North Kingstown Town Hall & Annex

Building Improvements Feasibility Study 2016

NK Town Hall
80 Boston Neck Road
North Kingstown, RI 02852

NK Town Hall Annex
55 Brown Street
North Kingstown, RI 02852

Prepared By:
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Feasibility Team

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1 Introduction

The charge of the North Kingstown Asset Management Commission was to look at the facilities to ensure that the proper physical environment exists to provide an environmentally and structurally safe facility.

Aharonian & Associates, Inc was awarded the bid to examine the facilities in July, 2016.

The facility examination will include a comprehensive physical review of the present conditions at the Town Hall and Annex. The physical assessment examined current conditions at the two Town buildings with respect to site analysis and a building evaluation for structure, mechanical and electrical services. To date, this part of the study is complete and is documented for review in this report.

The physical assessments of all the Architectural, Structural, Mechanical and Electrical have been integrated together to develop a spatial program and a series of conceptual options that would best respond to the future needs of the community. A preliminary cost analysis is also generated and attached to this report.

In February of 2016, reports on both the Town Hall and Town Hall Annex were completed by the firm Archtiectura, to which we have utilized in this report and have attached as separate appendices.

The following chapter's document data gathered and with this data we have drawn conclusions for physical options to be discussed by the town.

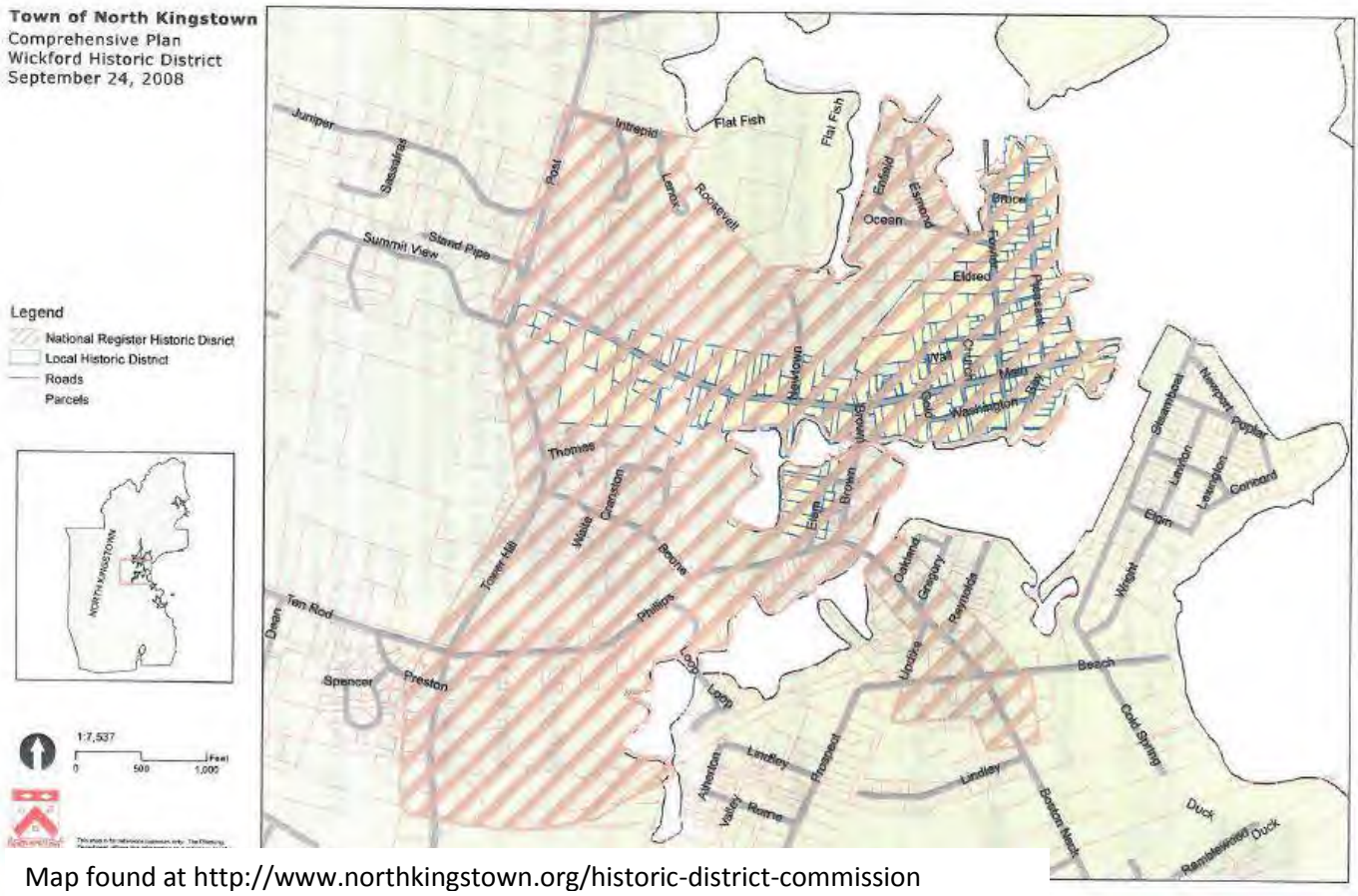
2 History

The Town of North Kingstown has a rich history that dates back to the 1600s, when North Kingstown was a part of "Kings Towne" which consisted of not only North Kingstown, but South Kingstown, Exeter and Narragansett as well. Incorporated in 1674, the old "Narragansett Country" was living peacefully until 1675 when the King Phillips War began between the Narragansett and Wampanoag People and the people of Connecticut, Plymouth and Massachusetts Bay Colonies. Following this conflict over the presiding land, Kings Towne continued to increase its size and infrastructure at such a fast pace that the government decided to divide the land in 1722 into North and South. North Kingstown's area included all of the areas from its earliest settlements, and was later divided again in 1742 to create Exeter from North Kingstown's western regions. Today North Kingstown is known for their 30 miles of coastline along Narragansett Bay.

The village of Wickford that is within North Kingstown, has a rich history that dates back with Kings Towne. Wickford's history includes a cattle-shipping period; a time when neighboring mills were dominant and the village echoed them with small textile operations, small forges and foundries, small jewelry businesses, small distilleries; through a rather thin time when the transfer from train to ferry all summer, and the short-term services to passengers, left long dull months for the rest of the year; then a period of Navy ascendance; small waves of immigration to outlying mills which still left the village rather Yankee; the disappearance of Friends Meeting and the appearance of a Christian Science Church; and the lining of much of the harbor with marines. Today, Wickford is a place where locals and tourists visit to enjoy the local history and walk the waterfront streets lined with local small business shopping attractions.

As a local landmark in Wickford village is North Kingstown's Town Hall. The building was built in 1888, a brick hipped roof Richardsonian structure with gabled center pavilion designed by William R. Walker. In 1970s there was an addition that was added to the original building that was not incorporated into the historical design of the main building and is deemed non-contributing per the RI Historical Preservation & Heritage Commission (RIHPHC). The RIHPHC holds a preservation easement on the Town Hall through the year 2032 as a result of a previous restoration grant that was awarded to the Town.

The Town Hall Annex, previously and historically known as the Wickford Free Library, was built in 1899. This is a white wood structure whose design was inspired by a classic Greek temple by Architect F. J. Sawtelle of Providence. During an 1899 dedication of the library, the structure was described as “altogether one of the most striking and complete edifices of its character in the state.” Although the actual building is not listed on the National Historic Register, the village of Wickford is a registered National Historic Place which cites the Town Hall Annex as a contributing structure.



Map found at http://www.northkingstown.org/historic-district-commission

The North Kingstown Historic District Commission, along with the Rhode Island Historical Preservation Society has certain guidelines regarding the rehabilitation of Historical properties. Special Issues that will be taken in close consideration will be areas regarding the proper way to rehab the buildings are as follows:

- Windows
- Exterior Wood
- Aluminum & Vinyl Siding
- Exterior Brick
- Entrances & Porches
- Store Fronts
- Building Sites
- Historic District & Neighborhood
- Health, Safety & Access Requirements
- Energy Conservation
- New Additions

3 Feasibility Study - Town Hall

3A Architectural Feasibility Study - Town Hall

Existing Observations:

The Town Hall was built in 1888 as a two story building with full basement masonry structure which faces Boston Neck Road to the South. The rear portion is a one story wood framed masonry veneer building with a crawl space below the first floor and flat roof, constructed in the 1970's.

The exterior of the building is in good condition but needs minor repointing repair of the brickwork and a total cleaning and wash. It was that noted more extensive repairs to the two brick chimneys are needed. There are areas of repair needed to the brick at the gable roof edge and a crack that needs repair at the front of the building (south facing). Refer to photos 1,2,3 and 4.

In the east entry to the building, the granite stairs are showing signs of settlement. There are no signs of cracking or breaking of the granite slabs. It was noted that a drain comes down at the corner of that stair entry and could be a reason that water draining is contributing to the settlement. The drains around the perimeter of the building should be further investigated and / or repiped into a drywell strategically located away from the building . The south stair and ramp is in need of repair at the landings and ramp. The guard and handrail at this entrance need to be brought up to code. This is also discussed in the structural portion of this report. Refer to photos 5 and 6.

The exterior fire escape was noted to be in good condition with minor areas showing surface rust. Refer to photo 7.

The windows are in good condition and all have aluminum storm windows mounted to the interior of the sash. It was noted that the building has gone through lead abatement. The roofs appear to be in good condition as well and it was noted that the pitched roof shingles were replaced in 1998 and the flat roof membrane in 2007. There did not appear to be any leaking in any of the roofs. This includes areas where the roof changes and around the flashing. Refer to photos 8 and 9.

The interiors of this location are in very good condition and do not show any signs of cracking, major settlement or water damage. There is paneling on the walls of most of the offices on the second floor, which will need to be addressed. Refer to photos 9, 10, 11, 12, 13, 14 and 15.

The basement foundation wall of the building shows signs of moisture and deterioration of the brick foundation. The structural report addresses this issue and will address the structural integrity of the foundation. The most damaged area is located at the basement stair east wall. The stair enclosure to the basement houses the main electrical distribution and panels. This location impedes the stair access and egress path. The electrical system should be in a separate room so that those who need access to the equipment may do so in a safe manner. It was noted that there are many penetrations for various pipes and ducts that are not sealed on the masonry walls in the basement. Refer to photos 3, 5, 6, and 16.

Recommendations:

1. Brick should be repointed and mortar replaced where missing. Brick should then be cleaned and restored.

2. Steel lintels at brick openings at additions should be at a minimum scraped and rust removed and repainted with rust prohibitive paint. Alternative would be to replace lintels with new galvanized lintels in kind.

3. Steel fire escape should be cleaned of rust and repainted if it remains in service or must be removed and door restored to window opening. (Code requirement is to install interior egress stair with consideration of remoteness.) (See Architectura report Appendix B)

4. East entrance exterior granite stairs should be removed and reset due to settlement. Once removed, repairs to the foundation where there is water infiltrating should be made and waterproofed. Roof rain leader should be relocated and repiped away from the building .

5. Electrical main and service entrance needs to be moved into the adjacent vault. Once that is accomplished, repairs and or replacement to the exterior east facing basement wall may be made. This work can be accomplished with the suggested repairs from #4 above.

6. Typical foundation walls that are brick or rubble need to be cleaned of loose debris, patched and (or) repointed. Typical walls can be parged with a cementitious waterproof concrete mix.

7. All penetrations through walls should be patched.

8. See mechanical report for new boiler and accessories. Replace window air conditioners with ducted air conditioners, replace rooftop air conditioner with ductless split systems and install new dehumidification system with digital controls.

9. Roofs sloped and flat are in very good condition and can remain.

10. Windows need to be sanded, prepped, caulked and painted. West window wall at council chambers needs to be removed and new window wall reinstalled.

11. West side concrete walk and ramp is deteriorating and needs to be repaired. This will include any wall cracking and concrete repairs.

12. Interior is in good condition but all wood, wood trim and wood paneling should be covered with a clear fire retardant coating.

13. Code items including ADA upgrades with associated costs are discussed in the Architectura report dated February 2, 2016 attached in Appendix B.

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

	Photo 9
	Photo 10

Photo 11

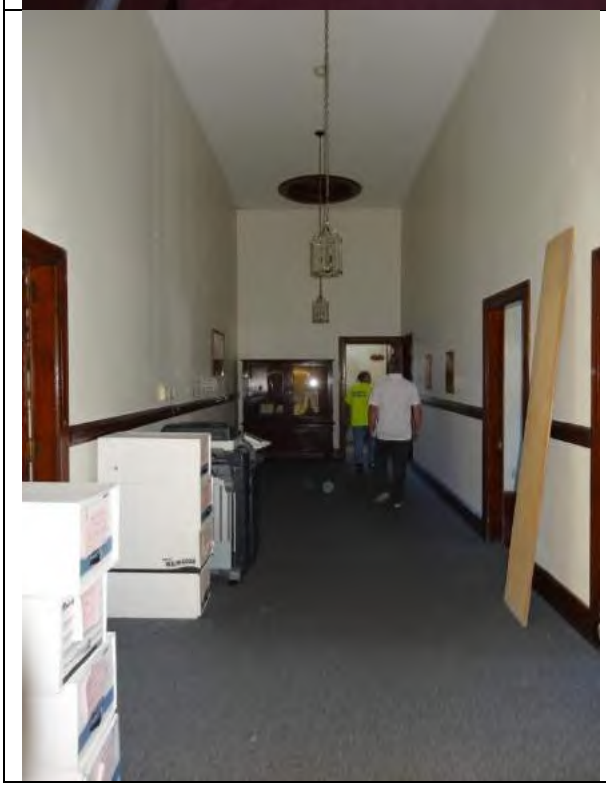


Photo 12

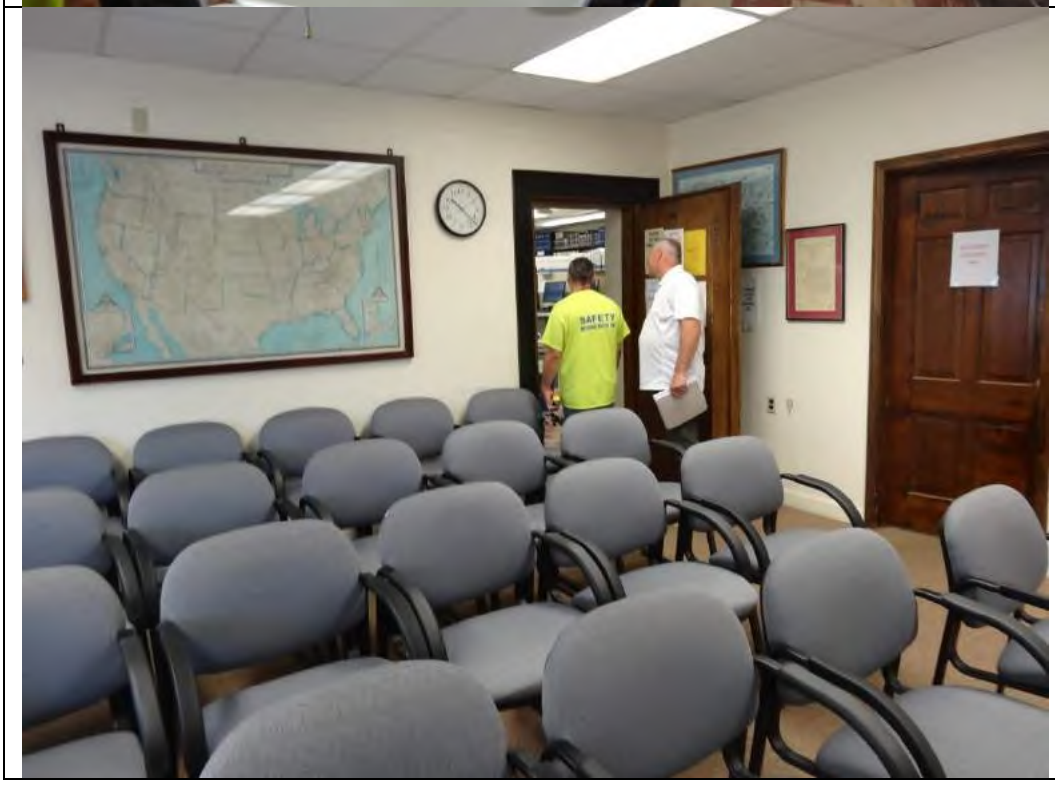
	Photo 13
	Photo 14

Photo 15

Photo 16

3B Structural Feasibility - Town Hall

Description of the Structure

The original building is wood-framed. The hipped roof is framed with timber trusses and 2x8 rafters, refer to photos 5 to 8. The floors are framed with wood joists supported on interior bearing walls and the exterior walls. The interior bearing walls are supported on brick walls in the basement. One small section of the first floor is constructed with concrete and steel beams over a vault in the basement.

The exterior walls of the original building are solid multi-wythe brick bearing walls. The brickwork has some ornate features and brownstone bands, window heads, and sills. The foundation walls are constructed with brick above grade and mortared stone below grade, and the interior of the stone foundation is coated with a layer of cementitious parging, refer to photos 9, 10 and 11.

Both additions are wood-framed, with exterior veneer brick and concrete foundations, refer to photo 12.

There is a short flight of exterior granite stairs at the front and east side entrances to the original building. There is a steel fire escape from the second floor to grade on the east side of the original building. There is a concrete loading dock with a steel-framed roof canopy at the rear of the north addition and an exterior concrete stair and long concrete ramp along the west side of the building additions, refer to photos 13 to 16.

Observations

The exterior of the original building is in fairly good condition, considering its age. There are areas where repointing of the brick is required. Mortar was missing from the joints of the granite stairs at the front and east side of the building. The granite stairs on the east side have settled slightly toward the rear of the buildings. There is a downspout from the roof that enters the ground adjacent to the settled side of the stairs refer to photos 17 to 20.

Mortar was also missing from the joints in the brownstone trim along the gable roof edge at the front of the building. There was a crack in the brick at the front of the building. Mortar was missing from the two brick chimneys where they extend above the roofline along the west side of the building, refer to photos 21 to 24.

There were several vertical shrinkage cracks in the concrete foundation walls of the rear addition. The steel angle lintels above the rear addition windows and the west addition vent have started to rust and crack the mortar joints in the brick veneer at the top corners of the window and vent openings, refer to photos 25, 26, and 27.

The concrete on areas of the exterior ramp, stairs, and stair walls has started to deteriorate and spall. This will soon present a tripping hazard. One section of the ramp has been previously patched, refer to photos 28 to 32.

The steel fire escape on the east side is generally in fair condition, with flaking paint and some rusted steel, refer to photo 33.

Inside the building, I observed no concerns or damage to the additions. The roof framing visible in the attic of the original building was water-stained from old roof leaks but was otherwise in good condition, refer to photo 34. The finishes on the first and second floors of the original building showed no signs of any underlying damage to the building structure. There was a hump in the first floor over the basement vault, where the wood floor framing around the vault shrunk and sagged over time, while the concrete ceiling of the vault did not sag.

Along the bottom of the perimeter foundation wall in the basement, there were areas where the parging had fallen from the wall, and some of the bricks had deteriorated, refer to photos 35 and 36. The worst area was along the east wall at the bottom of the interior stair, where the damage continued up almost the full height of the wall. In this location, the inside faces of the bricks had fallen off, and the mortar between bricks and stones was sandy and falling out onto the floor, refer to photos 37, 38 and 39. This area of the foundation wall is located directly below the east side entrance stairs where the granite stairs had settled, the mortar joints were open, and a downspout from the roof entered the ground.

There was a doorway through the 8-inch thick center brick bearing wall. There were several holes in the brick arch above the doorframe for electrical conduits to pass through the wall, refer to photo 40.

<u>Recommendations</u>

1. The exterior brickwork should be repointed where required and mortar should be replaced where it is missing.

2. The exterior granite stairs at the east side entrance should be removed and reconstructed, because they have settled and because water is getting into the basement and deteriorating the foundation wall at that location. When the stairs are removed, the drainage of the adjacent downspout below grade should be reviewed to make sure it is not contributing to the water infiltration into the basement.

3. The rusted steel angle lintels over the windows and vent in the additions should be removed and replaced with galvanized steel lintels.

4. Deteriorated and spalled areas of the concrete ramp, stairs, and stair walls should be chipped out and patched.

5. The steel fire escape should be cleaned of rust and repainted if it is going to remain in service.

6. The badly deteriorated section of the basement foundation wall below the east side entrance should be removed and replaced with concrete. This work should be performed in conjunction with reconstruction of the exterior granite stairs. Less severely damaged areas of the basement foundation wall can be patched and repointed.

7. The electrical conduit holes in the brick arch above the doorway in the interior basement wall should be patched and the conduits re-routed.

TOWN HALL

Photo 1

Front (south side) of the original building.

Photo 2

Front and east sides of

the original building.

Photo 3

One-story 1950's addition at the rear (north side) of the original building.

Photo 4

One-story 1970's addition on the west side of the original building.

Photo 5

Roof framed with timber trusses and 2x8 rafters.

	Photo 6 Typical wood floor framing.
	Photo 7 Brick bearing wall.

Photo 8

Steel columns supporting the concrete vault ceiling in the basement.

Photo 9

Exterior ornate brick walls with brownstone trim at the front of the original building.

Photo 10

Top part of foundation wall is constructed with solid brick.

Photo 11

Bottom part of foundation wall is constructed with mortared stone with a parging coat.

Photo 12

Rear addition with brick veneer and concrete foundation wall.

Photo 13

East side granite stairs

and steel fire escape.

Photo 14

East side granite stairs

and steel fire escape.

Photo 15

Loading dock at rear

of the north addition.

Photo 16

Exterior ramp and stair at the northwest corner of the addition.

Photo 17

Mortar missing from the joints at the front exterior granite stairs.

Photo 18

Mortar missing from the joints at the east side granite stairs. The stairs settled toward the rear, at right in photo.

Photo 19

Mortar missing from the joints at the east side granite stairs. The stairs settled toward the rear, at right in photo.

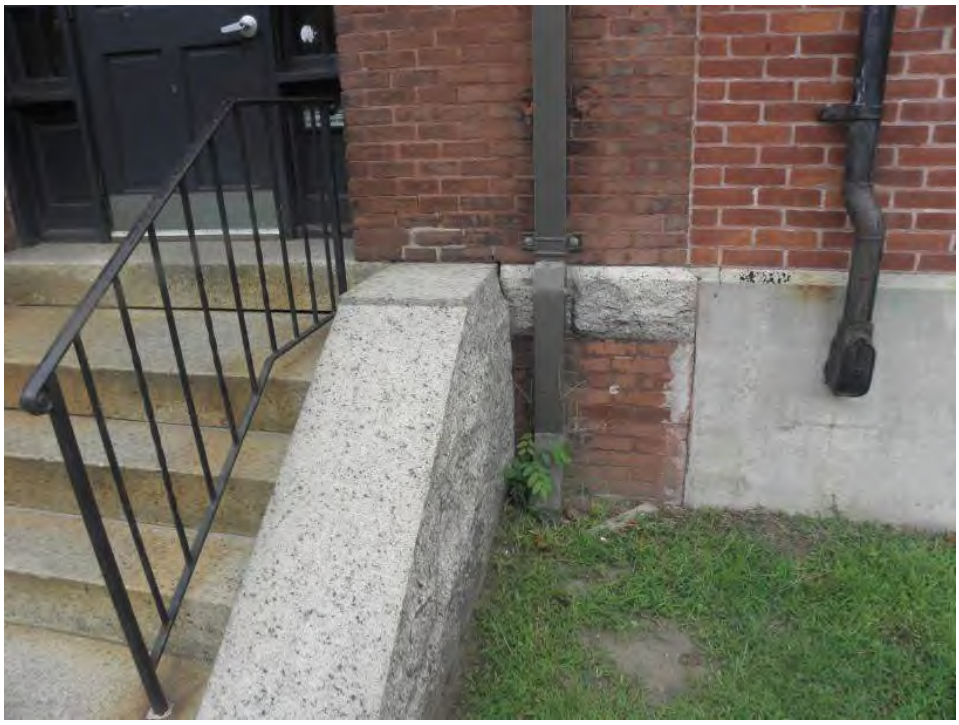


Photo 20

Downspout enters the ground near the side of the east stair that has settled.

Photo 21

Mortar missing from the joints of the brownstone trim along the gable roof edge at the front of the building.

Photo 22

Crack in the brick to the left of the front entrance.

Photo 23

Two brick chimneys on the west side of the original building.

Photo 24

Mortar missing from the brick joints of the chimney.

Photo 25

Typical vertical shrinkage crack in the foundation of the rear addition.

Photo 26

Cracked mortar joint at top corner of the 1950's addition window, where the steel angle lintel has rusted and expanded.

Photo 27

Rusted angle lintel over vent on west side of building.

	Photo 28 Damaged concrete on ramp and exterior stair.
	Photo 29 Damaged concrete ramp.

	Photo 30 Damaged concrete stair.
	Photo 31 Damaged concrete stair wall.

	Photo 32 Previously patched concrete ramp.
	Photo 33 Rusted steel fire escape.

Photo 34

Roof framing had water stains from old roof leak but was in good condition.

Photo 35

Location where parging has fallen from the mortared stone foundation.

Photo 36

Location where the faces of the brick have fallen off.

Photo 37

Northeast corner of the foundation wall of the original building. Brick on top and stone on bottom are deteriorated.

Note this area is directly below the east entrance stair and downspout shown in photos 18, 19, and 20.

Photo 38

Closer view of area where parging is missing and mortar is sandy and falling out.

Photo 39

Brick faces have spalled off, and mortar and brick have fallen from the wall onto the electrical cabinet shown at the right in

photo 37.

Photo 40

Holes in the brick arch for electrical conduit above a doorway in the 8-inch center bearing wall in the basement.

3C Mechanical/Plumbing Feasibility - Town Hall

Building Descriptions

The Town Hall and Annex Building are both located in the Wickford section of North Kingstown, RI. These are two separate structures, located less than one mile apart from each other. The Town Hall building is a two-story brick structure, including a basement (which is generally used for storage and mechanical space), attic space, and a single-story addition with flat roof in the rear portion of the building. It is unknown whether the walls and roof/attic space have been provided with insulation. The second floor space, which appears to have been primarily office/administrative space, is presently not occupied. The Annex Building is a two-story wood frame structure, including a basement (which is used for storage, mechanical space, and a portion used for administrative space), and attic space. Like the Town Hall building, it is unknown whether the walls and roof/attic space have been provided with insulation.

Plumbing Systems

Both buildings have domestic water services which appear to connect to the existing local water authority's distribution system, complete with water meters and distribution piping. Each building has limited plumbing fixtures, consisting of main Men's and Women's Rooms with water closets and lavatories, and handicapped accessibility for these spaces does not appear to be adequate. Each building is equipped with a small water heater, which provides domestic hot water for general use. The existing waste piping is mainly cast iron, although portions have been replaced with PVC waste and vent piping. It is unknown where the sanitary waste piping connections for each building terminate and/or connect to the local sanitary sewer mains.

Mechanical Systems

There is an HB Smith cast-iron sectional oil-fired heating boiler with a Carlin oil burner, located in the basement. The boiler breeching connects to an existing chimney. Combustion air is ducted from an exterior louver, down in a shaft which separates the original structure from the addition, and into the mechanical space. Heating hot water is distributed to the terminal heating equipment through a piping network, with one main in-line system pump. There are two (2) 275-gallon fuel oil storage tanks, also located in the basement. Terminal heating equipment consists of a mixture of baseboard radiation and several vertical fan-coil units (one located in Main Entry and one located in Main Stairway). Heating system controls consist of wall-mounted thermostats, wired to zone control valves, set to maintain individual space temperatures. The is also one packaged rooftop air conditioning unit, with exterior supply and return ductwork extending from the unit connections into the Records Room, located on the Main Level. All other spaces on the Main Level are provided with either window-mounted air conditioning units, or packaged terminal thru-wall air conditioning units, all with integral controls. The basement does not have any form of space temperature and/or humidity control.

Recommendations

1. Plumbing Systems

The existing domestic cold and hot water distribution piping and existing water heater appear to be in satisfactory condition, and do not need to be replaced.

Recommendations are as follows:

a) Remove existing plumbing fixtures and trim, and replace with new, including handicapped-accessible fixtures and accessories.
b) Remove and replace all existing cast-iron waste and vent piping with new PVC piping.
c) Remove and replace all existing domestic cold and hot water piping insulation with new.

2. Mechanical Systems

The existing heating hot water distribution piping, baseboard radiation, and other terminal heating equipment appear to be in satisfactory condition, and do not need to be replaced.

Recommendations are as follows:

a) Remove existing oil-fired boiler and pump, and replace with new, including breeching and accessories.
b) Remove existing rooftop air conditioning unit with ductwork, and replace with new wall-mounted ductless split-system air conditioning units.
c) Remove existing window and thru-wall air conditioning units and install new ducted and zoned air conditioning systems to serve all occupied spaces (propose seven separate ducted blower-coil units with remote condensing units mounted on flat roof above addition, including refrigerant and condensate waste piping).
d) Remove all existing control devices (i.e. valves, sensors and thermostats) and replace with new direct-digital control/energy management system, including all required devices and components.
e) Install new ducted dehumidification system, complete with remote condensing unit, including refrigerant and condensate waste piping, and controls.

Photo 1

Photo 2

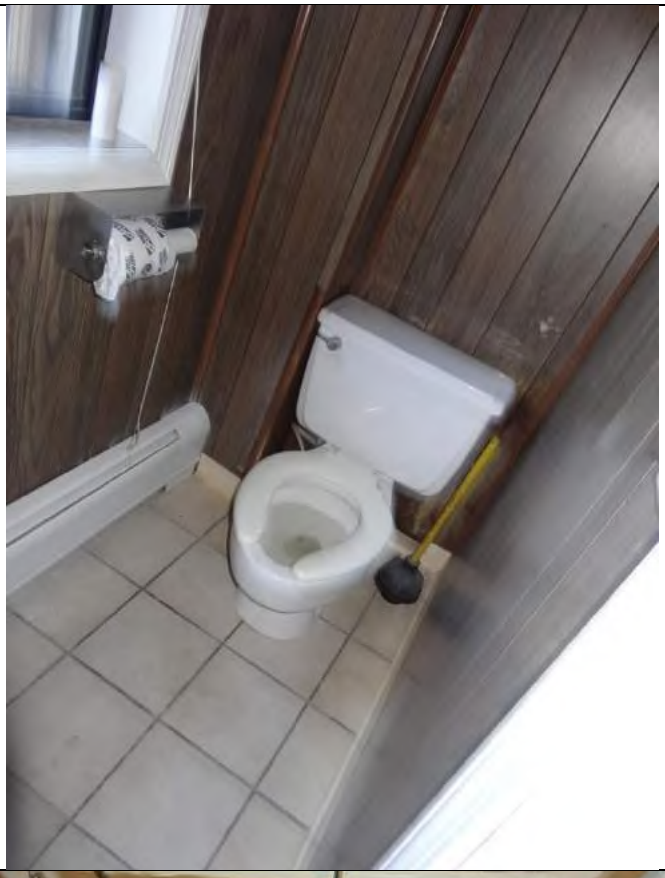


Photo 3

Photo 4

			Photo 5
			Photo 6

Photo 7

3D Electrical Feasibility - Town Hall

Existing Observations

Upon review of the existing service, it was noted that it has been installed in a non code compliant. Refer to photo 15. It was also noted that the main distribution panel is mounted to the existing brick wall that needs repair (refer to photo 16) and is supported by two 4 x 4 wood posts under the box. The remaining distribution circuit breaker panels and electric main service run up the wall of the only "means of egress" stairwell from the basement.

The existing outside service is estimated as being approximately 40 years old. The existing riser seems to be in plumbing pipe and should be installed in electrical conduit with the appropriate sweeps per code. This piping and riser should be replaced and will be a recommendation.

The lighting was observed to be a mixture of 4'-0" fluorescent fixtures typically surface mounted to 2'-0" x 4'-0" lay-in ceiling grid to ornate chandeliers mounted to the ceilings. The wiring was all concealed and we would assume that it is Romex type wiring and not shielded cable. It was noted that all new wiring for lights, outlets or switches were surface mounted and in conduit, per code.

It was observed that the fire alarm system seemed to be fairly new and code compliant. Refer to photos 1, 2 & 4.

Recommendations:

1. Install new outside riser with a 400 amp meter socket that would enter the basement and install a new main distribution panel (MDP). The new MDP would be installed in the adjacent room to the existing location, identified as the vault.

2. The new MDP panel located in the vault will support all the circuits that are not powered with generator backup.

3.Relocate electrical transfer switch to the adjacent vault with an additional new 200 amp panel fed through that switch which would feed all the circuits that are backed up by the emergency power.

4. Transfer all the circuits to the new panels, then remove the existing panels and service from the stairwell.

5. It should be noted that if the breaker panels are upgraded, the wiring may need to be upgraded to be code compliant as well. Refer to photos 17, 18 and 19.

6. All junction boxes and exposed wiring should be in boxes and covered.

	Photo 1
	Photo 2

	Photo 3
	Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

		Photo 9
		Photo 10

		Photo 11
		Photo 12

Photo 13

Photo 14

	Photo 15
	Photo 16

	Photo 17
	Photo 18

	Photo 19
	Photo 20

	Photo 21
	Photo 22

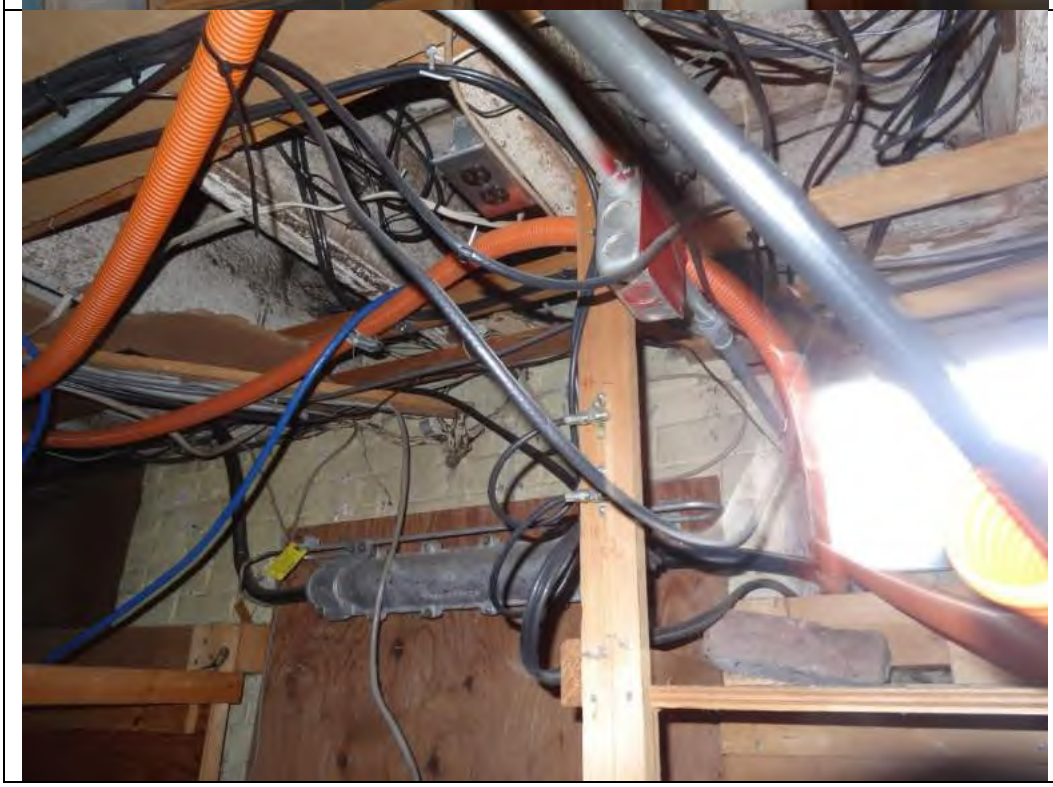
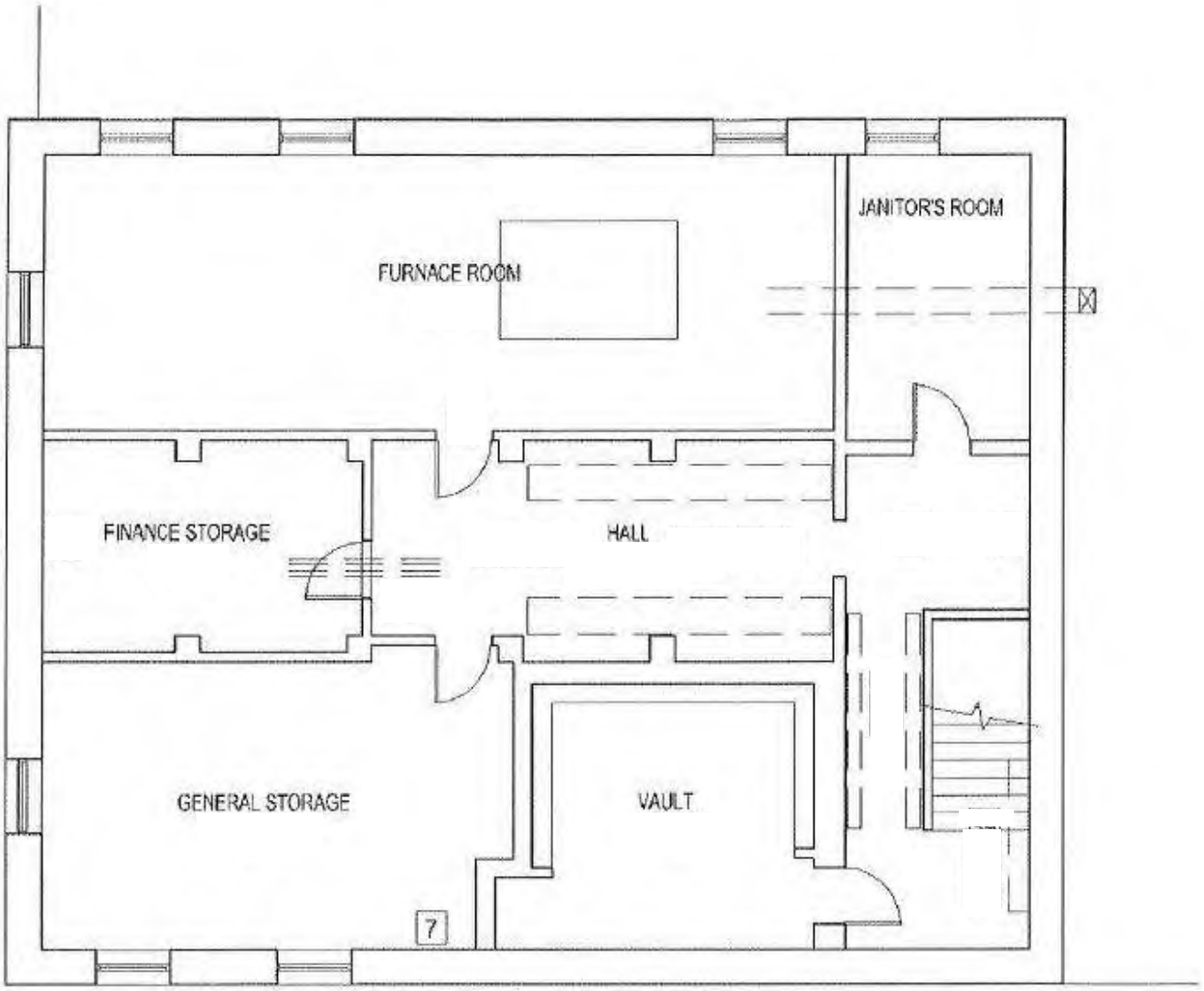
	Photo 23
	Photo 24

	Photo 25
	Photo 26

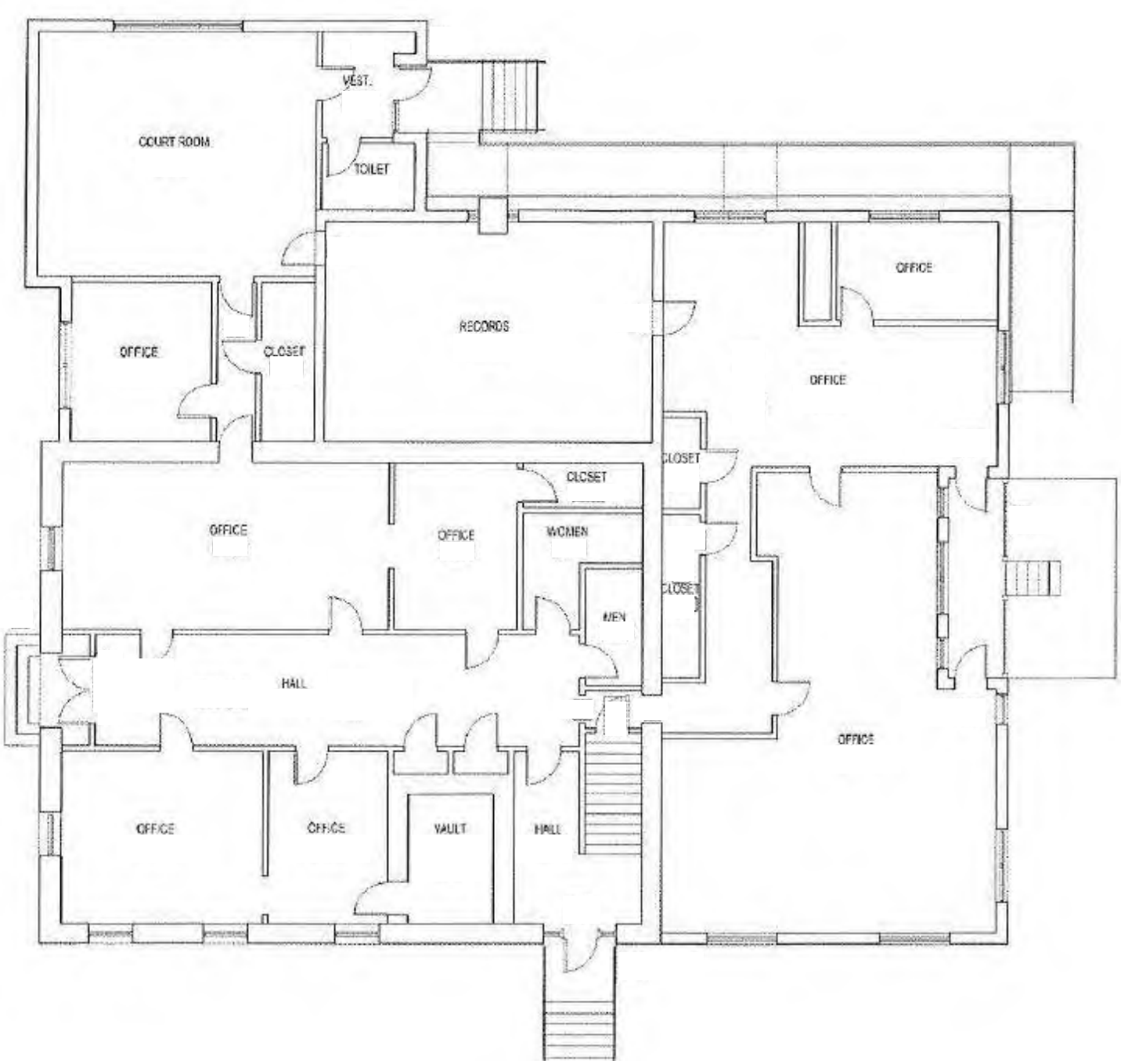
3E Site Plan - Town Hall

3F Flood Zone - Town Hall

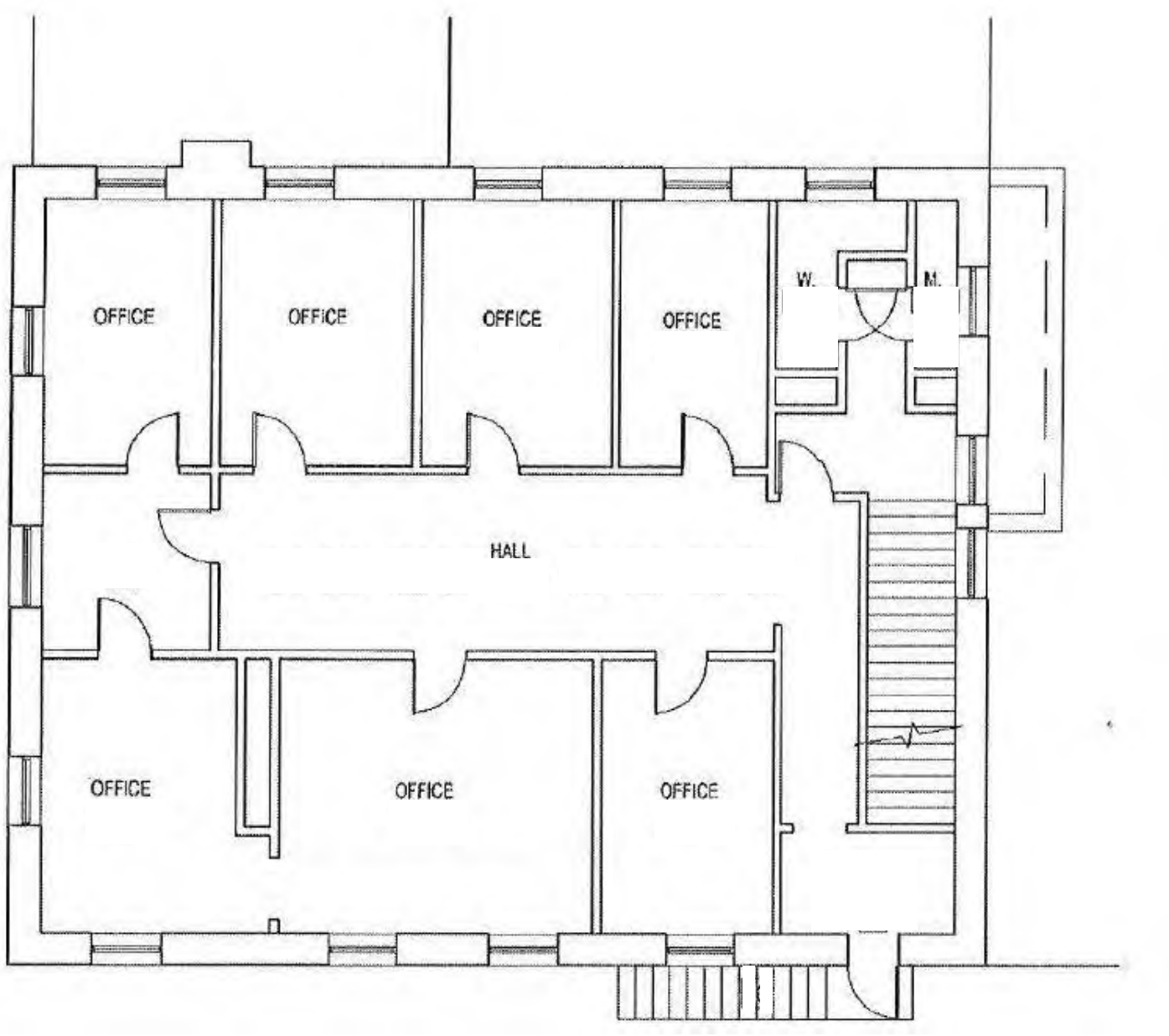
3G Floor Plans - Town Hall



Existing Basement Floor Plan - Town Hall



Existing First Floor Plan - Town Hall



Existing Second Floor Plan - Town Hall

North Kingstown Town Hall

Preliminary Construction Cost Estimate

Division	BUILDING COMPONENT	CODE	UPGRADES / MAINTENANCE	SUB TOTAL	COST TO OCCUPY	MUNICIPAL TOTAL COST
	Total Area Square Feet					
	14,900 square feet					
2	**Existing Conditions**					
	Mold remediation	**X**			**$ 10,000.00**	**$ 20,000.00**
	Insect infestation & damage	**X**			**$ 10,000.00**	**$ 10,000.00**
	Abestos removal & lead paint abatement	**X**			**$ 34,000.00**	**$ 34,000.00**
					$ 54,000.00	***$ 64,000.00***
4	**Masonry**					
	Exterior:					
	Chemical clean brick		**X**			**$ 9,200.00**
	Remove deteriorated caulk from windows and recaulk with Tremco		**X**			**$ 15,900.00**
	Spot point deteriorated mortar joints		**X**			**$ 12,500.00**
	Re-point all window sills, headers and coping stones - South		**X**			**$ 2,200.00**
	Re-point front entrance granite stair joints		**X**			**$ 1,500.00**
	Re-point granite stairs - East		**X**			**$ 2,000.00**
	Caulk joint between old & new foundation		**X**			**$ 1,500.00**
	Cut out the deteriorated mortar joints from 2 chimneys and re-point		**X**			**$ 40,000.00**
	Patch wheel chair ramp and landing	**X**			**$ 3,000.00**	**$ 3,000.00**
	Repair foundation wall behind East stair		**X**			**$ 5,000.00**
	Interior:					
	Prep foundation walls for parging & bonding agent application	**X**			**$ 10,000.00**	**$ 10,000.00**
	Parging of foundation walls 1" thickness	**X**			**$ 34,000.00**	**$ 34,000.00**
	Masonry & Brick foundation load walls	**X**			**$ 110,000.00**	**$ 110,000.00**
	Structural header between exit access hall & storage room	**X**			**$ 6,000.00**	**$ 6,000.00**
					$ 163,000.00	***$ 252,800.00***
5	**Structure**					
	Remove East entry granite stair		**X**			**$ 5,000.00**
	Replace footings under East entry stair		**X**			**$ 3,000.00**
	Reinstall East entry granite stair		**X**			**$ 5,000.00**
	Second floor means of egress - stair & shaft	**X**			**$ 78,000.00**	**$ 78,000.00**
					$ 78,000.00	***$ 91,000.00***
6	**Carpentry**					
	Fire rating of vertical cavity	**X**			**$ 10,000.00**	**$ 10,000.00**
					$ 10,000.00	***$ 10,000.00***

8	**Windows and Doors**					
	Demo existing window at Council Chamber West wall		X			$ 1,200.00
	Replace window at Council Chamber West wall		X			$ 8,000.00
	Basement exit door hallway	X			$ 2,500.00	$ 2,500.00
	Exit door in conference room	X			$ 4,400.00	$ 4,400.00
	Tax Assessor & Finance office doors	X			$ 4,850.00	$ 4,800.00
	Interior egress access hallway	X			$ 4,500.00	$ 4,500.00
					$ 16,250.00	*$ 25,400.00*
9	**Painting**					
	Exterior window and door painting		X			$ 12,160.00
	Hand Rails painting		X			$ 1,840.00
	Interior Painting		X			$ 65,000.00
	Finishes					
	1st floor Interior finish not flame resistant	X			$ 8,000.00	$ 8,000.00
	2nd floor Interior finish not flame resistant	X			$ 4,000.00	$ 4,000.00
	Wood paneling in building	X			$ 24,000.00	$ 24,000.00
	New drywall ceiling in basement		X			$ 28,000.00
					$ 36,000.00	*$ 143,000.00*
14	**Conveying Systems**					
	ADA Accessibility - misc. 1st floor modifications & new elevator	X			$ 210,000.00	$ 210,000.00
	Replace displaced work areas by the stair / elevator		X			$ 14,000.00
	Fire Escape removal	X			$ 4,800.00	$ 4,800.00
					$ 214,800.00	*$ 228,800.00*
15	**Mechanical**					
	Flue repair at boiler	X			$ 5,000.00	$ 5,000.00
	Remove Existing boiler & pump, replace with new		X			$ 30,000.00
	Remove existing rooftop A/C, replace w/ new wall-mounted split A/C system		X			$ 7,800.00
	Remove existing window A/C & install new ducted, zoned A/C system		X			$ 70,000.00
	Remove all existing control devices & replace with new digital		X			$ 50,000.00
	Install new ducted dehumidification system		X			$ 27,500.00 *
	Building modifications for HVAC system modifications		X			$ 37,000.00
					$ 5,000.00	*$ 227,300.00*
16	**Electrical**					
	New electrical service	X			$ 30,000.00	$ 30,000.00
					$ 30,000.00	*$ 30,000.00*
17	**Plumbing**					
	Remove existing fixtures and trim, replace with new ADA compliant fixtures		X			$ 12,000.00
	Remove & replace all existing cast-iron waste & vent piping w/new PVC piping		X			$ 10,000.00
	Remove & replace all existing domestic cold & hot water piping insulation w/new		X			$ 4,500.00
	New draintile system at perimeter with sump		X		$ 48,000.00	$ 48,000.00
					$ 48,000.00	*$ 74,500.00*
21	**Fire Suppression**					
	Fire wall penetrations - fire dampers	X			$ 24,000.00	$ 24,000.00
	Fire alarm pull stations mounted height	X			$ 3,750.00	$ 3,750.00
					$ 27,750.00	*$ 27,750.00*

	Contractor's Fees					
	Overhead and Profit	12%			**$ 81,936.00**	**$ 140,946.00**
	Contingency	15%			**$ 102,420.00**	**$ 176,182.50**
					$ 184,356.00	***$ 317,128.50***
	Subtotal Items 1 - 21				***$ 682,800.00***	***$ 1,174,550.00***

Total Building Cost			***$ 867,156.00***	***$ 1,491,678.50***
	Cost / Square Foot			

* No use of basement for storage if dehumidification not installed

4 Feasibility Study - Annex

4A Architectural Feasibility - Annex

Existing Observations:

The Annex, built in 1888, is a two story with full basement wood structure which faces Brown Street to the west. The rear portion is a one story masonry block building with a basement and flat roof constructed in the 1950's.

The exterior of the building is in good condition but needs trim repair and painting. The windows , which are also in good condition, all have aluminum storm windows mounted to the exterior. It was noted that the building has gone through lead abatement when it was previously painted in 1998. The roofs appear to be in good condition as well and it was noted that the pitched roof shingles were replaced in 1998 and the flat roof membrane in 2007. There did not appear to be any leaking in any of the roofs or in areas where the roof changes and has flashing. Refer to photo 1.

Minor repairs to the siding need to be provided before repainting. Cornice trim at the gable ends and dentils that are decayed and damaged need to be repaired, replaced and all repainted. The Brown Street columns at the entry need to be repaired and repainted. At the entry location, the entry stairs and base wood trim is decaying and needs to be replaced, repaired and repainted. Refer to photos 1, 2, 3 and 4.

The rear deck and entry stairs from the Municipal parking lot need to be removed and replaced due to age and decay. The structural support steel columns and beams supporting this deck show major rust which is compromising the integrity and strength of the deck. There are areas that show rust penetrating through the beams' top flanges. Refer to photos 5, 6, 7, 8, 9, 10 and 11.

The rear entry to the building from the deck includes two entry doors and a large wood framed window wall that is in total disrepair . It was observed that the window framework is decaying due to the weather and the windows have lost their seal and are discoloring, which indicates there is no insulating value to the glass. Refer to photo 12.

The sewage system is a septic system with a grinder pump to the holding tank. It is this writer's understanding that there will be, in the near future, a municipal sewerage system that will be introduced to the town of Wickford.

The roof drains are routed to the north east and south east portions of the building and are typically spilling out onto the municipal parking lot. The surface drainage sheet flows to the catch basin and drywell located at the center of the parking lot. Refer to photo 13 and 14.

The steel fire escape on the north side of the building is in need of removing the rusted area and refinishing. In general, the stair is in fair condition. The Exit egress door to this stair from the second floor is difficult to open. Refer to photo 15.

The interiors of this location are in very good condition and do not show any signs of cracking, major settlement or water damage. Refer to photos 16, 17, 18, 19 and 20.

The basement in the west portion of the building (original building) shows signs of moisture and deterioration of the brick foundation. The structural report addresses this issue. The enclosure around the furnace room needs repair and the two toilet rooms are not operating and not usable. It was noted that there are many penetrations for various pipes, ducts and that they are not sealed. Refer to photos 21, 22, 23 and 24.

Recommendations:

1. Brick pieces and mortar deteriorated on north wall needs be replaced where missing. Brick foundation typically should then be cleaned and repainted.

2. Steel fire escape should be cleaned of rust and repainted if it remains in service, or must be removed and door restored to window opening. (Code requirement is to install interior egress stair with consideration of remoteness.) (See Architectura report Appendix B)

3. East entrance exterior wood stairs and trim are deteriorated or showing signs of decay and should be removed and replaced. Existing columns need to be repaired and repainted.

4. Electrical main and service entrance needs to be moved into a first floor closet. At a minimum, clearances need to be increased in front of panels.

5. Typical foundation walls that are brick or rubble need to be cleaned of loose debris, patched and (or) repointed. Typical walls can be parged with a cementitious waterproof concrete mix.

6. All penetrations through walls should be patched.

7. See mechanical report for new boiler and accessories. Replace window air conditioners with ducted air conditioners and install new dehumidification system with digital controls.

8. Roofs sloped and flat are in very good condition and can remain.

9. Windows need to be sanded, prepped, caulked and painted. West window wall at rear entrance with window wall needs to be removed and new window wall and entrance reinstalled.

10. West side wood deck and ramp is deteriorating and needs to be replaced. This will include all steel beam supports and columns.

11. Interior is in good condition walls and trim should be painted.

12. Code items including ADA upgrades with associated costs are discussed in the Architectura report dated February 2, 2016 attached in Appendix B.

Photo 1

Photo 2

Photo 3

Photo 4

	Photo 5
	Photo 6

Photo 7

Photo 8

	Photo 9
	Photo 10

Photo 11

Photo 12

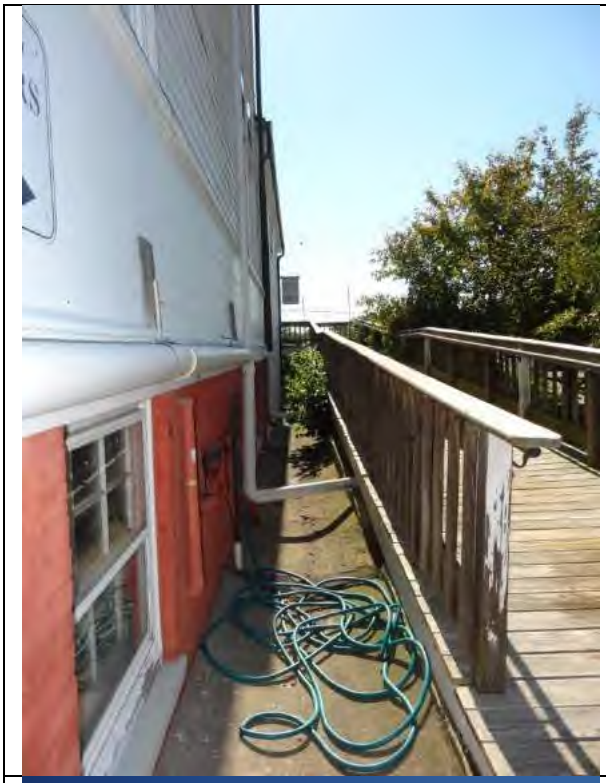
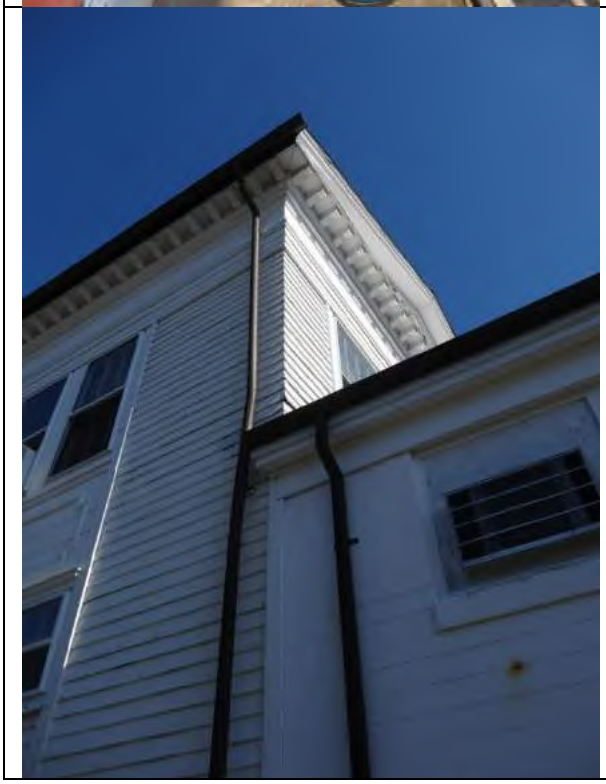
		Photo 13
		Photo 14

Photo 15

Photo 16

Photo 17

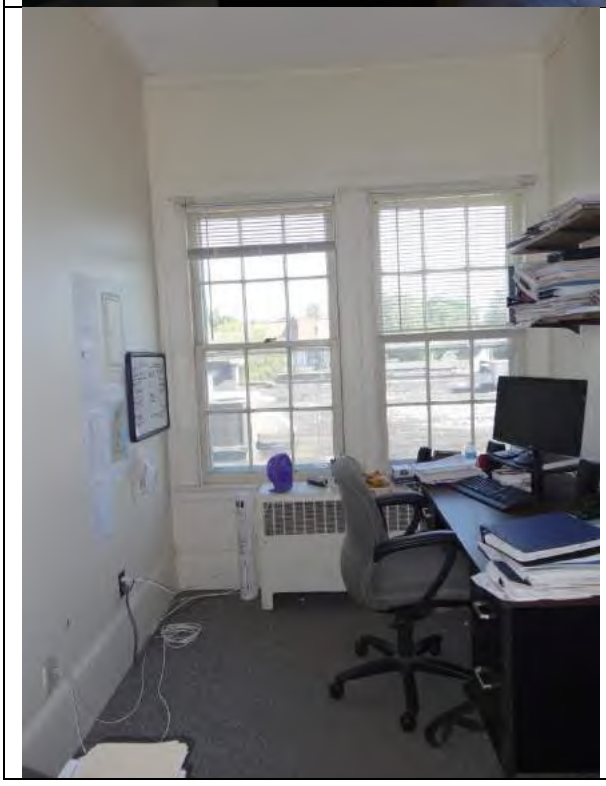
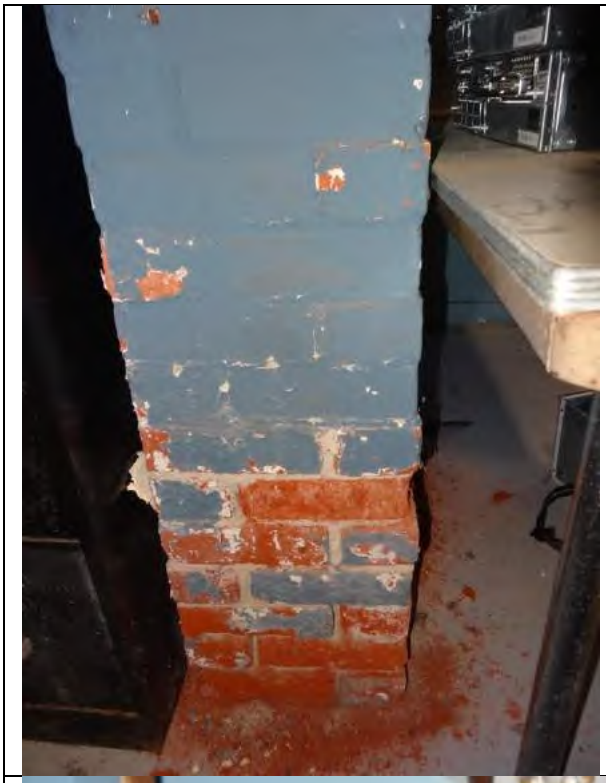
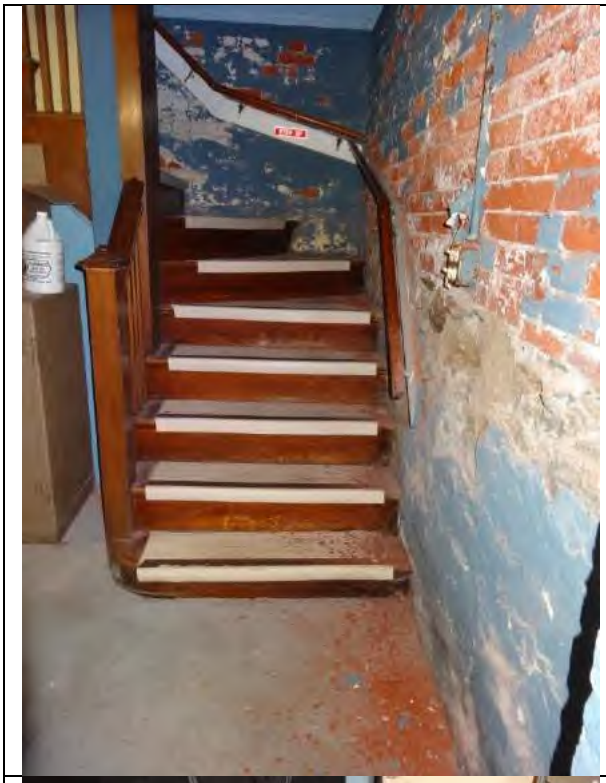
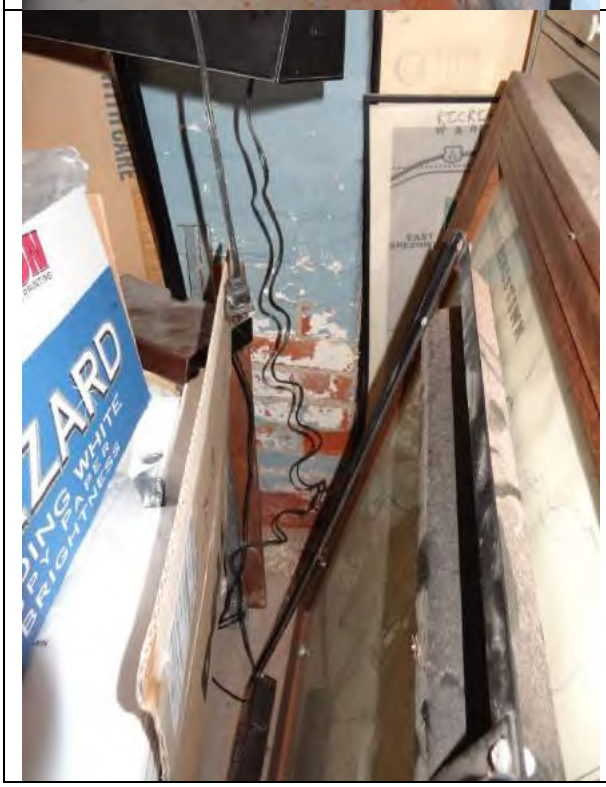


Photo 18

Photo 19

Photo 20

	Photo 21
	Photo 22

		Photo 23
		Photo 24

4B Structural Feasibility - Annex

The original section of the building (constructed in 1888) is two stories with a full basement. The front of the building faces Brown Street to the west. A one-story flat-roofed addition with a full basement was constructed at the rear of the building in the 1950's, refer to photos 41 and 42.

Description of the Structure

The original building is wood-framed with wood exterior bearing walls and clapboard siding, refer to photos 43, 44, and 45. The floor joists span the short direction of the building (north to south) and are supported by a center bearing wall on the first floor and a center wood beam on brick piers in the basement. The basement walls are constructed with solid brick above grade and mortared stone below grade. The basement has a concrete slab.

The addition has concrete block exterior walls, which support the flat roof framing, refer to photos 46 and 47. To the rear of the addition is an exterior wood deck supported by steel beams and columns.

There is a front wood-framed porch with exterior wood stairs and four wood columns supporting the roof above the porch, refer to photo 48. The porch and stairs were reconstructed eight to ten years ago.

There is a steel fire escape from the second floor to grade on the north side of the building, refer to photo 49.

Observations

The exterior of the building is in fairly good condition. There are a few spalled foundation bricks on the north side of the original building, where water in the bricks froze and caused the brick surface to fall off, refer to photo 50. Some of the pine finish boards around the front stairs and porch have rotted, refer to photos 51 and 52. There is a large wood-framed window wall at the rear of the addition, where the wood framing has deteriorated, refer to photos 53 and 54.

The steel beams and tops of the steel columns that frame the exterior rear deck have rusted. In some areas, the top flanges of the beams have nearly rusted away, refer to photos 55 to 58.

The steel fire escape is in fair condition and has started to rust in many locations.

Inside the building, the first and second floor areas are in fairly good condition, refer to photos 59 and 60.

Moisture has leaked through the front brick basement wall, causing the interior surface of some of the bricks to spall. However, the mortar between bricks was still solid, and the base stones were in fairly good condition, refer to photos 61 and 62.

The bases of the two interior brick basement piers have been deteriorated by exposure to moisture, but the piers have not crushed or settled, refer to photos 63 to 66. There were some random shrinkage cracks in the concrete basement slab. The slab has not settled, refer to photos 67 and 68.

Recommendations

1. The exterior spalled foundation bricks on the north side of the building should be removed and replaced.

2. The rotted pine boards around the front exterior stairs and porch should be removed and replaced.

3. The large wood-framed window wall at the rear of the addition should be removed and replaced.

4. The steel fire escape should be cleaned of rust and repainted if it is to remain in service.

5. The rear deck should be removed and replaced or be replaced with a much smaller deck that provides egress from the rear door.

6. The interior of the brick basement walls should be patched where needed.

7. The two interior brick basement piers should be removed and replaced. Shoring of the beams supported by the piers will be required, when the piers are replaced.

TOWN HALL ANNEX

Photo 41

Front (west side) and south side of the building. Original building is two stories. There is a one-story addition at the rear.

Photo 42

Rear (east side) and north side of the building. One-story addition with a basement at the rear.

Photo 43

Exterior wood-framed walls and front porch.

Photo 44

Brick pier supporting a beam below the center bearing wall in the base-ment of the original section of the building.

Photo 45

Foundation wall constructed with solid brick above mortared stone.

Photo 46

Rear addition with concrete block exterior walls.

Photo 47

Rear wood deck on steel columns and beams.

	Photo 48 Front wood porch and stairs.
	Photo 49 Steel fire escape on north side of the building.

Photo 50

Spalled concrete bricks
on north side of building.

Photo 51

Some deterioration of wood
treads and risers
on the front stairs.

Photo 52

Rotted wood trim at front porch.

Photo 53

Rear wood-framed window wall. Some of the wood framing is deteriorated.

	Photo 54 Rotted wood above door in rear window wall.
	Photo 55 Rusted steel framing below rear deck.

	Photo 56 Rusted steel column cap plate at rear deck.
	Photo 57 Badly rusted steel beam at rear deck.

	Photo 58 Top flange of steel beam nearly rusted away.
	Photo 59 Inside finishes of original building, in good condition.

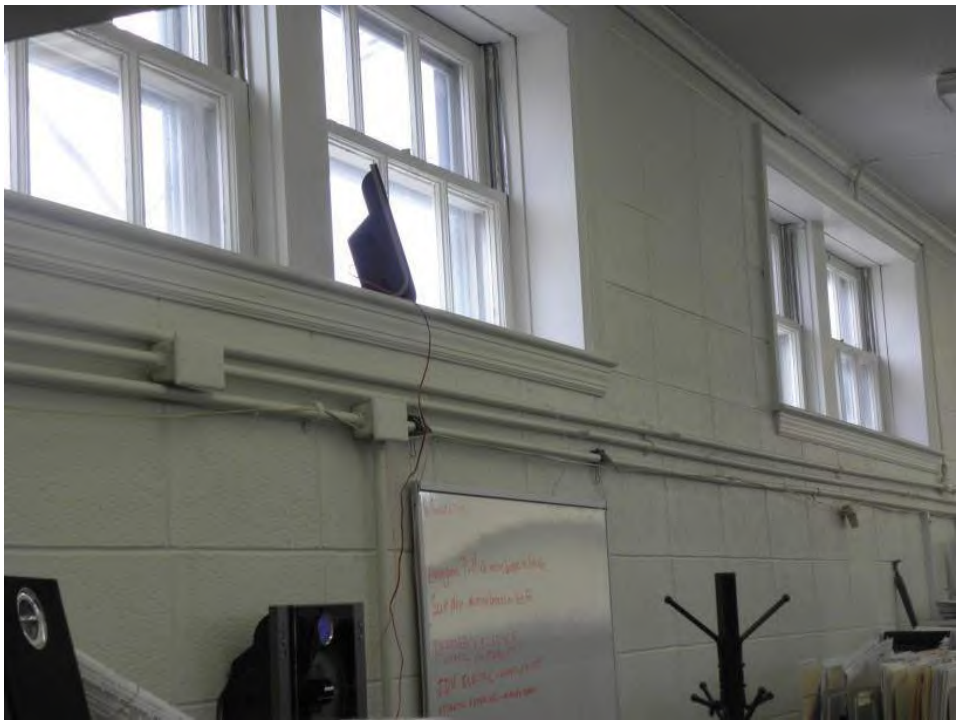
	Photo 60 Finishes in rear addition, in good condition.
	Photo 61 Interior surface of brick foundation. Bricks have spalled, but mortar is still solid.

	Photo 62 Closer view of spalled foundation brick shown in photo 61.
	Photo 63 Deteriorated brick at base of basement pier.

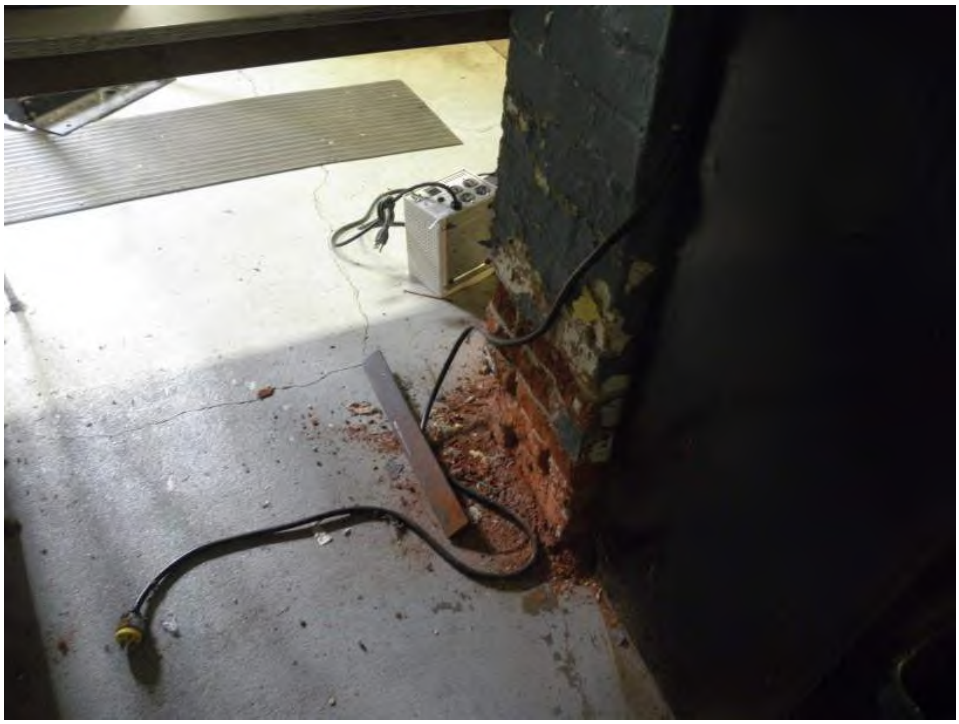
	Photo 64 Deteriorated brick at base of basement pier.
	Photo 65 Deteriorated brick at base of basement pier.

	Photo 66 Deteriorated brick at the base of a second basement pier.
	Photo 67 Random shrinkage cracks in the basement floor slab.

	Photo 68 Random shrinkage cracks in the basement floor slab.

4C Mechanical/Plumbing Feasibility - Annex

Plumbing Systems

Both buildings have domestic water services which appear to connect to the existing local water authority's distribution system, complete with water meters and distribution piping. Each building has limited plumbing fixtures, consisting of main Men's and Women's Rooms with water closets and lavatories, and handicapped accessibility for these spaces does not appear to be adequate. Each building is equipped with a small water heater, which provides domestic hot water for general use. The existing waste piping is mainly cast iron, although portions have been replaced with PVC waste and vent piping. It is unknown where the sanitary waste piping connections for each building terminate and/or connect to the local sanitary sewer mains.

Mechanical Systems

There is a Weil McLain cast-iron sectional oil-fired heating boiler with an Allanson oil burner, located in the basement. The boiler breeching connects to an existing chimney. Combustion air is ducted from an exterior louver and into the mechanical space. Heating hot water is distributed to the terminal heating equipment through a piping network, with one main in-line system pump. There are two (2) 275-gallon fuel oil storage tanks, also located in the basement. Terminal heating equipment consists of a mixture of baseboard radiation and convectors. Heating system controls consist of wall-mounted thermostats, wired to zone control valves, set to maintain individual space temperatures. In general, most occupied spaces are provided with window-mounted air conditioning units with integral controls. The basement does not have any form of space temperature and/or humidity control.

Recommendations:

1. Plumbing Systems

   The existing domestic cold and hot water distribution piping and existing water heater appear to be in satisfactory condition, and do not need to be replaced. Recommendations are as follows:

   a) Remove existing plumbing fixtures and trim, and replace with new, including handicapped-accessible fixtures and accessories.
   b) Remove and replace all existing cast-iron waste and vent piping with new PVC piping.
   c) Remove and replace all existing domestic cold and hot water piping insulation with new.

2. Mechanical Systems

   The existing heating hot water distribution piping, baseboard radiation and convectors appear to be in satisfactory condition, and do not need to be replaced. Recommendations are as follows:

   a) Remove existing oil-fired boiler and pump, and replace with new, including breeching and accessories.

b) Remove existing window air conditioning units and install new ducted and zoned air conditioning systems to serve all occupied spaces (propose four separate ducted blower-coil units with remote condensing units mounted on ground adjacent to building, including refrigerant and condensate waste piping).

c) Remove all existing control devices (i.e. valves, sensors and thermostats) and replace with new direct-digital control/energy management system, including all required devices and components.

d) Install new ducted dehumidification system, complete with remote condensing unit, including refrigerant and condensate waste piping, and controls.

Photo 1

Photo 2

	Photo 3
	Photo 4

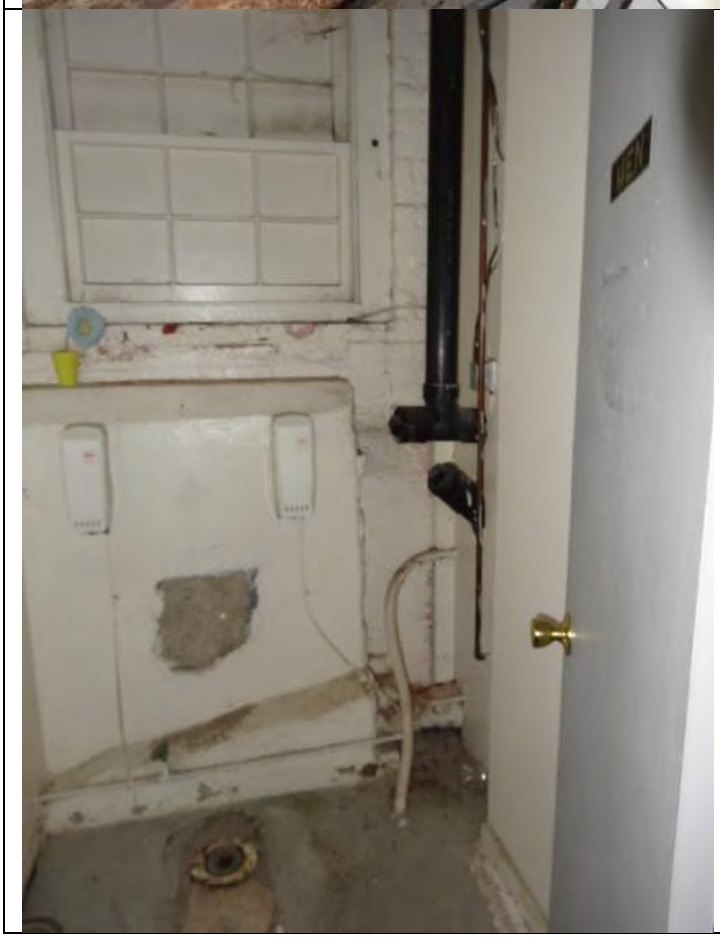
	Photo 5
	Photo 6

Photo 7

4D Electrical Feasibility - Annex

Existing Observations

During the review of the existing electrical service it was noted that the service was single phase overhead from a pole on Brown Street. The entry location was at the Northwest corner of the building, penetrating the north wall where the main breaker is located in the basement. The main breaker is a single phase 200 Amp that feeds the building. Additional circuit breakers are fed off this main breaker. It was noted that the clearances in front of the panels were not to code. The circuit breakers that were noted in the basement service the basement and first floor as well as feeding branch circuit breaker panels on the first and second floors. The additional panel on the first floor is located in the storage room behind the room with the large copy printer. The second panel is located on the second floor behind the staff assistant in the office located in front of the town planners office. The majority of the existing wiring observed was Romex and no wire was shielded or in conduit. Refer to photos 1 and 2.

The lighting was observed to be 4'-0" fluorescent fixtures, typically surface mounted to the ceilings. The wiring was all concealed. It was noted that all new wiring for lights, outlets or switches were surface mounted and in conduit per code. Refer to photos 16, 20 and 21.

It was noted that the fire alarm system seemed to be fairly new and code compliant.

Recommendations:

1. At a minimum, remove all material and obstructions at a minimum of 3'-0" in front of main service panel. Refer to photos 3 and 14.

2. Install new main breaker, 200 amp. The main breaker will feed a new main distribution panel. This panel will feed the two existing distribution panels on the first and second floors. Refer to photo 4.

3. The new main breaker is recommended to be installed on the first floor in the room adjacent to the large scale printer room.

4. It is recommended that the two existing circuit panels and breakers on the first and second floors should be replaced. It should be noted that if the breaker panels are upgraded, the wiring may need to be upgraded to be code compliant as well. Refer to photos 5, 6 and 7.

	Photo 1
	Photo 2

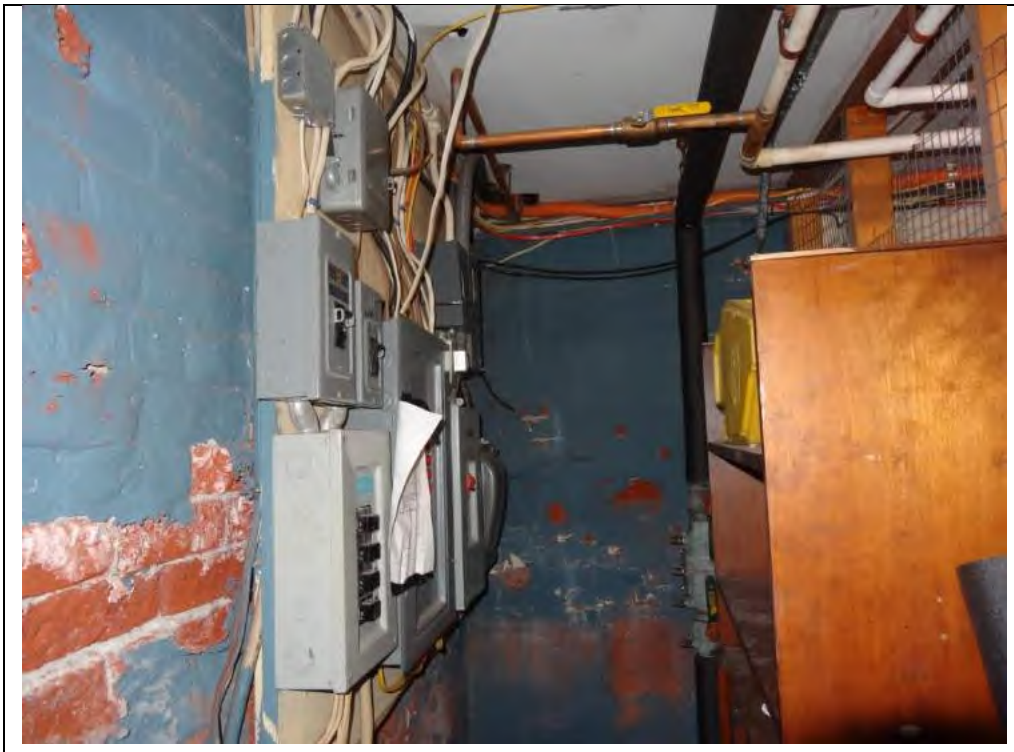


Photo 3

Photo 4

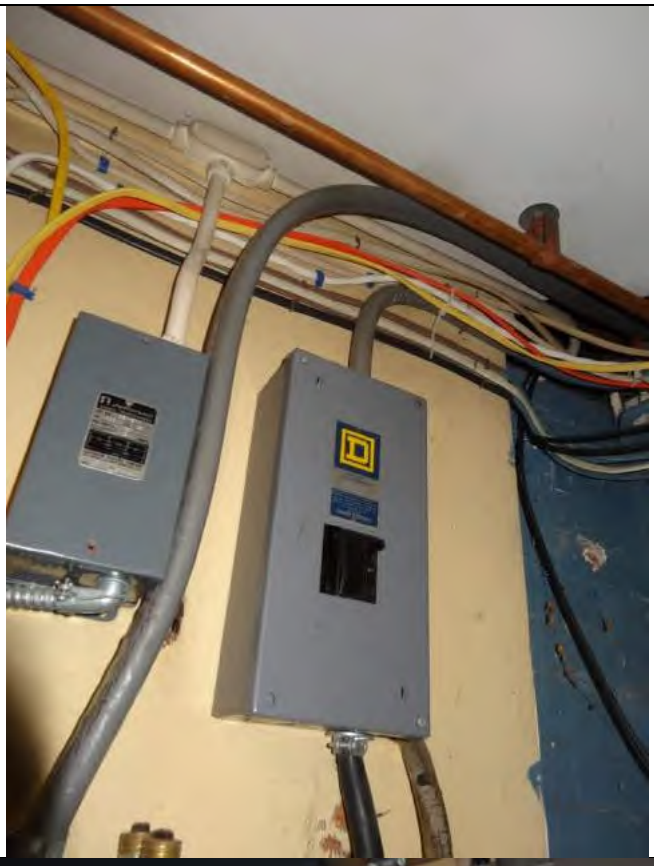


Photo 5

Photo 6

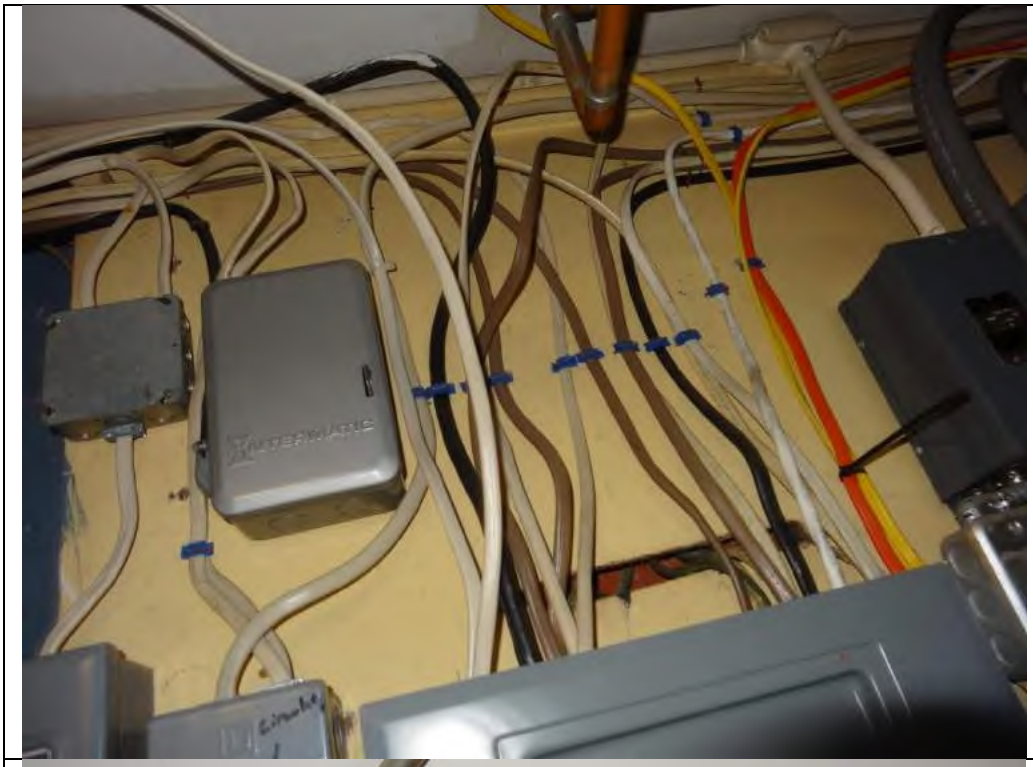
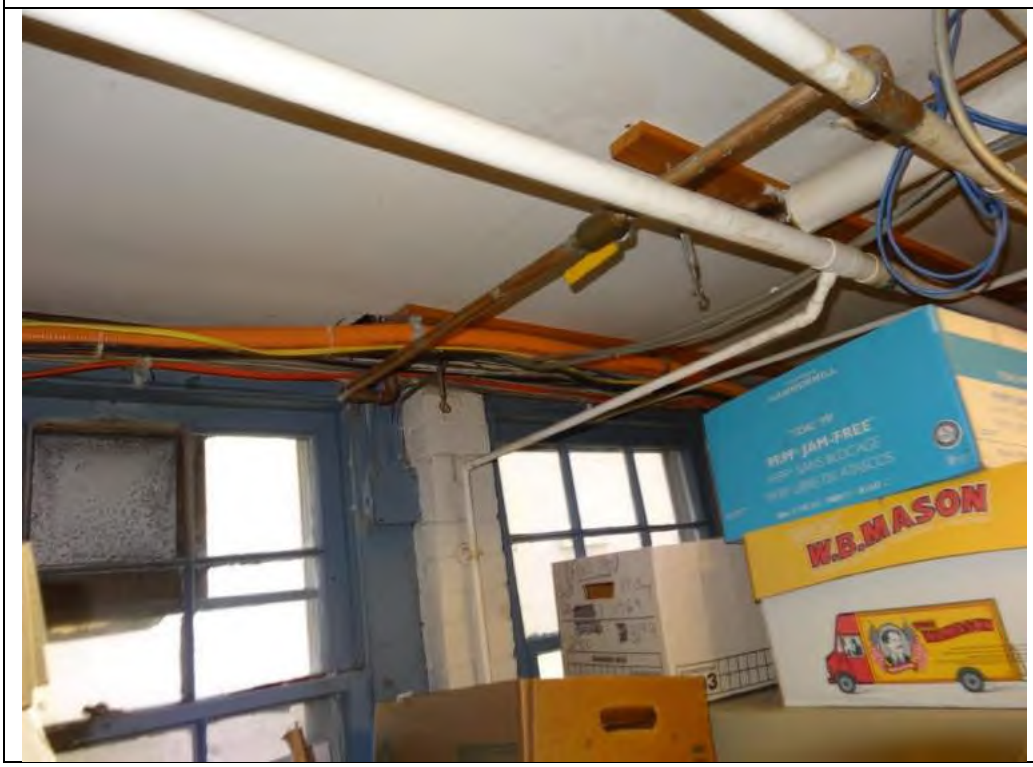
	Photo 7
	Photo 8

	Photo 9
	Photo 10

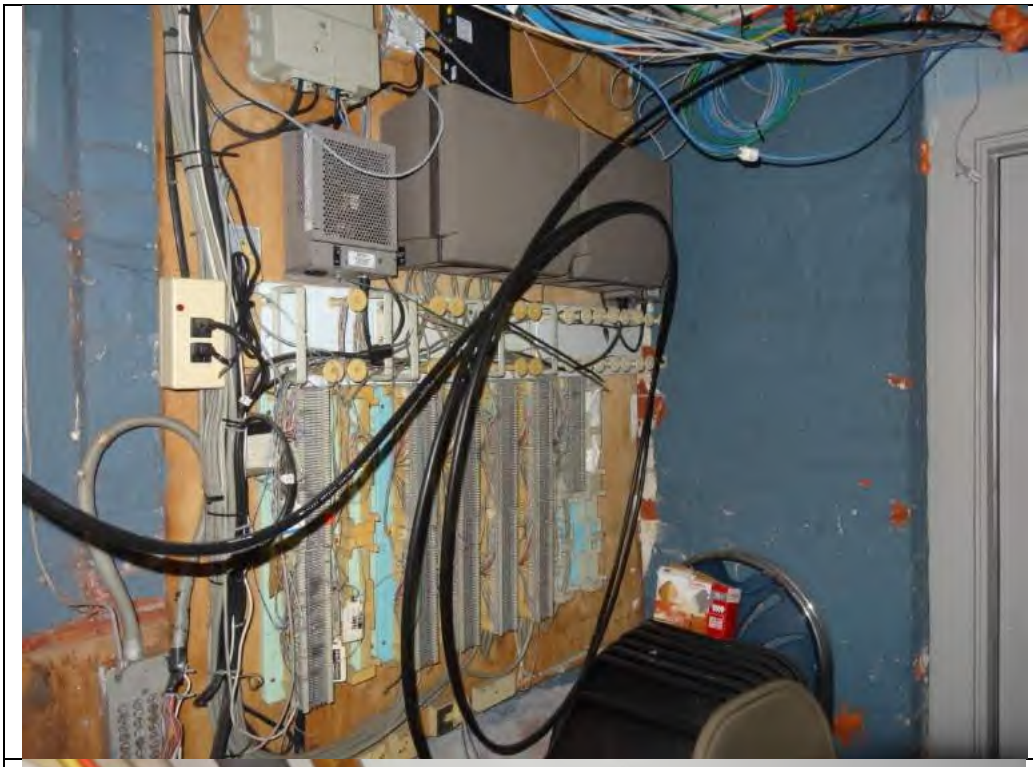


Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Photo 18

Photo 19

Photo 20

Photo 21

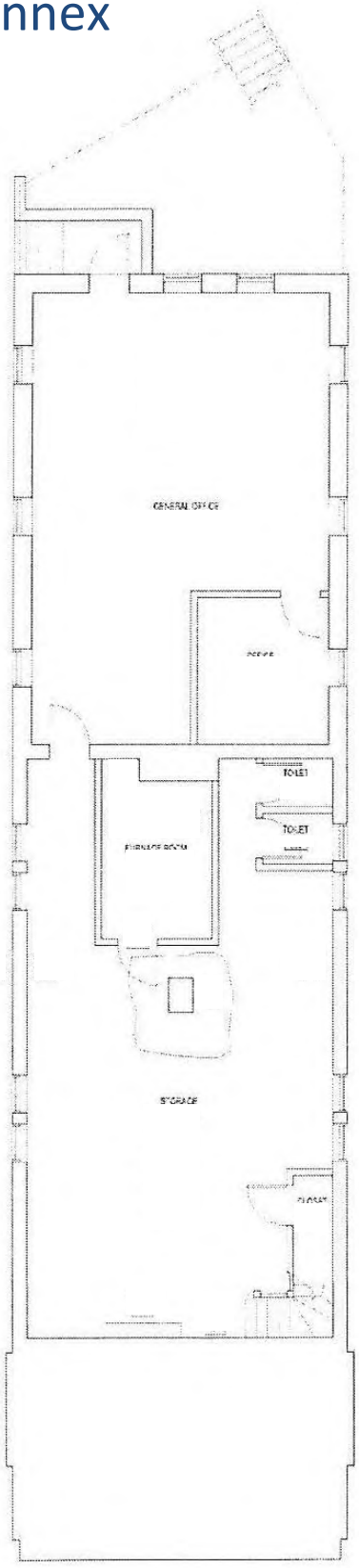
Photo 22

Photo 23

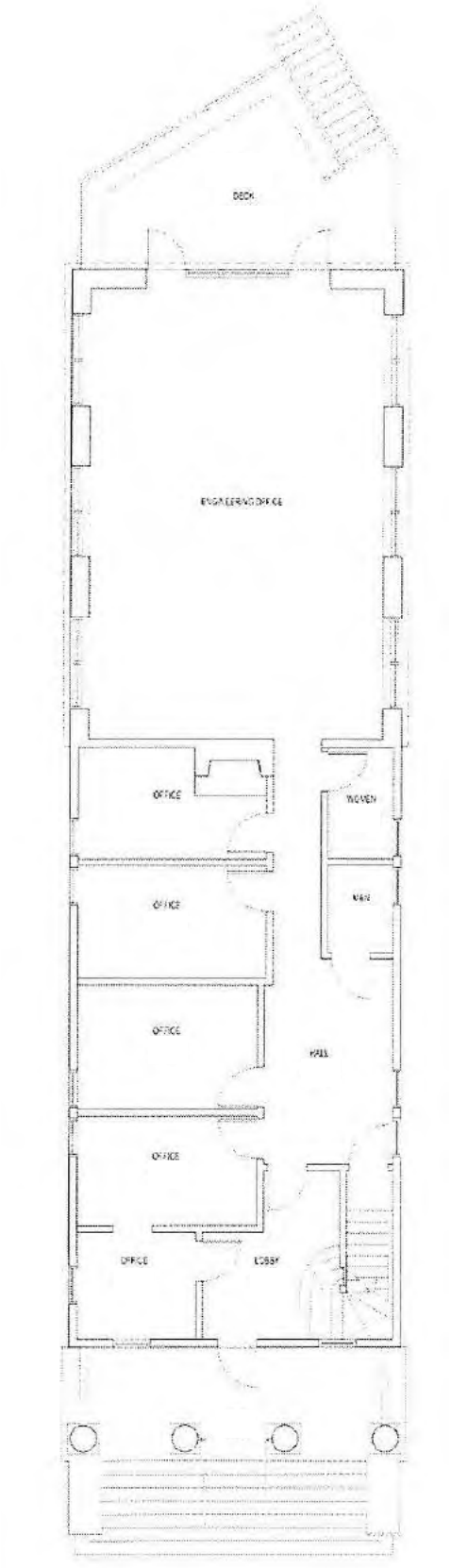
4E Site Plan - Annex

4F Flood Zone - Annex

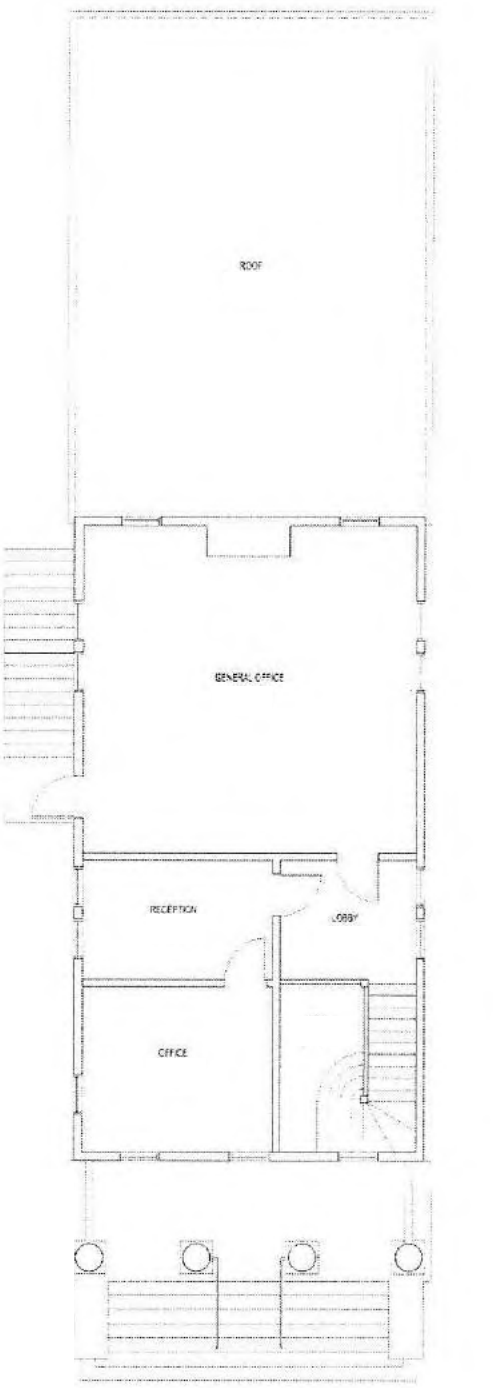
4G Floor Plans - Annex



Existing Basement Floor Plan - Town Hall Annex



Existing First Floor Plan -
Town Hall Annex



Existing Second Floor Plan - Town Hall Annex

North Kingstown Town Hall Annex

Preliminary Construction Cost Estimate

Division	BUILDING COMPONENT	CODE	UPGRADES / MAINTENANCE	SUB TOTAL	COST TO OCCUPY	MUNICIPAL TOTAL COST	
	Total Area Square Feet						
	6,500 square feet						
2	**Existing Conditions**						
	Mold remediation	**X**			**$ 5,000.00**	**$ 15,000.00**	
	Lead paint abatement	**X**			**$ 8,000.00**	**$ 8,000.00**	
					$ 13,000.00	***$ 23,000.00***	
4	**Masonry**						
	Parging of foundation walls 1" waterproof 2 coats	**X**			**$ 28,000.00**	**$ 28,000.00**	
	Prep foundation walls for parging and bonding agent application	**X**			**$ 10,000.00**	**$ 10,000.00**	
	Concrete block areaway east wall basement entry - retaining wall & excavation (optional)		**X**			**$ 15,000.00**	
					$ 38,000.00	***$ 53,000.00***	
5	**Structure**						
	Remove two brick columns and install new footings & steel columns, shoring existing floor @ basement	**X**			**$ 20,000.00**	**$ 20,000.00**	
	Remove steel frame and wood deck - East side of building	**X**			**$ 2,500.00**	**$ 2,500.00**	
	Patch fire caulk all wall penetrations	**X**			**$ 2,000.00**	**$ 2,000.00**	
					$ 24,500.00	***$ 24,500.00***	
6	**Carpentry**						
	Install footings, wood structure and composite deck - East side of building	**X**			**$ 30,000.00**	**$ 30,000.00**	
	Repair Brown St. entrance stairs, trim, columns and deck	**X**			**$ 15,000.00**	**$ 15,000.00**	
	Replace basement ceiling with Horz. Rated assembly	**X**			**$ 4,000.00**	**$ 4,000.00**	
					$ 49,000.00	***$ 49,000.00***	
8	**Windows and Doors**						
	Remove and replace window wall - East		**X**			**$ 11,000.00**	*
	Replace doors & hardware window wall - East		**X**			**$ 2,400.00**	
	Replace boiler room door with new rated door	**X**			**$ 1,200.00**	**$ 1,200.00**	
					$ 1,200.00	***$ 14,600.00***	
9	**Painting**						
	Siding and trim painting with minor repairs		**X**			**$ 35,000.00**	
	Exterior window painting		**X**			**$ 6,000.00**	
	Fire Escape	**X**			**$ 4,800.00**	**$ 4,800.00**	
	Hand Rails		**X**			**$ 1,400.00**	
	Interior Painting		**X**			**$ 16,000.00**	
					$ 4,800.00	***$ 63,200.00***	

14	**Conveying Systems**						
	Install 3 stop elevator		X			$ 170,000.00	**
	Second floor means of egress		X			$ 85,000.00	**
					$ -	$ 255,000.00	
15	**Mechanical**						
	Remove Existing boiler & pump, replace with new		X		$ 30,000.00	$ 30,000.00	
	Remove existing window A/C & install new ducted, zoned A/C system		X			$ 45,000.00	
	Remove all existing control devices & replace with new digital		X			$ 40,000.00	
	Install new ducted dehumidification system		X			$ 27,500.00	***
	Building modifications for HVAC system upgrades		X			$ 25,000.00	
					$ 30,000.00	$ 167,500.00	
16	**Electrical**						
	Upgrade to 200 amp 3 phase & relocate to 1st floor	X			$ 27,000.00	$ 27,000.00	
					$ 27,000.00	$ 27,000.00	
17	**Plumbing**						
	Remove existing fixtures and trim, replace with new ADA compliant fixtures		X			$ 15,000.00	
	Remove & replace all existing cast-iron waste & vent piping w/new PVC piping		X			$ 10,000.00	
	Remove & replace all existing domestic cold & hot water piping insulation w/new		X			$ 3,500.00	
	Install perimeter drain & interior sump		X			$ 32,000.00	
					$ -	$ 60,500.00	
	Contractor's Fees						
	Overhead and Profit	12%			$ 22,500.00	$ 88,476.00	
	Contingency	15%			$ 28,125.00	$ 110,595.00	
					$ 50,625.00	$ 199,071.00	
	Subtotal Items 1 - 17				$ 187,500.00	$ 737,300.00	

	Total Building Cost (Items 1 - 17)			$ 238,125.00	$ 936,371.00
		Cost / Square Foot			

Building compromised with only doing minimum code upgrades

* East Wall severely deteriorated with minor leaks

** Second floor cannot be occupied, and must be made inaccessible

*** Basement cannot be used, including storage

5 Summary

This feasibility study entails the evaluation of the building structures and their systems for each of the Town's municipal structures located at 80 Boston Neck Road (Town Hall) and 55 Brown Street (Town Hall Annex). The intent for the study was to identify the estimated costs necessary to update each building's maintenance and building systems, as well as to bring each facility up to code so that the true appraised value of each may be assessed.

Appendices A and B contain previously written reports for the code related issues and their suggested improvements. Our current task was to investigate, beyond the code issues that had been identified in the previous report, the integrity of the structures, systems and the maintenance of each of the structures. This Life Cycle Analysis will give the town an economic evaluation of the two structures. This feasibility study will hopefully allow the town to evaluate its options with regard to upgrades and future maintenance of each of the structures.

Our office, with the assistance of structural and mechanical engineers, surveyed and documented the existing conditions and incorporated the recommendations in this booklet. The costs of the suggested upgrades were estimated in the report's spreadsheet. As a reference, we have included Appendices A and B which contain Bliss's air quality report and Architectura's code analysis report, respectively.

Each of the buildings are in an AE flood zone with the FEMA flood Elevations identified for the Town Hall at El. 12'-0" and the Annex at El. 13'-0". The elevation at the Annex would suggest that the basement entrance should be reconfigured when replacing the deck to help mitigate any water that may enter the basement during a storm.

This report does not address the function of an end user outside of the municipality, any variances that could be obtained for ADA relief depending on the future end user, the cost to maintain the historic structure and future typical maintenance. The areas of concern are the start of decay of the brick foundation walls in both buildings and the brick columns in the basement of the Annex. The recommended repair to correct these issues was noted in this report. The decay seems primarily due to moisture and the lack of air circulation in each of the basements. Suggestions for a new boiler, HVAC and a dehumidification system, in addition to the repair of the walls, has been suggested at each of the locations. In addition, each of the electrical services need to be upgraded to meet existing codes and to make the buildings safe. In the future, dependent on the end user, the building's wiring may need to be brought up to current codes but, at this time, we do not know the value of each of the building's changes in comparison to the building's assessment.

At the Annex, it was determined that the rear entry deck and its structure in order to meet building codes, should be replaced as it is deteriorating. The entrance and window wall on the east wall of the Annex are both in need of replacements or major repairs.

The balance of the Annex building maintenance consists of limited decayed siding, trim, cornice, dentils and columns which need repair, along with paint for the exterior. The Main Town Hall will need to have spot brick repointing and washing of all the brickwork. Windows will need to be sanded, repaired, caulked and painted as typical preventative maintenance.

The preliminary construction cost estimate creates two objectives, one which is the cost of upgrades to immediately occupy the buildings and the second is to fully upgrade and maintain each facility to the current codes, i.e. Building and Fire, including FEMA regulations for municipal occupancy requirements.

The immediate need to occupy and future maintenance suggest upgrades for the two buildings and coordinates prioritizing a schedule with the preliminary construction cost estimate. In our opinion, the following list are the suggested priorities.

Immediate Cost to Occupy

1. Town Hall and Annex Foundation work repair.
2. Annex Boiler Upgrades.
3. Town Hall Boiler Flue Repair.
4. Town Hall and Annex Electrical upgrades.
5. Annex exterior deck replacement.

Future Maintenance

6. Town Hall and Annex Dehumidification
7. Town Hall HVAC w/ Boiler upgrades.
8. Annex HVAC upgrades.
9. Town Hall exterior repairs and cleaning.
10. Annex East window wall replacement.
11. Annex exterior painting, cleaning and repairs.
12. Maintenance of Town Hall Parking lot.

Appendices

A. Air Quality Reports

B. Architectura Reports

GERARD F. BLISS, INC.

- Occupational Health and Safety Consultants --

October 29, 2015

Phillip Bergeron, P.E.
Director of Public Works
Town of North Kingstown
2050 Davisville Road
North Kingstown, RI 02852

Re: North Kingstown Town Hall

Dear Mr. Bergeron,

My report to you regarding the indoor air quality in the Town Hall building (dated 1/7/2013) found relatively low levels of mold spores in the basement. At the time, I indicated I was surprised by these low levels and actually found conditions in the basement to be quite favorable for supporting mold growth. My only explanation for this discrepancy was the fact that air samples were collected in the winter when molds are typically less active, but I admit this not a conclusive explanation.

In spite of the low spore levels I felt it was prudent to limit employee access to the basement and employees who still needed to enter the basement should wear (at least) a dust mask to avoid exposure mold spores. Also, they should wash their hands after touching items stored in the basement. I did not think employees were in imminent danger but suggested this approach in order to avoid unnecessary exposure and the potential for future health problems.

Based on the concerns raised in the 2013 report and a recent discussion with you and Mr. Nelson, I still think it prudent to limit employee access to the basement as well as leaving archived materials and other paper/cardboard/wood items untouched until they can be decontaminated or isolated. It is my understanding that this will only be a temporary inconvenience because plans are being made to move the Town Hall employees to another building in the near future.

Please give me a call if you have any questions or need additional information.

Thank you,

Gerard F. Bliss,
Industrial Hygienist

170 Fruit Street
PO Box 233
Mansfield, MA 02048

PHONE (508)-269-2202
FAX (508)-339-2161
E-MAIL gbliss@naisp.net

GERARD F. BLISS, INC.

- Occupational Health and Safety Consultants --

January 7, 2013

Mr. Phillip Bergeron
Town of North Kingstown
2050 Davisville Road
North Kingstown, RI 02852

Re: North Kingstown Town Hall

Dear Mr. Bergeron:

On Thursday, December 26th, I conducted a number of indoor air quality tests in Kingstown Town Hall, 80 Boston Neck Road, North Kingstown, RI. The purpose was to determine if the mold spore levels in the building might be elevated and, if so, could they be a threat to the Town Hall staff or visitors.

The following Executive Summary provides highlights of this testing. The remainder of the report provides details regarding the; ***Tests and Testing Conditions, Findings, Conclusions*** and ***Recommendations***.

EXECUTIVE SUMMARY

- **Mold spore levels in the basement, Town Clerk's office and Town Manager's office were well BELOW the current (safe) guideline of 2,500 counts per cubic meter. The predominant genera (family) were Smuts/Myxomycetes and *Cladosporium* (also known as "Bathroom Tile" mold). They are considered harmless at the levels we found.**
- **Airborne particulates (skin cell fragments, insect fragments, plant fragments, and misc. debris) in all three areas were either non-detectable or at *trace* levels**
- **Nothing was found in any of the samples (or readings) which would suggest the air quality in the building is unsatisfactory but, clearly, the relative humidity levels are lower than recommend.**

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TESTING and TEST CONDITIONS

Three air samples were collected in the Town Hall using a model 900-13-59E high volume vacuum pump and three Air-O-Cell filter cassettes. In each case, the vacuum pump was calibrated to run at a rate of 15 Liters per Minute (LPM) for five minutes, as prescribed by testing protocols.

One sample came from the basement, one from the Town Manager's office and one from the Town Clerk's office, areas where staff members have experienced symptoms sometimes associated with poor indoor air quality.

While these samples were collected, all exterior doors and windows were closed and the Univent (Town Clerk's office) was left running in order to replicate 'normal' operating conditions.

All three samples were sent to Environmental Health Laboratories in Cromwell, CT for analysis by a licensed mycologist using a 600X microscope.

In addition to the mold samples, I also checked a number of A.S.H.R.A.E.[1] readings. These readings focus on "creature-comfort" conditions like relative humidity, carbon dioxide levels, etc. They also indicate if ambient conditions are favorable for mold growth. Results are listed below.

No sampling or analytical anomalies were noted by me or the laboratory technician.

FINDINGS

1. I expected to find relatively high levels of mold spores in the basement. There was a slight *moldy-musty* odor, paper products were stored directly on the concrete floor, there were obvious signs of water intrusion, a bathtub was partially filled with stagnant water and a wooden (false) floor had clearly been saturated with water (see photos below).

[1] American Society of Heating, Refrigeration and Air Conditioning Engineers

Plaster falling from foundation wall where water had entered

More water intrusion in the basement

Water stain


More water stains


Stagnant water in tub
Water level

2. A dehumidifier had been placed in the basement to reduce the airborne moisture. It contained an over flow tube (into the bathtub) but the humidifier's reservoir was full of stagnant water.

3. The Town Clerk's office is equipped with a Univent which circulates and conditions the office air. This Univent is also used to supply fresh air to this office although I could not confirm that the outside vent was actually open (see CO_2 readings in the A.S.H.R.A.E. table below). The office floor is carpeted and, overall, the office was very clean and not a typical host to mold growth.

4. The Town Manager's office also had a carpeted floor and was very clean and not a typical host to mold. I found no obvious source of fresh air into the office but there were air vents in the ceiling and the CO_2 level was very good.

5. The following table lists the environmental conditions (A.S.H.R.A.E.) when the mold sampling was done. All values are within expected ranges except the dew points (in red). The indoor dew point is typically 7 – 10 degrees higher than outside.

	Basement	Town Clerk	Town Manager	Outside	"normal" inside readings
Temp.	**63.8 °F**	**76.9**	**72.0**	**31**	**68 - 72 °F**
% RH	**24.2 %**	**12.5**	**15.2**	**65**	**< 40%**
Dew Point	**27.3 °F**	**21.5**	**23.4**	**22**	**N/A**
Carbon Dioxide[2] (CO_2)	**573 ppm**	**572**	**578**	**410**	**< 800**

6. The following table lists the mold results. Please remember to compare the spore concentrations to the "safe" guideline of 2,500 counts per cubic meter.

Location	**Type of Mold**	**Concentration** (counts/m^3)	**Particulates**
Basement	None Detected		Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace

[2] CO_2 levels under 800 ppm are good and readings under 600 are excellent.

Town Clerk	Smuts/ Myxomycetes *(typically from outside)*	160	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace
Town Manager	***Cladosporium***	53[3]	Skin cell fragments – Trace Insect fragments – None Plants fragments – None Debris – Trace

CONCLUSIONS and RECOMMENDATIONS

CONCLUSION: In the basement, where we found nearly perfect conditions for mold growth, no mold spores were found. This does not mean there is no mold present in the basement but merely that the risk of human exposure was very low. Mold spore levels in both offices were inconsequential.

Based on the samples collected on December 26th, mold spores are not the source of any health problems experienced by the Town Hall staff or visitors.

A.S.H.R.A.E. readings clearly show that the humidity levels were quite low (but common for this time of year) and could be the source of some discomfort. An acceptable humidity level in the winter is around 20% and the only way to maintain this level is with humidification. Central humidification is not recommended due to the probability it will foster mold growth. If Town Hall staff members are uncomfortable with the dry conditions, a room-size ultrasonic humidifier may be used increase the relative humidity.

RECOMMENDATIONS:

- Drain all standing water from the "reservoirs" in the basement. This water can encourage the growth of bacteria and bacteria can generate the musty-moldy odor we detected.

- If possible, stop the intrusion of water into the basement.

- It is not prudent to store paper products in an area that occasionally floods and isn't well ventilated. Frankly, I am very surprised we didn't find a significant mold problem in the basement. This may change during the summer months.

Thank you for the opportunity to assist in this matter. Please give me a call if you have any questions or if you need any additional information.

Sincerely,

Gerard F. Bliss, Industrial Hygienist
Principal Consultant

[3] "53" is the lowest detectable level

GERARD F. BLISS, INC.

- Occupational Health and Safety Consultants --

May 30, 2016

Mr. Phillip Bergeron
Town of North Kingstown
2050 Davisville Road
North Kingstown, RI 02852

Re: North Kingstown Town Hall - Annex

Dear Mr. Bergeron:

On Friday, May 13th, I conducted a number of indoor air quality tests in the Kingstown Town Hall Annex, 55 Brown Street, North Kingstown, RI. The purpose was to determine if the mold spore levels in the building might be elevated and, if so, could they pose a threat to the Town Hall staff or visitors.

The following Executive Summary provides highlights of this testing. The remainder of the report provides details regarding the; ***Tests and Testing Conditions, Findings, Conclusions*** and ***Recommendations***.

EXECUTIVE SUMMARY

- **Mold spore levels in the first and second floor office were WITHIN the current (safe) guideline of 2,500 counts per cubic meter.**
- **The predominant airborne spores were *Aspergillus* and *Penicillium*. *Aspergillus* and *Penicillium* are considered to be human allergens and *Aspergillus* has also been associated with a chronic respiratory disease called Aspergillosis but not at these levels of exposure.**
- **A first floor (window) A/C unit contained HIGH levels of *Cladosporium*. This is likely the source of the musty odor in the surrounding area.**
- **Airborne particulates (skin cell fragments, insect fragments, plant fragments, and misc. debris) in both areas were either non-detectable or only at *trace* levels.**
- **It is unlikely that employees working on the first and second floors of this building would be adversely affected by exposure to mold spores.**

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TESTING and TEST CONDITIONS

Three air samples were collected in the Town Hall Annex using a model 900-13-59E high volume vacuum pump and three Air-O-Cell filter cassettes. In each case, the vacuum pump was calibrated to run at a rate of 15 Liters per Minute (LPM) for five minutes, as prescribed by testing protocols.

One sample came from the 1st floor entryway (by an A/C unit), one from the Building Inspector's Office and a third came from the 2nd floor Planning Office.

All exterior doors and windows were closed and the window mounted A/C units were turned off while these samples were collected.

A "tape lift" sample was collected from one of the window A/C units on the first floor.

All four samples were sent to Environmental Health Laboratories in Cromwell, CT for analysis by a licensed mycologist using a 600X microscope.

In addition to the mold samples, I checked a number of A.S.H.R.A.E.[1] readings. These readings focus on "creature-comfort" conditions like relative humidity, carbon dioxide levels, etc. They also indicate if ambient conditions are favorable for mold growth. Results are listed below.

No sampling or analytical anomalies were noted by me or the laboratory technician.

FINDINGS

1. To my knowledge, no employees have experienced symptoms commonly associated with mold (over)exposure.

2. There was a strong "musty" odor at the 1st floor entryway to the building. It grew stronger in the adjacent room, by one of the window A/C units. The odor was less noticeable in the Building Inspector's Offices and there was virtually no musty odor on the second floor (no window A/C units).

3. The Building Inspector's Offices were carpeted. No one could recollect when they were last (steam) cleaned.

4. The following table lists the environmental conditions (A.S.H.R.A.E.) when the mold sampling was done. All values are within expected ranges.

	1st Floor (entryway)	1st Floor (Building Insp)	2nd Floor	"normal" inside readings
Temp.	**71.8 °F**	**76.5**	**73.9**	**68 - 72 °F**
% RH	**34.4 %**	**32.2**	**30.2**	**< 40%**
Dew Point	**42.0 °F**	**44.5**	**40.7**	**N/A**
Carbon Dioxide (CO_2)	**905[2] ppm**	**453**	**459**	**< 800**

5. The following table lists the mold results. Please remember to compare the spore concentrations to the "safe" guideline of 2,500 counts per cubic meter.

Location	Type of Mold	Concentration (counts/m^3)	Particulates
1st Floor Entryway	Ascospores ***Aspergillus/Penicillium*** Basidiospores	**213** **480** **160**	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace

[1] American Society of Heating, Refrigeration and Air Conditioning Engineers

[2] 905 ppm with windows closed; 459 ppm with windows open.

	Cladosporium Hyphal fragments TOTAL	**107** **53**[3] **1,013**	Pollen - 53
Building Inspector	Ascospores ***Aspergillus/Penicillium*** Basidiospores ***Cladosporium*** Hyphal fragments Other fungi TOTAL	**213** **587** **107** **267** **213** **53** **1,493**	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Low Pollen - < 53
2nd Floor	Ascospores ***Aspergillus/Penicillium*** Basidiospores ***Cladosporium*** Hyphal fragments ***Smuts/Myxomycetes*** TOTAL	**160** **267** **53** **693** **320** **107** **1,600**	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace Pollen - < 53
TAPE LIFT from A/C Unit	***Cladosporium*** ***Pithomyces***	**HIGH** **Trace**	Viable (alive)

CONCLUSIONS and RECOMMENDATIONS

CONCLUSION: The spore levels on the 1st and 2nd floors were within the "safe" guideline. The mold activity on the A/C unit(s) was high and reflects the potential for employee exposure when these units are turned on.

A.S.H.R.A.E. readings are within expected levels.

RECOMMENDATIONS:

- ❖ THOROUGLY clean and disinfect all window A/C units before turning them on.
- ❖ Steam clean the carpeted areas.
- ❖ Whenever possible, open windows to allow cross-ventilation and "flushing" of stale indoor air.

[3] "53" is the lowest detectable level of spores

Thank you for the opportunity to assist in this matter. Please give me a call if you have any questions or if you need any additional information.

Sincerely,

Gerard F. Bliss, Industrial Hygienist
Principal Consultant

GERARD F. BLISS, INC.

- Occupational Health and Safety Consultants --

September 10, 2015

Mr. John Nelson
Town of North Kingstown
2050 Davisville Road
North Kingstown, RI 02852

Re: North Kingstown Town Hall Annex

Dear Mr. Nelson:

On Wednesday, August 26th, I conducted a number of indoor air quality tests in the basement of the Kingstown Town Hall Annex, 55 Brown Street, North Kingstown, RI. The purpose was to determine if the mold spore levels in the building might be elevated and, if so, could they pose a threat to the Town Hall staff or visitors.

The following Executive Summary provides highlights of this testing. The remainder of the report provides details regarding the; ***Tests and Testing Conditions, Findings, Conclusions*** and ***Recommendations***.

EXECUTIVE SUMMARY

- **Mold spore levels in the basement, IT office and adjacent archive area were ABOVE the current (safe) guideline of 2,500 counts per cubic meter.**
- **The predominant genera (families) were *Aspergillus, Penicillium* and *Cladosporium* (also known as "Bathroom Tile" mold). *Aspergillus* and *Penicillium* are known to be human allergens and *Aspergillus* has also been associated with a chronic respiratory disease called Aspergillosis.**
- **Airborne particulates (skin cell fragments, insect fragments, plant fragments, and misc. debris) in both areas were either non-detectable or only at *trace* levels.**
- **It is unlikely that employees in the IT office would be adversely affected by mold spores (from relatively harmless *Cladosporium*) but employees working in the archive area clearly exposed above the recommended, safe, levels.**

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Mansfield, MA 02048

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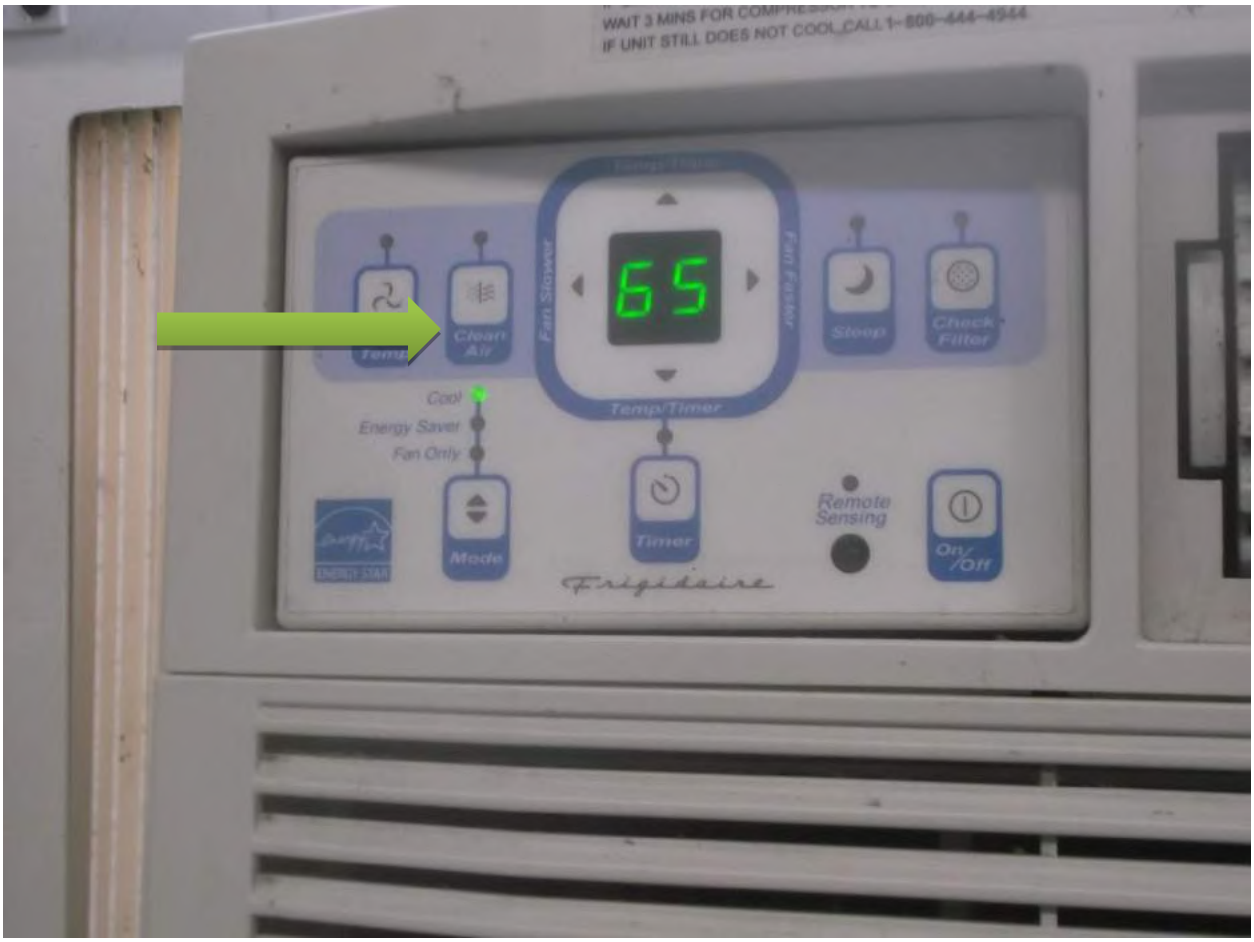
E-MAIL gbliss@naisp.net

TESTING and TEST CONDITIONS

Three air samples were collected in the Town Hall Annex using a model 900-13-59E high volume vacuum pump and three Air-O-Cell filter cassettes. In each case, the vacuum pump was calibrated to run at a rate of 15 Liters per Minute (LPM) for five minutes, as prescribed by testing protocols.

One sample came from the basement, IT office, one from the basement, archive room, and a third sample was collected outside the building. The outside sample is used for comparison to the indoor results.

While these samples were collected, all exterior doors and windows were closed and the window mounted A/C unit was running, in order to replicate 'normal' operating conditions. The "clean air" switch was turned off so there was no fresh air entering the room. There was no air circulation at all in the archive room.



All three samples were sent to Environmental Health Laboratories in Cromwell, CT for analysis by a licensed mycologist using a 600X microscope.

In addition to the mold samples, I also checked a number of A.S.H.R.A.E.[1] readings. These readings focus on "creature-comfort" conditions like relative humidity, carbon dioxide levels, etc. They also indicate if ambient conditions are favorable for mold growth. Results are listed below.

[1] American Society of Heating, Refrigeration and Air Conditioning Engineers

No sampling or analytical anomalies were noted by me or the laboratory technician.

FINDINGS

1. To my knowledge, no employees have experienced symptoms commonly associated with mold (over)exposure.

2. The following table lists the environmental conditions (A.S.H.R.A.E.) when the mold sampling was done. All values are within expected ranges except the humidity and dew point in the archive room.

	IT Office	Archive Room	Outside	"normal" inside readings
Temp.	**70.0 °F**	**74.1**	**83.3**	**68 - 72 °F**
% RH	**38.9 %**	**64.8**	**34.4**	**< 40%**
Dew Point	**44.0 °F**	**61.4**	**52.1**	**N/A**
Carbon Dioxide (CO_2)	**905 ppm**	**N/A**	**410**	**< 800**

3. The following table lists the mold results. Please remember to compare the spore concentrations to the "safe" guideline of 2,500 counts per cubic meter.

Location	Type of Mold	Concentration (counts/m^3)	Particulates
IT Office	Ascospores ***Aspergillus/Penicillium*** Basidiospores ***Cladosporium*** Hyphal fragments ***Pithomyces*** TOTAL	**160** **213** **107** **1,280** **1,600** **107** **3,467**	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace
Archive Room	***Aspergillus/Penicillium*** Basidiospores ***Cladosporium*** ***Pithomyces*** TOTAL	**24,800** **235** **578** **117** **25,739**	Skin cell fragments – Trace Insect fragments – None Plants fragments – Trace Debris – Trace

Outside	***Alternaria***	**440**	Skin cell fragments – None
	Ascospores	**1,760**	Insect fragments – None
	Aspergillus/Penicillium	**4,990**	Plants fragments – Trace
	Basidiospores	**2,490**	Debris – Trace
	Cercospora	**2,200**	
	Cladosporium	**303,000**	
	Fusarium	**293**	
	Hyphal fragments	**1,050**	
	Pithomyces	**3,520**	
	Other fungi	**147**	
	TOTAL	**319,870**	

CONCLUSIONS and RECOMMENDATIONS

CONCLUSION: In the **ARCHIVE** section of the basement, we found nearly perfect conditions for mold growth and, not surprisingly, the total spore count was more than ten times the recommended level. ***Aspergillus*** and ***Penicillium*** (this analytical method cannot distinguish between them) accounted for nearly all the mold spores we found. Both genera (families) are known to be human allergens and ***Aspergillus*** has also been associated with a chronic respiratory disease called Aspergillosis. This does not mean that employees will be adversely affected but it clearly means they are at much higher risk of allergic responses and respiratory problems.

The total spore level in the IT Office was above the guideline but none of the individual genera exceeded the safe threshold. The most predominant spore was Cladosporium and this is relatively harmless at these levels. Based on these data, I believe there is no unusual risk due to mold exposure.

NOTE: The outside levels of Cladosporium are the highest we have ever seen. Even the analytical laboratory was surprised. I can't explain what caused this to happen nor what can be done to mitigate human exposure.

A.S.H.R.A.E. readings show that the humidity and dew point levels in the archive room were quite high and are contributing to the elevated mold levels. Clearly, the documents and occasional flooding of this room also support the mold growth.

RECOMMENDATIONS:

❖ Investigate the source of the extraordinarily high outside levels (dead animal, dead bird, bird droppings, etc.) I am not too concerned about outside exposures but very concerned that these spores will be drawn into the building via the A/C units. The fresh air intake for one A/C unit is within ten feet of where I collected the outside sample.

❖ Ventilate the Archive Room. It is virtually impossible to disinfect the documents but fresh air and less moisture in the room will help mitigate the high concentration of spores.

❖ Bring some fresh air into the IT Office in order to reduce the CO_2 level. The currently level is not dangerous but it is certainly higher than the guideline. The recommended amount of (fresh) air is 20 cfm per person.

Thank you for the opportunity to assist in this matter. Please give me a call if you have any questions or if you need any additional information.

Sincerely,

Gerard F. Bliss, Industrial Hygienist
Principal Consultant

North Kingstown Town Hall

Remedial Work Recommendations

Prepared For:
Town of North Kingstown, RI
80 Boston Neck Road
North Kingstown, RI

Prepared By:
Architectura
1005 Main Street
Pawtucket, RI 02860

Table of Contents

INTRODUCTION

North Kingstown Town Hall, an historic icon located at 80 Boston Neck Road in the Historic Town of Wickford in North Kingstown, RI, was constructed in 1888 for the purposes of housing the Town's governmental administration offices. The original building consists of a two and one half story masonry structure in the Richardson Romanesque style which was popular in that era. A single story non-contributing masonry addition was added to the first floor of the original building in 1970 in order to add office and administrative space to the building.

See Historical Aspects in the following section for more detail regarding the Historical Significance of this building.

PURPOSE & INTENT OF THIS ASSESSEMENT REPORT

In June, 2015 the Town received Notice of Building and Fire Code violations for both the Town Hall as well as the Town Hall Annex. Violations included over 50 items ranging from minor maintenance issues to substantial deficiencies requiring a major investment by the Town in order to rectify all outstanding building and fire code issues.

It is the intent of this Report to analyze the existing conditions of the building as related to building code deficiencies and how they relate to its historical significance as well as to quantify the necessary remedial work into a working construction budget for the Town's planning purposes.

HISTORICAL ASPECTS

Among the villages that make up the Town of North Kingstown, RI, Wickford is the most extensive and the most easily recognizable since it is most closely built and the densest of all the Town's villages. The village is listed on the National Register of Historic Places including many buildings that comprise it, which includes; Town Hall and the Town Hall Annex mentioned prominently in the narrative of the national nomination form.

Town Hall built in 1888 is a brick hipped roof structure, in the Richardson Romanesque architectural style designed by William R. Walker & Son. The firm's prominent design commissions included other Town Halls such as Lincoln & Warwick, the Providence and Pawtucket armories and countless schools across the state.

The original building is architecturally intact except for the one story addition on the side and rear circa 1970 which is indifferent stylistically to the original building and is deemed non-contributing as defined by the RI Historical Preservation & Heritage Commission.

The RIHPHC holds a preservation easement on the Town Hall through the year 2032 as a result of a previous restoration grant which was awarded to the Town. This means that the Commission has the right to review and approve renovations or modifications to the building.

Building Code Violations:

As cited by the Town of North Kingston, Office of the Building official

1 Basement Egress Stair

While open the existing basement door completely blocks the required means of egress on the first floor.

2 Electrical Service

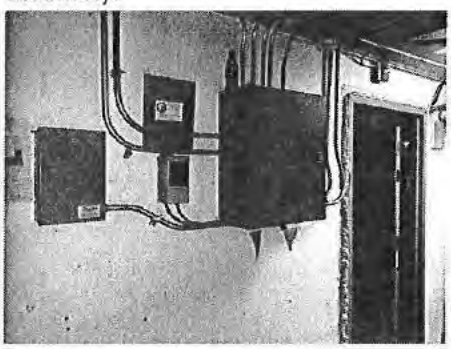
The electrical service is located in an egress stair.

3 Fire Wall Penetrations

The required fire separation wall at the boiler room has multiple Penetrations.

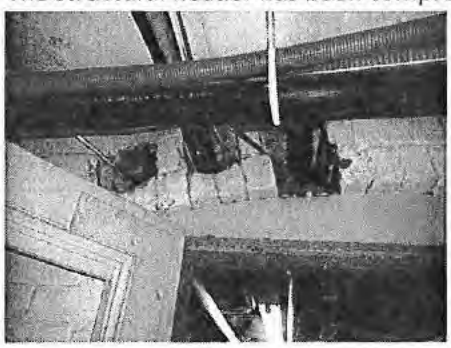
4 Fire door at boiler room

The existing door at the required fire separation wall at the boiler room is not a fire rated assembly.



5 Structural Header between exit access hall and storage room

The structural header has been compromised by penetrating utility raceways



6 Egress access in basement, stairs and walking surfaces

The required 28 inch aisles have not been maintained.

7 Masonry and Brick foundation and load walls

Masonry foundation and load bearing walls are deteriorating.

8 Mold

Mold is present in the basement, resulting in poor indoor air quality.

9 Radon

Radon is potentially present,

10 Main Entry Egress & Ingress

The main entry door swings are obstructed by the exterior masonry archway not allowing full operation for required egress.

11 Exit Door Hallway

While open the existing basement door completely blocks the required means of egress on the first floor.

12 Interior Egress Access Hallway

Exit access corridor measuring about 30 inches does not meet required exit access width.

13 First Floor Interior Finish not Flame Resistant

Interior walls along egress path contain combustible materials not meeting required flame spread and smoke development ratings

14 ADA Accessibility

The first floor contains multiple ADA violations; the second floor is entirely inaccessible.

15 Insect Infestation & Damage

16 Second Floor Means of Egress

Second floor currently has no required second means of egress.

17 Second Floor Interior Finish

Interior walls along egress path contain combustible materials not meeting required flame spread and smoke development ratings.

18 Asbestos & Lead Paint

The building may contain hazardous materials creating health safety concerns for the occupants.

Fire Code Violations:

As cited by the Town of North Kingston, Office of the Building official

19 Master Box Connection
Item Corrected

20 Emergency Lighting at Building Egress
Item Corrected

21 Emergency Lighting in Interior
Item Corrected

22 Front Entrance Door
Item Corrected

23 Fire Alarm Pull Stations Mounted Height
Fire alarm pull stations are not located at the proper mounting height.

24 Wainscoting in Building
Interior walls along egress path contain combustible materials not meeting required flame spread and smoke development ratings.

25 Wood Paneling in Building
Interior walls along egress path contain combustible materials not meeting required flame spread and smoke development ratings.

26 Smoke detector in hallway
Item Corrected

27 Exit Door in Conference Room
Conference rooms only means of egress required passage through an office space.

28 Fire Alarm Smoke Detector by Conference Room
Item Corrected

29 Fire Alarm Smoke Detector by Tax Assessor's Office
Item Corrected

30 Fire Alarm Smoke Detector by 2nd Floor Bathrooms
Item Corrected

31 All HVAC units rated at 2000 cfm+ are required
Item Corrected

32 Main Vault Exit Signs
Item Corrected

33 Tax Assessor & Finance Office Doors
The offices only exits pass through another office space.

34 Illuminated Exit Sign by rear exit door in the tax assessor's office
Item Corrected

35 Rear Steps behind Finance & Tax Assessor's Office
Item Corrected

36 Electrical Panel in Closet by Tax Assessor's Office
Item Corrected

37 Unprotected Vertical Opening
The building has unprotected penetrations through required fire separations.

38 Basement Door and Means of Egress
While open the existing basement door completely blocks the required means of egress on the first floor.

39 Basement Headroom at Bottom of Stairs
Minimum 80 inches required headroom not provided.

40 Electrical Junction Boxes in Basement
Item Corrected

41 Maintenance & Testing of the Emergency Generator
Item Corrected

42 Fire Wall Penetrations between Basement and 1st Floor
Item Corrected

43 Aisles Width in Basement
The required 28 inch aisles have not been maintained.

44 Basement Fire Alarm Devices

Item Corrected

45 2nd Floor Second means of Egress

Second floor currently has no required second means of egress.

46 Testing of Fire Escape

Item Corrected

47 Fire Escape Obstruction

Item Corrected

48 Existing fire escape door is difficult to open

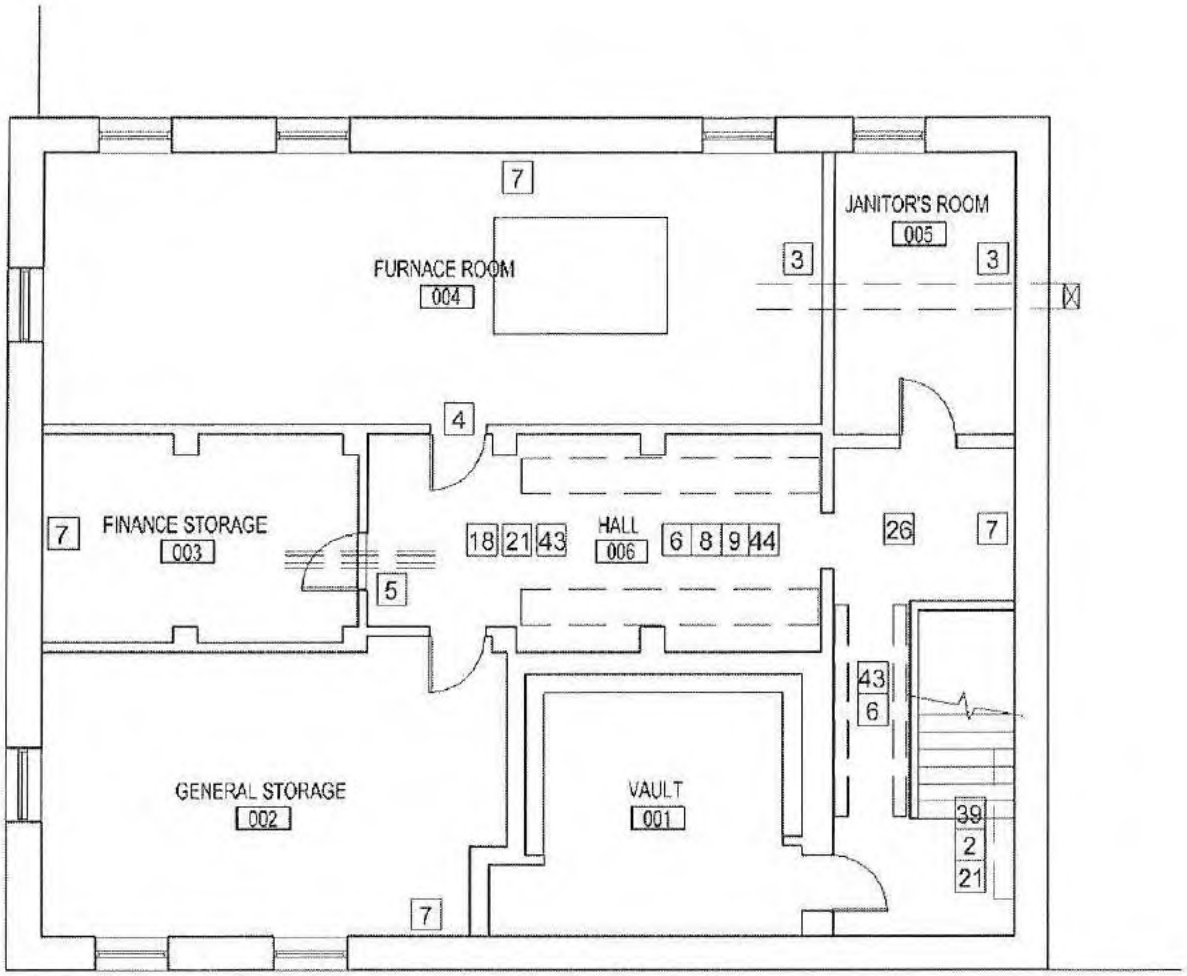
Item Corrected

49 Fire Extinguisher outside the Town Manager's Office expired

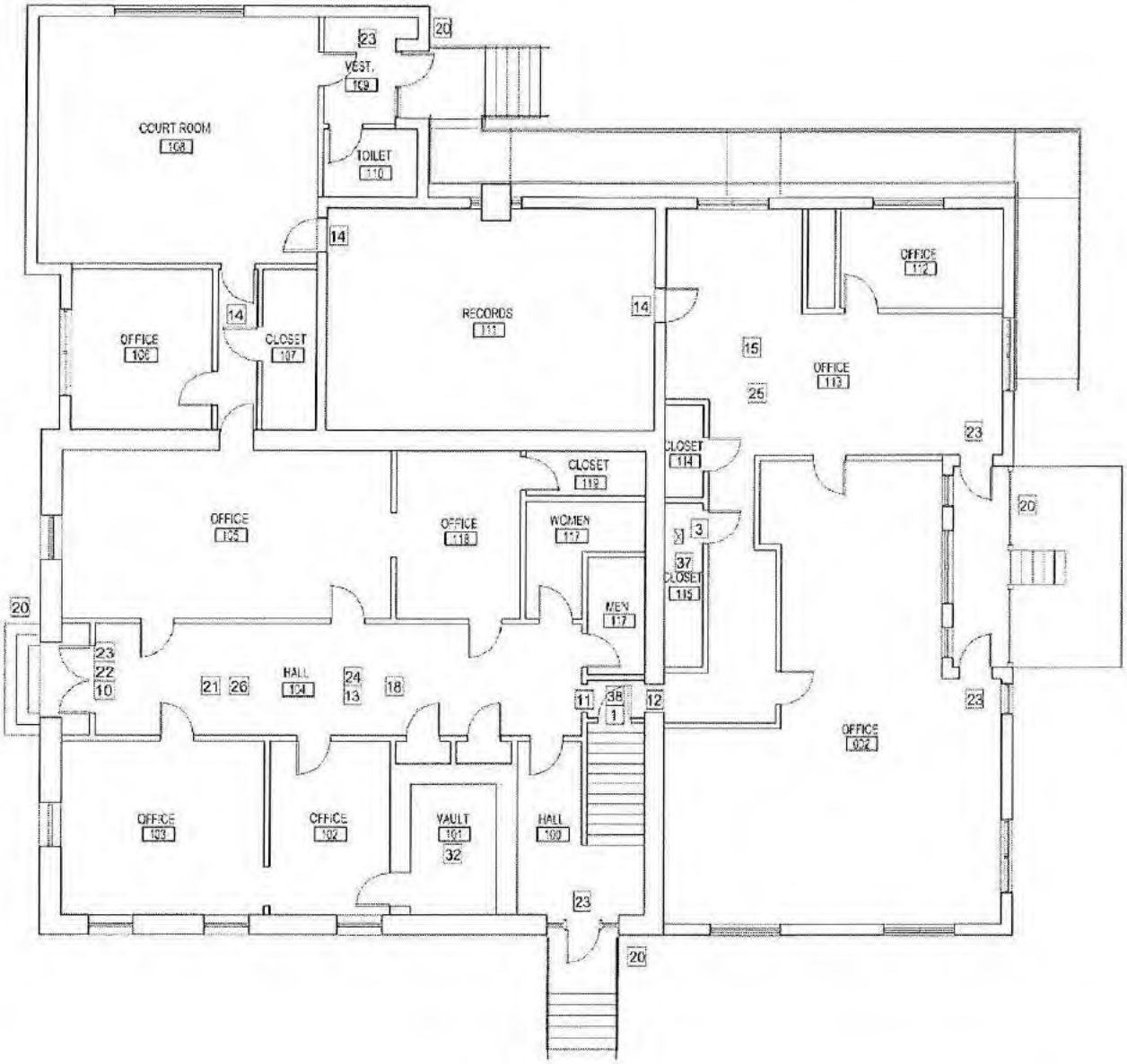
Item Corrected

50 Space above ceiling has hall light wiring not in electrical boxes

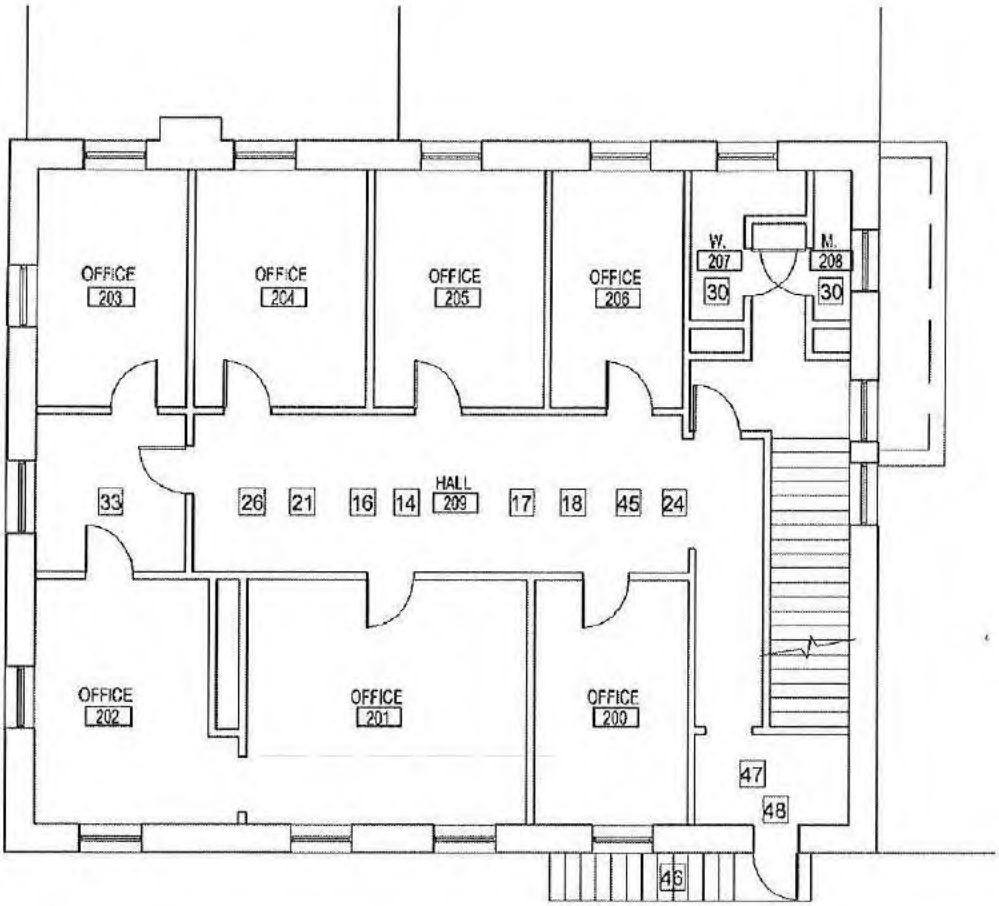
Item Corrected



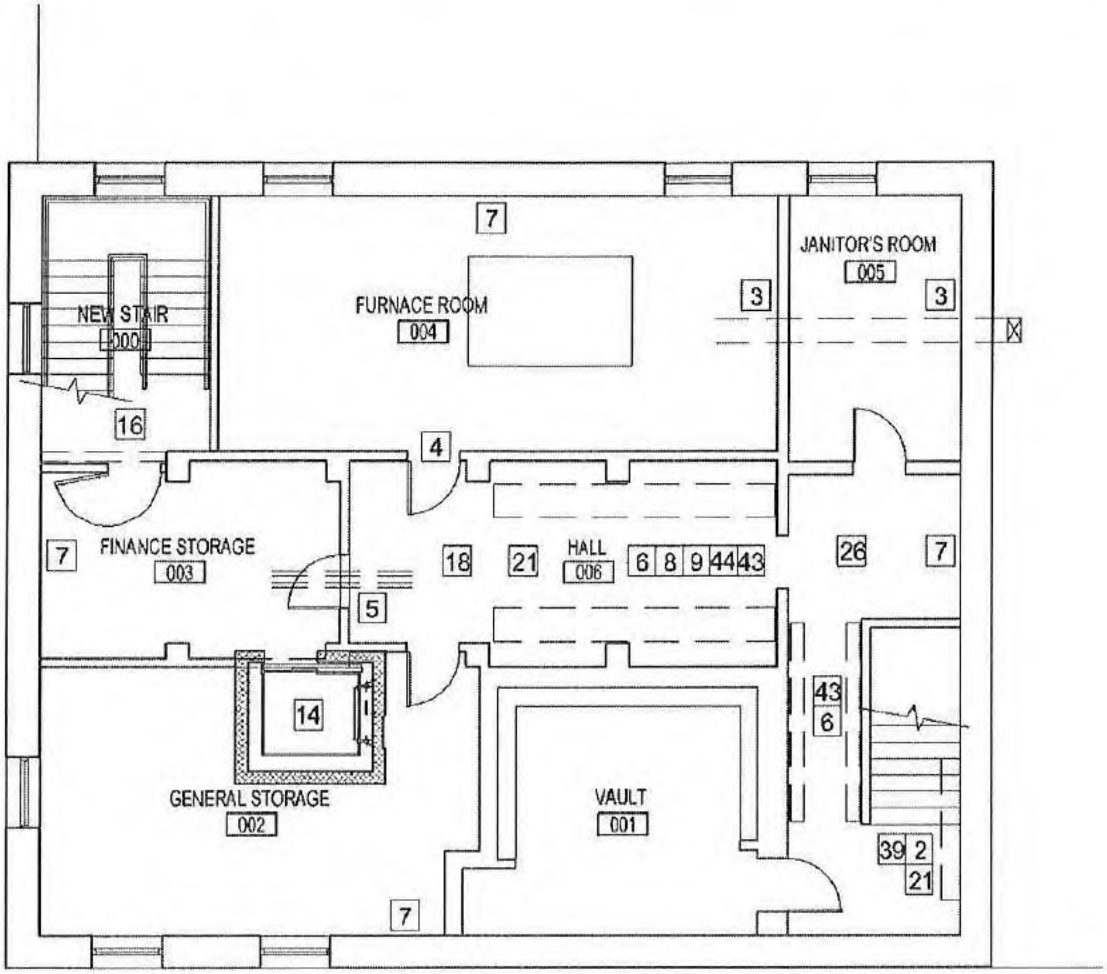
Existing Basement Floor Plan



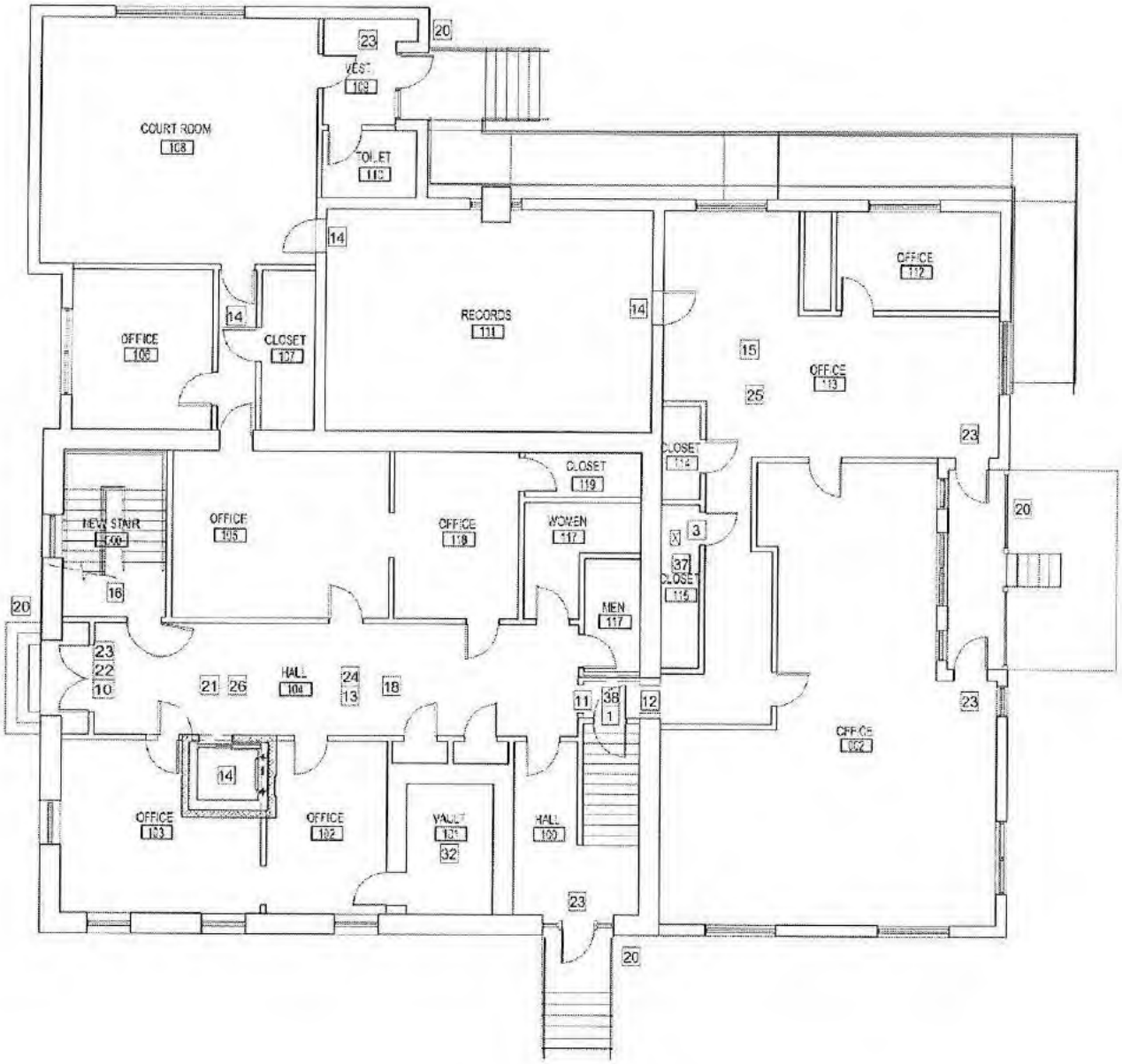
Existing First Floor Plan



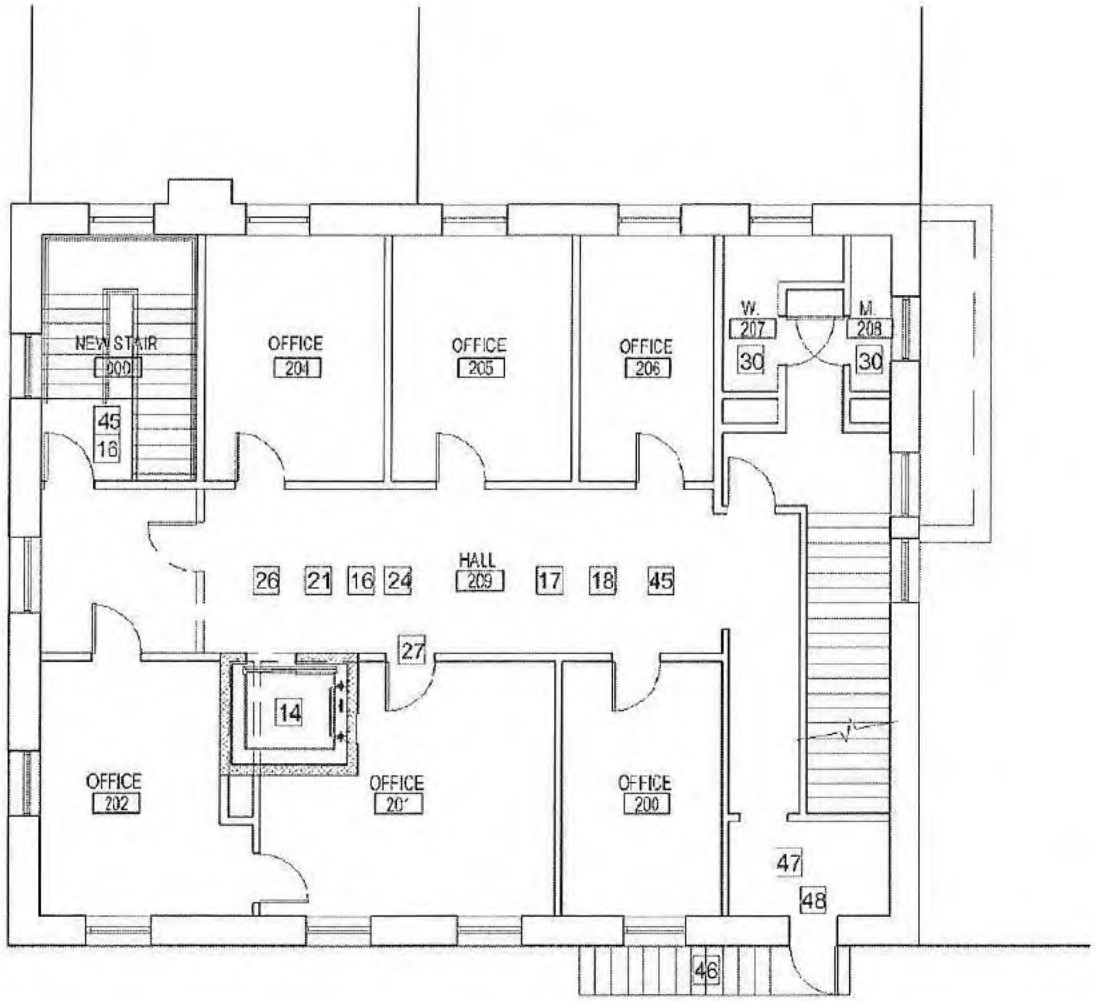
Existing Second Floor Plan



Proposed Basement Floor Plan



Proposed First Floor Plan



Proposed Second Floor Plan

Appendices

North Kingstown Town Hall Building Code & Fire Code Violations			
Violation	Corrected	Not Corrected	Partial
1. Basement Egress Stairway		X	
2. Electrical Service along basement stairway		X	
3. Fire Wall Penetrations			X
4. Fire Door Assembly Boiler Room	X		
5. Structural header between Exit Access Hall & Storage Room		X	
6. Egress Access in Basement- Stairs & Walking Services		X	
7. Masonry & Brick Foundation Load Walls		X	
8. Mold		X	
9. Radon (Town has scheduled a test)		X	
10. Main Entry Egress & Ingress	X		
11. Exit Door Hallway (see item #1)		X	
12. Interior Egress Access Hallway		X	
13. 1st Floor Interior Finish not Flame Resistant			X
14. ADA Accessibility		X	
15. Insect Infestation & Damage			X
16. Second Floor Means of Egress		X	
17. Second Floor Interior Finish not Flame Resistant			X
18. Asbestos & Lead Paint		X	
Town Hall Fire Code Violations			
1. Master Box Connection	X		
2. Emergency Lighting at Building Egress	X		
3. Emergency Lighting in Interior	X		
4. Front Entrance Door	X		
5. Fire Alarm Pull Stations Mounted Height		X	
6. Wainscoting in Building			X
7. Wood Paneling in Building		X	
8. Smoke detector in hallway	X		
9. Exit Door in Conference Room		X	
10. Fire Alarm Smoke Detector by Conference Room	X		
11. Fire Alarm Smoke Detector by Tax Assessor's Office	X		
12. Fire Alarm Smoke Detector by 2nd Floor Bathrooms	X		
13. All HVAC units rated at 2000 cfm+ are required ....NO ACTION NECESSARY			
14. Main Vault Exit Signs	X		

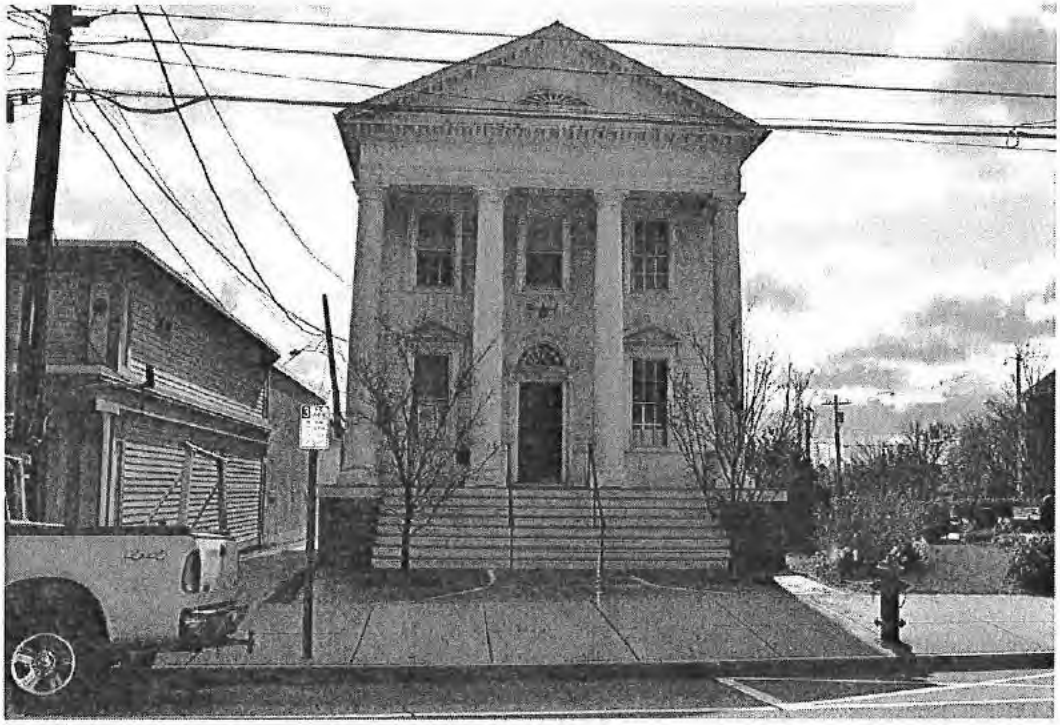
15. Tax Assessor & Finance Office Doors		X	
16. Illuminated Exit Sign by rear exit door in the tax assessor's office	X		
17. Rear Steps behind Finance & Tax Assessor's Office	X		
18. Electrical Panel in Closet by Tax Assessor's Office	X		
19. Unprotected Vertical Opening		X	
20. Basement Door and Means of Egress		X	
21. Basement Headroom at Bottom of Stairs		X	
22. Electrical Junction Boxes in Basement	X		
23. Maintenance & Testing of the Emergency Generator	X		
24. Fire Wall Penetrations between Basement and 1st Floor	X		
25. Aisles Width in Basement		X	
26. Basement Fire Alarm Devices	X		
27. 2nd Floor Second means of Egress			X
28. Testing of Fire Escape	X		
29. Fire Escape Obstruction	X		
30. Existing fire escape door is difficult to open	X		
31. Fire Extinguisher outside the Town Manager's Office expired	X		
32. Space above ceiling has hall light wiring not in electrical boxes	X		
Source: *12/11/15 Memo from Phil Bergeron to Thomas Mulligan*			

ARCHITECTURA	Probable Construction Cost Estimate	2.2.16
1005 Main St, Suite 2111	North KingstownTown Hall	
Pawtucket, RI 02860	80 Boston Neck Road	
401.726.7711	North Kingstown, RI	
North Kingstown Town Hall Building Code & Fire Code Violations	**AMOUNT**	**REMARKS**
1. Basement Egress Stairway	0.00	Variance
2. Electrical Service along basement stairway	30,000.00	New Service
3. Fire Wall Penetrations	24,000.00	Fire Dampers
4. Fire Door Assembly Boiler Room	0.00	Completed
5. Structural header between Exit Access Hall & Storage Room	6,000.00	Masonry Repair
6. Egress Access in Basement- Stairs & Walking Services	0.00	Move Files
7. Masonry & Brick Foundation Load Walls Patch, Repoint, Parge, Restore	110,000.00	Masonry & Stone
8. Mold	34,000.00	Remediation
9. Radon (Town has scheduled a test)	8,000.00	Radon Miligation
10. Main Entry Egress & Ingress	0.00	Completed
11. Exit Door Hallway	2,500.00	See Item 1
12. Interior Egress Access Hallway	4,500.00	Modify Opening
13.1st Floor Interior Finish not Flame Resistant	8,000.00	Intumescent
14. ADA Accessibility Misc first floor modidifications & new elevator	210,000.00	3 Stop Elevator
15. Insect Infestation & Damage	2,400.00	Pest Service
16. Second Floor Means of Egress Stair & Shaft	78,000.00	Bsmnt - 2
17. Second Floor Interior Finish not Flame Resistant	4,000.00	Intumescent
18. Asbestos & Lead Paint Abatement	34,000.00	Removal
19. Master Box Connection	0.00	Completed
20. Emergency Lighting at Building Egress	0.00	Completed
21. Emergency Lighting in Interior	0.00	Completed
22. Front Entrance Door	0.00	Completed
23. Fire Alarm Pull Stations Mounted Height	3,750.00	Relocate
24. Wainscoting in Building	0.00	See #13
25. Wood Paneling in Building	24,000.00	Intumescent
26. Smoke detector in hallway	0.00	Complete
27. Exit Door in Conference Room	4,400.00	New Door
28. Fire Alarm Smoke Detector by Conference Room	0.00	Completed
29. Fire Alarm Smoke Detector by Tax Assessor's Office	0.00	Completed
30. Fire Alarm Smoke Detector by 2nd Floor Bathrooms	0.00	See 11
31. All HVAC units rated at 2000 cfm+ are required ....NO ACTION NECESSARY	0.00	Completed
32. Main Vault Exit Signs	0.00	Completd
33. Tax Assessor & Finance Office Doors	4,800.00	Modify
34. Illuminated Exit Sign by rear exit door in the tax assessor's office	0.00	Completd
35. Rear Steps behind Finance & Tax Assessor's Office	0.00	Completd
36. Electrical Panel in Closet by Tax Assessor's Office	0.00	Completd
37. Unprotected Vertical Opening	0.00	See #3
38. Basement Door and Means of Egress	0.00	Completd
39. Basement Headroom at Bottom of Stairs	0.00	Abandon
40. Electrical Junction Boxes in Basement	0.00	Completd
41. Maintenance & Testing of the Emergency Generator	0.00	Completd
42. Fire Wall Penetrations between Basement and 1st Floor	0.00	Completd
43. Aisles Width in Basement	0.00	By Town
44. Basement Fire Alarm Devices	0.00	Completd
45. 2nd Floor Second means of Egress	0.00	See #16
46. Testing of Fire Escape	0.00	Completd
47. Fire Escape Obstruction	0.00	Completd
48. Existing fire escape door is difficult to open	0.00	Completd
49. Fire Extinguisher outside the Town Manager's Office expired	0.00	Completd
50. Space above ceiling has hall light wiring not in electrical boxes	0.00	Completd
51. New drywall ceiling in basement	28,000.00	Fire Rated
52. New draintile system at perimeter with sump	48,000.00	Waterproofing

53. Allowance to replace displaced work areas by stair / elevator						14,000.00	Workstations
54. Allowance for Replacement Boiler						15,000.00	Existing 45 Years
Subtotal						697,350.00	
Contingency @ 15%						104,602.50	
General Contractor's Profit & Overhead @ 12%						96,234.30	
GRAND TOTALS						**898,186.80**	

North Kingstown Town Hall Annex

Remedial Work Recommendations



Prepared For:
Town of North Kingstown, RI
80 Boston Neck Road
North Kingstown, RI

Prepared By:
Architectura
1005 Main Street
Pawtucket, RI 02860

INTRODUCTION

North Kingstown Town Hall Annex an historic icon located at 55 Brown Street in the Historic Town of Wickford in North Kingstown, RI, was constructed in 1898 for the purposes of housing the Wickford Free Library. The original building consists of a two and one half story wood structure incorporating the Greek Revival Style which was popular during that era. A single story non-contributing masonry addition was added to the first floor of the original building in order to add office and administrative space to the building the time the building was converted to Town Administrative offices.

See Historical Aspects in the following section for more detail regarding the Historical Significance of this building.

PURPOSE & INTENT OF THIS ASSESSEMENT REPORT

In June, 2015 the Town received Notice of Building and Fire Code violations for both the Town Hall as well as the Town Hall Annex. Violations included over 50 items ranging from minor maintenance issues to substantial deficiencies requiring a major investment by the Town in order to reclify the violation.

It is the intent of this Report to analyze the existing conditions of the building as related to building code deficiencies and how they relate to its historical significance as well as to quantify the necessary remedial work into a working construction budget for the Town's planning purposes.

Table of Contents

Appendices

HISTORICAL ASPECTS

Among the villages that make up the Town of North Kingstown, RI, Wickford is the most extensive and the most easily recognizable since it is most closely built and the densest of all the Town's villages. The village is listed on the National Register of Historic Places including many buildings that comprise It, which includes; Town Hall and the Town Hall Annex mentioned prominently in the narrative of the national nomination form.

The Wickford Free Library built in 1898 is a white wood structure whose design was inspired by a classic Greek Temple was designed by Architect F.J. Sawtelle of Providence. At the 1899 dedication of the library the structure was described as "altogether one of most striking and complete edifices of its character in the state".

The original building is architecturally intact except for the one story addition on the rear circa 1970 which is indifferent stylistically to the original building and is deemed non-contributing as defined by the RI Historical Preservation & Heritage Commission. The building was converted to Town Administration Offices at an unknown date and became known as the Town Hall Annex.

Wickford is listed on the National Historic Register with the Town Hall Annex cited as a contributing structure.

Building Code Violations:

As cited by the Town of North Kingston, Office of the Building official

1 Air Quality

The basement lacks proper ventilation. The walls contain lead paint which has come loose due to the spalling of the brick foundation walls. The boiler flue has perforations creating Co2 development.

2 Mold

Mold is also present in the basement creating an unhealthy interior environment and is potentially hazardous to the occupants wellbeing.

3 Radon

Radon is potentially present in the building again contributing to an unhealthy indoor environment.

4 Electrical Service

The existing electrical panels do not have the code required surrounding clearances. The panels are also mounted in an insecure unsafe matter creating risk of fire.

5 Fire Wall Penetration

Both the fire rated ceiling and wall assemblies in the boiler room contain multiple penetrations in which are not properly blocked or sealed thus creating risk of fire spread.

6 Fire Door Assembly for Boiler Room

The existing boiler room door is not fire rated as required again creating risk of fire spread.

7 Masonry and Brick foundation and load walls

Masonry foundation and load bearing walls are deteriorating. Some locations have experienced severe brick spalling as well as failing mortar joints. A centrally located brick support column has experienced settling creating large cracks in the basement slab. The slab appears to have voids beneath possibly due to a water current undermining both the column and slab.

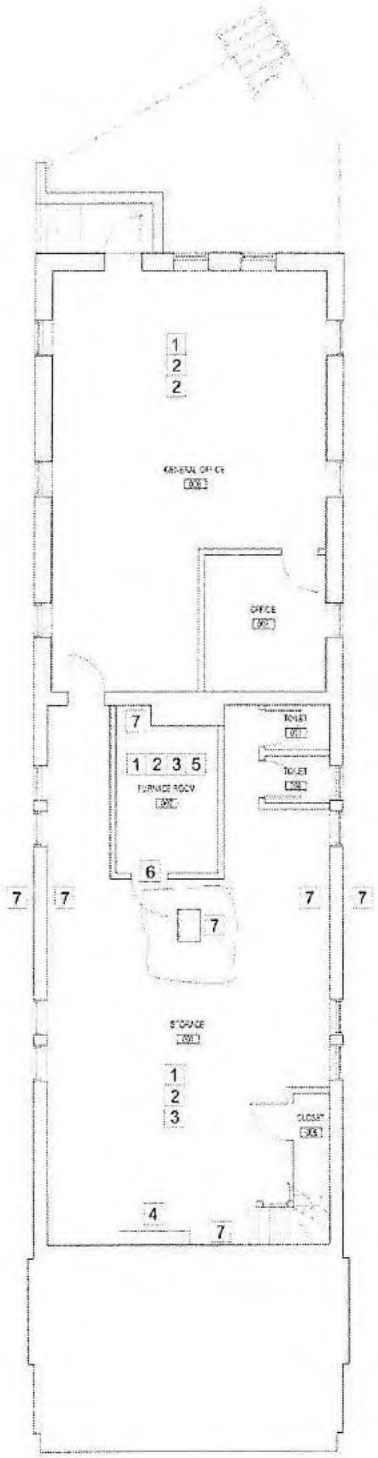
8 ADA Accessibility

The entire second floor is inaccessible, thus violating federal ADA regulations.

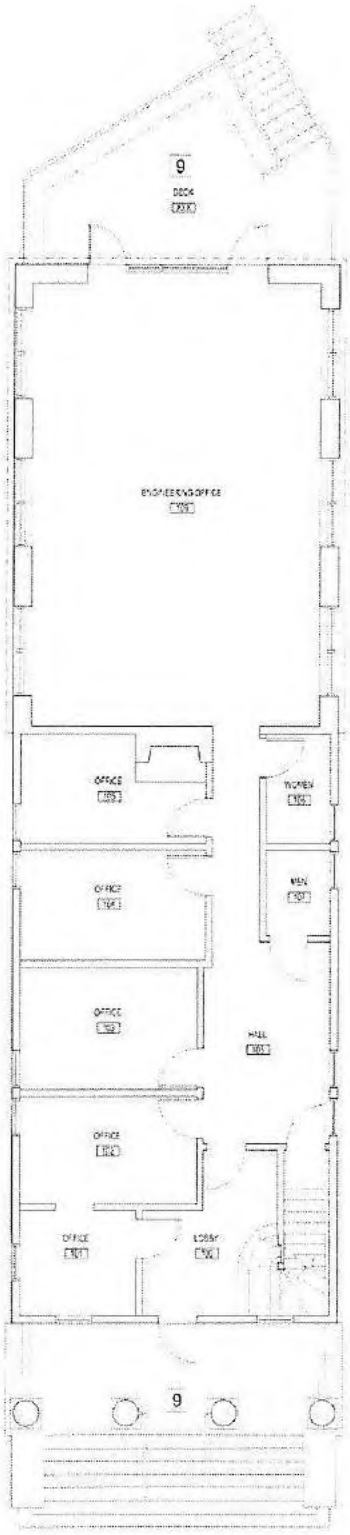
9 Exterior

The front entry wood columns and deck have severe decay, the column joints have begun to separate creating a falling hazard. The wood deck has in fact already completely failed in one

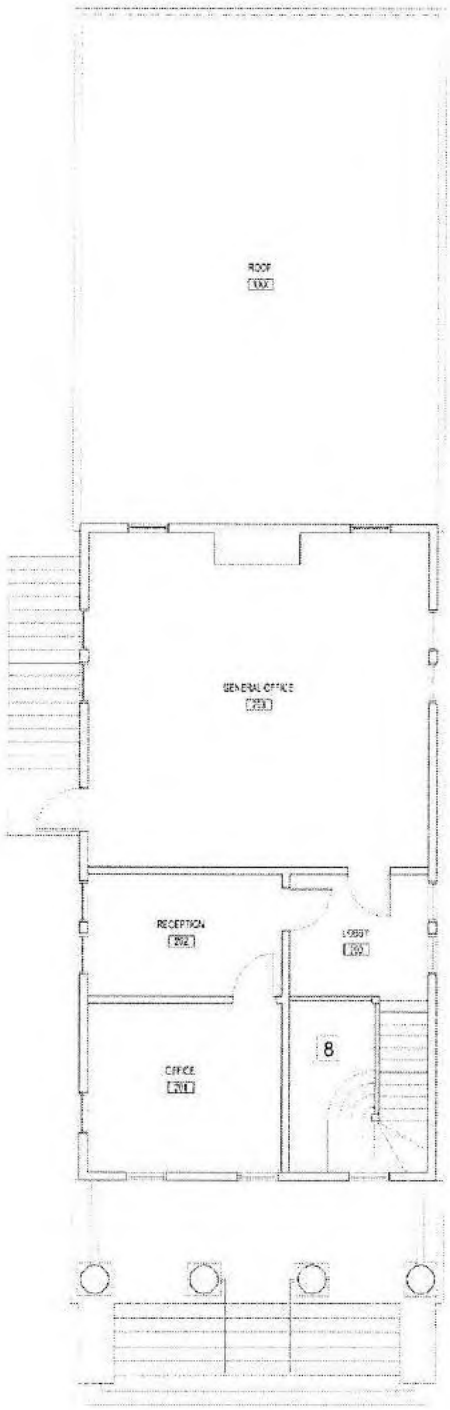
location. The entire steel frame supporting the rear deck has suffered severe loss of structural integrity most likely due to the immediate environment and proximity to the water. Some members have lost as much as fifty percent of their effective mass.



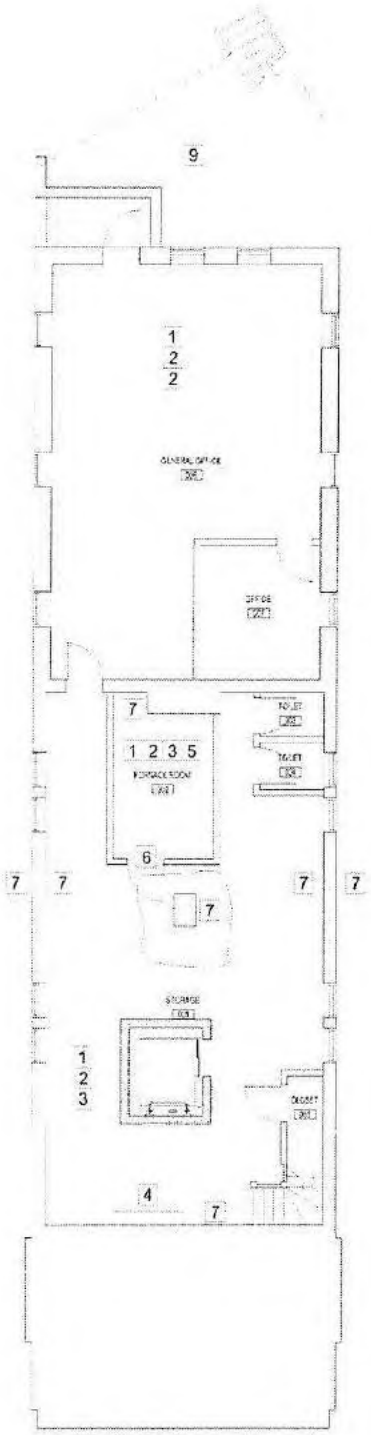
Existing Basement Floor Plan



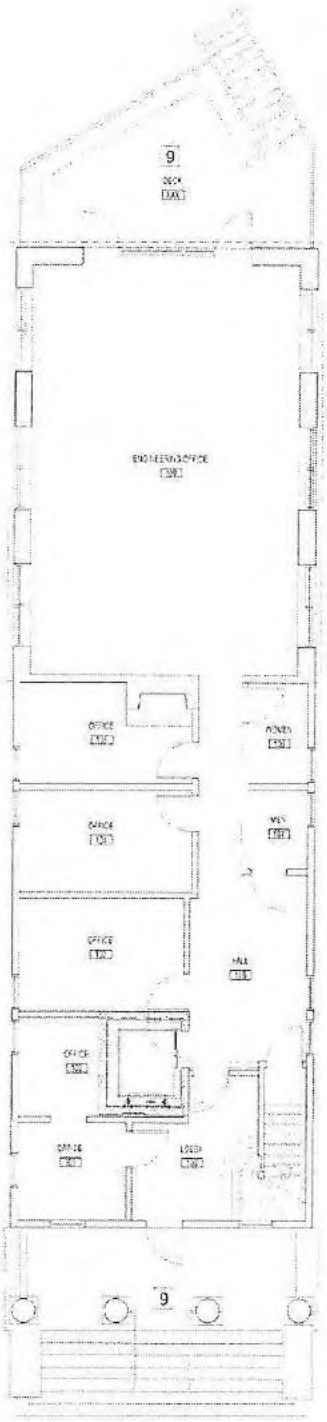
Existing First Floor Plan



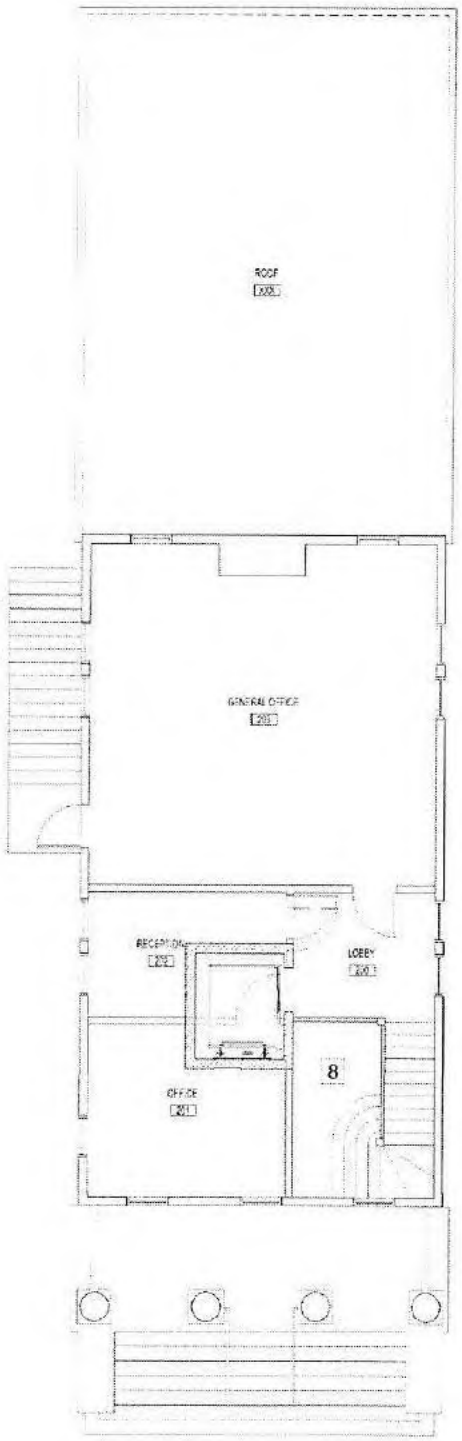
Existing Second Floor Plan



Proposed Basement Floor Plan



Proposed First Floor Plan



Proposed Second Floor Plan

North Kingstown Town Hall Building Code & Fire Code Violations				
Violation	Corrected	Not Corrected	Partial	Remarks
Town Hall Annex Building Code Violations				
1. Air Quality in basement		X		
2. Electrical Service Mounting		X		
3. Fire Wall Penetrations		X		
4. Fire Door Assembly		X		
5. Masonry & Brick Foundations		X		
6. ADA Accessibility		X		
Source: *12/11/15 Memo from Phil Bergeron to Thomas Mulligan*				

ARCHITECTURA			Probable Construction Cost Estimate		2.2.16	
1005 Main St, Suite 2111					North KingstownTown Hall Annex	
Pawtucket, RI 02860					55 Brown Street	
401.726.7711					North Kingstown, RI	
North Kingstown Town Hall Annex Building Code Violations			**AMOUNT**	**REMARKS**		
1. Air Quality			2,000.00	Install Proper Basement Ventilation		
			8,000.00	Lead Paint Abatement		
			2,000.00	Reline/Repare Boiler Flue (co2 Issue)		
2. Mold			10,000.00	Mold Remediation (dehumidification)		
3. Radon			8,000.00	Install Radon Mitigation System		
4. Electrical Service			27,000.00	Relocate Electrical Main and Panels		
5. Fire Wall Penetrations			2,000.00	Patch and Fire Caulk All Wall Penetrations		
			4,000.00	Replace ceiling w/ Horz. Rated Assembly		
6. Fire Door Assembly At Boiler Room			1,200.00	Install New Rated Door and Hardware		
7. Masonry and Brick Foundation			60,000.00	Repoint and Parge entire Foundation		
			20,000.00	Excavate and Repair Failing Column & Pier		
			32,000.00	Install Perimeter Drain and Interior Sump		
8. ADA Accessibility			170,000.00	Install 3 Stop Elevator		
9. Exterior			15,000.00	Rebuild Failing Front Porch		
			30,000.00	Rebuild Failing Rear Deck and Ramp		
10. Second Floor Means Of Egress			85,000.00	Install New Egress Stair.		
11. Mechanical Work Allowance			25,000.00	Replace 45 Year Old Boiler		
Subtotal			501,200.00			
Contingency @ 15%			75,180.00			
General Contractor's Profit & Overhead @ 12%			69,165.60			
GRAND TOTALS			**645,545.60**			