. The wood is worn and has lost its finish in high traffic areas. Vinyl tile is located behind the counter and in the kitchen. Vinyl tile is in poor condition and worn in many places.

Rubber anti-slip flooring are installed at the reception area of the general offices. Walk-off mats are placed over the flooring to soak up water. The rest of the General Office area is covered in carpet.

Wood flooring at café

Rubber flooring at reception desk at General Office

Vinyl tile found under carpet in Clerk's office



FIRST FLOOR - FLOOR FINISHES

CONDITIONS LEGEND

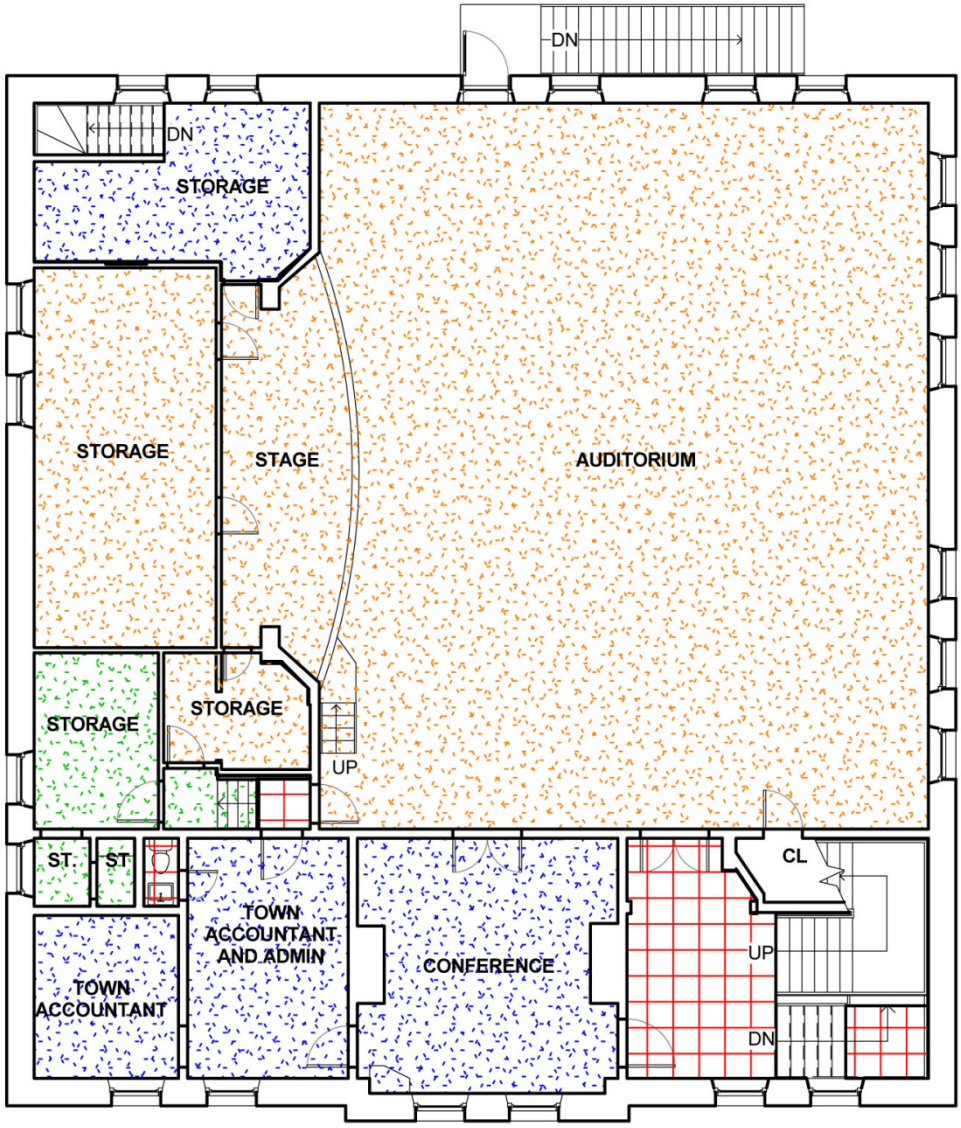
- TILE FLOORING
- VINYL TILE FLOORING
- RUBBER FLOORING
- WOOD FLOORING
- CARPET, UNKNOWN CONDITION OF FLOORING
- CARPET OVER PLYWOOD FLOORING
- CARPET FLOORING OVER VINYL TILE

Second Floor: Poor Condition

The auditorium, stage, and storage room behind stage (originally part of stage) has the original wood floors still in tact, but now covered with carpet. The Conference room, Assessor's rooms, and south storage room at the stage level, all have a layer of plywood under the carpet. It is not known if the original wood floor still exists in those rooms and, if it is, its condition is not known.

Plywood at floor under carpet at south storage room at stage level

Wood flooring at auditorium under existing carpet



SECOND FLOOR - FLOOR FINISHES

CONDITIONS LEGEND

- VINYL TILE FLOORING
- CARPET OVER PLYWOOD FLOORING
- CARPET OVER TONGUE-AND-GROOVE WOOD FLOORING
- CARPET. UNKNOWN CONDITION OF FLOORING

Recommendations:
Remove all carpet and plywood from floors.
Determine if wood floors are in a condition to be sanded and refinished in order to be left exposed.
(See structural assessment report for potential need to provide plywood subfloor.)

Ceiling Finishes: Poor Condition

In most spaces, the original plaster ceilings are hidden with acoustical ceiling tile. It is unknown what condition the plaster is in on most ceilings. The textured plaster at the first floor hallway ceiling is not original to the building. The auditorium plaster ceiling is cracking and in poor condition.

Recommendations:
Remove all acoustical ceiling tiles to expose plaster ceilings. Either provide new acoustical ceilings as part of renovation work, or repair plaster. The scope of work will need to take into consideration the addition of sprinklers and the replacement of other systems such as electrical, plumbing, etc., so it may be infeasible to retain original plaster ceilings.


Plaster ceiling at first floor hallway


Acoustical ceiling tile at general office

SITE

Parking: Good Condition

Parking is located in the rear of the building for employees during the day and public users of the Town Hall in the evening. There are currently 18 parking spaces in the parking lot, none of which are accessible. (Accessible parking is at the street at the front of the building.) Dumpsters are located at the east side. Paving is patched but sound. There is no planting or curbs. A retaining wall at the south of the lot separates it from the salt shed and boiler buildings and their lot.

The parking drains away from the building, as there is a fairly steep drop along Depot Street.

There is no site lighting.

Parking lot looking west.

Parking lot looking southwest

View from Depot Street looking northeast.

Recommendations:

If there is to be any consideration of public access at the rear of the building, the slope of the parking lot will need to be considered.

If desired by the town, perimeter site lighting should be added.

SERVICES

CONVEYING

Elevators and Lifts
There is no elevator in the existing building.

Recommendations:
Provide an elevator in the renovated building. Consider the possibility of a pit-less elevator due to foundations and footings at basement. Also consider carrying the elevator shaft to the attic level. (See Bolton & DiMartino's report.)

PLUMBING

Plumbing Fixtures
The plumbing fixtures are in good to fair condition. They appear to be functioning properly. (Refer to page 3 of Allied's MEP assessment report). Given that bathrooms need to be made accessible and that piping needs major replacement, the expectation should be that fixtures are replaced.

Domestic Water Distribution
The piping is in good to fair condition, though some solder joints are probably lead. (Refer to page 7 of Allied's MEP assessment report).

Sanitary Waste
The piping is in good to fair condition. Further exploration of the inside of the pipe is required to confirm. (Refer to page 7 of Allied's MEP assessment report).

Rain Water Drainage
The rain water drainage has connections to the sanitary system under the basement slab. (Refer to page 7 of Allied's MEP assessment report).

Recommendations:
Provide all new plumbing piping and fixtures. Separate storm drainage from sanitary piping to comply with code requirements.
Confirm whether or not basement underslab piping is connected to other buildings.

HVAC (Refer to Allied's MEP Assessment Report.)

Heat Generating Systems
The boiler is in fair to poor condition. The system overall does not function well, as temperatures are high in areas of the building. Control is difficult due to the fact that there is one thermostat.

Cooling Generating Systems
Window unit air conditioners are located in various window openings in the building.

Distribution Systems
The existing steam piping is in good to fair condition.

Terminal & Packaging Units
The radiators and finned tube are in good to fair condition but are old.

Controls and Instrumentation
Controls are poor.).

Recommendations:
Abandon the existing boiler and provide a new HVAC system, including ventilation.

As a general note regarding the HVAC system it should be pointed out that the existing attic is an unconditioned space. If the attic is to remain unused, a determination will need to be made regarding whether or not to insulate the space. One option would be to insulate the attic floor. The advantage of this would be that energy costs would be reduced, as warm air would not rise to the attic space. Systems in the attic would need to be designed to withstand the cold. Another option would be to insulate the underside of the roof. This would also help reduce energy costs associated with heat escaping through the roof, and would also allow the space to be retrofitted for use at a later date. One downside to this approach would be that insulation would result in the exterior surface of the roof to remain cold. It would then hold more snow in winter. This change to the loading conditions would need to be addressed structurally.
A third option would be to not modify the existing attic conditions. As noted in the Code section of this report, compliance with the Energy Conservation Code is not a requirement.

FIRE PROTECTION (Refer to Allied's MEP Assessment Report.)

Fire Suppression System
The building currently does not have a sprinkler system.

Recommendations:
Provide a full fire suppression system in the building.

ELECTRICAL (Refer to Allied's MEP Assessment Report.)

Electrical Service and Distribution
The electrical service is out of date

Lighting and Branch Wiring
Lighting fixtures are functional but outdated. Branch wiring is a mix of old and new, including knob-and-tube wiring at the attic. Emergency lighting system is old and not functional.


Electrical at masonry wall in the second floor conference room

Electrical conduit at auditorium beadboard at exterior wall.

Fire Alarm System and Other

The fire alarm system is in good condition. Communications and Security Telephone and data are functional. Security consists of Closed Circuit Television and is in fair condition.

Recommendations:

Provide new electrical service and distribution.
Provide new high efficiency light fixtures, preferably with LED lamping.
Replace branch wiring. Conceal wiring where possible, and consider aesthetically acceptable surface applied methods at masonry wall or other locations where finishes are recommended to remain.
Knob-and-tube wiring should be removed regardless of whether or not there is a renovation.
Provide a new fire alarm system as part of a major renovation. The preference is for an addressable system.
Provide a voice/evacuation system if building occupancy dictates. (This generally required for occupancy of over 300 persons.)
Provide new security, including card access, motion sensors, etc. if desired by client.
Provide new data cable, upgrading as appropriate for client.

HAZARDOUS COMPONENTS ABATEMENT

Universal Environmental Consultants performed a survey of the building and removed samples for testing. The full Hazardous Material Determination report included as Appendix C of this report.

Summary

Asbestos was found in the window framing caulking, the vinyl floor tile at various locations, the paper under the hardwood floor at the attic, and various insulated pipes in the basement. While this material does not pose a problem if left undisturbed, the assumption is that the renovation project will involve removal of many of these components. All ACM (asbestos-containing material) must be removed by a Massachusetts licensed asbestos abatement contractor under the supervision of a Massachusetts licensed project monitor prior to any renovation or demolition activities.

Pipe insulation at basement

Vinyl flooring at first floor

Traces of lead-based paint were found in various locations around the building. Paint is generally well bonded to substrates such as millwork and plaster, and it can be disposed of as part of those elements if and when they are removed as part of the renovation. The paint at the exterior of windows also likely contains lead and should be treated as such. Disposal of construction materials containing lead-based paint are to be in accordance with applicable Federal, State and Local laws ordinances and codes. This work does not need to be done by a licensed lead contractor since the building is not residential. As Town Hall is not considered a regulated facility, the Massachusetts Lead Law does not apply.

Low levels of PCBs (polychlorinated biphenyl) were found in the window glazing. This material, which was widely used in caulking and elastic sealant materials from the 1950's through the 1970's, is considered a toxin. The levels found in this building, however, are lower than the amounts that trigger requirements for disposal as PCBs.

Hazardous materials abatement can be incorporated into the bid documents and reformed as part of the General Contractor's work.

Recommendations:

Incorporate hazardous materials abatement into construction documents for building renovation.

CODE ISSUES

The existing building does not meet current building code requirements with regard to several items. Most of these are not required to be addressed until renovation work is performed on the building. In addition to items already mentioned in the body of the report, some of the major deficiencies include the following:

Accessibility

The building is not fully accessible. While the added entry ramp allows access to the first floor, there is no access to the basement or 2nd floor. As Title II of the ADA requires that a public entity make its programs accessible to people with disabilities, the auditorium and Patrick Room are thus not used for public meetings. Basement spaces such as the Board of Health, Building Department and COA shop (run by private group, Friends of Elders) are not accessible, though the public does have a reason to visit them.

Additionally, 1st floor bathrooms are not sized to be accessible, stairs do not have required dimensional components, built-in furnishings are not of the required height, accessible signage does not exist, door hardware includes non-compliant knob handles, etc. Upgrading the building to meet accessibility requirements is one of the main reasons the renovation project is needed.

The Massachusetts Architectural Access Board (MAAB) states that when the scope of work of a renovation project amounts to 30% or more of the *full and fair cash value* of the *building*, the entire building is required to comply with 521 CMR. The town's Property Record Card for the building indicates a value of $731,100 for the building, so a major renovation easily will trigger this requirement.

Egress

Two means of egress from the 2nd floor is another major code issue. While the auditorium currently is not in use, so actual occupancy of the second floor is low, the size of the space and the anticipated occupancy indicate that two means of egress will be required.

The main stair is a character-defining element of the original building, and the expectation is that this will remain. The stair has dimensional issues that do not meet code requirements. Risers exceed 7" in height, handrails are not continuous, and the open rail does not meet required height criteria. Modifying the stair can be considered. There is also the possibility of applying for a waiver to this criteria.

The second egress from the 2nd floor includes the stair from the stage level, but this has very steep risers and the stair is very narrow. At some point a fire escape was added at the rear of the building. While the IEBC does allow for existing fire escapes to remain in some cases, the existing fire escape is not in good condition and a replacement would not be permitted. The renovation project should plan on providing an internal egress stair that meets the requirements for new construction.

Plumbing Fixtures

The existing building includes two single bathrooms at the 1st floor and two single bathrooms in the basement. There are no toilet facilities at the 2nd floor. The 1st floor bathrooms are for staff use only and are not available for the public. The public is now required to use the basement bathrooms, which are shared between Town Hall patrons and the café. The overall number of fixtures is low, as the café alone requires 1 wc for women and 1 water closet and a urinal for men, in addition to lavs, just for the café patrons. Town Hall office occupancy requires 2 wc for women and 1 wc, 1 urinal for men, this without even considering assembly functions. A renovation project will be required to provide fixtures that meet the requirements of the International Plumbing Code, based on the actual use of the various spaces.

Fire Suppression

The existing building has no sprinkler system. If the building is untouched, there is no requirement that sprinklers be added. Massachusetts General Law c. 148, s. 26G (Chapter 508 of the Acts of 2008), requires buildings that are

larger than 7500 sf and are receiving major modifications (affecting 33% of gross square footage) have sprinkler systems installed.

Structural Issues

The Structural Assessment Report describes in detail the various levels of work that trigger structural upgrades. If few changes to the structure are made and the building use does not change, upgrading structural elements to meet current codes is not required. If extensive structural work is required for building modifications, structural analysis is required by code as part of the process, and upgrades for loading and seismic issues may be needed. Seismic upgrades would involve stronger connections of framing and walls.

Energy Code

The International Energy Conservation Code, 101.4.2 lists designations of Historic buildings that are exempt from this code. The fact that Town Hall is part of the Hopedale Village Historic District puts it into that category.

Applicable Codes and Regulations

Codes and regulations governing the renovation of the Hopedale Town Hall include but are not limited to the following:
International Building Code, 2009
International Existing Building Code, 2009
The Massachusetts State Building Code Supplement
The Massachusetts State Plumbing Code (248 CMR)
Massachusetts Architectural Access Board (521 CMR)
International Energy Conservation Code (IECC)

Existing Building Area in gsf

Basement	5,279 gsf
First Floor	5,144 gsf
Second Floor	5,200 gsf
Attic (unused)	5,200 gsf
Total	20,823 gsf

Existing Use	B Business A-2 Assembly (Café) A-3 Assembly
Type of Construction	Type III Construction, Masonry bearing wall
Existing exits to grade	8

Existing Plumbing Fixture Count

Number of usable fixtures

Toilets	1 Female
	1 Male
	2 Unisex
Urinals	1 Male
Lavatories	1 Female
	1 Male
	2 Unisex
Drinking Fountain	2 water coolers

Plumbing Fixture requirement per code for existing building:

Restaurant = 30 occupants

Toilets	1 Female
	1 Male, 1 urinal
Lavatories	1 Female
	1 Male

Office = 48 occupants

Toilets	2 Female
	1 Male, 1 urinal
Lavatories	1 Female
	1 Male
Drinking Fountain	1 per floor

Assembly = 421 occupants (if auditorium used)

Toilets	5 Female
	3 Male, 2 urinals
Lavatories	2 Female
	2 Male

PROGRAMMING ASSESSMENT AND RECOMMENDATIONS

One of the primary goals of the renovation project is to provide for Town Hall functions in a way that includes appropriately sized spaces and desired amenities, and also accommodates necessary adjacencies for the proper interaction of staff. A functioning Town Hall should also have clear circulation for the public.

Some non-Town Hall functions are currently located in the building. Some other non-Town Hall functions might be added. The priority for the renovation project is to first provide for Town Hall functions, then see what other program elements might also be incorporated.

Existing Conditions

The existing building footprint is approximately 5,000 sf on each level, so the combined basement, 1st and 2nd floors have 15,000 gross sf available for use, though this includes wall thicknesses, stairs, hallways, etc.

The current functions are fit into the existing building as best as possible given the restrictions of the original building layout. Restrictions include the inflexibility of the solid masonry bearing walls, the café located at the center of the building, and the fact that only the first floor is reachable without the use of stairs.

Current Town Hall program use, meaning the square footage used by departments and related storage space, and also including necessary spaces such as restrooms, takes up the following amount of space:

Floor	Net SF for Town Hall	Net SF for Other	Total NSF	Comments
B	610	946	1556	Other is Council on Aging
1	2637	673	3310	Other is Cafe
2	659	0	659	Conference space has limited use.
Total	3906	1619	5525	

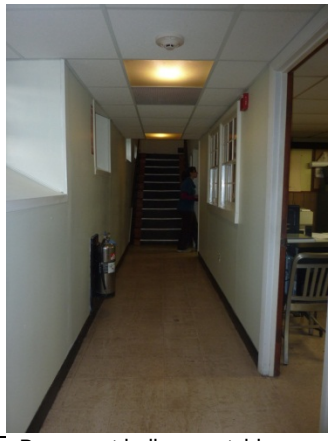
Basement

The basement houses the Board of Health and Building Department, grouped together at the bottom of the main stair. Each space is used primarily by staff, with the Board of Health having some need for meetings with the public. Of all the departments in the building, it does work reasonably well to have these two departments located remotely. The fact that they are inaccessible is, however, a problem. This is particularly true for the Building Department, which is the enforcing authority for accessibility and code regulations.

The Council on Aging shop and an office space are located at the rear of the building. The shop area is quite large, and has its own entrance off Depot Street.

The basement also houses two single use restrooms. Other small toilet rooms are no longer functional.

Board of Health office



Basement hallway outside Building Department

Council on Aging shop

Building Department

First Floor

The existing Town Hall functions are located primarily on the first floor. The Assessor's Office and Town Clerk are located off the main corridor and easily found from the main entrance. The transaction counter area that is used by the public for paying tax bills, obtaining permit forms, etc., along with the related office staff, Treasurer's Office and Town Administrator's assistant, are located in what was originally a retail space, and is accessed by the public only from a separate exterior door. The Town Administrator is in a small office in back. The Selectmen's Meeting Room is at the back of the building. The Selectmen's space is a suitable size for many functions, but due to the current building layout it is used as a pass-through for circulation to the office area, Town Administrator and restrooms.

In general, the existing functions at this level are of appropriate sizes and there is not a need to provide significantly more overall square footage for them. There are some exceptions to this, such as the undersized Town Administrator's office, a need for space for space for private meetings and small conferences, and the lack of a staff break room. In several cases the existing spaces are not configured to allow for a secure transaction counter. There is one at the general office area, but not for the Town Clerk or Assessor.


Assessor's Office


Selectmen's Meeting Room


General Offices


Retail space

Second Floor

The fact that the second floor is not accessible prevents the town from having any uses there that need to be available to the public. The auditorium is used only for storage, as is most of its raised stage area. The conference room is used for small meetings, but not any public meetings. The Town Accountant suite is here, and that works due to the fact that this office does not need to be visited by the public.

The original stage area of the auditorium had been modified to create spaces for the cable tv department. The back-stage area has only high windows, so this area has limited appeal as office space.


Auditorium

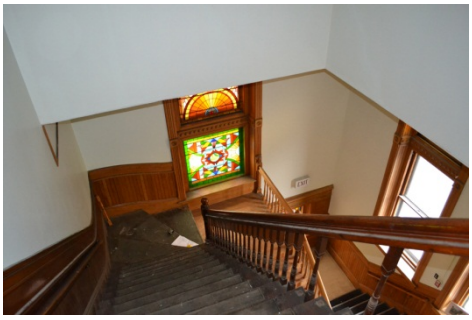

Auditorium looking southeast


Storage area at former stage


Conference Room

Attic

The attic is used for some miscellaneous storage of items such as books, doors, windows. Much of this is unrelated to this building. While the main stair does continue to the attic level, it does not appear that the attic was intended to be used for program space.


Main stair continues to attic


Attic area is used for storage

The existing program spaces were reviewed with occupants and with town administrators to determine the following:

- What does the existing department have for space.
- How well does the existing space work in terms of size, location, and other factors.
- What needs are there that should be accommodated in the renovated building.
- What other functions might be added to the building; what functions might be eliminated.

The following is a department by department summary of the information gathered. This will be used in preparing concept schemes

Basement

Board of Health

	existing	required	comments
size	200 sf 34 sf closet	300-400	Current space is not sufficient for supplies, etc.
# staff	1 ft 1 pt	1 ft 1 pt	32 hours per week Also interns part time
location	basement		Basement is fine
furnishings	2 desks 2 lateral files 4 vertical files 3 bookcases	2 desks 3 lateral files 7 vertical files 4 bookcases	Confirm need for two desks.
adjacencies	Building Dept.	none	

This office does get visited by the public, but no need to be near public transaction counter. It works to have people knock on door. The door is simply closed for private meetings.
Need for storage includes space for emergency supplies as well as cases of sharps containers.

Building Department

	existing	required	comments
size	229 sf		Office should be twice this size
# staff	3		Building Inspector, Plumbing Inspector, Electrical Inspector
location	basement		
furnishings	1 desk 1 layout table 1 lateral file 4 vertical files 1 cabinet 1 bookshelf 2 flat files	3 desks 1 layout table 1 lateral file 4 vertical files 1 cabinet 1 bookshelf 2 flat files	Furnishings listed are for Building Inspector. Electrical and Plumbing Inspectors each need 3 lateral files.
adjacencies	Board of Health	none	Desirable to be near Assessor, Board of Health, Planning Board, Zoning Board

Inspectors currently all share one desk. Need is for a shared desk for plumbing/electrical and one for a part-time administrative person.
Conservation Commission also shares this space.
Hours are only in the evening, due to part time workers.
Plumbing inspector has his files at home, so more needed here.
Need is for a reception person for forms/ payments/ questions. General office people can take these items.

Council on Aging Space

	existing	required	comments
size	815 sf shop 131 sf office	See below	Friends off ice must remain. Outreach and possibly Director to move to Town Hall.
# staff	1pt		
location	basement		Space is not accessible
furnishings	2 desks		
adjacencies	none	none	Near shared conference and activity

COA has a gifted space in the Community Building. Breakfasts for 30 or so people and other events. That will remain, so no consideration needs to be given to moving all COA functions to Town Hall.
Community Building hall used for exercise, lectures, etc. Some acoustic issues. Also use BINGO and kitchen downstairs. Community building basement not accessible.
Unclear as to possible future senior center (5000-6000sf?). Assuming not, there is need for:
Office space for Friends of Elderly in Town Hall.
Office for outreach worker, who currently has office at Fire Station, at Town Hall.
Possibly office for COA Director. Current office is a desk in the COA function space in Community Building.
Need private conference space. Could share with others.
Would like function space for 30. This also could be shared.

Storage functions

	existing	required	comments
size	690 sf center 1038 sf NE 494 sf SE 54 sf vault	tbd	Some secure storage needed for long term documents. Stored accounting boxes and other items might not need to stay in Town Hall. Mechanical equipment will also need space. Retail space has no upstairs storage, uses some space here.
# staff	0		
location			
furnishings	0		
adjacencies			

Town Hall does not have an off-site archiving facility or company. That might be considered for storage needs.

1st floor

Town Clerk

	existing	required	comments
size	268 sf office 22 sf storage 65 sf storage 103 sf storage	<268	Office is larger than required. Storage is used by Assessor for items not needed daily.
# staff	1 p.t. Clerk 2 p.t. helpers	1 p.t. Clerk 1p.t. assistant 2 p.t. helpers	Plan is for future part time assistant. 2 helpers can share space.
location	1st floor		Needs to be accessible for public. Gets high level of visits.
furnishings	1 desk, 3 other stations	1 desk, 3 other stations	One station is hard-wired to State system. Need for 8 vertical files, 1 cabinet, 3 bookshelves.
adjacencies	Near assessor and meeting room	none	Needs frequent access to vault.

Town Clerk needs enclosed space for confidential meetings, ideally with small conference table.
Need for work space (sit or stand).
Need for transaction counter that can be closed when office not open.
Access to vault better from admin. area than from inside Town Clerk's private office.

Treasurer

	existing	required	comments
size	106 sf	106	
# staff	1	1	Position vacant, no one interviewed
location	1st floor		
furnishings	2 lateral files 5 vertical files 2 bookcases	7 vertical files 1 bookcase	Also need vault. Treasurer should not use Clerk's vault.
adjacencies	Near open office	Assistant, open office, accounting	

Open office / Reception

	existing	required	comments
size	652 sf 51 sf storage	652 +/-	Space size is generally adequate
# staff	3	3	
location	1st floor		
furnishings	3 desks Files, boxes	3 desks Files, boxes	
adjacencies	Public counter, treasurer	Public counter, treasurer	

Staff:

1. Assistant Treasurer, also does parking, payroll, human resources
2. Water & Sewer, staff is the public contact with the dept. Takes in payments.
3. Assistant Collector

All three need counter access. These staff work together and fill in for each other. They also handle Building Dept. paperwork.
It is awkward now that people go in main entrance and are directed outside to get to these people.
Three waiting chairs by window – about right.
Need for space for boxes of enrollment papers for #1 to give out.
Transaction counter should have glass for security.
Freestanding safe located here is needed .

Selectman's Meeting Room

	existing	required	comments
size	524 sf / 40 seats	tbd	Existing acceptable for most meeting.
# staff	0	0	
location	1st floor		
furnishings	3 file cabinets 40 chairs, table for 6		Seats 40 + table
adjacencies		none	

Meeting room needs access at night, when other departments closed.
Current space serves all sizes of meetings. Ideal might be for smaller and larger spaces also. There is a need for a space that can hold 20-50 people, and up to 75 people for contentious meetings. Quorum is 50 for town Meeting.
Current space used as cut-through. This is a problem
Files located here can be moved elsewhere.
BOS meetings are broadcast live. Equipment here.
Vault in this space is not appropriate location.

Town Administrator

	existing	required	comments
size	114 sf	230	Needs office twice this size.
# staff	1	1	
location	1st floor		
furnishings	Desk, files	Desk, files	Needs conference table for 4-5 people.
adjacencies	none	assistant	Assistant is currently remote. This is not good.

Town Administrator does not need to be near transaction counter. People visiting Administrator can be escorted there.
No requirement to be on a particular floor.
Could use two more short file cabinets.

Assessor's Office

	existing	required	comments
size	386 sf 103 sf storage at Town Clerk's office	386+ to allow for counter and partition for private office	Existing generally is a good size. Need enclosed office within this.
# staff	2	2	Both full time.
location	1st floor		Existing location near front entry results in giving directions to people.
furnishings	2 desks 4 lateral files 6 vertical files 1 short file 1 bookcase 1 cart/shelf 3 bookcases in closet	2 desks 3 lateral files 7 vertical file 2 short files 2 bookcases Flat file for maps	Office needs reference desk for laying drawings out.
adjacencies	Near Town Clerk	None, possibly Treasurer and Accountant	Functions independently.

Assessor needs an enclosed office for private meetings. Two additional chairs ok, no need for conference table. Assessor also must be able to see what is going on in the outer space.

Department needs a transaction counter. Currently people walk in and open files. (Property record cards are public information, but the public shouldn't have direct access.)There needs to be a separation so this does not occur. System should be for computer at transaction counter where people can print documents. Assistant will have printer behind counter.

Need for table where maps can be left out when office is closed. Current layout has limited space in hallway, no chair. Office currently has own duplex copier.

103 sf storage closet at Town Clerk's office has Assessor's files. These need to stay in building for seven years for research, but can be elsewhere.

Need is for duplex copier an printer. Can be one unit.

Monthly board meeting has 4-12 people.

Town Administrator's Assistant

	existing	required	comments
size	105 sf	105	Existing size not a problem.
# staff	1	1	
location	1st floor	none	
furnishings	1 lateral file 5 vertical files 1 bookcase	2 lateral files 6 vertical files 2 bookshelves	Could use L-shaped desk and one more cabinet.
adjacencies	Treasurer, general office	T.A.	

Currently has files for Board of Selectmen and Town Manager. Not enough file space.
She answers general phone for Town Hall. Problem that area is noisy.
No need to be near service counter.
5 of existing files are for BOS.
Desire is for dedicated printer/copier.

Cafe

	existing	required	comments
size	456 sf café 217 sf kitchen	tbd	Retail space to be provided only if space available.
# staff			
location	1st floor		
furnishings			Seats 30 patrons
adjacencies		Toilet facilities	

Kitchen in center of building is odd visually; seen from center hallway
Problems with odors.

Copy Room

	existing	required	comments
size	139 sf	100+	
# staff	0	0	
location	1st floor		
furnishings	Copier Postage meter, Files. Computer server	Copier Postage meter,	Board files to be moved to dedicated space. Payroll files can go elsewhere. Computer server can go elsewhere
adjacencies	Open office	Open office	

2nd floor

Accounting

	existing	required	comments
size	125 sf	125+	
# staff	1	1	
location	2nd floor	___	
furnishings	1 desk, files	1 desk files	
adjacencies		Accounting admin., Treasurer	No need to be near public.

Accounting Admin.

	existing	required	comments
size	204 sf	<204	
# staff	1	1	
location	2nd floor	___	
furnishings	1 desk, files	1 desk, files	
adjacencies		Accounting, Treasurer	

Conference Room

	existing	required	comments
size	330 sf	330+	
# staff	0	0	
location	2nd floor	____	
furnishings	Table, 6 chairs	Table, 6 chairs	Need a space for meetings of 8-10 also.
adjacencies			

Used for department head meetings.

Auditorium

	existing	required	comments
size	2276 sf main 238 sf stage		
# staff			
location	2nd floor		
furnishings			
adjacencies			

Space currently is unused, in part due to lack of accessibility.
Space as is is not in high demand.
Potential uses include:
Town-wide voting (currently in gym, better close to Clerk)
With dividers, it could serve as meeting rooms for 12+ people.

Some thought that this space not needed:
Town Meeting works fine at High School
There is no demand for a stage. (Existing at High School, Elementary School and Community House.)

Storage

	existing	required	comments
size	245 sf @ stair 366 sf main 119 sf 83 sf 34 sf	tbd	All spaces at stage level.
# staff			
location	2nd floor		
furnishings			
adjacencies			

Attic
Attic is used for some storage of doors, windows, etc. items not necessarily belonging to this building. Front room has shelves and boxes of books. Items such as Public Documents Massachusetts 1862-1902

Other

Town Boards
Misc. Town boards such as Planning (3 file cabinets, 2 flat files), Parks (1 file cabinet), Selectmen, Cultural Council, Water & Sewer need file space and space to meet in and have storage. Meeting space to seat 8-10 people serves most needs.

Cultural Council – 2 file cabinet
Many of these meet at night, so separate entrance would be good.
Auditors also need a space. Currently use auditorium.

Storage
There are lots of storage boxes scattered throughout the building, particularly in the basement. There is no archiving or storage company. That might be considered, to remove some items from Town Hall.

Break Room
Currently staff food storage and preparation is in hallway outside town Administrator's office. People eat at their desks or in Selectman's Meeting Room. People eating at desks poses odor problems and is not appropriate where visible to the public. Desire is for staff break room for 5-6 people.
Town Administrator's office used to be break room.

Parking
Currently parking at rear of building is used for staff only. There are 18 spaces, none accessible.
If rear of building is to be used for public parking, the entrance will need to be made accessible.
Public currently parks on the street and enters the front of the building.
Parking for Town Hall an Issue – what is status of rear area?

Cable Company
This group used to be in Town Hall, occupying the former stage area at the 2nd floor. They relocated elsewhere, but are considering moving back if there is space for them.

Minimum requirements:
Studio - 20' x 20' room , ceiling as high as possible.
Control room - Small 10' x 10' room with large glass window into Studio room
Head end room - 10' x 10'
Offices – two 10' x 10' rooms
Editing and storage - Two 10' x 10' rooms

Recommendations

The next step will be to prepare a series of conceptual options based on the programming needs identified as part of this analysis. While the hope is that this can be done in a way that minimizes modifications to the building structure and materials, and also retains character-defining components of the original architecture, the town is interested in looking at options that best provide for the Town Hall for the long term.

Options will incorporate consideration of the following:

- Design for a civic building that has clear entry and circulation.
- Lay out overall building in a way that best serves Town Hall functions and is fully accessible.
- Provide transaction counters for the public that are easy to find and use.
- Group departments to allow for needed adjacencies. General Office, Treasurer, Accounting, and possibly Assessor to be located together.
- Include a meeting space that is suitable for meetings that are open to the public. Ideally this space could function when the rest of the building is closed.
- Include needed amenity spaces such as copy room, break room, small conference spaces.
- Provide for Council on Aging space and cable company if space allows.
- Provide for retail if space allows.

Hopedale Town Hall
Existing Structural Conditions
Hopedale, Massachusetts
January, 2013

Introduction:
The Hopedale Town Hall is a 15,000 ft^2, two-story, building being investigated for renovation to support current Town needs and address the aging condition of the building. The building was dedicated in 1887 and renovations have been limited to general upkeep and previously updating mechanical and electrical systems. This report will describe the general conditions of the existing structure, as well as establish structural guidelines, in accordance with the Massachusetts State Building Code that must be followed during a building renovation.

General:
This report presents the results of our Massachusetts State Building Code (MSBC) Structural review of the Hopedale Town Hall Building in Hopedale, Massachusetts. Our review has been completed in conformance with Chapter 34 of the Eighth Edition of the Massachusetts State Building Code, which became effective August 6, 2010 and the International Existing Building Code (IEBC), 2009 Edition.

Basis of the Report:
- This report is based on the visible observations during our site visit on January 3, 2013.
    - No existing Architectural or Structural Drawings were available.

Our observations of the existing building were limited to what was readily visible. We did not evaluate strengths of materials, remove finishes, or take measurements; therefore, we are unable to comment on structural capacities of existing members or systems. Additional investigation will be required after conceptual scope is determined to verify/determine general structural details required to complete the renovation work.

Building Description:
The building is a two-story, wood framed structure, with a basement and limited use attic. Each floor has a 5,000 ft^2 footprint. The exterior walls of the building are granite with brownstone trim, backed up by unreinforced brick masonry bearing walls. The first and second floors are framed with rough sawn joists spanning between exterior masonry bearing walls, and intermediate posts and heavy timber girders, and interior unreinforced brick masonry bearing walls. The attic is framed with rough sawn lumber spanning between heavy timber beams that are hung from the roof structure. The roof is framed with heavy timber beams (queen post beam with steel rods) and rough sawn lumber. The interior and exterior structure of the building is in average condition with noticeable wear and aging. The main structural elements of the building include:

- Foundation:
    - Exterior basement walls are 24” mortared stone foundations.
    - Interior unreinforced brick masonry bearing walls are 12” (3 wythe) walls.
    - Footings unknown. Interior brick masonry wall footings appear to bear on stone, but could not be verified.
    - 2½”-3” newer concrete slab on grade over earlier slab or earth (1/3 basement area).
    - Rough concrete slab with trench covers and equipment pads (1/3 basement area).
    - Raised wood framing over floor (1/3 basement area).
- Exterior walls:

- Granite block exterior with brownstone trim.
- Unreinforced brick masonry bearing wall backup.
- Wood lintels at openings in unreinforced brick masonry walls.

- Floor Structure (Representative sizes):
  - Rough sawn joists (2"x11½" @ 12"-16" o.c.).
  - Wood board sub-floor.
  - 4"-5" diameter posts.
  - 8x12 wood girders.
  - Interior & exterior unreinforced brick masonry bearing walls.

- Roof Structure:
  - Heavy timber trusses with tension rod hangers to support attic floor.
  - Rough sawn lumber framing.
  - Board sheathing.

Existing Conditions:

General Exterior:
In general, the exterior walls of the building are granite and brownstone veneer backed up by unreinforced brick masonry (see Figure 1). The exterior walls bear on mortared stone foundation walls. The exterior stone veneer has been repointed and rebuilt at certain locations and requires regular maintenance. In general, the exterior veneer appears to be in good condition with minimal signs of settlement, but does require regular repointing and maintenance to limit water infiltration. There are several door openings that consist of stone lintels bearing on decorative cast iron posts. The cast iron requires regular maintenance and shows some signs of deterioration.

Figure 1: South Elevation

General Interior:
In general, the interior finishes of the building appear to be in average condition, but the structure is showing signs of ageing. The plaster ceilings throughout the building are cracked and in need of replacement. The plaster walls are in better condition, but there are several locations that require replacement or general upkeep. Most of the structure at the interior of the building is

covered with finishes, but at the few locations that were exposed to view, we noticed the wood framing was in generally good condition. In the basement area, we did notice several joist ends that were damaged by dry rot or insect damage (see Figure 2), typically near exterior walls where the wood was built into the brick masonry. These joists should be repaired during the renovation by either replacing the joist or sistering new members to the damaged member. Also, since the entire building appears to be built with the wood framing sitting on exterior masonry walls, it should be expected that additional damaged joist ends may be uncovered during renovation work.

Figure 2: First Floor Joist End Deterioration at Exterior Wall

Attic:

The attic is framed using the bottom chord of the three main roof trusses, as well as some additional interior framing. During our walk through, we noticed several items in the attic that should be corrected during the renovation. The first is the attic floor joist framing appears to have pulled away from the front gable wall by approximately 1½" (see Figure 3). The floor joists were installed in masonry pockets with a fire cut, and the fire cut is nearly fully exposed, leaving the joist bearing to a minimum. We would recommend installing a new ledger below the joists and re-connecting the floor to the exterior wall.

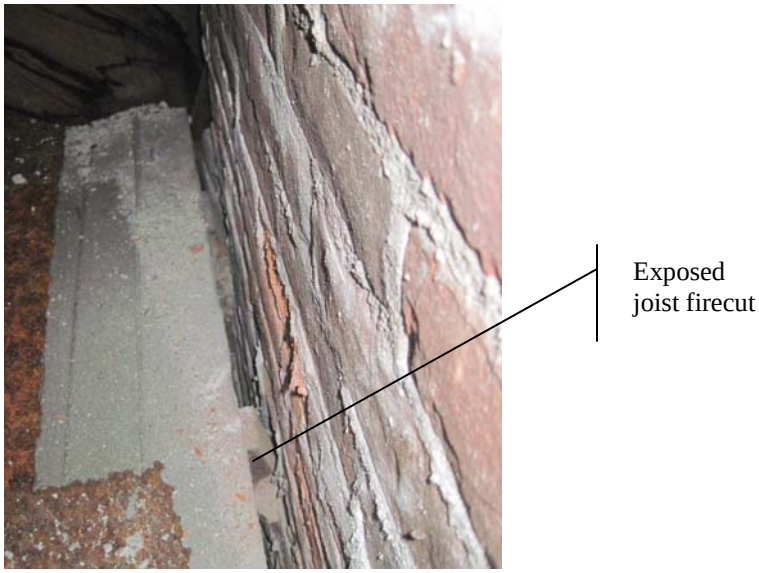


Figure 3: Attic Floor Joists at Front Gable Wall

At the front gable wall, the brick masonry backup extends to the underside of the sloped roof framing. The roof rafters have pulled away from the ridge and require repair work to reconnect the members. Also, there are no noticeable connections from the wood framing to the masonry wall (see Figure 4). It appears that the wood framing was built onto the masonry. In order to conform to IEBC renovation requirements, the attic floor and gable wall will need to be adequately connected to the exterior masonry walls to reduce seismic hazards of the building. We would also recommend bracing the tops of the trusses since they appear to have moved laterally over time due to wood creep and lack of bracing to a proper diaphragm.

Figure 4: Ridge at Gable Wall

Building Code Review- Structural:

This review presents our interpretation of the structural requirements of the International Existing Building Code, as modified by the Massachusetts State Building Code. In general, the provisions of The International Existing Building Code are intended to maintain or increase public safety, health, and general welfare in existing buildings by permitting repair, alteration, addition, and/or change of use without requiring full compliance with the code for new construction except where otherwise specified.

Assumptions:
In order to review the requirements of the Building Code for a renovation to the Hopedale Town Hall, the scope of the project must be defined. For this review we are assuming that a Renovation would include:

- Complete renovation to interior finishes (Painting, flooring, wall finishes, etc.).
- New mechanical systems throughout building.
- Create new openings through existing partitions.
- Partial re-roofing.
- Install new elevator.

Building Codes:

- Massachusetts State Building Code, 8th Edition.
- International Building Code, 2009 Edition (IBC).
- International Existing Building Code, 2009 Edition (IEBC).

Classification of Work: Level 3 (IEBC Section 405) Work area will exceed 50% of the aggregate area of the building.

Structural Requirements associate with Level 3 Work:

Level 3 Work is the highest level of Alteration and the Work must conform to the Structural requirements of Levels 1, 2, & 3.

Level 1 Structural Requirements:

606.2 Addition or replacement of roofing or replacement of equipment: Where addition or replacement of equipment results in additional dead loads, structural components supporting such reroofing or equipment shall comply with the gravity load requirements of the International Building Code.

- It is our understanding that the roofing will be partially replaced. If roof finishes are replaced, there are several exceptions that are permitted by the IEBC. One exception is “Structural elements where the additional dead load from roofing or equipment does not increase the force in the element by more than 5 percent.” We would advise that any re-roofing work be done without increasing the dead load of the existing structural members.

606.2.1 Wall anchors for concrete and masonry buildings: Where a permit is issued for reroofing more than 25 percent of the roof area of a building assigned to Seismic Design Category B, C, D, E or F with a structural system consisting of concrete or reinforced masonry walls with a flexible roof diaphragm or unreinforced masonry walls with any type of roof diaphragms, the work shall include installation of wall anchors at the roof line to resist the reduced International Building Code level seismic forces as specified in the IEBC.

- The existing walls throughout the building are unreinforced masonry walls and will need to conform to the requirements of this section. Based on our review, exterior walls appear to be built up to, or around, but not structurally attached to the wood framing at the floor and attic level. Also, the roof sheathing boards to not conform to building code diaphragm requirements. We would advise that re-roofing would include installing a plywood diaphragm at the work areas and then connecting the diaphragm to the masonry walls.

606.3.1 Bracing for unreinforced masonry bearing wall parapets: Where a permit is issued for reroofing for more than 25 percent of the roof area of a building that is assigned to Seismic Design Category B, C, D, E or F that has parapets constructed of unreinforced masonry, the work shall include the installation of parapet bracing to resist the reduced International Building Code seismic forces specified.

- Work area may exceed 25 percent of the roof area and parapets will need to be investigated to determine the height/width ratios. The only noticeable parapet was at the front gable wall and the height/width appeared to be near the limit of 2.5:1.

606.3.2 Roof diaphragms resisting wind loads in high wind regions: Where roofing materials are removed from more than 50 percent of the roof diaphragm of a building or section of a building located where the basic wind speed is greater than 90 mph or in a special wind region, as defined in Section 1609 of the International Building Code, roof diaphragms and connections that are part of the main wind-force resisting system shall be evaluated for the wind loads specified in the International Building Code, including wind uplift. If the diaphragms and connections in their current condition do not comply with these wind provisions, they shall be replaced or strengthened in accordance with the loads specified in the International Building Code.

- Roof diaphragm connections would need to be reviewed as part of the re-roofing work since the design wind load in Hopedale is 100 mph.

Level 2 Structural Requirements:

707.2 New structural elements: New structural elements in alterations, including connections and anchorage, shall comply with the International Building Code (IBC).

- New structural elements will comply with the IBC.

707.3 Minimum design loads: The minimum design loads on existing elements of a structure that do not support additional loads as a result of an alteration shall be the loads applicable at the time the building was constructed.

- Existing design loads are similar to current design loads. Live loads at floors and roof should remain mostly unchanged.

707.4 Existing structural elements carrying gravity loads: Alterations shall not reduce the capacity of the existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the International Building Code. Exceptions include structural elements whose stress is not increased by more than 5 percent.

- Design loads will be reviewed, but should remain unchanged at the existing structure.

707.5 Existing structural elements resisting lateral loads: Any existing lateral load-resisting structural element whose demand-capacity ratio with the alteration considered is more than 10 percent greater that its demand-capacity ratio with the alteration ignored shall comply with the structural requirements specified in Section 807.4.

- The existing unreinforced concrete masonry walls provide lateral support for the building. Modifications to the existing building that alter wall locations, or details, will most likely increase the demand capacity of the walls by more than 10%. These alterations will require an analysis and most likely new structural elements to resist the Code mandated loads. We recommend limiting structural alterations to minor reconfiguration items to avoid increasing the demand capacity by more than 10% to any element and thusly requiring a full seismic retrofit of the structure.

707.6 Voluntary improvement of the seismic force-resisting system: Alterations to existing structural elements or addition of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, providing that an engineering analysis is submitted demonstrating the following:

  - The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
  - New structural elements are detailed and connected to the existing structural elements as required by Chapter 16 of the International Building Code.
  - New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by Chapter 16 of the International Building Code.
  - The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severs.
- Improvement options should be presented to the Owner as part of any renovation since there is no dedicated seismic force resisting system and current floor framing does not consist of an adequate diaphragm. At a minimum, we would recommend replacing the wood flooring with a plywood diaphragm, where feasible, and connecting the floor diaphragms to the exterior unreinforced masonry walls.

Level 3 Structural Requirements:

807.2 New structural elements: New structural elements shall comply with Section 707.2.

- New structural elements will comply with the IBC, per 707.2.

807.3 Existing structural elements carrying gravity loads: Existing structural elements carrying gravity loads shall comply with 707.4.

- Design loads will be reviewed, but should remain unchanged at the existing structure.

807.4 Structural alterations: All structural elements of the lateral-force-resisting system undergoing Level 3 structural alterations or buildings undergoing Level 2 alterations as triggered by Section 707.5 shall comply with this section.

- Alterations to the building structure will be reviewed for conformance to this section. If the building undergoes a renovation that includes demolition and modification of the existing structure, the building will need to be analyzed to support the code mandated loads. Due to the age and lack of existing lateral-force-resisting system, we recommend not altering the structure.

807.4.1 Evaluation and analysis: An engineering evaluation and analysis that establishes the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the code official.

- Renovation to the interior finishes and systems is acceptable without a detailed analysis, but if interior partitions or portions of the building are subject to demolition, an analysis will need to be completed. It should be understood that the existing lateral force resisting system was not designed or detailed In accordance with the current seismic code in mind. Any substantial renovation will likely require a new seismic system (ie. Steel bracing, reinforced CMU shear walls, etc.), and will most likely not be feasible.

807.4.2 Substantial structural alteration: Where more than 30 percent of the total floor area and roof areas of the building or structure have been or are proposed to be involved in structural alterations within a 12-month period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the International Building Code for wind loading and with the reduced International Building Code level seismic forces as specified in Section 101.5.4.2 for seismic loading. For seismic considerations, the analysis shall be based on one of the procedures specified in Section 101.5.4. The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

- Substantial structural alterations are unlikely, but if more than 30 percent of the total floor and roof areas undergo structural alterations, the building will need to be reviewed with reduced IBC level seismic loads.

807.4.3 Limited structural alteration: Where not more than 30 percent of the total floor and roof areas of the building are involved in structural alteration within a 12-month period, the evaluation and analysis shall demonstrate that the altered building or structure complies with the loads applicable at the time of the original construction or of the most recent substantial structural alteration as defined by Section 807.4.2. Any existing structural element whose demand-capacity ratio with the alteration considered is more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall comply with the reduced International Building Code level seismic forces as specified in Section 101.5.4.2. For the purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with sections 1609 and 1613 of the International Building Code with Massachusetts Amendments. For purposes of this section, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

Stage & Elevator Work:

In addition to the IEBC required work, the renovation may include removing the existing second floor stage and installing a new elevator within the building. Based on our site visit, the second floor appears to continue below the stage with the stage being over-framed, so removal of the stage should not trigger a full seismic review of the building. If this is accurate, the stage could be removed and the existing framing could support the proposed office loads. We would recommend investigating the second floor framing, from below, to verify that the framing sizes and details are adequate to support the proposed loads during schematic design. If the framing is adequate, we would also recommend removing any hardwood flooring and installing new plywood over the original framing to provide a diaphragm for the entire second floor. Also, we would recommend extending interior partitions up to the underside of the attic level to provide additional lateral load resistance to the attic/roof level.

It is our understanding that the elevator will be self-supporting and extend from the basement to the second floor. The elevator should be located to avoid existing bearing walls and structural features. We would recommend installing a new concrete elevator pit and a reinforced CMU shaft. The elevator shaft should be designed to be self-supporting and be able to support local

floor loads at the first and second floor, as well as the attic. Since the elevator foundation will need to resist both gravity and lateral loads, the existing soils will need to be investigated by a Geotechnical Engineer to verify that the existing new loads can be properly supported.

Conclusions and Recommendations:

The purpose of this report is to identify any structural deficiencies and liabilities that will need to be addressed during any substantial renovation. The report is based on the premise that the existing building will remain in use as town offices, and room live loads will not change and the attic will remain unused. We have reviewed the existing Hopedale Town Hall in accordance to Chapter 34 of the Massachusetts State Building Code, Eighth Edition and the International Existing Building Code, 2009 Edition. We have reviewed the general conditions of the building, as well as the structural modifications that will need to be addressed as part of the renovation to increase the public safety of the building. This report, in its entirety, shall be used as the basis for the renovation. The following items are meant to highlight conditions or deficiencies noted in the report, but do not limit the work required.

General Information:

- Existing building area is 15,000 ft^2 with a 5,000 ft2 limited use attic space.
- The proposed renovation will not change the footprint of the building and will be limited to updating mechanical systems, electrical systems, and reconfiguration of interior spaces.
- Structural modifications will be limited to reframing stair openings and relocating doors through masonry bearing walls.
- A new elevator pit and shaft will be installed within the building footprint.
- Any structural work associated with the renovation shall conform to the International Existing Building Code, as amended by the Massachusetts State Building Code, and specifically any additional requirements for Level 3 work.

Structural Requirements and Recommendations:

- Geotechnical exploration will be required for any new construction, as well as any structural foundation work to the existing building.
- Roof snow loads:
    - Original: unknown.
    - Renovation: 42 psf plus drift caused by any additions or new roof elements.

- Wood framing at exterior walls should be reviewed for damage and replaced or repaired during the renovation. In the basement, approximately 5% of the joists were damaged and should be repaired. Conditions for other areas are unknown due to finishes.
- Unreinforced masonry partitions (interior) are built-up to the underside, or around the framing, but are not appear to be adequately connected to the floors or roof to resist seismic loads. We recommend remedial action be taken during the construction phase to install new anchors and diaphragms at the floor and attic levels to secure the masonry walls to the floors for in- and out-of-plane loads required by the Building Code.
- Floor boards at the floors and attic do not provide adequate diaphragm action and should be reviewed while planning for the renovation. We would recommend removing the floor finishes and wood flooring to expose the wood decking members and installing a plywood diaphragm over the existing framing. The new plywood could serve as the floor underlayment. This may not be fully required by the building code, depending on the scope and design decisions, but at a minimum it would be a voluntary seismic improvement to the existing structure to tie the floors and walls together.

- Attic floor joists at front gable have pulled away from exterior masonry wall and must be supported and connected to the exterior wall. A new ledger attached to the masonry wall and wood framing will need to be installed.
- Front gable wall is unreinforced masonry that extends to the ridge and does not appear to be adequately connected to the roof framing. Connections and additional framing to secure the ridge at the gable wall must be installed.
- The end of one roof truss appears to have shifted laterally a couple of inches over the years. We would recommend blocking the ends of the trusses to each other and also blocking the roof trusses to the roof diaphragm to arrest any movement.
- At the new elevator, we would recommend installing a reinforced CMU shaft and concrete pit that can support the gravity loads of the elevator and local floors that will need to be cut. Also, the elevator should be self-supporting for seismic loads.

Based on our review of the existing conditions, as well reviewing Chapter 34 of the Massachusetts State Building Code, it is our professional opinion that the existing building is capable of being renovated and reused as a Town Hall. It should be understood the building is over 125 years old and the construction does not conform to the seismic detailing or intent of the current building code. We would also recommend repairing damaged structural members and performing the structural upgrades noted in this report to maintain the structure and increase the life safety of the building.

Christopher Tutlis, PE

Bolton & DiMartino, Inc.

consulting engineering services, inc.

Hopedale Town Hall
Hopedale, Massachusetts

January 18, 2013

Existing MEP Narrative

Introduction

The intent of this report is to describe the existing systems and discuss deficiencies and recommendations if the building it to undergo extensive renovations. We visited the site to review the existing HVAC, plumbing and electrical systems. Most of the system components and equipment are located in the basement and were visible. We also walked the upper floor and noted items that were visible without opening walls and ceilings.

The building serves mainly as the Town Hall. The basement has offices, toilet rooms and storage areas. The first floor has offices and also houses a café. The second floor has offices, conference rooms and a large meeting/auditorium space with a stage. The attic space serves as storage.

Heating and Ventilation System Description

The existing heating system for the building consists of a 2.35 million Btuh output low pressure steam boiler located in the utility building to the rear of the town hall. The boiler was installed in the 1970's and is at the end of its useful life. It is our understanding that it requires significant ongoing maintenance. The boiler was installed to replace the factory steam, and operates at a lower pressure than the factory steam. This reduces the capacity of the radiators in the building and is one reason the heating is inadequate at times.

The steam and condensate are piped underground through a conduit to the basement of the town hall. The steam main runs through the basement to vertical risers to the floors above. The piping is covered with what appears to be fiberglass pipe insulation. Steam radiators and baseboard are located throughout the building. There is piping in the closet of the Health Office that appears to be related to the steam and condensate system.

Figure 1 – Existing Boiler

Figure 2- Heating Valve

The heat for the entire building is controlled by a single thermostat operated control valve located in the basement. The thermostat is located in the Selectman's meeting room. It is our understanding that the north side of the building does not maintain proper temperature and has had an additional valve installed in an attempt to improve the condition, which has not been effective.

There is a condensate pump located in the Council on Aging Shop which is at the end of its useful life. Currently it is leaking steam and condensate.

The building has several window air conditioners for cooling. The Treasurers side has a DX fan coil unit located in the ceiling of the first floor with an outdoor condensing unit to provide cooling. It is our understanding that this is still functional.

The building does not have a ventilation system. Since the windows are operable, mechanical ventilation is not necessary for most spaces. The basement offices do not have windows and should have ventilation. Each bathroom has a ceiling exhaust fan controlled with the light switches.

The café has radiators for heat and through the wall air conditioners for cooling. The kitchen hood is served by a ceiling hung exhaust fan that discharges to a louver above the entry door. The louver is too close to the door and doesn't meet current code. It did not appear that there is any make up air provided which is required by current code. The fan vibration and noise is noticeable in the town accountant conference room.

Plumbing System Description

The main water service for the building is a 1" or 1-1/4" water service that enters from the front of the building in the basement. There is a water meter located in the server room. The water line extends to the next room and appears to be steel. Once it branches off the pipe appears to be copper.

There is an additional 1" water service that enters the east side of the basement and runs to a pressure gauge and serves a single sink in the basement. This service was used when the water department was located in the building and is no longer used.

The sanitary for the building discharges below the slab out the west (Depot Street) side of the building. The majority of the sanitary runs above the slab until it gets near the foundation wall. The invert of the sanitary pipe where it leave the building is unknown. The bathrooms located in the basement are built on platforms. It is possible that this was done because the sanitary pipe was not deep enough and the additional height was needed to discharge the sanitary by gravity. The piping is a mix of old and new with the majority of it being cast iron with lead and oakum joints. It appears that much of it is original to the building.

Figure 3 - Old & New Sanitary

It appears that most of the toilet rooms in the building have modern toilet fixtures that appear to be in reasonable to good repair.

There are two electric water heaters located in the basement. It is assumed that one serves the café and the other serves the town offices. One heater is 120 gallons and one is 80 gallons. We could not determine the age of the heaters, but one appears newer than the other. The heater appears to serve the café also has a water meter at the inlet.

Figure 4 - Water Heater 1

Figure 5 - Water Heater 2

There is a gas meter on the west (Depot Street) side of the building. It is assumed that the gas piping serves the café kitchen. There do not appear to be any other gas loads in the building. There also appears to be an additional capped gas service in the basement storage room adjacent to the server room.

Electrical System Description

The existing electrical service is a 400 amp, 120/240V, 1-phase service that enters below grade along the Southwest corner of the building and terminates to a 400 amp fused disconnect. Feeders in a 4" conduit are routed from the fused disconnect to a three socket meter array located in an electrical closet of the Health Department. The meter sockets power various electrical panels and disconnects.

Figure 6 - Service Disconnect

The town hall appears to be monitored by two meters. One meter is wired to a 200 amp main breaker 42 circuit panel and the other meter is wired to a 150 amp disconnect which powers an electrical panel on one of the upper floors. The third meter monitors the restaurant and is wired to a 200 amp main breaker panel.

The existing electrical equipment in general is a mix of "old" and "newer" equipment and all appear to be installed within the last 20 to 50 years. There are numerous electrical sub-panels throughout the building, which have been added over the years as they were needed. Several panels are missing hinged covers, some circuit breakers are not labeled, and circuit breaker plates have been removed exposing the busbars.

There are three electrical panels manufactured by Federal Pacific which are known to not function properly during an overload or fault condition. It is recommended that these panels be replaced. The remaining electrical equipment is in mediocre condition and will soon be beyond its useful life. If major renovations are to occur, it is recommend all electrical equipment be replaced.

The lighting is mostly fluorescent strip lights with T8 lamps. These are functional but outdated. Existing lighting is in fair condition – still operational, however, several fixtures are missing lenses or are in poor condition. There do not appear to be any automatic lighting controls such as occupancy sensors. Many rooms were unoccupied, but lights remained on.

The exit signs throughout do not appear to be functional. Exit signs are required to be illuminated at all times. Either power has been disconnected or the lamps have burnt out.

There does not appear to be any emergency lighting. An emergency battery bank is located in the basement but is very old and most likely not functional.

Branch circuit wiring throughout the building is a mix of old and new. In many areas of the basement, there are junction boxes without cover plates and wiring exiting conduit without properly being terminated in junction boxes. It's unknown if the said wiring is energized, but proper action should be taken for safety concerns.

The attic contains a substantial amount of knob-and-tube (K&T) wiring and still appears to be functional/energized. In some areas, the K&T wiring penetrates the attic floor, meaning it is most likely powering electrical devices on the floors below. For safety concerns, it is recommended to completely remove and replace the K&T wiring.

Figure 7 - Knob & Tube Wiring

The existing fire alarm system is a conventional audible 12-zoned system manufactured by Fire Control Instruments. The panel is located in the Northwest corner of the basement and is functional and in good condition. Horn/strobes, strobes, smoke detectors, and pull stations are located throughout the building. The system is monitored by the local fire department via a master box mounted adjacent to the fire alarm panel. There did not appear to be an annunciator panel by the main entrance.

Figure 8 - Fire Alarm Panel

Existing data and telephone systems needed for operation of the building as office space are active. A server is located in the basement and appears to be functional. In many areas, wiring is exposed and hanging from the ceiling. Where exposed, wiring should be installed in conduit or fished in the walls and/or ceilings.

Building security is comprised of a closed circuit television system with cameras and digital video recorder and appears to be functional and in fair condition.

System Deficiencies and Potential Upgrades

HVAC

The steam system including the boiler and piping are at the end of their useful life. Our recommendation would be to remove all existing radiators and piping and install a new system. The new system can be heating only or can integrate air conditioning as well. This will eliminate the need for the window air conditioners that currently exist. The new system will be more energy efficient, allow for zoning of different spaces and provide proper control for all areas of the building. Potential systems include variable refrigerant volume, rooftop VAV, and air handlers with hot water heating and DX cooling coils with air cooled condensing units.

If the café is to remain it should be upgraded. The current kitchen exhaust location does not comply with current code. We recommend installing a new kitchen hood exhaust duct to the roof and a new fan. This will prevent odors from entering the building and will eliminate the vibration from the existing fan that is noticeable in the 2nd floor conference room. In addition to the exhaust upgrade, a make up air unit is required. This can be a gas fired unit located on the roof and ducted to the space.

The café/retail space can be zoned separately from the adjacent spaces to allow the flexibility of keeping it as a separate space or having it be part of the Town Hall functions. With most HVAC systems it will be possible to have it on a separate air handler that can be metered separately if required.

The basement offices currently do not have ventilation. If the offices are to remain or other interior office spaces are added, ventilation will be needed to provide fresh air. The ventilation can be provided through fresh air connections to the air handlers or by a dedicated outdoor air system. The optimum system will depend on the layout of the spaces and the amount of ventilation required.

Plumbing

The existing sanitary system is old and should be replaced if extensive renovations are to be done. The existing sanitary discharge to Depot Street should also be replaced as it is believed to be original to the building. A new sanitary line can be installed at a depth that will allow all basement plumbing fixtures to drain by gravity without the need for raising the floor.

It is our understanding that there are storm connections to the sanitary system of the building either through downspouts or internal storm drains. These will have to be separated from the sanitary.

The existing water piping is old and likely has lead solder joints and should be replaced.

The age of the existing water heaters was not determined, but they did not appear to be new. It would be appropriate to replace the heaters if extensive renovations are done.

The age of the existing water service is unknown. It would be appropriate to replace this line if there is an extensive renovation. It is our understanding that the line from the water main in the street to the curb stop is fairly new. If the required size of the new water

service is small enough, it may be possible to bring it into the building by using the existing service as a sleeve to minimize the disruption required.

The café currently appears to have a water sub meter. If the space is to continue as separate from the Town Hall, the water can continue to be sub-metered. Another option may be to use the secondary water service to the building to serve this space.

The building gas service currently serves only the café. If the new building heating system requires gas, a second meter can be added outside to keep the service separate from the café. The gas company will have to confirm if the existing underground line is adequately sized.

Fire Protection

The building currently does not have a sprinkler system. We expect that the renovations will be extensive enough to require the building to be brought to current code, which will require a sprinkler system. The sprinkler will require a new 4" or 6" water service. It is assumed that the water pressure and flow available will be adequate to serve the system without the need for a fire pump, but a flow test will be required.

Electrical

The existing electrical equipment is near the end of its useful life and should be replaced if extensive renovations are to be done.

The existing electrical distribution equipment is located in two shallow closets of the Health Department. The electrical service enters along the Southwest corner of the building. Ideally, the equipment should be located in the same room or area as the service.

The existing 400amp electrical service may need to be replaced and upgraded if electrical loads are increased. The electrical service for a building of this size with updated HVAC, plumbing, lighting, and tel/data is typically 600-800A. A load calculation will determine the service size but cannot be performed until all electrical loads are finalized.

The existing lighting consists mainly of fluorescent strip lights utilizing T8 lamps. Although functional, the fixtures are outdated. Utility costs can be decreased by installing fixtures that utilize T5, compact fluorescent, and LED lamps. Exist signs are not functional. We recommend they be replaced with LED signs that utilize a battery for backup power.

A remote emergency battery bank located in the basement appears to have once provided emergency egress lighting. The battery bank is old and most likely no longer functional. New emergency lighting is required to be installed as per the building code. Emergency lighting can be achieved by remote battery heads, emergency ballast integral to the light fixture, or remote battery bank. We recommend any of the listed options as it is more of a preference based on aesthetics and cost. As a minimum, we recommend remote battery heads be installed regardless of any planned renovation.

The building does not utilize automatic lighting controls such as occupancy sensors. Lighting controls would further decrease utility costs by automatically turning lights off when rooms become unoccupied. If extensive renovations are to occur, automatic controls would be required throughout in order to conform to the latest code.

The attic contains a substantial amount of knob-and-tube (K&T) wiring, appears to still be functional/energized, and most likely powers other devices on the floors below. K&T wiring is an old and outdated method of powering electrical devices such as receptacles and light fixtures. K&T wiring utilizes only two conductors (hot and neutral)

where today's wiring utilizes 3 conductors (hot, neutral, and ground). Therefore, any device powered by K&T is not properly grounded and presents a shock and fire hazard. We recommend that the K&T wiring be replaced regardless of any planned renovation.

The fire alarm panel is a conventional audible zoned system and is in good working condition. If extensive renovations occur, we recommend a new intelligent addressable fire alarm system be installed. Addressable panels utilize intelligent devices that are more accurate and sensitive. They also provide faster detection and can precisely locate where a fire is occurring. The master box is located adjacent to the fire alarm panel and is an uncommon location. Typically, master boxes are located adjacent to the main entrance. If major renovations occur and the occupant load exceeds 300 persons, the fire department may require the fire alarm system be upgraded to a voice/evacuation system.

The telephone and data system consists of old and new cable. In many areas, telephone and data cables have been surface mounted to the walls and baseboards which is typical in a building of this age. In a few areas data cables are hanging from the ceilings. New CAT6 data cable with high transfer rates is available, but optional. CAT6 cable allows data to be transferred from computer to computer or server in a much shorter period of time. In order to fully utilize CAT6 cable, new Gigabit rated plugs, jacks, routers, and switches would need to be installed.

Additional building security consisting of a security panel, door contacts, motion sensors, glass break sensors, keypads, card access control can be added but is optional. The system can also be monitored by a central monitoring agency. They would provide 24hr monitoring service and can contact the police department directly if a break-in occurs.

REPORT
FOR
HAZARDOUS MATERIALS DETERMINATION
SURVEY
AT THE
HOPEDALE TOWN HALL
HOPEDALE, MASSACHUSETTS

PROJECT NO: 213 010.00

Survey Dates:
December 21, 2012
January 3 & 9, 2013

SURVEY CONDUCTED BY:

UNIVERSAL ENVIRONMENTAL CONSULTANTS
12 BREWSTER ROAD
FRAMINGHAM, MA 01702

UEC universal environmental consultants

January 10, 2013

Ms. Deborah Robinson
BH+A
300 A Street
Boston, MA 02210

Reference: **Hazardous Materials Determination Survey**
Hopedale Town Hall

Dear Ms. Robinson:

Thank you for the opportunity for Universal Environmental Consultants (UEC) to provide professional services.

Enclosed please find the report for hazardous materials determination survey at the Hopedale Town Hall, Hopedale, MA.

Please do not hesitate to call should you have any questions.

Very truly yours,

Universal Environmental Consultants

Ammar M. Dieb
President

UEC:\213 010\REPORT.DOC

Enclosure

1.0 INTRODUCTION:

UEC has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including residential, commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of twenty years of experience.

As part of the proposed renovation and demolition project, UEC was contracted by BH+A to conduct the following services at the Hopedale Town Hall:

- Asbestos Containing Materials (ACM) Inspection;
- Lead Based Paint (LBP) Testing;
- Polychlorinated Biphenyls (PCB's) Caulking and Sealant Sampling.

The scope of work included the inspection of accessible ACM, collection of bulk samples from materials suspected to contain asbestos, determination of types of ACM found and cost estimates for remediation. Bulk samples analyses for asbestos were performed using the standard Polarized Light Microscopy (PLM) in accordance with the Environmental Protection Agency (EPA) standard.

Bulk samples were collected by an EPA accredited and a Massachusetts licensed asbestos inspector Mr. Jason Becotte (AI-034963) and analyzed by a Massachusetts licensed laboratory EMSL, Woburn, MA.

The scope of work also included the collection of bulk samples from painted surfaces suspected to contain LBP. The samples were analyzed by a Massachusetts licensed laboratory EMSL, Cinnaminson, NJ in accordance with Flame AAS (SW-846 305-B/7000B) method.

PCB's bulk samples were analyzed by a Massachusetts licensed laboratory EMSL, Cinnaminson, NJ in accordance with EPA 3540C/8082 method.

Samples results are attached.

2.0 FINDINGS:

ASBESTOS CONTAINING MATERIALS:

The regulations for asbestos inspection are based on representative sampling. It would be impractical and costly to sample all materials in all areas. Therefore, representative samples of each homogenous area were collected and analyzed or assumed.

All suspect materials were grouped into homogenous areas. By definition a homogenous area is one in which the materials are evenly mixed and similar in appearance and texture throughout. A homogeneous area shall be determined to contain asbestos based on findings that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent in accordance with EPA regulations.

All suspect materials that contain any amount of asbestos must be considered asbestos if it is scheduled to be disturbed per the requirements of the Department of Environmental Protection (DEP) regulations.

No additional suspect and accessible ACM were found during this survey. However, hidden ACM may be found during demolition activities.

Samples Collected and Analyzed

December 21, 2012

Six (6) bulk samples were collected from the following materials suspected of containing asbestos:

Location/ Type of Material

1. Window framing caulking
2. Door framing caulking
3. Window glazing caulking
4. Window glazing caulking
5. Window framing caulking
6. Door framing caulking

Sample Results

Location/ Type of Material	**Sample Result**
1. Window framing caulking	5% Asbestos
2. Door framing caulking	No Asbestos Detected
3. Window glazing caulking	No Asbestos Detected
4. Window glazing caulking	No Asbestos Detected
5. Window framing caulking	No Asbestos Detected
6. Door framing caulking	No Asbestos Detected

January 3, 2013

Forty three (43) bulk samples were collected from the following materials suspected of containing asbestos:

Location/ Type of Material

1. Carpet glue at auditorium
2. Floor leveler at stairwell
3. Black mastic at stairwell
4. Green flooring at second floor hallway
5. Black mastic for green flooring at second floor hallway
6. Tan 12”x 12” vinyl floor tile at stairwell
7. Tan 12”x 12” vinyl floor tile at first floor hallway
8. Black mastic for tan 12”x 12” vinyl floor tile at first floor hallway
9. White 12”x 12” vinyl floor tile at meeting room
10. Tan 12”x 12” vinyl floor tile at basement hallway
11. Black mastic for tan 12”x 12” vinyl floor tile at basement hallway
12. Tan 12”x 12” vinyl floor tile at second floor hallway
13. Black mastic for tan 12”x 12” vinyl floor tile at second floor hallway
14. 9”x 9” Vinyl floor tile at first floor hallway
15. Black mastic for 9”x 9” vinyl floor tile at first floor hallway
16. 9”x 9” Vinyl floor tile at meeting room
17. Black mastic for 9”x 9” vinyl floor tile at meeting room
18. 9”x 9” Vinyl floor tile at first floor offices
19. Black mastic for 9”x 9” vinyl floor tile at first floor offices
20. 9”x 9” Vinyl floor tile at first floor offices
21. Black mastic for 9”x 9” vinyl floor tile at first floor offices
22. 9”x 9” Vinyl floor tile at first floor assessor’s office
23. Black mastic for 9”x 9” vinyl floor tile at first floor assessor’s office

24. Paper under hardwood floor at auditorium
25. Paper under hardwood floor at attic
26. Transite panel at stage
27. Brown 12”x 12” vinyl floor tile at stage entrance
28. Wall plaster at auditorium
29. Wall plaster at auditorium
30. Ceiling plaster at first floor offices
31. Ceiling plaster at first floor offices
32. Ceiling plaster at basement bathroom
33. 2’x 2’ Suspended acoustical ceiling tile at first floor offices
34. 2’x 2’ Suspended acoustical ceiling tile at basement hallway
35. Red wall paper at attic
36. Red wall paper at attic
37. Hard pipe joint insulation off fiberglass insulated pipe
38. Hard pipe joint insulation off fiberglass insulated pipe
39. Hard pipe joint insulation off fiberglass insulated pipe
40. Hard pipe joint insulation off fiberglass insulated pipe
41. Pipe insulation at basement
42. Pipe insulation at basement
43. Pipe insulation at assessor’s office

Sample Results

Location/ Type of Material	**Sample Result**
1. Carpet glue at auditorium	No Asbestos Detected
2. Floor leveler at stairwell	No Asbestos Detected
3. Black mastic at stairwell	No Asbestos Detected
4. Green flooring at second floor hallway	5% Asbestos
5. Black mastic for green flooring at second floor hallway	No Asbestos Detected
6. Tan 12”x 12” vinyl floor tile at stairwell	5% Asbestos
7. Tan 12”x 12” vinyl floor tile at first floor hallway	5% Asbestos
8. Black mastic for tan 12”x 12” vinyl floor tile at first floor hallway	No Asbestos Detected
9. White 12”x 12” vinyl floor tile at meeting room	5% Asbestos
10. Tan 12”x 12” vinyl floor tile at basement hallway	5% Asbestos
11. Black mastic for tan 12”x 12” vinyl floor tile at basement hallway	No Asbestos Detected
12. Tan 12”x 12” vinyl floor tile at second floor hallway	2% Asbestos
13. Black mastic for tan 12”x 12” vinyl floor tile at second floor hallway	No Asbestos Detected
14. 9”x 9” Vinyl floor tile at first floor hallway	5% Asbestos
15. Black mastic for 9”x 9” vinyl floor tile at first floor hallway	No Asbestos Detected
16. 9”x 9” Vinyl floor tile at meeting room	5% Asbestos
17. Black mastic for 9”x 9” vinyl floor tile at meeting room	No Asbestos Detected
18. 9”x 9” Vinyl floor tile at first floor offices	5% Asbestos
19. Black mastic for 9”x 9” vinyl floor tile at first floor offices	No Asbestos Detected
20. 9”x 9” Vinyl floor tile at first floor offices	5% Asbestos
21. Black mastic for 9”x 9” vinyl floor tile at first floor offices	No Asbestos Detected
22. 9”x 9” Vinyl floor tile at first floor assessor’s office	No Asbestos Detected
23. Black mastic for 9”x 9” vinyl floor tile at first floor assessor’s office	5% Asbestos
24. Paper under hardwood floor at auditorium	No Asbestos Detected
25. Paper under hardwood floor at attic	No Asbestos Detected
26. Transite panel at stage	20% Asbestos
27. Brown 12”x 12” vinyl floor tile at stage entrance	2% Asbestos
28. Wall plaster at auditorium	No Asbestos Detected
29. Wall plaster at auditorium	No Asbestos Detected
30. Ceiling plaster at first floor offices	No Asbestos Detected

31. Ceiling plaster at first floor offices	No Asbestos Detected
32. Ceiling plaster at basement bathroom	No Asbestos Detected
33. 2'x 2' Suspended acoustical ceiling tile at first floor offices	No Asbestos Detected
34. 2'x 2' Suspended acoustical ceiling tile at basement hallway	No Asbestos Detected
35. Red wall paper at attic	No Asbestos Detected
36. Red wall paper at attic	No Asbestos Detected
37. Hard pipe joint insulation off fiberglass insulated pipe	30% Asbestos
38. Hard pipe joint insulation off fiberglass insulated pipe	No Asbestos Detected
39. Hard pipe joint insulation off fiberglass insulated pipe	No Asbestos Detected
40. Hard pipe joint insulation off fiberglass insulated pipe	No Asbestos Detected
41. Pipe insulation at basement	10% Asbestos
42. Pipe insulation at basement	15% Asbestos
43. Pipe insulation at assessor's office	15% Asbestos

January 9, 2013

Six (6) bulk samples were collected from the following materials suspected of containing asbestos:

Location/ Type of Material

1. Brown paper under hardwood floor at first floor meeting room
2. Brown paper under hardwood floor at assessor's office
3. Brown paper under hardwood floor at second floor office
4. Brown paper under hardwood floor at second floor auditorium
5. Brown paper under hardwood floor at second floor auditorium
6. Brown paper under hardwood floor at second floor stage

Sample Results

Location/ Type of Material	**Sample Result**
1. Brown paper under hardwood floor at first floor meeting room	No Asbestos Detected
2. Brown paper under hardwood floor at assessor's office	No Asbestos Detected
3. Brown paper under hardwood floor at second floor office	No Asbestos Detected
4. Brown paper under hardwood floor at second floor auditorium	No Asbestos Detected
5. Brown paper under hardwood floor at second floor auditorium	No Asbestos Detected
6. Brown paper under hardwood floor at second floor stage	No Asbestos Detected

Observations and Conclusions

All ACM must be removed by a Massachusetts licensed asbestos abatement contractor under the supervision of a Massachusetts licensed project monitor prior to any renovation or demolition activities.

1. Window framing caulking was found to contain asbestos.
2. Various types of floor tiles and mastic were found to contain asbestos. The ACM was found at various locations. 12"x 12" Vinyl floor tiles are found on top of the 9"x 9" vinyl floor tiles.
3. Hard joint insulation off fiberglass insulated pipes was found to contain asbestos. The ACM was found at various locations.
4. Pipe insulation was found to contain asbestos. The ACM was found at various locations. The ACM was also found to enter a tunnel outside of building. Hidden ACM was also assumed to exist.
5. Transite panel was found to contain asbestos. The ACM was found at stage.
6. Brown paper under hardwood floors was found not to contain asbestos.
7. All remaining suspect materials were found not to contain asbestos.
8. Roofing and flashing material was assumed to contain asbestos. However, roofing material is not required to be removed by a licensed asbestos contractor prior to renovation or demolition.

LEAD BASED PAINT SURVEY:

A. Number of Samples Collected

Five (5) bulk samples were collected from the following materials suspected of containing LBP:

Location/ Type of Material

1. Wall paint at auditorium
2. Wall paint at basement
3. Wall paint at basement
4. Floor paint at basement
5. Wood trim paint at meeting room

B. Sample Results

Location/ Type of Material	Sample Result
1. Wall paint at auditorium	0.55%
2. Wall paint at basement	0.029%
3. Wall paint at basement	0.18%
4. Floor paint at basement	0.034%
5. Wood trim paint at meeting room	0.11%

Observations and Conclusion

LBP was found on various painted surfaces. A Town Hall is not considered a regulated facility therefore the Massachusetts Lead Law does not apply. All LBP activities performed, including waste disposal, should be in accordance with applicable Federal, State, or local laws, ordinances, codes or regulations governing evaluation and hazard reduction. In the event of discrepancies, the most protective requirements prevail. These requirements can be found in OSHA 29 CRF 1926-Construction Industry Standards, 29 CRF 1926.62-Construction Industry Lead Standards, 29 CRF 1910.1200-Hazards Communication, 40 CFR 261-EPA Regulations. According to OSHA, any amount of LBP triggers compliance.

PCB CAULKING AND SEALANT SAMPLING:

PCB's are manmade chemicals that were widely produced and distributed across the country from the 1950s to 1977 until the production of PCB's was banned by the US Environmental Protection Agency (EPA) law which became effective in 1978. PCB's are a class of chemicals made up of more than 200 different compounds. PCB's are non-flammable, stable, and good insulators so they were widely used in a variety of products including: electrical transformers and capacitors, cable and wire coverings, sealants and caulking, and household products such as television sets and fluorescent light fixtures. Because of their chemical properties, PCB's are not very soluble in water and they do not break down easily in the environment. PCB's also do not readily evaporate into air but tend to remain as solids or thick liquids. Even though PCB's have not been produced or used in the country for more than 30 years, they are still present in the environment in the air, soil, and water and in our food.

EPA requires that all construction waste including caulking be disposed as PCB's if PCB's level exceed 50 mg/kg (ppm).

A. Number of Samples Collected

Six (6) bulk samples were collected from the following.

1. Window framing caulking
2. Door framing caulking
3. Window glazing caulking

4. Window glazing caulking
5. Window framing caulking
6. Door framing caulking

B. Sample Results

Location/ Type of Material	Sample Result
1. Window framing caulking	No PCB's Detected
2. Door framing caulking	No PCB's Detected
3. Window glazing caulking	No PCB's Detected
4. Window glazing caulking	0.90 mg/kg
5. Window framing caulking	No PCB's Detected
6. Door framing caulking	No PCB's Detected

Observations and Conclusions
PCB's levels were mostly non-detected. One sample was found to be much lower than the EPA limit of 50 mg/kg. No further action is required.

3. COST ESTIMATES:

The cost includes removal and disposal of all accessible ACM and an allowance for removal of inaccessible or hidden ACM that may be found during the renovation project.

Location	Material	Approximate Quantity	Cost Estimate ($)
Basement	Pipe and Hard Joint Insulation	30 LF	1,500.00
	12"X 12" Vinyl Floor Tiles	220 SF	1,100.00
First Floor Assessor's Office	Pipe and Hard Joint Insulation	15 LF	750.00
Hidden Locations	Pipe and Hard Joint Insulation	Unknown	10,000.00
	Ceilings and Walls Demolition to Access ACM	Unknown	2,500.00
Tunnel	Pipe and Hard Joint Insulation	Unknown	10,000.00
First Floor	Multiple Layers of Flooring	3,300 SF	16,500.00
Second Floor Hallway	12"X 12" Vinyl Floor Tiles	220 SF	1,100.00
Throughout	HAZ MAT and Miscellaneous ACM	Unknown	2,500.00
Stage	Transite Panels	25 SF	500.00
Exterior	Windows	100 Total	15,000.00
Estimated Fees for Design, Construction Monitoring and Air Sampling Services			11,050.00
		Total:	**72,500.00**

4.0 DESCRIPTION OF SURVEY METHODS AND LABORATORY ANALYSES:

Asbestos:

Asbestos samples were collected using a method that prevents fiber release. Homogeneous sample areas were determined by criteria outlined in EPA document 560/5-85-030a.

Bulk material samples were analyzed using PLM and dispersion staining techniques with EPA method 600/M4-82-020.

Lead Based Paint:

Lead samples were analyzed using a dry weight basis in accordance with Flame AAS (SW-846 305-B/7000B) method.

Polychlorinated Biphenyls:

PCB's samples were analyzed in accordance with EPA 3540C/8082 method.

Inspected By:

Jason Becotte
Asbestos Inspector

5.0 LIMITATIONS AND CONDITIONS:

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.

131206167

131206167

universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
TOWN / CITY: Hopedale
WORK AREA: exterior windows
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM					X
Mold					
Other:					

@ 12/24/12

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	Caulk	window Frame					
2	Caulk	door Frame					
3	Glaze	window pane					
4	Glaze	window Pane					
5	Caulk	window Frame					
6	Caulk	door Frame					

SAMPLED BY: Jason Berndt 12-21-12	DATE/TIME:	RECEIVED BY:	RECEIVED DEC 24 2012 By SL 0830 DROP BOX		DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY:			DATE/TIME:

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131206167
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	12/24/12 8:30 AM
Analysis Date:	12/27/2012
Collected:	12/21/2012

Project: **Town Hall; Exterior Windows; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1 *131206167-0001*	Window Frame - Caulk	Red Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
2 *131206167-0002*	Door Frame - Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
3 *131206167-0003*	Window Pane - Glaze	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
4 *131206167-0004*	Window Pane - Glaze	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
5 *131206167-0005*	Window Frame - Caulk	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
6 *131206167-0006*	Door Frame - Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (6)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 12/27/2012 13:53:15

131300055

131300055

UEC universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
WORK AREA: Interior
TOWN / CITY: Hopedale
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM				X	
Mold					
Other:					

(SW) 1/4/13

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	carpet glue	auditerium					
2	Leveler	Stairwell 1→2					
3	Black mastic	Stairwell 1→2					
4	green flooring	2nd Floor hall					
5	Black mastic	" " "					
6	Tan 12"X12" VAT	Stairwell 1→2					
7	tan 12"X12" VAT	1st Floor hall					
8	Black mastic	" " "					
9	white 12"X12" VCT	meeting room					
10	Tan 12"X12" VAT	Basement Hall					
11	Black mastic	" "					
12	Tan 12"X12" VAT	2nd Floor hall					
13	Black mastic	" " "					
14	9"X9" VAT	1st Floor hall					
15	Black mastic	" " "					
16	9"X9" VAT	meeting room					
17	Black mastic	" "					
18	9"X9" VAT	1st fl. offices					
19	Black mastic	" " "					
20	9"X9" VAT	" " "					

SAMPLED BY: Jason Becotte 1-3-13	DATE/TIME:	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY:	DATE/TIME:

RECEIVED
JAN 04 2013
By SC 1350

131300055

131300055

UEC universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
WORK AREA: Interior
TOWN / CITY: Hopedale
STATE: MA

Analysis Type	Turnaround Time (x)				
	6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM				X	
Mold					
Other:					

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
21	Black mastic	1st Floor offices					
22	9"x9" VAT	Assessors office					
23	Black mastic	" "					
24	Paper under hardwood	auditorium					
25	" " "	Attic					
26	Transite panel	Stage					
27	Brown 12"x12" VCT	stage entrance					
28	wall plaster	auditerium					
29	" "	"					
30	ceiling plaster	1st fl. offices					
31	"	" "					
32	"	Basement Bathroom					
33	2'x2' SAT	1st fl. offices					
34	" "	Basement hall					
35	Red wall paper	attic					
36	" " "	"					
37	Hard pipe joint	on fiberglass Straight pipe					
38	"	"					
39	"	"					
40	"	"					

SAMPLED BY: Jason Beaute 1-3-13	DATE/TIME:	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY:	DATE/TIME:

RECEIVED
JAN 04 2013
By SL 1350

131300055

131300055

UEC universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
WORK AREA: Interior
TOWN / CITY: Hopedale
STATE: MA

Analysis Type	Turnaround Time (x)				
	6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM				X	
Mold					
Other:					

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
41	Pipe insulation	Basement					
42	" "	Basement					
43	" "	Assessors office					

SAMPLED BY: Jason Berotte 1-3-13 DATE/TIME:
RECEIVED BY: DATE/TIME:
RELINQUISHED BY: DATE/TIME:
RECEIVED IN LAB BY: DATE/TIME:

RECEIVED
JAN 04 2013
By JA 13:50

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300055
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1 *131300055-0001*	Auditorium - Carpet Glue	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
2 *131300055-0002*	Stairwell 1-2 - Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
3 *131300055-0003*	Stairwell 1-2 - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
4 *131300055-0004*	2nd Floor Hall - Green Flooring	Black/Green Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
5 *131300055-0005*	2nd Floor Hall - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
6 *131300055-0006*	Stairwell 1-2 - Tan 12x12 VAT	Tan Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
7 *131300055-0007*	1st Floor Hall - Tan 12x12 VAT	Tan Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
8 *131300055-0008*	1st Floor Hall - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300055
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
9 *131300055-0009*	Meeting Room - White 12x12 VAT	White Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
10 *131300055-0010*	Basement Hall - Tan 12x12 VAT	Tan Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
11 *131300055-0011*	Basement Hall - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
12 *131300055-0012*	2nd Floor Hall - Tan 12x12 VAT	Tan Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
13 *131300055-0013*	2nd Floor Hall - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
14 *131300055-0014*	1st Floor Hall - 9x9 VAT	Green Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
15 *131300055-0015*	1st Floor Hall - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
16 *131300055-0016*	Meeting Room - 9x9 VAT	Green Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**

Analyst(s)

Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

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Phone/Fax: (781) 933-8411 / (781) 933-8412
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EMSL Order:	131300055
CustomerID:	UEC63
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Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
17 *131300055-0017*	Meeting Room - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
18 *131300055-0018*	1st Fl Offices - 9x9 VAT	Gray Non-Fibrous Homogeneous		95% Non-fibrous (other)		**5% Chrysotile**
19 *131300055-0019*	1st Fl Offices - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
20 *131300055-0020*	1st Fl Offices - 9x9 VAT	Gray Non-Fibrous Homogeneous		95% Non-fibrous (other)		**5% Chrysotile**
21 *131300055-0021*	1st Fl Offices - Black Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
22 *131300055-0022*	Assessors Office - 9x9 VAT	Blue Non-Fibrous Homogeneous		100% Non-fibrous (other)		**None Detected**
23 *131300055-0023*	Assessors Office - Black Mastic	Brown Non-Fibrous Homogeneous		95% Non-fibrous (other)		**5% Chrysotile**
24 *131300055-0024*	Auditorium - Paper under Hardwood	Gray Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)		**None Detected**

Analyst(s)

Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

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Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300055
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
25 *131300055-0025*	Attic - Paper under Hardwood	Gray Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)		**None Detected**
26 *131300055-0026*	Stage - Transite Panel	White Fibrous Homogeneous			80%	Non-fibrous (other)	**20%**	**Chrysotile**
27 *131300055-0027*	Stage Entrance - Brown 12x12 VCT	Brown Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2%**	**Chrysotile**
28 *131300055-0028*	Auditorium - Wall Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
29 *131300055-0029*	Auditorium - Wall Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
30 *131300055-0030*	1st Fl Offices - Ceiling Plaster	White Non-Fibrous Homogeneous	5%	Hair	95%	Non-fibrous (other)		**None Detected**
31 *131300055-0031*	1st Fl Offices - Ceiling Plaster	White Non-Fibrous Homogeneous	5%	Hair	95%	Non-fibrous (other)		**None Detected**
32 *131300055-0032*	Basement Bathroom - Ceiling Plaster	White Non-Fibrous Homogeneous	5%	Hair	95%	Non-fibrous (other)		**None Detected**

Analyst(s)

Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300055
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
33 *131300055-0033*	1st Fl Offices - 2x2 SAT	Gray Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (other)	**None Detected**
34 *131300055-0034*	Basement Hall - 2x2 SAT	Gray Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (other)	**None Detected**
35 *131300055-0035*	Attic - Red Wall Paper	Red Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	**None Detected**
36 *131300055-0036*	Attic - Red Wall Paper	Red Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	**None Detected**
37 *131300055-0037*	On Fiberglass Straight Pipe - Hard Pipe Joint	Gray Fibrous Homogeneous		70% Non-fibrous (other)	**15% Chrysotile** **15% Amosite**
38 *131300055-0038*	On Fiberglass Straight Pipe - Hard Pipe Joint	Gray Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	**None Detected**
39 *131300055-0039*	On Fiberglass Straight Pipe - Hard Pipe Joint	Gray Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	**None Detected**
40 *131300055-0040*	On Fiberglass Straight Pipe - Hard Pipe Joint	Gray Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300055
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/04/13 1:50 PM
Analysis Date:	1/5/2013
Collected:	1/3/2013

Project: **Town Hall Interior; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
41 *131300055-0041*	Basement - Pipe Insulation	White Fibrous Homogeneous			90% Non-fibrous (other)	**10%**	**Amosite**
42 *131300055-0042*	Basement - Pipe Insulation	Tan Fibrous Homogeneous	15%	Min. Wool	70% Non-fibrous (other)	**15%**	**Chrysotile**
43 *131300055-0043*	Assessors Office - Pipe Insulation	White Fibrous Homogeneous			85% Non-fibrous (other)	**10%** **5%**	**Amosite** **Crocidolite**

Analyst(s)
Kevin Pine (43)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/05/2013 16:13:45

131300111

131300111

UEC universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
WORK AREA: Hardwood floors
TOWN / CITY: Hopedale
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM			X		
Mold					
Other:					

1/9/13 SA

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	Brown Paper	1st fl. meeting room					
2	"	1st fl. Assessors office					
3	"	2nd fl. office					
4	"	2nd fl. auditorium					
5	"	2nd fl. auditorium					
6	Brown Paper	2nd fl. stage					

SAMPLED BY: Jason Bewsee 1-9-13	DATE/TIME:	RECEIVED BY:		DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY:		DATE/TIME:

RECEIVED
JAN 09 2013
By JA 1525

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131300111
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/09/13 3:25 PM
Analysis Date:	1/10/2013
Collected:	1/9/2013

Project: **Town Hall Hardwood Floors; Hopedale, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
1 *131300111-0001*	1st Fl Meeting Room - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**
2 *131300111-0002*	1st Fl Assessor's Office - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**
3 *131300111-0003*	2nd Fl Office - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**
4 *131300111-0004*	2nd Fl Auditorium - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**
5 *131300111-0005*	2nd Fl Auditorium - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**
6 *131300111-0006*	2nd Fl Stage - Brown Paper	Gray Fibrous Homogeneous	90% 5%	Cellulose Synthetic	5% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (6)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 01/10/2013 09:51:47

201300099

20130099

UEC universal environmental consultants

12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
WORK AREA: Interior
TOWN / CITY: Hopedale
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM					
Mold					
Other:					

Specific Project Notes

Test for Lead
5 day turn around

1-7-13

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	wall paint	auditerium					
2	" "	Basement					
3	" "	Basement					
4	Floor paint	Basement					
5	wood trim	meeting room					

RECEIVED EMSL CINNAMINSON, NJ 2013 JAN -7 A 9:01

SAMPLED BY: Jason Becotte	DATE/TIME: 1-3-13	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY:	DATE/TIME:

RECEIVED JAN 04 2013 By SL 1350

1-7-13

walk-in

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.emsl.com cinnaminsonleadlab@emsl.com

EMSL Order:	201300099
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Ammar Dieb**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	01/07/13 9:01 AM
Collected:	

Project: **Town Hall-Interior; Hopedale, MA**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B*/7000B)

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
1	*0001*		1/8/2013	0.55 % wt
	Site: Auditorium Desc: Wall Paint			
2	*0002*		1/8/2013	0.029 % wt
	Site: Basement Desc: Wall Paint			
3	*0003*		1/8/2013	0.18 % wt
	Site: Basement Desc: Wall Paint			
4	*0004*		1/8/2013	0.034 % wt
	Site: Basement Desc: Floor Paint			
5	*0005*		1/8/2013	0.11 % wt
	Site: Meeting Room Desc: Wood Trim			

Julie Smith - Laboratory Director
NJ-NELAP Accredited:03036
or other approved signatory

Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. The QC data associated with these results included in this report meet the method QC requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. * slight modifications to methods applied. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10896, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 01/08/2013 13:25:09

011205779

011205779

UEC universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Town Hall
TOWN / CITY: Hopedale
WORK AREA: exterior windows
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM					
Mold					
Other:					

Specific Project Notes

Test for PCBs
5-day Turnaround

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	caulk	window frame					
2	caulk	door frame					
3	glaze	window pane					
4	glaze	window pane					
5	caulk	window frame					
6	caulk	door frame					

per Ammar - Proceed with samples in plastic bags at temp. received 12/27 -TA

SAMPLED BY: Jason Beuth 12-21-12 DATE/TIME:
RECEIVED BY: DATE/TIME:
RELINQUISHED BY: DATE/TIME:
RECEIVED IN LAB BY: DATE/TIME:

RECEIVED DEC 24 2012 By SL 0830

DROP BOX

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: jsmith@emsl.com

Attn: **Ammar Dieb**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Phone: (508) 628-5486
Fax: (508) 628-5488

1/4/2013

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/27/2012. The results are tabulated on the attached data pages for the following client designated project:

Town Hall Hopedale

The reference number for these samples is EMSL Order #011205779. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

Julie Smith - Laboratory Director

The test results contained within this report meet the requirements of NELAC and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10896, PA 68-00367

The PCB samples were received in plastic containers and outside the temperature requirement.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.emsl.com jsmith@emsl.com

EMSL Order: 011205779
CustomerID: UEC63
CustomerPO:
ProjectID:

Attn: **Ammar Dieb**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (508) 628-5486
Fax: (508) 628-5488
Received: 12/27/12 10:00 AM
Collected: 12/21/2012

Project: **Town Hall Hopedale**

Analytical Results

Client Sample Description 1 Window Frame ***Collected:*** 12/21/2012 ***Lab ID:*** *0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1221	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1232	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1242	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1248	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1254	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1260	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1262	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1268	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH

Client Sample Description 2 Door Frame ***Collected:*** 12/21/2012 ***Lab ID:*** *0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1221	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1232	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1242	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1248	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1254	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1260	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1262	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1268	ND	0.81	mg/Kg	12/31/2012	AB	1/2/2013	EH

Client Sample Description 3 Window Pane ***Collected:*** 12/21/2012 ***Lab ID:*** *0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1221	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1232	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1242	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1248	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1254	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1260	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1262	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1268	ND	0.50	mg/Kg	12/31/2012	AB	1/3/2013	EH

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.emsl.com jsmith@emsl.com

EMSL Order: 011205779
CustomerID: UEC63
CustomerPO:
ProjectID:

Attn: **Ammar Dieb**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (508) 628-5486
Fax: (508) 628-5488
Received: 12/27/12 10:00 AM
Collected: 12/21/2012

Project: **Town Hall Hopedale**

Analytical Results

Client Sample Description 4 Window Pane ***Collected:*** 12/21/2012 ***Lab ID:*** *0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1221	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1232	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1242	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1248	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1254	0.90	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1260	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1262	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH
3540C/8082A	Aroclor-1268	ND	0.51	mg/Kg	12/31/2012	AB	1/3/2013	EH

Client Sample Description 5 Window Frame ***Collected:*** 12/21/2012 ***Lab ID:*** *0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1221	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1232	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1242	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1248	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1254	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1260	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1262	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1268	ND	0.50	mg/Kg	12/31/2012	AB	1/2/2013	EH

Client Sample Description 6 Door Frame ***Collected:*** 12/21/2012 ***Lab ID:*** *0006*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1221	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1232	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1242	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1248	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1254	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1260	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1262	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH
3540C/8082A	Aroclor-1268	ND	0.83	mg/Kg	12/31/2012	AB	1/2/2013	EH

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.emsl.com jsmith@emsl.com

EMSL Order:	011205779
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Definitions:

ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit

EMSL Analytical Inc.

PESTICIDE/PCB ORGANICS ANALYSIS DATA SHEET

		Customer Sample#:	MB 1 4615 CU
Lab Name:	EMSL Analytical		
EMSL Sample ID:		**Project:**	
Lab File ID:	X23620.D	**Sample Matrix:**	Solid/Soil
Instrument ID:	ECD-X	**Sampling Date:**	12:00:00 AM
Analyst:	EH	**Date Extracted:**	12/31/2012
GC Column:	CLPest I (0.25 mm)	**Analysis Date**	1/2/2013 11:36:00 AM
GC Column 2:	CLPest II (0.25 mm)	**Sample wt/vol:**	10 G
% Moisture:	0	**Dilution Factor:**	1
PH:	0	**Concentrated Extract Vol:**	10 (mL)
GPC Cleanup(Y/N):	N	**Injection Volume:**	1 (ul)
Extraction Type:	3540C	**Sulfur Cleanup:**	N
Method:	SW846 8081/8082		

CAS NO	COMPOUND	Report Limit (mg/Kg)	CONC. (mg/Kg)	Q
12674-11-2	Aroclor 1016	0.050		U
11104-28-2	Aroclor 1221	0.050		U
11141-16-5	Aroclor 1232	0.050		U
53469-21-9	Aroclor 1242	0.050		U
12672-29-6	Aroclor 1248	0.050		U
11097-69-1	Aroclor 1254	0.050		U
11096-82-5	Aroclor 1260	0.050		U
37324-23-5	Aroclor 1262	0.050		U
11100-14-4	Aroclor 1268	0.050		U

Qualifier Definitions
U = Undetected
B = Compound detected in method blank
E = Estimated value
D = Dilution
P = Results between the two columns differ >40%

EMSL Analytical Inc.

SOLID/SOIL PESTICIDE/PCB LCS/QCS/ LFB RECOVERY

Lab Name: EMSL Analytical **Original** LCS 1 4615
File ID: X23620.D/X23621.D

*** : Values outside of**

	COMPOUND	CAS NO	LOW LIMIT	HIGH LIMIT	SPIKE ADDED mg/Kg	LCS CONC. mg/Kg	LCS REC%
1	Aroclor 1016	12674-11-2	58	123	1.50	1.44	96
2	Aroclor 1260	11096-82-5	63	131	1.50	1.51	101
				Total Out			0 of 2

EMSL Analytical Inc.

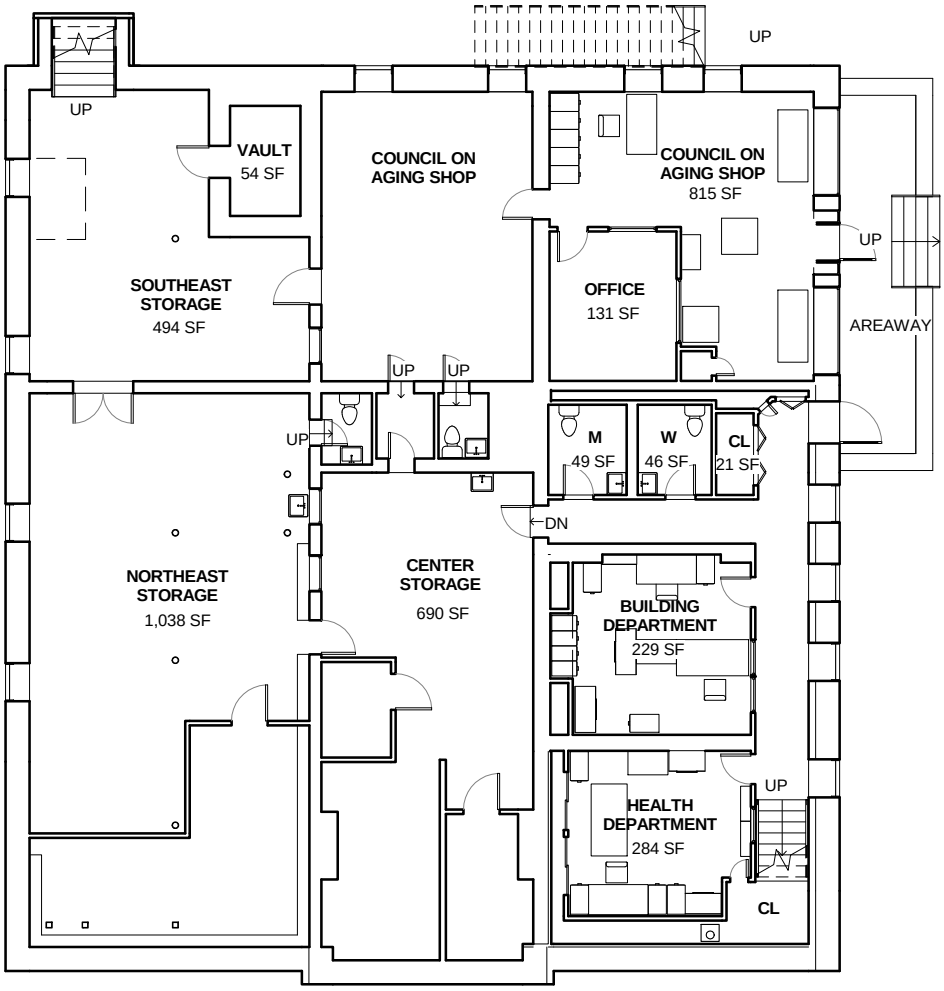
SOLID/SOIL PESTICIDE/PCB MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EMSL Analytical **Original File ID:** 5767-2 PCB MS 10X X23628.D/X23631.D/X23632.D

*** : Values outside of**

	COMPOUND	CAS NO	LOW LIMIT	HIGH LIMIT	RPD LIMIT	SAMPLE CONC.	MS SPIKE ADDED mg/Kg	MS CONC. mg/Kg	MS REC%	MSD SPIKE ADDED mg/Kg	MSD CONC. mg/Kg	MSD REC%	RPD %
1	Aroclor 1016	12674-11-2	12	164	25	0.00	2.45	2.68	109	2.46	2.69	109	0
2	Aroclor 1260	11096-82-5	43	167	25	0.00	2.45	2.46	100	2.46	2.45	99	1
				Total Out					0 of 2			0 of 2	0 of 2

HOPEDALE TOWN HALL



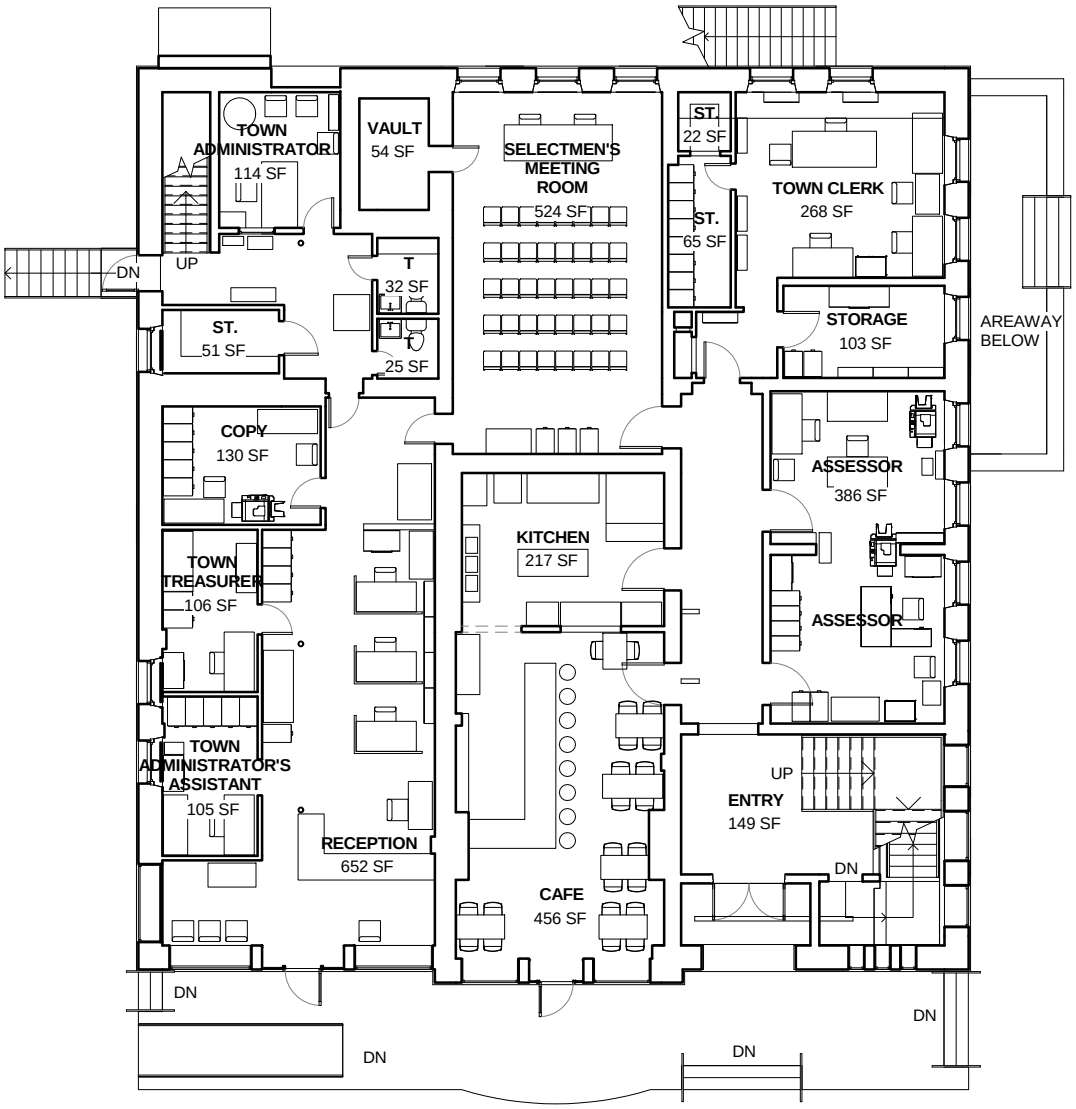
EXISTING BASEMENT FLOOR PLAN

D:\Revit\Hopedale Existing_ACali.rvt

bhla

0 8 16

HOPEDALE TOWN HALL



EXISTING FIRST FLOOR PLAN

D:\Revit\Hopedale Existing_ACali.rvt

bhla

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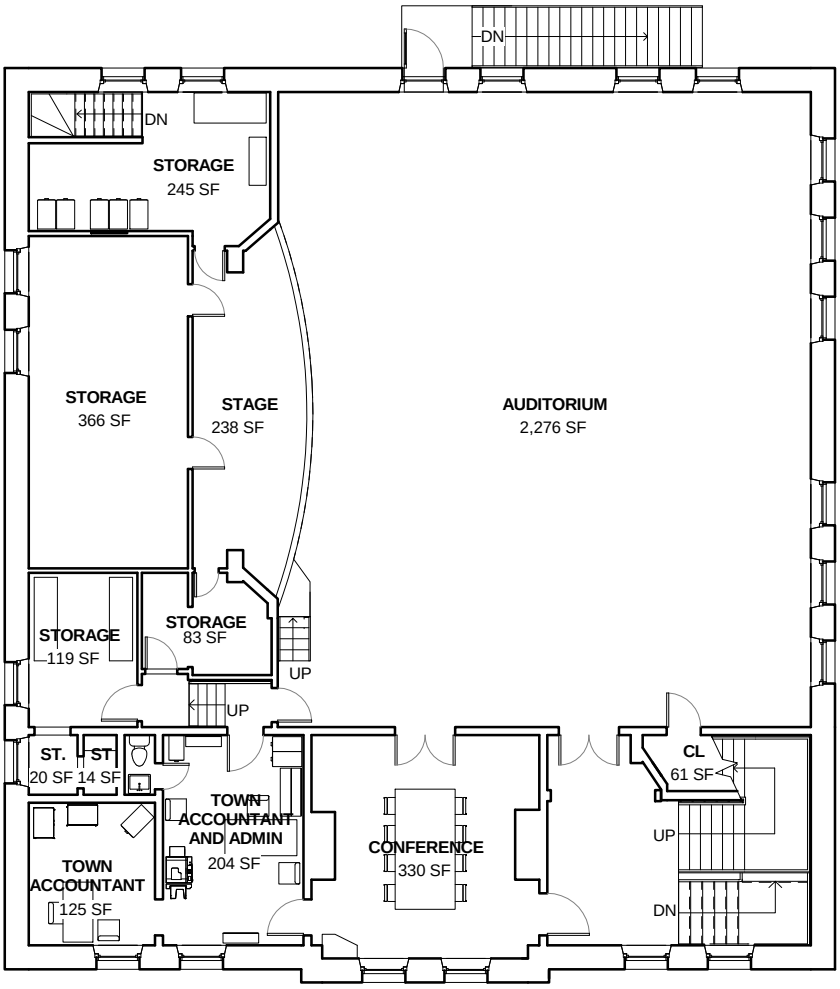
HOPEDALE TOWN HALL



EXISTING SECOND FLOOR PLAN

D:\Revit\Hopedale Existing_ACali.rvt

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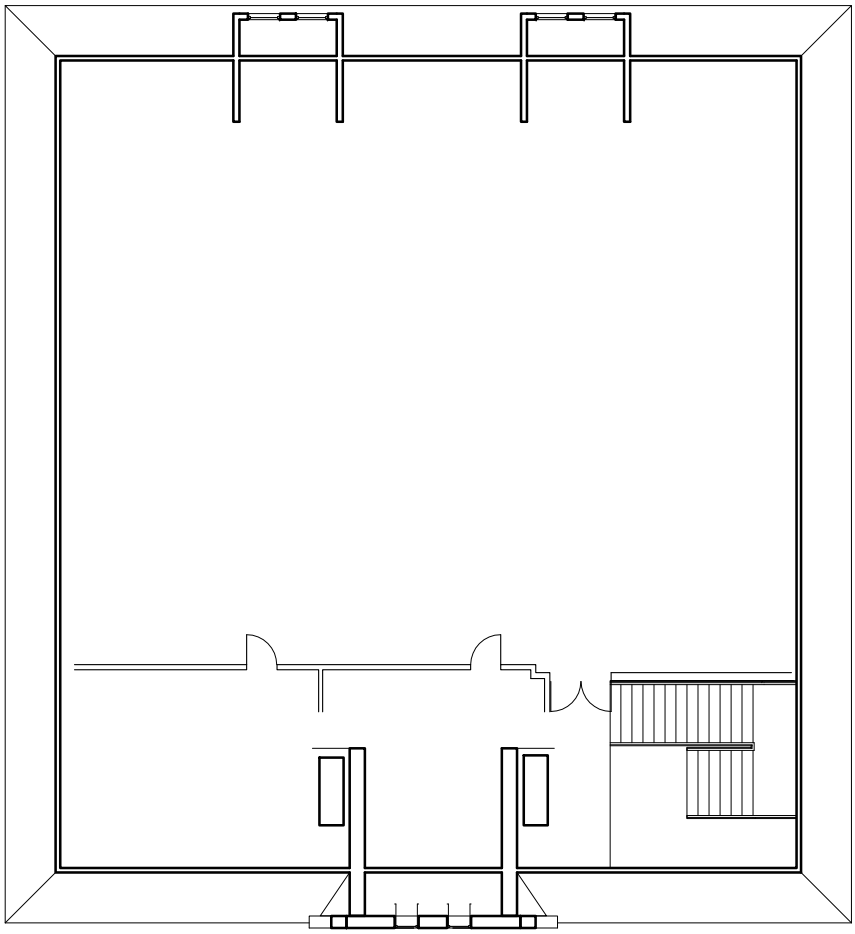
HOPEDALE TOWN HALL



EXISTING ATTIC FLOOR PLAN

D:\Revit\Hopedale Existing_ACali.rvt

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HOPEDALE TOWN HALL

EXISTING NORTH ELEVATION

EXISTING EAST ELEVATION

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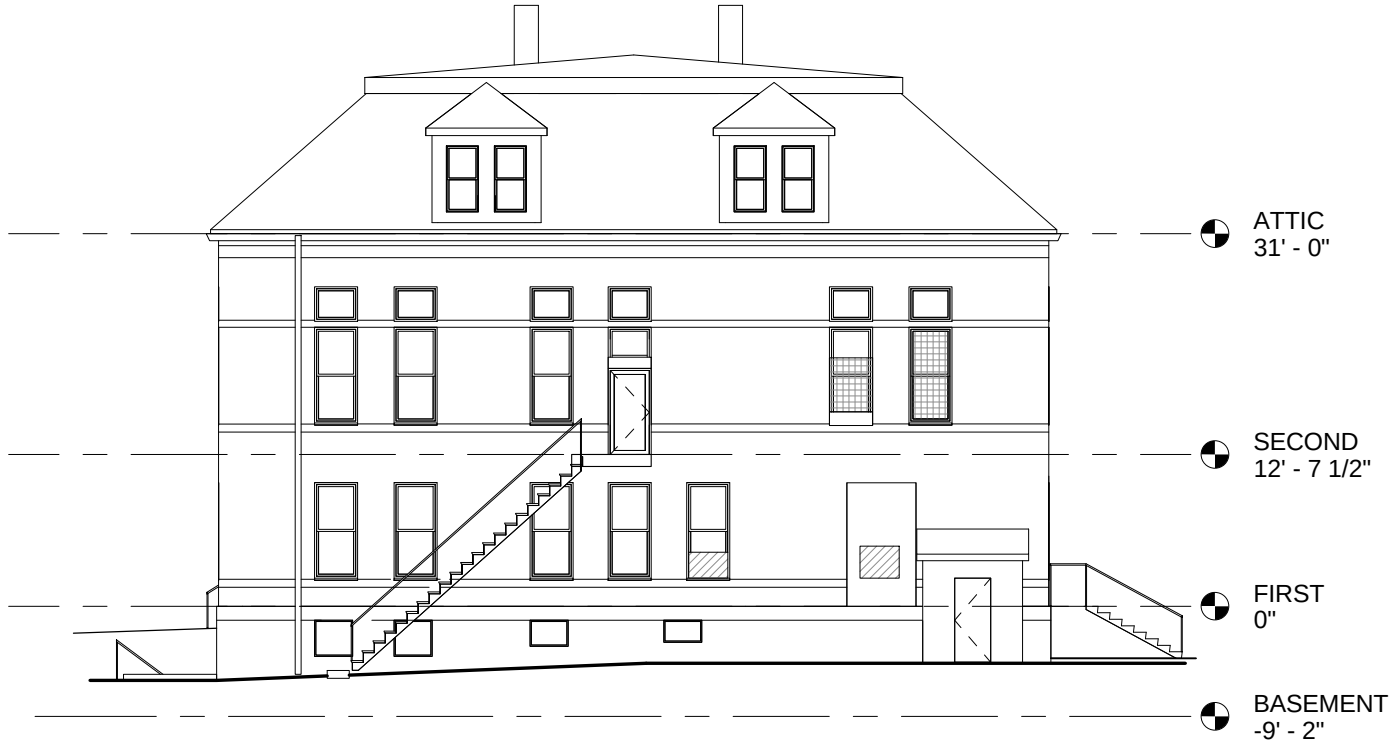
HOPEDALE TOWN HALL



EXISTING SOUTH ELEVATION

EXISTING WEST ELEVATION

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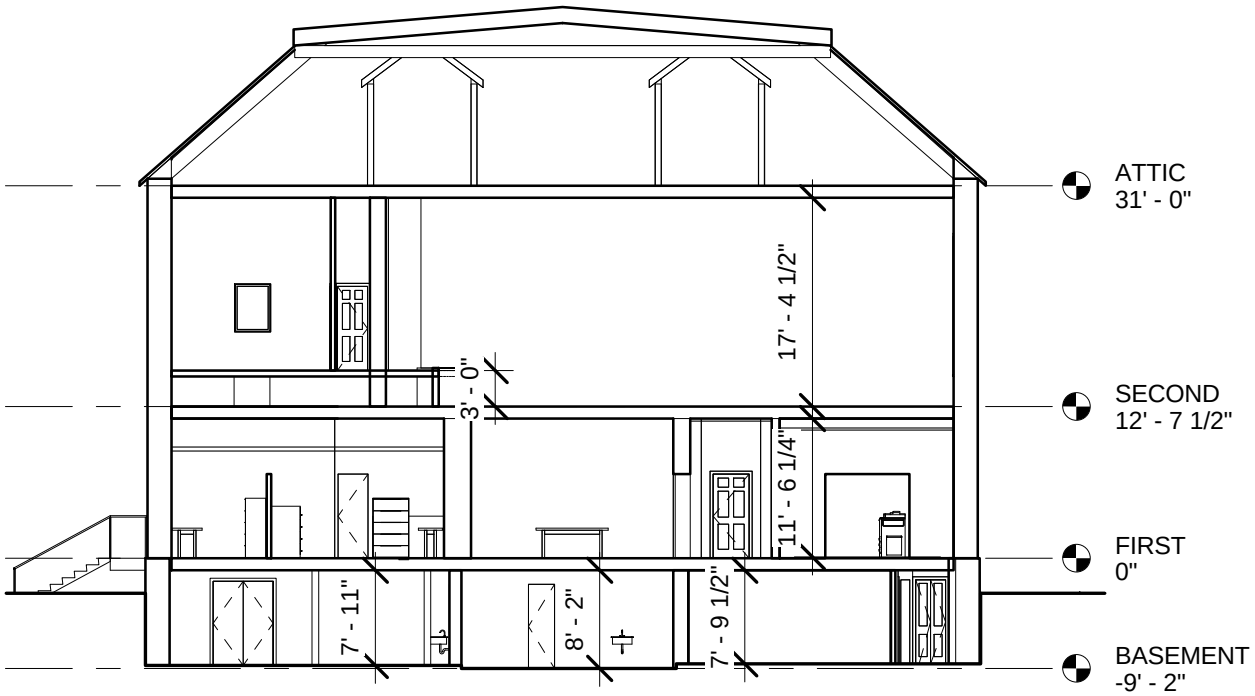
HOPEDALE TOWN HALL



EXISTING SECTION

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