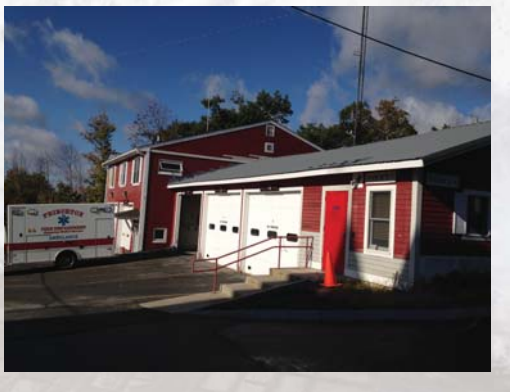
PRINCETON PUBLIC BUILDINGS FACILITIES ASSESSMENT

Princeton, Massachusetts

FINAL REPORT

April 2015



HKT architects inc.

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EXECUTIVE SUMMARY

INTRODUCTION

The Town of Princeton owns several public buildings with varying degrees of deferred maintenance issues that must be addressed. Accordingly, HKT Architects Inc. was hired by the Town to prepare a facilities study to ascertain the physical conditions of six Town-owned buildings that are listed below:

1. The Princeton Center, built in 1906
2. Bagg Hall, built in 1884
3. The Public Safety Building, renovated and expanded in 1988
4. The Town Hall Annex, former Municipal Light Building, converted in 2000±
5. Fire Station No. 2, built in 1987
6. The Goodnow Memorial Building, built in 1883, renovated in 2001






The condition of each building varies from the Princeton Center, which has numerous issues that are quite serious, to the Goodnow Memorial Building which is in generally very good condition. In order to address these issues, the Town requires an objective overview to help identify repairs and potential improvements, develop priorities, and to establish a realistic plan of action that can be supported by the residents of Princeton. Over the years, Princeton has had a reactive record in maintaining their properties and keeping them code compliant. Typically, things do not get addressed until there is a breakdown of some sort that requires a “fix”. Some of these buildings have problems that can no longer be ignored or solved with a “fix”. The Town is now faced with the reality of taking action before some of the buildings can no longer remain in service because they are unsafe for occupancy, are not code compliant, no longer can meet the needs for which they were designed, or are deteriorating too rapidly.

This report has a limited purpose: to evaluate the six buildings and to suggest an action plan as some of these buildings will require extensive renovation/restoration or replacement. Others will need a deferred maintenance program so that their useful life can be extended while the facilities continue to operate efficiently. This study is the first step in developing a roadmap to prioritize a realistic plan that addresses these issues holistically. While a list of priorities has been developed, the first three buildings listed above will need more extensive study to define a detailed scope of work with a corresponding budget. In the case of the Princeton Center and the Public Safety Building, the Town must decide on whether the existing building should be renovated or replaced. A study that evaluates the cost/benefit of these options should be completed, before a final decision can be made.

We have structured this report with a separate section for each of the six buildings listed above. Each building has an architectural, structural, HVAC, Plumbing and Electrical assessment that describes the building with an overview of its present condition. This report is not meant to be an exhaustive review and the narratives only represent a snapshot of one day's walk-through with each consultant for all six buildings. Nevertheless, we feel that the assembled information will help the Town of Princeton make some crucial decisions as these buildings (some more than others) need a realistic approach to upgrading rather than the typical reactive response. Without any action, some of these buildings are rapidly approaching a point of no return. As stated above, the Town must agree to a long-term plan that will delineate how and over what time period these issues will be addressed.

VISIONING SESSION

On January 28, 2015 a visioning session was held in the Town Hall Annex for anyone who wished to express their thoughts about the study. On a very cold January night, not long after a major snowstorm, more than 20 people attended the open meeting and shared their views and expectations. In general, people felt positive that the Town of Princeton was trying to move forward with these buildings and at the same time, there was sincere concern as to how the Town would pay for the work. A summary of the comments from the visioning session is included in the appendix to this report. In general, the responses, based on four questions that were posed to the group, fell into the following categories:

1. Prioritizing projects and funding is important.
2. The Town needs to act on the results of the report.
3. Should the Princeton Center be renovated or replaced?
4. Put the upper floor of Bagg Hall back into service.
5. The Town must make the improvements required to maintain the buildings in the future.
6. The importance of preserving historic buildings as part of Princeton's unique character.
7. It is important to plan for future needs as well as present needs.
8. The importance of generating Town consensus on the proposed plan.
9. The Town buildings must accommodate the needs of the Town with efficient layouts and appropriately sized spaces.
10. Better parking for library and Bagg Hall.
11. Universal agreement that most of the buildings in the study do not work and are in need of extensive repairs.

METHODOLOGY

Our plan for assembling the data for this report was to start with the visioning session described above. The purpose was for the Design Team to get a feel for the Town's attitude towards ultimately dealing with the problems inherent in these facilities. We were interested in learning what residents of Princeton considered as important priorities and to get an overall consensus of where we should direct our efforts.

Our next task was to spend a day with all of the consultants to walk through, take notes and photograph each building. We walked the sites on February 11th after one of the recent snow storms with extremely low temperatures that have dominated local weather patterns during this winter of 2015. The temperature that day was in the teens. This gave our team a great opportunity to see these buildings under severe conditions. We were joined by Phil Connors, who is the Facilities Manager for the Town of Princeton. Phil's help was invaluable inasmuch as he has a great deal of knowledge and firsthand experience with all of these buildings. Subsequent to our visit, each discipline has prepared a summary of their findings on that day.

In addition, the Design Team has reviewed all of the previous reports and studies, including inspection reports of some of the buildings from the Fire Department and the Building Inspector. HKT was able to put together plans of each of the six buildings from documents that the Town has in their possession as part of this report.

Using this information, the Design Team has established a proposed list of priorities based on the condition of the current facilities and the needs of the Town. After a review of our findings, we have prepared a comparative cost analysis to assess the relative financial commitment that would be associated with each of the projects. This is a rough cost analysis based on current square foot costs of similar types of projects. They are by no means to be considered actual cost estimates. That cannot be done until each project is carefully studied in more detail. Nevertheless, the very rough numbers will give the Town a broad idea of what it will take to go in any particular direction. All numbers are based on 2015 costs and they will increase with escalation over time.

SUMMARY OF FINDINGS

The following is a very brief description of our findings for each building. There is more detail and photographic documentation for each building that follows this Executive Summary.

Princeton Center: This building is in the worst condition of the six that we have studied. It has severe life safety violations as well as numerous other code violations and the MEP systems are significantly beyond their life expectancy. The building has been cited by the Fire Department and the Town Building Inspector for many of these violations. (See Appendix B.) The fire alarm does not function properly and spare parts to fix it are no longer available. Spaces in the building have limited use and the upper level is not accessible. The general circulation is confusing so that way-finding for someone new to the building is very difficult. It has very limited accessibility for persons with disabilities. This building cannot continue to function in its current condition.

Bagg Hall: From a historic preservation point of view, the library and Bagg Hall are the two most important buildings in the Town center. They represent Princeton's most iconic image as a classic New England town. Unlike the library, however, Bagg Hall has not been the beneficiary of careful planning and long-range maintenance. The second floor is a classic town meeting hall that has fallen into disrepair. Because it has no handicap access, it has been left as an unheated storage space. In addition, the first floor has been modified over the years. The layout is inefficient and it has lost some of the historic character that must have been something that would have made the citizenry proud during its heyday. The MEP systems are out of date and the energy costs are excessive. The exterior also needs attention, particularly the roof, windows and masonry. The building does not have compliant accessible toilets, although it is our understanding that the Town has received a variance for the unisex toilet off of the front entry foyer. The toilet signage, however does not comply with the MAAB regulations.

Public Safety Building: The building at the Town Center, built in phases and matching the changing topography of the site, is undersized for modern equipment, lacks space required for safe operations, and includes spaces that, as currently located, require excessive movement for personnel when responding to an emergency. In the same case as the Annex, the Public Safety Building also does not match the historical character of Bagg Hall and the Goodnow Memorial Building. A new facility should be built into the future plans of the Town. In a new combined facility there are spaces that can be shared between the two departments. These spaces include the entry vestibule/lobby to meet and greet the public, training room, meeting space, fitness area, stairs and elevator, and all spaces dedicated to mechanical, electrical, and plumbing and fire protection systems. Below is a summary of areas that are required in a contemporary public safety building. Those items that are missing in each of the existing departments are listed in the checklist report for the Public Safety Building.

Dedicated areas for the fire department include the following:

1. Administration spaces include offices for the Chief, officers and administrative support, areas for plan review, office equipment and supplies and archival and active file storage.

2. Staff support spaces include toilets, showers and locker rooms, a day room with kitchen and future sleeping quarters.

3. Operations areas include apparatus bays, hose storage, gear storage room, laundry with a gear washer and dryer as well as standard washer/dryer, a small maintenance workshop/workbench, medical cleaning/decontamination room, SCBA fill room, air compressor room, oxygen storage room, hazmat supply, storage, medical supply storage and bulk storage.

Dedicated areas for the police department include the following:

1. Administration spaces include offices for the Chief, officers, detectives and administrative support, areas for interview, office equipment and supplies and archival and active file storage.

2. Operations/Staff support spaces include a sergeant/officer in charge room, roll call room, report writing area, lunch area with kitchenette, toilets, showers and locker rooms, evidence and armory.

3. The detention area includes a sallyport, impound bay, tire and parts storage, booking and booking holding, detainee shower and janitor area, and cell block for males, females and juveniles.

The existing Public Safety Building is approximately 4,400 gross square feet. A right-sized Public safety building for a town like Princeton should be approximately 18,000 square feet, to meet the needs described above for these two departments.

Town Hall Annex: Formerly a Department of Public Works garage and a municipal light company, this building has been converted into a meeting room with several offices and general storage space. If Bagg Hall were fully renovated and brought up to code, the Annex function (other than storage) would not be necessary. The Annex doesn't have any immediate problems other than deferred maintenance issues described in the reports. It would benefit from additional insulation and a more efficient HVAC system, but such an investment is questionable if the current building is not part of the Town's future plans. Like the public safety building, it is an unattractive building that is incompatible with the historic character of the Bagg Hall and the Goodnow Memorial Building.

Fire Station No. 2: Generally, this facility is in reasonably good condition. There are some general deferred maintenance issues that are outlined in the checklist reports that follow. These include upgrading the branch circuits and replacing the electrical service, generator, lighting electrical distribution, lighting controls and fire alarm. The building has some spatial limitations, and the plans for a new public safety building should attempt to address some of these issues.

Goodnow Memorial Building: Of all of the buildings that we reviewed, the library has been most recently renovated (2001) and is therefore in the best physical condition and the most code compliant. While there are a number of issues to be addressed that are outlined in the report, all of these items fall under the heading of deferred maintenance. These items include replacement of the boiler and some upgrading to the electrical system and replacing some of the proprietary locks that makes re-keying very difficult and expensive. The library also has the advantage of raising funds through the Friends of the Princeton Library to help cover the cost of maintenance and operations.

PROPOSED ACTION PLAN

It is the Design Team's recommendation that the Town of Princeton address following priorities of physical conditions in the order in which they are listed. We have not included a timetable because developing a final plan will require additional study, particularly for the Princeton Center. Furthermore, the timing will also be dependent on the Town's ability to fund these projects in the coming years. We were advised of a serious masonry spalling condition on the east façade of Bagg Hall above the accessible entry. The current condition is dangerous inasmuch as the failing masonry and sandstone can fall on pedestrians who use this entrance. This issue must be addressed immediately.

Once the masonry issue at Bagg Hall is addressed, we recommend that the priorities for developing a master plan are as follows:

Priority No. 1 - The Princeton Center: Inasmuch as this building is in the most dismal condition and the most unsafe for occupancy, the Town should undertake a detailed study to look at the cost and benefits to the following options:

A. Tear down the current Princeton Center and replace it with a new building that meets all of the current needs of the Town and can be expanded for future needs.

B. A gut renovation of the existing building that would most likely replace the exterior elements and completely re-build the interior to meet code and to facilitate a functional layout.

C. Similar to B above, but the gymnasium wing would be removed and a new and properly sized gym with locker room facilities, etc. would be built in its place. The new structure would not necessarily need to be attached to the original building in the same manner.

D. Close off the rear gymnasium addition and make the most basic life safety improvements so that the original building can serve limited Town needs until a proper community center or other interim space is available.

This decision point is the most crucial in the sequence of recommended actions, primarily because the building is unsafe in its present condition. If the Town decides to close the building, it can then decide if and when a new building should be built or look to an interim solution as described in item D above. If another interim space can be found or if the Town can make minimal improvements to occupy the original portion of the Princeton

Center, the Town could start work on Bagg Hall, Priority No. 2. Bagg Hall, when renovated as described on the next page, could serve as interim space for the Parks and Recreation Department.

Priority No. 2 - Bagg Hall: Once a decision on the Princeton Center is made, the next priority must be Bagg Hall. The building is deteriorating and the cost to maintain it continues to escalate. This building will need an elevator, new accessible toilets and all new HVAC system, fire protection with a sprinkler system and addressable alarm system. It will also need to enlarge the records vault. If the toilets, elevator, stairs and vault are part of a discretely placed addition in the rear of the building, the need for the annex could be eliminated altogether. The addition, however, must address the interim needs for the Public Safety Building in terms of turning radii for vehicles and general access. The storage needs for the Annex can ultimately be accommodated at another location. (See Priority 3 below).

Priority No. 3 - Public Safety Building: While this building is inadequate, it can be used with minimal maintenance while the first two priorities are resolved provided that there is a plan for the interim use of the fire and police vehicles after and during the construction of the Bagg Hall addition. If the Annex function can be accommodated by the renovations to Bagg Hall, it could provide additional interim space for the Public Safety operations which gives the Town more time to build a new public safety complex.

Priority No. 4 - Town Hall Annex: Although this is listed as a priority, the Annex will be a non-project if it serves as interim space for the public safety operations or even as additional interim space for the Princeton Center functions. After the Public Safety Complex is built, this building could be removed along with the existing public safety building to provide more parking for Bagg Hall and the library. (See illustration below)

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Priority No. 5 - Fire Station No. 2 and the Goodnow Memorial Building: The needs for these two buildings should be accommodated in the Town's annual budget. They do not require any major expenditures and hopefully that would be true during the execution of the first three priorities. However, the Town needs to understand that all buildings need alterations and as time goes on the needs of these buildings could change in the next 10 to 15 years.

As stated above, the pivotal decision hinges on what strategy is pursued for the Princeton Center. Assuming that the Town wishes to maintain a community center we suggest that the new Public Safety Building be located on the Princeton Center site. This offers several advantages:

1. The current Public Safety Building can remain in place with additional interim space in the annex (assuming Bagg Hall is renovated). If the new Public Safety Building were built on the Town Hall Drive site it would require an interim space for the fire and police departments to operate during construction. This would be a very expensive addition to the project costs. Constructing a new building on the Princeton Center site, or another appropriate site that meets the Fire Department response time requirements, would eliminate that expense.

2. Currently, there isn't enough room on the Town Hall site for parking to serve Bagg Hall and the library. Removing the Annex and the existing public safety complex would free up more space for parking and green space and improve the historic character of the town center.

3. The community center and the public safety building could share spaces such as toilets, meeting rooms, HVAC systems, etc.

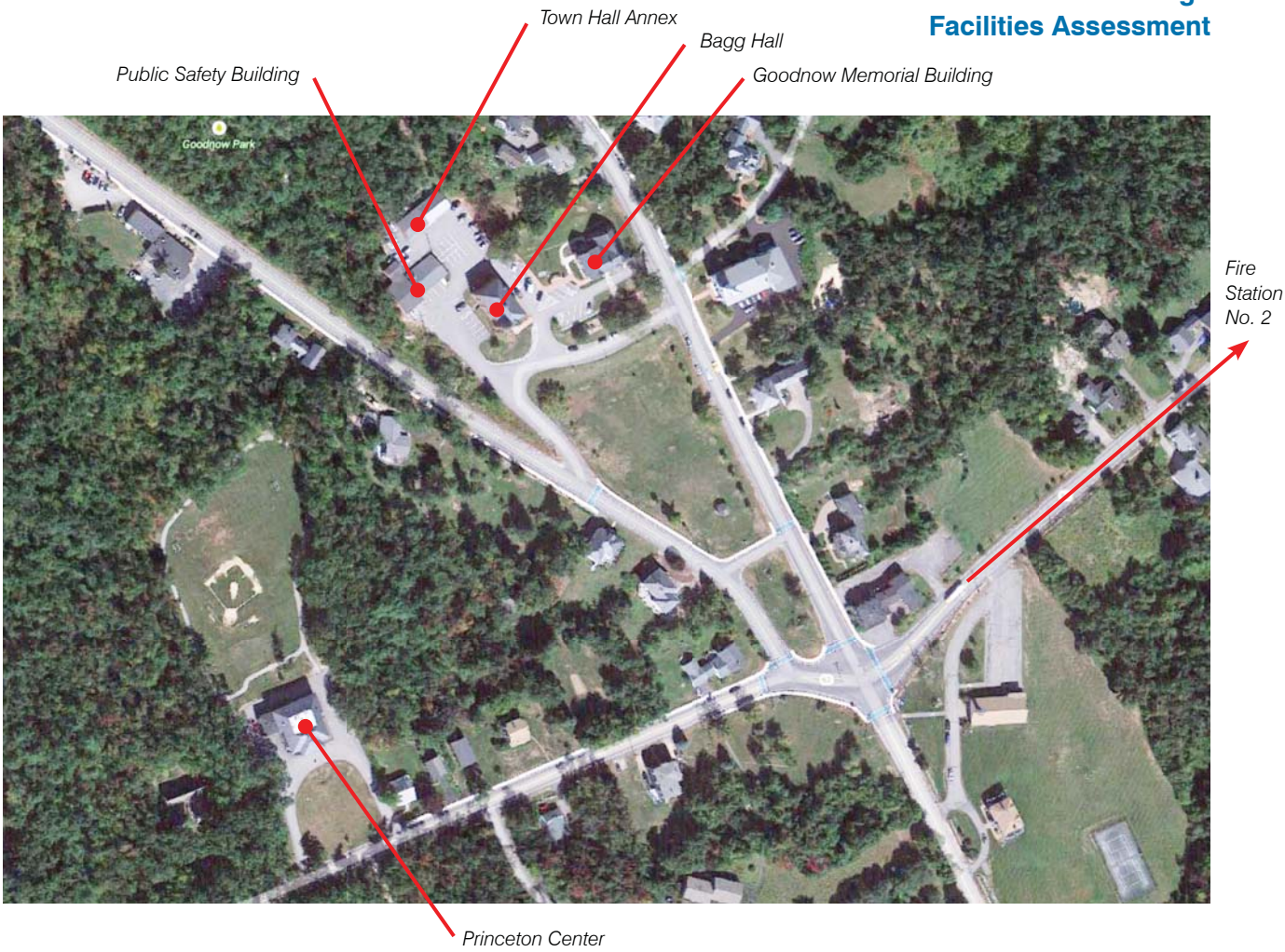
BUILDING SITES

This priorities plan requires moving the Public Safety Building off the current site on Town Hall Road to another location. One possibility is the Princeton Center site. This would seem to make sense if a new or restored Princeton Center remains on the current site as per the advantages previously described. Nevertheless, further study on the Princeton Center site is necessary to make certain that the following possible conflicts can be resolved:

1. Can both facilities occupy the site without adversely affecting the park or playing fields to the rear?
2. Is there a conflict between emergency access that is required for a public safety facility and access by the elderly and disabled to the Princeton Center?

If the Public Safety Building is relocated to another site it must be evaluated in terms of response time to an emergency event, and access and compatibility with the immediate neighborhood.

In addition, the Town Hall campus, if the Public Safety Building and the Annex are relocated, should be studied inasmuch as the site borders on a public park to the west and the vertical drop to Hubbardston Road is approximately 40 feet. There is considerable opportunity to improve this site by expanding the parking, eliminating some of the access drives, adding more green space in front of the library and making a better connection to the Town Common.



COMPARATIVE COSTS

At this point it is very hard to give clear and accurate estimates of probable costs for these projects. This is partially due to the fact that we do not have a program for some of the buildings, such as the Public Safety Building, which we know is undersized and the Princeton Center which is currently underutilized. We have made some guesses on sizing some of these buildings based on our experience with similar communities. Since there is no timetable for these projects, we cannot determine the impact of price escalation; however current indication is for 4-6% in 2015 and 2016 and 3.8% thereafter. All of the prices on the following page are based on current 2015 dollars.

The square foot costs shown on the next page were extrapolated from square foot costs for similar projects that we are seeing in today's market. They are truly "guesstimates" and should not be considered as anything more than a general comparison of different strategies. We have only included the Princeton Center, Bagg Hall and the Public Safety Building inasmuch as these are true capital expenditures that will require funding through means other than annual tax revenues. The costs are shown as hard construction costs and total project costs (TPC). Total project costs include the construction costs plus other project expenses such as architectural and engineering fees, testing, FF and E (furnishings, fixtures and equipment), insurance, legal fees, owner's project manager (OPM), permitting, interim moving costs, purchase of new property (if required), etc. The rule of thumb for these "soft" costs is an additional 30% of the estimated construction costs.

BUILDING:	SF	Renovation		New Construction		TPC
		$/SF	Hard Cost	$/SF	Hard Cost	
Princeton Center						
Renovate Existing Building	15,800	$410	$6,478,000			$8,421,400
Renovate Original (Front)	8,380	$410	$3,435,800			$4,466,540
New Gym	12,000			$385	$4,620,000	$6,006,000
New Building	15,800			$385	$6,083,000	$7,907,900
Bagg Hall						
Existing Building	5,600	$260	$1,456,000			$1,892,800
Addition	2,000			$430	$860,000	$1,118,000
Total Reno+Addition						$3,010,800
Public Safety Building						
Public Safety - Wood Frame	18,200			$430	$7,826,000	$10,173,800
Public Safety - Masonry	18,200			$450	$8,190,000	$10,647,000

The Princeton Center has several options. As one can see, renovating the existing building is more expensive than building a new center of the same size. One of the questions here is, what is the right size for a new Princeton Center? Without a program we have simply compared the cost of a new building of the same gross square footage to renovating the current building. We assume that the Princeton Center would house the Parks and Recreation office and have spaces for their programs, some classroom space, a meeting room with a serving kitchen, offices and an exhibition space with proper environmental controls for the Historic Society. If the original building is saved and a new addition is built to replace the 1936 addition, the total cost would be $4,466,540 + $6,006,000 or $10,472,540. It should be noted that we did increase the size of the 1936 wing of 7,420 SF to 12,000 SF to accommodate a new properly-sized gymnasium with locker rooms. The decision as to which path to take for the Princeton Center is whether it is worth spending approximately $2 million to maintain the existing building that has historic and sentimental value, versus a new Community Center building.

Bagg Hall assumes an addition in the back with an elevator, public toilets, an enlarged vault and new stair. Without a specific design, it was felt that the new elevator, if located properly, could serve the first floor, the main hall above as well as the stage.

Finally, the new Public Safety Building, if located on the Princeton Center site, could be built in wood frame or brick. If the Princeton Center is kept on this site, it should be designed to allow for the addition of the public safety complex, so that the Town can realize the economies that result from shared spaces and utilities.

CONCLUSION

While this report focuses on priorities, there are many options to be considered by the Town of Princeton. Doing nothing is not an option. The three major capital projects that need to be addressed cannot be sustained indefinitely, even if the patch and repair approach is continued. The solutions will keep getting more expensive as time goes on. Inflation in construction costs is projected at 4-6% for 2015 and 2016 and 3.8% thereafter. It is also understood that Princeton is a small town without an industrial base to augment its revenue stream. Nevertheless, the Town needs to make a plan. There are some objectives that should be part of that plan:

- Energy efficiency should be a major goal with new projects looking at renewable energy such as solar and wind power.
- Consider an energy audit to form a baseline of what cost savings you can realize over time. While the cost of energy can increase, the actual usage is the more important metric.
- Spend money wisely on materials that are low maintenance. With limited resources, you can save a great deal on annual operating expenses with better quality materials that are low maintenance.

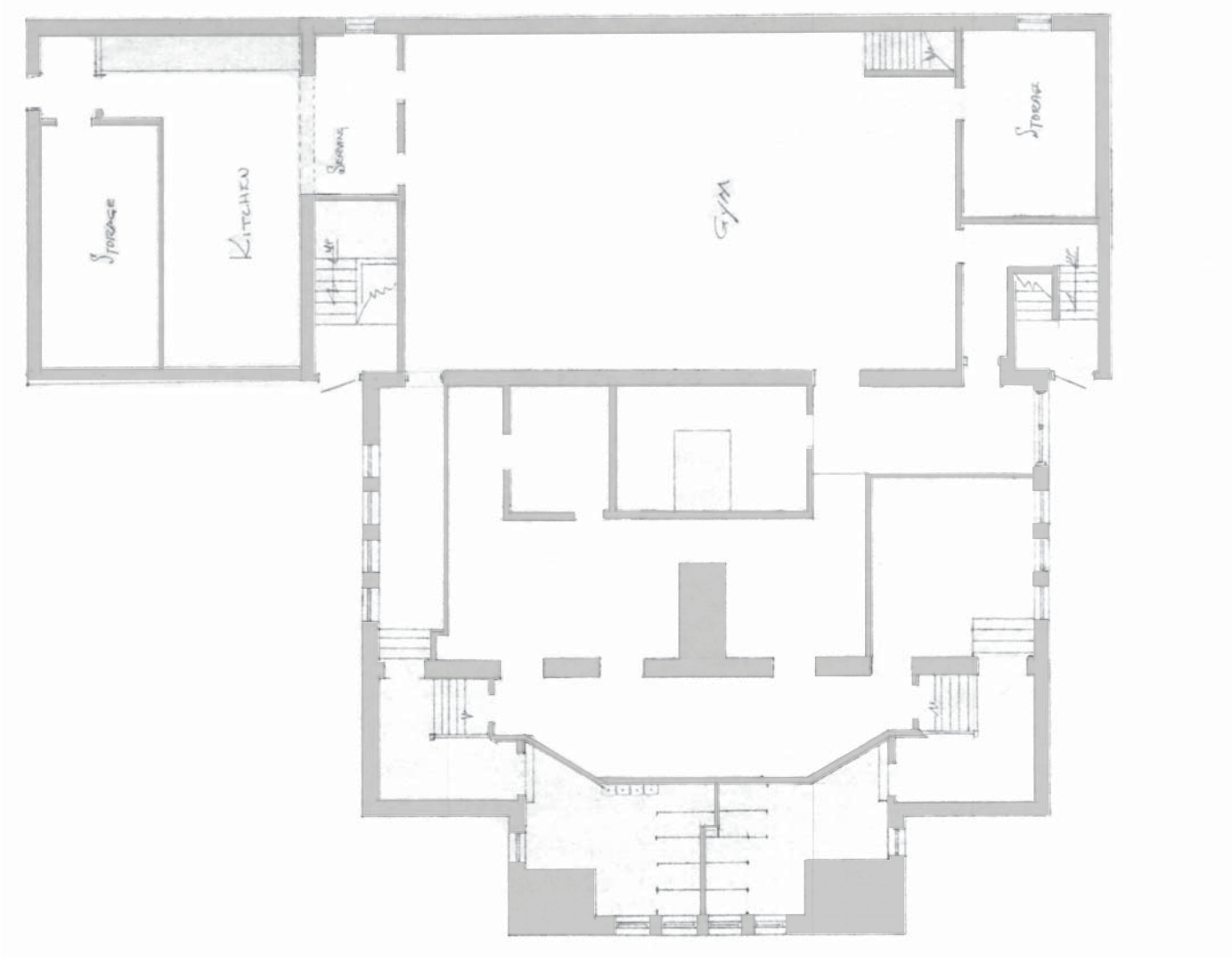
ACKNOWLEDGEMENTS

We wish to thank Phil Connors for his invaluable assistance and John LeBeaux, Edith Morgan, Stan Moss, Sue Shanahan, and Mary Barroll for their continuous help and support during this process. Their passion and love of the community and its buildings will be the driving force to see that action is taken to preserve/restore and/or replace these facilities.

Princeton Center Report

Princeton Public Buildings
Facilities Assessment

PRINCETON CENTER (1977)- BASEMENT



GRAPHIC SCALE

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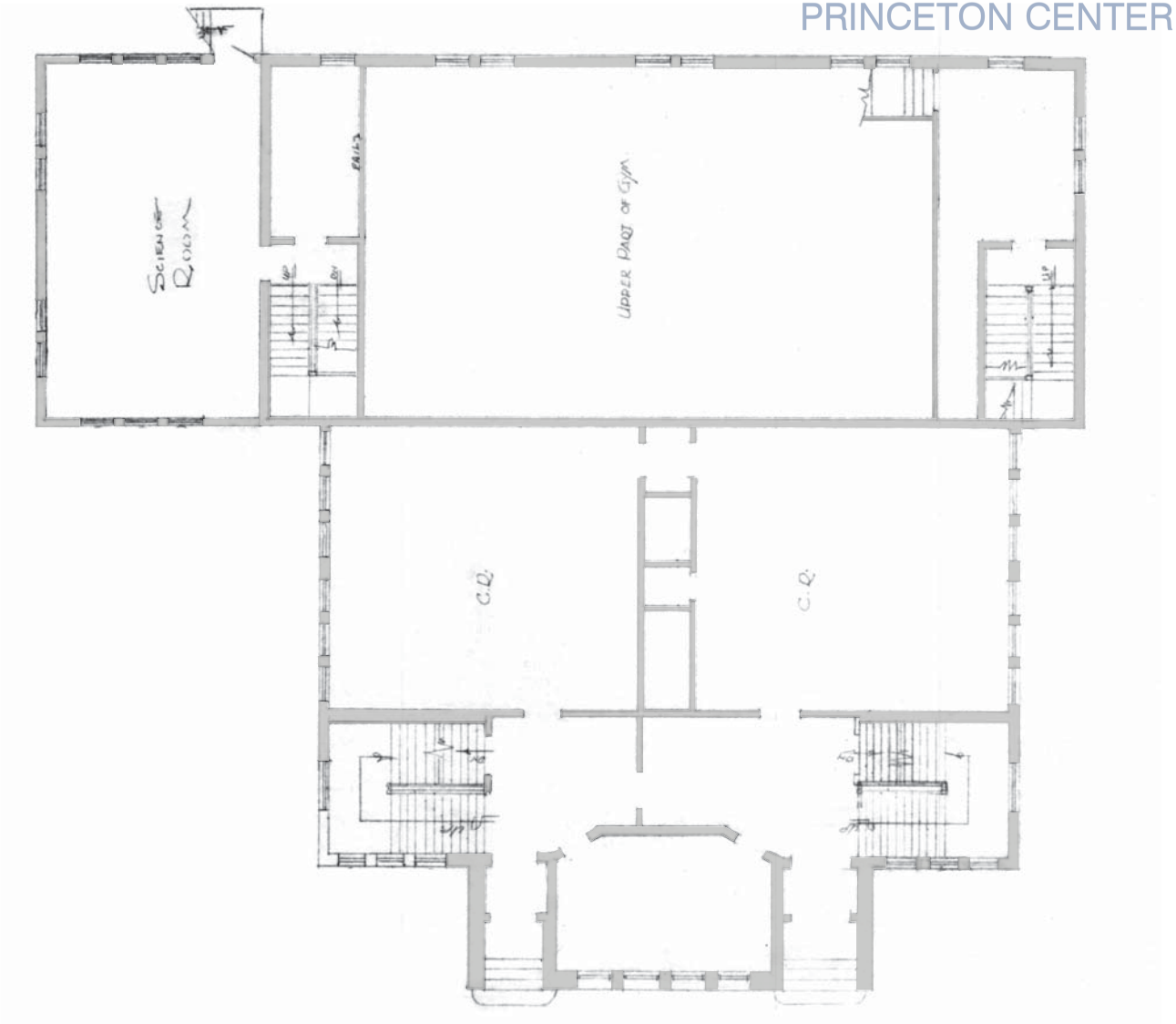
PRINCETON CENTER (1977)- FIRST FLOOR



GRAPHIC SCALE

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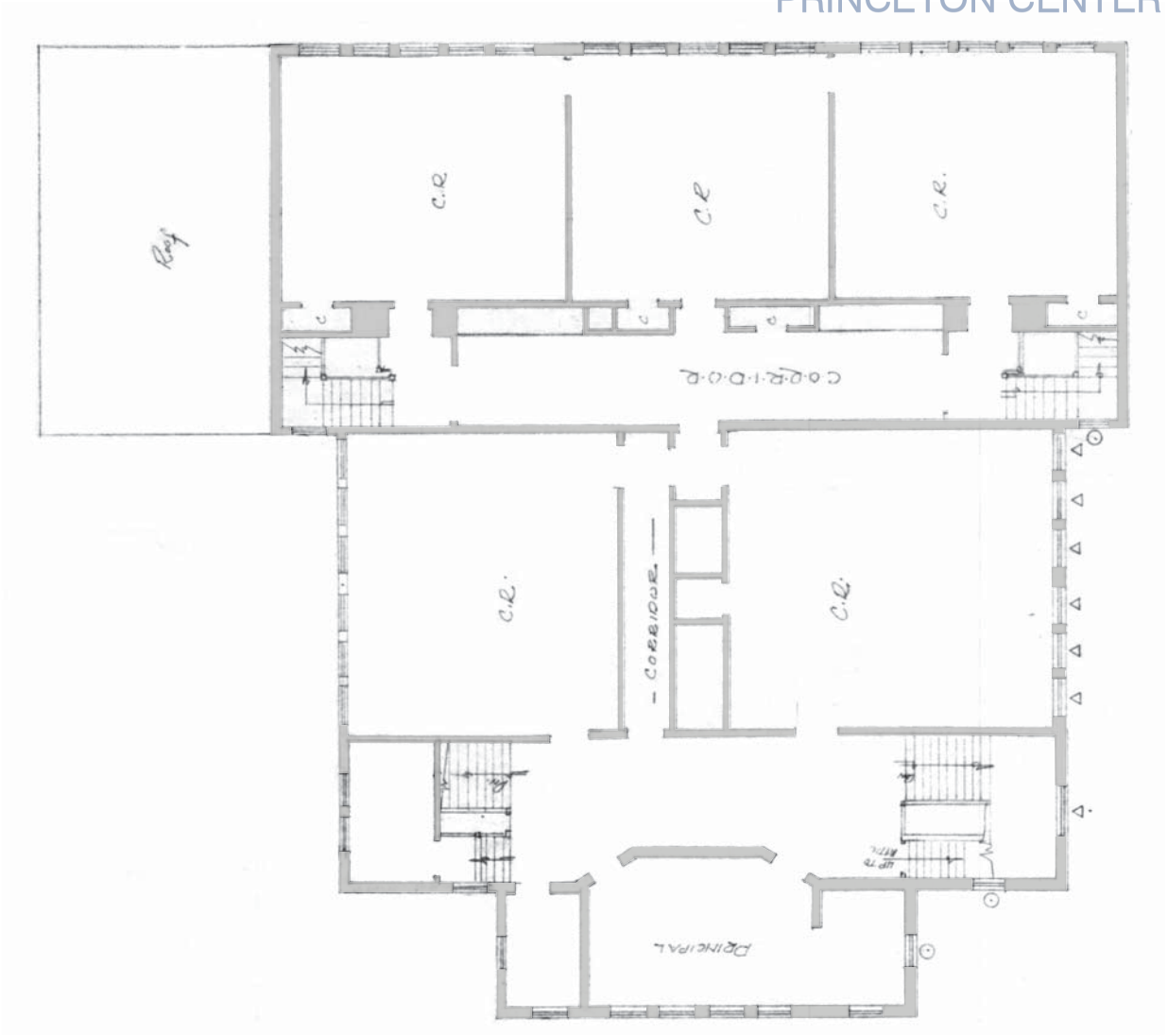
PRINCETON CENTER (1977)- SECOND FLOOR



GRAPHIC SCALE

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Building Name: Princeton Center

Address: 18 Boylston Avenue

Building Use: Multi-purpose community center

Type of Construction: Wood frame

Year of Construction: 1906, Gym-1936 **Last Modification / Addition:** 1977

Report By: Bill Hammer **GSF** 15,779 including gym addition **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Stone base with wood shake shingle siding. (Photo No. 1) The north wall of the gymnasium was structurally reinforced in 1977. See the structural report for details.

Wall Condition: Wood shingles are Fair to poor. (Photo No's. 2, 3) Exterior trim is in fair condition on the south façade (Photo 4) and poor on the north side (Photo 5).

Wall Insulation: Some blown-in fiberglass. The extent is unknown.

Window Types: Double hung single-glazed with storm windows (Photo No. 6)

Window Conditions: Fair to poor. Some sash are in rough shape with open joints and various attempts at repairs. (Photo No. 7) The windows are drafty. The storm windows were added in 1977 and they actually provide little thermal isolation (Photo 8).

Door Types(s): Entry door on the southeast corner is a wood panel door, probably original. (Photo No. 9) The original entry door on the southwest corner has been modified as a non-operable door and moved forward so that the recess is not equal to the door on the southeast (Photo No. 10) An accessible toilet was installed in the space behind the door. (See the narrative on the handicap toilet). There is a new door metal flush door with a narrow lite at the head of the ramp to the front entry lobby (Photo No. 11). There is one with a lite on the west side and one solid metal door on the east side for egress from the gymnasium (photo No. 12). There is a third metal door at the basement level on the west side which is an egress from the kitchen with a large lite above the mid-rail. (Photo No. 13)

Door Conditions: Fair

Roof Type(s): Slate shingles with aluminum gutters and leaders.

Roof Conditions: The slate roof was repaired three years ago, but no roof barrier (ice and watershield) was installed. The old roofing paper has deteriorated

over the years and is no longer keeps the roof weathertight. There is some foam insulation at the eaves in the attic (Photo No. 14), but there are ice dams (see below).

Other Ext. Issues: There are severe ice dams. (Photo No. 15) It appears that most of the resulting damage is to the windows, although there are ceilings on the top floor that show signs of water stains.

INTERIOR CONDITIONS:

Floor(s): Wood floors on the upper levels with carpet in most of the rooms. The gym floor and parts of the original basement is wood. There is wood veneer tile in the kitchen and bare concrete in the basement utility spaces. (Photo 16)

Floor Conditions: Fair to poor. The floors are not level in many areas and consequently many doors are out of square. The tile in the kitchen was installed improperly and the joints are opening up. Carpet conditions are fair. (Photo No. 17)

Wall Types(s): Original plaster and wainscoting in the original building. The gymnasium has a stucco plaster finish over the concrete wall for the first 7' or so on the north wall and wood wainscoting of the same height on the remaining walls. The upper walls are covered with painted celatex board (Photo 18). There are some miscellaneous pained CMU walls in the basement as well.

Wall Conditions: Good to fair, inasmuch as they have been well maintained. (Photo No. 19).

Ceiling Types(s): Lay-in acoustic tile (see Photo No. 19) and some original plaster ceilings (Photo No. 20).

Ceiling Conditions: Fair to poor. Some water stains on the plaster ceilings on the second floor and in a few locations peeling paint caused by calcimine on the original plaster ceilings (Photo No. 21).

Doors: Mostly original panel doors. (Photo No. 22) Some newer flush wooden doors. (Photo No. 23)

EGRESS / LIFE SAFETY / CODE COMPLIANCE:

HCP Access: Only an exterior ramp to the main floor level that was added in 2000 on the southwest corner of the building. (Photo 24) There is no access to the second floor.

Accessible Toilets: One unisex toilet on the main level was added in 2000 by blocking off the southwest entry. (Photo No's. 25, 26)

Vertical Access: Stairs only

Vertical Egress: Adequate stairs, also there is no fire separation for the two main stairs in the original building. The two egress stairs in the gymnasium addition have a marginal separation, but the enclosures are most likely not rated.

Horizontal Egress: It appears adequate, although way-finding can be problematic.

RECOMMENDED ACTIONS:

This building needs more study. It has a variety of problems, most of which center on life safety issues. If the building were to continue to be a community center, the Town must be prepared to do a major building overhaul, including reconfiguring the spatial relationships between occupied spaces and common spaces. It is worth considering removing the gymnasium and rebuilding a proper structure that can function as a modern athletic facility. The original structure, which has the most historic value should be stripped to its original structure and rebuilt to reflect the original architectural aesthetic. There does not appear that there is very much worth saving other than perhaps some of the architectural trim on the inside. See the MEP evaluations which will echo these sentiments.

GENERAL COMMENTS:

The Town of Princeton has to make a decision regarding this building. Is there enough intrinsic value and sentiment to keep it or should a new community center be built in its place? A detailed study to look at the cost of these alternatives should be undertaken so that the Town has the facts to make an informed decision. In the meantime, there is concern about life safety inasmuch the occupancy is classified as an assembly use (previously classified as an educational building) which means that the building does not meet code. To compensate for this deficiency, the building needs a working fire alarm system, emergency lighting and illuminated exit signs. There is also to be a fire watch when the building is in use. During three visits to the building, there was never a fire watch in place. (See letter from Deputy Chief Timothy Kelly, dated March 18, 2014. While some of the items in Deputy Chief Kelly's letter have been addressed, it is not clear that the building considered safe.

Although not part of this study, vehicular access, parking and fire lanes should be studied with regard to the site plan. Furthermore, the current zoning is restricted to residential use. Some relief will be required for further development of this site.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

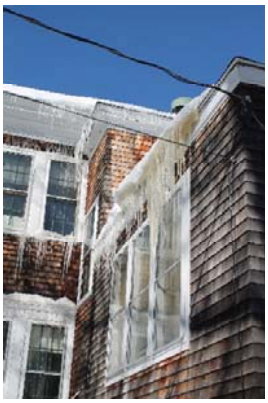

Photo No. 6

Photo No. 7

Photo No. 8

Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

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Photo No. 14

Photo No. 15

Photo No. 16

Photo No. 17

Photo No. 18

Photo No. 19

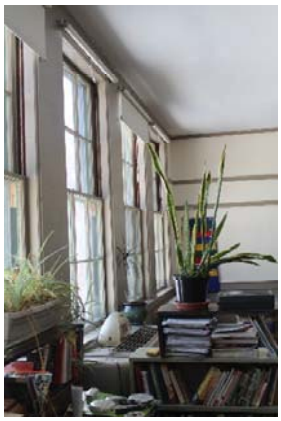


Photo No. 20

Photo No. 21

Photo No. 22

Photo 23

Photo 24

Photo No. 26

Photo No. 26

Building Name: Princeton Center

Address: 18 Boylston Ave.

Building Use: Community Center

Year of Construction: 1906 (Original) 1936 (Major Addition) **Last Modification / Addition:** 1977

Report By: K. Champagne - PARE **GSF** ~15,800 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Wood-framed supported by masonry walls in basement and wood walls above basement level.

Roof – Wood rafters, purlins, and trusses; exterior wood bearing walls.

Foundation – Mix of mortared stone, concrete, and CMU exterior (generally not visible at exterior due to snow); brick/CMU walls along interior.

Condition: Visible wood floor framing generally in sound condition; some minor water staining at roof sheathing along hips. Masonry walls in fair condition overall. Exposed wood wall in attic stairwell damaged by ice/water intrusion. Remainder of wood walls not exposed (i.e. covered with finishes) but likely exposed to water/ice damage based on exterior observations (see deficiencies description below).

Roof Loading: Slate roof; snow.

Floor Loading: Classrooms, offices, workshops, gymnasium.

Observed Deficiencies:

- Steel tie-rods were added to north wall at gymnasium during 1977 renovations. According to existing plans, this rear wall was bulged under roof/floor loads and the rods were added to stabilize it. *Photo No. 01*
- An exterior CMU basement wall along the building's west side is bowed towards the interior. *Photo No. 02*
- Exterior CMU walls within basement window wells are typically deteriorated due to water damage. *Photo No. 03*
- Extensive ice damage noted along building eaves and exterior walls. Water infiltration was noted along the interior side of exterior stairwell walls and attic access stairs. *Photo Nos. 04 & 05*

RECOMMENDED ACTIONS:

- The bowed CMU basement wall did not have signs of active cracking at the time of the site visit. It is possible that this was an as-built condition or a condition that occurred shortly after construction of the building. The bulged wall should be monitored for future movement.

- The deteriorated exterior CMU walls within the window wells should be repaired by removing and replacing the block courses. This will require temporary shoring of the floor structure in some locations.

- Ice damage along the building's exterior appears to be significant; however the walls were covered with wood shingles/interior finishes and therefore not visually accessible in many areas during the site visit. Finishes should be removed in some test areas to allow a more thorough inspection of conditions. Causes for the ice dams, including building ventilation and attic insulation should also be investigated further and addressed.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

Building Name: Princeton Center

Address: 18 Boylston Avenue

Building Use: Community Center

Year of Construction: 1906 **Last Modification / Addition:** 1977

Report By: Thompson Consultants, Inc. **GSF** 15,813 **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): N/A

Piping Material(s): **Size(s):**

Water Source: Deep Well

Piping Material(s): Polypropylene/Copper **Size(s):** 1”

Capacity:

Sanitary System: Leach Field. It is not clear exactly where the field(s) are located. It is thought that there is a leaching field behind the building that serves the kitchen, perhaps as a grey water system. Given the grade elevations of the tank structure outside of the kitchen door, the waste cannot drain by gravity to the front field and there is no pumping equipment to force waste to a higher elevation.

Piping Material(s): Cast Iron Lead and Okum Joint/ Copper Solder Joint **Size(s):**

Water Source: Deep Well / Pump in Base of Well / Well X Troll WX-252 and Flexcon WR200R Tanks in Basement.

DHW System: Craftmaster Electric Water Heater Model E1F20US015V/19 US Gals / 1 Phase / 120 Volt

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	L	2	N	N	N	2	N	Basement	
Toilet No. 2	M	2	N	2	N	2	N	Basement	
Toilet No. 3	UNI	1	N	N	N	1	N	1ST	
Toilet No. 4	UNI	1	N	N	N	1	N	2ND	

General Condition: Poor

Water Cooler(s): Water Bottle Cooler

Misc. Fixtures: One Mop Sink Located in the Basement. One Hand Sink Located in the Basement. Three Kitchen Sinks Located in the Basement. One Kitchen Sink located on the 2nd Floor Level. One Sink located in the Science Room on the 1st Floor Level.

Fire Suppression: None

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: If building is to be brought up to standards set forth in current code, a sprinkler system would be required for the building since the space is greater than 5,000 sf.

Being an existing building, current code compliance is not necessarily required unless the Local Authority Having Jurisdiction requires compliance.

SUGGESTED ACTIONS:

Upgrade System: ☐ None

Replace System: ☒ Survey existing sanitary piping and replace any failed or deteriorating piping.

Add to Existing: ☐ None

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add Fire SS: ☒ Given the size of the building, possibility for assembly and the wood frame construction, a fire suppression system is recommended, though not necessarily required (See above “Fire Suppression Code Compliance”). If installed, refer to below:

Provide a single underground tank on site for fire protection water supply. Outfit tank with a manual fill for initial fill of system and connect well water to tank for supplemental fill after testing.

Provide a vertical turbine pump and distribution to the Princeton Center. Will need a pump room in the building.

Provide quick response sprinkler system throughout the building.

Code Compliance: Provide automatic sprinkler system

RECOMMENDED ACTIONS:

New fire protection sprinkler system

Survey existing sanitary piping and replace failed piping as required

GENERAL COMMENTS: The sanitary waste piping is in very poor condition. In one location pipe and fittings were cracked and split open.

Refer to photos below:

Photo 1: Well Pump Tanks

Photo 2: Hot Water Heater

Photo 3: Deteriorating Sanitary Piping

Photo 4: Deteriorating Sanitary Piping

Photo 5: Fixtures

Photo 6: Fixtures

Photo 7: Fixtures

Photo 8: Fixtures

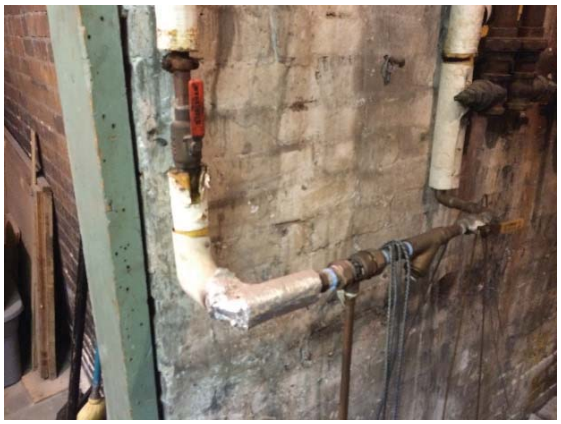


Photo 9: Water Piping

Photo 10: Building Construction

Building Name: Princeton Center

Address: 18 Boylston Avenue

Building Use: Community Center

Year of Construction: 1906 **Last Modification / Addition:** 1977

Report By: Thompson Consultants, Inc. **GSF** 15,813 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☐ Air Conditioning ☐ Mechanical Ventilating

Energy Sources(s): #2 oil stored in two (2) 275 gallon steel tanks located in the basement.

System Type(s): Primarily a two pipe system (90%+), low pressure steam boiler with two condensate receivers, one in basement pumping to a second in the boiler room returning the condensate to the boiler. Steam is fed through a one pipe steam distribution system to various steam radiators and three tier exposed piping in the classrooms. There is also a gravity heating/ventilation system in the classrooms with steam radiators at the base of the chases, steam to this system is said to be off.

The toilet exhaust fan serving the basement toilet rooms appears to be non-operational, however the switch is in an awkward location in the janitor's closet, so it never gets used.

Zones: Three zones, two on first floor and one on second floor.

Controls: Space thermostats control electric zone valves in the boiler room.

Condition(s): The heating distribution system appears to be original and in poor condition, rubber hose was noted as a pipe repair. The boiler, Weil Mclean model 880, 654 MBH and condensate receiver appear to be in serviceable condition.

Since this site visit, it has been determined that 5 of the 8 boiler cast sections need to be replaced. There has been an arrangement with the original installer to nurse the system through this heating season under the warranty before replacing the damaged sections.

Mech Rooms(s):

Code Issues: No mechanical ventilation boiler may be vented into an un-lined masonry chimney.

SUGGESTED ACTIONS:

Upgrade System: ☐

Replace System: ☒

Add to Existing: ☐

No Action Req'd: ☐

Replace Controls: ☐

Code Compliance: Not in compliance with applicable codes.

RECOMMENDED ACTIONS: Provide new HVAC systems in accordance with current applicable codes to suite future building modifications and use.

GENERAL COMMENTS: This HVAC system is antiquated, high maintenance, inefficient and beyond its serviceable life expectancy.

Leaks throughout the steam piping system was reported.

Building Name: Princeton Center

Address: 18 Boylston Avenue, Princeton, MA 01541

Building Use: Town Leased Space – Office Suites & Princeton Museum

Year of Construction: 1906 **Last Modification / Addition:** 1977

Report By: Thompson Consultants, Inc. **GSF** 15,813 **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): (2) 200A 120/240V 1Ph 3W Services

The building has two (2) 200A 120/240V 1Ph 3W services - one on each side of the house.

Service No. 1 – Right hand side if facing Princeton Center:

The service originates at the service entrance weather head and drip loop. A 200A meter socket is located on the exterior of the building. The load-side of the meter socket feeds a 200A fused disconnect. The load-side of the fused disconnect feeds into a wireway where the feeder is tapped to feed four loads – 50A enclosed circuit breaker, a unidentified feeder, a 30A boiler switch and a 200A panel.

Service No. 2 – Left hand side if facing Princeton Center:

The service originates at the service entrance weather head and drip loop. A 200A meter socket is located on the exterior of the building. The load-side of the meter socket feeds a 200A enclosed circuit breaker which feeds a 200A panel. There is a sub-panel located in the same room – it is a 125A panel.

Generator: No.

Capacity: The existing electrical services are likely sufficient and functioning despite being undersized; The existing wiring provides minimal outlets and the spaces seem to be used randomly without full occupancy at any one time. The building does not utilize a central air-conditioning system which would likely be the largest load on summer design days. The two (2) 200A services provide 4.85 W/SF over the entire building.

Electric Closet: Service No. 1 and Service No. 2 electrical service equipment and associated distribution are located in the basement.

Wiring: Mix of Knob & Tube, non-metallic sheathed cable and armor-clad cable of various age and condition.

General Condition: Poor

Sub-Panels: First Floor Science Classroom

S-P Locations: First Floor Science Classroom

System Condition: Poor

Lighting: Incandescent, Incandescent fixtures with CF lamps (Edison-base), linear fluorescent (T-12).

Receptacles: Quantity and location is sparse. Grounding type receptacles where noted but suspect some may have inadequate ground based on branch circuit wiring type.

Emergency Ltg: Plug-in and hard-wired emergency battery units; quantity and coverage does not meet life safety code; all units should be tested for proper operation.

Non-illuminated exit signage is being used throughout.

Fire Alarm: The building contained an older hard-wired heat detection system with add-on pull stations interfaced and operated through the security system. In the past the system reported to the dispatch annunciator in the Public Safety Building but this connection has been disabled and the system only functions local to the building with minimal bells operating; the bells are left over from the buildings school program.

Smoke Detectors: No

Heat Detectors: Yes, button-type

Audible & Strobe: None Observed, but there are some bell clangs that are operational.

Annunciator Panel: None Observed

PA System: None Observed

Low Volt Systems: Voice, Data and Security. The voice/data service entrance and equipment was not located during the survey.

Code Issues: Fire Alarm, Emergency Egress Lighting, Wiring

SUGGESTED ACTIONS:

Upgrade System: None

Replace System: Electrical Service

Electrical Distribution & Feeders

Branch Circuiting
Devices
Lighting
Lighting Control
Fire Alarm
Voice/Data/Video
Security

Add to Existing: Emergency or Stand-By Generator
Emergency or Stand-By Distribution & Feeders

No Action Req'd: None

Code Compliance: The building electrical systems are not code compliant with particular code compliance issues related to fire alarm, emergency egress lighting and wiring.

RECOMMENDED ACTIONS:

All new electrical systems – refer to "Replace Systems" category above.

GENERAL COMMENTS:

Refer to photographs below.

Service No. 1

Service No. 2

Service No. 1 – Service Disconnect

Service No. 2 – Service Disconnect

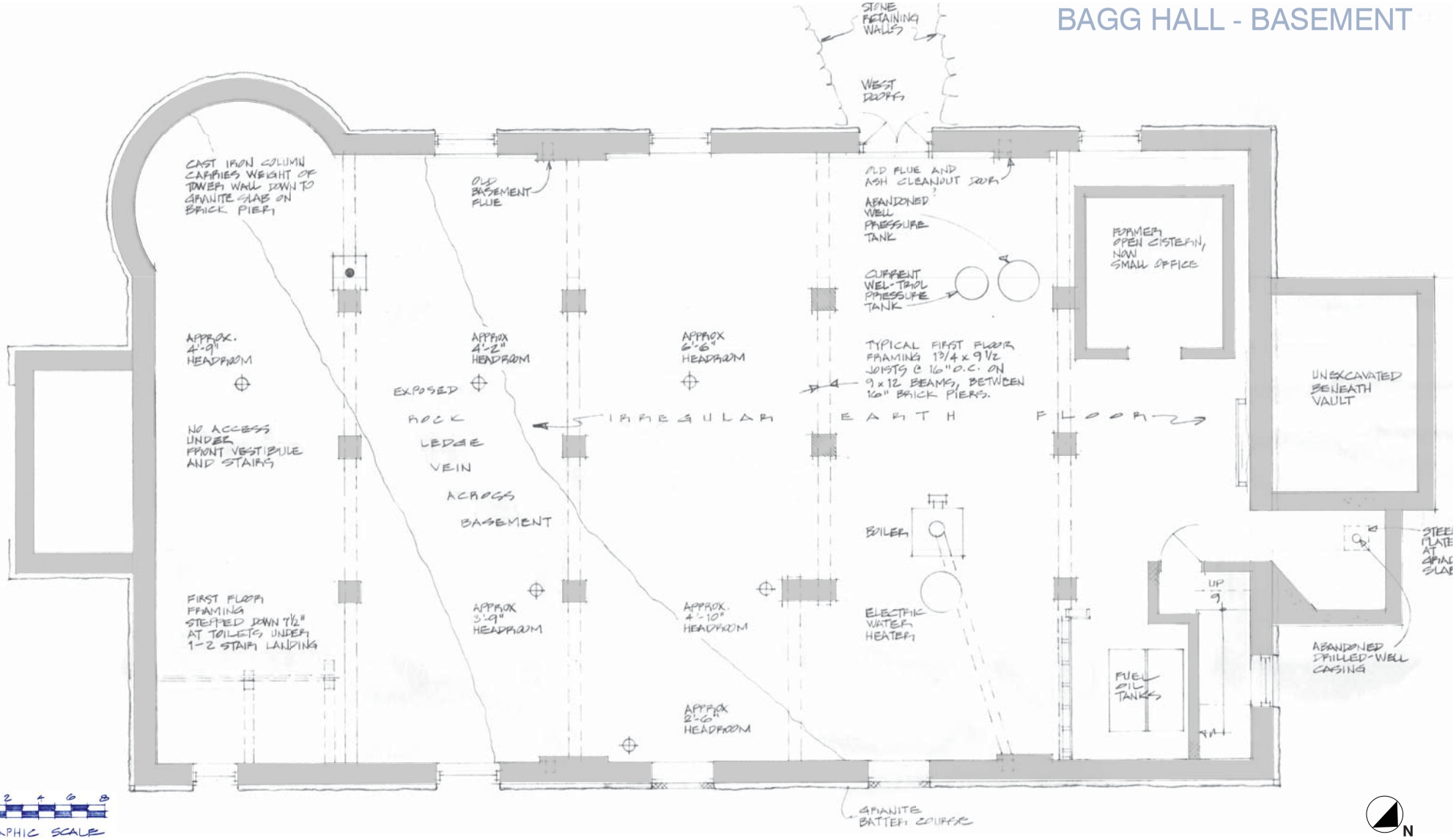
Non-Illuminated Exit Signage

Emergency Egress Lighting

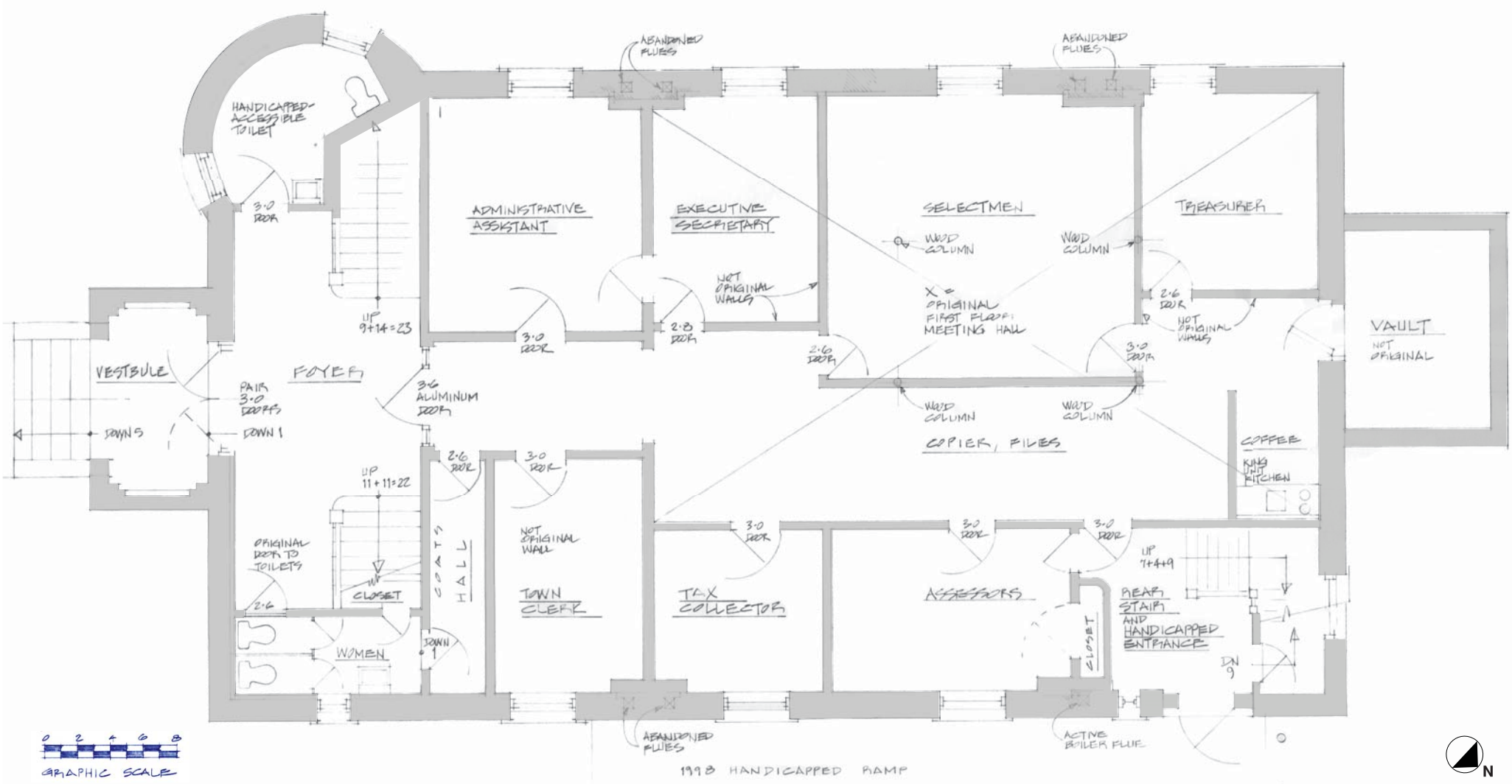
Bagg Hall Report

Princeton Public Buildings
Facilities Assessment

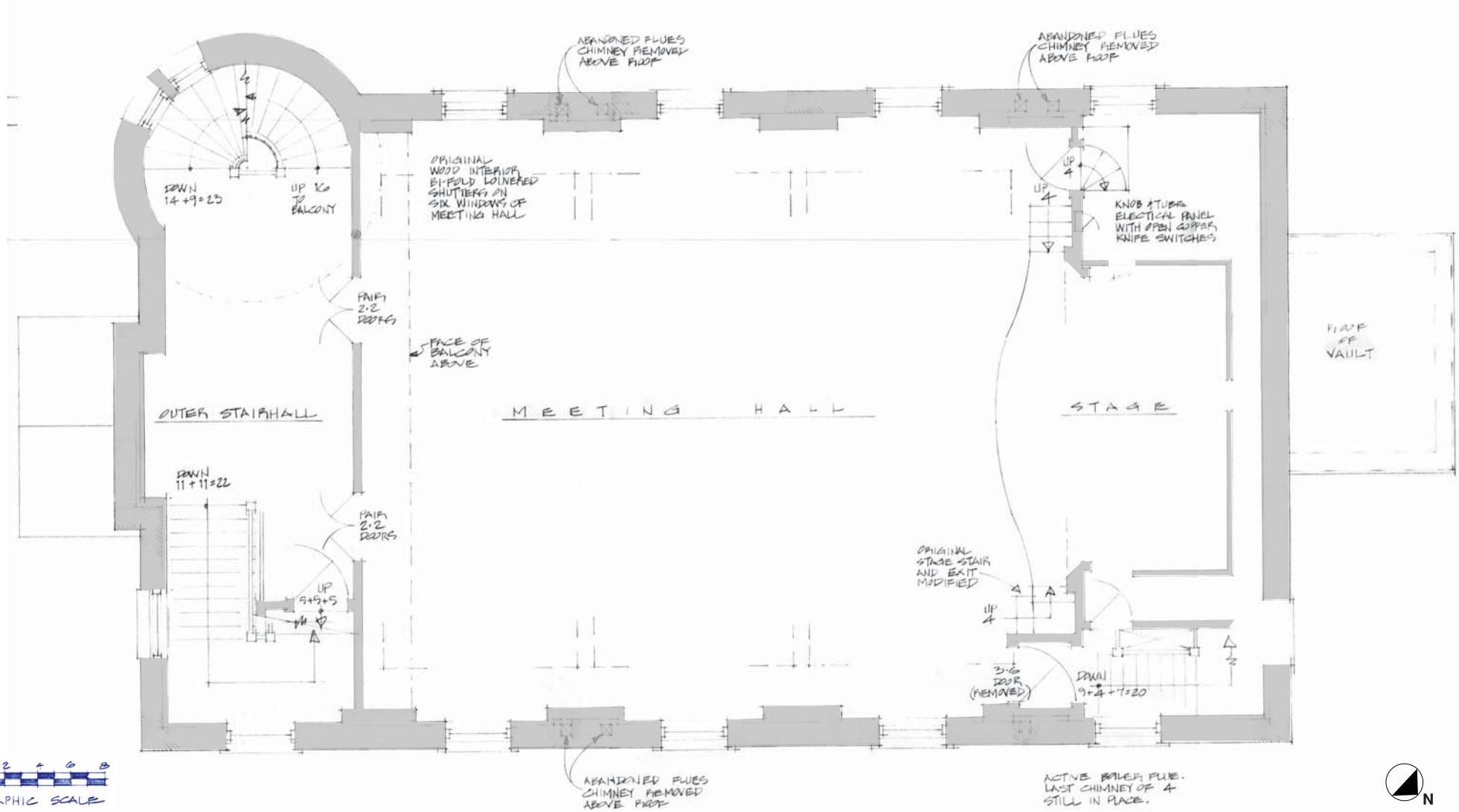
BAGG HALL - BASEMENT



BAGG HALL - FIRST FLOOR



BAGG HALL - SECOND FLOOR



Building Name: Bagg Hall

Address: 6 Town Hall Drive

Building Use: Town Hall

Type of Construction: Brick Exterior Bearing Walls, Wood Frame Floors and Roof

Year of Construction: 1884 **Last Modification / Addition:** 1999

Report By: Bill Hammer **GSF** 5,600+2,800 basement **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Brick

Wall Condition: Fair to good. Settlement at northwest corner will require repairs. Otherwise, some repointing will be required. (Photo No. 1) There is efflorescence and spalling of the bricks and sandstone on the east façade above the present accessible entrance. The interior wall has been found to be wet/damp at times. It is thought that this is most likely caused by the metal gutter and cornice flashing, but it must be confirmed upon closer inspection. This should be addressed as an emergency repair as soon as possible inasmuch it can be a safety issue if the spalled masonry should fall on someone who is entering the building at this location. The building inspector has commented that he will require some form of protection if this is not addressed very soon.

Wall Insulation: None

Window Types: Double hung on the first floor with storm windows. Double hung on the second floor without storm windows. All windows are single glazed. (Photo No. 2)

Window Conditions: Fair to poor. The first floor windows are drafty. The pockets for the sash weights are allowing cold air to enter into the interior. The operable sash is difficult to open and close. Many of the window openings are out of square, most likely due to the settlement at the northwest corner. (Photo No.'s 3 and 4)

Door Types(s): Wood panel doors. (Photo No. 5)

Door Conditions: The original doors at the handicapped entry on the northeast corner were replaced by a salvaged single door that complied with the required three foot width. The door needs to be repairs as the glue joints have started to open up. The front doors appear to be original and in relatively good shape. (Photo No. 6)

Roof Type(s): Slate, wood gutters

Roof Conditions: The slate is mostly original and has been repaired over the years. Nevertheless, the conical roof over the turret is showing signs of loose and missing slates. (Photo No. 7) Much of the roof was covered with snow, but it is clear that the roof and the flashings needs to be repaired. Daylight was observed in at least one location in the attic. A separate and thorough survey of the roof should be undertaken to determine the scope of work and a budget. Based on photographs taken in 2002, there is a detailed discussion of the roof at the end of this report.

Other Ext. Issues: Deteriorated concrete red pavers at the entry walk. See Photo Number 4 on the Library evaluation for the same condition. Apparently, salt has been used for de-icing in the past. A newer product is now used on the walkways that is less damaging to the paving materials. The damaged pavers should be replaced.

There is some water and moisture entering the unfinished basement from ground water and through the rubble stone foundation. We were told that ponding has occurred previously. (Photo No. 8)

INTERIOR CONDITIONS:

Floor(s): First Floor-hardwood oak covered with carpet. Exposed Oak floor in the entry lobby. (Photo No. 9)

Second Floor and Balcony-Exposed hardwood. (Photo No. 10)

Floor Conditions: We could not see the wood floor on the first floor, but it is expected that it is in fair to good shape, perhaps requiring some re-finishing if it is exposed. The exposed wood floor in the entry lobby is in good shape. The second floor and balcony are in fair condition needing minor patching and refinishing.

Wall Types(s): First Floor-Plaster with wood wainscoting. Interior partitions are believed to be wood stud walls. (Photo No. 11)

Second Floor-Plaster with wood wainscoting. (Photo No. 12)

Wall Conditions: Good on the first floor. The second floor is unheated and the plaster has been water-stained and there is some peeling paint. There was some historic stenciling at the cove molding at the top of the wall which was painted over. The second floor walls need to be patched as part of a restoration project. Furthermore, the wainscoting and the window stools will need some repair/restoration work. (Photo No.'s 13 and 14)

Ceiling Types(s): Plaster on wood lath

Ceiling Conditions: On the first floor, the ceilings are in very good condition. The only crack that was observed was in the clerk's office. The crack is minor and does

not suggest any structural issues. On the second floor the ceiling is in poor condition, with water stains and peeling paint. (Photo No. 15)

Doors: Many of the original doors exist. On the first floor they are in decent shape, although the hardware is non ADA-compliant. (Photo No. 16) There are some newer flush doors that do not fit historically and the hardware is non-ADA compliant. The aluminum storefront at the entry is also not historically compatible (Photo No. 17)

EGRESS / LIFE SAFETY / CODE COMPLIANCE:

HCP Access: There is an accessible entry on the northeast corner of the building that opens into a stairhall. There is no access to the second floor. Furthermore, there is no access to the stage or the balcony on the second floor. Some of the doors on the first floor are less than 34" wide. (See Photo 10)

Accessible Toilets: There are no ADA-compliant toilet rooms, although the Town has received a variance from the MAAB for the unisex handicapped toilet off of the front foyer. The signage, however is not code compliant.

Vertical Access: None

Vertical Egress: By stairs only. There appears to be enough vertical egress, but none meet current building codes.

Horizontal Egress: Appears to be code compliant.

RECOMMENDED ACTIONS:

Besides the deferred maintenance issues, such as the exterior brickwork, the roof, windows, etc. the interior needs to be addressed. The building needs to be handicapped accessible and the proper life safety improvements must be implemented. In addition, the first floor layout is inefficient, with wasted space and the second floor should be restored to its original beauty and made available to the Town. This would include at least the following scope of work:

1. Repair the spalling brick and sandstone condition on the east façade. (See the exterior wall conditions narrative for details. This should be addressed immediately.
2. Restore the exterior brick masonry by re-pointing and resetting the brick at the northwest corner.
3. Repair the existing windows with additional weather-stripping, removal of sash weights and adding spring-loaded operators and adding exterior storm window units. Alternatively, consider replacement of the windows with historic high performance aluminum-clad wood windows with the same munton configuration as the original.
4. Restore and upgrade the second floor.
5. Assess the roofing and flashings to develop a proper scope of work.
6. Reconfigure the first floor with appropriate toilet rooms, and more functional spaces.
7. See the MEP/FP assessment for their scope of work.

GENERAL COMMENTS:

This jewel of a building has not been maintained, nor have there been appropriate upgrades to meet current life safety codes. The perceived savings in deferred maintenance over the years will have to be addressed if this building is to continue to have the useful life it deserves. If these issues are not addressed, the useful life of this building will continue to diminish and the cost to make the repairs will increase dramatically.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

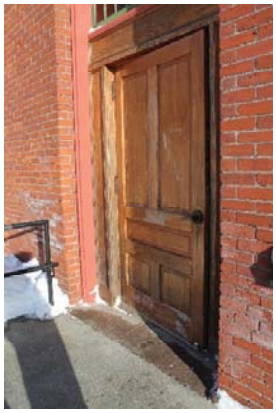


Photo No. 6

Photo No. 7

Photo No. 8

Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

Photo No. 13

Photo No. 14

Photo No. 15

Photo No. 16

Photo No. 17

Additional Roof Comments:

In September of 2012, the roof at Bagg Hall was photographed with more detail than we could have observed during our visit on February 11th. Phil Connors has shared these with the Design Team and we summarize some of the roof issues that we could not observe first hand.

It is fair to say that the condition of the roof and gutters are in poor condition and it is our opinion that it should be replaced as part of the renovation to Bagg Hall. The following is a summary of comments with the corresponding photo documentation:

General loose and broken slates:

Deteriorated gutters and leaders:

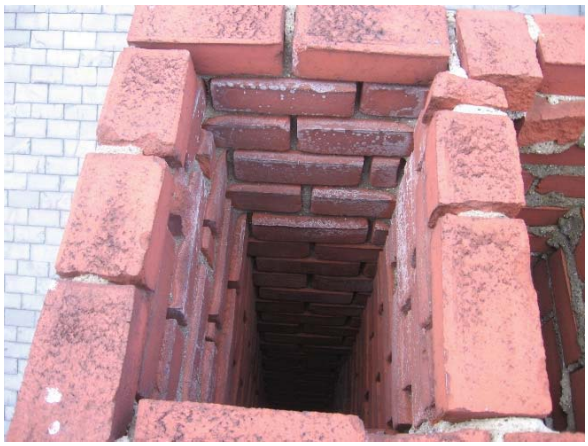
Deteriorated wood gutter lining:

Non-weatherproofed louver at cupola:

General repairs needed on cupola:

Flashings are in poor condition:

Brick flue is un-lined and not weather-protected:



Insufficient snow guards:

The snow guards are not continuous and they should be placed in multiple rows further up the roof slope in order to keep the snow in place without falling to the ground.

Building Name: Bagg Hall (Town Hall)

Address: 6 Town Hall Drive

Building Use: Town Offices, Storage

Year of Construction: 1884 **Last Modification / Addition:** 1999

Report By: K. Champagne - PARE **GSF** ~5,700 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Wood joists and girders with interior timber columns and exterior masonry bearing walls.

Roof – Wood rafters, purlins, and trusses; exterior masonry bearing walls.

Foundation – Mortared stone and brick along exterior (generally not visible at exterior due to snow); brick piers at interior.

Condition: Visible wood framing generally in good condition; some water staining at roof sheathing. Brick piers and walls in fair condition overall (see deficiencies description below).

Roof Loading: Slate roof; snow; snow guards.

Floor Loading: Office (typical); storage at 2nd floor.

Observed Deficiencies:

- The foundation wall at northwest corner of the building is slightly bulged (viewed from interior; exterior not visible due to snow). *Photo No. 01*
- A 1st floor joist at south end of the building is notched. *Photo No. 02*
- A large, stepped crack is visible along the exterior brick wall at the northwest corner of the building. Slight outward movement at the crack was also observed. *Photo No. 03*
- Water damage was noted along interior wall and ceiling finishes of 2nd floor. Minor water staining was observed along the roof sheathing, particularly at roof hips. Snow/water appears to be entering the attic along roof eaves. *Photo Nos. 04 & 05*

RECOMMENDED ACTIONS:

- The foundation wall bulge does not appear to be from recent movement as no open cracks were observed. The area should be monitored for future movement.

- A potential cause for the large stepped crack at the northwest corner of the building is settlement; however, the exact cause could not be determined during the site visit. This should be investigated further with test pits or similar methods to determine the best course of action. The crack may be stitched together with helifix dowels or similar method once the likely cause has been determined.

- Exterior brick walls and brick piers should be cleaned and re-pointed as needed. Re-attach gutters where they have pulled away from the building.

- Notched 1st floor joist should be “sistered” with a 2x10.

- 2nd floor is currently used for storage. While no evidence of structural distress was observed during the site visit, PARE recommends that a structural engineer be retained to perform a load-rating of the floor to determine allowable live load/storage loads.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

Building Name: Bagg Hall

Address: 6 Town Hall Drive, Princeton, MA

Building Use: Town Hall

Year of Construction: 1884 **Last Modification / Addition:** 1999

Report By: Thompson Consultants, Inc. **GSF** 8,500 (Including Basement) **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): Propane for Generator only

Piping Material(s): Steel **Size(s):** 1”

Water Source: Deep Well

Piping Material(s): Polypropylene/Copper/CPVC **Size(s):** 1”

Capacity:

Sanitary System: Leach Field

Piping Material(s): Cast Iron with Lead and Okum Joint/Copper with Soldered Joints **Size(s):**

Water Source: Deep well/Pump in Base of Well/Well X Troll WX 350 tank in basement.

DHW System: GE Electric Water Heater Model GE30M06AAG/30 US Gals/1 Phase/240 – 208 Volt AC

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	W	2	N	N	N	1	N	1ST	
Toilet No. 2	UNI	1	Y	1	N	1	Y	1ST	
Toilet No. 3									
Toilet No. 4									

General Condition: Poor

Water Cooler(s): Water Bottle Cooler

Misc. Fixtures: 1. One Kitchen Sink located on the first floor level.

Fire Suppression: None

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: If building is to be brought up to standards set forth in current code, a sprinkler system would be required for the building since the space is greater than 5,000 sf.

Being an existing building, current code compliance is not necessarily required unless the Local Authority Having Jurisdiction requires compliance.

SUGGESTED ACTIONS:

Upgrade System: ☐ None

Replace System: ☐ None

Add to Existing: ☒ The existing well pump serves four (4) buildings (Bagg, Library, Public Safety Building and Annex Building). It would be beneficial to the property to install a second well with pump and tie into the same piping distribution to the four (4) buildings. If there is a problem with water supply to the buildings from one well, the redundant well would be able to ensure none of the buildings are without domestic water.

Information repeated on Library, Public Safety Building and Town Hall Annex.

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add Fire SS: ☒ Given the size of the building and possibility for assembly, a fire suppression system is recommended, though not necessarily required (See above “Fire Suppression Code Compliance”). If installed, refer to below:

Provide a single underground tank on site for fire protection water supply. Outfit tank with a manual fill for initial fill of system and connect well water to tank for supplemental fill after testing. Single tank will serve single fire pump (As repeated for Library).

Provide a vertical turbine pump and distribution to Bagg Hall and the Library. Draw water from underground tank and distribute to the two (2) buildings. Will need a pump room in one (1) of the buildings listed above.

Provide quick response sprinkler system throughout the building.

Code Compliance: Provide automatic sprinkler system

RECOMMENDED ACTIONS:

New fire protection sprinkler system

Secondary well for redundant water supply (Single well would serve Library, Bagg Hall, Town Hall Annex and Public Safety Building).

GENERAL COMMENTS: The domestic water system in this building is also the water source for the Library, Public Safety Building and The Annex Building. The well pump was reported to be 12 years of age. On the day of this survey there was a problem with the well system and all buildings were without water. It was reported that these four (4) buildings also share the same Leach Field.

N.B.: The Extol pressure tank failed after this site visit and has been replaced, along with new supply valves for the other buildings served by the system and individual drains for each to accommodate future maintenance needs.

Refer to Photos Below:

Photo 1: Well Pump

Photo 2 Hot Water Heater

Photo 3: Basement Area

Photo 4: Fixtures

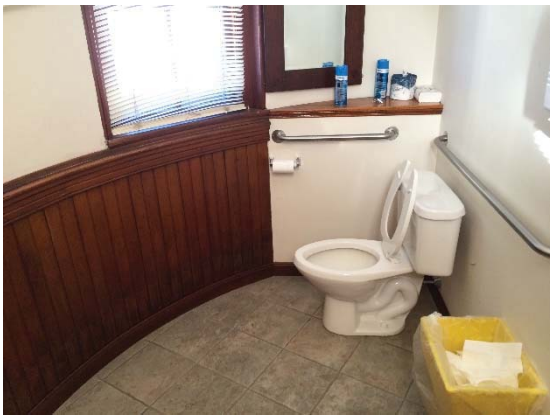


Photo 5: Fixtures

Photo 6: Fixtures

Photo 7: Building Construction

Photo 8: Building Construction

Building Name: Bagg Hall (Town Hall)

Address: 6 Town Hall Drive

Building Use: Town Hall

Year of Construction: 1884 **Last Modification / Addition:** 1999

Report By: Thompson Consultants, Inc. **GSF** 8,500 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☐ Air Conditioning ☐ Mechanical Ventilating

Energy Sources(s): #2 oil from 275 gallon steel tank in basement.

System Type(s): Buderus oil fired boiler, zone circulators provides hot water through a combination of fin tube radiation, cabinet and unit heaters.

Zones: Two (2) zones, front and back of the first floor. There is no heat on the second floor.

Controls: Electric thermostats wired to a Taco zone controller controlling the two zone circulators. The cabinet and unit heaters in the front and back entries are controlled by strap-on aquastat.

Condition(s): The boiler (Buderus G115/5WS; 119 MBH), boiler piping and controls were installed new in 2010 and are in good condition. Boiler vent is double wall vent connected to a masonry chimney.

Piping in the basement is copper with foam pipe insulation and appears to be in good condition.

Based on photographs received it appears that the chimneys are unlined.

Mech Rooms(s):

Code Issues: No combustion air to basement.

No mechanical exhaust in toilets, although both have operable windows.

Fuel burning appliances (boiler and hot water heater) are vented into an unlined chimney.

SUGGESTED ACTIONS:

Upgrade System: ☐

Replace System: ☒

Add to Existing: ☐ Provide additional hangers on boiler vent. Provide dedicated combustion air louver, ductwork and controls. Provide toilet exhaust fans. Provide thermostatic control of cabinet and unit heaters

No Action Req'd: ☐

Replace Controls: ☒

Code Compliance: Not in compliance with applicable codes.

RECOMMENDED ACTIONS:

Provide new HVAC systems in accordance with current applicable codes to suite future building modifications and use.

GENERAL COMMENTS:

The existing heating system appears to be appropriate for its current use, the second floor is currently not heated.

The existing first floor fin tube radiation in many instances is blocked by files and furnishings; the system would be more efficient if this condition could be corrected.

Because there is no central AC, there are seven (7) window air conditioning units that must be hauled and stored twice per year.

Building Name: Bagg Hall (Town Hall)

Address: 6 Town Hall Drive, Princeton, MA 01541

Building Use: Town Hall Administrative Functions

Year of Construction: 1884 **Last Modification / Addition:** 1999

Report By: Thompson Consultants, Inc. **GSF** 8,500 (including basement) **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): 200A 120/240V 1Ph 3W

200A Underground Service from utility pole to 200A meter socket and perhaps a main disconnect device (buried in snow). The load – side of the meter feeds a 200A enclosed circuit breaker in the basement, which feeds a Kohler RDT ATS. The Load side of the ATS feeds the buildings Main Distribution Panel MDP which feeds an adjacent 100A panel SP1. MDP also feeds the sub-panel/load-center on the first floor.

The emergency side of the ATS is fed from an adjacent 60A enclosed circuit breaker which is fed from an exterior 60A enclosed circuit breaker.

The underground service lateral appears to terminate in a junction box ahead of the meter; suspect the service lateral leaving this junction box runs over to and feeds the Annex Building.

Generator: Exterior – Propane-Fired Generator in Weatherproof Enclosure; Buried in snow at time of survey so size was not determined. Would estimate the generator to be an 8kW- 12kW unit. The generator is reported to feed the entire building during an outage.

Capacity: The existing electrical service and generator are likely sufficient and functioning despite being undersized; The existing wiring provides minimal outlets and the second floor – auditorium, stage and balcony are not in use. The building does not utilize a central air-conditioning system which would likely be the largest load on summer design days. The 200A service provides 4.5 W/SF over the entire building.

Electric Closet: Basement – Electrical in a space along the wall adjacent to the basement entry door in the former cistern area.

First Floor - Contains a small load center in the coffee/kitchenette area.

Second Floor - Contains an old panel in the lobby area which has been gutted and used as a splice box for switching circuits. The second floor also contains an old panel behind the stage which could

still be energized and appears to contain the stage/theatrical lighting control.

Wiring: Mix of Knob & Tube, Non-metallic sheathed cable and armor-clad cable of various age and condition.

General Condition: Poor

Sub-Panels: First Floor Coffee/Kitchenette – 60A 120/240V 1Ph 3W

Second Floor Back Stage – 60A 120/240V 1Ph 3W

S-P Locations: First and Second Floor

System Condition: Poor

Lighting: Incandescent, Incandescent fixtures with CF lamps (Edison-base), linear fluorescent (T-12).

Receptacles: Quantity and location is sparse. Grounding type receptacles where noted but suspect some may have inadequate ground based on branch circuit wiring type.

Emergency Ltg: Plug-in emergency battery units; quantity and coverage does not meet life safety code; all units should be tested for proper operation.

Exit signs appear to be older incandescent type, most were not illuminated and did not appear to contain an emergency battery per code.

Fire Alarm: The building contained battery operated smokes combined with a wireless battery operated smoke detection and reporting system tied-into the security system.

The wireless battery operated smoke detection and reporting system contains five (5) smoke detectors throughout the building. The system was designed to report alarms to the wireless receiver in the basement which was tied into the security system control panel. Upon alarm the remote security annunciator located in the dispatch area of the Public Safety Building would annunciate. It is reported that this annunciation is longer monitored as the dispatch area is no longer staffed 24/7 due to recent switch to regional dispatch; it is unclear if annunciation of an alarm on this system would get reported.

The building did not contain fire alarm pull stations or indicating appliances.

Smoke Detectors: Refer to “Fire Alarm” outline above

Heat Detectors: None Observed

Audible & Strobe: None Observed

Annunciator Panel: A security annunciator is located in the main entry; refer to "Fire Alarm" outline above.

PA System: None Observed

Low Volt Systems: Voice, Data and Security. The voice/data service entrance and equipment was not located during the survey.

Code Issues: Fire Alarm, Emergency Egress Lighting, Wiring

SUGGESTED ACTIONS:

Upgrade System: None

Replace System: Electrical Service
Emergency or Stand-By Generator
Emergency or Stand-By Distribution & Feeders
Electrical Distribution & Feeders
Branch Circuiting
Devices
Lighting
Lighting Control
Fire Alarm
Voice/Data/Video
Security

Add to Existing: None

No Action Req'd: None

Code Compliance: The building electrical systems are not code compliant with particular code compliance issues related to fire alarm, emergency egress lighting and wiring.

RECOMMENDED ACTIONS:

All new electrical systems – refer to "Replace Systems" category above.

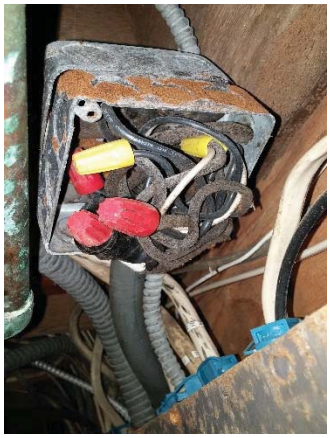
GENERAL COMMENTS:

Refer to photographs below.

Service Entrance Equipment – 1

Service Entrance Equipment – 2

Wiring Sample



Junction Box / Wiring Sample

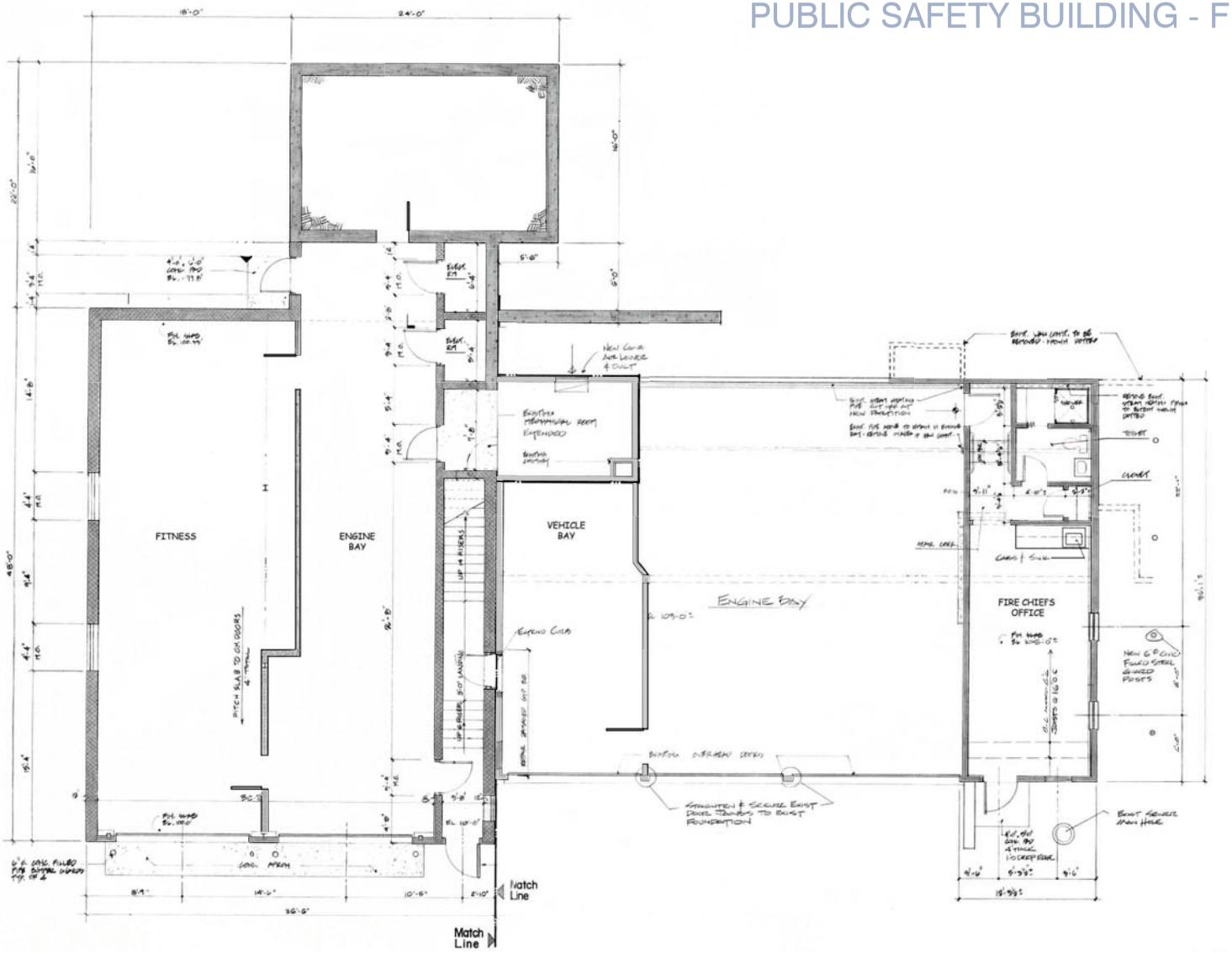
Exit Sign

Emergency Egress Lighting

Public Safety Building Report

Princeton Public Buildings
Facilities Assessment

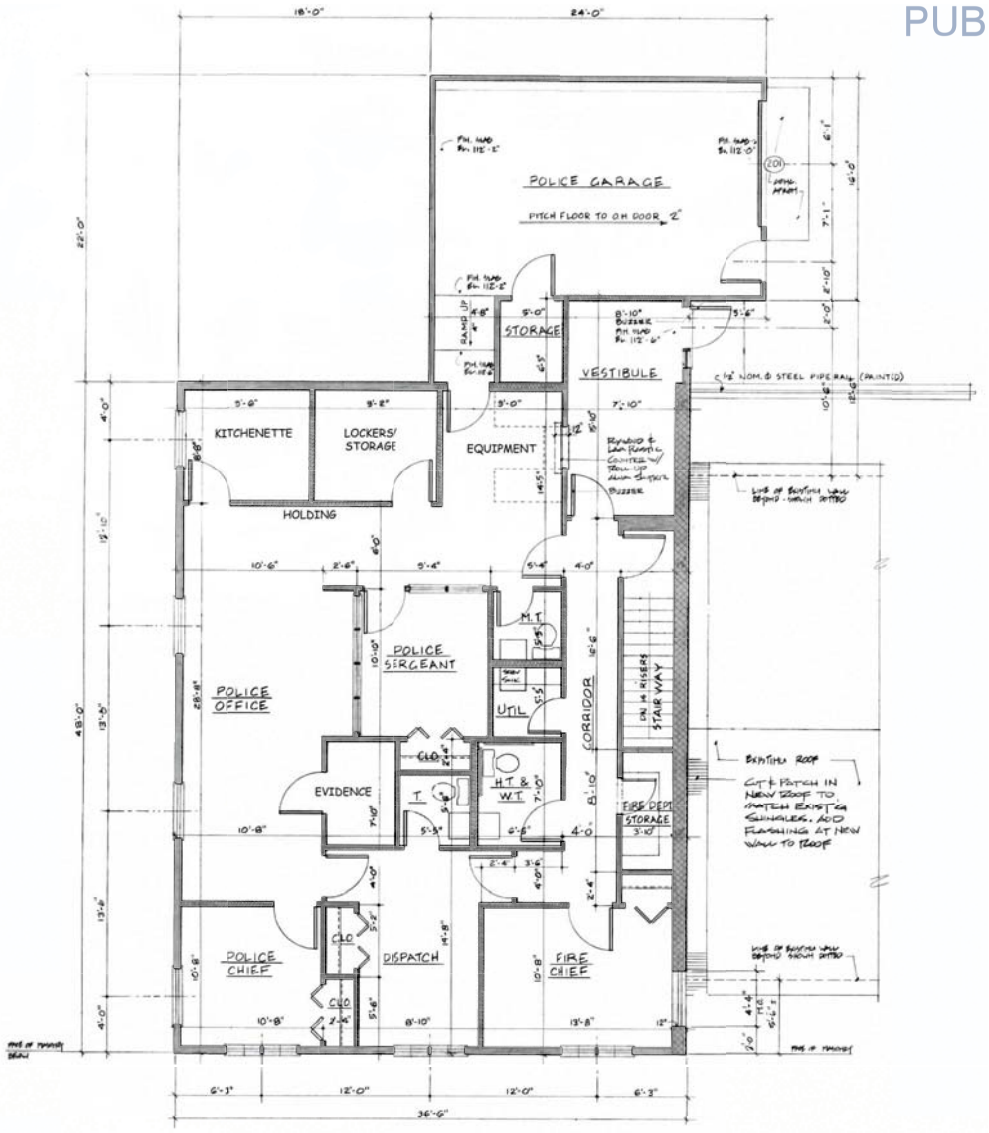
PUBLIC SAFETY BUILDING - FIRST FLOOR



GRAPHIC SCALE

N

PUBLIC SAFETY BUILDING - SECOND FLOOR



GRAPHIC SCALE

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HKT architects inc.

Building Name: Public Safety Building

Address: 8 Town Hall Drive

Building Use: Police and Fire Headquarters Stations

Type of Construction: Hybrid of masonry bearing walls, wood stud framing, concrete plank, wood roof trusses

Year of Construction: unknown **Last Modification / Addition:** 1988

Report By: Bill Hammer **GSF** 4,382 **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Painted Wood Clapboard (Photo No.1), Painted CMU, (Photo No. 2), Metal Siding (recently added to north side of fire station-Photo No. 3) and exposed concrete (east side of building).

Wall Condition: Fair to poor. Wood clapboards are splitting and paint peeling. The painted CMU is fair, paint peeling in some locations. New metal siding in excellent condition. (Photo No. 4)

Wall Insulation: Batt insulation in addition only. (Photo No. 5) New rigid insulation added under new metal siding at fire station. (Photo No. 6)

Window Types: Double hung (Photo No. 7) and awning windows (Photo No. 8), all with thermal glazing.

Window Conditions: Good

Door Types(s): Overhead doors in apparatus bays ((photo No. 9), insulated hollow metal doors in pressed metal frames (Photo No. 10)

Door Conditions: The egress door interior stairway does not close properly. There is daylight between the metal frame and the wall (Photo No. 11). The door has been hard to close. The overhead doors have a gap at the floor and are rusting at the sills. (Photo No. 12)

Roof Type(s): Asphalt shingles on police station, metal roof on fire station with aluminum gutters and leaders. There is batt insulation at the bottom cords of the roof trusses. (Photo No. 13)

Roof Conditions: The asphalt roof is over 25 years old. It needs to be replaced. The metal roof is in very good condition. There are severe ice dams on the north side of the fire station. (Photo No. 14)

Other Ext. Issues: There has been a water infiltration problem under the garage (sally port) bay from seepage between the pavement and the foundation. It is worse in the late fall and early spring when the water source is snow and ice. The boiler room and emergency electric room below are related in part from a catch basin between the police station addition and the earlier apparatus bay. (Photo No. 15) The thought is that the catch basin concrete is of poor quality and the drainage from the catch basin is not functioning properly. (Photo No. 16) There is also a mold problem at the north wall of the fire station. This was caused by ice dams prior to the new metal roof. Also, there was a water supply pipe in the rear wall of the fire station that would cause condensation in warm weather. These have been repaired with the new metal siding and insulation on the north wall. (Photo No. 17)

INTERIOR CONDITIONS:

Floor(s): Police-VCT on the top floor (Photo No. 18), Rubber tile in the fire station office/kitchen (Photo No. 19) and there is carpet in the dispatch area. All vehicular bays are concrete.

Floor Conditions: The VCT is in fair condition, although the joints are opening up in some locations (Photo No. 20). There is a crack in the tiles in the rear of the police office area near the kitchen. The crack is minor. The concrete slabs on grade are cracking in many places (Photo No. 21). The structural slab on the sally port garage bay is allowing water to penetrate to the basement space below. While this does not appear to be a structural issue (See structural report) it is causing damage to the CMU wall below. (Photo No. 22)

Wall Types(s): Painted CMU, mostly on the lower level or gypsum drywall on wood studs in the upper portion of the police station.

Wall Conditions: Good in occupied spaces. Some of the concrete wall are wet from water infiltration.

Ceiling Types(s): Plaster skim coat in the police station. GWB in the vehicle bays on the first floor.

Ceiling Conditions: Good on the upper level of the Police Station and the fire station office. The ceilings in the vehicle bays are fair with water stains in some locations. (Photo No. 23) These ceilings are not finished. They were never taped, primed, sealed or painted.

Doors: Flush wood doors with pressed metal frames in good condition. Some of the doors are ADA non-compliant as they do not have lever handle passage sets and in some cases there is not enough room on the latch side of the door. (Photo No. 24)

EGRESS / LIFE SAFETY / CODE COMPLIANCE:

HCP Access: There is no vertical accessible access. The public access to the police station is accessible directly from grade. Under present conditions, vertical access may not be required.

Accessible Toilets: There is one unisex accessible toilet on the upper level of the police station. The mirror does not comply with MAAB regulations.

Vertical Access: One stair at the police station. (Photo No. 25)

Vertical Egress: Since the structure is built into a hill, both floors egress directly on grade.

Horizontal Egress: The horizontal egress appears to be code compliant.

RECOMMENDED ACTIONS:

This building has out-lived its usefulness as both a police and fire station. The General Comments below, highlight the deficiencies that are basic to a modern fire and police station. Spending additional money other than deferred maintenance is not recommended. The Town of Princeton should plan to build a new modern public safety complex.

GENERAL COMMENTS:

The following are important programmatic elements that are missing in the current fire station headquarters:

- Sufficient administrative office and support space including areas sized for meeting and plan review
- Proper day room for training and accommodating staff overnight during major events
- Sufficient areas for the storage of documents
- Vehicle bays are undersized in width, length and height which does not allow for even simple movement around vehicles; no source capture for vehicle exhaust
- Turnout gear should be housed separately from the vehicles therefore not being subjected to fumes and light
- No gear washer/dryer for general maintenance of equipment
- No decontamination room for storage of equipment or showers for emergency decontamination
- No separate medical storage area
- Insufficient area for SCBA fill equipment and oxygen storage
- Lack of area for general storage of bulk items
- Sufficient parking for public and staff.

The following are important programmatic elements that are missing in the current police station:

- Sufficient administrative office and support space including areas sized for meetings, roll call and report writing
- Sufficient areas for the storage of documents and other equipment and supplies
- Lacks vehicle bays dedicated to singular use such as sallyport and impound and not used for bulk or supply storage
- Lacks dedicated sallyport leading directly into fully accessible booking and sight and sound separate cell blocks, interview room and bail room
- Evidence lockers and evidence storage that preserves the chain of custody
- Lacks separate locker rooms for police officers
- Lacks dedicated armory
- Sufficient parking for public and staff.

Photo No.1

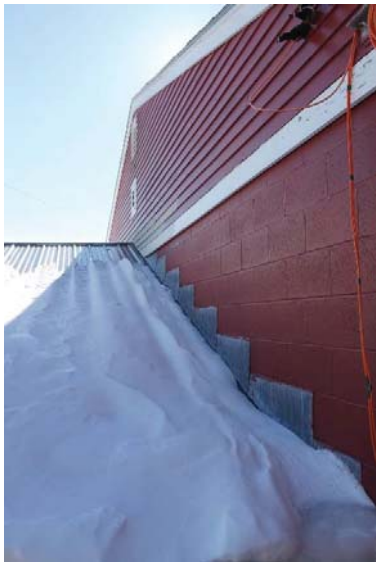


Photo No. 2

Photo. No. 3

Photo No. 4

Photo No. 5

Photo No. 6

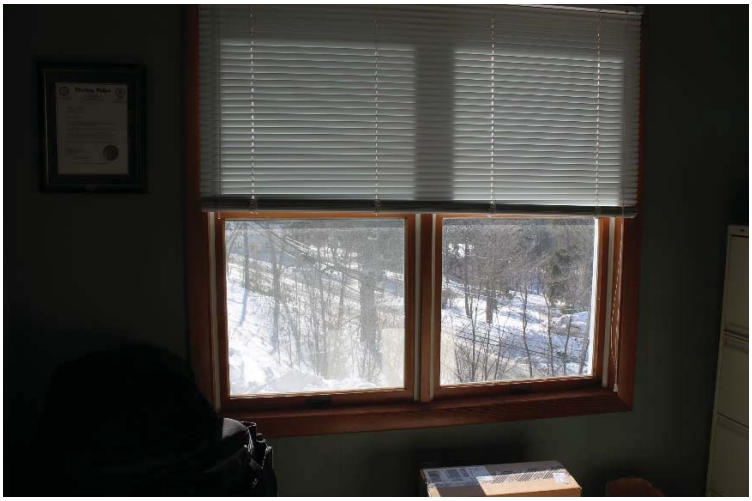


Photo No. 7

Photo No. 8

Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

Photo No. 13

Photo No. 14

Photo No. 15

Photo No. 16

Photo No. 17

Photo No. 18

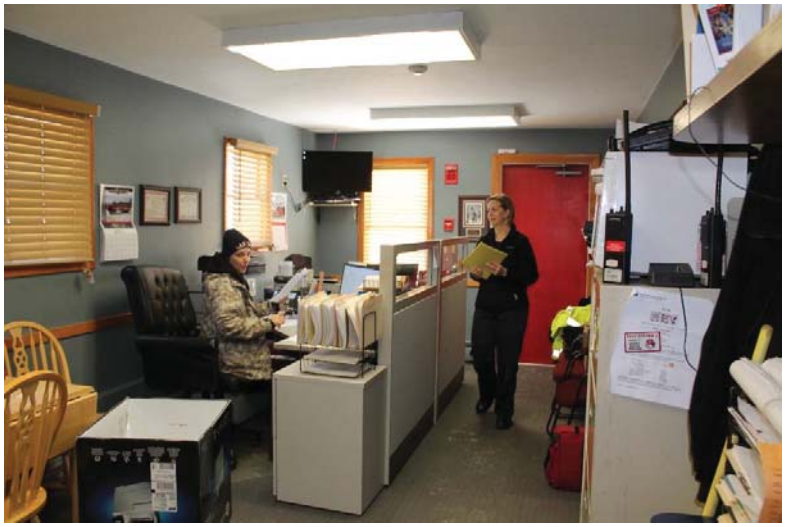


Photo No. 19

Photo No. 20

Photo No. 21

Photo No. 22

Photo No. 23

Photo No. 24

Photo No. 25

Building Name: Public Safety Building

Address: 8 Town Hall Drive

Building Use: Town Offices, Storage

Year of Construction: Unknown **Last Modification / Addition:** 1988

Report By: K. Champagne - PARE **GSF** ~4,400 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Precast concrete plank supported by steel beams and CMU bearing walls. Structural concrete slab at sally port.

Roof – Wood trusses/framing supported by wood walls.

Foundation – Concrete foundation wall/footing (generally not visible at exterior due to snow).

Condition: Visible framing generally in fair-to-good condition. Some cracking/spalling observed along foundations and water staining observed along roof eaves.

Roof Loading: Snow; ice dams.

Floor Loading: Office (typical); filing cabinets; evidence and vehicle storage.

Observed Deficiencies:

- Spalling and cracking observed along the elevated concrete slab and foundation walls supporting sally port. *Photo No. 01*
- Various signs of settlement/shrinkage cracking noted along the slabs-on-grade. *Photo No. 02*
- Stepped crack was noted along the CMU wall at the south end of building within the fire engine storage bay. *Photo No. 03*
- Timber truss supporting ceiling joists above fire engine storage bay is slightly sagged/rotated. *Photo No. 04*

RECOMMENDED ACTIONS:

- The cause of water infiltration to the foundation supporting the sally port should be investigated further. Potential repairs include concrete patching/crack sealing and waterproofing.

- Per Phil Connors of the Town, on-going building movement/settlement has been observed in the vicinity of the stepped CMU wall crack. Test pits should be performed to review the foundation's subgrade in this area and determine if remedial action is necessary.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Building Name: Public Safety Building

Address: 8 Town Hall Drive, Princeton, MA

Building Use: Police and Fire Stations

Year of Construction: _____ **Last Modification / Addition:** 1987

Report By: Thompson Consultants, Inc. **GSF** 4,382 **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): Propane for the chiefs cook

Piping Material(s): Copper **Size(s):** ½"

Water Source: Deep Well

Piping Material(s): Polypropylene **Size(s):** 1"

Capacity:

Sanitary System: Leach Field

Piping Material(s): Cast Iron with Lead and Okum Joint/Cast Iron No Hub Joint/Copper **Size(s):**

Water Source: From Bagg Hall Well.

DHW System: Rheem Electric Water Heater Model 82V40-2/40 US Gals/1 Phase/240 – 208 Volt AC

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	UNI	1	N	N	N	1	N	1ST	
Toilet No. 2	UNI	1	Y	N	N	1	Y	1ST	
Toilet No. 3	UNI	1	N	N	N	1	N	1ST	
Toilet No. 4	UNI	1	N	N	N	1	N	1ST	

General Condition: Poor

Water Cooler(s): Water Bottle Cooler

Misc. Fixtures: One Kitchen Sink, One Shower, 1 Mop Sink

Fire Suppression: 2 Sprinkler heads located in the boiler room. Sprinkler are connected to the domestic water piping system

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: None. Not required per current code based on building size (Less than 5,000 sf).

SUGGESTED ACTIONS:

Upgrade System: ☐ None

Replace System: ☒ Investigate potential blockages in piping or pitch of sanitary piping and replace as required to alleviate current flow issues.

Add to Existing: ☒ The existing well pump serves four (4) buildings (Bagg, Library, Public Safety Building and Annex Building). It would be beneficial to the property to install a second well with pump and tie into the same piping distribution to the four (4) buildings. If there is a problem with water supply to the buildings from one well, the redundant well would be able to ensure none of the buildings are without domestic water.

Information repeated on Bagg Hall, Library, and Town Hall Annex.

A recirculation pump alone will not ensure water piping installed above the frost line will not freeze. Although water is moving icing can still occur on the walls of the piping, restricting flow in extended cold weather days. Piping should be insulated and outfit with heat tracing in trench to ensure water does not freeze.

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add to Fire SS: ☐ None

Code Compliance: Minimum required pitch on sanitary piping 4” and greater to be 1/8” per foot. Verify proper pitch on buried sanitary piping.

RECOMMENDED ACTIONS: Since the sanitary flows to a common leach field serving 4 buildings (Bagg Hall, Library, Town Hall Annex and Public Safety Building) and it has been reported that there is a slow drainage issue with possible blockages in the sanitary system, video-scoping the existing piping network is recommended, as is verifying the pitch of the piping. This item will involve site survey.

GENERAL COMMENTS: The domestic water supply serving this building is looped underground from Bagg Hall and is equipped with a circulation pump to maintain constant water movement. It was reported that this circulation system was designed to keep the water from freezing in the winter months because the exterior underground piping is not buried to the proper depth (4 FT) because of the existing ledge between buildings.

It was reported that the underground sanitary piping is slow draining and has had numerous blockages.

Refer to Photos Below:

Photo 1: Building Construction

Photo 2: Sprinkler Head

Photo 3: Hot Water Heater

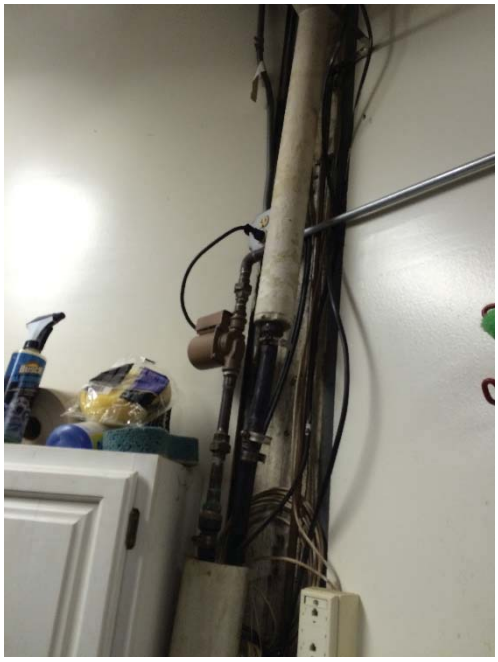


Photo 4: Recirculation Pump

Photo 5: Fixtures

Photo 6: Fixtures

Photo 7: Fixtures

Photo 8: Fixtures

Photo 9: Plumbing Piping

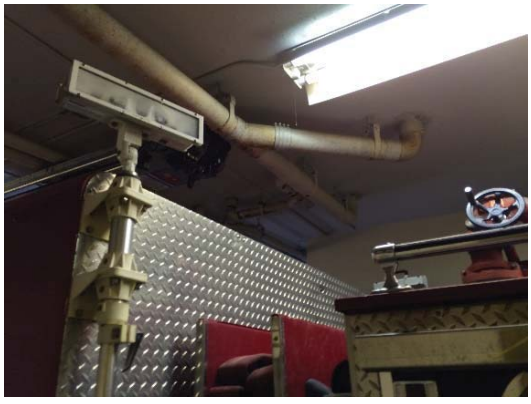


Photo 10: Storm Water Piping

Building Name: Public Safety Building

Address: 8 Town Hall Drive

Building Use: Police and Fire Stations

Year of Construction: _____ **Last Modification / Addition:** 1987

Report By: Thompson Consultants, Inc. **GSF** 4,382 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☒ Air Conditioning ☐ Mechanical Ventilating

Energy Sources(s): #2 oil stored in two (2) 275 gallon steel tanks in unexcavated portion of the basement.

System Type(s): This building is served by three different systems:

The second floor police station, first floor engine bay and the fire chief's office is served by a forced hot water system; with boiler and circulators located in the basement boiler room. The boiler and zone circulators provide hot water through a combination of fin tube radiation, convectors and unit heaters. The exercise room is served by an electric "Modine" type heater and window AC unit.

There is a dedicated DX split AC system serving the second floor police station, as well as a split ductless AC unit serving the server rack. The three east engine bays are served by an oil fired hot air furnace ducted to and from the ambulance and east engine bays. The hot air furnace is also located in the basement boiler room.

The toilets are exhausted by ceiling exhaust fans interlocked with the lights.

Zones: Three hydronic heating zones, one hot air heating zone and one air conditioning zone.

Controls: Electric space thermostats control the three hydronic zone circulators. The hot air system is controlled by a single electric thermostat located in the ambulance bay. An electric space thermostat in the dispatch room controls the air conditioning system. The convectors in the vestibule and hallway are controlled by self-contained radiator valves.

Condition(s): The Peerless Model WBV-03-110, 112,000 btu/hr. boiler, piping and pumps appears to be original building equipment, and near its serviceable life expectancy. There is signs of leaking at the zone circulators and damaged pipe insulation

The Metromatic Model 200-LB, 200,000 btu/hr. hot air furnace appears to be original equipment and near its serviceable life expectancy. The drywall cavity which forms the return air plenum is damaged. There are no grilles at supply and return air openings.

One of the two fuel oil storage tanks is badly corroded.

The hydronic radiator in the stairway has been is non-operational.

Mech Rooms(s):

Code Issues: No mechanical ventilation. Oil tank vent is too low.

SUGGESTED ACTIONS:

Upgrade System: ☒ Raise oil tank vent.

Replace System: ☒ 275 Gallon oil tank.

Add to Existing: ☐

No Action Req'd: ☐

Replace Controls: ☐

Code Compliance: Not in compliance with applicable codes

RECOMMENDED ACTIONS: Provide new HVAC systems in accordance with current applicable codes to suite future building modifications and use.

GENERAL COMMENTS: The existing HVAC systems appear to be functioning at this time, however they are at or near their serviceable life expectancy.

Building Name: Public Safety Building

Address: 8 Town Hall Drive, Princeton, MA 01541

Building Use: Police and Fire Station

Year of Construction: _____ **Last Modification / Addition:** 1987

Report By: Thompson Consultants, Inc. **GSF** 4,382 (including basement) **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): 400A 120/240V 1Ph 3W

400A Underground Service from utility pole to 400A meter socket located in the main electrical room on the first floor of the Public Safety Building. The load-side of the meter feeds a 400A Main Distribution Panel MDP. The bus of MDP is tapped to feed a 225A enclosed circuit breaker which feeds a Kohler ATS. The Load side of the ATS feeds emergency (stand-by) panel A. Emergency (stand-by) panel A feeds miscellaneous loads throughout the building – boiler, bathroom & kitchen lights, fire alarm panel, phone system, door controls, radio dispatch area, etc.. Emergency (stand-by) panel A also feeds an adjacent Powerware 9170+ UPS, maintenance bypass switch and power distribution unit. The UPS feeds the clock system, admin. printer and BB quad outlets.

The emergency side of the ATS is fed from exterior propane-fired generator.

Generator: Exterior – propane-fired generator in weatherproof enclosure; partially buried in the snow at the time of the survey so size was not determined. Would estimate the generator to be a 30kW- 40kW unit.

It was reported that the existing generator is about to be replaced with a new generator large enough to pick-up the new regional dispatch equipment and perhaps the entire building. The unit is reported to been in storage at the DPW building.

Capacity: The existing electrical service is adequately sized for the 4,382SF facility providing approximately 17W/SF. The facility is presently partially air-conditioned which is likely the largest load on summer design days.

The existing generator is reported to be undersized and a replacement unit is ready for installation.

Electric Closet: First Floor Normal Electrical Room - Contains the following equipment:

- Utility Meter
- Main Distribution Panel MDP
- Fire Alarm Control Panel (FACP) – Simplex 4100
- Security Panel – Fire Burglary Instruments, Inc. - Star XL 4612
- IT Backboard and Equipment

First Floor Emergency (Stand-By) Electrical Room - Contains the following equipment:

- 225A Enclosed Circuit Breaker
- Kohler Automatic Transfer Switch
- Emergency (Stand-By) Panel A
- Uninterruptible Power Supply – Powerware 9170+
- UPS Maintenance Bypass Switch
- UPS Power Distribution Unit

Second Floor – Emergency Panel B located in a small electrical closet in the Police garage.

Wiring: Mix of conduit and conductors and armor-clad cable of various age and condition.

General Condition: Fair to Good

Sub-Panels: Refer to “Electric Closet” outline above.

S-P Locations: Second Floor

System Condition: Fair

Lighting: Linear fluorescent (T-12) – 2 x 4 surface mounted w/ acrylic prismatic lenses, and surface mounted strip lights.

Receptacles: Quantity and location is fair to good. Grounding type receptacles where observed.

Emergency Ltg: Hard-wired emergency battery units; quantity and coverage may meet life safety code but a thorough evaluation should be performed; all units should be tested for proper operation.

Exit signs appear to be fluorescent or incandescent type, most were not illuminated but did appear to contain an emergency battery per code; all units should be tested for proper operation.

Fire Alarm: The building contains a Simplex 4100 hard-wired zoned fire alarm system.

Smoke Detectors: Yes

Heat Detectors: Yes

Audible & Strobe: Yes

Annunciator Panel: None observed.

PA System: None observed

Low Volt Systems: Voice, Data, Security, Door Access Control and Regional Dispatch Radio System. The voice/data service entrance and equipment was located in the first floor normal electrical room; the radio dispatch & microwave cell system equipment is located in a room on the first floor and in the old dispatch area on the second floor.

Code Issues: Fire alarm (upgrade for ADA compliance and addressable system), emergency egress, lighting, and code required clearances in emergency electrical room.

SUGGESTED ACTIONS:

Upgrade System: Electrical Service
Emergency or Stand-By Generator
Emergency or Stand-By Distribution & Feeders
Electrical Distribution & Feeders
Branch Circuiting
Devices

Replace System: Lighting
Lighting Control
Fire Alarm

Add to Existing: None

No Action Req'd: None

Code Compliance: The building electrical systems are mostly code compliant with particular code compliance issues related to fire alarm, emergency egress lighting and code required working clearance.

RECOMMENDED ACTIONS:

All new electrical systems – refer to "Replace Systems and Upgrade Systems" category above.

GENERAL COMMENTS:

Refer to photographs below.

Service Entrance Equipment – Normal

Fire Alarm Control Panel

Voice/Data Equipment

Emergency (Stand-By) Closet

Dispatch Equipment

Emergency Egress Lighting

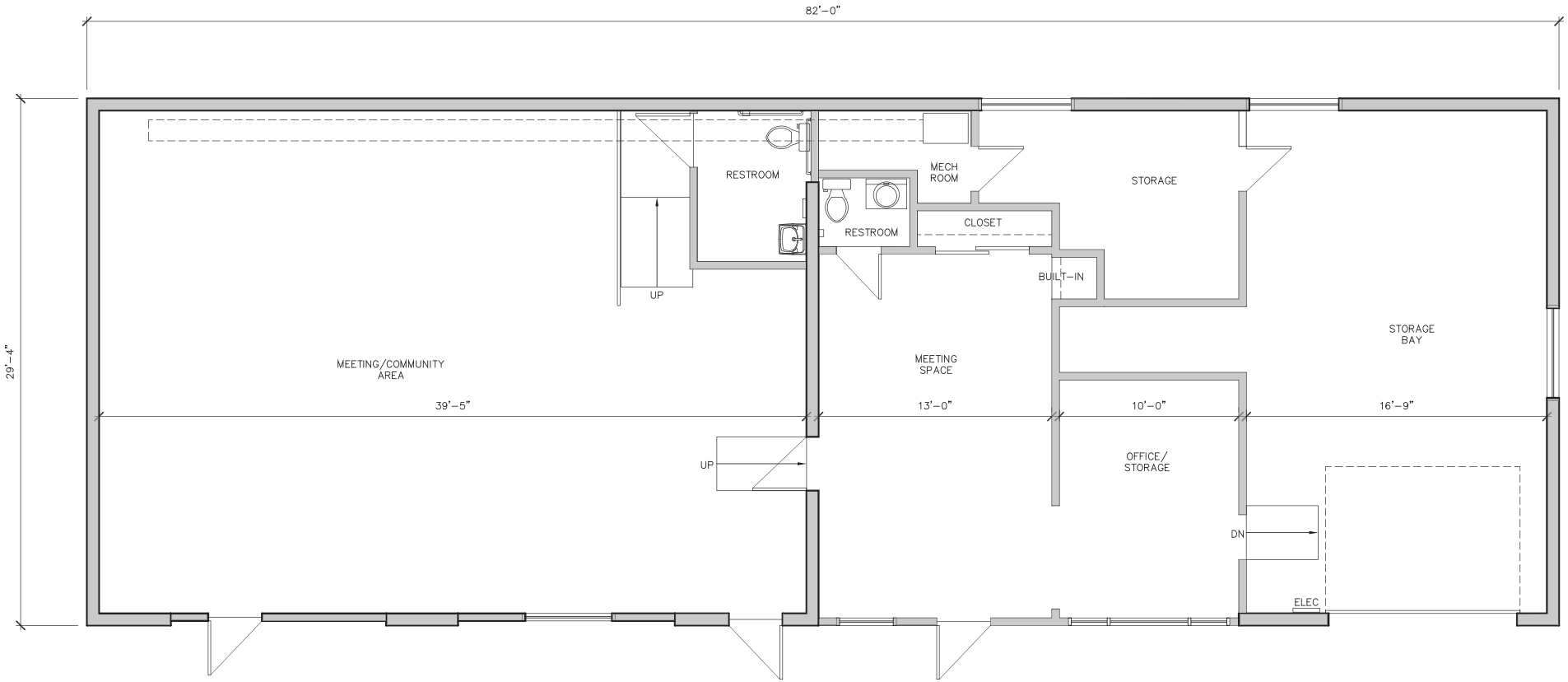
Radio Equipment

Generator

Town Hall Annex Report

Princeton Public Buildings
Facilities Assessment

TOWN HALL ANNEX - FLOOR PLAN



GRAPHIC SCALE

N

HKT architects inc.

Building Name: Town Hall Annex

Address: 4 Town Hall Drive

Building Use: Former Municipal Light Company building converted into a meeting room for town hearings, voting, one conference room, two offices and general storage

Type of Construction: CMU bearing walls Wood trussed roof

Year of Construction: 1950's **Last Modification / Addition:** 2000±

Report By: Bill Hammer **GSF** 2,460 **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Painted CMU with some of the original openings infilled with wood stud walls sheathed with T-111 plywood. (Photo No. 1) The gable ends are wood frame with T-111 on the west side (Photo No. 2) and asphalt shingles on the east side (Photo No. 3).

Wall Condition: The CMU is in good condition except for a settlement crack on the west side (Photo No. 4). The T-111 plywood is in poor condition, has weathered and the paint is peeling.

Wall Insulation: Possibly batt insulation in the walls when the building was converted from a DPW garage.

Window Types: Casement and double hung units with thermal glazing (Photo No. 5).

Window Conditions: Good to fair

Door Types(s): Overhead door in the storage bay, metal door in pressed metal frame in the large meeting room and a residential grade wood door pre-hung door with lites in a wood frame at the main entry. There is a second residential grade metal insulated door pre-hung door without lites in a wood frame in the large meeting room. (Photo No. 1)

Door Conditions: The metal doors are in good condition and the residential door is in fair condition.

Roof Type(s): Pitched roof with asphalt shingles.

Roof Conditions: The south side of the roof was replaced 10 to 12 years ago, but the north side was not. Although the surface was covered in snow, we were told that the north side needs to be replaced. The area over the large meeting room appears to have insulation as there were no ice dams observed on the date of this review. The portion on the east side of the building does not have gutters and it is not known whether it is insulated.

Other Ext. Issues: The wood trim and soffit is in poor condition (Photo No. 6). There are also serval wasp nests on the rake near the peak (Photo No. 7).

INTERIOR CONDITIONS:

Floor(s): Slab on grade without any perimeter insulation. There is an approximate grade change of 6"+ between the former vehicle bays and the present conference/office area. The meeting areas and offices are carpeted. The storage area is concrete.

Floor Conditions: The carpet is fair to good (Photo No. 8).

Wall Types(s): Gypsum wall board (Photo No. 9) and wood paneling over wood studs (Photo No. 10).

Wall Conditions: Good

Ceiling Types(s): Acoustic tile with a lay-in grid in the meeting room (Photo No. 9) and direct glue in the office and conference area (Photo No. 11). Unfinished homosote board in the storage area (Photo No. 12).

Ceiling Conditions: Good lay-in ceiling, the glued tiles are in fair to poor condition.

Doors: Flush wood doors and wood frames in good condition.

EGRESS/LIFE SAFETY/CODE COMPLIANCE:

HCP Access: There are two ramps from the large meeting room. One is for access to the handicapped toilet (Photo No. 13) and the second is to bridge the 6"+ grade change between the meeting room and the conference room (Photo No. 14). The second ramp is not MAAB compliant. There is no landing at the top and there are no rails. The ramp to the toilet room should have a rail on the wall side. The pitch on ramp to the toilet appears to meet code. The second ramp may not. It should be checked.

Accessible Toilets: One Accessible unisex toilet room (Photo No. 15). The lavatory does not meet MAAB or ADA requirements for legroom (Photo No. 16).

Vertical Access: Not applicable

Vertical Egress: Not applicable

Horizontal Egress: Appears to meet code.

RECOMMENDED ACTIONS:

Ultimately this building needs to be replaced and it should be maintained to keep it in operation until a replacement can be found.

GENERAL COMMENTS:

If Bagg Hall were restored and the second floor put back into operation, the Annex may not be needed.

Photo No. 1

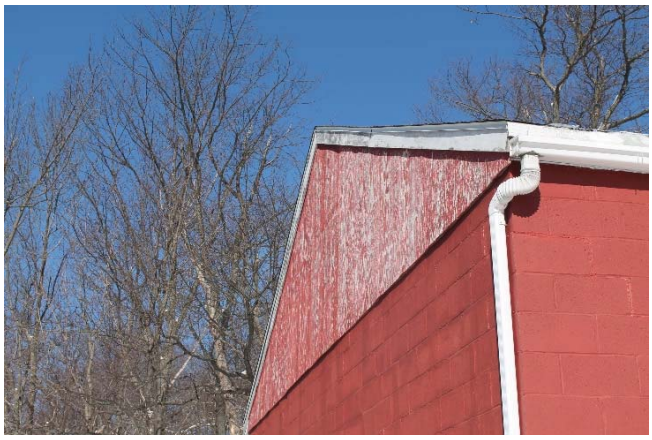


Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

Photo No. 6

Photo No. 7

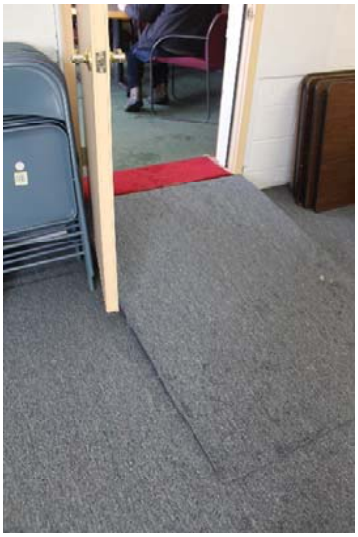


Photo No. 8

Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

Photo No.13

Photo No. 14

Photo No. 15

Photo No. 16

Building Name: Town Hall Annex

Address: 4 Town Hall Drive

Building Use: Community Space, Public Hearings, Town Government

Year of Construction: Unknown **Last Modification / Addition:** Unknown

Report By: K. Champagne - PARE **GSF** ~2,400 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Concrete slab on grade

Roof – Wood framing (per Town, not visible during site visit) supported by exterior CMU walls.

Foundation – Not visible due to snow.

Condition: Roof framing and interior face of CMU was not visible due to finishes. The exterior face of CMU is in fair condition with some stepped cracking.

Roof Loading: Snow; ice dams.

Floor Loading: Assembly and office space.

Observed Deficiencies:

- Deterioration was noted along CMU wall mortar joints within the bottom 4'-0" of the wall. *Photo No. 01*
- Stepped CMU cracking was noted along the west side of building. *Photo No. 02*
- Water staining was noted along the ceiling at the east side of the building (possible ice dams).

RECOMMENDED ACTIONS:

- All CMU mortar joints shall be cleaned and re-pointed as necessary.
- Stepped wall crack along west side has been previously repaired with mortar/sealant. The crack should be monitored to determine if it is still active.

Photo No. 1

Photo No. 2

Building Name: Town Hall Annex

Address: 4 Town Hall Drive, Princeton, MA

Building Use: Town Hall Administrative Functions, Voting and Town Meetings

Year of Construction: 1950's **Last Modification / Addition:** 2000 +/-

Report By: Thompson Consultants, Inc. **GSF** 2,378 **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): N/A

Piping Material(s): **Size(s):**

Water Source: Deep Well

Piping Material(s): Polypropylene **Size(s):** 1"

Capacity:

Sanitary System: Leach Field

Piping Material(s): Cast Iron/Copper Soldered Joint **Size(s):**

Water Source: From Bagg Hall Well.

DHW System: 5 Gallon Electric Water Heater Located in the Ceiling above the Toilet Room.

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	UNI	1	Y	N	N	1	Y	1ST	
Toilet No. 2	UNI	1	N	N	N	1	N	1ST	
Toilet No. 3									
Toilet No. 4									

General Condition: Poor

Water Cooler(s): Water Bottle Cooler

Misc. Fixtures: None

Fire Suppression: None

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: None. Not required per current code based on building size (Less than 5,000 sf).

SUGGESTED ACTIONS:

Upgrade System: ☐ None

Replace System: ☒ Investigate potential blockages in piping or pitch of sanitary piping and replace as required to alleviate current flow issues.

Add to Existing: ☒ The existing well pump serves four (4) buildings (Bagg, Library, Public Safety Building and Annex Building). It would be beneficial to the property to install a second well with pump and tie into the same piping distribution to the four (4) buildings. If there is a problem with water supply to the buildings from one well, the redundant well would be able to ensure none of the buildings are without domestic water.

Information repeated on Bagg Hall, Library, and Public Safety Building.

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add to Fire SS: ☐ None

Code Compliance: Minimum required pitch on sanitary piping 4” and greater to be 1/8” per foot. Verify proper pitch on buried sanitary piping.

RECOMMENDED ACTIONS: Since the sanitary flows to a common leach field serving 4 buildings (Bagg Hall, Library, Town Hall Annex and Public Safety Building) and it has been reported that there is a slow drainage issue with possible blockages in the sanitary system, video-scoping the existing piping network is recommended, as is verifying the pitch of the piping. This item will involve site survey.

GENERAL COMMENTS: It was reported that the underground sanitary piping is slow draining and has had numerous blockages.

Refer to Photos Below:

Photo 1: Building Construction

Photo 2: Hot Water Heater

Photo 3: Fixtures

Photo 4: Fixtures

Photo 5: Construction Type

Photo 6: Construction Type

Building Name: Town Hall Annex

Address: 4 Town Hall Drive

Building Use: Hearing Room, Voting Office, Conference, Storage

Year of Construction: 1950's **Last Modification / Addition:** 2000 +/-

Report By: Thompson Consultants, Inc. **GSF** 2,378 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☐ Air Conditioning ☐ Mechanical Ventilating

Energy Sources(s): #2 Oil and Electric. There is a 275 gallon steel oil tank within a shed outside the building.

System Type(s): This building is served by two different systems:

The majority of the building is served by electric baseboard heaters.

The main meeting room is served by an oil fired hot air furnace with exposed ductwork within the space, there is also a piece of flex duct off this system which serves the truck bay. The meeting room is also served by two electric unit heaters, as well as two window type (thru wall) air conditioning units.

Toilet ceiling exhaust fans interlocked with the lights serve each bathroom.

Zones: Each space except for the truck bay has a wall mounted thermostat controlling its respective electric baseboard.

Controls: An electric wall mounted thermostat in the meeting room controls the hot air furnace.

Condition(s): The electric baseboard appear to be original equipment and near their serviceable life expectancy.

The vertical York Model P-HMX 14F-10001 hot air furnace appears to be in serviceable condition.

The oil tank was not accessible at the time of our site visit.

Mech Rooms(s):

Code Issues: No mechanical ventilation

SUGGESTED ACTIONS:

Upgrade System: ☐

Replace System: ☒

Add to Existing: ☐

No Action Req'd: ☐

Replace Controls: ☒

Code Compliance: Not in compliance with current applicable codes

RECOMMENDED ACTIONS: Provide new HVAC systems in accordance with current applicable codes to suite future building modifications and use.

GENERAL COMMENTS: The system(s) installed are piecemeal and inefficient and should be replaced.

Building Name: Town Hall Annex

Address: 4 Town Hall Drive, Princeton, MA 01541

Building Use: Hearing Room, Voting Office, Conference, Storage

Year of Construction: 1950's **Last Modification / Addition:** 2000 +/-

Report By: Thompson Consultants, Inc. **GSF** 2,378 **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): 200A 120/240V 1Ph 3W

The underground service lateral appears to originate in a junction box on the exterior of Bagg Hall adjacent to the utility electric meter. The service lateral then runs underground to Town Hall Annex rising out of grade and up the side of the building in conduit where it terminates in a weather head. The conductors leave the weather head where they splice onto another set of service conductors originating from a separate weather head; these conductors enter the building and terminate at a 200a utility company meter socket.

The 200A meter feeds a 200A panelboard on the load side, this panel provides distribution and branch circuits to the entire facility.

The 200A panelboard feeds a small load center in the larger function room on the other end of the building.

Generator: None

Capacity: The existing electrical service is adequately sized for the 2,378SF facility as it contains no permanent office, no central air-conditioning (two window AC units for large meeting room) and has a large storage element. The 200A service provides 16W/SF over the entire building.

Electric Closet: First Floor Garage – The 200A meter socket and 200A panelboard are located adjacent to the garage door.

First Floor - Contains a small load center in the larger function room on the other end of the building.

Wiring: Mix of non-metallic sheathed cable and armor-clad cable of various age and condition.

General Condition: Poor

Sub-Panels: First Floor - 100A 120/240V 1Ph 3W 6Pole

S-P Locations: First Floor in the larger function room.

System Condition: Poor

Lighting: Linear fluorescent (T-12) – Pendant mounted baffle-type, industrial strips, acrylic prismatic wrap around, etc.

Receptacles: Quantity and location is sparse. Grounding type receptacles where noted but suspect some may have inadequate ground based on branch circuit wiring type.

Emergency Ltg: Plug-in and hard-wired emergency battery units; quantity and coverage does not meet life safety code; all units should be tested for proper operation.

Exit signs are non-existent; presently using non-illuminated signage.

Fire Alarm: The building contained a hard-wired smoke detection and reporting system via the security system panel.

The system was designed to report alarms to the Public Safety Building dispatch annunciator via the security system control panel. Upon alarm the remote security annunciator located in the dispatch area of the Public Safety Building would annunciate. It is reported that this annunciation is longer monitored as the dispatch area is no longer staffed 24/7 due to recent switch to regional dispatch; it is unclear if annunciation of an alarm on this system would get reported.

The building did not contain fire alarm pull stations or indicating appliances.

The security panel was reported to be non-operational, therefore the fire alarm is non-operational.

Smoke Detectors: Refer to “Fire Alarm” outline above

Heat Detectors: Refer to “Fire Alarm” outline above

Audible & Strobe: Refer to “Fire Alarm” outline above

Annunciator Panel: None observed

PA System: None observed

Low Volt Systems: Voice, Data and Security. The voice/data service entrance and equipment was located near the electrical meter and panel board; it appears to be service extended from another building.

Code Issues: Fire Alarm, Emergency Egress Lighting, Wiring, Electrical Service

SUGGESTED ACTIONS:

Upgrade System: None

Replace System: Electrical Service
Emergency or Stand-By Generator
Emergency or Stand-By Distribution & Feeders
Electrical Distribution & Feeders
Branch Circuiting
Devices
Lighting
Lighting Control
Fire Alarm
Voice/Data/Video
Security

Add to Existing: None

No Action Req'd: None

Code Compliance: The building electrical systems are not code compliant with particular code compliance issues related to fire alarm, emergency egress lighting and wiring.

RECOMMENDED ACTIONS:

All new electrical systems – refer to "Replace Systems" category above.

GENERAL COMMENTS:

Refer to photographs below.

Service Entrance Weather Head

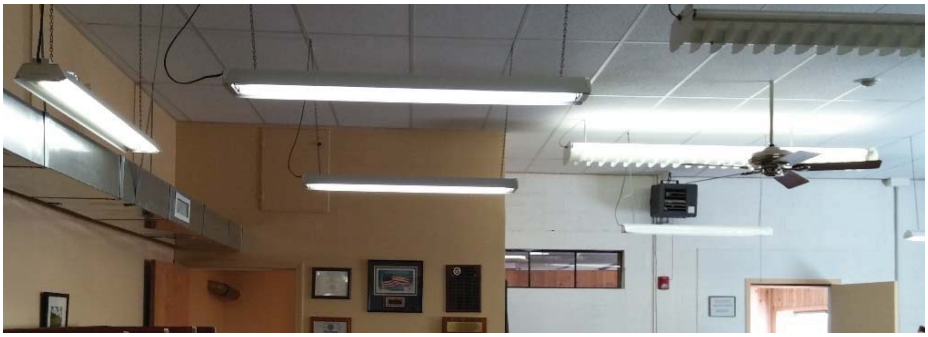
Service Entrance Equipment

Meter Socket

200A Panel Board

Exit Sign

Emergency Egress Lighting



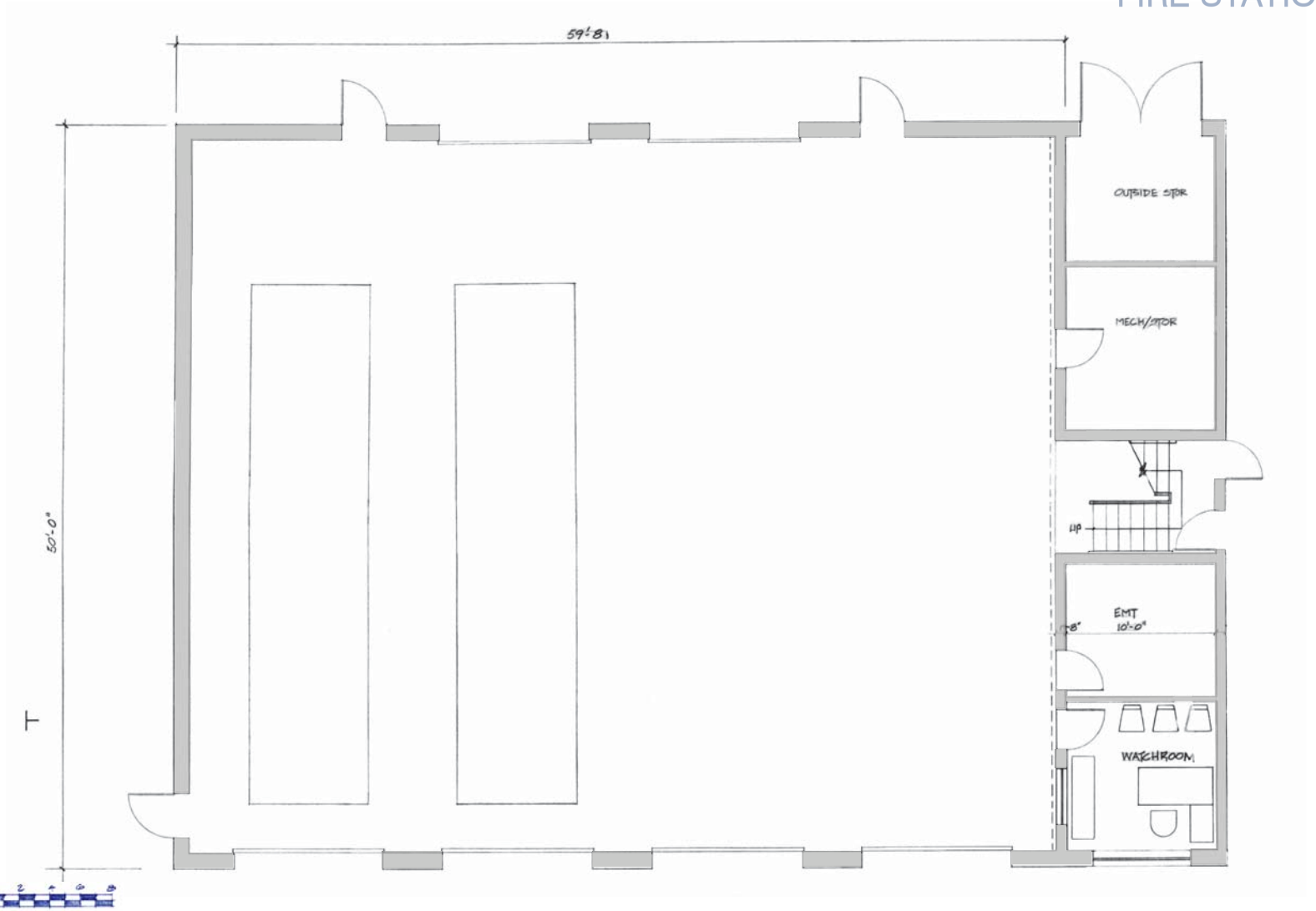
Lighting

Lighting

Fire Station No. 2 Report

Princeton Public Buildings
Facilities Assessment

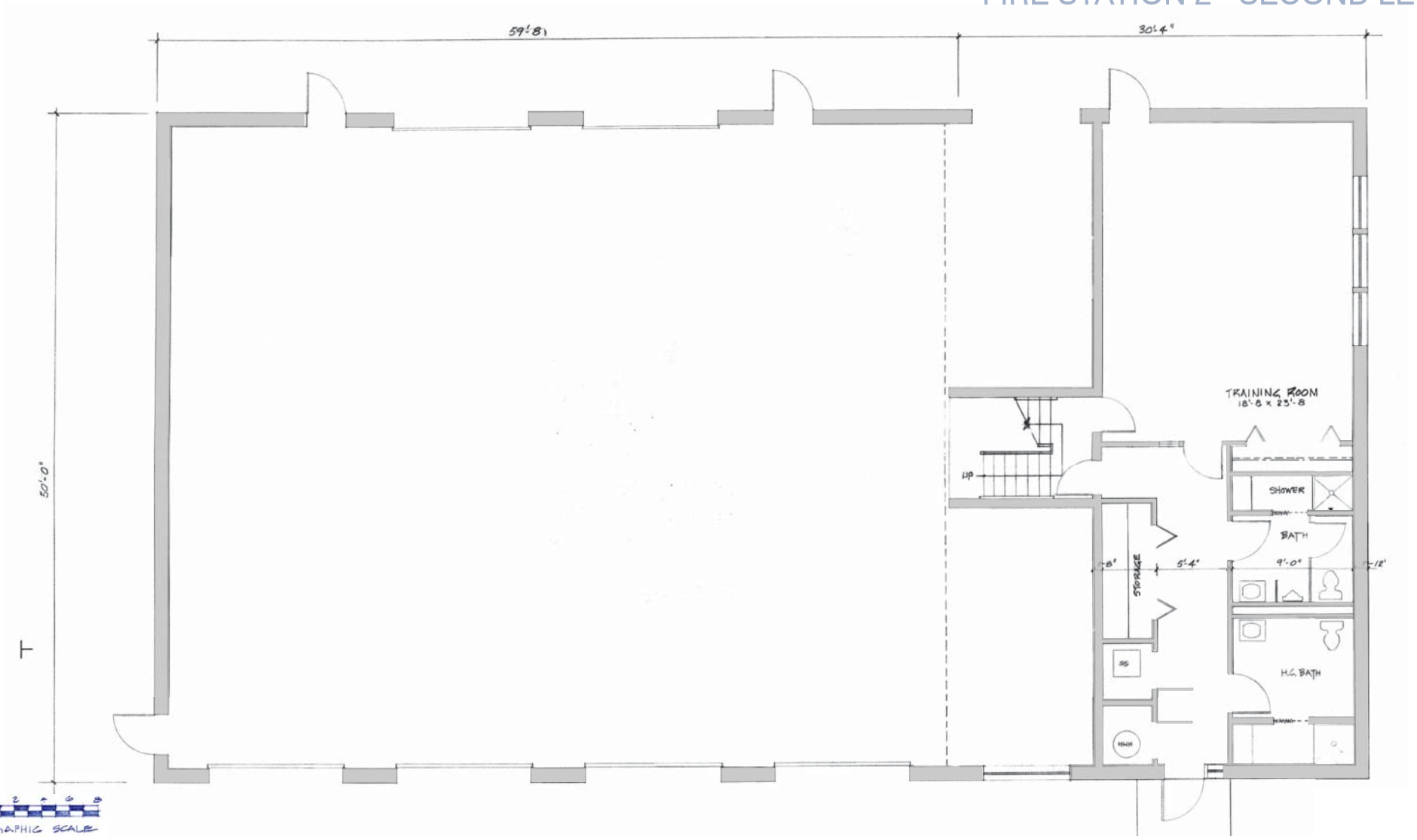
FIRE STATION 2 - LOWER LEVEL



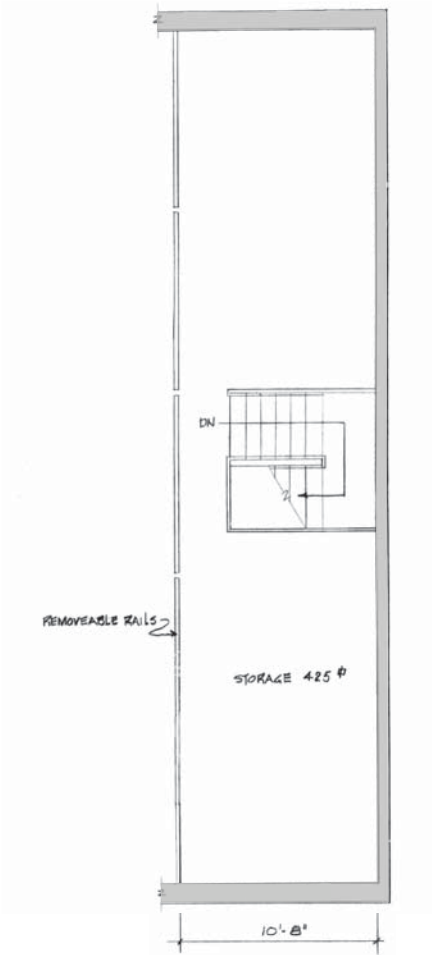
GRAPHIC SCALE

N

FIRE STATION 2 - SECOND LEVEL



FIRE STATION 2 - MEZZANINE LEVEL



GRAPHIC SCALE

N

Building Name: Fire Station Number 2

Address: Route 140

Building Use: Fire Substation

Type of Construction: Masonry bearing walls with wood roof trusses

Year of Construction: 1987 **Last Modification / Addition:**

Report By: Bill Hammer **GSF** 6,016 **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Painted CMU and wood clapboards at the gable ends. (Photo No. 1)

Wall Condition: Single Wythe CMU is in good condition. The clapboards at the gable ends need some repair/replacement as does the wood trim.

Wall Insulation: Unknown.

Window Types: Fixed insulated glass and sliders with insulated glass (photo No. 2)

Window Conditions: The sash on the slider is in poor condition and should be replaced. (Photo No. 3) The fixed glass units have last their seal. The sash should be replaced.

Door Types(s): Overhead doors in apparatus bay, insulated metal doors (insulation assumed) with metal frames

Door Conditions: Some weatherstripping at the overhead doors has become detached from the frame. (Photo No. 4)

Roof Type(s): Asphalt Shingles

Roof Conditions: The asphalt shingles are more than 27 years old. They need to be replaced and the flashing and ice and watershield needs to be installed. Insulation at eaves over classroom needs to be reviewed as ice dams have occurred, primarily at the classroom wing. (Photo No. 5)

Other Ext. Issues: The clapboard at the gable ends and wood trim need to be repaired and replaced in some areas and repainted. Some of the exterior lighting should be upgraded to LED. See the electrical report.

INTERIOR CONDITIONS:

Floor(s):	VCT in the classroom wing (Photo No. 6), rubber tile in the radio room (Photo No. 7), ceramic tile in the toilet room and shower room. concrete in the apparatus bays
Floor Conditions:	Fair to good.
Wall Types(s):	Painted CMU
Wall Conditions:	Good
Ceiling Types(s):	Painted gypsum board (Photo No. 8)
Ceiling Conditions:	Good
Doors:	Wood flush doors in good condition

EGRESS / LIFE SAFETY / CODE COMPLIANCE:

HCP Access:	Separate exterior access to the classroom wing, but there is no access from a handicapped parking space. There are no handicapped parking spaces. The entire parking area is gravel (turns to mud) which does not meet MAAB regulations. On-grade access to the apparatus bay. The radio room is inaccessible.
Accessible Toilets:	1 unisex toilet room in the classroom area. Non-compliant signage.
Vertical Access:	NA
Vertical Egress:	NA
Horizontal Egress:	Meets code

RECOMMENDED ACTIONS:

This building is in generally good condition. Deferred maintenance should be maintained insofar as the overall building envelope and finishes. Apparently, the classroom and kitchen are undersized. The facility also lacks separate facilities for female firefighters.

The gable clapboards, siding and trim should be replaced with more durable materials such as cementuous boards. The roof needs replacing as well. Insulation along the soffits should be investigated and upgraded accordingly.

GENERAL COMMENTS:

This station is important to the Princeton Fire Department in terms of response time and adequately serving the entire community. Closing this facility and combining it with a new Public Safety Building would be short-sighted and a disservice to the Town of Princeton.

Photo No. 1

Photo No. 2

Photo No. 3

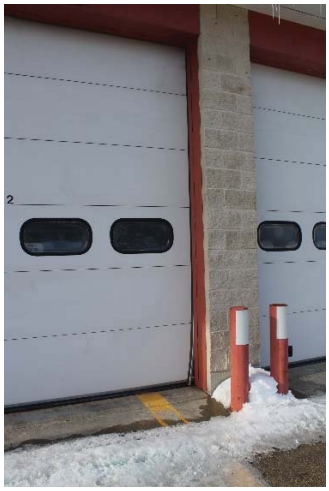


Photo No. 4

Photo No. 5

Photo No. 6

Photo No. 7

Photo No. 8

Building Name: Fire Station No. 2

Address: Route 140, North of East Princeton Road

Building Use: Equipment storage and offices

Year of Construction: 1987 **Last Modification / Addition:** None

Report By: K. Champagne - PARE **GSF** ~6,000 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Slab on grade 1 floor; 2nd floor & mezzanine not visible

Roof – Wood trusses (per Town personnel) supported by exterior CMU walls.

Foundation – Not visible due to snow.

Condition: Roof framing not visible due to finishes. Slab-on-grade and CMU in good condition.

Roof Loading: Snow; ice dams.

Floor Loading: Vehicle storage, offices, and training room.

Observed Deficiencies:

- Water staining along building eaves, likely due to ice dams. *Photo Nos. 1 & 2*

RECOMMENDED ACTIONS:

- Review building ventilation, insulation, and installation of ice/water membrane to limit future ice and water damage.

Photo No. 1

Photo No. 2

Building Name: Fire Station No. 2

Address: Route 140

Building Use: Fire Station

Year of Construction: 1986 **Last Modification / Addition:**

Report By: Thompson Consultants, Inc. **GSF** 6,016 **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): Propane

Piping Material(s): Steel **Size(s):** 1”

Water Source: Deep Well

Piping Material(s): Polypropylene/Copper **Size(s):** 1”

Capacity:

Sanitary System: Leach Field

Piping Material(s): Cast Iron No Hub/Copper **Size(s):**

Water Source: Deep well/pump in base of well/well X troll

DHW System: Gas Hot Water Heater Model BT 80 927B/ 75 US Gals /BTU HR Input 75100

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	L	1	Y	N	N	1	Y	2ND	
Toilet No. 2	M	1	N	1	N	1	N	2ND	
Toilet No. 3									
Toilet No. 4									

General Condition: Good

Water Cooler(s): Water Bottle Cooler

Misc. Fixtures:
1. Shower Stall in the Women’s toilet room, Shower is not HC.
2. Shower Stall in the Men’s Toilet Room, Shower is not HC.
3. Kitchen Sink

Fire Suppression: None

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: If building is to be brought up to standards set forth in current code, a sprinkler system would be required for the building since the space is greater than 5,000 sf.

Being an existing building, current code compliance is not necessarily required unless the Local Authority Having Jurisdiction requires compliance.

SUGGESTED ACTIONS:

Upgrade System: ☐ None

Replace System: ☐ None

Add to Existing: ☐ None

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add Fire SS: ☒ Given the size of the building and possibility for assembly, a fire suppression system is recommended, though not necessarily required (See above "Fire Suppression Code Compliance"). If installed, refer to below:

Provide a single underground tank on site for fire protection water supply. Outfit tank with a manual fill for initial fill of system and connect well water to tank for supplemental fill after testing.

Provide a vertical turbine pump and distribution to Fire Station #2. Will need a pump room in the building.

Provide quick response sprinkler system throughout the building.

Code Compliance: Provide automatic sprinkler system

RECOMMENDED ACTIONS:

New fire protection sprinkler system

GENERAL COMMENTS:

The propane gas service supplies gas to the following:

Hot Water Heater in the 2ND Floor Closet
Cooking Range in the 2ND Floor Kitchen
Heating Furnace in the 1ST Floor Mechanical Room
Two Unit Heaters in the ceiling of the Truck Bay

Refer to Photos Below:

Photo 1: Building Construction

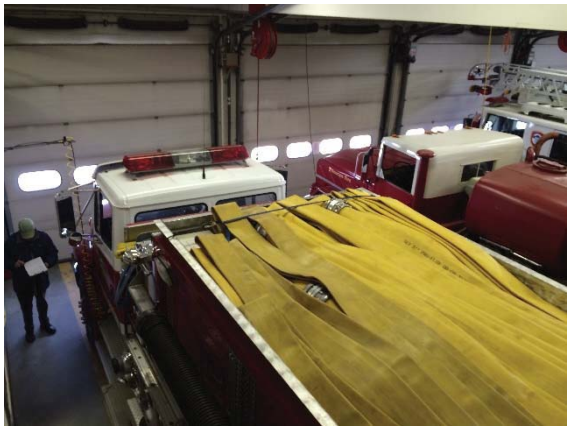


Photo 2: Building Construction

Photo 3: Hot Water Heater

Photo 4: Well Pump Tank

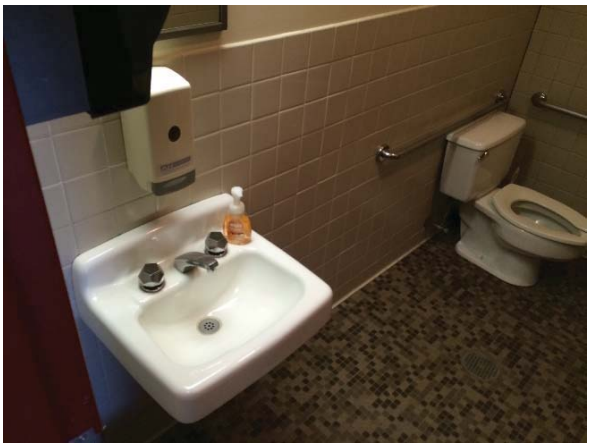


Photo 5: Fixtures

Photo 6: Fixtures

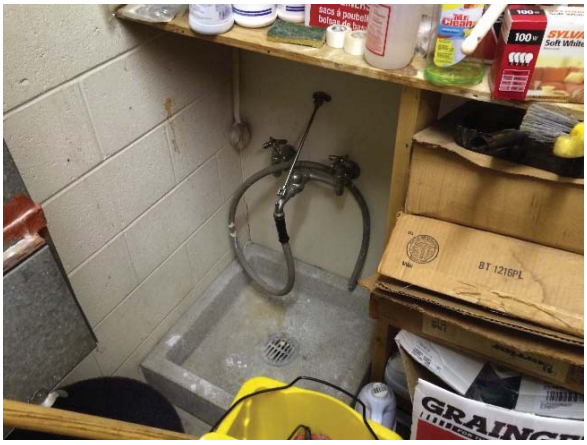


Photo 7: Fixtures

Photo 8: Fixtures

Photo 9: Breathing Air Cylinders

Photo 10: oxygen Cylinders

Photo 11: Air Compressor

Photo 12: Sanitary Piping

Building Name: Fire Station No. 2

Address: Route 140

Building Use: Fire Station

Year of Construction: 1986 **Last Modification / Addition:** 1999

Report By: Thompson Consultants, Inc. **GSF** 6,016 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☐ Air Conditioning ☒ Mechanical Ventilating

Energy Sources(s): Propane gas stored in approximately 1,000 gallon above ground storage tank in the rear of the building.

System Type(s): This building is served by two heating systems:

The “administrative” area is served by a propane fired hot air furnace with ducted supply and return to each space.

The “administrative” area is air conditioned by a Sanyo ductless split DX unit.

The engine bay is served by three (3) propane gas fired unit heaters, units are suspended within the bays and vented through the roof.

The engine bays are exhausted by a ducted exhaust system connected to a sidewall exhaust fan mounted on the end wall of the building.

Zones: Two (2) zones; “administration” and engine bays.

Controls: Electric space thermostats.

Condition(s): The direct vented gas fired hot air furnace is newer and appears to be in good condition.

The gas fired unit heaters appear to be original building equipment and in serviceable condition, with the exception of severe corrosion of the exhaust pipes on the Modine-type heaters. These should be replaced.

Mech Rooms(s):

Code Issues: No mechanical ventilation in administrative areas.

SUGGESTED ACTIONS:

Upgrade System: ☒

Replace System: ☐

Add to Existing: ☐

No Action Req'd: ☒

Replace Controls: ☐

Code Compliance:

RECOMMENDED ACTIONS:

Upgrade existing hot air heating system to provide mechanical cooling and ventilation.

GENERAL COMMENTS:

The building HVAC systems are said to be in good condition (with the exception noted above) and functional for their intended use.

The storage of miscellaneous supplies, tools and equipment in the mechanical/store room is blocking access to the furnace.

Building Name: Fire Station No. 2

Address: Route 140, Princeton, MA 01541

Building Use: Fire Station

Year of Construction: 1986 **Last Modification / Addition:**

Report By: Thompson Consultants, Inc. **GSF** 6,016 **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): 225A 120/240V 1Ph 3W

Fire Station No. 2 electrical service originates at a utility pole along Route 140 but on Town Property. A 200A meter socket is located on the pole along with a 200A manual transfer switch. The 200A manual transfer switch is fed on the stand-by side from a diesel-fired 30kW generator. The load-side of the manual transfer switch feeds a 200A Main Distribution Panel P1 located in the main electrical closet. Panel P1 feeds panel E1 via a manual transfer switch located in the main electrical closet. The normal-side of the manual transfer switch is fed from Panel P1, the emergency side form a remote generator plug-in docking station and the load side to panel E1.

Generator: Exterior – diesel-fired generator in weatherproof enclosure 30kW unit.

The generator is reported to be a military surplus unit.

Capacity: The existing electrical service is barely adequate for the 6,016SF facility providing approximately 6.8W/SF. The facility is presently partially air-conditioned which is likely the largest load on summer design days.

Electric Closet: First Floor Normal Electrical Room - Contains the following equipment:

- Utility Meter (Abandoned)
- Main Distribution Panel P1
- Manual Transfer Switch
- Emergency Panel E1
- Fire Alarm Control Panel (FACP) – Simplex 4100
- IT Backboard and Equipment

Wiring: Mix of conduit and conductors and armor-clad cable of various age and condition.

General Condition: Fair to Good

Sub-Panels: None

S-P Locations: None

System Condition: Fair

Lighting: Linear fluorescent (T-12) –2 x 4 surface mounted w/ acrylic prismatic lenses, surface mounted strip lights, and industrial strip lights with reflector.

Receptacles: Quantity and location is fair to good. Grounding type receptacles where observed.

Emergency Ltg: Hard-wired emergency battery units; quantity and coverage may meet life safety code but a thorough evaluation should be performed; all units should be tested for proper operation.

Exit signs appear to be fluorescent or incandescent type, most were illuminated but did not appear to contain an emergency battery per code; all units should be tested for proper operation.

Fire Alarm: The building contains a Simplex 4100 hard-wired zoned fire alarm system.

Smoke Detectors: Yes

Heat Detectors: Yes

Audible & Strobe: Yes

Annunciator Panel: None observed.

PA System: None observed

Low Volt Systems: Voice, Data, Security, Door Access Control and Radio Dispatch System. The voice/data service entrance and equipment was located in the second floor MDF/IDF room.

Code Issues: Fire alarm (upgrade for ADA compliance and addressable system), emergency egress lighting, and code required clearances.

SUGGESTED ACTIONS:

Upgrade System: Branch Circuiting

Devices

Replace System: Electrical Service

Emergency or Stand-By Generator

Emergency or Stand-By Distribution & Feeders

Electrical Distribution & Feeders

Lighting

Lighting Control

Fire Alarm

Add to Existing: None

No Action Req'd: None

Code Compliance: The building electrical systems are mostly code compliant with particular code compliance issues related to fire alarm, emergency egress lighting and code required working clearance.

RECOMMENDED ACTIONS:

All new electrical systems – refer to "Replace Systems and Upgrade Systems" category above.

GENERAL COMMENTS:

Refer to photographs below.

Normal Electrical Room

Fire Alarm Control Panel

Normal Electrical Room

Generator

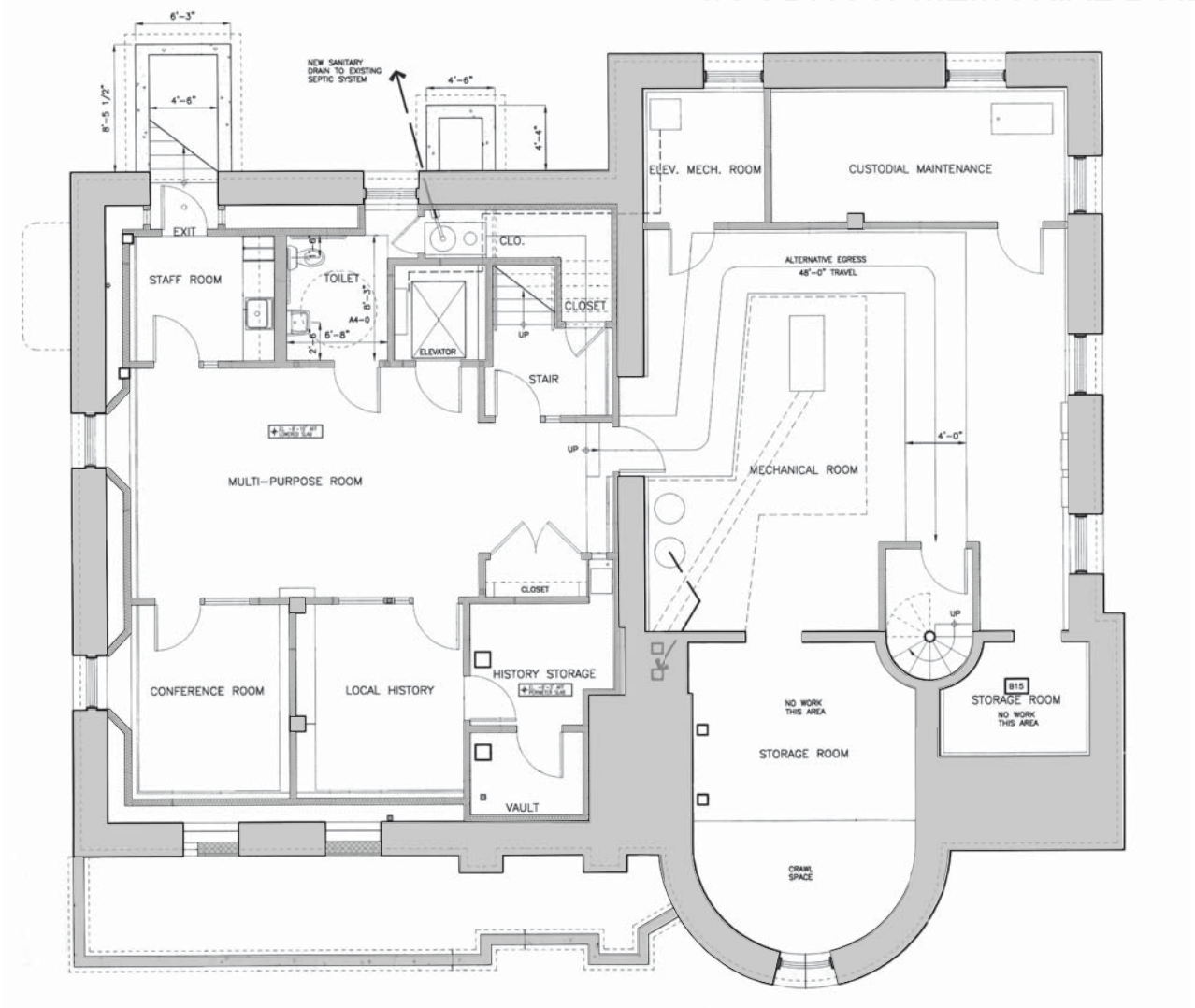
Service Entrance @ Generator

Emergency Egress Lighting

Goodnow Memorial Building Report

Princeton Public Buildings
Facilities Assessment

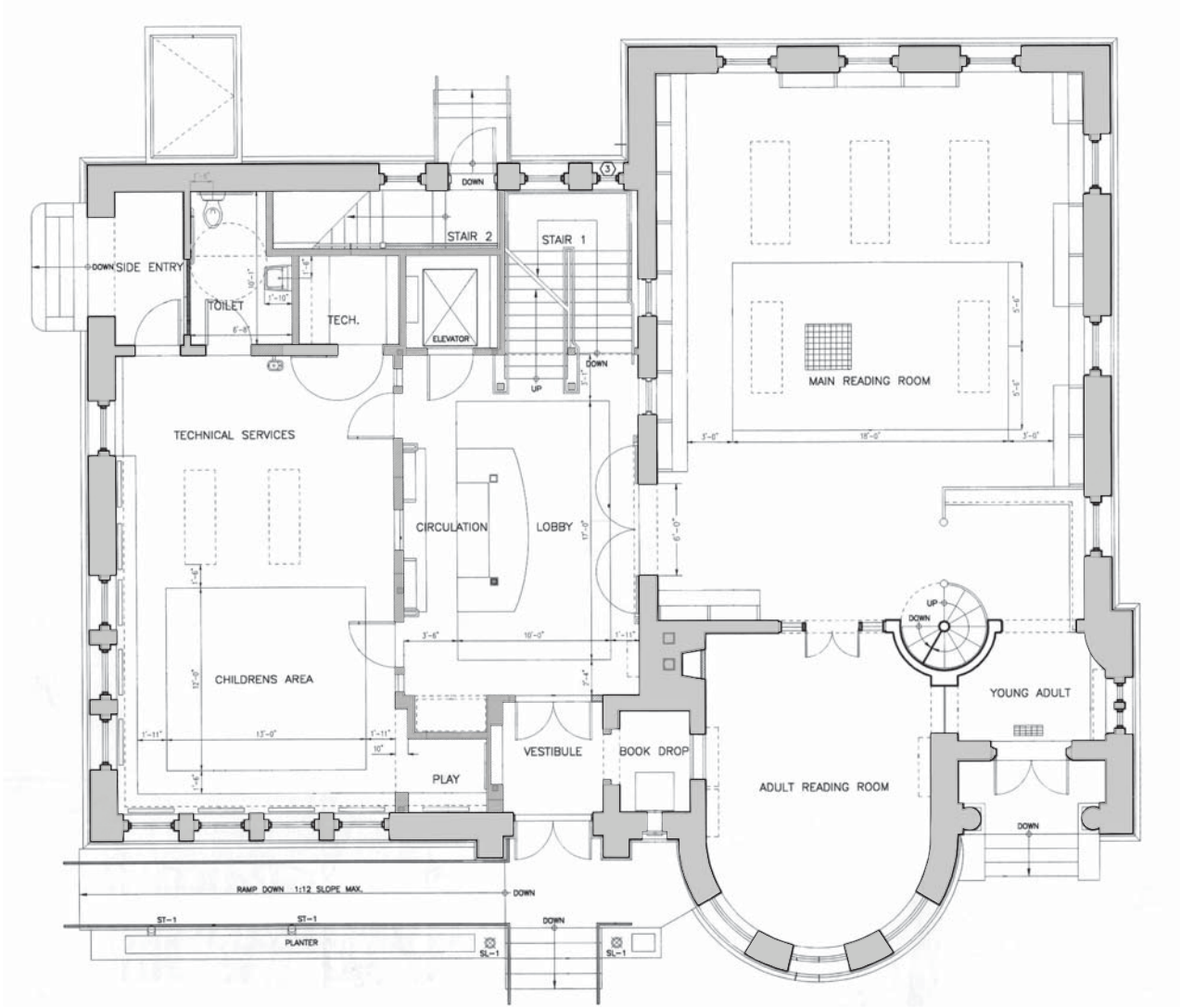
GOODNOW MEMORIAL BUILDING - BASEMENT



GRAPHIC SCALE

N

GOODNOW MEMORIAL BUILDING - GROUND FLOOR

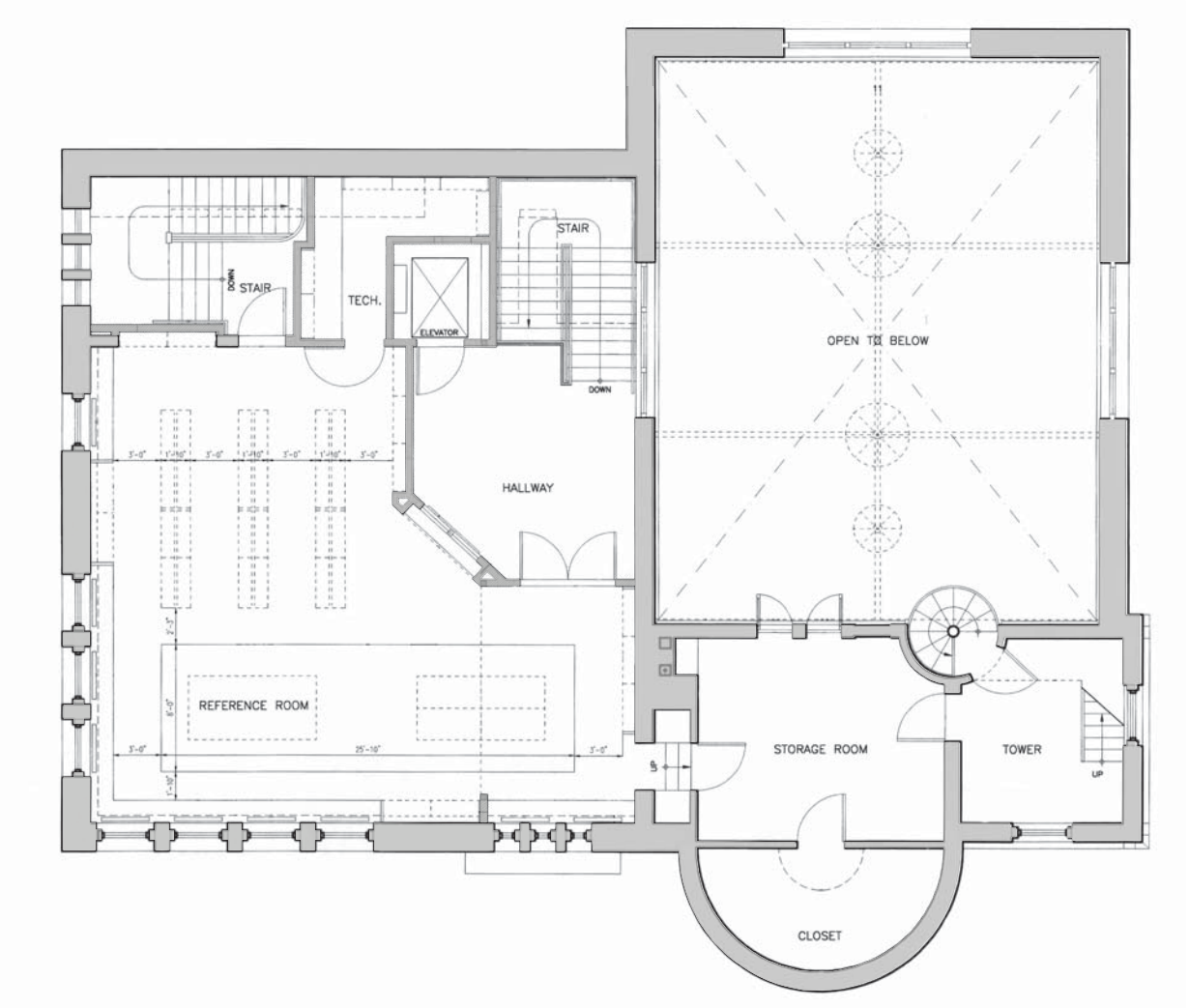


GRAPHIC SCALE

N

HKT architects inc.

GOODNOW MEMORIAL BUILDING - SECOND FLOOR



GRAPHIC SCALE

N

HKT architects inc.

Building Name: Goodnow Memorial Building

Address: Public Library

Building Use: Only library in Princeton, includes program spaces and office for the Princeton Historical Commission

Type of Construction: Masonry exterior with wood framed floors and roof.

Year of Construction: 1883 **Last Modification / Addition:** 2001

Report By: Bill Hammer **GSF** 8,813 **Date:** 2/11/15

EXTERIOR CONDITIONS:

Wall Material(s): Granite with sandstone trim. Black slate on the gable ends (Photo No. 1).

Wall Condition: Very good

Wall Insulation: Rigid insulation on furred out exterior walls in basement, none on upper floors.

Window Types: Original double hung, single-glazed with sash weights and storm windows, original fixed sash, single-glazed, some with decorative glass in the arches above the double-hung units. Newer storms on the second floor (Photo No. 2). There are interior storm windows on some of the windows, but they aren't very effective and it is difficult to access the operable sash.

Window Conditions: Good. Some windows have been reported to be difficult to operate. There are drafts most likely coming from the sash pockets.

Door Types(s): Double wide-stile pairs with thermal glass and muntins on south side (Photo No. 3). Reused single wood door at egress on west side. New metal egress door on north side.

Door Conditions: Good

Roof Type(s): Black slate.

Roof Conditions: There are some loose slates that have been found on the ground and some of the flashing should be checked. While there are gutters above the main entrance and around the turret roof on the south façade and approximately 60% of the north façade where recurring ice dam problems have occurred.

Other Ext. Issues: Deteriorated concrete pavers at the entry walk. These are spalling due to the freeze/thaw cycle. They should be replaced with a more suitable material. (Photo No. 4) See the comments regarding the walk to Bagg Hall.

INTERIOR CONDITIONS:

Floor(s): Carpet (Photo No. 5), terra cotta tile at the circulation desk with decorative ceramic tile trim (Photo No. 6), wood on second floor hallway and stairs (Photo No. 7), VCT in basement (Photo No.8), porcelain tile in toilets (Photo No. 9), carpet in History Storage in basement (Photo No. 10), bare concrete in basement utility spaces.

Floor Conditions: Good

Wall Types(s): Original plaster on furring and lath on the original walls on first and second floors. Steel studs and gypsum wall board on new partitions. (Photo No. 11)

Wall Conditions: Good

Ceiling Types(s): ATC (Photo No. 12) and gypsum board (Photo No. 13) in basement, combination of original vaulted plaster ceilings and new gypsum board on the main and upper level.

Ceiling Conditions: Good

Doors: Flush doors in basement and of new panel doors on the main and upper levels. The current locksets are a proprietary system with a keying system that can only be replicated by one vendor. There is no flexibility when new keys are needed.

EGRESS/LIFE SAFETY/CODE COMPLIANCE:

HCP Access: Building is fully accessible with an exterior ramp that leads to the main entrance. (Photo No. 14)

Accessible Toilets: One unisex toilet in the basement and one unisex toilet on the main floor.

Vertical Access: Stairs and elevator

Vertical Egress: Complies with the code

Horizontal Egress: Complies with the code

RECOMMENDED ACTIONS:

This building is the most code compliant and maintained of all of those that have been reviewed. There are, however some items that should be addressed:

1. The storm windows on the first floor do not perform as well as the second floor units which have been recently replaced. In the long term the sash weights should be replaced with mechanical balances, the pockets should be filled with foam insulation and the sash should be properly weatherstripped inasmuch as there is a ¼" to ½" gap between the sash and frame in some locations. The interior storms should be replaced.
2. In the meantime, some of the sash cords are broken and should be fixed.
3. The exterior window sills need some attention. Some are covered with copper and some are not.
4. The slate roof needs some deferred maintenance. A specialized slate roof inspector should be hired to review the roof and flashings.
5. Replace cylinders in locksets with standard configuration to allow ease and savings when re-keying or changing the pins for security.
6. Check the insulation (or lack thereof) at the eaves where the ice dams are occurring.

GENERAL COMMENTS:

There is an occasional leak in the basement in the area under the wood table on the west side of the multi-purpose room. This water is in the form of a puddle and does not appear to originate from the exterior foundation wall. It is believed that the water penetration is due to ground water. There is an underground drainage system and a sump pump, which cannot handle all of the water when the ground is fully saturated during a severe rain event. Fortunately, there has been no visible damage. The best resolution is to treat this as a maintenance issue inasmuch as it only appears occasionally and mopping the floor seems to solve the problem.

Photo No. 1

Photo No. 2

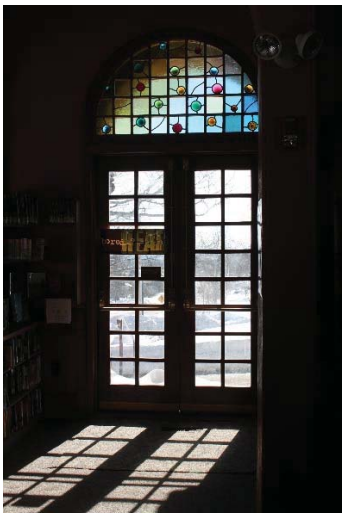


Photo No. 3

Photo No. 4

Photo No. 5

Photo No. 6

Photo No. 7

Photo No. 8

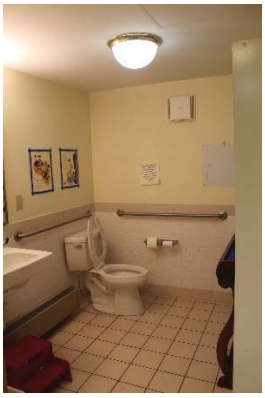


Photo No. 9

Photo No. 10

Photo No. 11

Photo No. 12

Photo No. 13

Photo No. 14

Building Name: Public Library

Address: 2 Town Hall Drive

Building Use: Library, Classrooms

Year of Construction: 1883 **Last Modification / Addition:** 2001

Report By: K. Champagne - PARE **GSF** ~8,800 SF **Site Visit Date:** 2/11/15

EXTISTING CONDITIONS:

Structural System(s): Floor – Wood joists and girders with interior brick piers and exterior masonry bearing walls.

Roof – Wood rafters, purlins, and trusses; exterior masonry bearing walls.

Foundation – Mortared stone along exterior (generally not visible at exterior due to snow); brick piers along interior.

Condition: Visible wood framing generally in good condition; some minor water staining at roof sheathing along hips and underside of the barrel roof. Masonry walls in fair condition overall; brick pier mortar joints in poor condition (see deficiencies description below).

Roof Loading: Slate roof; snow; snow guards.

Floor Loading: Book storage (typical); classrooms, offices.

Observed Deficiencies:

- Vertical cracking is typical along east wall of clock tower. Staining was noted on the east wall's exterior, caused by the copper banding around the clock face. *Photo Nos. 1 thru 3*
- A timber beam within the basement furnace room is supported by adjustable steel posts. *Photo No. 4*
- Deteriorated mortar joints noted at basement brick piers. *Photo No. 05*
- Plaster cracking noted around soffit at 2nd floor of northwest corner of library.

RECOMMENDED ACTIONS:

- Per Phil Connors of Town, the vertical cracks along east wall of clock tower have been periodically repaired/re-pointed. The vertical cracks do not appear to be structural and may be caused by temperature differences between inner brick/rubble stone wythe and outer cut-stone wythe. The tower is not heated. Therefore, the cracks are likely caused during periods of extremely low temperatures, where the inner wythe will remain cold and the outer wythe expands from the heat of the sun. One potential solution is to investigate heating the clock tower during extreme low temperatures to reduce the effects of thermal expansion/contraction.

- Adjustable steel posts installed in the basement should be replaced with permanent columns.

- The basement brick pier mortar joints should be cleaned and re-pointed. If deterioration is extensive, reconstruction of the brick piers may be necessary which will require temporary shoring of the floor structure.

- Plaster cracking along the 2nd floor eaves may be due to temperature fluctuations or ice dams and should be investigated further. The investigation should include a review of ventilation and functionality of heat trace wires.

Photo No. 1

Photo No. 2

Photo No. 3

Photo No. 4

Photo No. 5

Building Name: Library

Address: 2 Town Hall Drive, Princeton, MA

Building Use:

Year of Construction: 1883 **Last Modification / Addition:** 2001

Report By: Thompson Consultants, Inc. **GSF** 8,813 **Date:** February 11, 2015

EXISTING SYSTEM:

Gas Source(s): Propane for Generator Only

Piping Material(s): **Size(s):**

Water Source: Deep Well

Piping Material(s): Polypropylene **Size(s):** 1”

Capacity:

Sanitary System: Leach Field

Piping Material(s): Cast Iron Lead and Okum Joint/Cast Iron No Hub Joint/Copper Solder Joint/PVC **Size(s):**

Water Source: From Bagg Hall Well.

DHW System: Craftmaster Electric Water Heater Model E2F40LD045V/38 US Gals/1 Phase/208-240 Volt

Number and Types of Toilet Rooms:

	Sex	Toilets	HCP	Urinals	HCP	Lavs	HCP	Location	TOTALS
Toilet No. 1	UNI	1	Y	N	N	1	Y	Basement	
Toilet No. 2	UNI	1	Y	N	N	1	Y	1ST	
Toilet No. 3									
Toilet No. 4									

General Condition: Good

Water Cooler(s): One Bi-Level HC Water Cooler at the 1ST Floor Level

Misc. Fixtures: One Kitchen Sink Located on the 1St Floor Level

Fire Suppression: None

☐ **Addressable** ☐ **Non-Addressable**

Code Issues: If building is to be brought up to standards set forth in current code, a sprinkler system would be required for the building since the space is greater than 5,000 sf.

Being an existing building, current code compliance is not necessarily required unless the Local Authority Having Jurisdiction requires compliance.

SUGGESTED ACTIONS:

Upgrade System: ☒ Provide reduced pressure backflow preventer on make-up water to heating system.

Replace System: ☐ None

Add to Existing: ☒ The existing well pump serves four (4) buildings (Bagg, Library, Public Safety Building and Annex Building). It would be beneficial to the property to install a second well with pump and tie into the same piping distribution to the four (4) buildings. If there is a problem with water supply to the buildings from one well, the redundant well would be able to ensure none of the buildings are without domestic water.

Information repeated on Library, Public Safety Building and Annex.

Upgrade Fire SS: ☐ None

Replace Fire SS: ☐ None

Add Fire SS: ☒ Given the size of the building and possibility for assembly and the high hazard of combustibles, a fire suppression system is recommended, though not necessarily required (See above “Fire Suppression Code Compliance”). If installed, refer to below:

Provide a single underground tank on site for fire protection water supply. Outfit tank with a manual fill for initial fill of system and connect well water to tank for supplemental fill after testing. Single tank will serve single fire pump (As repeated for Bragg Hall).

Provide a vertical turbine pump and distribution to Bagg Hall and the Library. Draw water from underground tank and distribute to the two (2) buildings. Will need a pump room in one (1) of the buildings listed above.

Provide quick response sprinkler system throughout the Library building.

Code Compliance: Provide automatic sprinkler system

Make-up water for HVAC heating requires a reduced pressure backflow preventer to protect the domestic water feed from back-siphonage and contamination.

RECOMMENDED ACTIONS:

New fire protection sprinkler system

Secondary well for redundant water supply. (Single well would serve Library, Bagg Hall, Town Hall Annex and Public Safety Building).

GENERAL COMMENTS: There is a Duplex Sump Pump located at the Basement Level that appears to discharge to the exterior of the building.

There is a sewage ejector located at the basement level that is connected the building sanitary system. This system receives the sanitary waste from the basement toilet room.

The hot water system is no longer functioning properly as the glycol, installed during the renovations and has never been changed. This year, there have been multiple problems with air entrapment in some of the individual zones, creating poor heat production/distribution in some spaces, especially during single digit temperatures.

Refer to Photos Below:

Photo 1: Building Construction

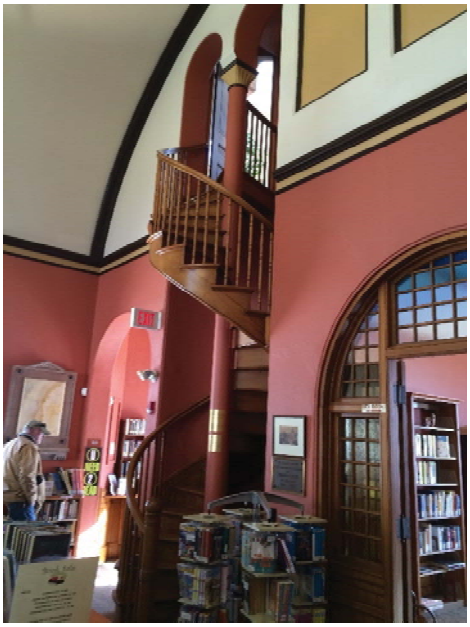


Photo 2: Building Construction

Photo 3: Hot Water Heater

Photo 4: Sewage Ejector

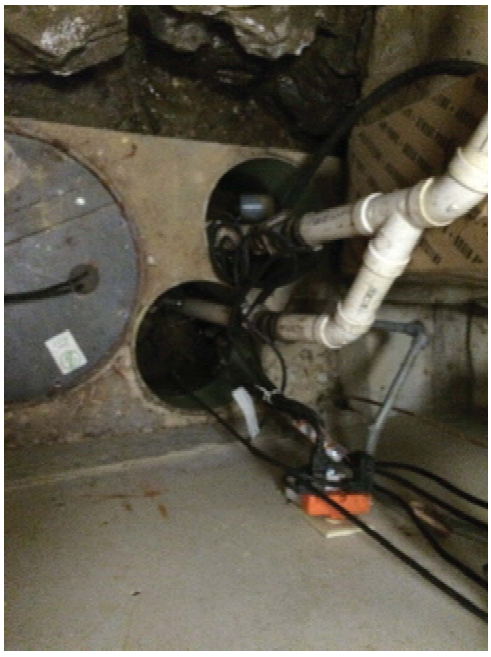


Photo 5: Sump Pump

Photo 6: Piping in Cavity

Photo 7: Drinking Fountain

Photo 8: Fixtures

Photo 9: Fixtures

Photo 10: Fixtures

Photo 11: Waste Piping

Photo 12: Water Piping

Building Name: Library

Address: 2 Town Hall Drive

Building Use: Library

Year of Construction: 1883 **Last Modification / Addition:** 2001

Report By: Thompson Consultants, Inc. **GSF** 8,813 **Date:** 02/11/15

EXISTING SYSTEM:

☒ Heating ☐ Air Conditioning ☐ Mechanical Ventilating

Energy Sources(s): #2 oil stored in a 330 gallon steel tank located in the basement.

System Type(s): This building is served by two heating systems:

The main reading room is served by an oil fired hot air furnace located in the basement. Hot air is ducted throughout the reading room to floor registers. There is a central floor return register connected directly to the furnaces' return section.

The remainder of the library is served by a forced hot water system with boiler and a single circulator located in the basement. The boiler and circulator provide hot water to fin tube radiation throughout.

Toilet rooms are exhausted by ceiling exhaust fans.

Zones: The reading room is a single zone controlled by an electric space thermostat. The remainder of the Library is divided into twelve (12) zones.

Controls: Each of the twelve hydronic zones is controlled by a space thermostat and dedicated zone control valve. These are wired to the new zone control panel in the basement.

Condition(s): The HVAC fin tube radiation and controls were up-graded during the 2001 building renovation; however the boiler and hot air furnace were not changed at that time. The boiler, Slant Fin L30PT 117 MBH and hot air furnace, No name plate, are currently functioning but are near their serviceable life expectancy. The boiler appears to be in poor condition. The boiler and circulator also appear to be too small for the new piping and zone configuration.

Mech Rooms(s):

Code Issues: No mechanical ventilation.

SUGGESTED ACTIONS:

Upgrade System: ☒ The boiler and hot air furnace were not replaced during the 2001 renovations. They should be replaced at this time.

Replace System: ☐

Add to Existing: ☐

No Action Req'd: ☐

Replace Controls: ☐

Code Compliance: The new furnace vent pipe is approximately 25' long running through a storage area; this pipe is of single wall construction and could be a burn hazard. It is recommended that a double wall vent be provided.

Masonry chimney may not be lined.

RECOMMENDED ACTIONS:

GENERAL COMMENTS:

This building was substantially renovated in 2001, the distribution and controls appear to be in good condition, however as noted above the boiler and hot air furnace should be replaced. If replaced, it is recommended that the hot air furnace be relocated closer to the chimney to reduce the length of the flue vent.

It is reported that glycol was added to the system at one time due to freeze problems in the fin tube in the basement cavity wall, but has not been maintained, if glycol is to be used a regular testing and replenishing regiment should be instituted. It was reported that remedial spray foam insulation work to seal penetrations in the outside wall have thus far been effective.

The oil supply line to the hot air furnace is unprotected through the floor and into the furnace casing and subject to damage.

It was reported that service access to zone control valves is limited (within book stacks) making service difficult.

The fuel burning appliances are vented into an existing masonry chimney. It could not be confirmed that the masonry chimney is lined as required by code.

Building Name: Library

Address: 2 Town Hall Drive, Princeton, MA 01541

Building Use: Library

Year of Construction: 1883 **Last Modification / Addition:** 2001

Report By: Thompson Consultants, Inc. **GSF** 8,813 **Date:** February 11, 2015

EXISTING SYSTEM:

Size of Service(s): 200A 120/240V 1Ph 3W

The Library electrical service originates at a utility pole along Mountain Road. A 200A meter socket is located on the pole. An underground service lateral runs from the load-side of the meter socket to the 200A Main Distribution Panel MDP in the basement of the Library. MDP feeds an adjacent lighting panel LP and an adjacent receptacle panel RP. The lighting panel is controlled via a lighting contactor LC; the lighting contactor is controlled by a master switch located in the main entry area.

Panel MDP also feeds the normal power side of an adjacent KOHLER ATS via 40A feeder. The load-side of the ATS feeds a stand-by panel SB. The ATS is fed from a small propane-fired generator located on the exterior of the building.

Generator: Exterior – propane-fired generator in weatherproof enclosure; buried in the snow at the time of the survey so size was not determined. Would estimate the generator to be a 7.5kW- 10kW unit.

Capacity: The existing electrical service and generator are likely sufficient and functioning despite being undersized; The existing wiring provides minimal outlets and fairly energy efficient lighting; the building does not contain a central air-conditioning system which would likely be the largest load on summer design days. The 200A service provides 4.3 W/SF over the entire building.

Electric Closet: Basement Normal Electrical Room - Contains the following equipment:

- Main Distribution Panel MDP
- Lighting Panel LP
- Lighting Contactor LC
- Receptacle Panel RP
- Automatic Transfer Switch
- Stand-By Panel SB
- Emergency Battery Unit
- Fire Alarm Equipment & Batteries

Basement MDF/IDF Room Contains the following equipment:

- Security Panel
- IT Backboard and Equipment

Wiring: Mix of conduit and conductors and armor-clad cable of various age and condition.

General Condition: Fair to Good

Sub-Panels: Refer to “Electric Closet” outline above.

S-P Locations: Basement

System Condition: Fair

Lighting: Incandescent, metal halide, compact fluorescent, linear fluorescent (T-12) – surface mounted strip lights.

Receptacles: Quantity and location is fair to good. Grounding type receptacles where observed.

Emergency Ltg: Hard-wired emergency battery units with remote light heads; quantity and coverage may meet life safety code but a thorough evaluation should be performed; all units should be tested for proper operation.

Fixtures such as recessed fluorescent down lights are provided throughout the building with remote test switches. It is reported that the emergency fluorescent battery units in these fixture types are failing and have not been replaced as the Town is looking for a more holistic approach.

Exit signs appear to be self-contained LED type, most were illuminated; all units should be tested for proper operation. It is reported that the battery units integral to the exit signs are failing and are being replaced as they fail.

Fire Alarm: The building contains a Notifier AFP-200 intelligent fire detection and alarm system; the system used addressable devices throughout.

Smoke Detectors: Yes

Heat Detectors: Yes

Audible & Strobe: Yes

Annunciator Panel: Located in entry vestibule.

PA System: None observed

Low Volt Systems: Voice, Data, and Security. The voice/data service entrance and equipment is located in the basement in the MDF/IDF room. It is reported that the security system was disabled due ot nuisance tripping and false alarms.

Code Issues: Emergency egress lighting.

SUGGESTED ACTIONS:

Upgrade System: Electrical Service

Emergency or Stand-By Generator

Emergency or Stand-By Distribution & Feeders

Electrical Distribution & Feeders

Lighting

Lighting Control

Replace System: Emergency Egress Lighting

Add to Existing: None

No Action Req'd: None

Code Compliance: The building electrical systems are mostly code compliant with particular code compliance issues related to emergency egress lighting.

RECOMMENDED ACTIONS:

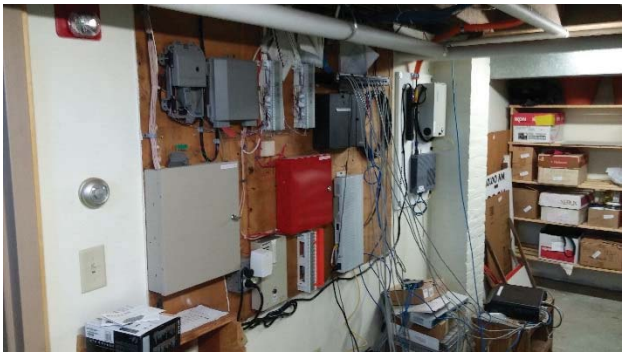
All new electrical systems – refer to "Replace Systems and Upgrade Systems" category above.

GENERAL COMMENTS:

Refer to photographs below.

Service Entrance Equipment – Normal

ATS & Stand-By Panel



Voice/Data Equipment

Main Distribution Panel

Dispatch Equipment

Emergency Egress Lighting

Emergency Egress Lighting

Meter Socket on Utility Pole

APPENDIX A: Visioning Session Minutes

MEETING MINUTES

Project:	Princeton Public Buildings Assessment	**Meeting Date:**	January 28, 2015
Meeting Number:	01 – Kick-off / Visioning	**Meeting Location:**	Princeton Town Hall Annex
Report By:	Staci M. Villa	**Job No:**	21413

Attending:
Janet M. Slemenda (JMS), HKT Architects, jslemenda@hktarchitects.com
William R. Hammer (WRH), HKT Architects, whammer@hktarchitects.com
Staci M. Villa (SMV), HKT Architects, svilla@hktarchitects.com
Judy Tyler (JT), Princeton Arts Society
Mary Trostel (MT), Secretary
Phyllis Booth (PB), Reporter
Joyce Anderson (JA), Historical Commission
Mark Fiandaca (MF), Historical Commission
Jon H. Fudeman (JHF), Public Safety Committee/Planning Board – Chairman
Mickey Splaine (MS), Road Advisory Committee
John Bennett (JB), Fire Department Chief
Lou Trostel (LT), Secretary
Mary Barroll (MB), Library Director
Jane Weisman (JW), Library Board of Trustees – Chairman
Edith Morgan (EM), Board of Selectman – Clerk
John LeBeaux (JL), Town Administrator
Stan Moss (SM), Board of Selectman/Broadband Committee
Larry DeBlois (LD), Underutilized Town Assets Committee
Timothy Kelly (TK), Deputy Chief, Fire Department
Sue Shanahan (SS), Council on Aging – Director/Recreation Director
Karen Rossow (KR), Open Space Committee
Jean Strock (JS), Princeton Arts Society
Geoffrey Yaglou (GY), Citizen

Item:	
1.01	JMS opened the meeting with introducing the project team, explaining who HKT is and a brief description of the team's experience.
1.02	JMS facilitated the Visioning Session portion of the meeting. The Visioning Session included an overview of the session process, questions, a review of responses and open discussion. The following items 1.03 through 1.07 document the questions asked and the responses attendees wrote on individual post-it notes. Responses have been recorded as they were written with the exception that abbreviated words have been written out for the readers' understanding.

1.03 **Question 1: What do you see as the best outcome for this study?**

Priorities

- Useful report
- An arms-length, objective ranking of what the Town needs to do to maintain its buildings
- Begin to prioritize these projects
- A prioritized list of work projects across buildings
- Enough unbiased input on which buildings should receive focus
- Funding priorities from the Town perspective vs. individual departments/with historical consideration
- Change to view total Town needs regarding buildings
- Clearly analyze needs of Town most important building
- Honest evaluation that will include all 5 buildings equally
- Provide a logical basis for prioritizing "Building" Program
- Establish independent baseline
- Prioritization of needs assessment & balanced against financial limits
- Priorities
- Strategic = Is the Princeton Center Building viable in the long term? - Versus ongoing repair/upgrade $ or significant investment.
- Notification of critical issues that we may have no realization exist
- Best use of building
- Prioritization of repairs

Looking to the Future

- Unambiguous recommendations for moving forward
- Forward momentum
- Size future facility requirements
- Address the issues asap
- To act on the results of the study
- Consider future needs, say 50 years out

Money/Cost

- Cost of work
- Princeton Center Building – is it worth fixing
- Put a dollar value on each building's needs
- Find the funds
- Project approximate. cost per building to come into code compliance
- To extent possible attract FED & MA money

Design Details

- Tactical =Professional evaluation of building systems so we know what needs, anticipated repairs or upgrades
- A plan for each building that will address most important issues for each building
- To fully use Bagg Hall again including upstairs – make it useful again
- Improve meeting spaces for a variety of sizes
- Improve parking for Town Center Buildings
- How building support each function
- More love for the PCB
- Well planned architectural responses
- Attractive, efficient town buildings
- Use of 2nd floor Town Hall

Building Maintenance/Code

- Organized approach to maintenance of Town Building.
- A road-map to bring buildings into code compliance
- Cost to maintain existing facilities for current purpose
- Building maintenance schedule for each building - (Preventative instead of Band-Aid approach)

Public Safety/Life Safety

- How do we best provide for public safety needs and where
- Centralized Public Safety Building w/5 Fire Truck Bays & Improvements to existing Station #2
- Assess the needs of the Public Safety Services based on existing space
- Identify the Life Safety needs of each Town Building

Residents Support/Sense of Community

- Importance of "Heart" within a Town
- Residents buy into the suggested improvement

1.04 **Question 2: What do you see as the biggest challenge(s) for this study?**

Study of All Buildings/Prioritization

- To demonstrate attributes & deficiencies in a manner that stands up to challenge
- Understanding the general usage & importance of how to improve buildings
- How to best save existing buildings
- Majority of buildings ae in a state of disrepair so prioritization will be tough
- Dealing with the buildings that have not been maintained
- Study will take longer than expected due to the state of our buildings
- The variety of buildings
- Not knowing the potential uses for some buildings
- Limited study objectives
- Perhaps too much work for a couple of month process

Princeton Values/History

- Historical preservation vs modern functionality
- Completing the assessment without politics derailing the process
- Dealing with folks who feel passionately about Town Buildings
- Desire to hold onto old buildings that should be torn down – e.g. Center School
- To make residents aware of the value of their assets and the resources necessary to protect these
- Maintaining historic/charming character of Town
- HKT knows little about Princeton values?

Money/Cost/Fundraising

- Financing potential opportunities w/cost saving, potential return cost/benefit
- Budgets & fundraising allocation
- Once determinations are made as to the work needed – Where does the money come from?
- Finding and dividing the money ($)
- Choosing which buildings are viable as is without much work cost
- Funding
- Funding creative was to fund - grants? Fundraising events?
- $

- Cost
- $!
- Money – The need to agree on how it is spent
- What we might need (or want) verses what might be affordable

Space Needs

- Total facilities space required – sizing
- Treating all 5 buildings equally
- Order of improvements; what building or need first
- Getting people to express department needs
- Need for space within the footprint

Town Consensus With Full Understanding

- For it to trigger sufficient interest to result in action
- Evaluating the multi responses from many people/viewpoints/interests
- Individual priorities
- Finding consensus on where to begin
- Balancing practical needs with emotional attachments
- Town consensus on proposals
- Taking individuals biases out of the mix
- Arriving at reasonable total results that could possibly be achieved
- Lack of knowledge by the vocal minority may sway the prioritization
- Getting agreement
- Each group has personal interest
- Small towns have lots of folks with strong opinions

Mechanical/Structural Issues

- We need an in-depth assessment of building mechanical systems & structural issues

Future Needs

- Foreseeing the future
- Determining the future need of the building given the slow rate of population growth in the town

1.05 **Question 3: How does the current layout of the site impact the two functions on the site?**

Princeton Center

- Princeton Center with multiple additions
- Princeton Center – The need for handicap access
- Princeton Center needs study of interior with innovative arch. work – building is welcoming but a maze – lots of space in & out
- Lighting poor at Town Center & Princeton Center
- Princeton Center has limited parking and not enough room for fire lanes
- Princeton Center Building – great!
- Center Building not up to any code - too cut up - to hard to maintain – too expensive to operate
- Princeton Center is one of the most confusing buildings to navigate I've ever encountered
- Multiple levels w/limited space per level
- Center School – atmosphere & history, but old. Needs a lot of work
- PCB – 2nd floor not handicap accessible
- Center – Cut-up/poor layout of back half of building; Lack of handicap access to 2nd floor; Questionable heating system; Better Parking

- PCB – Better signage/lighting (safety for night functions)

Bagg Hall

- Bagg Hall – inadequate parking; Tow Hall Annex – inadequate parking during events such as voting
- Storage space for records at Bagg Hall
- Bagg Hall – Inadequate use of the space i.e. the upstairs & basement
- Need more meeting space available in town
- Town Hall needs clearer signage & needs a clear Reception Area at front
- Need to make 2nd floor of Town Hall accessible and usable
- Bagg Hall not used as it should be; underutilized; need - community space – upstairs; meeting space, etc.
- Town Hall – Poor office layout; no handicap access to second floor; storage/filing space/systems
- Town Hall is packed
- Town Hall historic atmosphere but very crowded
- Bagg Hall – 2nd floor not handicap accessible
- Bagg Hall needs more pleasant open spaces – good use of upstairs – spruce up to make more attractive
- Bagg Hall – needs 2nd floor updated to make useable

Library

- Parking inadequate at Town Hall, Library, Annex & Public Safety
- Library as entity works very well
- Library - great

Public Safety Building/Fire Station 2

- Public Safety Building has awkward layout/location
- Public Safety Building/Fire – inadequate parking during emergency responses
- Current fire trucks don't fit in our Center Fire Station
- Current buildings for PFD cannot handle truck exhaust& contaminate building & gear
- Poor public access area to Public Safety Bldgs.
- Space is severely limited in both Police & Fire Stations; Also Center Station is falling apart
- Dispatch has been regionalized in Holden; how can the Police space be better utilized?
- Fire Stations lack of storage – current storage in outside trailers
- Fire Stations not enough office space and offices are open to vehicle exhaust
- Fire Dept. not organized and ease of use due to make do spaces
- One stop shopping aspect of multiple public buildings at one site; (at certain times a parking issue)
- Public Safety – improve signage

Annex

- Town Hall Annex is an old garage
- Annex – It's easy access is why we use it so often
- Annex – Better parking for larger meetings

Issues for All Buildings

- Handicapped accessibility; parking; access – keys, etc.
- Unused space that could benefit town if accessibility were improved

- Building age w/restricted space
- Lack of centralized location for like services
- Parking

Miscellaneous

- HW Department needs a BBQ Pit ☺

1.06 **Question 4: What are one or two critical details that we need to know about this project?**

History

- Much work & thought has been put into paint selection, fixtures, etc., to hold true to historical building
- Library has a unique beauty inside & to the common as well.
- Library exterior look
- We are comfortable with some level of inefficiency to save history
- Bagg Hall & Library were gifts of the same man
- Bagg Hall use to be used – dances, graduations, meetings, music & other community events
- Princeton Center changed from a school to an Assembly Occupancy around 1997 without upgrade
- Princeton Center is under an Order of Violation from the Fire Department
- PCB – Lots of history & memories; home of Senior Center; Arts Society, etc., but some see it as money suck
- Princeton Center has both its strong advocates & those who find it a money pit
- Center Building was school and added on piece meal – low budget add-ons

Tradition + Love of the Community

- Center provides unique spaces for a number of town groups spaces that if lost, so will the organizations be lost
- The Princeton Center was saved by concerned citizens and serves as the one place where the most varied groups meet.
- We love our older buildings
- The history of the buildings; The Princeton Center, Bagg Hall, and the Library are cherished by most residents as well as people driving through Town
- Historical passion for buildings history and use; community shared & dedicated use of spaces are important
- Tradition & history of individual buildings
- The Town is special to many residents including some buildings; desire to preserve history
- Library has been very important in town and has been supported for years
- Princeton is a 'value for the dollar' town
- Princetonians are very proud of the appearance of the Library, Town Hall & Common
- Look & feel of the Town Green in relation to Town Buildings.

Building Deficiencies

- Town Hall - Offices layout provide good access to Town Depts. & Officials
- We really need large meeting space in Town not necessarily The Thomas Prince School
- Town Hall Annex water leaks in under the west door onto the carpets
- New fire trucks do not fit on the current Center Fire Station
- Safety/Fire Code concerns; electrical systems

- Both Fire Stations are way out of code; specific focus on exhaust mgmt.
- Old Center School building is way outside of Fire Code
- Fire Station #1, Budget add-ons had leaks
- The Board of Selectman really wants details about building mechanical systems
- The only Town building in compliance with the fire codes is the Library

Town Maintenance Man + Volunteers

- How can regular maintenance person in town handle future upkeep of all buildings
- There is only one town handyman who is ½ time (+ he works for the Highway & Fire Departments which takes priority)
- Most of the Town's Boards & Committees ae staffed with VOLUNTEERS

Equality of Buildings

- The buildings in town are not treated equally; Public Safety trumps all others

Critical Questions

- Where will $$ come from to act on study recommendations
- Should the Town function as a landlord for now – Municipal uses in Princeton Center

1.07 Open discussion questions included:

- Other constraints - perhaps intangible in nature?
- Other Town efforts underway that may affect or influence the study?
- Other information about the Town that we should know?

A discussion of the open question topics raised numerous additional items of interest:

- Library: Was haunted or still is
- Process: Existing information to be shared
- Designated person
- Vocal Group
- Retain stations vs single station
- Grant $$
- Historical: Bagg Hall
- Structural Load
- Storage of paper
- Store vs scan
- Non-climate control vault
- Money!
- Access
- Princeton Center: Beating heart of Town; everyone meets there
- Landlord issue
- Systems
- How far do we look out
- Need for more community spaces
- Be open to the possibilities
- Utilization Study
- Historic, Arts & Music
- Integrity of Historic Elements of buildings
- Own K-8: But it is regional so we don't control use
- Internet
- Swap building uses?

1.08	JMS and WRH explained that for the next step of this process HKT will be touring the existing facilities with their Structural and MEP/FP Engineers in order to produce a full report to prioritize all buildings included in the assessment.

Next Site Visit to be held: Wednesday, February 11, 2015 for all day assessment of buildings

Please contact HKT Architects if these minutes do not accurately reflect discussions.

Cc: All attendees

File: I:\HKT Projects\21413 Princeton Facility Study\Administration\Project Meeting\Meeting Minutes\21413 Meeting Minutes 01.docx

APPENDIX B: Correspondence Regarding Princeton Center

COPY

TOWN OF PRINCETON

Building Department

6 Town Hall Drive
Princeton, MA 01541
978-464-2100 Phone 978-464-2106 Fax

John Wilson
Inspector of Buildings

May 29, 2013

Princeton Center
Boylston Ave
Princeton, MA. 01541

RE: 13 Boylston Ave/Inspection
New Deficiencies

Dear Sir/Madam:

During the inspection performed by the Building Dept. and Fire Dept. the following deficiencies were noted.

1. ADA Bathroom locked.-Sign removed.
2. Bathroom space overloaded/electrical outlets.xxxxxplumbing to sink fire extinguisher expire/not hung insuffient air capacity.
3. Exits blocked in Art Society room.
4. Vents for basement bathroom not working. No signage for men's/women's restrooms. Elevator pump needed for sink in basement-not sump pump.
5. Need covers for fluorescent lights in kitchen/Phil's office. Combustible liquids not in fire cabinet also housekeeping.
6. Emergency lights not working in Art Society/Yoga room continuously tripping circuit breakers.
7. Many rooms have illegal space heaters. Fire hazards in music room (Mrs. Mollica)furnishings and chairs stored in egress corridors.
8. Roof leaks and falling plaster evident 2nd floor corridor/stairwell.
9. Handicap ramp steel frame and handrails need re-painting.(REPEAT)
10. Egress corridors must be kept clear of stored materials.(REAPEAT)
11. Patch holes left by conduit on east side of building. (REAPEAT)
12. Exterior handicap door activator button not working. (ADJUST SPEED)
13. Exit lights in gym not working. (REPEAT)

14. Exit lights in northwest corridor to gym not working (REPEAT)
15. Staple loose wiring in attic. (REPEAT)
16. Fire alarm pull station on second floor need repair. (REPEAT)
17. Hard wire sump pump. (NEEDS EJECTION)
18. West corridor exit light not working. (REPEAT)
19. Boiler room, old boiler room and maintenance workroom need housekeeping attention. (REPEAT)
20. Provide copy of boiler cleaning inspection. (REPEAT)
21. Test egress stairwell emergency light east side not accessible. (REPEAT)
22. Provide copy of fire alarm test. (REPEAT).
23. Propane faucet for craft room must be approved for use by fire department. (REPEAT).
24. Provide information regarding number of occupants for classrooms. (REPEAT)

Please do not hesitate to call or write if you have any questions.

Sincerely,

John S. Wilson
Inspector of Buildings

Thank you:

John S. Wilson
Inspector of Buildings

BLDG MAINT RESPONSE TO PLNG GR CMTTE
RE: BLDG CONDITION LTR

COPY

1. ADA Bathroom locked.-Sign removed.

replace existing entrance lock with privacy lockset & install new sign $50.00 +/-

2. Jewelry studio space overloaded/electrical outlets. Water connection plumbing to sink not to code. Fire extinguisher expired/not hung properly. Insufficient fresh air intake..

Management issue; Water connection see #4; Fire extinguisher tenants, not Building's; Air intake ???

3. Exits blocked in Art Society room.

no exits blocked that I am aware of

4. Vents for basement bathroom not working. No signage for men's/women's restrooms. Ejector pump needed for sink in basement. Currently ground water sump pump.

Bathroom vents are working switch location difficult to access; Install new signs $25.00 +/-; Need ejector pump to replace sump pump (see also #2) $250.00??

5. Need covers for fluorescent lights in kitchen. Phil's office has combustible liquids not stored in an approved fire cabinet also housekeeping is very poor.

one fixture cover missing, don't know why, second fixture never had cover, recommend replace both with new more energy efficient fixtures $300.00?; combustibles are WD-40 & wasp spray, will relocate; housekeeping an ongoing work in progress

6. Emergency lights not working second floor corridor. Art Society/Yoga room continuously tripping circuit breakers due to non-approved space heater use.

Most of the emergency lights in the building are not working, there are approx 20 fixtures of four different models/mfg's, many are difficult to access, most likely are battery issues, some may be failed totally, requires further investigation; Art Society/Yoga management issue

7. Fire hazards clutter in music room (Mrs.Mollica). There are furnishings and chairs stored in egress corridors second floor.

Roof leaks and falling plaster evident 2nd floor corridor/stairwell.

clutter, furnishings and chairs ect. management issue; roof believed to be repaired after last years work, stairwell ceilings still need scraping, patching & painting, County Inmates?, requires more discussion

7. Handicap ramp steel frame and handrails need re-painting.(REPEAT)

County Inmates?, requires more discussion

8. Egress corridors must be kept clear of stored materials.(REPEAT)

See #7

9. Patch holes left by conduit on east side of building. (REPEAT)

News to me, unsure of exact location

10. Exterior handicap door activator button not working properly. (ADJUST SPEED)

Activator working (& was at time of inspection), speed controlled by operating mechanism programming, not sure if adjustable

11. Exit lights in gym not working. (REPEAT)

There are no Exit lights anywhere in the building. ???

12. Exit lights in northwest corridor to gym not working (REPEAT)

See #11

13. Staple loose wiring in attic. (REPEAT)

News to me, unsure of exact location, will look for it

14. Fire alarm pull station on second floor need repair. (REPEAT)

All Fire Alarm pull stations are believed to be functioning properly, (& were at time of inspection), See also #20

15. Hard wire sump pump. (NEEDS EJECTOR)

See #4

16. West corridor exit light not working. (REPEAT)

See #11

17. Boiler room, old boiler room and maintenance workroom need housekeeping attention. (REPEAT)

housekeeping an ongoing work in progress, old boiler room??

18. Provide copy of boiler cleaning inspection. (REPEAT)

Service tickets are in boiler room(& were at time of inspection), further documentation presumably in office files (invoices, etc.)

19. Test egress stairwell emergency light east side not accessible. (REPEAT)

See #6

20. Provide copy of fire alarm test. (REPEAT).

Unable to provide. As you should be aware the Fire Alarm system has not been fully functioning properly since last fall. The issues with the system are not repairable & therefore cannot be tested properly. The entire system needs to be replaced. This is certainly the largest and most serious item of this inspection that needs to be addressed. Whatever decisions are made, they will affect what efforts be made addressing the other 21 (actually 22) items listed. ***This should be the highest priority.***

21. Propane torch in use in craft room must be approved for use by fire department. (REPEAT).

Which craft room? Management issue

22. Provide information regarding number of occupants/use for classrooms. (REPEAT)

Management issue

COPY

Princeton Fire Department

8 Town Hall Drive Princeton, MA. 01541
(978) 464-2707 • (978)–464-2117 fax
Chief John D. Bennett

Fire - Emergency Medical Services - Community Education

March 18, 2014

To: Chief John Bennett
From: Deputy Chief Kelly, Fire Inspector
Re: Princeton Center

On Thursday September 20, 2012 when the Fire Alarm failed to notify the Fire Department due to an activation, you set an Order of Condition for occupancy of the Princeton Center located on Boylston Ave. At that time, I believe it was your intention that the Order of Condition was intended to be temporary while the Fire Alarm was repaired. It is my professional opinion, that the Order of Condition has now exceeded any temporary nature and does not provide for the life safety of occupants based on the last call we responded to there. On the last call, there was only one person in the building in violation of the Order of Condition and they failed to Notify the Fire Department immediately also a violation of the Order of Condition. It is the opinion of this inspector that you should require a Fire Watch in the Building whenever the building is occupied. The means and method of Fire Watch to be designated by you under a new order of Condition.

In May 2013, Captain Dufresne along with the Building Inspector, John Wilson, performed an inspection of the Princeton Center. To assist with the preparation of this report, I completed a follow-up walkthrough of the building September 13, 2013. Also, so you are aware, in anticipation of the issues we found with the Building a preliminary meeting was held with Sue Shanahan, John LeBeaux, Phil Connors and myself in September 2013, after my follow-up walkthrough. In the months since then I have been in communication with the Office of the State Fire Marshal and Greenwood Alarm in order to get a better understanding of the codes and conditions to apply to this report.

Please note: the Building is classified by the Building Inspector as an Assembly Occupancy and therefore has certain requirements regarding Fire Alarm, Emergency Lighting, and Exit Lighting. Also note: in the opinion of the State Fire Marshal's office, the building should have been brought up to code when it changed from an Educational occupancy to an Assembly occupancy in 1991. Please note: under Chapter 148 Section 34A there are penalties set for failure to maintain the Fire Protection systems in and Assembly Occupancy.

In addition to a number of Violations based on The Fire Prevention Code, CMR 527, in my opinion, the failure to maintain the Fire Alarm system is the most important violation that needs to be addressed. There are also a lack of Fire Lanes in accordance with 527, snow on an exit stairwell and multiple Building Code Violations that need to be addressed by the Building Inspector, not the least of which is most emergency lighting is inoperable, there are areas of the building with no emergency lighting and there are no lighted exit signs in the building at all. These are violations of 780 CMR the State Building Code and put into question the safety of all occupants of the building.

In my conversations with Greenwood Alarm, the company that maintains the fire alarm system at the Princeton Center, they state that all the smoke detectors are older than 10 years and are in need of replacement, the heat detectors are much older and if they tested them in a lab in compliance with NFPA 72 they will fail and need to have every one replaced. According to my conversation with Greenwood Alarm, the Fire Alarm panel is too old to be updated and repaired; the dialer no longer works so the fire alarm panel will not notify the fire department when activated. The dialer cannot be repaired due to the fact that parts are no longer available for that unit. I have requested this in writing by phone twice and email twice but have yet to receive anything in writing from Greenwood Alarm. I have been asked if they fire alarm panel must notify the fire department and, my answer is that it does based on the policy that you cannot lower your level of fire protection so if it had a dialer before it needs to have at least that level of protection today.

It is the opinion of this inspector that the Fire Chief/Authority having Jurisdiction under Chapter 148 Section 27A, should require a Fire Watch in the Building whenever the building is occupied. The means and method of Fire Watch to be designated by you under a new order of Condition.

I recommend:

1) the Fire Watch be in place whenever the building is occupied,
2) they have access to a phone to dial 911 and
3) they have knowledge of who is in the building and where they are working in the event they need to be rescued under fire conditions.

Respectfully,

Deputy Chief Timothy Kelly
Fire Inspector, Princeton Fire Department

CC: Deputy Chief Andrew Dufresne, Fire Inspector
Chief John Bennett, Chief of the Department
John Wilson, Building Inspector

CC: Deputy Chief Andrew Dufresne, Fire Inspector
Chief John Bennett, Chief of the Department
John Wilson, Building Inspector

List of Building Code Violations from John Wilson Building Inspector 5/29/13.

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2) they have access to a phone to dial 911 and
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Respectfully,

Deputy Chief Timothy Kelly
Fire Inspector, Princeton Fire Department

CC: Deputy Chief Andrew Dufresne, Fire Inspector
Chief John Bennett, Chief of the Department
John Wilson, Building Inspector