

**Municipal Buildings Strategic Plan  
Advisory Committee**

**Minutes**

Monday, July 20, 2015

7:00pm

Council Chambers, Municipal Center  
3 Primrose Street, Newtown

**THESE MINUTES ARE SUBJECT TO APPROVAL BY THE  
MUNICIPAL BUILDINGS STRATEGIC PLAN ADVISORY COMMITTEE**

The Municipal Buildings Strategic Plan Advisory Committee held a regular meeting on Monday, July 20, 2015 in the Council Chambers of the Municipal Center, Newtown. The meeting was called to order at 7:03 pm.

**Present:** Bill Brimmer, Walt Motyka, Jay Maher, Paul Lindquist, Jim Filan, Scott Cicciari, Mike Marinaccio, Michelle Ku, and Rebekah Harriman.

**Absent:** Kathy Hamilton

**Others Present:** Geralyn Hoerauf of Diversified Management, Ken Best of DRA, 2 members of the press, 2 members of the public

**1. Review and Approval of Minutes:**

**Motion:** Bill Brimmer motioned to accept minutes. Walt Motyka seconded. Michelle Ku abstained due to last meeting's absence. The motion was approved.

**2. Presentation of Draft Reports – Facilities Conditions and Space Needs Assessments by DRA, Inc.**

Ken Best began report by going over the draft report that was distributed to each committee member (see attachment). He walked the committee through each of the 3 buildings that were the main focus of the assessment – Town Hall South, Hook and Ladder, and the Multi-purpose building.

The report lays out the work suggested to bring the buildings up to date and gives price estimates assuming the work is done piece by piece. Ken states that if the work is done more as a package deal then the estimated price would be significantly less than the price given in the report Mike questions how significantly less the price would work out to be approximately. Ken points out that there is a section in the report about cost estimation.

Scott questions how building needs are being evaluated as far as current and possible future uses of the buildings. Ken states that the buildings need to be evaluated as they are currently. If, for example, the

police were to stay in their current building, the report lists the things that would need to occur to make the most of the current space. If the police were to relocate to a different building then other work would be necessary to accommodate them in that building.

The space needs evaluation for “emergency communications” drawing plan is included in the 27,000 square feet estimated for the needed space for the police. Questions about how a regionalized dispatch center is factored into this report. The committee needs to be looking at the various options regarding the police station and the emergency communications group: co-locating emergency communications with the police department vs. regionalization vs. separate locations for the police and emergency communications.

Geralyn will work on getting more information about regionalization issue so the committee can decide if space needs of communications department should stay within the town or if it should be considered at all due to regionalization. Is there a requirement to regionalize?

There was also a question about the storage space used by the registrar of voters at Town Hall South.

The way that the information from this report is used is going to come down to how the dollars are presented. What will be most useful going forward is the packaging of the cost. The repair work as well as potential renovation work needs to be discussed. Packages need to be presented in various scenarios to understand the value of the building as is, the value of the building if renovated, the value of the building for someone else.

Walt reminds the committee about the question of deed restrictions. Are we restricted in how the buildings can be used? How does the Children’s Adventure Center factor in to all of this information?

Scott brings up the question of getting a real estate analysis for some of the buildings. Geralyn will get a quote for what this analysis might cost.

Geralyn asks committee members to review the draft report from DRA and determine what’s missing or what would be most useful in crafting a future plan for the three target buildings and to provide their comments to her by August 4<sup>th</sup>.

### **3. Update from Board of Education regarding potential school building decommissioning**

The Board of Education has decided to not move forward with closing a school building the the 2016-2017 school year. They will continue to watch the enrollment data.

### **4. Review Committee Charge/Next Steps**

Paul states that the space needs assessment seems to be pretty well situated. However, the “strategic plan” part of the committee’s mission statement is going to be barely touched based on what is currently available to the committee to use in the decision making process. The other components that were being considered last fall are still too far down the road to be considered for a strategic plan. The scope of work seems to have been reduced since the committee was formed last fall.

Geralyn suggests the committee make recommendations based on the information that the committee has, and then go on hold while the committee waits for other things to arise within that town that require the committee's attention.

Geralyn will give an update to the Board of Selectman on August 17, 2015.

**4. Next Meeting Dates:**

Next meeting to be determined.

**Meeting Adjourned at 8:41 pm**

Respectfully Submitted,

Aileen Nosal, Clerk

# Town of Newtown

## Newtown Facilities Condition Assessment Report

Newtown, CT

JULY 20, 2015



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# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

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2	Architectural Assessment – Multi-Purpose Building: Condition Assessment MEP Assessment Existing Plans
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4	Architectural Assessment - Hook and Ladder: Condition Assessment MEP Assessment Existing Plans
5	Recommendations: Summary Spreadsheet with Priorities 10 Year Capital Plan - Revised chart to follow Schedule of Priorities per building Use of Cost Estimate Information Mark-up List

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## Introduction

Buildings included in this study are as follows:

- Town Hall South
- Hook and Ladder
- Multi-Purpose Building

In 2014 - 2015 DRA Architects with its team of engineers performed visits to each of the buildings and evaluated them to determine the types of improvements that will be necessary. Conversations were held with department heads and those in charge of maintenance. These improvements included such topics as:

- General
- Life Safety
- Health
- Hazardous Materials
- American's with Disabilities Compliance
- Site Issues
- Exteriors
- Interiors
- Energy and Water Conservation
- Mechanical, Electrical, Plumbing And Fire Protection

With any renovation project it is necessary that International Existing Building Code be reviewed in light of the items of renovation work that are selected. In doing so it may be determined that other items of work will be necessary to achieve compliance.

Each of the improvements was then prioritized into the following categories:

- Current Critical
- Potentially Critical
- Necessary – Not yet Critical
- Recommended

A detailed description of criteria used for each of the categories is included in the report.

For each of the improvements an independent cost estimate was obtained. The estimates are a projection of the costs and include soft costs associated with each item. (Soft costs are the miscellaneous costs associated with professional fees, contingency, bonding costs, bidding expense, testing etc.). The estimator does not have the advantage of detailed drawings for each of the items so the intent is to provide an order of magnitude that, should the improvement move ahead, will be refined up to the bid date. For many of the like items it will be possible to group them together and save on the soft costs. Similarly, there may be items that can be bid without professional drawings and specifications and, again, the soft costs can be reduced. The cost should be used as an overall budget for each item. A more detailed explanation of the use of the estimates is included later in this report.

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

This report is organized with the recommendations presented at the beginning followed by the reports covering all the Buildings. These include detailed condition reports with supporting materials from the engineers and plans of each building with proposals to solve the space needs.

\* \* \*

# Municipal Building, Location Map

## NEWTOWN



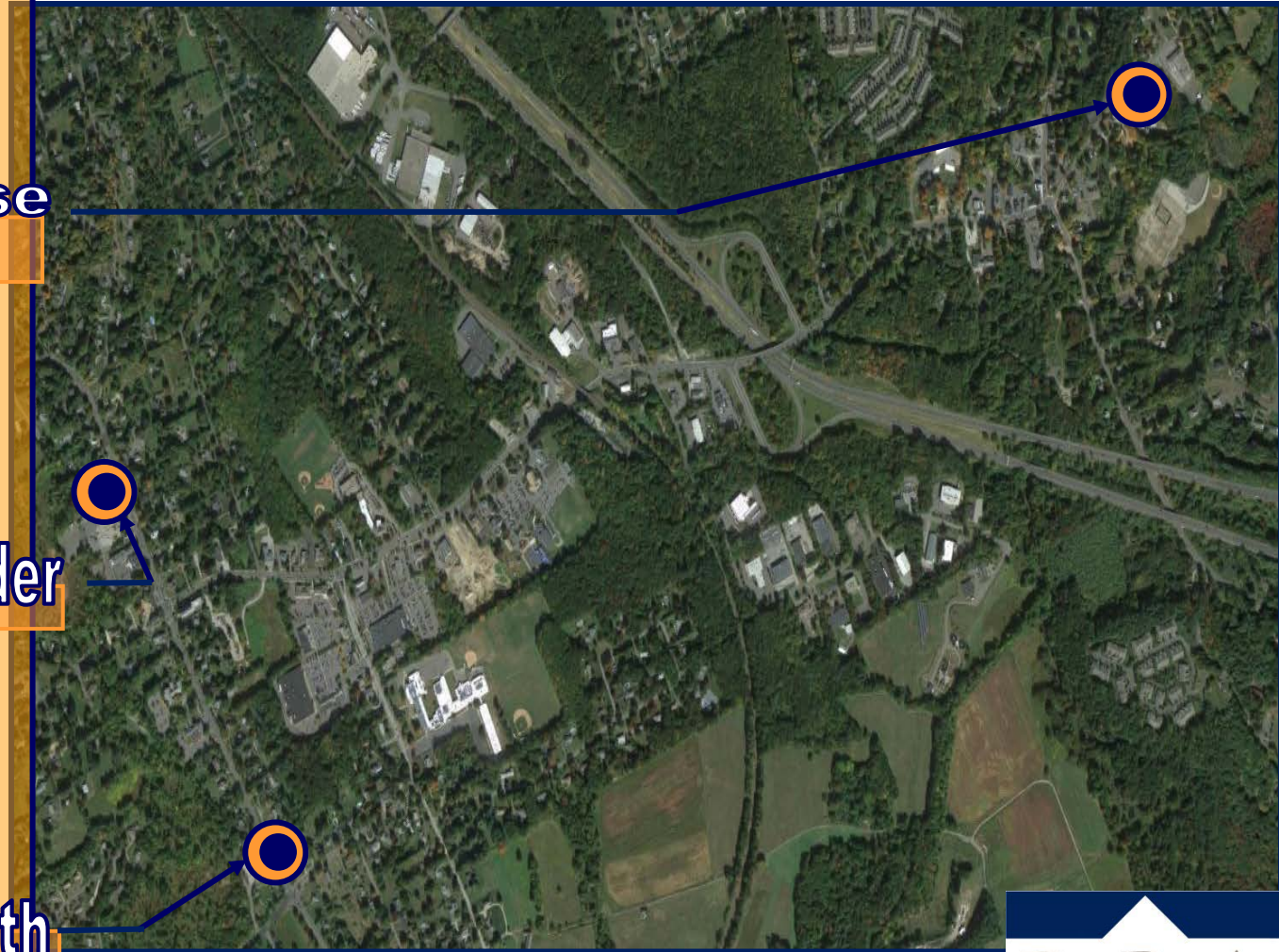
**Multipurpose Building**



**Hook and Ladder**



**Town Hall South**





# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## Priority Rating System

Priorities are listed to the left of each item:

**Priority** 1 – Current Critical: Conditions in this category require immediate action to:

- Correct a cited safety hazard
- Stop accelerated deterioration
- Return a facility to operation

**Priority** 2 – Potentially Critical: Conditions in this category if not corrected soon may result in:

- Intermittent Operations
- Rapid Deterioration
- Potential Safety Hazards

**Priority** 3 – Necessary, not yet critical.  
Conditions in this category require appropriate attention to preclude a predictable deterioration or potential downtime and possible damage and higher costs.

**Priority** 4 – Recommended.  
Conditions in this category include items that represent a sensible improvement to existing conditions. They are not required for the most basic function of the facility, but will improve overall usability and/or reduce long-term maintenance costs.

- Comment only.

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## TOWN HALL SOUTH

3 Main Street

Year Constructed: 1950  
Year of Renovation/Addition: 1990  
Building Type: B/S-2/R-2  
Construction Type: IIIB  
Fire sprinklers: No  
Total Floor Area: 18,528 SF  
Floors: Basement and First Floors  
Parking: 53

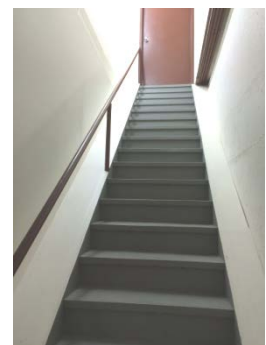
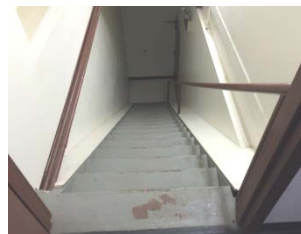


Documents used in this report:

**GENERAL:** Originally constructed as a tractor sales building the building was repurposed to serve Town functions including the Police Department. The exterior of the building is suffering from many years of being clad with "Texture 1-11" siding, a product that is basically scored plywood intended to provide an appearance of vertical wood siding. Windows have needed to be replaced due to air and water leakage. In contrast the interiors are in much better condition. It is very difficult to find parking spaces on the site which we consider to be undersized for its current uses.

**LIFE SAFETY:**

**2** Stair between Lower and Upper Levels has projecting nosings and only one handrail. There is also insufficient landing space at the bottom and top of the stair. This stair appears to be a service stair that is not used by other than the custodial staff but it does serve as an egress from what would otherwise be a dead end corridor. As such the stair needs to be upgraded to remove the projecting nosings by using beveled siding to create a gradual slope from the treads to the nosings. ADA compliant handrails need to be added on both sides. The bottom landing will need to be increased in size to allow for clearance space at the door. Similarly, the door at the top of the stair needs to be removed



**2** Add a new fire rated partition and ceiling in the Janitor's Closet to separate it from the Storage Area.

**HEALTH:** N/A

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

HAZARDOUS MATERIALS: N/A

## ADA COMPLIANCE:

3 Shower room at cell area is not accessible for disabled persons. Redesign space to provide full accessibility to shower and fixtures.



3 There is no accessible cell for disabled persons. An adjacent area to the detention space will need to be modified to create a cell for disabled persons.

3 Shower/Restrooms for men and women are not fully accessible. Showers are non-compliant. Restrooms do not meet the Building Code requirements. Redesign Shower/restrooms to fully meet the State Building Code.



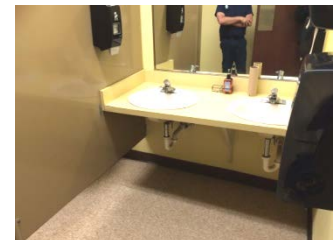
3 Doors throughout building have knobsets but require lever sets for accessibility. Replace all knobsets with lever sets.



3 Counters in Park and Recreation are not ADA accessible. One section needs to be replaced to allow for knee space for both public and staff.



3 The lavatories in the Lower Level Restrooms need to have all piping insulated under the counter.



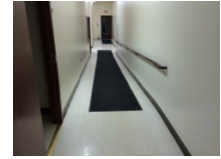
3 The Upper Level Restroom for the disabled is not accessible. Door lever is broken, and sign should have raised letters, symbol, and braille and be mounted on adjacent wall. The interior of the room is too small to meet ADA and CT Building Code. Construct new Women's and Men's accessible toilet rooms.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- 3 Lower Level ramp has only one handrail. Add a second handrail on opposite wall.



- 3 Sink in Staff Kitchenette/Workroom is not accessible. Change cabinets to provide knee space and replace sink

## SITE:

- 3 Parking lot is badly cracked. Loose areas should be removed and cracks cleaned and sealed. Replace base material under loose areas. A new top coat should be applied over entire paved areas.



## EXTERIORS:

- 2 Exterior siding is deteriorating and is in need of replacement. The north and east sides of Texture 1-11 siding has been redone but the remaining two sides need to be replaced and painted.



- 3 Replace damaged exhaust vents



- 3 Parging is delaminating from concrete foundation wall. Remove loose material, apply bonding agent and re-parge exposed concrete areas.



- 3 Foundation wall and concrete masonry wall are cracking. Cut a control joint in concrete masonry and apply sealant and backer rod.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

3 Steel columns that project above low east roof are only primed and are starting to rust. Clean off rust, re-prime and apply two finish coats of paint.



3 Some windows have required replacement due to water and air leakage. The remaining windows, that are not thermally broken, should be replaced to improve comfort and energy efficiency in the building.

3 Two exterior hollow metal doors and frames need to be re-painted.



3 EIFS system needs to be repaired on the exterior wall adjacent to the public restrooms.

## INTERIORS:

3 Painted concrete floors in cell block area, booking and in hallway behind the cells, are worn and need to be re-painted with epoxy. This also applies to the floor in the Lower Level Custodial Storage room.



3 Gypsum wallboard at floor in sally port has deteriorated from moisture. Replace bottom 24 inches with moisture resistant/abuse resistant wallboard with sealant at the floor line. Paint first four feet of wall with epoxy paint.



3 Replace rusted louvers in sally port.



3 Some ceiling panels in hallway behind the Cell block, outside Computer room, in the Break Room, in the Detectives Room and in hall outside Records are damaged/stained and need to be replaced.



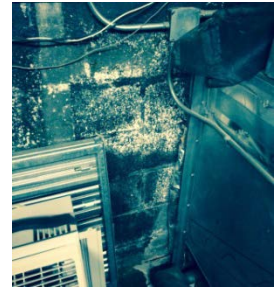
3 Custodial area behind cell block has walls of exposed wallboard and is used for multiple types of storage. Walls should be painted.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

3 Efflorescence is present on the exterior wall of the Fan Room and is an indication of moisture being present in the walls at some point in the building's history. The walls should be wire brushed to remove the salts and then tested for moisture. If low moisture is detected then the walls can be painted; if high levels, then the exterior of the walls need to be checked to ensure that there is adequate below grade damproofing, and above grade flashings and weep holes.



3 Exterior door lintel in Hallway adjacent to the Fan Room needs to be pointed and re-painted.



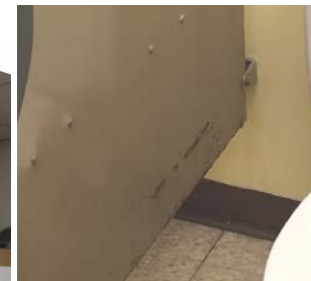
3 Floor tile in Traffic Division's Office and the Pantry needs to be replaced.



3 Toilet partitions in Lower Level Restrooms are rusted, worn and need to be replaced.



3 There is evidence of an old water leak in the Lower Level Storage and the walls need to be painted.



3 There are two areas where the baseboard radiation covers are damaged and need to be replaced. These occur on the east and west side of the building at the exit doors.

ENERGY & WATER CONSERVATION: N/A

MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION:  
(see individual reports for detailed description).

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## MECHANICAL:

2

**Boiler Plant:** The building is heated by one Eighty Eight Series hot water boiler. The boiler is gas fired and reaching the end of its useful life. There are two pumps which provide redundancy in case one pump fails. The hot water system serves fin tube radiation and duct mound hot water coils. The hot water pumps are controlled by six temperature zones via electric relays. Recommend replacing the boiler with two high efficiency condensing boilers to provide redundancy and higher levels of energy efficiency (up to 95% versus current boilers with nominal efficiency of probably 75% to 80%). Replace hot water distribution and controls to provide more zones for energy efficiency and update controls to DDC type system.



3

Most of the building is served by indoor mounted air handling units with remote compressor / condensers and duct mounted hot water coils. Most of the units are old are in fair to poor condition. Ductwork distribution to spaces below includes single zone hot water coils. "Local" air conditioning is also provided at specific areas with ductless split units. Temperature control system is via electric relays with electric actuated valves and dampers. Computer Operations Room needs improved air conditioning and ventilation. Recommend replacing air handling systems and replace and upgrade controls to web based DDC type system.



## ELECTRICAL:

3

The building is served by a Square D distribution panel, rated at 400 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good condition.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

Emergency Generator: The generator is a 80 KW Kohler; gas fired generator and automatic transfer switch located inside; both are in good condition. Recommend upgrading electrical power distribution throughout the building with new local panels, new receptacles and wiring.



3

Lighting, in general, consists primarily of fixtures with acrylic lenses and T8 fluorescent lamps. Most of the fixtures are in fair to poor condition. Emergency lighting is handled by an emergency generator and local battery pack type fixtures. The fire alarm system is a Honeywell zoned system. There are manual fire alarm pull stations throughout the building. Replace lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting. Where feasible, replace battery pack type emergency lights and re-circuit fixtures to be fed from the generator.

2

Replace and upgrade fire alarm system to an addressable system.

## PLUMBING:

3

Existing plumbing fixtures are as follows:

- a. In general, there are a variety of fixtures of different age and condition. Many of the fixtures are in need of replacement due to age and also to benefit from sensor mounted controls and water conserving features.
- b. Water closets are floor mounted; tank type, vitreous china
- c. Lavatories are wall hung and counter mounted vitreous china. Faucets are installed with single lever handle faucets.
- d. Urinals are wall mounted with manual flush valves.

Recommend replacing all plumbing fixtures and water piping.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- Existing Domestic Hot Water System: The domestic hot water is generated by a Bradford White gas fired water heater with 50 gallon storage. The water heater is in good condition, but does not incorporate a mixing valve at the hot water supply. Recommend adding mixing valve to water heater.



## FIRE PROTECTION:

- There is no central fire protection system (sprinklers) currently at the facility. We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

\* \* \*

**Mechanical and Electrical Systems**  
**Existing Conditions Narrative**

**Town Hall South**  
**Newtown, Connecticut**

Draft

6/27/15



Prepared By  
**Consulting Engineering Services, Inc.**  
811 Middle Street, Middletown, Connecticut 06457  
CES Project No. 2015143.00

## A. PLUMBING NARRATIVE

### APPLICABLE CODES AND STANDARDS

The plumbing systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Plumbing Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### PLUMBING UTILITIES

1. Domestic Water:
  - a. Existing Domestic Water Service: The building is currently served by a 2" domestic water main fed from Aquarion Water Company. This water service currently serves all of the building's domestic water needs.
2. Natural Gas:
  - a. Existing Natural Gas Service: The building is currently served by natural gas fed from the local utility's distribution system. Equipment which the gas main currently serves includes the boiler and water heater.
3. Sanitary:
  - a. Existing Sanitary Service: The building's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The sanitary waste piping discharges to the city's central sewer system.
4. Storm:
  - a. Existing Storm System: Building is served by a combination of gutters and roof drains with internal rain leaders.

### PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
  - a. In general, there are a variety of fixtures of different age and condition. Many of the fixtures are in need of replacement due to age and also to benefit from sensor mounted controls and water conserving features.
  - b. Water closets are floor mounted; tank type, vitreous china
  - c. Lavatories are wall hung and counter mounted vitreous china. Faucets are installed with single lever handle faucets.
  - d. Urinals are wall mounted with manual flush valves.

## DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The domestic hot water is generated by a Bradford White gas fired water heater with 50 gallon storage. The water heater is in good condition, but does not incorporate a mixing valve at the hot water supply.



### RECOMMENDATIONS:

1. Replace all plumbing fixtures and water piping.
2. Add mixing valve to water heater.

## B. FIRE PROTECTION NARRATIVE

### FIRE PROTECTION SERVICE

1. There is no central fire protection system (sprinklers) currently at the facility
2. We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

## C. MECHANICAL NARRATIVE

### **APPLICABLE CODES AND STANDARDS**

The mechanical systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Mechanical Code
5. 2009 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### **EXISTING BOILER PLANT**

1. Boiler Plant: The building is heated by one Eighty Eight Series hot water boiler. The boiler is gas fired and reaching the end of its useful life. There are two pumps which provide redundancy in case one pump fails. The hot water system serves fin tube radiation and duct mound hot water coils.
2. The hot water pumps are controlled by six temperature zones via electric relays.

### HOT WATER BOILER



## HOT WATER PUMPS @ BOILER ROOM



## **EXISTING AIR HANDLING SYSTEMS**

1. Most of the building is served by indoor mounted air handling units with remote compressor / condensers and duct mounted hot water coils. Most of the units are old and in fair to poor condition.



2. Ductwork distribution to spaces below includes single zone hot water coils.
3. "Local" air conditioning is also provided at specific areas with ductless split units.
4. Temperature control system is via electric relays with electric actuated valves and dampers.

#### **RECOMMENDATIONS:**

1. Replace the boiler with two high efficiency condensing boilers to provide redundancy and higher levels of energy efficiency (up to 95% versus current boilers with nominal efficiency of probably 75% to 80%). Replace hot water distribution and controls to provide more zones for energy efficiency and update controls to DDC type system.
2. Replace air handling systems.
3. Replace and upgrade controls to web based DDC type system.

## **D. ELECTRICAL NARRATIVE**

### **APPLICABLE CODES AND STANDARDS**

The electrical power, interior lighting, and fire alarm systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2009 International Energy Conservation Code
5. 2005 National Electrical Code, NFPA 70 (NEC)
6. Illuminating Engineering Society Lighting Handbook (IESNA), 9<sup>th</sup> Edition
7. ASHRAE 90.1

## EXISTING SYSTEMS

1. The building is served by a Square D distribution panel, rated at 400 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good condition.



2. Emergency Generator: The generator is a 80 KW Kohler; gas fired generator and automatic transfer switch located inside; both are in good condition.





3. Lighting, in general, consists primarily of fixtures with acrylic lenses and T8 fluorescent lamps. Most of the fixtures are in fair to poor condition.
4. Emergency lighting is handled by an emergency generator and local battery pack type fixtures.
5. The fire alarm system is a Honeywell zoned system. There are manual fire alarm pull stations throughout the building.

**RECOMMENDATIONS:**

1. Upgrade electrical power distribution throughout the building with new local panels, new receptacles and wiring.
2. Replace lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting. Where feasible, replace battery pack type emergency lights and re-circuit fixtures to be fed from the generator.
3. Replace and upgrade fire alarm system to an addressable system.

**E. MEP SYSTEMS CONCLUSION**

In general, the plumbing, fire protection and mechanical systems are in fair to poor condition and should be scheduled for installation / replacement. For electrical, the service switchgear and generator are in good condition. Lighting, receptacles and wiring throughout the budding should be scheduled for replacement.

<b>Town of Newtown</b>																	
<b>Capital Needs Survey Form</b>													Total Floor Area (sf):				
<b>Town Hall South</b>													10,380				
Note: The "System Priority Rating" (1 to 4 rating) and "Condition of the Existing System Rating" (1 to 5 rating) are to be reviewed together to assist in prioritizing replacement and/or upgrades. As an example, we recommend line items with a System Priority rating of 1 and Existing Conditions rating of 1 be prioritized for replacement and/or upgrades.																	
<b>SYSTEM</b>	<b>System Priority 1 to 4</b> (1-Highest Priority , 4-Lowest Priority)	<b>Condition of the Existing System 1 to 5</b> (1 Poor, 5 Excellent)	<b>Last Major Reconstruction (Year)</b>	<b>Projected Replacement (Year)</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Current Replacement Cost</b>	<b>REMARKS</b>									
<b>Division 2 - Site Construction</b>																	
Site - General																	
(circa)																	
<b>Division 15 -Fire Protection</b>																	
Add new FP service and sprinklers throughout																	
	2	2		2017	10,380	\$10	\$103,800										
<b>Division 15 -Plumbing</b>																	
Replace Plumbing Systems Including:																	
Water Distribution System																	
Plumbing Fixtures																	
Water Heater Mixing Valve																	
	1	1		2016	10,380	\$0.5	\$5,190										
<b>Division 15 - HVAC</b>																	
Hot Water Boilers, Pumps & Controls																	
	2	2	1978	2017	10,380	\$15	\$155,700	Upgrade / replace boiler plant									
General HVAC includes:																	
Hot Water Heating Elements & Piping																	
Ductwork / VAV Boxes																	
Exhaust Systems																	
Temperature Control Systems																	
<b>Division 16 - Electrical</b>																	
General Electrical Distribution																	
	3	3		2020	10,380	\$8	\$83,040										
Fire Alarm System																	
	2	2		2017	10,380	\$3	\$31,140										
Lighting - Replace Fixtures and Control																	
	3	3		2020	10,380	\$6	\$62,280										
							\$ 960,150										
							\$ 93	per sf									

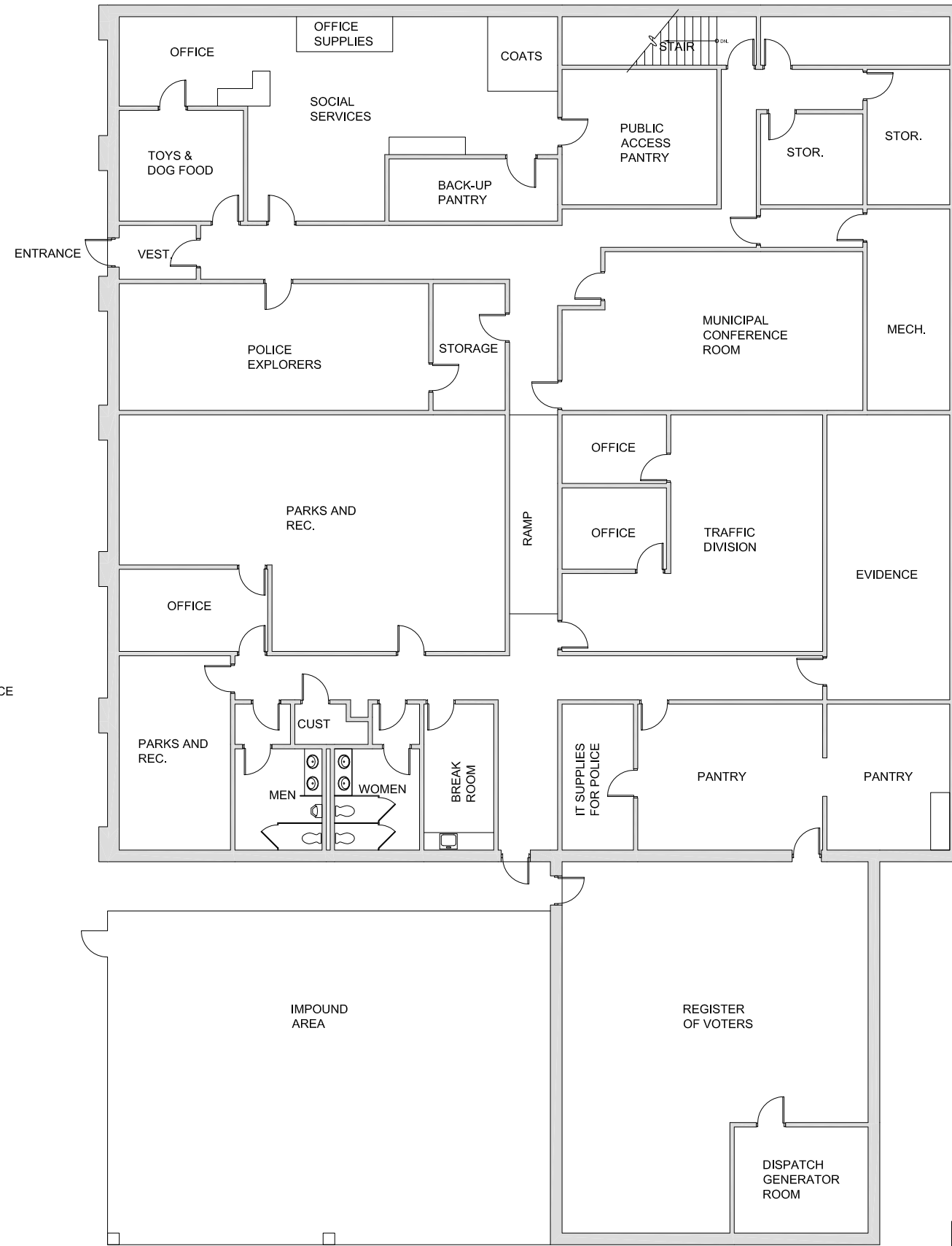
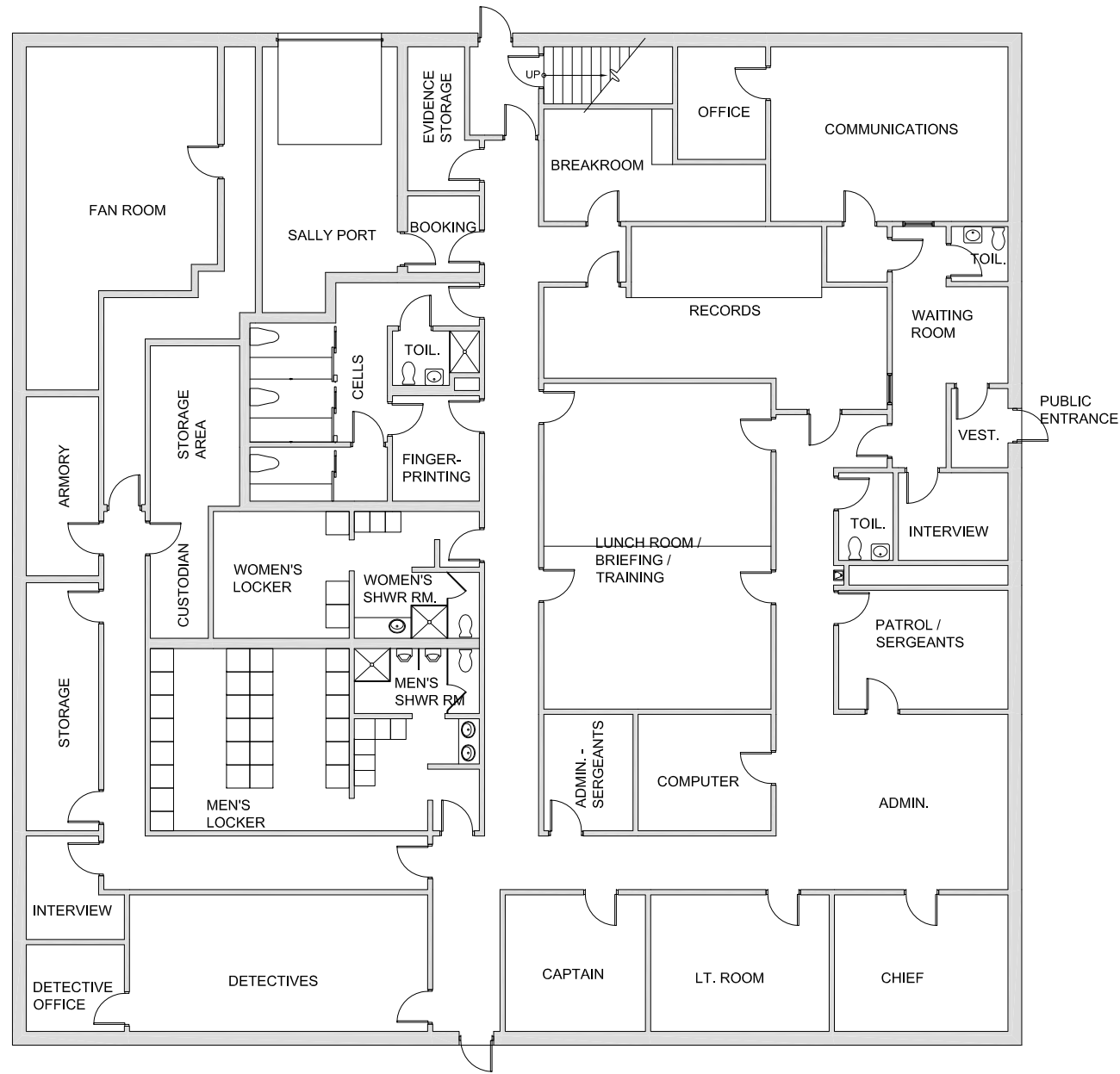
# NEWTOWN FACILITIES

Building Name:	TOWN HALL SOUTH
Address:	3 Main Street Newtown, CT



**Drumey Rosane Anderson, Inc.**  
235 Bear Hill Road, 4th Floor  
Waltham, MA 02451

Planning 617-964-1700  
Architecture 617-964-1701 fax  
Interior Design info@draws.com



**1 FIRST FLOOR PLAN**  
1/16" = 1'-0"

**2 SECOND FLOOR PLAN**  
1/16" = 1'-0"

**THS-A-1**  
FLOOR PLANS

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## HOOK AND LADDER CO.#1

FIRE STATION

45 Main Street

Year Constructed: 1931  
North Addition:  
South Addition: 1969  
Building Type: B/S-2  
Construction Type: IIIB  
Fire sprinklers: No  
Total Floor Area: 6227 SF  
Floors: Basement (2 levels), First Floor and Second Floor.  
Parking: Shared



Documents used in this report:

**GENERAL:** This building is badly worn and due to the instability of the soils beneath, and despite stabilizing improvements, it is in poor condition. The Fire Department will be relocated to a new building so this report does not address specific needs of a fire department. The current building is overloaded by the trucks

**LIFE SAFETY:**

- 1 There is no fire separation between the main stair and the other areas of the building. Walls are required to be one hour fire rated and doors "B" labeled. Create a full enclosure for the stairs at all levels of the building replacing doors and frames with rated hollow metal.
- 2 Ceiling over the stairs on the second floor is badly deteriorated and has lost portions of the finish coat plaster. Caused by roof leaks, plaster damage is also evident on the First Floor in the same area. Confirm that leaks have been repaired, remove loose plaster or re-anchor and re-plaster areas. In the same area replace damaged electrical wiring and provide new light fixture.
- Stair guardrail needs to be 42" high. This will be resolved with the construction of a fire rated a partition around the stair.
- 2 Stair from original Basement to 1969 Basement requires guardrails and ADA handrails on both sides.

**HEALTH:**

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## HAZARDOUS MATERIALS:

3 Sealant at door frames and windows is in need of replacement where missing or hardened. Prior to removal of material it should be tested for hazardous materials.

3 Interior paint should be tested for lead prior to the removal of loose paint.

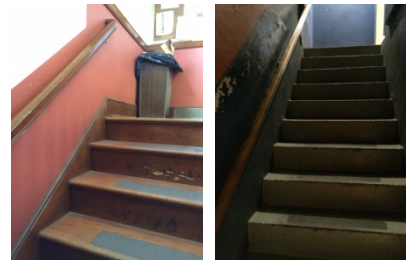
## ADA COMPLIANCE:

3 There is no disabled accessibility between the floor levels of the building. Add an elevator.



3 Wood stairs to second floor have projecting nosing. Provide taped blocking beneath nosing and add rubber treads and risers with contrasting nosing.

3 Rubber treads and risers should be added to concrete stairs to basement levels.



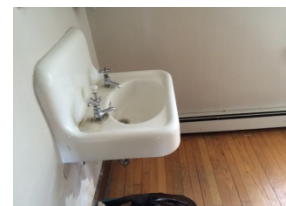
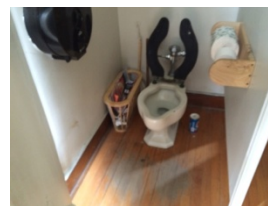
2 Handrails on stair are too large and should be replaced with 1 1/4 inch diameter railings on both sides with extensions at landings for compliance.

3 Step from bottom of stair to basement is 8 inches high. Add floor leveler to lounge and kitchen area to reduce height to 7 inches.



3 Kitchen cabinets are old and should be replaced with ADA compliant cabinets. New sinks and faucet with knee space below are required.

3 Restrooms do not meet ADA. New restrooms for men and women should be constructed in compliance with CT Building Code requirements.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## EXTERIORS:

3 All wood windows, doors, overhead doors, plywood panels and wood trim have areas of peeling paint and bare wood is visible. Scrape paint down to solid material, and feather edges. Fill wood splits and holes. Repaint with a primer and two coats. Verify proper operation of all windows and doors and make necessary adjustments.



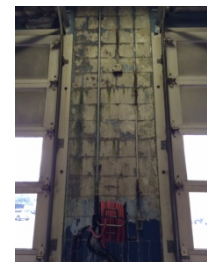
3 At plywood panel at rear of building seal all conduit openings in panel.



3 Replace exterior door from north addition.



2 Water damage has occurred between the two overhead doors on the first floor of the 1969 addition. Bad staining on the exterior is indicative of roof leaks or water spilling over the edge of the roof. As a result brick joints are failing. Horizontally cracked walls, due to settlement need to be repaired to resolve leaks (see Structural below). This can involve reconstruction instead of just re-pointing. Additional brick re-pointing will be needed at all stained areas.



3 Cast iron corner guards at the overhead doors need to be re-painted. North corner guard on original building is displaced and needs to be removed, brick re-pointed and bumper reinstated. Concrete apron settlement appears to be the cause of the bumper displacement. Remove apron, replace structural fill and construct new apron with frost wall with spread footings. Dowel apron into existing building foundation.



2 Chimney needs to be provided with a cap to prevent further deterioration from water ingress. Repoint or re-building top of chimney.

2 Areas of original roof has missing slates. Verify types and condition of nails to determine if full removal and reinstallation is required. If full replacement required it should be assumed that new plywood decking will be required with an underlayment of ice and water shield and new perimeter flashings. For partial repairs replace only damaged or missing slates.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- 2 Replace missing gutter on north side of original building.



## INTERIORS:

- 1 First floor equipment bays in the original building are cracked and in places crumbling. Temporary shoring in the Basement has been placed under the worst areas. Heavy trucks should be removed from the building and the floors repaired. Areas of the concrete slabs will need to be removed, retaining all reinforcing bars, and new slabs areas constructed. Cracked floors in the new addition need to be cut out and repaired. New slab leveling compound should be applied to floors with a floor finish.

- 3 Wood floors on the second floor need to be sanded and refinished.

- 3 A small office has been constructed out of wood with a step up into the space. Vinyl floor tiles have been broken and portions are missing. Replace VCT



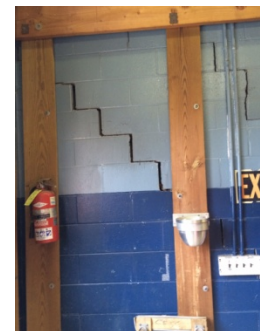
- 3 The building's interior needs to be re-painted and all loose paint removed.



- 3 Second floor carpet is old and should be removed. Re-finish wood floor.

## STRUCTURAL

- 1 The south-east corner of the building has settled significantly (apparently the 1969 addition was built on fill without appropriate foundations or piles). Temporary framing has been bolted to the wall to stabilize the movement. There is significant cracking of the walls; stepped on the south-east corner and horizontal at the overhead doors. The cracks extend through the entire wall. The depth of the unstable soil is unknown. It is recommended that test borings be taken to determine the type and depths of the soils on which the building is constructed. With that information is



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

will be possible to determine a repair for the building which could include stabilization of the soils or the installation of piles to support the walls. In addition major re-construction of the exterior walls on the east and south sides will be required. Roof framing will require temporary support until walls are repaired. The basement under the equipment bays has temporary structural steel columns and beams to reinforce the equipment bays above for the large fire trucks. With a potential adaptive re-use of this building it will be possible to re-evaluate the temporary structural steel reinforcement of the floor slabs should be re-evaluated when department moves out of building to determine if they are still required. A lighter floor loading and more permanent use solution should be explored. This will impact how repairs are made to the building. For example overhead doors may no longer be needed with a use change.



## ENERGY & WATER CONSERVATION:

- 3 Entrance door to building is missing weather-stripping and this should be added.
- 3 Overhead doors need to be weather-stripped.
- 3 Windows are single glazed with storm panels. Weather-strip double hung windows.

## MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION:

(see individual reports for detailed description).

### MECHANICAL:

- 2 Range requires a commercial hood with a fire suppression system.

Boiler Plant: The building is heated by two (2) Peerless hot water boilers; each with nominal 350 MBH capacity. The boilers are fuel fired fed from a buried fuel oil tank outside the building. The buried fuel oil piping does not appear to be double wall. The boilers are in good condition. There are four (4) hot water pump zones controlled by local electric thermostats.





# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- 3 The hot water system serves unit heaters and cast iron radiators. The unit heaters are in good condition, the cast iron radiators are most original to the building and nearing the end of their useful life.



Recommend replacing cast iron radiators with fin tube radiation, Install air handling systems to provide mechanical ventilation. Install central air condition systems through new ducted units and/or ductless split AC units. Replace and upgrade controls to web based DDC type system.

## ELECTRICAL:

- 3 The building is served by General Electric distribution panels, service rated at 200 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good condition. Emergency Generator: The generator is a 30 KW Kohler; fuel fired generator with day tank / pump set located inside the garage bay. The system is in fair condition.



- 3 Lighting, in general, consists primarily of fixtures with T12 fluorescent lamps. Most of the fixtures are in poor condition and should be updated to more energy effacement lighting and controls. Emergency lighting is handled by an emergency generator. The fire alarm system is a FCI zoned system which is in fair condition.



Recommend upgrading Upgrade some of the electrical power distribution throughout the building with new local panels, new receptacles and wiring. Replace lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting.

## PLUMBING:

- 3 Existing plumbing fixtures are as follows:
- In general, there are a variety of fixtures of different age and condition. Most of the fixtures are in need of replacement due to age and also to benefit from sensor mounted controls and water conserving features.
  - Water closets are floor mounted; tank type, vitreous china
  - Urinals are wall mounted with manual flush valves.
  - Lavatories are wall hung with outdated faucets.



Recommend replacement of all plumbing fixtures, water piping and sanitary waste / vent piping.

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- 1 Existing Domestic Hot Water System: The domestic hot water is generated by a Bradford White propane fired water heater with 30 gallon storage. The water heater is in good condition, but does not incorporate a mixing valve at the hot water supply. Recommend adding mixing valve to water heater.

## FIRE PROTECTION SERVICE:

- 2 There is no central fire protection system (sprinklers) currently at the facility. We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

\* \* \*

**Mechanical and Electrical Systems**  
**Existing Conditions Narrative**

**Newtown Hook & Ladder**  
**Newtown, Connecticut**

Draft

6/27/15



Prepared By  
**Consulting Engineering Services, Inc.**  
811 Middle Street, Middletown, Connecticut 06457  
CES Project No. 2015143.00

## A. PLUMBING NARRATIVE

### APPLICABLE CODES AND STANDARDS

The plumbing systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Plumbing Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### PLUMBING UTILITIES

1. Domestic Water:
  - a. Existing Domestic Water Service: The building is currently served by a 1 1/2" domestic water main fed from Aquarion Water Company. This water service currently serves all of the building's domestic water needs.
2. Natural Gas:
  - a. Existing Propane System: The building is currently served by a propane tank outside the building. Equipment which utilizes propane includes the stove and water heater.
3. Sanitary:
  - a. Existing Sanitary Service: The building's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The piping is in fair to poor condition.
4. Storm:
  - a. Existing Storm System: Building is served by a combination of gutters and roof drains with internal rain leaders.

### PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
  - a. In general, there are a variety of fixtures of different age and condition. Most of the fixtures are in need of replacement due to age and also to benefit from sensor mounted controls and water conserving features.
  - b. Water closets are floor mounted; tank type, vitreous china
  - c. Urinals are wall mounted with manual flush valves.

- d. Lavatories are wall hung with outdated faucets.



## **DOMESTIC HOT WATER SYSTEMS**

1. Existing Domestic Hot Water System: The domestic hot water is generated by a Bradford White propane fired water heater with 30 gallon storage. The water heater is in good condition, but does not incorporate a mixing valve at the hot water supply.

## **RECOMMENDATIONS:**

1. Replace all plumbing fixtures, water piping and sanitary waste / vent piping.
2. Add mixing valve to water heater.

## **B. FIRE PROTECTION NARRATIVE**

### **FIRE PROTECTION SERVICE**

1. There is no central fire protection system (sprinklers) currently at the facility
2. We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

## C. MECHANICAL NARRATIVE

### APPLICABLE CODES AND STANDARDS

The mechanical systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Mechanical Code
5. 2009 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### EXISTING BOILER PLANT

1. Boiler Plant: The building is heated by two (2) Peerless hot water boilers; each with nominal 350 MBH capacity. The boilers are fuel fired fed from a buried fuel oil tank outside the building. The buried fuel oil piping does not appear to be double wall. The boilers are in good condition.
2. There are four (4) hot water pump zones controlled by local electric thermostats.



3. The hot water system serves unit heaters and cast iron radiators. The unit heaters are in good condition, the cast iron radiators are most original to the building and nearing the end of their useful life.

#### CAST IRON RADIATOR



#### **EXISTING AIR HANDLING SYSTEMS**

1. Ventilation to the building is accomplished by operable windows. Air handling unit providing mechanical ventilation are not present.
2. Exhaust at toilet rooms, etc. are local systems and are in poor condition.
3. Air conditioning is provided at a few of the offices via window air conditioning units.

#### **RECOMMENDATIONS:**

1. Replace cast iron radiators with fin tube radiation.
2. Install air handling systems to provide mechanical ventilation.
3. Install central air condition systems through new ducted units and/or ductless split AC units.
4. Replace and upgrade controls to web based DDC type system.

## D. ELECTRICAL NARRATIVE

### APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2009 International Energy Conservation Code
5. 2005 National Electrical Code, NFPA 70 (NEC)
6. Illuminating Engineering Society Lighting Handbook (IESNA), 9<sup>th</sup> Edition
7. ASHRAE 90.1

### EXISTING SYSTEMS

1. The building is served by General Electric distribution panels, service rated at 200 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good condition.
2. Emergency Generator: The generator is a 30 KW Kohler; fuel fired generator with day tank / pump set located inside the garage bay. The system is in fair condition.





3. Lighting, in general, consists primarily of fixtures with T12 fluorescent lamps. Most of the fixtures are in poor condition and should be updated to more energy efficient lighting and controls. .



4. Emergency lighting is handled by an emergency generator.
5. The fire alarm system is a FCI zoned system which is in fair condition.

#### **RECOMMENDATIONS:**

1. Upgrade some of the electrical power distribution throughout the building with new local panels, new receptacles and wiring.
2. Replace lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting.

#### **E. MEP SYSTEMS CONCLUSION**

In general, the plumbing, fire protection and mechanical systems are in fair to poor condition and should be scheduled for installation / replacement. For electrical, the service switchgear and generator are in good condition. Lighting, receptacles and wiring throughout the building should be scheduled for replacement.

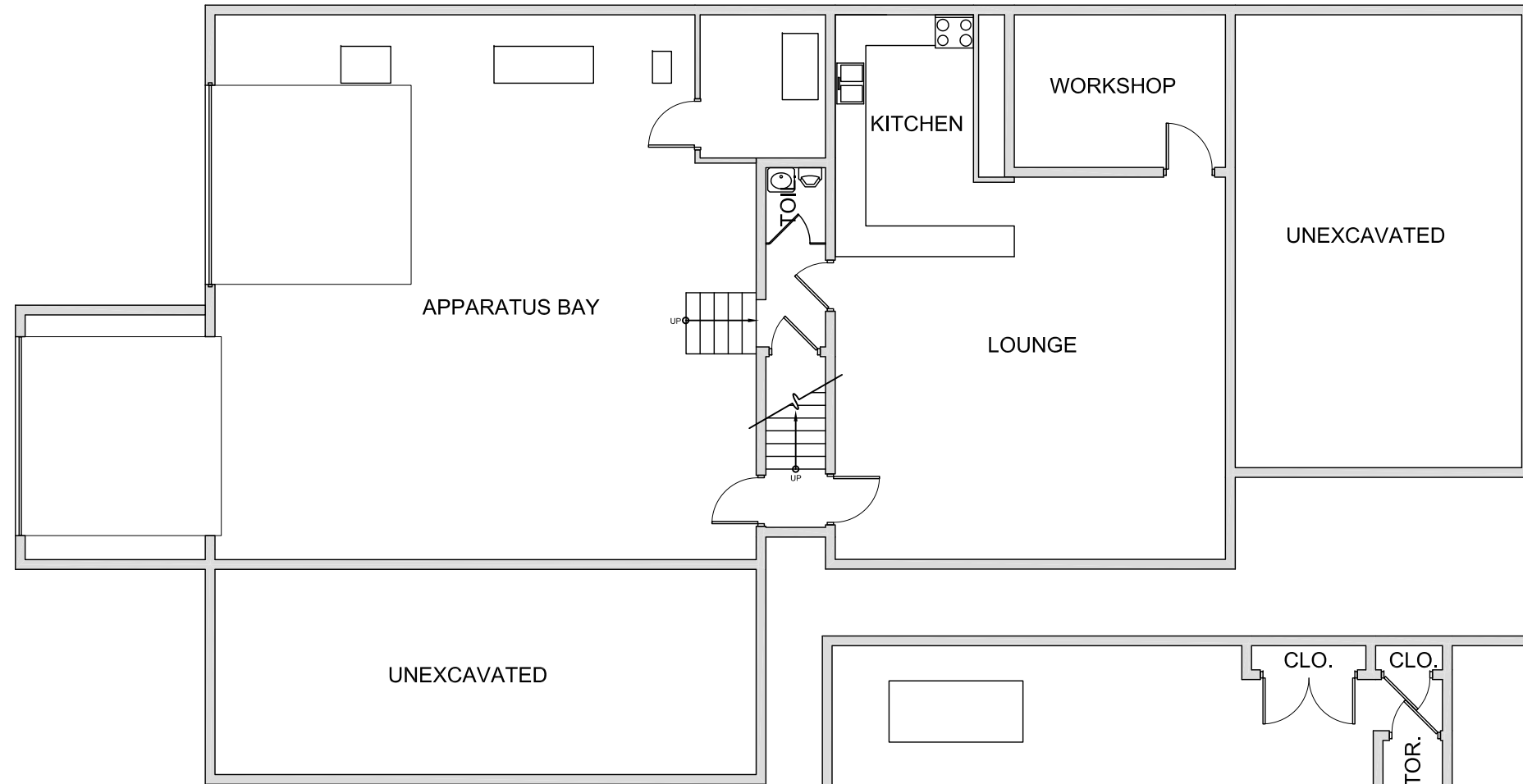
<b>Town of Newtown</b>									
<b>Capital Needs Survey Form</b>								Total Floor Area (sf):	
<b>Newtown Hook &amp; Ladder</b>								6,227	
Note: The "System Priority Rating" (1 to 4 rating) and "Condition of the Existing System Rating" (1 to 5 rating) are to be reviewed together to assist in prioritizing replacement and/or upgrades. As an example, we recommend line items with a System Priority rating of 1 and Existing Conditions rating of 1 be prioritized for replacement and/or upgrades.									
<b>SYSTEM</b>	<b>System Priority 1 to 4</b> (1-Highest Priority , 4-Lowest Priority)	<b>Condition of the Existing System 1 to 5</b> (1 Poor, 5 Excellent)	<b>Last Major Reconstruction (Year)</b>	<b>Projected Replacement (Year)</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Current Replacement Cost</b>	<b>REMARKS</b>	
<b>Division 2 - Site Construction</b>									
Site - General			(circa)					N/A	
<b>Division 15 -Fire Protection</b>									
Add new FP service and sprinklers throughout	2	2		2017	6,227	\$12	\$74,724		
<b>Division 15 -Plumbing</b>									
Replace Plumbing Systems Including:	3	3		2018	6,227	\$15	\$93,405		
Water Distribution System									
Plumbing Fixtures									
Water Heater Mixing Valve	1	1		2016	6,227	\$0.5	\$3,114		
<b>Division 15 - HVAC</b>									
Hot Water Boilers, Pumps & Controls						\$0	\$0	No short term recommendations.	
General HVAC includes:	3	3		2018	6,227	\$35	\$217,945	Upgrade / replace equipment	
Hot Water Heating Elements & Piping									
Exhaust Systems									
A/C Systems									
Temperature Control Systems									
<b>Division 16 - Electrical</b>									
General Electrical Distribution	3	3		2018	6,227	\$8	\$49,816		
Lighting									
Replace Fixtures and Control	3	3		2018	6,227	\$6	\$37,362		
							\$ 476,366		
							\$ 77	per sf	



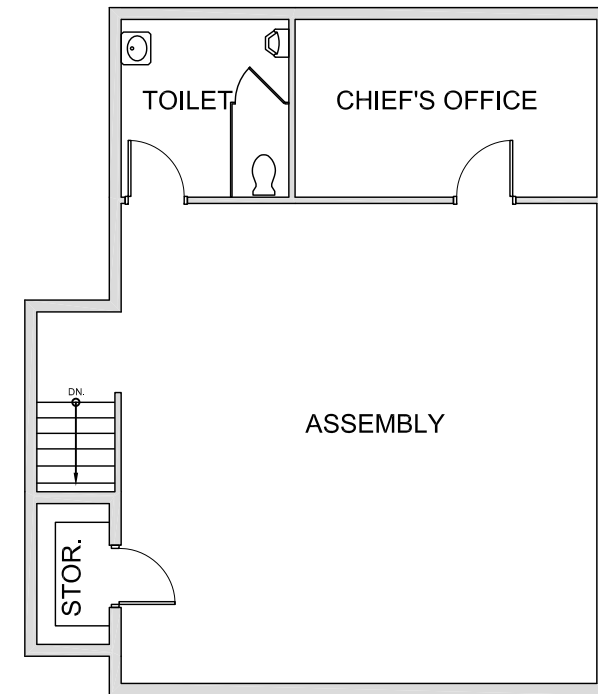
# D·R·A

**Drummey Rosane Anderson, Inc.**  
235 Bear Hill Road, 4th Floor  
Waltham, MA 02451

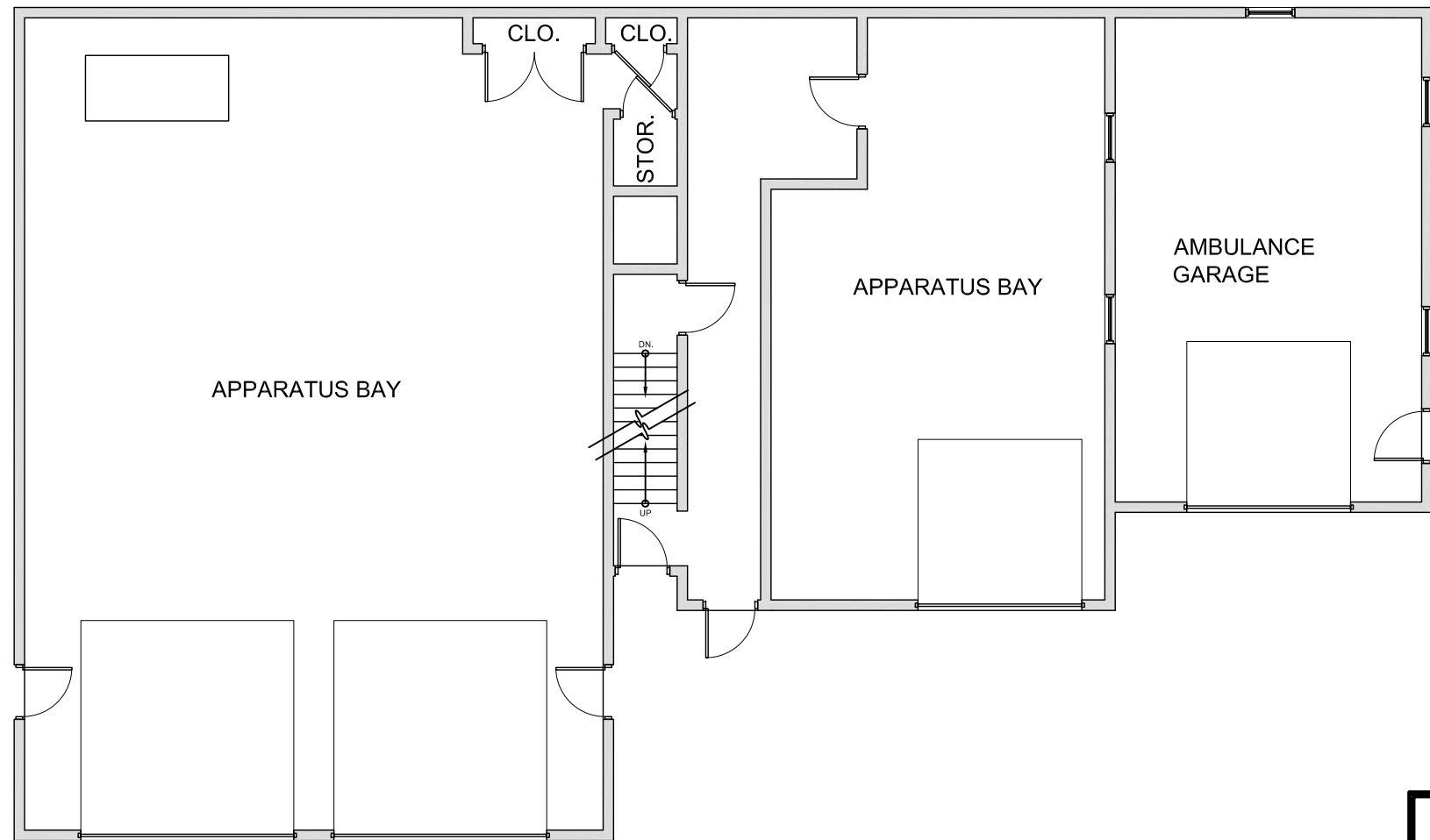
Planning 617-964-1700  
Architecture 617-964-1701 fax  
Interior Design info@draws.com



**1 BASEMENT PLAN**  
3/32"=1'-0"



**3 SECOND FLOOR PLAN**  
3/32"=1'-0"



**2 FIRST FLOOR PLAN**  
3/32"=1'-0"

NEWTOWN FACILITIES	
Building Name:	Hook and Ladder, Co. #1
Address:	45 Main Street Newtown, CT

## HL-A-1

FLOOR PLANS

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## MULTI-PURPOSE BUILDING

14 Riverside Road

Year Constructed: 1972  
Additions: 1978, 1989, 2010  
Building Type: A-3/  
Construction Type: V  
Fire sprinklers: No  
Total Floor Area: 9650 SF  
Floors: First Floor and Mezzanine  
Parking: 36



Documents used in this report:

GENERAL: This building

### LIFE SAFETY:

2 Exit sign in Game room area is falling off. re-install face or install new exit sign.



2 Mechanical and Electrical room used as storage room, very overcrowded and not code compliant. Remove all unnecessary items to comply with code.



HEALTH: N/A

HAZARDOUS MATERIALS: N/A

### ADA COMPLIANCE:

3 Sink and counter in Clinic and VNA Exam room (used for storage) are not ADA compliant. Change cabinets to provide knee space and replace sink.



3 Sink in workout/ yoga space and Multi-purpose room Kitchenette are not ADA accessible. No knee space below and fixtures are mounted too far for required reach distance.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

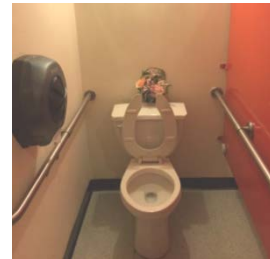
- 3 Doors throughout Senior Center building and Pre-school Area with the exception of the most recent 2010 additions (Sunroom, Workout Room and ADA restrooms) have knob sets but require lever sets for accessibility. Replace all knobsets with lever sets.



- 3 Art storage room is overcrowded and is not ADA accessible.



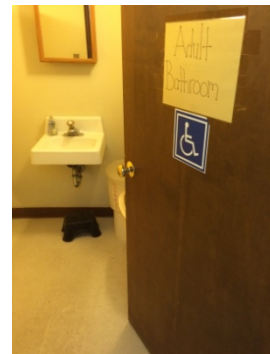
- 3 Neither the Men's or Women's restroom in the Multi-purpose space are ADA compliant. There are ADA accessible restrooms in the new addition of the building.



- 3 Water coolers in the Pre-school are not ADA compliant. Remove and replace with code compliant coolers.



- 3 No ADA compliant restrooms. Neither the adult or the children's restrooms comply with ADA codes. Modify restroom to comply with all ADA codes.



- 3 Sinks in the Classrooms are not ADA compliant and do not have insulation on piping. Modify sinks to comply with all ADA codes.



SITE:

- 3 Main parking area cracked, Cut-out bad and install new top coat.

- 3 Driveway adjacent to senior center that leads to oil tank needs replacing. Remove old pavement and install new.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## EXTERIORS:

3 Entry Doors at vestibule are rusting at the bottom. Scrape with wire brush, prime and paint.

3 Damaged Exterior columns and rainwater collecting in valleys. Make necessary repairs.

3 Gaskets loose on both ends and are draped in Sunroom. Push back into frame.

3 9 bollards in parking lot need repainting. Wire brush, sand , prime and repaint.



3 Paint peeling on oil tank, Wire brush, sand, prime and paint.



3 Entire roof requires replacement within the next 5 years with the exception of the most recent 2010 additions and sunroom. Replace or reroof and install ice and water shields in all eaves and valleys.



## INTERIORS:

3 Wall near offices need stripping of wallpaper and adhesives. Strip and repaint.

3 Wallpaper near kitchenette in Multi-purpose room is peeling. Either repair wallpaper or remove wallpaper and adhesives and paint wall.

3 Ceiling in Multi-purpose space has multiple cracks (approx. 150 SF) Patch, repair and paint.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

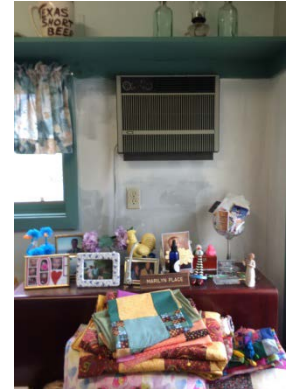
Town of Newtown, Connecticut

3 Walls in Multi-purpose room are in fair condition but require repainting. Repaint entire space.

3 Painted gypsum wall board in the Art Storage room is in need of repairs near the entry doors and repainting throughout the space.



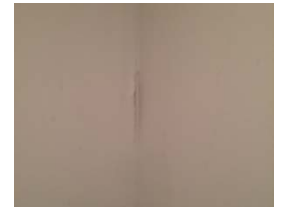
3 Walls in Directors office are in need of repainting. Repaint all walls.



3 Ceiling in Vestibule outside of VNA and Clinic are stained from leaks in ceiling caused by the AC water pan overflowing. Repair ceilings and repaint.



3 Light lens missing in VNA Clinic Exam room. Replace lens.



3 Paint on wall in corner is bubbling in the restroom near the clinic area. Remove paint, repair wall and repaint all walls.



3 Network closet walls have been repaired due to condensation water pan from AC overflowing and mold removal but have not been primed or painted. Prime area that has been repaired and paint all walls and ceilings.

3 Doors throughout building with the exception of the recent addition are peeling or fading. Re-stain or paint doors.

3 Hole in wall outside of Meeting room in Multi-purpose space. Repair hole in wall, sand, prime and paint.

3 Carpet in Meeting room appears to be worn and dirty. Recommend replacing with carpet tiles.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

3 Walls in the Men and Women's restrooms in the Multi-purpose space could use a fresh coat of paint. Repaint both restrooms.



3 VCT in Janitors closet is dirty but in fair condition. Walls are in poor condition and need repainted. Clean or replace VCT and repaint all walls.

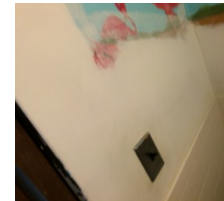
3 Sheet vinyl flooring bubbling outside of one restroom and majority of flooring needs cleaned. Replace or bubbled area and clean flooring.



3 Stains on painted gypsum wallboard ceilings in multiple areas. Prime with stain blocker and repaint.



3 Work was performed in 2 of the children's restrooms and never completed. Finish work, prime and paint walls.



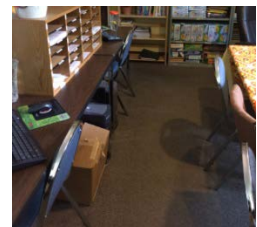
3 Ceilings above locker area in the Pre-school are cracked. Patch, repair and paint ceilings.

3 Directors office is overcrowded and with poor lighting, old worn carpet and needs repainting. Replace carpet, improve lighting and paint entire office. Remove items and place in storage if available.



3 Worn old carpet and a hole in the ceiling in the General Office area in the Pre-school. Replace carpet, Repair hole in the ceiling and repaint ceiling and walls.

3 Pre-school Staff lounge has a worn old carpet and wall requires repainting. Replace carpet and repaint walls.



3 Exit door to courtyard needs repainting. Repaint door and replace blinds.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

3 Ceiling above front window are cracking from ice dam leaks. Repair

3 Cracks in wall in Preschool (next to window above door to back room) Repair, prime and paint.



3 Loose light diffusers throughout classrooms. Secure all diffusers.



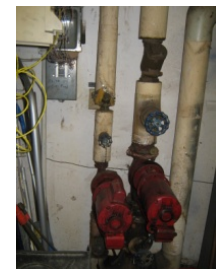
ENERGY & WATER CONSERVATION: N/A

MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION:  
(see individual reports for detailed description).

MECHANICAL:

3 Network closet has no vent or grill on door for ventilation. Install grill.

2 Boiler Plant: Overall, the building is heated by two separate boilers which are not interconnected. Both boilers are fuel oil fired. The boiler at the original building is a Peerless Model STC-07 hot water boiler with nominal capacity of 400 MBH. This boiler, its pumps and related hydronic piping system is reaching the end of its useful life.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

The boiler at the building addition is a Burnham Model PV85 hot water boiler with nominal capacity of 196 MBH. This boiler is in good condition,

Recommend replacing the boiler, pumps and hydronic components serving the original building. Upgrade the domestic hot water heater which is fed from the boiler.



2

Existing Air Handling Systems: The buildings area served by indoor mounted air handling units with remote compressor / condensers located outside at grade. The two units at the original building are in fair to poor condition. The unit at the new building addition is in good conditions. The systems are fully ducted on the supply air and return air. "Local" air conditioning is also provided at specific areas with ductless split units. Temperature control is via local 7 day programmable thermostats.



Replace the air handling units and compressor / condensers serving the original building. The indoor units are located in mechanical rooms above the main floor and replacement of these units will be difficult. Also, the refrigerant piping may need to be replaced to accommodate newer types of refrigerant. Upgrade the temperature controls to provide off site monitoring through a web based program.

## ELECTRICAL:

3

The building is served by a Square D distribution panel, rated at 400 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good to fair condition. Recommend upgrading electrical service, local panels, receptacles and wiring at the original building.



# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

- 3 Lighting: In general, there are a variety of fixtures of different age and condition; types include fixtures with T5, T8 and T12 lamps with wall mounted manual switches. Most of the fixtures are in good to fair condition Emergency lighting is handled by local battery pack type fixtures. The fire alarm system is a Silent Knight zoned system. There are manual fire alarm pull stations throughout the building. Replace older lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting.

## PLUMBING:

- Existing Domestic Hot Water System: The domestic hot water is generated by an instantaneous heating coil at the boiler. When the boiler is replaced, the heater will need to be replaced and it will be good time to consider adding a storage tank. Recommend upgrade water heater when boiler is replaced.

## FIRE PROTECTION:

- 2 There is no central fire protection system (sprinklers) currently at the facility We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

\* \* \*

**Mechanical and Electrical Systems**  
**Existing Conditions Narrative**

**Multipurpose Building**  
**Newtown, Connecticut**

Draft

6/27/15



Prepared By  
**Consulting Engineering Services, Inc.**  
811 Middle Street, Middletown, Connecticut 06457  
CES Project No. 2015143.00

## A. PLUMBING NARRATIVE

### APPLICABLE CODES AND STANDARDS

The plumbing systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Plumbing Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### PLUMBING UTILITIES and PLUMBING FIXTURES

1. Domestic Water:
  - a. Existing Domestic Water Service: The building is currently served by a 1 1/2" domestic water main fed from Aquarion Water Company. This water service currently serves all of the building's domestic water needs.
2. Sanitary:
  - a. Existing Sanitary Service: The building's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The sanitary waste and vent piping overall appears in good condition.
3. Storm:
  - a. Existing Storm System: Building is served by a combination of gutters and roof drains with internal rain leaders.
4. Existing plumbing fixtures are as follows:
  - a. In general, there are a variety of fixtures of different age and condition. Most of the fixtures are in good condition.
  - b. Water closets are floor mounted; tank type, vitreous china.
  - c. Lavatories are wall hung and counter mounted vitreous china. Faucets are installed with single lever handle faucets.

### DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The domestic hot water is generated by an instantaneous heating coil at the boiler. When the boiler is replaced, the heater will need to be replaced and it will be good time to consider adding a storage tank.

### RECOMMENDATIONS:

1. Upgrade water heater when boiler is replaced.

## **B. FIRE PROTECTION NARRATIVE**

### **FIRE PROTECTION SERVICE**

1. There is no central fire protection system (sprinklers) currently at the facility
2. We recommend a new wet type fire protection system be installed with sprinklers throughout the entire building.

## **C. MECHANICAL NARRATIVE**

### **APPLICABLE CODES AND STANDARDS**

The mechanical systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Mechanical Code
5. 2009 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

### **EXISTING BOILER PLANT**

1. Boiler Plant: Overall, the building is heated by two separate boilers which are not interconnected. Both boilers are fuel oil fired. The boiler at the original building is a Peerless Model STC-07 hot water boiler with nominal capacity of 400 MBH. This boiler, its pumps and related hydronic piping system is reaching the end of its useful life.

#### **HOT WATER BOILER @ ORIGINAL BUILDING**



HOT WATER PUMPS @ ORIGINAL BUILDING



2. Boiler Plant: The boiler at the building addition is a Burnham Model PV85 hot water boiler with nominal capacity of 196 MBH. This boiler is in good condition

HOT WATER BOILER @ NEW BUILDING ADDITION



## EXISTING AIR HANDLING SYSTEMS

1. The buildings area served by indoor mounted air handling units with remote compressor / condensers located outside at grade. The two units at the original building are in fair to poor condition. The unit at the new building addition is in good conditions.

### COMPRESSOR / CONDENSER @ ORIGINAL BUILDING



2. The systems are fully ducted on the supply air and return air.
3. “Local” air conditioning is also provided at specific areas with ductless split units.
4. Temperature control is via local 7 day programmable thermostats.

## RECOMMENDATIONS:

1. Replace the boiler, pumps and hydronic components serving the original building. Upgrade the domestic hot water heater which is fed from the boiler.
2. Replace the air handling units and compressor / condensers serving the original building. The indoor units are located in mechanical rooms above the main floor and replacement of these units will be difficult. Also, the refrigerant piping may need to be replaced to accommodate newer types of refrigerant.
3. Upgrade the temperature controls to provide off site monitoring through a web based program.



## D. ELECTRICAL NARRATIVE

### APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2009 International Energy Conservation Code
5. 2005 National Electrical Code, NFPA 70 (NEC)
6. Illuminating Engineering Society Lighting Handbook (IESNA), 9<sup>th</sup> Edition
7. ASHRAE 90.1

### EXISTING SYSTEMS

1. The building is served by a Square D distribution panel, rated at 400 amperes, 208Y/120 volts, 3-phase. The service equipment and main distribution panels are in good to fair condition.



2. Lighting: In general, there are a variety of fixtures of different age and condition; types include fixtures with T5, T8 and T12 lamps with wall mounted manual switches. Most of the fixtures are in good to fair condition
3. Emergency lighting is handled by local battery pack type fixtures.
4. The fire alarm system is a Silent Knight zoned system. There are manual fire alarm pull stations throughout the building.

**RECOMMENDATIONS:**

1. Upgrade electrical service, local panels, receptacles and wiring at the original building.
2. Replace older lighting with new energy efficient fixtures and controls such as occupancy sensors and daylight harvesting.

**E. MEP SYSTEMS CONCLUSION**

In general, the mechanical and electrical systems at the new addition are in good condition. Some of the mechanical and electrical systems at the original building are reaching the end of their useful life and should be scheduled for replacement.

<b>Town of Newtown</b>									
<b>Capital Needs Survey Form</b>								Total Floor Area (sf):	
<b>Multipurpose Building</b>								9,560	
Note: The "System Priority Rating" (1 to 4 rating) and "Condition of the Existing System Rating" (1 to 5 rating) are to be reviewed together to assist in prioritizing replacement and/or upgrades. As an example, we recommend line items with a System Priority rating of 1 and Existing Conditions rating of 1 be prioritized for replacement and/or upgrades.									
<b>SYSTEM</b>	<b>System Priority 1 to 4</b> (1-Highest Priority , 4-Lowest Priority)	<b>Condition of the Existing System 1 to 5</b> (1 Poor, 5 Excellent)	<b>Last Major Reconstruction (Year)</b>	<b>Projected Replacement (Year)</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Current Replacement Cost</b>	<b>REMARKS</b>	
<b>Division 2 - Site Construction</b>									
Site - General			(circa)					N/A	
<b>Division 15 -Fire Protection</b>									
Add new FP service and sprinklers throughout	2	2		2017	9,560	\$10	\$95,600		
<b>Division 15 -Plumbing</b>									
Replace Plumbing Systems Including:	4	4			9,560	\$0	\$0	No short term recommendations.	
Water Distribution System								(upgrades to water heater covered in hot water boiler costs)	
Plumbing Fixtures									
<b>Division 15 - HVAC</b>									
Hot Water Boilers, Pumps & Controls	2	2	1978	2017	7,500	\$15	\$112,500	Upgrade / replace boiler plant	
General HVAC includes:	3	3	1990	2019	7,500	\$20	\$150,000	Upgrade / replace HVAC equipment	
Hot Water Heating Elements & Piping									
Indoor units, CC's and refrig piping									
Exhaust Systems									
Temperature Control Systems									
<b>Division 16 - Electrical</b>									
General Electrical Distribution	3	3		2017	9,560	\$8	\$76,480		
Lighting									
Replace Fixtures and Control	3	3		2020	7,500	\$6	\$45,000		
							\$ 479,580		
							\$ 50	per sf	

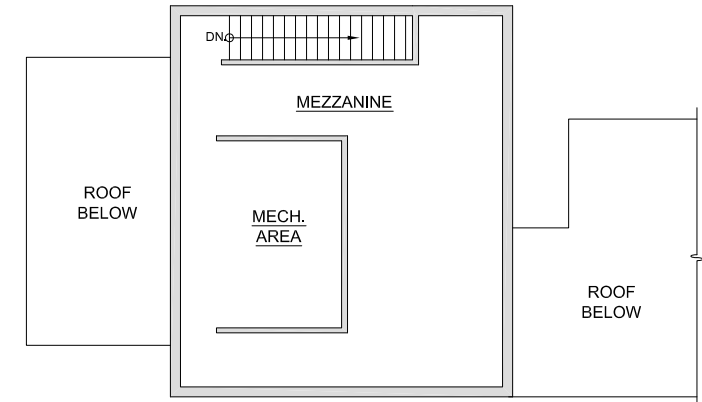
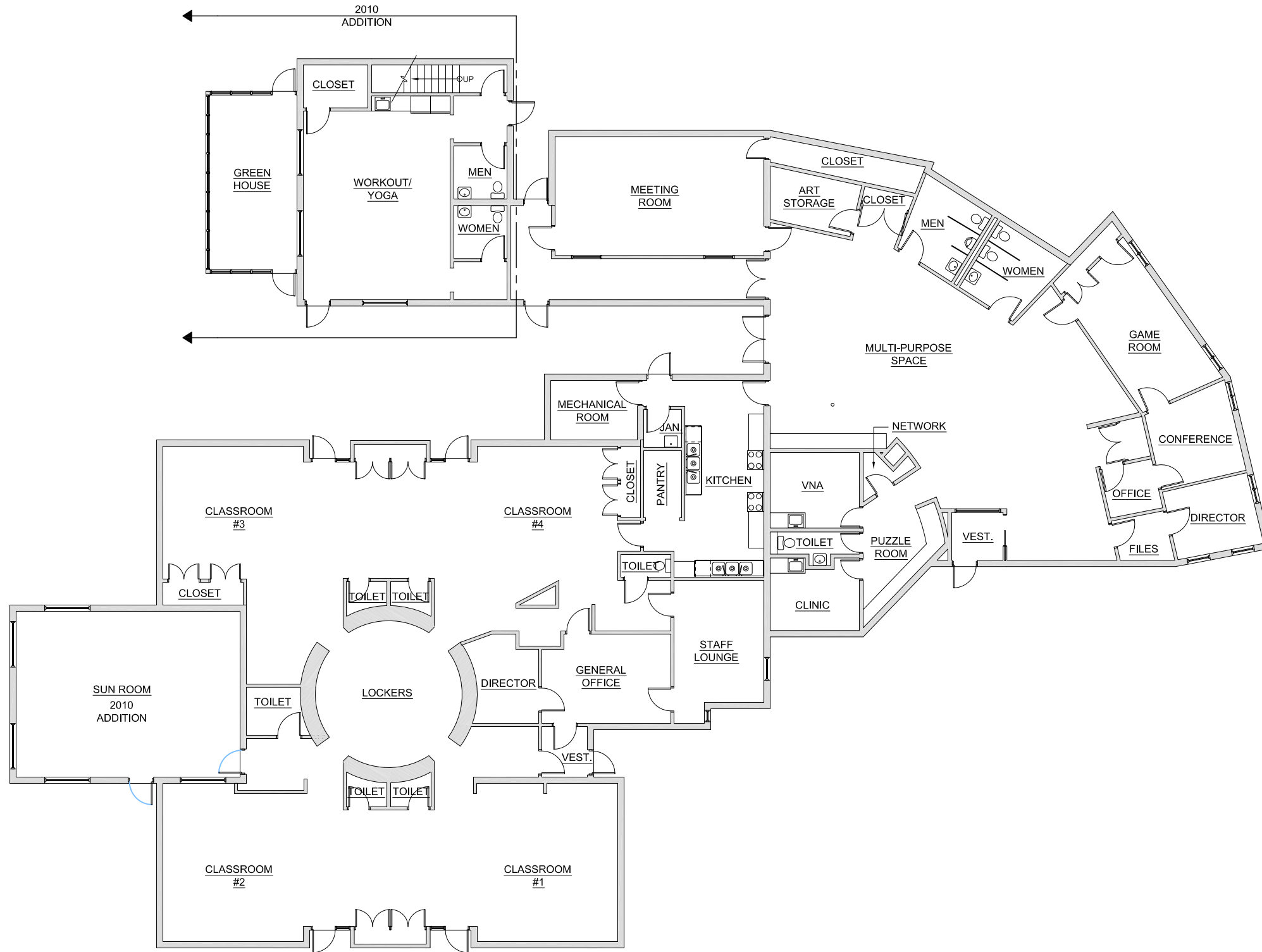
# NEWTOWN FACILITIES

Building Name:	Newtown Multi-Purpose Building
Address:	14 Riverside Road Newtown, CT



**Drumme Rosane Anderson, Inc.**  
235 Bear Hill Road, 4th Floor  
Waltham, MA 02451

Planning 617-964-1700  
Architecture 617-964-1701 fax  
Interior Design info@draws.com



**2 MEZZANINE PLAN**  
1/16" = 1'-0"

**1 FIRST FLOOR PLAN**  
1/16" = 1'-0"

<b>MP-A-1</b>
FLOOR PLANS



NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

NEWTOWN BUILDINGS SEPARATED BY CATEGORIES

Town of Newtown, Connecticut

	BUILDINGS	LIFE SAFETY	HEALTH	ADA	SITE	EXTERIORS	INTERIORS	ENERGY & WATER CONSERVATION	FIRE PROTECTION	PLUMBING	ELECTRICAL	MECHANICAL	STRUCTURAL	TOTALS PER BUILDING
1	Town Hall South	\$ 25,314.00		\$ 311,895.00	\$ 93,042.00	\$ 675,483.00	\$ 63,883.00		\$ 103,800.00	\$ 160,890.00	\$ 176,460.00	\$ 519,000.00		\$ 2,129,767.00
2	Hook and Ladder	\$ 35,037.00	\$ 35,345.00	\$ 437,805.00		\$ 560,380.00	\$ 375,455.00	\$ 17,893.00	\$ 74,724.00	\$ 96,519.00	\$ 87,178.00	\$ 237,215.00	\$ 1,070,425.00	\$ 3,027,976.00
3	Multi-Purpose Building	\$ 3,014.00		\$ 110,722.00	\$ 124,907.00	\$ 586,699.00	\$ 110,304.00		\$ 95,600.00	\$ -	\$ 123,694.00	\$ 263,212.00		\$ 1,418,152.00
4														\$ -
5														\$ -
6														\$ -
TOTALS PER CATEGORY		\$ 63,365.00	\$ 35,345.00	\$ 860,422.00	\$ 217,949.00	\$ 1,822,562.00	\$ 549,642.00	\$ 17,893.00	\$ 274,124.00	\$ 257,409.00	\$ 387,332.00	\$ 1,019,427.00	\$ 1,070,425.00	\$ 6,575,895.00



Town Hall South				
Order of Importance	Description	Value	Fiscal Year	Sequence
1	Add Mixing Valve to Water Heater	\$ 5,190.00		
				\$ 5,190.00
6	Upgrade Stairs to meet ADA Codes	\$ 20,116.00		
2	Repair Siding and Paint	\$ 157,032.00		
3	New Fire Alarn System	\$ 31,140.00		
4	Install New Fire Rated Partition and Ceiling	\$ 5,198.00		
5	Install New Sprinkler System	\$ 103,800.00		
7	Replace Hot Water Distribution and Controls	\$ 155,700.00		
				\$ 472,986.00
8	Upgrade Electrical Power Distribution	\$ 83,040.00		
9	Replace Air Handling System and Controls	\$ 363,300.00		
10	Replace Baseboard Radiation Covers	\$ 2,397.00		
11	Replace Windows	\$ 495,146.00		
12	Replace Toilet Partition	\$ 8,447.00		
13	Replace Lighting with Efficient Fixtures	\$ 62,280.00		
14	Replace Plumbing Fixtures and Water Piping	\$ 155,700.00		
15	Repair Parking Lot Surface	\$ 93,042.00		
16	Redesign Shower room	\$ 30,924.00		
17	Create Cell for Disabled Person	\$ 98,351.00		
18	Residesign Restroom/ Shower Area	\$ 60,081.00		
19	Replace Knobset with Lever sets	\$ 60,974.00		
20	Modify Counter to allow Knee Space	\$ 5,990.00		
21	Install Insulation on Piping under Sinks	\$ 631.00		
22	Construct New ADA Accessible Restrooms	\$ 46,567.00		
23	Install second Handrail on Ramp	\$ 3,662.00		
24	Modify Cabinets and Sink	\$ 4,715.00		
25	Replace Damaged Exhaust Vents	\$ 2,350.00		
26	Re-charge Exposed Concrete	\$ 7,346.00		
27	Cut Control Joint	\$ 4,963.00		
28	Scrape, Prime and Paint	\$ 4,097.00		
29	Repaint Doors	\$ 1,024.00		
30	Repair EIFS System	\$ 3,525.00		
31	Repaint Concrete Floors	\$ 8,753.00		
32	Replace Gypsum Wall Board and Paint	\$ 4,136.00		
33	Replace Louvers	\$ 2,933.00		
34	Replace Ceiling Panels	\$ 3,723.00		
35	Paint Walls	\$ 9,161.00		
36	Investigate Wall Where Efforescence is Present	\$ 9,314.00		
37	Re-point and Paint Lintel	\$ 514.00		
38	Replace VCT or Vinyl Flooring	\$ 14,505.00		
				\$ 1,651,591.00

Total \$ 2,129,767.00

Options	Renovations, Additions or New Building
1	Renovation and Addition



Hook and Ladder				
Order of Importance	Description	Value	Fiscal Year	Sequence
1	Enclose Stairs	\$ 24,675.00		2
2	Repair Equipment Bay Floors and Leveled	\$ 313,557.00		
3	Soil Testing and Building Reconstruction	\$ 1,070,425.00		
4	Add Mixing Valve to Water Heater	\$ 3,114.00		
				\$ 1,411,771.00
5	Repair Ceiling and Electrical Over Stairs	\$ 10,362.00		
6	Install or Replace Guard and Hand Rails	\$ 15,811.00		2
7	Reconstruct Brick Wall and Repoint Areas	\$ 56,257.00		
8	Install Chimney Cap and Re-point	\$ 25,192.00		
9	Install Range Hood	\$ 19,270.00		
10	Replace roof	\$ 344,438.00		
11	Replace Missing Gutter	\$ 1,469.00		
12	Install New Sprinkler System	\$ 74,724.00		
				\$ 547,523.00
13	Test and Abatement for Hazardous Material	\$ 35,345.00		2
14	Upgrade Electrical Power Distribution	\$ 49,816.00		
15	Replace Air Handling System and Controls	\$ 217,945.00		
16	Construct New ADA Accessible Restrooms	\$ 46,567.00		
17	Modify Cabinets and Sink	\$ 49,575.00		
18	Replace Plumbing Fixtures and Water Piping	\$ 93,405.00		
19	Install New Elevator	\$ 296,879.00		
20	Modify Stairs to Comply with ADA Codes	\$ 28,973.00		3
21	Scrape, Prime and Paint	\$ 86,046.00		
22	Seal Conduit Openings	\$ 501.00		
23	Replace Door	\$ 3,935.00		
24	Repairs in Loading Dock Area	\$ 42,542.00		
25	Replace VCT or Vinyl Flooring	\$ 2,974.00		
26	Sand and Refinish wood Floors	\$ 13,501.00		
27	Remove Loose Paint and Repaint	\$ 43,900.00		
28	Remove Carpet and refinish Wood Floors	\$ 1,523.00		
29	Install Weather Stripping to Doors and Windows	\$ 17,893.00		3
30	Replace Lighting with Efficient Fixtures	\$ 37,362.00		
				\$ 1,068,682.00

Total	\$ 3,027,976.00
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Options	Renovations, Additions or New Building
1	
2	

NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

Multi-Purpose Building				
Order of Importance	Description	Value	Fiscal Year	Sequence
1	Install New Exit Light	\$ 562.00		
2	Remove Items from in front of Electrical Panel	\$ 2,452.00		
3	Install New Sprinkler System	\$ 95,600.00		
4	Replace Boiler, Controls and Hot Water Heater	\$ 112,500.00		
				\$ 211,114.00
5	Upgrade Electrical Power Distribution	\$ 76,480.00		
6	Replace Air Handling System and Controls	\$ 150,000.00		
7	Replace Knobset with Lever sets	\$ 25,566.00		
8	Construct New ADA Accessible Restrooms	\$ 23,636.00		2
9	Modify Cabinets and Sink	\$ 44,540.00		3
10	Remove Items to allow for Clearance	\$ 2,452.00		
11	Install ADA Compliant Water Coolers	\$ 14,528.00		
12	Repair Parking Lot Surface	\$ 124,907.00		2
13	Scrape, Prime and Paint	\$ 7,168.00		3
14	Damaged Exterior Column	\$ 1,750.00		
15	Reinsert Gaskets in Frame	\$ 758.00		
16	Replace Roof	\$ 577,023.00		
17	Replace VCT or Vinyl Flooring	\$ 6,540.00		2
18	Strip Wallpaper and Repaint	\$ 8,192.00		2
19	Patch, Repair and Paint Ceiling	\$ 20,856.00		5
20	Repaint Entire Space	\$ 22,649.00		5
21	Restain or Paint Doors	\$ 13,615.00		2
22	Repair Wall and Paint	\$ 11,432.00		4
23	Replace Carpet	\$ 17,651.00		3
24	Replace Light Fixture Lens	\$ 2,214.00		2
25	Install Louver on Door	\$ 712.00		
26	Alterations to Directors Office	\$ 9,369.00		
27	Replace Lighting with Efficient Fixtures	\$ 45,000.00		
				\$ 1,207,038.00

Total	\$ 1,418,152.00
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Options	Renovations, Additions or New Building
1	
2	
3	

NEWTOWN BUILDINGS  
 SEPARATED BY PRIORITIES

	BUILDING	PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4	TOTALS PER BUILDING
1	Town Hall South	\$ 5,190.00	\$ 472,986.00	\$ 1,651,591.00		\$ 2,129,767.00
2	Hook and Ladder	\$ 1,411,771.00	\$ 547,523.00	\$ 1,068,682.00		\$ 3,027,976.00
3	Multi-Purpose Building		\$ 211,114.00	\$ 1,207,038.00		\$ 1,418,152.00
4						
6						
7						
8						
TOTALS PER PRIORITY		\$ 1,416,961.00	\$ 1,231,623.00	\$ 3,927,311.00	\$ -	\$ 6,575,895.00

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## Use of Cost Estimate Information

At this study phase we do not know how the Town might package contracts or combine items. Accordingly we price each item in the study as work performed by a General Contractor, requiring professionally designed bid documents and construction oversight & contract administration by a professional design team. These and other factors affect the study direct cost estimates as follows;

An item is added for General Conditions. This is a General Contractor item to cover the cost of all of the items stipulated in a typical construction contract and bid specification including such items as insurance, temporary utilities, site offices, OSHA requirements, and other non-direct costs of performing work that are required of a General Contractor. The percentage used is based on the size of the contract. The smaller the contract, the higher the percentages because fixed costs are spread over a smaller base figure.

An item is added for Overhead and Profit. Again, this is a General Contractor item. It covers the cost of the GC home office, estimating staff, admin staff, and other standard overhead items. It also includes a fair and reasonable profit margin in normal market conditions. Again, the smaller the contract, the higher the percentage is to meet the necessary expenses of doing business.

An item is added for Design & Price Reserve. It is important to note that actual designs put out to bid often vary from design solutions envisaged in studies. A study is conceptual in nature whereas bids are based on fully developed design documents. The full amount of money required will not be known until the contract is complete along with the cost of any extras. It is not uncommon for additional unforeseen work to be uncovered during further design investigation or during construction. Rotted roof deck, rock excavation, code changes requiring a different design solution are all examples of possible additional costs that may be incurred on the design side. On the price side this contingency guards against changing economic conditions and inflationary pressures beyond the norm as the economy improves.

Escalation covers the normal annual increases in union wages and normal annual material price increases. All prices indicated will need to be increased by 4% per annum to their projected bid date over the years covered in this report.

The cost of bonding the General Contractor and his subcontractors is added. The rate of this insurance varies with the size of the contract and the annual construction volume of the winning bidder.

Owner soft costs typically run 30% on public work projects. Soft costs include architectural, engineering, financing, and legal fees, and any other Town-paid pre- and post-construction expenses. Costs are included in each item for a professional design team to fully explore and

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

develop a complete design solution through bid documents, manage the bid process and supervise & administer the construction contract.

The cumulative effect of all of these compounded percentages uplift the total Direct Cost estimates significantly to the total Project Cost estimate.

Whether items are bid to a GC or to a sub-contractor, whether an architectural team is involved, whether wage rates are applicable are examples of how these estimates may vary. It is very important to understand that the procurement method and contract packaging do have a considerable impact on budgeting for the construction, and that the soft cost portion of the estimates should not be allocated to the hard construction budget. Also that the construction bid price is not normally the final construction cost or the total cost of the project when all expenditures are tallied.

\* \* \*

# NEWTOWN FACILITIES CONDITION ASSESSMENT REPORT

Town of Newtown, Connecticut

## Mark-Up List

The following are the mark-ups that have been included in the costs associated with each item of work.

Markups - To Be Calculated Cumulatively

### General Conditions:

Project Value Less Than 200k	20.00%
Project Value 200k - 500k	16.00%
Project Value 500k - 1mil	14.00%
Project Value 1mil - 2mil	12.00%
Project Value 2mil - 5mil	10.00%

### Overhead & Profit:

Project Value Less Than 200k	23.00%
Project Value 200k - 500k	18.00%
Project Value 500k - 1mil	16.00%
Project Value 1mil - 2mil	14.00%
Project Value 2mil - 5mil	12.00%

Design & Price Reserve 15.00%

### Bond:

Project Value Less Than 100k	3.00%
Project Value 100k - 1mil	2.40%
Project Value 1mil - 2mil	2.00%
Project Value 2mil - 5mil	1.60%
Project Value 5mil - 10mil	1.34%

Soft Costs/Design Fees 30.00%

Escalation should be added to each item based upon the year the work is projected to be done:

Fiscal Year 2017	4.00%
Fiscal Year 2018	8.16%
Fiscal Year 2019	12.50%
Fiscal Year 2020	17.00%
Fiscal Year 2021	21.68%

\* \* \*

