

CENTER FIRE STATION

51 Main Street

Year Constructed: 1974
Year of Renovation/Addition: None
Building Type: B/S-2(R-2)
Construction Type: VB
Fire sprinklers: No
Total Floor Area: 6,825 SF
Floors: First, and Second.



GENERAL:

The purpose of this study is to review the condition of the building and to examine code and life safety issues as they apply. The need for space for the functioning of the building has not been considered except as an overall observation.

The building has many deficiencies of which egress and handicapped accessibility are at the top of the list. Although these can be corrected, the solutions will take away from useable floor area. The building is undersized for its current use so further reduction in floor area will be highly detrimental. Unfortunately, this is unavoidable as additional space is needed for such items as ramps, restrooms, showers, areas of refuge, building entrance, door clearances, and egress routes. An addition will also be required for a lift or elevator and the relocation of the interior egress stair. The building has three bays that are narrow by today's standards one of which is further restricted in height due to the stair from the second floor crossing in front of the door. We believe the sleeping arrangement in the building to be a life safety hazard as stated below. Interior materials such as ceilings and floors need to be either covered or replaced throughout the building. The building is not energy efficient. There are significant problems with the HVAC, electrical and plumbing systems. It is recommended that the building have a fire sprinkler system.

LIFE SAFETY:

Open exit stairs are used from the dorm rooms on the second floor and discharge into the equipment bays in violation of the code. To overcome these life safety concerns the south stair needs to be enclosed with one hour fire rated construction to fully separate it from the equipment bays. The stair enclosure should extend to the exterior door. Any exposed wood covered with sheetrock. The wood ceiling in the exterior hall should be covered with exterior sheetrock and construction of the passageway



upgraded to provide a 1 hour fire rating. Any structure (steel beams, columns and rod hangers and braces) supporting the stair need to be fire-rated to 1 hour. Without fire sprinklers an area of refuge is required.

Wood ceilings exist throughout the equipment bays. These should be replaced with gypsum wallboard as the space is used as an exit route from other parts of the building and should therefore have a Class "B" finish.

Guardrails need to be added around the attic hatch and along the edge of the attic floor.

Attic is used for storage of boxes and gear. Dispose of unnecessary material and construct an appropriate storage room to avoid use of attic space.

A structural review of the second floor expansion is required to determine structural adequacy.



HEALTH:

HAZARDOUS MATERIALS:

ADA COMPLIANCE:

Stairs do not have ADA compliant handrails which need to be added.

Stairs have projecting nosings. Wood fillers need to be added to provide a smooth transition between the riser and the tread.

Doors throughout building have knobsets that need to be changed to lever style hardware.

Doors have insufficient clearance on the pull side of the door that needs to extend over the wall surface adjacent to the strike.

Entrance should be reconstructed to achieve clearances but to correct the remainder of doors would be "technically infeasible" without reconstructing many of the doors and walls.



The second floor was expanded to create dorm rooms but the new floors are approximately two to three inches higher than the original floor. Ramps need to be added to overcome the slope.



The second floor is not handicapped accessible. An exterior lift should be added.

Kitchen is not ADA compliant. New cabinetry required to achieve a new compliant sink with appropriate knee space.



Shower is not ADA compliant. Construct new shower room with compliant unit.



Men's room is not ADA compliant. Replace restroom and construct Women's restroom meeting MAAB requirements.



Water cooler is not ADA compliant. Replace with dual height unit.



SITE:

EXTERIORS:

Exterior corner boards, fascias and window/louver trim have been badly weathered losing the paint finish and shows signs of wood deterioration. Wood needs to be dried out, consolidated and filled, and then re-painted. Alternatively, wood should be replaced with PVC trimboards. The lack of overhangs for the roofs is a major contributor to the deterioration of the fascia boards it is therefore recommended that PVC fascias be used to improve durability of fascias.



Areas of the aluminum siding are dented or have been partially replaced. The building in total has a shabby appearance and consideration should be given to replacing the siding material. Alternatively, exterior of building should be washed.

INTERIORS:

Floors slabs are badly cracked on the south side of the equipment bays. Damaged slabs areas need to be cut out and replaced.



South stair runs across face of overhead door limiting the use of the one bay to smaller vehicles. To overcome this condition a new exterior egress stair would need to be constructed to replace the interior stair.



There is limited headroom in the Office Manager's office. Furniture should be reorganized to keep headroom at 6'-8" above walking surfaces of the floor.



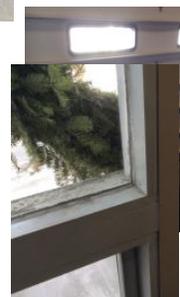
Carpet throughout Second floor need to be replaced. Vinyl tile floor are worn under chairs. Replace with sheet vinyl.



ENERGY & WATER CONSERVATION:

Overhead doors are un-insulated. Replace with new insulated doors.

Windows are single glazed and should be replaced with new insulated, low-E glass windows.



Information available on the building indicates only 3 inches of insulation in the walls; well below today's standards. Additional insulation is recommended but the means of achieving this may require extensive work on the structure's walls.

STRUCTURAL:

The framing of the loft expansion framing needs to be investigated to verify that it is adequately designed and supported from the original fire station structure.

Further investigation is required to view the dormer framing and determine whether any reinforcement of the structure is required.

The cracks in the concrete slab on grade need to be repaired and sealed. To provide future durability, an epoxy wearing surface should be applied to the slab.

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

HVAC

The stacks off of the gas-fired equipment need to be extended to terminate 3 feet higher than the nearest roof within a ten foot diameter of the exit point of the stack. This is typical for two boilers and the domestic hot water heater.

The air handling unit serving the operations portion of the facility is a single zone air handling unit serving both interior and exterior zones but can only be controlled by a single thermostat. This causes uneven space temperatures. Indications are that the unit does not adequately cool the spaces served. It is recommended that the system be replaced and upgraded to a variable air volume system.

The unitary cooling units serving the Chief's Office, Dispatch Office and the Office Manager's Office are dated. Consider replacing units.

ELECTRICAL

The building interior lighting appears outdated and in somewhat distressed condition and the use of standard toggle switches throughout is not conducive to energy efficiencies. It is recommended that all lighting be replaced with more efficient models and incorporate a lighting control system which promotes energy efficiency with the application of occupancy sensors, daylight sensors, photocells, and/or programmable controls.

It appears that some newer electrical circuiting has been added over the years but in general the wiring systems are in poor condition. It is recommended that a complete electrical renovation of the building be considered.

There are a limited number of exit signs to adequately provide egress direction in an emergency. Additional exit signs are recommended.

The cascade system circuit breaker has a record of false tripping while in use. This could be a device defect or an indication of downstream circuit or equipment failure. It is recommended that an electrical testing company perform diagnostic tests on all service, distribution, and emergency power equipment.

PLUMBING

Non-testable backflow preventer installed and not code complaint. Replace unit with a testable device to comply with code and locate as required by DEP standards.

Replace boiler exhausted condensate drip line neutralizer cartridge, to prevent acid erosion of waste piping under floor.

PVC waste piping serving the second floor washer and shower is not code compliant material. Replace with cast iron or copper.

CPVC water piping serving the second floor washer and shower is not code compliant material. Replace with copper.

Water heater does not have master tempering valve and is operating at 120 Deg. F.
Install tempering valve and operate water heater at 140 Deg. F.

FIRE PROTECTION

The building is not sprinklered. It is recommended that a sprinkler system be installed throughout for safety.