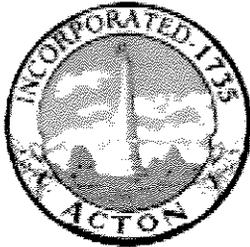


**District 3 Fire Station
Central Street
MEP Condition Report
&
Cost Estimate**

Town of Acton



West Acton, Massachusetts

September 30, 2004

G&M Project No. 5335

GANTEAUME & McMULLEN

Architects & Engineers

Ganteaume & McMullen, Inc.
253 Summer Street
Boston, Massachusetts 02210-1114
T) 617.345.9400 F) 617.345.9409
www.ganteaume.com

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Introduction

The Town of Acton has requested that Ganteaume & McMullen review the mechanical, electrical and plumbing (MEP) systems of the District 3 Fire Station and provide an estimate of cost for all recommendations.

This facility was previously reviewed by Butler Bennett Architects and WV Engineering Associates in September 5, 2001 which described general building conditions and recommendations with no cost estimates.

The Public Safety Facility, which will house Dispatch and Fire Administration, is now under construction, and will be completed in 2005. A new North Acton District Fire Station is called for in the long Term Capital Plan for 2008. When that facility is completed, the new space created will be used as "swing space" to relocate staff and apparatus, so that renovations can be performed in unoccupied facilities.

The issue of handicap accessibility to the living quarters on the second floor should be examined as the time for renovation approaches. Earlier contacts by the Town of Acton with the Massachusetts Architectural Access Board seemed to indicate that HP access to the living quarters, occupied by staff required by job description to be able bodies, would not be required. This presumption should be verified.

Executive Summary

District 3 Fire Station building has been well maintained. The current concerns with the station can be contributed to the age of the building and condition of the support systems.

The main complaints have been:

1. Too cold in the winter, difficult to control temperature in individual rooms.
2. Too hot in the summer, spot cooling by window units. AC units have limited temperature control and are noisy when sleeping.
3. Inadequate ventilation in the apparatus bay, diesel fume smell on second floor.
4. Inadequate ventilation for mechanical room, bathroom and kitchen.
5. Plumbing fixtures original 1960's, difficult to clean.
6. No sprinkler protection.
7. Electrical distribution panels original 1960's, inadequate working clearances.
8. Inadequate fire detection and alarm system.
9. Inadequate number of outlets. Must use a large number of extension cords.
10. No security system
11. Inadequate tel/data and cable TV systems, exposed wiring.

Founded in 1909
Incorporated in 1960

Michael J. Phillips, PE
President

James S. Thomas, AIA
Principal in Charge Of Design

Leon A. Bombardier, PE.
Executive Vice President

Michael J. Connors, P.E.
Chief Mechanical Engineer

Imants Dankers, PE.
Chief Structural Engineer

Thomas R. Murphy, AIA
Senior Project Manager

W. Michael Pearce, AIA
Director of Architecture

Ronald P. Pollara, P.E.
Chief Electrical Engineer

Architecture
Engineering
Interiors
Planning

253 Summer Street
Boston, Massachusetts
02210-1114
T) 617.345.9400
F) 617.345.9409
www.ganteaume.com

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Based upon the above stated existing conditions and the recommended repairs / renovations indicated in the body of this report, the following represent the estimated project costs, expressed in current (August 2004) dollars:

COST SUMMARY			SQFT = 6,352	
DESCRIPTION			SUBTOTAL COST	COST/SQFT
M	HVAC		\$139,500	\$21.96
P	PLUMBING		\$56,550	\$8.90
FP	FIRE PROTECTION		\$15,000	\$2.36
E	ELECTRICAL		\$239,683	\$37.73
A	ARCHITECTURAL		\$159,350	\$25.09
SUBTOTAL - SUBCONTRACTORS			\$610,083	\$96.05
GR	GENERAL REQUIREMENTS	10% SUBTOTAL	\$61,008	\$9.60
CF	CONTRACTORS FEE	10% SUBTOTAL	\$67,109	\$10.57
DF	DESIGN FEE	12% SUBTOTAL	\$88,584	\$13.95
C	CONTINGENCY	10% SUBTOTAL	\$82,678	\$13.02
TOTAL ESTIMATED CONSTRUCTION COST (AUGUST 2004)			\$909,463	\$143.18
<p>Note: The above estimated construction costs reflect current August, 2004 pricing and are based upon conceptual square foot values and sizing without the benefit of formal design. Currently, it is recommended that a normal escalation factor of 12.5% (exclusive of material spikes) be applied to the Total Current Estimated Cost to reflect construction in mid 2007.</p>				
TOTAL ESTIMATED CONSTRUCTION COST (JUNE 2007)			\$1,023,146	\$161.07

This facility has been designated as the back-up answering point for E-911 if the new Public Safety Facility is ever taken off line by a catastrophic event. As such, it is to be expected the upgrading of the dispatch portion of the building might be extensive and expensive; full costs to be established by agencies and consultants other than G&M.

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General Building Description

The Town of Acton, District 3 Fire Station, on Central Street, West Acton is a 6,352 gross square foot two story masonry building built in the early 1960's and located on the west side of Acton. This building is located in the West Acton Historic District, which could impact renovation plans.

Building has conventional flat, wood framed roof. Both the high and low and roof areas are covered with EPDM. The first floor extends beyond the second story on the building's west side. The building's exterior walls are concrete block with brick veneer. Interior first floor walls typically concrete block. The second story walls are framed with wood studs, sheathing and exterior clapboards. The north elevation of the building has two 12'-0" wide roll-up doors and three windows at the second story. The south elevation of the building has also two 12'-0" roll-up doors, the main entrance door and five windows at the second floor. The front wood doors are deteriorated, uninsulated. Rear overhead insulated, metal door are recently installed. Building is not ADA accessible.

Interior walls partitions are typically wood studs with gypsum wallboard. The ceilings throughout the building are metal lath and plaster hang from the wood joists or rafters. 2x4 wood framed soffit is located above the stairs. A steel fire escape servicing second floor is located on the east side of the building.

The first floor (3,200 sq ft. or 50'-0" x 64'-0") is divided in to a large Apparatus Bay, Storage Room, Mechanical room, Restroom, Stairwell, and Communication Room.

The Apparatus Bay consist of two double length drive-thru bays and suit storage on outside wall.

Storage Room for haz-mat, oxygen equipment, miscellaneous supplies storage, work bench.

Mechanical Room has a gas boiler, air horn with compressor, gas water heater, back-up generator with ATS, electrical meter and panels, gas and water meters.

Public Foyer.

Dispatch Center is the central dispatch for all fire stations, consisting of communication dispatch console, electronic equipment which is spilling out to public stairwell. The equipment wiring is open and unorganized.

Ladies Toilet.

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Janitor Room.

Second floor (40'-0" x 50'-0") is separated in to Day Room, Officers' Room, Bunks
Kitchen, Shower/Toilets and Fire Chief's Office.

The Day Room/Administrative office functions as administrative office by day and
firefighter quarters by night. The room has desks, computer stations, file
cabinets, lounge chairs, TV interspersed throughout the space,

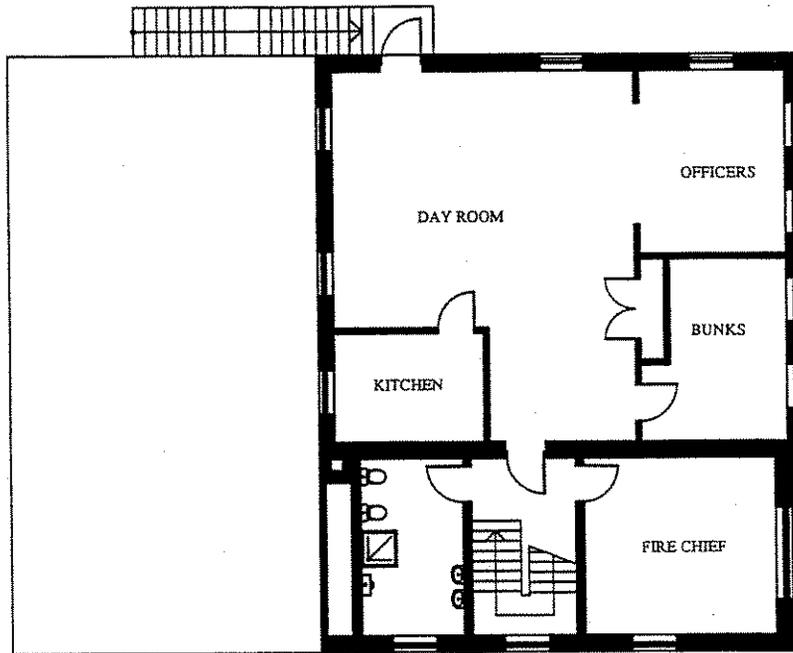
Fire Chief's office is adjacent to stairwell with no reception.

Kitchen has appliances including refrigerator, gas stove, coffee maker, toaster,
microwave oven.

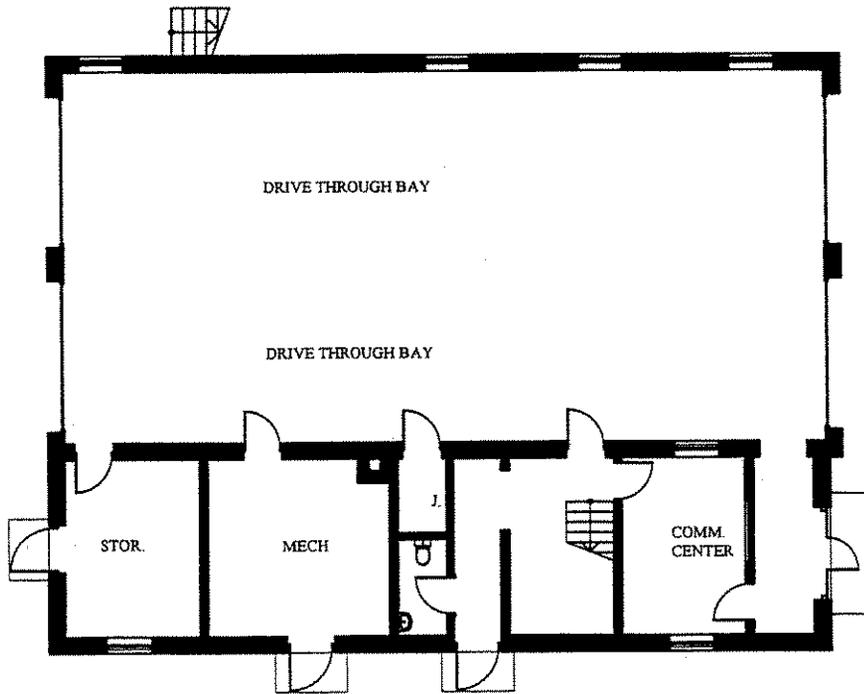
Bath/shower room has two toilets, one shower, one sink, access is through the
stairwell.

Bunk Rooms has beds and lockers.

Second exit to fire escape.



SECOND FLOOR



FIRST FLOOR

District #3 Fire Station - West Acton

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Mechanical Systems

The following is a description of the buildings existing Mechanical Systems with their corresponding recommended upgrades

Heating Systems (Existing)

The facility is heated with a natural gas fired hot water boiler. The boiler is located in the first floor Mechanical Room. There are three circulating pumps, one for each heating zone. Heating hot water is distributed to terminal heating equipment (finned radiation, unit heaters, and convectors) located throughout the facility. An in-slab heating system has been abandoned in place.

The heating system appears to be original to the facility. The boiler is a Weil McLain (H-10 Series 3) having a gas input rating of 540,000 BTUH.

Horizontal unit heaters (2) provide heat for the Apparatus Bay.

The Communications Center is provided with a concealed (ducted) heater.

Combustion air is via two wall louvers and associated ductwork and control dampers.

A gas fired incinerator is located within the Mechanical Room.

Air Conditioning Systems (Existing)

There are three window mounted air conditioning units...one for the Day Room, one for the Chief's Office, and one in the "open" Office area.

Heating Systems (Recommendation)

Isolate the heating hot water boiler and the domestic water heater space from the back-up generator. Upgrade the combustion air system associated with these fuel burning appliances.

The existing boiler, although "functioning", is at or near the end of its useful life and should be replaced.

Remove, in its entirety, the incinerator and associated venting and gas piping connections.

AC Systems (Recommendation)

Provide a central air conditioning system for the entire second floor.

The second floor system could be served by a single, curb mounted packaged

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machine located on the flat roof (on the back-side) of the facility.

Provide a separate system for the first floor Watch Room.

Ventilation Systems (Existing)

Apparatus Bay: The area is mechanically ventilated with a propeller wall fan. The system was described as being inadequate.

Ventilation Systems (Recommendation)

Apparatus Bay: Provide a "vehicle" exhaust removal system (overhead rail design, direct connect to apparatus, with roof fan - similar to PlymoVent or equivalent).

Kitchen Stove: Provide a hood with integral fan which discharges to the outside.

Rest Room/Janitors Closet: Provide ventilation as required to meet applicable codes.

Siren/Recall System (Existing)

The siren/recall system (a compressed air system consisting of two large receivers, air compressor, and associated piping) is located in Mechanical Room. The system is used on a regular basis.

Siren/Recall System (Recommendation)

A routine maintenance/service program should be adhered to in order to ensure reliable use of this system.

Plumbing (Existing)

A 2-inch water service enters the facility (through a water meter) located in Mechanical Room. Water is supplied to the heating system (as 'make-up"...through a backflow prevention device) and to plumbing fixtures located throughout the facility.

Plumbing (Recommendation)

The systems are adequate given the facility's current occupancy and usage.

The facility is serviced with 1-inch gas pipe and gas meter located near the

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Mechanical Room. Gas is provided for the boiler, water heater, back-up generator and kitchen stove.

Plumbing fixtures include a urinal, water closets, lavatories, janitors sink, shower, kitchen sink, hose bibs and a drinking fountain.

Domestic Hot Water System (Existing)

The domestic hot water for the facility is located in the Mechanical Room. The water heater has a 50 gallon storage capacity. The heater is natural gas fired (Bradford White) with an input rating of 40,000 BTUH.

Floor Drains (Existing)

Floor drains are provided in the Apparatus Bay.

Septic System

The private septic system (located at the rear of the building) is over 20 yrs. old. The system probably is not Title V compliant.

Fire Protection (Existing)

The facility does not have sprinkler protection.

Due to the age of the plumbing fixtures it is recommended that all the plumbing fixtures be replaced and reconfigured to improve the space and storage.

Domestic HW System (Recommendation)

The existing system is adequate given the quantity of plumbing fixtures. If future renovations include the addition of fixtures (showers, toilets, lavs, etc.) a heater having greater storage and input capacities would be required.

Floor Drains (Recommendation)

If the Apparatus Bay is frequently used for vehicle "wash-down" purposes, a gas, oil, and sand interceptor/separator should be considered. Systems should comply with the requirements of 310 CMR 30 and 314 CMR 5.

Septic System

Provide a new (Title V compliant) septic system.

Fire Protection (Recommendation)

Provide sprinkler protection for the entire facility. System designed, installed, tested, and maintained in accordance with NFPA.

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Electrical Systems

Most of the electrical system is original 1960's wiring and equipment with some surface conduits and exposed wiring installed over the years to some newer or replacement equipment. With the interior wall made of metal lath and plaster running wiring hidden is very difficult.

The following is a description of the buildings existing Electrical Systems with their corresponding recommended upgrades

Main Underground (Existing)

Existing electrical service is extended overhead from utility pole in the street to a pole adjacent to the building. The pole includes a single transformer with secondary service at 120/240 volt, single phase extended down the pole and underground to the mechanical room.

Main Electrical Service(Existing)

Utility meter, 200A, 120/240V, 1 Phase main service disconnect switch and distribution panel are located in the Mechanical Room.

Electrical Distribution (Existing)

Electrical distribution panels are original 1960's construction.

Immediately adjacent to the utility meter is a 120/240 volt, single phase 200A 2- pole fusible main disconnect switch. The electrical distribution system then splits to main electric panel and first floor panel.

The main distribution panel was recently replaced. This main distribution panel feed the boiler room equipment, system air compressor, a second floor panel and

Main Underground (Recommendation)

The existing 120/240V, 200A main electrical service should be replaced with a new 208/120V, 3 Phase, 4 Wire, 200A service.

Main Electrical (Recommendation)

The existing 120/240V, 200A main electrical service should be replaced with a new 208/120V, 3 Phase, 4 Wire, 200A service.

Electrical Distribution (Recommendation)

The entire existing 120/240V distribution system should be replaced with a new 208/120V, 3 Phase, 4 Wire system.

TVSS surge protection should be provided for the 208/120V electrical service.

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second floor air conditioning units. There are also some spare breakers. All of the other electrical distribution panels are old part of the original construction.

Existing electrical equipment do not have sufficient space for maintenance. Boiler is located approx. 2 feet in front of panel boards. Additionally service water pipes, plumbing waste pipes from the bathroom above and heating hot water supply and return pipes are installed directly on the wall above the panels and transfer switch.

Air compressor for fire horn system is located in one of the corners of mechanical room. Equipment is a 3 phase unit fed from the single phase equipment via a Henry single phase to 3 phase converter. (Inductance, capacitance type converter, single phase input, 3 phase output rated 3 Hp).

A flush mounted distribution panel is located in apparatus bay, original construction "bull-dog" ITE type. This panel includes push-matic style breakers.

Existing apparatus bay doors to the street include (2) relatively new door openers. Door openers are controlled by wall mounted open/close switches.

Emergency Power (Existing)

Back-up power is provided by gas fired, 15 kW, 1 phase, 240 volt ONAN generator located in mechanical room.

Manual transfer switch and recently installed automatic transfer switch are located in mechanical room. An

Emergency Power (Recommendation)

The existing 15kW back-up power generator, manual and automatic transfer switches are going to be replaced with a new 60kW, 120/240V generator and 200 Amp automatic transfer switch (G&M project 5287). This relocated 60kW diesel generator will be located outside.

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automatic transfer switch is a Win Power 70 amp, 3-pole, 125 volt transfer switch. Manual transfer switch is an original construction Cutler-Hammer 120/240 volt, 2-pole, 200 amp switch.

As part of the overall renovation it is recommended the generator be replaced with a new 50kW, 208/120V, 3 Phase, 4 Wire diesel generator.

It is recommended that the diesel generator be installed outdoor in the parking lot in a weather proof sound attenuated enclosure. The skit mounted tank should have a minimum of 72 hour supply. The diesel generator is recommended since on site fuel is more reliable than the gas supply that may have a disruption.

Building Wiring (Existing)

Wiring in the building consists primarily of an original wiring with some surface conduit additions over time. Additional surface wiring has been installed to motorize door openers and to specialized apparatus.

Existing apparatus bay doors to the street include (2) relatively new door openers.

Exterior Lighting (Existing)

Exterior lighting is limited to yard lights on the utility pole across the street and building mounted lighting. Building mounted lighting in the front includes a small decorative lantern between the doors and a small utility style jelly jar adjacent to the main entry. Side and rear entries are provided with the jelly jar type fixtures.

The two front corners of the apparatus portion of the structure are provided with double incandescent PAR style lamps and

Building Wiring (Recommendation)

The entire electrical wiring system throughout the building should be replaced. It would be recommended that surface mounted raceways similar to Wiremold with separate 120V and telephone / data wiring be provided throughout the facility.

Exterior Lighting (Recommendation)

Exterior lighting should be replaced with new energy efficient fixtures that are decorative historic reproductions and meet the Town's exterior lighting zoning requirements.

The lighting of the exit doors must be coordinated with the emergency lighting requirements for exit door discharge.

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holder. The rear of the building has two quartz style flood lights on the upper wall of the apparatus bay. The fixtures appear to be manually switched from various locations to allow users to "control" lighting as needed.

The rear of the building includes a utility pole with un-metered/utility provided flood light for the back parking lot area. These photo cell controlled fixtures appear to be wide flood style heads and likely shine off site onto the adjacent properties to the north.

There are utility flood lights located on the outside of the building adjacent to the roof access and fire escape style egress from the second floor.

Interior Lighting 1st Flr (Existing)

Interior lighting in the building includes some original fixtures along with a renovation retrofit project which appears to have replaced some fixtures and re-lamped others with electronic ballasts and T-8 lamps.

The apparatus bays are provided with series of 8 ft. surface wraparounds, wet location fiberglass/corrosion resistant fixtures with capped lenses. These fixtures include (2) 8 ft. T8 high output style lamps. The lay-out and quality of the fixtures within the apparatus space suggest that lighting in this area is most likely adequate.

Dispatch room lighting includes (4) 1 ft. x 4 ft deep cell parabolic fixtures, older style with high iridescent reflectors. The

Interior Lighting 1st Flr (Recommendation)

As part of the complete renovation of the Fire Station it is recommended to replace all the light fixtures with high quality energy efficient fixtures.

Occupancy sensors shall be provided for all areas to shut lights when not needed.

First floor watch room / dispatch room should have dimmable fluorescent light fixtures.

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fixtures are equipped with (2) F40, T12 lamps each.

Equipment room includes an original construction blade style 8 ft. fluorescent fixture which appears to have been retrofit with 8 ft. T8 lamps.

Boiler room and janitors closet fixtures have been replaced as a part of the energy retrofit with surface mounted drum fixtures with 9 or 13 watt twin tube style lamps. The output from these lamps is typically not sufficient for reasonable service and higher ceilings. Lenses are removed from these fixtures in an attempt to get more light from them.

Light switches in portions of the building have been replaced with occupancy sensors for turning on lights in the Boiler Room and Front Lobby. Occupancy sensor in the Boiler Room is not working. In the rest of the building lighting controls appear to be original older snap toggle style switches.

Interior Lighting 2nd Flr (Existing)

Second level lighting consist primarily as an older surface mounted fluorescent wraparound fixtures each with (2) 4 ft. T8 type lamps. Retrofitted 8 ft. fixtures are located in the bunk room. Fixtures' lenses have yellowed significantly in the chiefs' office.

Interior Lighting 2nd Flr (Recommendation)

Some interior lighting on the second floor is going to be replaced with energy saving fixtures in accordance with NStar program.

As part of the complete renovation of the Fire Station it is recommended to replace all the light fixtures with a high quality energy efficient fixture.

Occupancy sensors shall be provided for all areas to shut lights when not needed.

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The day room and bunk rooms should have dimmable fluorescent light fixtures.

Emergency Lighting (Existing)

Emergency lighting in the building consists of wall mounted battery units with 2 or 1 heads. The apparatus room emergency lighting includes surface mounted single head with battery unit with remote heads located in mechanical and equipment room. No emergency lighting provided in toilet room and shower/bathroom or at the exterior of each exit doors.

Some exit signs are old but lit..

Devices (Existing)

Wiring throughout the building includes limited quantities of receptacles. Some of the receptacles are 2-wire type. Location and quantities not sufficient for a modern equipment needs.

There are several extension cords plugged in to standard 3-prong Edison style receptacles.

Receptacles located above the kitchen counter top are GFI type

Several receptacles located at apparatus bay are not ground fault type.

Telephone / Data (Existing)

Phone service entrance comes underground to a backboard area. Backboards are located in the "public"

Emergency Lighting (Recommendation)

Selected interior light fixture and exterior light fixture along the path of egress and discharge shall have an integral self testing battery unit in accordance with NFPA 101 and NFPA 111 requirements.

Exit signs shall have LED lamps and self testing battery unit

Devices (Recommendation)

Additional receptacles should be provided throughout the building to be installed in a surface mounted raceway similar to Wiremold.

Outlets should be replaced with GFI/WP type. Retractable cord reel type receptacles around the trucks is recommended.

Telephone / Data (Recommendation)

Complete replacement of communication system should be provided throughout the building. CAT 5E wiring and pathways

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side of facility. Conduit is undersized for modern telecommunication services. Additional telephone service provisions are in place overhead from the utility pole to the building a short distance away.

Existing within the building phone and data wiring is mostly older (not a CAT 5 or CAT 5e). Much of the wiring is exposed, tie wrapped to conduits and piping and run through rated assemblies without fire rated insulation.

Cable TV outlet located in day room.

Lighting Protection (Existing)

Lighting protection system provided for the building appears to be part of the original construction. The lightning rods are 12" copper point type with original down leads connections and splices.

Fire Alarm System (Existing)

Existing building Fire Alarm System consists of minimal hard wired smoke detection at the interior stairs. A surface mounted Fire Alarm Street Box (not connected to interior fire alarm devices) and red beacon are located at the front exterior of the building.

The facility has no central Fire Alarm System, therefore no speaker/strobe units, no pull stations within the building, and no smoke detectors at the sleeping quarters as required by NFPA 72 and NFPA 101 are provided.

should be provided for each desk and table area throughout the building.

Lighting Protection (Recommendation)

Replacement of the system is recommended given the age of the system and modifications that occurred over time. System should be replaced with a new system of roof perimeter mounted points, down leads and grounding per NFPA 780 and UL requirements.

Fire Alarm System (Recommendation)

A new fully addressable Fire Alarm Detection and Alarm System with voice controls shall be provided in accordance with NFPA 72.

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Security System (Existing)

The building has no security system.

Security System (Recommendation)

It is recommended that a complete security system be provided including card readers at the doors, motion detectors and cameras (doors and exterior).

Paging System (Existing)

The building has a limited paging system and is not connected to the telephone system.

Paging System (Recommendation)

It is recommended that a complete interior and exterior paging system connected to the telephone system be provided.

Traffic Warning Light (Existing)

The facility does not have a traffic warning light at the street.

Traffic Warning Light (Recommendation)

Provide a traffic warning light at the street.

Dispatch (Existing)

This fire station is currently central dispatch for all the fire stations. Flush mounted fuse panel for fire alarm circuits is installed in the dispatch room. This original construction panel includes older style wiring with new fuses which appear to have been installed over time.

The dispatch room also includes flush mounted panels in the wall that are abandoned in place.

Dispatch (Recommendation)

Main fire dispatch will be relocated to the new main fire station. Remote dispatch alarms will be upgraded in all the smaller fire stations with the installation of the new fire station.

This facility has been designated as the back-up answering point for E-911 if the new Public Safety Facility is ever taken off line by a catastrophic event. As such, it is to be expected the upgrading of the dispatch portion of the building might be extensive and expensive; full costs to be established by agencies and consultants other than G&M.

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Architectural Work Scope

The following Architectural work scope items are required to implement the mechanical and electrical items identified above:

Kitchen (Existing)

The kitchen cabinet and layout is original 1960's residential quality and has not held up to the constant use. All the appliances and sink should be replaced.

Kitchen (Recommendation)

It is recommended to reconfigure the kitchen, improve storage space and install commercial grade appliances. Ventilation is required over the stove.

Bathrooms / Shower (Existing)

The bathroom / shower rooms layout is original 1960's. The material and condition of the plumbing fixtures make it very difficult to clean. The toilet room is currently used as a storage room.

Bathrooms / Shower (Recommendation)

It is recommended to reconfigure the bathrooms, install new fixtures and improve storage space in the area.

Windows (Existing)

Double hung windows are original. All the windows have been retrofitted with aluminum combination storm / screen units that take away from the historic character of the building.

Windows (Recommendation)

Replace the old windows with energy efficient double hung windows that match the historic character of the building.

Exterior Doors (Existing)

Exterior doors are show their age with rot and swelling along the bottom edge.

Exterior Doors (Recommendation)

Replace all the exterior doors with new energy efficient decorative historic reproductions.

Overhead Doors (Existing)

Overhead doors are un-insulated wood style and rail type with glazed panels at eye level.

Overhead Doors (Recommendation)

Replace all the overhead doors with new energy efficient decorative historic reproductions.

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Interior Painting/Repair (Existing)

Interior ceilings and walls have some plaster damage from previous roof leaks.

Second floor bathrooms tiles have lifted near floor drains.

Cracks in the interior masonry separation wall between the apparatus bay area and the the other first floor spaces.

Apparatus Bay Floor (Existing)

Several large cracks in Apparatus Bay Floor.

Exterior Painting/Repair (Existing)

No known insulation in the exterior walls.

The front facade at the second story building corner has cracking in the brick veneer along the mortar head and bed joint. Crack along the mortar joints beneath the northeast second floor window.

Roof Drainage (Existing)

Roof noted in previous reports to have considerable ponding of water due to poor roof drainage. No overflow scupper.

Interior Repair (Recommendation)

Paint and repair all interior walls and ceilings.

Replace and upgrade all flooring.

Test for asbestos in interior materials.

Apparatus Bay Floor (Recommendation)

Repair cracks and epoxy paint the Apparatus Bay, Mechanical Room and Storage Room floors.

Exterior Repair (Recommendation)

Install blown in insulation in the exterior and interior walls.

Repair exterior cracks and paint the wood exterior.

Roof Drainage (Recommendation)

Improve roof drainage.

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 Central Street, West Acton, MA
 MEP Condition Report & Cost Estimate

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Cost Estimates

The estimated cost to perform the work described in this report is as follows:

LINE ITEM	QUANTITY		PER UNIT COST INCLUDING SUB'S O.H. & PROFIT	TOTAL COST	
	NUMBER OF UNITS	UNIT MEASURE			
<u>MECHANICAL</u>					
M1.	Upgrade Combustion Air System	1	LS	\$2,000.00	\$2,000.00
M2.	New Larger Cast Iron Boiler	1	LS	\$28,000.00	\$28,000.00
M3.	Remove Incinerator	1	LS	\$2,500.00	\$2,500.00
M4.	Central Air Conditioning System (5 to 7.5 Tons), including ductwork and insulation.	1	LS	\$26,500.00	\$26,500.00
M5.	Independent AC System Watch Room	1	LS	\$3,500.00	\$3,500.00
M6.	Vehicle Exhaust System	4	EA	\$18,500.00	\$74,000.00
M7.	Kitchen Hood Exhaust System	1	EA	\$1,000.00	\$1,000.00
M8.	Bathroom Exhaust Fans, Grilles, and Ductwork	1	LS	\$2,000.00	\$2,000.00
SUBTOTAL - MECHANICAL					\$139,500.00
<u>PLUMBING</u>					
P1.	Replace Toilets	4	EA	\$1,050.00	\$4,200.00
P2.	Replace Showers	2	EA	\$2,500.00	\$5,000.00
P3.	Replace Bathroom Lavatories	4	EA	\$650.00	\$2,600.00
P4.	Replace Kitchen Sink / Garbage Disposal	1	EA	\$1,250.00	\$1,250.00
P5.	Larger Domestic Water Heater	1	LS	\$2,500.00	\$2,500.00
P6.	Interceptor/Separator & Floor Drains (Apparatus Bay)	1	LS	\$20,500.00	\$20,500.00
P7.	Septic System (Title V)	1	LS	\$20,500.00	\$20,500.00
SUBTOTAL - PLUMBING					\$56,550.00
<u>FIRE PROTECTION</u>					
FP1.	Sprinkler Systems	1	LS	\$15,000.00	\$15,000.00
SUBTOTAL - FIRE PROTECTION					\$15,000.00

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LINE ITEM	QUANTITY		PER UNIT COST INCLUDING SUB'S O.H. & PROFIT	TOTAL COST	
	NUMBER OF UNITS	UNIT MEASURE			
<u>ELECTRICAL</u>					
E1.	Main Electrical Service Upgrade	1	LS	\$15,000.00	\$15,000.00
E2.	Replace Electrical Distribution Panels	7	EA	\$4,500.00	\$31,500.00
E3.	100% Emergency Generator(50kW) / ATS	1	LS	\$35,000.00	\$35,000.00
E4.	Wiring / Wiremold	282	LF	\$6.50	\$1,833.00
E5.	Exterior Lighting - Building Historic	16	EA	\$350.00	\$5,600.00
E6.	Exterior Lighting - Pole Historic	4	EA	\$3,500.00	\$14,000.00
E7.	Interior Lighting	52	EA	\$250.00	\$13,000.00
E8.	Emergency Lighting	26	EA	\$125.00	\$3,250.00
E9.	Devices	62	EA	\$175.00	\$10,850.00
E10.	Telephone / Data / Cable TV	18	EA	\$175.00	\$3,150.00
E11.	Lightning Protection / Grounding System	1	LS	\$10,500.00	\$10,500.00
E12.	Fire Alarm System	1	LS	\$15,500.00	\$15,500.00
E13.	Security System with two Card Readers	1	LS	\$8,500.00	\$8,500.00
E14.	Security System Camera	7	EA	\$1,500.00	\$10,500.00
E15.	Paging System Speakers and Amplifier	30	EA	\$150.00	\$4,500.00
E16.	Traffic Warning	1	LS	\$7,000.00	\$7,000.00
E17.	Remote Dispatch Upgrade	1	LS	\$50,000.00	\$50,000.00
SUBTOTAL - ELECTRICAL					\$239,683.00

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LINE ITEM	QUANTITY		PER UNIT COST INCLUDING SUB'S O.H. & PROFIT	TOTAL COST	
	NUMBER OF UNITS	UNIT MEASURE			
ARCHITECTURAL					
A1.	Renovate Kitchen	1	LS	\$18,500.00	\$18,500.00
A2.	Renovate Bathroom / Shower / Toilet Room increase storage	1	LS	\$10,000.00	\$10,000.00
A3.	Replace Windows Historic	20	EA	\$850.00	\$17,000.00
A4.	Replace Exterior Doors Historic	5	EA	\$1,250.00	\$6,250.00
A5.	Replace Overhead Doors Historic	4	EA	\$4,500.00	\$18,000.00
A6.	Test For Asbestos	1	LS	\$5,000.00	\$5,000.00
A7.	General Interior Painting / Repairs	1	LS	\$35,000.00	\$35,000.00
A8.	Interior Flooring	2,200	SQFT	\$8.00	\$17,600.00
A9.	Apparatus Bay / Mechanical Room Floor Repair	3,000	SQFT	\$3.50	\$10,500.00
A10.	General Exterior Painting / Repairs	1	LS	\$15,000.00	\$15,000.00
A11.	Roof Drainage	1	LS	\$6,500.00	\$6,500.00
SUBTOTAL - ARCHITECTURAL					\$159,350.00
SUBTOTAL - SUBCONTRACTORS					\$610,083.00
GENERAL REQUIREMENTS			10% SUBTOTAL		\$61,008
CONTRACTORS FEE			10% SUBTOTAL		\$67,109
DESIGN FEE			12% SUBTOTAL		\$88,584
CONTINGENCY			10% SUBTOTAL		\$82,678
TOTAL ESTIMATED CONSTRUCTION COST (AUGUST 2004)					\$909,463
Note: The above estimated construction costs reflect current August, 2004 pricing and are based upon conceptual square foot values and sizing without the benefit of formal design. Currently, it is recommended that a normal escalation factor of 12.5% (exclusive of material spikes) be applied to the Total Current Estimated Cost to reflect construction in mid 2007.					
TOTAL ESTIMATED CONSTRUCTION COST (JUNE 2007)					\$1,023,146

The above 2004 costs is an order of magnitude since a detail design has not been done.

This facility has been designated as the back-up answering point for E-911 if the new Public Safety Facility is ever taken off line by a catastrophic event. As such, it is to be expected the upgrading of the dispatch portion of the building might be extensive and expensive; full costs to be established by agencies and consultants other than G&M.