

Fire Station #1 Assessment and Capital Plan



A. Building Description

1. Past and Current Use
 1. The Fire Station and Senior Center was purpose built in the 1980's. Only the Fire Station was reviewed.
2. Location
 1. The address is 18461 Dayton Street.
 2. The building is located in the NW portion of the City of Dayton at the intersection of Dayton Street and Division Street, just north of the Crow River.
3. Size
 1. The total building has a footprint of approximately 6,800 square feet. The fire department has sole occupancy of approximately 3,450 square feet with a mezzanine of approximately 1,000 square feet.
 2. The parcel is approximately 2.1 acres.

B. Site

1. Topography
 1. The site slopes from the south (back) side towards the north (street side) away from the Crow River and slightly from east to west. The low point is at the northwest corner.
 2. The building finished floor elevation is approximately 3' higher than Dayton Street and approximately 1' higher than the parking lot.
 3. There is an embankment between the parking lot and Division Street that prevents egress from the site on the East side.
2. Storm Water Drainage
 1. The Senior Center roof drains through two scuppers on the west elevation, which daylight to grade.

2. The Fire Station roof drains through two scuppers on the east elevation, which daylight to grade.
3. The storm sewer inlet at the northwest corner of the site (low point) is in good condition.
4. The storm sewer inlets at the southeast and southwest corners of the building (draining the rear parking area) are in good condition.
3. Paving and concrete
 1. The asphalt parking lots are in poor condition. We estimate replacement will be critical within 10 years.
 2. The asphalt in Dayton Street at the response apron is in poor condition. We recommend cutting it out and replacing.
 3. The concrete response apron is in poor condition with major cracking and spalling. We estimate replacement will be critical within 10 years.
 4. The concrete return apron is in good condition.
 5. The concrete curbs and gutters are in generally good condition with some areas showing superficial scrapes and abrasion.
 6. The concrete parking lot entry on the east side is in good condition.
 7. The concrete parking lot entry on the west side is in poor condition and should be replaced.
 8. The concrete sidewalks are in generally good condition.
 - (1) The sidewalk between the Senior Center entrance and the west parking area has heaved/settled and should be replaced.
4. Landscaping and Site Elements
 1. Plantings were not observed due to the time of year.
 2. The flagpole is in good condition.
 3. The handrails along the sidewalks are leaning and should be removed and re-set in new foundations.
 4. The no parking and reserved parking sign poles are broken off or leaning and should be removed and re-set with new concrete foundations.
5. Water service entrance was not observed.
 1. There is a fire hydrant in the tree row just east of the response apron.
6. Electrical comes to the south side of the building overhead from pole-mounted transformers on the south end of the property.
 1. The service entrance and electric meter are at the south wall.
 2. There is no building backup generator.
7. The Natural Gas meter is located at the east wall of the building.
8. Sanitary Sewer Utility was not observed.
9. Storm Sewer inlets are located at the southeast and southwest corners of the building and at the northwest corner of the site.
10. Cable television comes overhead to the south wall of the building.
11. There is a radio antenna mounted to the hose tower.

C. Structural Frame

1. The foundation appears to be in good condition as there is no evidence of building settlement.
2. The slab-on-grade, where visible, appears to be in generally good condition with minor cracking and superficial staining.
3. The exterior bearing walls are stacked-bond concrete masonry and are generally in good condition.

4. The mezzanine floor is precast concrete plank with a concrete topping and is in good condition.
5. The walls supporting the mezzanine are stacked-bond concrete masonry and are in good condition.
6. The roof structure is metal decking over steel trusses and appear to be in good condition.

D. Exterior Enclosure

1. The exterior bearing walls are painted stacked-bond fluted concrete masonry with two or three courses of smooth faced blocks at the parapet, and are generally in good condition.
 1. There is efflorescence at the east wall of the building, indicating water migrating out of the wall. It was reported that there was leaking at the roof parapet and water got into the cells of the block. This leak has been repaired.
 2. The sealant at the base of the wall where it meets concrete sidewalk or apron has failed. We recommend replacement to reduce the amount of water running down the face of the foundation.
 3. The piping and conduit penetrations at the fluted block are not tightly sealed. We recommend sealant over the paint.
 4. There are no visible control joints in the block. These cannot be added retroactively, and the lack of such joints increases the likelihood of cracks forming between the blocks and the mortar. We recommend closely monitoring the exterior for micro-cracks that would allow water into the wall.
 5. There is no evidence of a dedicated weather resistive barrier in the wall construction. Concrete blocks are porous and do not resist the passage of water or air. When used as exterior cladding they are reliant on a separate barrier system, in this case the exterior paint serves as the closest substitute. We recommend painting the exterior wall with a high-grade coating every five years to ensure air and water cannot migrate into the building.
 6. There is no evidence of flashing at the base of the wall. The lack of any such flashing increases the likelihood that any water that gets into the cores will damage the integrity of the wall over time.
2. Windows and Doors
 1. The apparatus doors, springs, and tracks are in good condition.
 - (1) The weatherstripping and bottom seals at the apparatus doors are in poor condition and should be replaced.
 - (2) The wood jambs are in average condition with some damage visible at the bottoms. We recommend repainting.
 2. The exterior hollow metal doors and frames are in generally good condition but the paint is beginning to fade. We recommend repainting to increase the longevity of the doors and frames.
 - (1) The hinges are starting to rust. We recommend replacement with non-ferrous hinges.
 - (2) The sealant at the perimeter of the frames is missing in some sections. We recommend removing the existing, painted-over sealant and replacing.
 - (3) A drip at the head of the north door into the apparatus bays is missing. We recommend adding this piece of hardware to reduce water intrusion.
 - (4) The closer cover at the east door is held on by duct tape. We recommend replacement.
 3. The exterior windows are in generally good condition.

- (1) There are horizontal mortar joints at the window sills. We recommend raking these joints back 1/2" and filling with sealant to prevent water from getting into the wall system through cracks between block and mortar.
 - (2) The sealant at the perimeter of the frames is failing in some sections. We recommend replacement.
 - (3) The sill blocks at the northernmost window on the east elevation are cracked. We recommend replacement to prevent water from getting into the wall system.
3. Roof
 1. The roof was inaccessible and was not reviewed.
 2. It was reported that the roof is leaking. We recommend immediate repair.

E. Interior Elements

1. Flooring
 1. The VCT flooring is in poor condition and should be replaced.
 2. The paint on the floor of the walkway in the apparatus bay is worn off.
2. Walls
 1. The cement block walls are in generally good condition.
 2. The gypsum board over the exterior walls is in generally good condition.
 - (1) The gypsum board at the south door into the apparatus bays is missing. We recommend replacement.
 - (2) The gypsum board in the hose tower is in poor condition. We recommend removal and replacement with exterior gypsum.
 3. The gypsum board walls on the mezzanine level are unfinished in many areas.
 4. The rubber base is missing in some locations. We recommend replacement to protect the gypsum board from damage while washing apparatus.
3. The hollow metal doors and frames are in good condition.
4. The suspended grid and acoustical ceiling tile in the restrooms is in good condition.
5. The cabinets and countertop in the Shop have exceeded their expected service life.
6. Equipment
 1. The drawbar-type overhead door operators appear to be in good condition.
 2. The ceiling fan in the apparatus bays appears to be in good condition.
 3. The PPE storage lockers are in good condition.
 4. The refrigerator and microwave in the PPE storage room appear to be in good condition.
 5. The SCBA compressor, fill station, and cascade on the mezzanine appear to be in good condition.
 6. The 30-lb Unimac washer-extractor on the mezzanine appears to be in good condition.
 - (1) It is a hardmount cabinet model and does not appear to have a foundation compliant with manufacturer's recommendations. We recommend monitoring this for cracking over the lifespan of the building.
 7. The residential dryer on the mezzanine appears to be in good condition.
 - (1) Dryer exhaust has excessive bends in ductwork, consider revising.

F. Vertical Transportation

1. There is no elevator in the building.
2. A mezzanine is accessed from a steel stair.
3. The roof hatch is accessed from a portable ladder.
4. The hose tower platform is accessed via a ladder.

G. Fire Protection

1. There is no fire sprinkler system installed in the building.
2. Fire extinguishers are located at points throughout the building.

H. Plumbing

1. Water meter and backflow preventer are located in the Shop.
2. The Water softener appeared in good condition, no date of install was identified. We do not expect replacement to be necessary in the next five years.
3. The AO Smith water heater on the mezzanine is original to the building and has exceeded its useful life. Unit should be replaced in the next 1-5 years.
4. The 60-gallon air compressor appeared like new and is expected to last more than 10 years.
5. The air compressor hanging from the roof structure at the northeast corner of the bays was not reviewed.
6. Fixtures
 1. Lavatory faucets are aging and should be replaced with low flow fixtures in the next 1-5 years.
 2. The toilets in the women's restroom have reached the end of their expected life and should be replaced.
 3. The toilets and urinal in the men's restroom are in good condition.
 4. The mop sink in the Shop is in average condition.
 5. The showerhead in the Hose Tower is missing.
 6. The eyewash station does not have a thermostatic mixing valve.
7. The pressure washer pump is in the Shop and pulls water from the mop sink. The wand is adjacent to the rear apparatus door.
8. The washer-extractor drains to the mop sink in the Shop below.
9. Floor drains are corroded and should be replaced.

I. HVAC

1. Two unit heaters in apparatus bay appeared 5-10 years old but were not examined due to height of units.
2. There is no ventilation in the garage. Per code there should be continuous exhaust and outdoor air coming to the apparatus bay. We recommend adding high-low exhaust fans along with CO detectors to monitor gas levels in apparatus bay. Exterior Louvers or hoods on roof with motorized dampers should be added to let outdoor air into space.
3. Offices and common spaces do not have any heating/cooling and have no outdoor air. We recommend adding a new system to supply ventilation air to these spaces, and heating/cooling as desired.
4. Exhaust fans in bathrooms are aging and we estimate replaced in the next 5-10 years. Fan operation is interlocked with light switches in bathrooms.
5. Exhaust fan serving PPE storage discharges into mezzanine above. This air needs to be exhausted to the exterior.
 1. Transfer grille to PPE storage area from the apparatus bays should be removed and replaced with makeup air from the exterior.

J. Power Distribution

1. The building service is 240/120 center-tapped open delta. Two pole mounted transformers (open Delta) are powering the building.

2. The entire building has one electric meter located on the south elevation.
3. A 200A, 240/120V three-phase panel is located in the Shop. 100A, 240/120V sub-panel is also located in the Shop.
 1. The electrical panels and all circuit breakers appear to be in good working condition.
4. Outlets in the Apparatus Bays appear to be without Ground Fault Interrupt. We recommend adding.

K. Emergency Power Distribution

1. There is no emergency generator.
2. There is battery operated emergency lighting above exit doors.

L. Lighting

1. Exterior lighting consists of wall packs.
2. Interior lighting throughout the fire station consists of surface-mounted four-foot strip fluorescent fixtures.
3. All interior lighting control consists of line voltage toggle switches.

M. Systems, Safety, and Security

1. No data network was observed.
2. Fire alarm system is provided for this building with the access panel located in the Shop.
 1. Pull stations are located by all exterior doors.
3. Exterior doors have card readers for access and motion detectors that unlatch the door.

N. Building Code Issues

1. There is no means of egress from the office and common areas that does not pass through the apparatus bays.
2. There is no exhaust system in the vehicle storage area. We recommend adding.
3. There is no ventilation air into the office and common spaces. We recommend adding.
4. The electrical outlets in the apparatus bays are without ground fault interrupt. We recommend adding.
5. There is storage in front of the electrical panels. We recommend relocating these items.

O. Accessibility Code Issues

1. There are no truncated dome detectable warnings where the public sidewalk crosses the apparatus apron or the parking access curb cuts.
2. There are no truncated dome detectable warnings where the site sidewalk crosses the apparatus apron.
3. There are no truncated dome detectable warnings at curb ramps.
4. The accessible parking spaces are not correctly painted.
5. There are only two accessible parking spaces, but given a total space count of 70 there should be 3 accessible spaces. Because the building is used as a senior center, we recommend 10% of spaces be accessible.
6. There is insufficient clear floor area at the exterior of the west door into the Senior Center.
7. There is insufficient clear floor area at the exterior of the south door into the Senior Center.
8. There is insufficient clear floor area at the exterior of the south door into the Fire Station.
9. There is insufficient clear floor area and a small step at the exterior of the east door into the Fire Station.
10. The mezzanine is used as functional space, but there is no elevator in the building.

11. Doors throughout the building have knob hardware instead of lever hardware.
12. There is a step between the Apparatus Bay floor and the support spaces.
13. The men's restroom is not accessible.
 1. The "accessible" toilet stall is too small.
 2. The lavatories do not have insulated piping.
 3. The mirrors are mounted too high.
 4. The shower does not have accessible fixtures.
 5. The door into the station does not have the required pull clearance.
 6. The signage does not meet requirements.
 7. The urinal rim is too high.
 8. There is insufficient clearance between the wall and the partition doors.
14. The women's restroom is not accessible.
 1. The "accessible" toilet stall is too small.
 2. The lavatories do not have insulated piping.
 3. The mirrors are mounted too high.
 4. The shower does not have accessible fixtures.
 5. The door into the station does not have the required pull clearance.
 6. The signage does not meet requirements.
 7. There is insufficient clearance between the wall and the partition doors.

P. Energy Efficiency

1. Some domestic hot water piping is not insulated.
2. Efficiency of the lighting system could be improved by retrofitting all fluorescent fixtures with LED lamps and adding occupancy and daylight sensors to appropriate spaces.
3. The exterior hollow metal doors and frames are not thermally broken and insulated, so they act as a major conduit for heat to escape the space.

Q. Health and Safety Issues

1. There is no fire suppression system.
2. The overhead doors do not meet the provisions of UL325 because they do not have two means of sensing obstacles.
3. There is insufficient glass in the apparatus doors to be able to see what is directly outside the doors before opening them.
4. There is insufficient space to fit fire apparatus comfortably within the building. The apparatus is parked very close to the side walls, very close to the rear walls, and very close to each other. This proximity increases the risk that a firefighter will be injured by moving apparatus, whether it is backing into the station or whether it is responding while firefighters are getting onto the rig.
5. Vehicles must be backed into the station, which increases the risk that a firefighter could be injured by backing apparatus.
6. There is insufficient drainage in the apparatus bays. This creates slip and fall hazards after returning from calls on a rainy day or while washing the apparatus.
7. The Office and PPE storage room are raised one step above the apparatus bay level, creating a trip hazard.
8. The hose tower ladder does not have a fall protection cage in compliance with OSHA requirements.
9. There is no exhaust extraction system in the apparatus bays, so there is no way to clean the air of fireground toxins and diesel exhaust fumes.

10. The PPE storage room does not have doors separating it from the apparatus. This is a violation of NFPA 1937 and forces the firefighters to wear gear that has been exposed to diesel exhaust.
11. The exhaust air from the PPE storage room is released back into the apparatus bay, exposing all building occupants to off-gassing from fireground contaminants.
12. There is poor separation between the "clean" areas of the station and the areas that are expected to have fireground toxins and diesel particulates suspended in the air. Each of these issues exposes everyone who enters the station to carcinogenic chemicals.
 1. There is no dedicated cleaning equipment for the apparatus bays. This results in the same mops being used to clean the office and restroom areas as well as fireground toxins and diesel particulates from the apparatus bay floor.
 2. There is a refrigerator and microwave in the PPE storage area where the contents can be easily contaminated and then placed in the mouth.
 3. There is insufficient space for storage of hoses, spare SCBA units, extra turnout gear, hoses, water bottles, etc. These items are then stored in the apparatus bay or mezzanine where they are exposed to fireground toxins and diesel particulates.
 4. The mezzanine is used as a gathering space and shares an airspace with the apparatus bay, which means the surfaces of the couches are covered with fireground toxins and diesel exhaust particulates and occupants are breathing in air full of fireground toxins and diesel exhaust fumes.
 5. There are no gaskets at the doors into the apparatus bay, letting air full of fireground toxins and diesel exhaust fumes into those spaces.
13. There are no clean and functional showers in the facility. To reduce the risk of cancer, firefighters exposed to fireground toxins are expected to shower within one hour of returning from a call to remove the hazardous chemicals from their skin (skin absorption of carcinogens increases 400% for each 5 degree elevation in skin temperature). If showers are not provided at the station, the firefighters are delayed in showering because they are cleaning equipment and restocking the apparatus. In addition, firefighters sit in their personal vehicles and enter their private homes, exposing everyone in their family to carcinogenic compounds until every surface they touch or sit on has been decontaminated.
14. There are no decontamination facilities for the cleaning of small tools and personal protective equipment after a call. This is a violation of NFPA 1581.
15. There are no laundry facilities for cleaning personal clothing after returning from a call.
16. There are no lockers for firefighters to store extra clothes to wear after returning from a call.
17. There is no sink for handwashing before entering clean areas of the station.
18. There is no space for strength and cardiovascular training in the fire station. Heart attacks are a leading cause of death among firefighters due to the physical stress associated with the job. A properly equipped physical conditioning room is a key part of compliance with NFPA 1583. Such a space does exist at City Hall.

R. Functionality Issues

1. There are no bollards protecting the building from backing apparatus.
2. The apparatus door width of 12' and the overall center-to-center dimension of 14'-8" results in insufficient space between apparatus.
3. The apparatus doors are not designed for heavy use with 100,000 cycle springs and 3" tracks, leading to more frequent failures.

4. The apparatus door obstruction sensors do not occur at bumper height, increasing the chance that a descending door could hit the apparatus.
5. There is only one "drive-through" bay but apparatus are double stacked in both bays. This means that if the vehicle in front breaks down the apparatus behind it cannot respond either.
6. There is insufficient space for future apparatus.
7. There is no backup generator for the building, which would render the building non-functional in the event of power loss and which may cause the radio equipment in the trucks to drain the batteries.
8. The PPE storage is not located along the pathway between the firefighter parking and the apparatus, increasing response times.
9. There is insufficient airflow in the PPE storage room.
10. There is insufficient space for the repair and maintenance of small tools.
11. There is insufficient storage space.

A. Building Description

Figure A.1.1



Figure A.2.2



B. Site

Figure B.1.1



Figure B.1.2



Figure B1.3



Figure B.2.1



Figure B.2.2



Figure B.2.3



Figure B.2.4a



Figure B.2.4b



Figure B.3.1a



Figure B.3.1b



Figure B.3.1c



Figure B.3.1d



Figure B.3.1e



Figure B.3.1f



Figure B.3.2



Figure B.3.3a



Figure B.3.3b



Figure B.3.3c



Figure B.3.3d



Figure B.3.4



Figure B.3.5a



Figure B.3.5b



Figure B.3.6



Figure B.3.7



Figure B.3.8



Figure B.3.8.1



Figure B.4.2



Figure B.4.3a



Figure B.4.3b



Figure B.4.3c



Figure B.4.4a



Figure B.4.4b



Figure B.5.1



Figure B.6



Figure B.6.1



Figure B.7



Figure B.11



C. Structural Frame

Figure C.2a

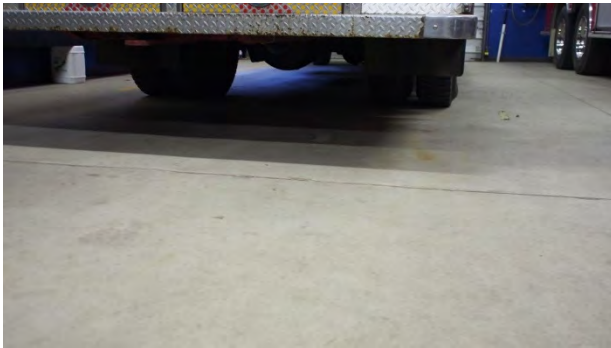


Figure C.2b



Figure C.3



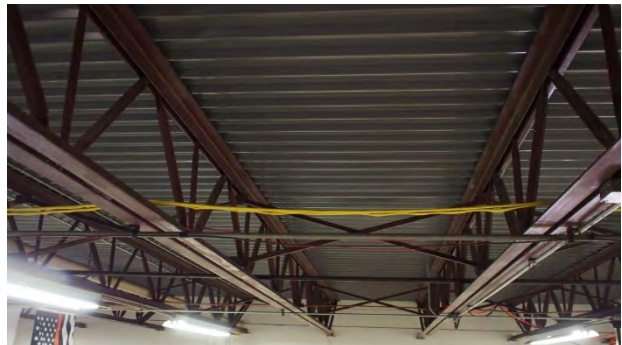
Figure C.4



Figure C.5



Figure C.6



D. Exterior Enclosure

Figure D.1



Figure D.1.1a



Figure D.1.1b



Figure D.1.1c



Figure D.1.2

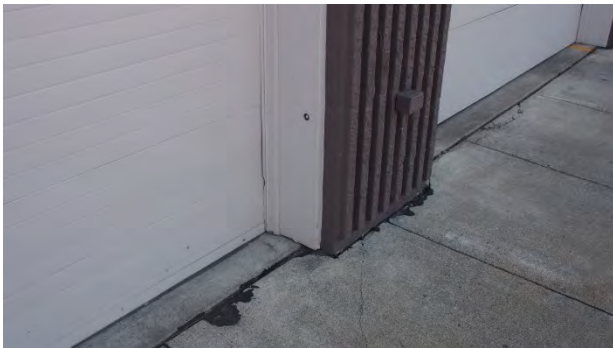


Figure D.1.3



Figure D.2.1a



Figure D.2.1b



Figure D.2.1c



Figure D.2.1d



Figure D.2.1e



Figure D.2.1.1

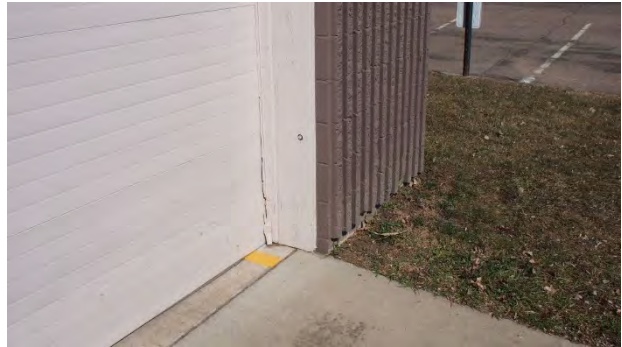


Figure D.2.1.2



Figure D.2.2a



Figure D.2.2b



Figure D.2.2.1a



Figure D.2.2.1b



Figure D.2.2.2



Figure D.2.2.3



Figure D.2.2.4



Figure D.2.3a



Figure D.2.3b



Figure D.2.3.1



Figure D.2.3.2



Figure D.2.3.3



E. Interior Elements

Figure E.1.1a

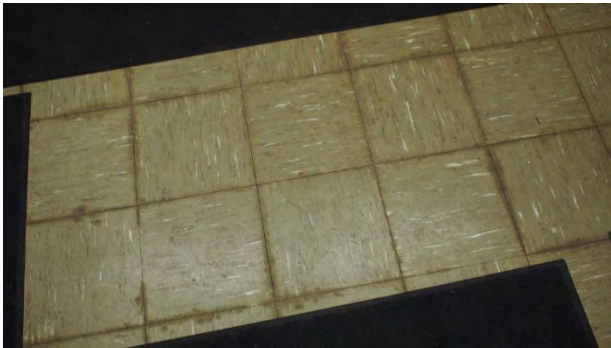


Figure E.1.1b



Figure E.1.1c

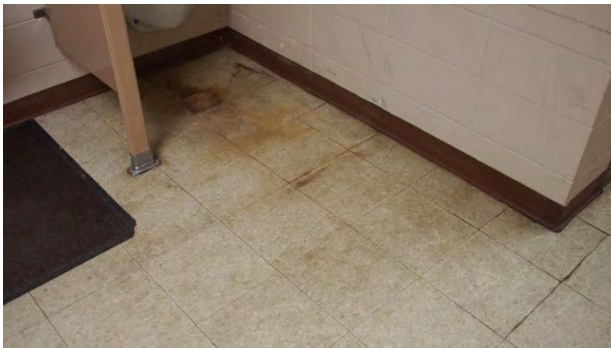


Figure E.1.1d

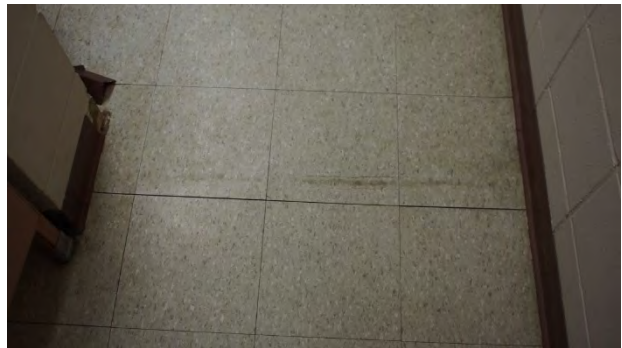


Figure E.1.2



Figure E.2.1



Figure E.2.2



Figure E.2.2.1a



Figure E.2.2.1b

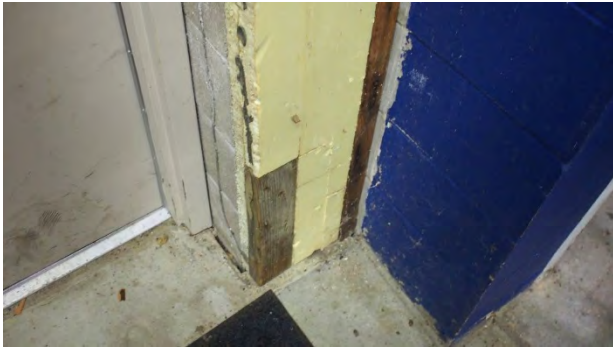


Figure E.2.2.2



Figure E.2.3

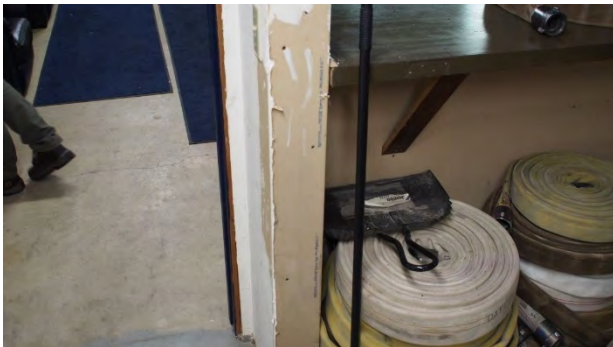


Figure E.2.4



Figure E.3a



Figure E.3b

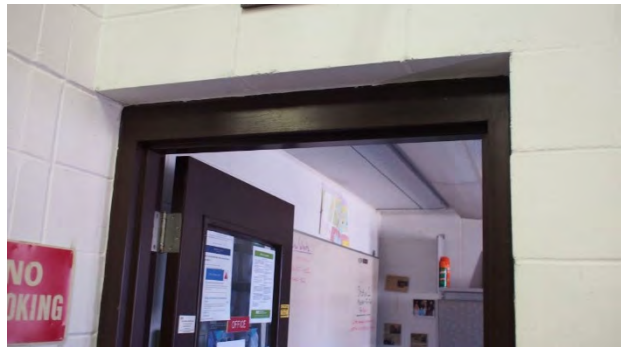


Figure E.4



Figure E.5



Figure E.6.1a



Figure E.6.1b



Figure E.6.c



Figure E.6.2

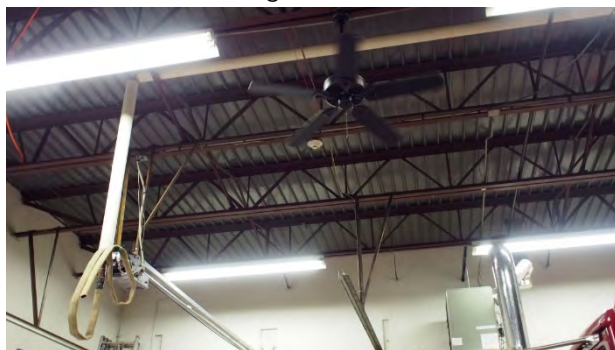


Figure E.6.3a



Figure E.6.3b



Figure E.6.4



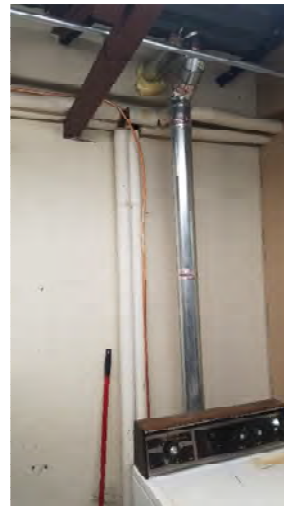
Figure E.6.5



Figure E.6.6



Figure E.6.7



F. Vertical Transportation

Figure F.2



Figure F.3



G. Fire Protection

Figure G.2a



Figure G.2b



H. Plumbing

Figure H.1a



Figure H.1b

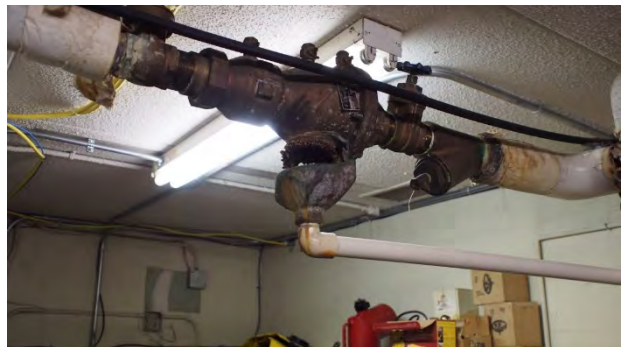


Figure H.2



Figure H.3a



Figure H.3b



Figure H.4a



Figure H.4b



Figure H.5



Figure H.6.1

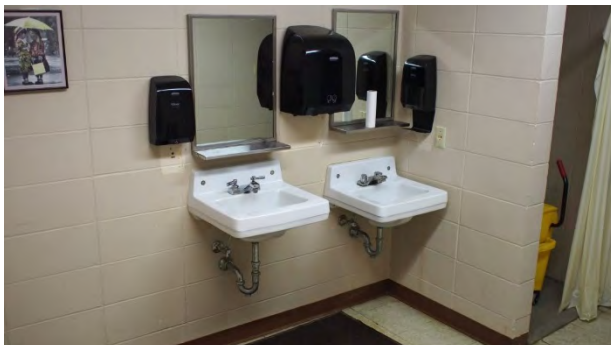


Figure H.6.2a



Figure H.6.2b



Figure H.6.3a



Figure H.6.3b



Figure H.6.3c



Figure H.6.4



Figure H.6.5



Figure H.6.6

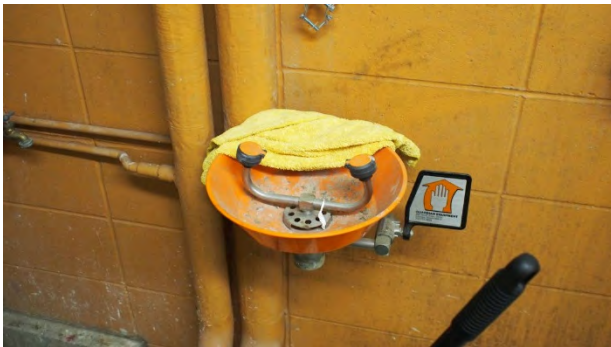


Figure H.7a



Figure H.7b



Figure H.8a



Figure H.8b



Figure H.9



I. HVAC

Figure I.1a



Figure I.1b



Figure I.4a



Figure I.4b



Figure I.5a



Figure I.5b



Figure I.5.1



J. Power Distribution

Figure J.1



Figure J.2



Figure J.3a



Figure J.3b



Figure J.4a



Figure J.4b

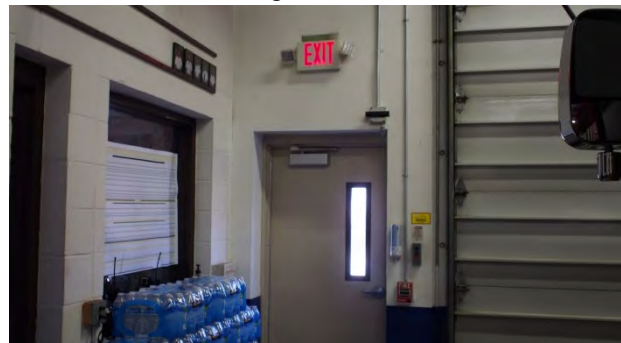


K. Emergency Power Distribution

Figure K.2a



Figure K.2b



L. Lighting

Figure L.1a



Figure L.1b



Figure L.2a



Figure L.2b



Figure L.2c

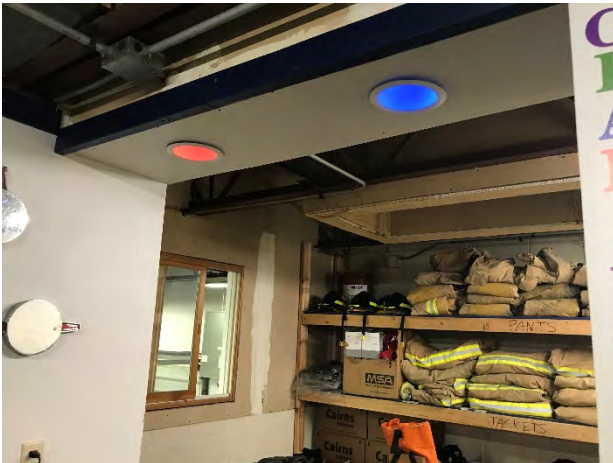


Figure L.2d

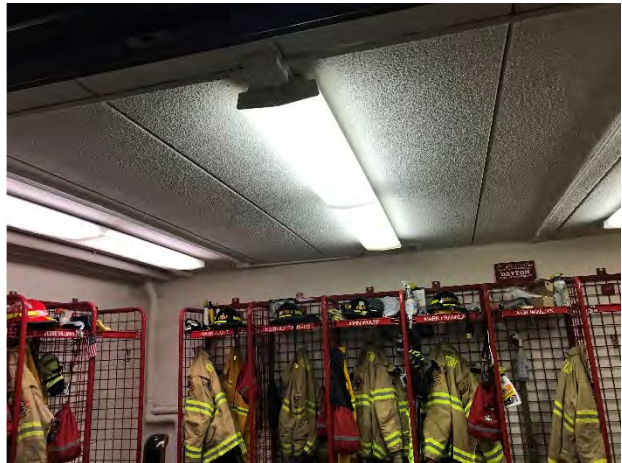


Figure L.2e



Figure L.2f

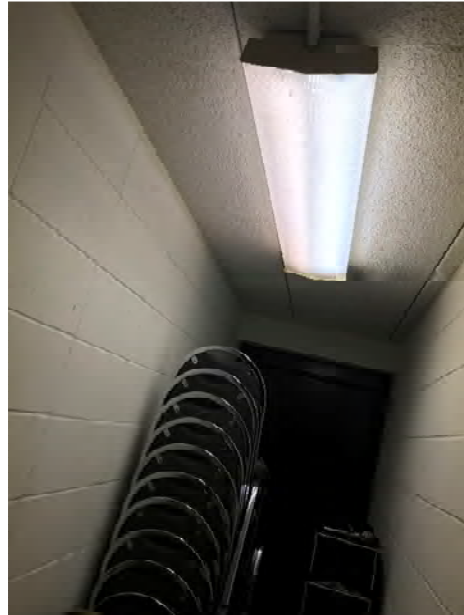


Figure L.3a



Figure L.3b



M. Systems, Safety, and Security

Figure M.2

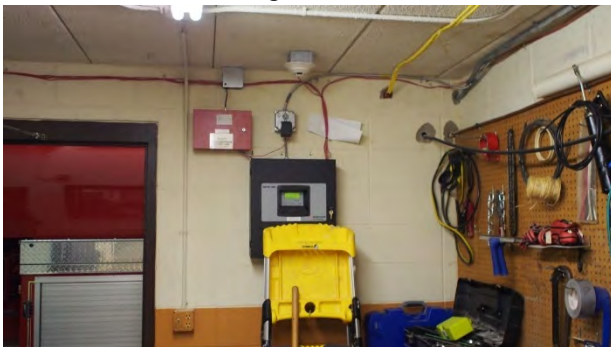


Figure M.2.1a



Figure M.2.1b



Figure M.3a

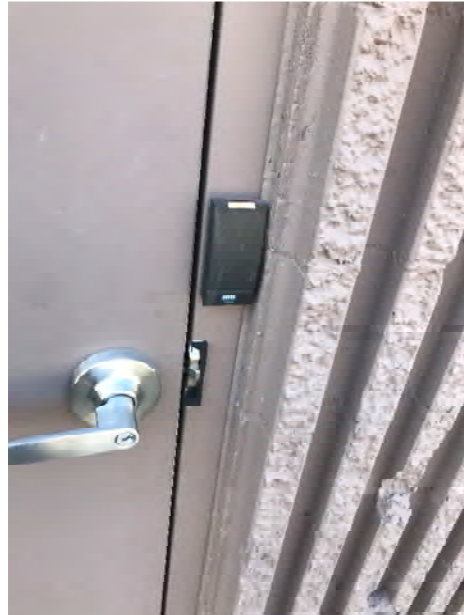


Figure M.3b



N. Building Code Issues

Figure N.4

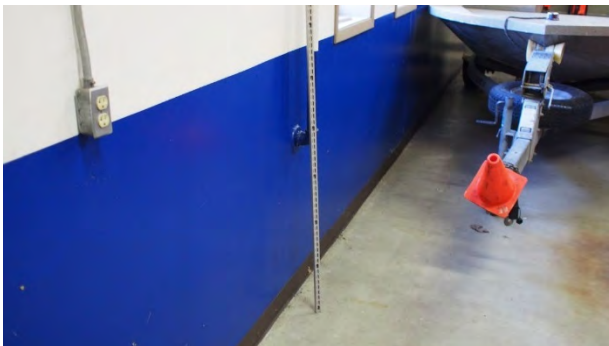


Figure N.5



O. Accessibility Code Issues

Figure O.1a



Figure O.1b



Figure O.1c



Figure O.2



Figure O.3a



Figure O.3b



Figure O.3c



Figure O.3d



Figure O.3e



Figure O.4



Figure O.6



Figure O.7



Figure O.8



Figure O.9



Figure O.10



Figure O.11



Figure O.12



Figure O.13.1

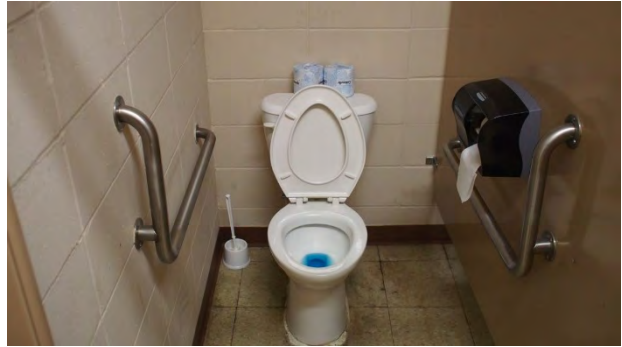


Figure O.13.2



Figure O.13.3



Figure O.13.4

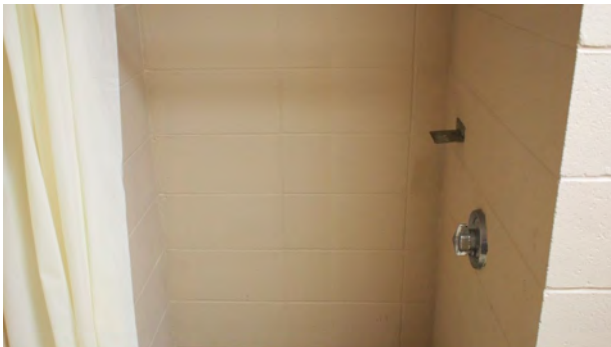


Figure O.13.5



Figure O.13.6

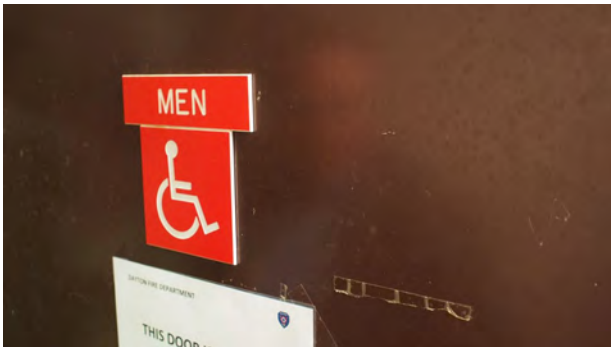


Figure O.13.7



Figure O.13.8



Figure O.14.1



Figure O.14.2

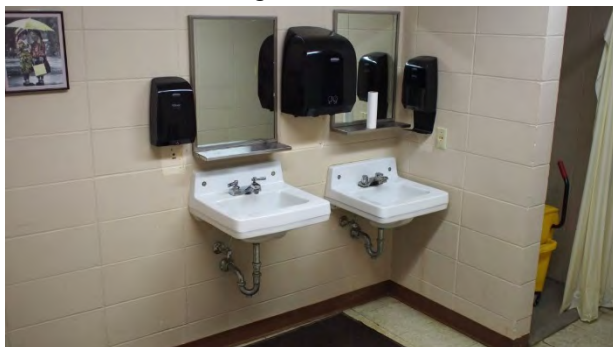


Figure O.14.4



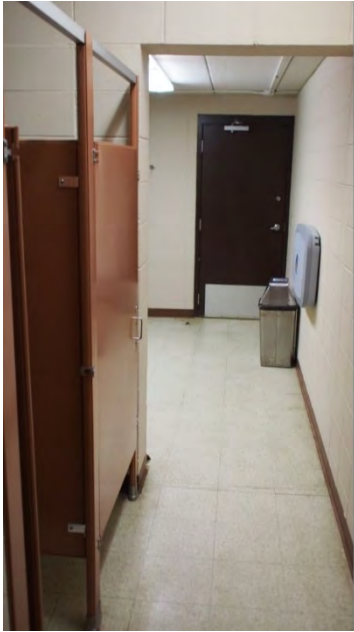
Figure O.14.5



Figure O.14.6



Figure O.14.7



P. Energy Efficiency

Figure P.1



Figure P.2



Q. Health and Safety Issues

Figure Q.2



Figure Q.3



Figure Q.4a



Figure Q.4b

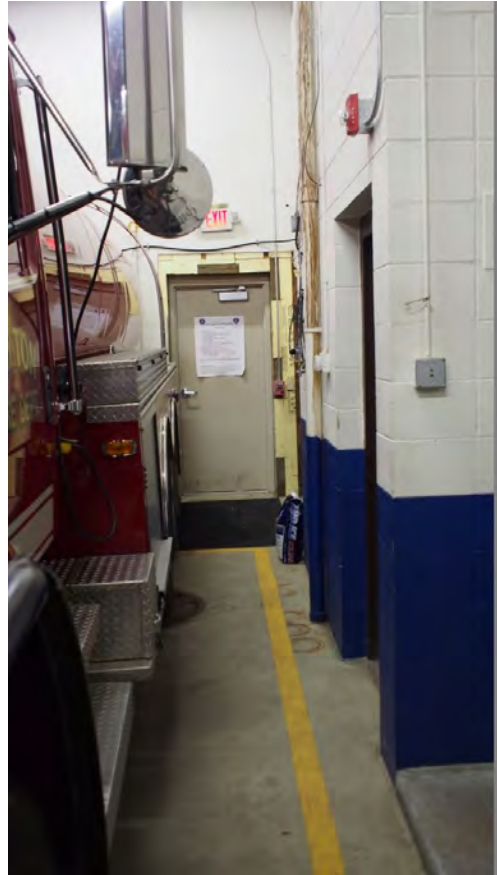


Figure Q.4c



Figure Q.4d

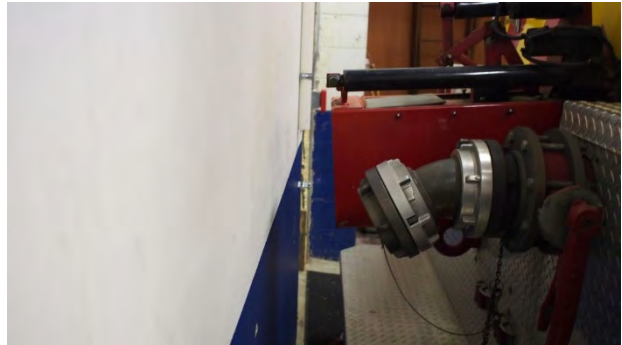


Figure Q.6a



Figure Q.6b



Figure Q.7

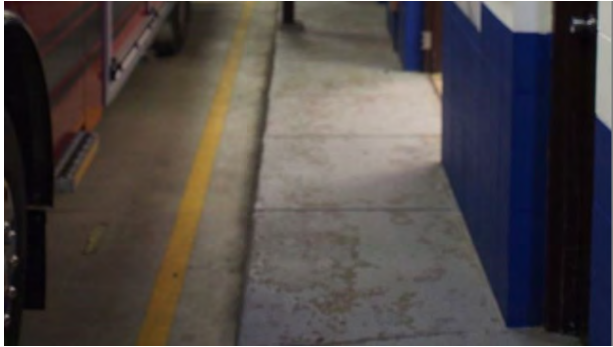


Figure Q.8

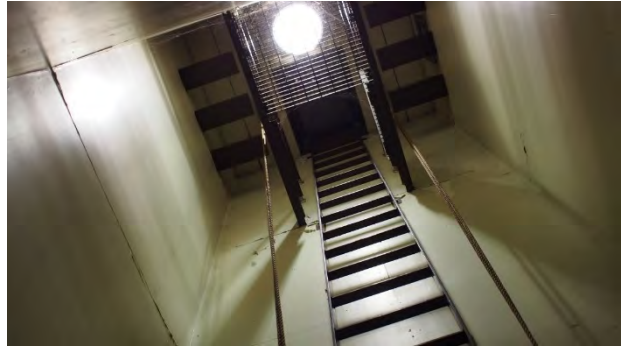


Figure Q.10

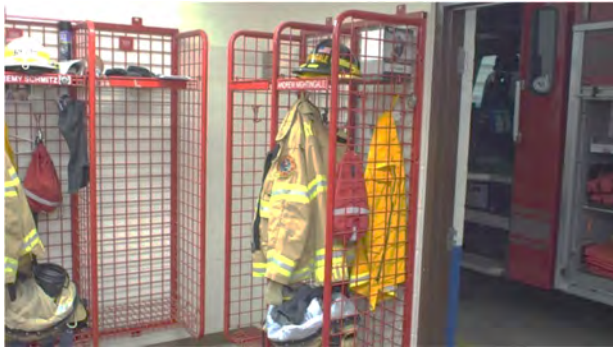


Figure Q.11



Figure Q.12



Figure Q.13.1



Figure Q.13.2a



Figure Q.13.2b

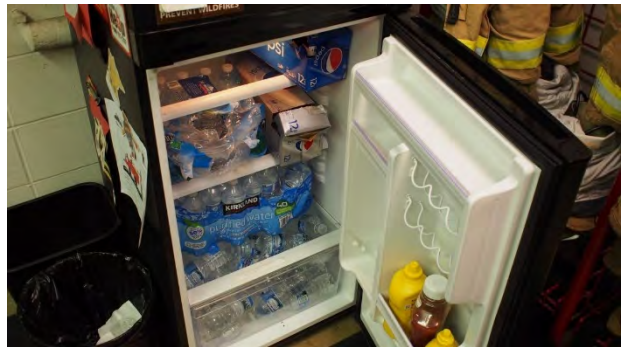


Figure Q.13.3a

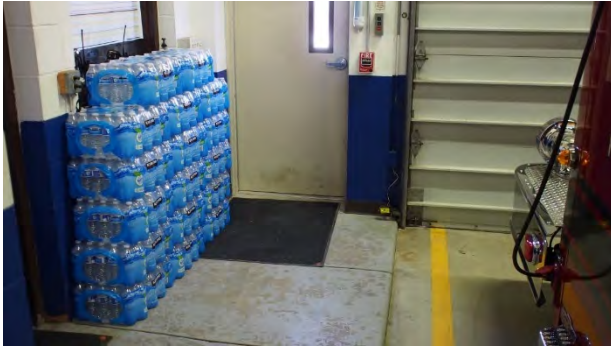


Figure Q.13.3b



Figure Q.13.3c



Figure Q.13.3d



Figure Q.13.3e



Figure Q.13.4



Figure Q.13.5a

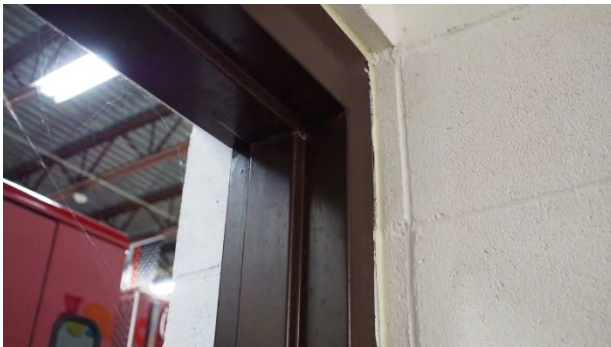


Figure Q.13.5b



Figure Q.13.5c

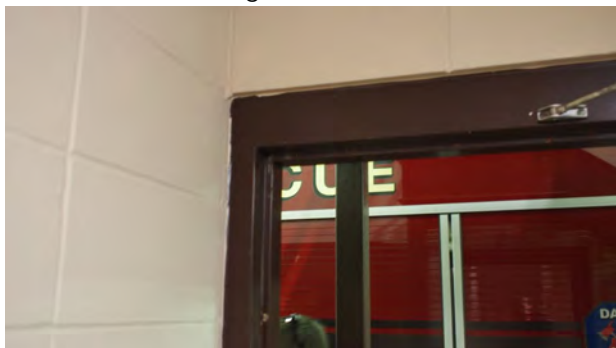


Figure Q.14a

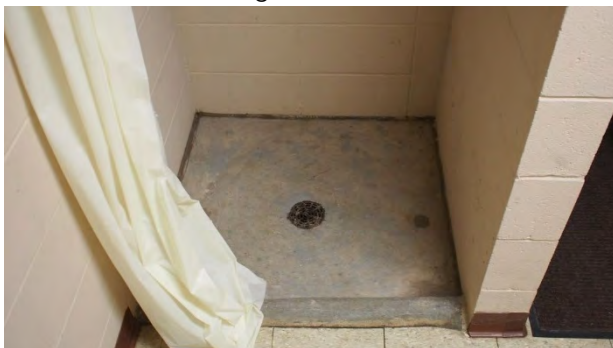


Figure Q.14b



R. Functionality Issues

Figure R.1a



Figure R.1b

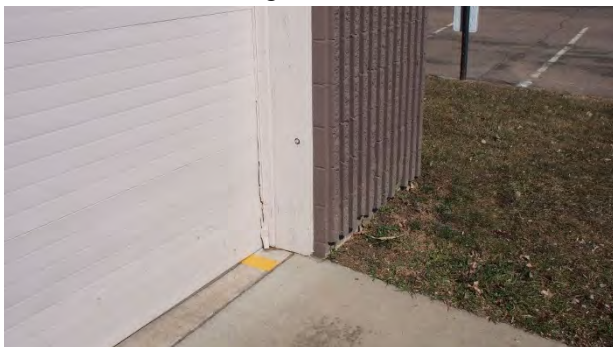


Figure R.2



Figure R.3



Figure R.4



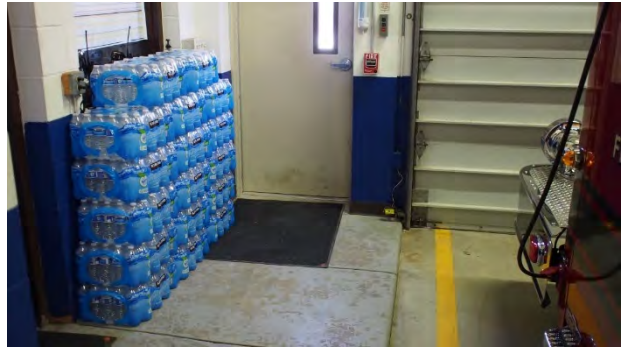
Figure R.8



Figure R.9



Figure R.10



The following preliminary capital improvement estimates, which are based on construction costs in July 2019, represent BKV Group's judgment as a design professional and are intended to allow for order-of-magnitude planning of capital expenditures. Actual costs should be expected to vary from these numbers based upon the exact solution chosen to address each issue; the availability of labor, materials, or equipment; the Contractor's methods of determining bid prices; and the competitive bidding, market, or negotiating conditions. The estimates should be confirmed at the time of planned implementation.

Construction costs increase significantly over time and are especially sensitive to changes in the economy. Reports suggest construction escalation could be as high as 8% per year, compounded, at the time of writing. This escalation should be factored into any capital planning.

Item	Estimated Construction Cost*	Recommended Time Period			
	as of July 2019	Urgent	Short Term	Medium Term	Long Term
Remove, regrade, and repave asphalt parking lot	\$ 220,000				X
Replace asphalt in right-of-way	\$ 16,000				X
Replace front apparatus apron	\$ 30,000				X
Replace concrete at west parking lot entry	\$ 12,500				X
Replace areas of settled concrete sidewalk	\$ 3,500		X		
Replace handrails at sidewalk	\$ 3,000	X			
Replace site signage	\$ 1,000	X			
Provide new on-site generator for Fire Department emergency backup power	\$ 70,000		X		
Repair roof	\$ 40,000	X			
Replace sealants where base of wall meets concrete.	\$ 3,000			X	
Replace sealant at conduit and piping penetrations through exterior wall	\$ 500		X		
Lightly sandblast exterior walls and repaint to maintain weather resistive barrier (every five years)	\$ 10,000		X		X
Replace apparatus door weatherstripping	\$ 1,200		X		
Repaint at apparatus door jambs	\$ 1,000		X		
Repaint hollow metal pedestrian doors	\$ 1,600		X		
Replace rusting hinges at pedestrian doors	\$ 1,600		X		
Replace sealant at pedestrian doors	\$ 1,200		X		X
Provide drip at north pedestrian door into app bays	\$ 500		X		
Replace closer cover at east pedestrian door into app bays	\$ 500		X		
Rake back mortar and provide sealant at horizontal masonry joints at windows	\$ 1,200		X		
Replace sealant at windows	\$ 900		X		X
Replace cracked sill blocks at windows	\$ 1,200		X		

Item	Estimated Construction Cost*	Recommended Time Period			
	as of July 2019	Urgent	Short Term	Medium Term	Long Term
Replace damaged flooring in turnout storage, office, shop, and app bays with epoxy flooring	\$ 30,000		X		
Replace gypsum board around south exit from app bays, paint to match	\$ 1,600		X		
Replace missing rubber base	\$ 500		X		
Replace cabinets and countertop in Shop	\$ 2,500		X		
Replace upper section of dryer exhaust ventilation	\$ 500	X			
Replace water heater	\$ 2,500		X		
Toilet Room Upgrade (currently underway)		X			
Replace corroded floor drains	\$ 1,600				X
Add continuous ventilation in app bays as required by building code (least expensive option)	\$ 16,000		X		
Provide office with ventilation air, heating, and cooling (thru wall)	\$ 2,000		X		
Replace exhaust fans in restrooms	\$ 600				X
Replace outlets in app bays with GFI outlets	\$ 600		X		
Provide truncated dome detectible warnings as required (surface applied)	\$ 5,200		X		
Repaint accessible parking striping	\$ 1,000	X			
Replace concrete sidewalk to provide accessible clear floor area to operate exterior side of doors	\$ 2,000				X
Replace knob hardware with lever hardware	\$ 500				X
Insulate domestic hot water piping	\$ 500		X		
Add sensor bottom and bumper-height photoeye to apparatus doors	\$ 1,800		X		
Replace apparatus door track and springs	\$ 9,000				X
Add fall protection cage to hose tower ladder	\$ 10,000		X		
Replace apparatus doors	\$ 45,000				X
Install sprinkler system	\$ 200,000				X
Install direct capture exhaust system	\$ 60,000		X		
Enclose the turnout gear storage room and provide exterior exhaust and makeup air	\$ 30,000		X		
Provide bollards at front bay doors	\$ 2,000		X		