ENGINEERING STUDY

This is a report from the Engineering firm that did a study of Station One. These are some of the defects that they found that started the planning to build a new station. Please read them and send us any questions that you may have.

//

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive,
P.O. Box 727,
Latham, NY 12110-0727
518.786.7400
FAX 518.786.7299
ctmale@ctmale.com

April 19, 2007

William Schmitt
Board of Fire Commissioners
Midway Fire District
1956 Central Avenue
Colonie, NY 12205

RE: Property Maintenance Hazards - Station #1 CTM Project No. 06.6515

Dear Bill;

Based on the existing conditions previously observed and reported on in our Facility Evaluation Report for Station 1, C.T. Male Associates, P.C. was requested by the Board of Fire Commissioners to provide recommendations relative to the hazards that should be immediately addressed by the Fire District. The intent is to ensure public health, safety and welfare insofar as they are affected by the continued occupancy and maintenance of the structure and premises. While it is the responsibility of the Owner of the premises to maintain the structure and exterior property in compliance with the requirements of the Property Maintenance Code of New York State, the following items represent an immediate potential hazard, which are not in a sanitary and safe condition, and should be addressed accordingly:

1. The regular flooding of the sanitary system is a health and safety hazard to the building occupants and correction of the problem should be immediately addressed. It is recommended that the utility room trap be removed to address the blockage in the plumbing lines. If condition persists, additional corrections would include replacement of sections of the horizontal piping and possible re-routing of the piping system.
2. The presence of sewer gases is a nuisance irritant and a potential health hazard. As noted in the report, flooding the floor drain should create a water seal and solves the issue, after which regular maintenance should be implemented to ensure that the floor

drain trap remains full of water. This type of maintenance should be performed at all floor drains in the facility to prevent other similar incidents.
3. The trench drain discharge line should be provided with a trap upstream of the connection to the sanitary main, to prevent sewer gas transmission into the Apparatus Bays. The gear washer should also be provided with a fixture trap to eliminate sewer gas transmission.
4. Repair of collapsed storm drain line in parking lot between catch basins, and investigation of impact to storm water management on-site in area of drainage easement, which is resulting in flooding of the Grove area.
5. Repair to areas of roofing above original Apparatus Bay, in corner adjoining second floor Kitchen Addition, where water is now ponding and roof leaks have since occurred.
6. Repair of deteriorated masonry chimney cap and joints, which have potential to collapse, and also appear to be source of water infiltration into building.
7. Only personnel who employ proper fall protection in accordance with OSHA standards by the use of guardrail systems, safety net systems, or personal fall arrest systems should be permitted access to the roof. This requirement should be incorporated into all agreements with outside maintenance and service contractors as well.
8. Installation of window sill extensions at Apparatus Bay windows, which are now missing and allowing excessive moisture into building envelope, promoting mold and mildew. Additional temporary patching of damaged EIFS surfaces as may be warranted.
9. ProViding signage prohibiting washing in the vicinity of the main disconnect switch and the revenue meter in the Apparatus Bays which are not listed for this type of exposure. Other non-listed surface mounted junction and receptacle boxes should be replaced in wash bay area accordingly.
10. Providing signage and other identification markings at the Electrical Room, main disconnect, generator and panelboards.
11. The unused openings in the lighting and appliance branch-circuit panelboard, that allow direct connect with the panel's live buses, should be corrected, as well as, the elimination of six tandem breakers, which are not installed in compliance with the NEC.
12. Repair and replacement of wiring to the rooftop condensing units, which are not installed in compliance with the NEC, and provide an approved method for creating a rain-tight enclosures and connections.
13. Repair damaged receptacles and provide GFI protection for receptacles where required, at locations noted in report.
14. Smoke detectors, connected to the automatic fire alarm system, should be provided in the elevator machine room and elevator lobby.
15. The means of egress, including the stairs and exit discharge, should be illuminated at all times the building space is occupied, and additional emergency lighting should be provided where required.
16. Tactile warnings or railings should be provided at ramped surfaces to the means of egress at Hallways and entrance to the elevator/stair enclosure from the Meeting Room.
17. Extension of toilet room exhaust vents at first floor Hallway ceiling to the exterior.
18. Installation of emergency eyewash in accordance with ANSI Standard Z358.1-1998.
19. Anti-scald devices should be provided at all handicapped accessible plumbing fixtures to limit the temperature of the hot water to 110 degrees F.

20. Drain piping at the lavatories in the First Floor Men's and Women's Toilet Rooms intended to be handicapped accessible, should be insulated to protect a person in a wheelchair.
21. The rear grab bars at the wheelchair accessible compartments located on the first floor, which were observed to be missing, should be repaired/replaced accordingly.
22. Storage should be maintained a minimum of 18 inches below sprinkler head deflectors in the storage rooms.
23. Combustible material stored in boiler rooms, mechanical rooms or electrical equipment rooms should be removed.

//

EXECUTIVE SUMMARY
MIDWAY FIRE DISTRICT - STATION 1

Based upon the prior documentation provided by the Fire District relative to the original construction, various additions and alterations made to the original structure, and on-going property maintenance measures taken, it is apparent from the results of this evaluation that there are a number of deficiencies in the existing facility, and that the intended service life of several of the building systems have either been impacted or in some cases have been surpassed, and are now in need of replacement or rehabilitation in order to meet the current property maintenance requirements. This work includes, but is not limited to the following areas:
1. Repair of collapsed storm drain line in parking lot between catch basins.
2. Repair and renovations to areas of roofing above Apparatus Bay where water is now ponding and impacting performance of siding.
3. Scheduled replacement of remainder of roofing, within 3 to 5 years period, at which time it will have reached the end of its' intended service life.
4. Repairs to existing roof drains to prevent blockage and damage to drain lines.
5. Installation of secondary roof drainage system.
6. Destructive structural investigation at Commissioner's room ceiling to determine cause of change in level at Meeting Room floor assembly above original apparatus bays.
7. Repair of existing masonry chimney cap and joints, which have deteriorated.
8. Replacement of building envelope sealants that have deteriorated.
9. Repair of EIFS surfaces to prevent moisture infiltration into building envelope.
10. Installation of window sill extensions at Apparatus Bay windows, which are now missing.
11. Repair integrity of fire barriers and penetrations through fire-resistive assemblies.
12. Connection of interior toilet room exhaust vents to the exterior.
13. Upgrades to mechanical system ductwork, controls and equipment necessary to improve indoor air quality.

14. Removal of the utility room trap to address blockage in the plumbing lines. Additional corrections would include replacement of sections of the horizontal piping and possible re-routing of the piping system to eliminate the ninety degree turns in the system.
15. Installation of emergency eyewash in accordance with ANSI Standard 2358.1-1998.
16. Scheduled replacement of generator to ensure power during emergency situations.
17. Correction of electrical hazards which have been identified.
18. Alterations to improve handicap accessibility features within the building.
19. Pavement management to eliminate potential hazardous conditions in parking lot.