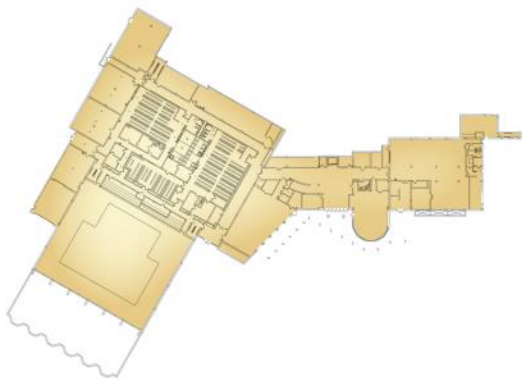


HISTORIC PLAN AND SITE PLAN

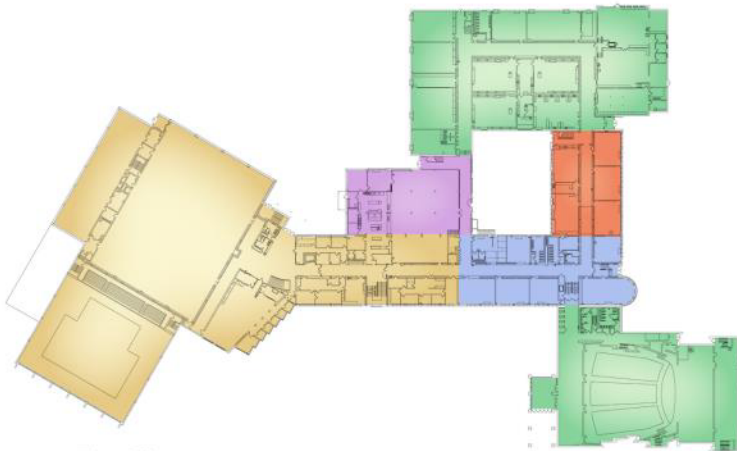
HISTORIC PLAN – NOT TO SCALE



Ground Floor



Second Floor



First Floor

Historical Key - Building Additions

- 1949
- 1950
- 1959
- 1962
- 1965



eppstein uhen : architects

Menomonee Falls School District
North Middle School - Facility Study
 Historical Plan

NORTH ↑



eppstein uhen : architects
 EUA No. 313258-01



SCHOOL DISTRICT OF
MENOMONEE FALLS

SITE PLAN – NOT TO SCALE



BUILDING INSPECTION REPORT

The assessment of site and building systems identifies the condition of categorized elements observed during inspection and graded for relative fitness by the following criteria for expected service.

Good: The reviewed element has been observed to have the following characteristics:

- Is between the beginning and middle of its expected service life.
- Meets optimum functional and / or performance requirements.
- Requires routine maintenance or minor repair.
- Less than 25% of the element is in substandard condition or has failed.

Fair: The reviewed element has been observed to have the following characteristics:

- Is between the middle and end of its expected service life.
- Meets minimum acceptable functional and / or performance requirements.
- Requires attention to repair beyond routine maintenance.
- 25 - 50% of the element is in substandard condition or has failed.

Poor: The reviewed element has been observed to have the following characteristics:

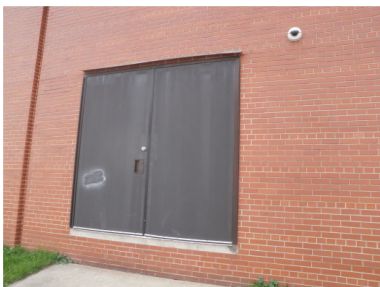
- Is at or has passed the end of its expected service life.
- Fails to meet functional and / or performance requirements.
- Requires excessive and constant attention, and major corrective repair.
- More than 50 percent of the element is in substandard condition or has failed.



Damaged weatherstripping



Maintenance door



Hollow metal door and frame



Aluminum door system

EXTERIOR ENVELOPE

EXTERIOR DOORS

- Expected life span - 20 years for steel, 30 years for aluminum/ FRP systems
- Current Condition - good
- Aluminum and FRP door systems are in good condition.
- Steel doors have areas of rusting on the interior and exterior. The lower portion of exterior steel door and frames are prone to rust and deterioration faster than aluminum is. Steel systems are not thermally broken causing condensation to form on the interior which results in steel corrosion.
 - Some exterior steel doors showed signs of damage. Dings, scratches and dents in steel will allow rust to begin faster and corrode easier than aluminum.
 - Exterior hinges and locksets are prone to fail most and are the most costly to replace. Screw holes may strip out losing holding power, doors may drop and no longer align between lockset and frame latch, closers will fail to due to over burden, and surface applied weatherstripping fails.
- Several of the maintenance doors are not accessible.

RECOMMENDATIONS

1. Replace all exterior steel doors and frames with new FRP (fiber reinforced plastic) doors in aluminum frames. Include replacement of all exterior door hardware.
 - Aluminum door and frame systems have internal gasketing less prone to abuse, will not rust or corrode, have improved screw holding power, can be welded to keep doors straight and will not require painting.



Main entrance bell tower



Chipping paint on overhang



Metal fascia



Mechanical louver

BUILDING CANOPIES / FASCIAS / SOFFITS / MISC

- Life Expectancy – same as building
- Current Condition – good to fair
- Concrete canopy structure at pool roof overhang is damaged and failing.
- The building has several canopies and overhangs.
 - Building soffits and overhangs are generally in good condition but there are areas of chipped, worn paint.
- A metal fascia is provided around the building. This is generally in fair condition. There are areas which are dented.
- Mechanical louvers below windows are dented and damaged in areas.
 - Dents in steel will allow rust to begin faster and corrode.

RECOMMENDATIONS

1. Replace/repair any damaged mechanical louvers.
2. Repaint entrance soffits.
3. As roof replacements are required, replace metal fascia.
4. Repair/tuckpoint concrete canopy structure at pool roof overhang.

GROUNDS

GROUNDS / DRAINAGE

- Concrete and asphalt were reviewed independently. See appendix for reference reports.
- Replace all site railings and handrails, including railing at pool patio.
- Site fencing is failing down.

RECOMMENDATIONS

1. Replace site railings and handrails.
2. Replace/repair site fencing.
3. Repair retaining walls at loading.



Site handrail



Site fencing



Loading



Cracked concrete block wall



Drywall office wall



Deteriorated control joint

INTERIOR

WALLS

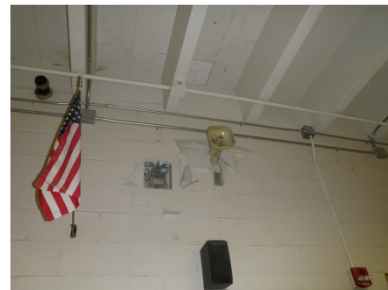
- Expected life span - 50 -100 years with periodic maintenance
- Current Condition - Good
- A majority of the interior walls are concrete masonry units (cmu).
 - There are several walls, particularly in stairwells that have visible cracks.
- Paint is generally in good condition.
 - There are several areas in the Tech Ed spaces (1965 addition) where the paint is peeling.
- Ceramic wall tile is provided in several areas. This is generally in fair shape; however there are portions of crack and damaged tile.
- In areas where control joints are provided, sealant has become deteriorated.
- Drywall walls shown signs of light abuse but have been regularly maintained.
 - Drywall walls are easier and less messy to demolish, easier to rebuild and are more flexible than concrete block. While the durability of walls are essential inside of schools given the nature of abuse they take, for future flexibility the District should consider the types of walls it plans for future spaces given the flexibility, cost and disruption of drywall versus masonry construction.
 - Drywall walls allow flexibility for changes in electrical wiring, computer wiring and plumbing more so than concrete block since the drywall can easily be cut into and the patch will blend easier and look the same as remainder of wall. Concrete block is more difficult to cut into and patch usually ending up with surface mounted electrical or plumbing when changes occur.

RECOMMENDATION

1. Tuckpoint areas of cracked/damaged cmu and cut in controls joints.
2. Scrape walls and repaint areas of tech ed where paint is peeling.
3. Replace damaged ceramic tile (including wall base – see flooring report).
4. Reapply sealant to any control joints.



Damaged wall tile



Peeling paint



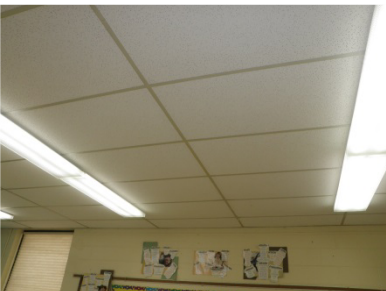
Aging terrazzo



Damaged VCT



Stained ceiling tile



Discolored ceiling grid

FLOOR COVERINGS

- Expected life span Varies
- Carpet – There are limited amounts of carpet in the building; primarily in offices, library. Carpet should be replaced.
 - Library flooring below carpeting needs to be abated.
- Corridors are primarily terrazzo, which is original to the building but holding up very well. There are a few areas with cracks.
- VCT (Vinyl Composition Tile) is in good to fair condition.
 - Areas of scuffed, cracking VCT.
- VAT (Vinyl Asbestos Tile) is in good to fair condition.
- Epoxy flooring in the kitchen is in good condition.
- Recessed walk off mats are installed at all of the vestibules. These are original to the building.
- Ceramic tile wall base is in poor condition throughout the entire building. There are several areas of cracked tile base.

RECOMMENDATIONS

1. Replace all carpet – specifically office areas and library.
2. Continue annual maintenance for VCT flooring. Consider replacing VCT from 1999 project.
3. Consider replacing VAT.
4. Replace wall base in a majority of areas.
5. Replace recessed floor mats with walk-off carpet tiles for more flexibility and easier maintenance.
6. See specialty areas for additional recommendations.

CEILINGS

- Expected life span 15 years
- Current Condition – good to fair
 - A majority of the ceiling tile and grid was replaced or installed in a major three year project in 1999.
- Acoustical ceilings are generally in good shape with few areas or water-damaged or discolored tile.
 - Acoustical lay in ceilings have tendency to sag over time and discolor.
 - Ceiling grid discolors as well.
- When mechanical systems above ceilings are renovated, it is customary to remove and replace the entire ceiling at that time because it is less costly to remove and reinstall the same ceiling.

RECOMMENDATION

1. Replace acoustical lay-in ceiling tile where damaged or water-stained.
 - a. Consider replacing all aging ACT in the entire building.



Doors in 1969 building



Classroom door

DOORS FRAMES AND HARDWARE

- Expected life span 40 years with periodic maintenance
- Current Condition –75% fair, 20% good, 5% poor
- A majority of doors appear to be in fair condition, however due to the use and continued operation of interior wood doors the facing veneer will chip and tear over time and experience scrapes and dents.
- There are areas of the building that still have original wood doors with wood frames.
- All locksets were replaced in 2004 to be ADA compliant. These appear to be in good shape.
- Metal door frames can be repaired and painted. Door chips and scratches can be sanded, filled and restrained to revive an old door. Depending on severity of door or frame damage, it may be cost effective to replace the entire door and frame.

RECOMMENDATIONS

1. Replace doors in poor condition.
2. Paint all metal door frames.



Lockers

CABINETRY, COUNTERTOPS AND LOCKERS

- Expected life span 20-25 years
- Current Condition - good
- Casework is generally in good working condition; however a majority of the building furniture is in need of replacement.
- Corridor lockers are in good working condition.
 - There is some denting and damage. Locker paint is worn.

RECOMMENDATION

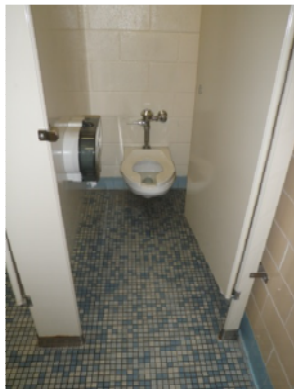
1. Repaint corridor lockers using electrostatic painting technique.



Science casework



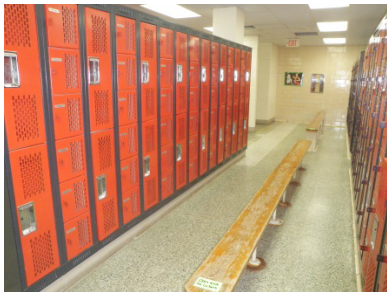
Girls' restroom sinks



Girls' restroom fixtures



Girls; Team Locker Room



Locker Room

SPECIALTY AREAS

RESTROOMS

- Current Condition - fair
- Refer to ADA report for accessibility recommendations
- Finishes are worn and dated but in fair condition
 - Ceramic Floor and Wall Tile (expected life span 40 years) – fair, older grout holds bacteria
- Ceiling- (expected life span 15 years) poor
- Toilet Partitions -(expected life span 15 years) fair
- Accessories – (expected life span 8-10 years) good
- Public restrooms have typically not been updated to be ADA-complaint or to replace finishes. Single-fixture restrooms have been added into the building.

RECOMMENDATION

1. All restrooms (except for single-hole fixture restrooms added in 1999): Remove and replace all finishes: ceilings and wall and floor tile. Replace toilet partitions with anti-graffiti plastic type. Paint all walls that are not tiled.
2. Refer to MEP reports for fixture, ventilation and lighting recommendations.

LOCKER ROOMS

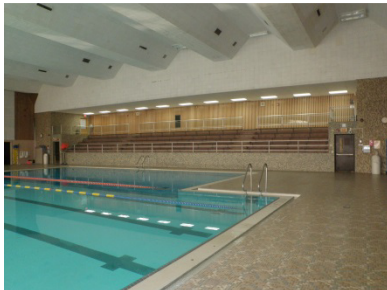
- Current Condition – good to fair
- The locker rooms were updated in 1999.

RECOMMENDATION

1. None.



Pool deck



Pool

POOL

- Current Condition – good condition
- Pool deck tile in fair condition. There are areas of patching.
- Ceramic wall tile in pool area is in good condition.
- There are areas of staining on the ceiling tiles.
- There are several doors in the pool area that need to be replaced.
- Pool filtering equipment is aging.
- Bleachers are in good condition.

RECOMMENDATIONS

1. Consider replacing pool deck tile.
2. Consider replacing pool filtering equipment. Consider installing an emergency shutoff of water in the filter room.
3. See Section 3 – Educational Adequacy Assessment for additional recommendations.



Auditorium seating



Stage floor

AUDITORIUM

- Current Condition – fair condition
- Stage has a wooden floor which is well-worn.
- Carpet in seating area aisles is old and worn. VAT is provided underneath the seats.
- Ceiling Structure – fair.
- Seating fabric is old and worn. There are tears and rips in several seats.

RECOMMENDATIONS

1. Replace seating.
2. Refinish stage floor.
3. Update finishes in seating area (paint, flooring, etc.). Update finishes in Auditorium lobby, including ceiling and flooring.
4. See Section 3 – Educational Adequacy Assessment for additional recommendations.



Gym

GYMNASIUM

- Current Condition – good condition
- Flooring – good condition.
- Basketball backboards and wall mats are in good condition.
- Bleachers are in fair condition but need repair. Sections of railings are missing.
- Divider wall should be replaced. It is original to the building.

RECOMMENDATIONS

4. Replace divider wall. Allow for electrically-operated controls.
5. Repair or replace bleachers.
6. See Section 3 – Educational Adequacy Assessment for additional recommendations.



Divider wall

CAFETERIA

- Current Condition – good condition
- Flooring – good to fair condition.
- There are several areas of damaged wall tile.

RECOMMENDATIONS

5. Replace wall tile.
6. Update finishes.
7. See Section 3 – Educational Adequacy Assessment for additional recommendations.



Cafeteria



Cafeteria



Secure main entry

SECURITY / EMERGENCY

- Main entrance supervision and control is directly secure. See Section 3 – Educational Adequacy Assessment for additional information.
- Exterior/interior camera system is provided.
- Exterior exit door are locked and operable.
- Fire Extinguishers tags are up-to-date.

RECOMMENDATIONS

1. See Section 3 – Educational Adequacy Assessment for additional recommendations.

HEATING VENTILATION AND AIR CONDITIONING

The following report is the result of a site visit by Randy All of Fredericksen Engineering, Inc. that occurred on November 7, 2013. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

The building was constructed in 1948 with a building remodeling completed in 2000 that included a major renovation of the existing HVAC systems.

In general the HVAC systems that were replaced or renovated in 2000 are in good condition, however, the equipment that was not actually replaced is in need of replacement now. Air handling equipment for the gym, pool, auditorium and rooms 202 and 208 is original or original to the addition when it was built.

HEATING SYSTEM

EXISTING DATA

The boiler plant was replaced in 2000 and serves the entire building. The boiler plant consists of three Cleaver Brooks Flexitube hot water boilers each fired with natural gas. Each boiler has an input capacity of 6,000,000 btu.

The piping and pumping system for the boilers is a straight through variable flow pumping arrangement. There are two distinct pairs of system pumps. The first set is sized for full design flow for winter conditions. The second set is sized for reduced capacity for summer and shoulder months. Each set of pumps is controlled by a dual motor switchable variable frequency drive to modulate pump speed to more closely match actual building loads.

OBSERVATIONS

- The boiler plant is in good overall condition. With recommended maintenance, the boilers should continue to serve the facility for approximately 10-15 more years.
- Boiler water chemical systems are in place and are reported to be maintained.
- Insulation at most piping is of adequate thickness.
- Thermometers and gauges are present and appear to be working at all locations.
- Piping is adequately supported where observed.
- The Owner has mentioned that the dual motor switchable variable frequency drives are not desirable.

RECOMMENDATIONS

1. Continue preventative maintenance on the systems.
2. Replace the dual motor switchable variable frequency drives with individual drives for each pump.
3. Provide automation through the digital control system to automatically switch the system pumps based on actual conditions. Currently, the two separate hot water pumping systems must be manually switched over.



Hot Water Boilers



Hot Water Pumps

VENTILATION AND AIR CONDITIONING SYSTEMS

EXISTING DATA

The building is ventilated by multiple system types. These systems include unit ventilators, single zone constant volume systems, variable air volume systems, and constant volume booster coil reheat systems.

The majority of the classrooms are served by unit ventilators. Each unit contains a hot water heating coil and a chilled water cooling coil to maintain the room temperature setpoint.



Air Handling Units

Large volume spaces such as the gym and cafeteria are served by single zone constant volume air handling systems. Each unit contains a hot water heating coil and a chilled water cooling coil to maintain the room temperature setpoint.

The band area and office areas that were renovated in 2000 are served by variable air volume systems that contain individual hot water VAV boxes for room temperature control.

The lower level locker rooms are served by a constant volume booster coil reheat system. The air handling unit contains a hot water heating coil only. Multiple duct-mounted hot water booster coils provide individual room temperature control.

Several older single zone and multi-zone air handling units were retrofitted in 2000 with new hot water heating and chilled water cooling coils. The units were also upgraded to digital control.

Air conditioning is provided throughout a majority of the building by two air-cooled chillers. The chilled water system serves the air handling units and unit ventilators. The system consists of two 135 ton Carrier air-cooled screw type chillers that were installed in 2000. The piping and pumping system serving the chillers is a primary-secondary variable flow arrangement with a variable frequency drive on the secondary system pump to modulate system flow. Each chiller is served by a primary pump to maintain constant flow through the chiller. A separate air conditioning unit that serves the server closet is located on the roof above the administrative offices. A dedicated rooftop unit controls the air conditioning for the administrative and guidance offices.



Boiler Room Fan

Air conditioning is not provided in the gym, auxiliary gym locker rooms or auditorium lobby.

The auditorium multi-zone air handling unit is served by a direct-expansion cooling coil and outdoor condensing unit. The condensing unit was replaced in 2010.

OBSERVATIONS

- The air handling units and unit ventilators installed in 2000 have been well maintained and are in good condition.
- The older air handling equipment has been well maintained but has exceeded its expected service life despite the renovation work performed in 2000. These units are in need of replacement.
- The chilled water system has also been well maintained and is in good overall condition.



Multi-Zone Air Handling Unit

- It was reported that the attendance office and main office areas have been experiencing temperature control issues.

RECOMMENDATIONS

1. Replace the remainder of the air handling equipment that was not replaced in the 2000 renovation project.
2. Continue with the current maintenance program on the 2000 air handling equipment and chilled water system.
3. Provide air conditioning for all spaces where it is currently not provided.

CONTROL SYSTEMS

EXISTING DATA

The temperature control system is a digital control system manufactured by Tour Andover and installed by Kain Energy. The control system was installed as part of the 2000 mechanical systems renovation.

OBSERVATIONS

- The Owner has expressed concerns with the performance of the Tour Andover Inet system.

RECOMMENDATIONS

1. Continue to maintain the existing DDC control system.
2. When any new or replacement equipment is to be installed, consideration should be given to converting the existing DDC system over to an Automated Logic system similar to the high school.

ELECTRICAL

The following report is the result of a site visit by John Russell of Muermann Engineering, LLC that occurred on November 8th, 2013. Site observations and interviews were used in the preparation of this report.

The original building was built in 1948. There have been four (4) additions to the building; one in 1950, 1959, 1962, and the last one in 1965.

ELECTRICAL SERVICE

OBSERVATIONS

- The facility is fed by three (3) electric services. The first service is a 2,000 amp 208Y/120 volt 3 phase, 4 wire. The second service is 800 amp 208Y/120 volt 3 phase, 4 wire. Each of the two services is fed from a We Energies substation transformer located in a vault inside the building. The service age is dated to the 1962 addition to the building. The third service is a 1,200 amp 208Y/120 volt 3 phase 4 wire to serve the auditorium. The service age is dated to the 1965 addition to the building. Historical electrical data provided by We Energies indicates the maximum combined demand for the two services is 324 KW. This equates to approximately 900 amps. The auditorium service has a maximum demand of 141 KW. This equates to approximately 392 amps. This demand data was taken over the past 24 months.
- The main distribution panels are old Square D type with fusible disconnects switches.
- There is no main surge suppression device.
- The chiller has a separate dedicated 800 amp 480Y/277 volt 3 phase electric service.
- The parking lot has a separate dedicated 100 amp 120/240 volt single phase electric service.

RECOMMENDATIONS

1. The main distribution panels have capacity for future loads but do not have space for additional fused disconnects. These panels are approximately 50 years old and are nearing the end of their useful lifespans. New main distribution panel should be installed at this time.
2. We do recommend all electric services be provided with surge devices.
3. Add phase monitoring relays to both services for electrical system protection.



Service Panel 1



Service Panel 2



Service Panel 3



Branch Panel

BRANCH PANELS

OBSERVATIONS

- Most of the branch panels in the facility are newer Square D NQ type.
- There are approximately 15 existing Square D panels that are over 30 years old and should be scheduled for replacement.

RECOMMENDATIONS

1. Keep existing Square D panels in place and add additional circuits if required.
2. Replace the old Square D panels.
3. Replace all old feeder wires.



Classroom Receptacles & Data

RECEPTACLES

OBSERVATIONS

- Receptacles in the classrooms appear to be adequate in most classrooms.

RECOMMENDATIONS

1. Additional receptacles can be added to existing classrooms rooms if required.
2. Provide power and low voltage cabling for smart boards and projectors in classrooms as required.



General Lighting

INTERIOR LIGHTING AND LIGHTING CONTROLS

OBSERVATIONS

- All of the light fixtures in the building have been replaced with acrylic lens 2x4 fixtures with T8 lamps and ballasts. No day lighting sensors were present.
- The fixtures in the classrooms are switched in separate banks and have occupancy sensors.
- There is a GE low-voltage relay lighting control system that controls corridor and common area lights.
- The gym was upgraded to 6-lamp 2x4 high bay type fluorescent lighting fixtures.
- There is an old Hub Electric theatrical dimmer for the auditorium.
- The auditorium house lighting fixtures are old 500W incandescent downlights.
- The Tech Ed shops have old fluorescent industrial fixtures.

RECOMMENDATIONS

1. Replace theatrical dimmer for auditorium.
2. Replace auditorium house light fixtures with dimmable LED downlights. Provide new LED aisle lighting.
3. Remove old GE low-voltage relay lighting control and replace with local line voltage switches.
4. Provide new fluorescent industrial fixtures in Tech Ed shops.
5. Provide ultrasonic occupancy sensors in corridors.



Exterior Lighting

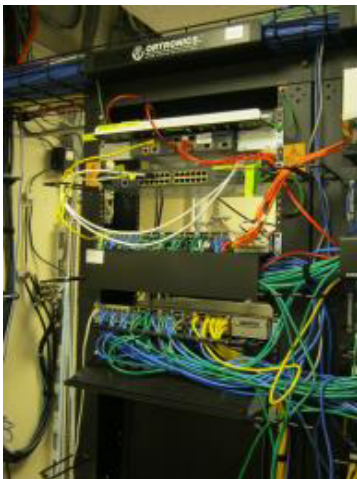
EMERGENCY LIGHTING

OBSERVATIONS

- Exits are powered off the emergency generator.
- Emergency power is provided to fluorescent fixtures through the emergency generator.

RECOMMENDATIONS

1. None.



Data Rack

OUTDOOR LIGHTING

OBSERVATIONS

- The majority of the outdoor lighting consists of wall-mounted or parking lot pole lighting that have metal halide lamps. The parking lot currently has minimal lighting.

RECOMMENDATIONS

1. We would recommend replacement of the existing exterior fixtures with new LED type to increase efficiency and lower maintenance cost.
2. As increased security is addressed, the district may consider adding security lighting around the perimeter of the facility.
3. Add additional parking lot pole fixtures for increased security.

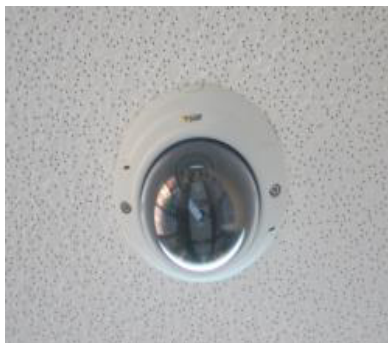
DATA

OBSERVATIONS

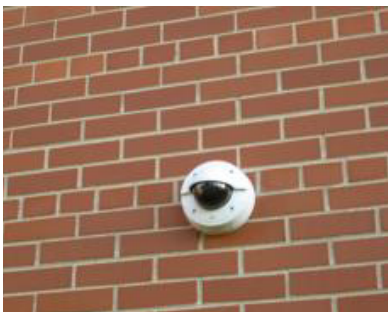
- Data cabling is provided to classrooms and office areas.
- Data cabling is CAT5e, and CAT6.
- Wireless was also installed in some areas. District indicated additional wireless receivers will be installed to provide complete building wide coverage.
- Cabling is routed to a main data rack. The main data rack is located centrally in the building.
- The district has a Cisco VoIP telephone system.

RECOMMENDATIONS

1. New data drops can be added at any point. A possible new data rack may be required to accommodate any new rack-mounted equipment.
2. Provide upgrade to Cisco VoIP telephone system.
3. Provide proper telecom grounding system.



Interior camera



Exterior camera

SECURITY (CCTV/ACCESS CONTROL)

OBSERVATIONS

- A CCTV system was installed in 2013 and consists of IP based cameras.
- Cameras are located on the interior and exterior of the facility.
- This is a state-of-the-art CCTV system and can be expanded as needed.
- There are select exterior doors with access controls. The system head end is an Open Options Access Technology type. This system is networked and is

controlled with FOB's. It appears to be functioning properly and can be expanded.

RECOMMENDATIONS

1. Expand the CCTV system as required.
2. Expand the Door Access system as required.



Keyless Entry



Fire Alarm Control Panel

FIRE ALARM SYSTEM

OBSERVATIONS

- The fire alarm system is a Simplex 4100U addressable type. The system, as it is installed, appears to provide proper coverage with horns and strobes to meet current codes. The fire alarm system is also connected to the dialer.
- An annunciator is located near the front entrance.
- Smoke detectors have been added to classrooms as required by the Menomonee Falls Fire Dept.

RECOMMENDATIONS

1. Continue to test the system to ensure proper operation and code compliance.



Fire Alarm Notification Appliance



Public Address

CLOCK/PUBLIC ADDRESS SYSTEM

OBSERVATIONS

- The building has battery powered Atomix clocks.
- There is a Rauland Telecenter public address system located in the IT room.
- Some classrooms have older public address speakers that are not functioning properly.
- Staff indicated the public address does not work in the auditorium, the auditorium lobby, and the hallway between room 119 and 128.
- Paging is done to rooms through phones.
- The class bells are controlled by a public address system tone.

RECOMMENDATIONS

1. Expand the intercom system as required.
2. Replace old speakers in classrooms.
3. Provide volume controls in classrooms as required.
4. Connect public address system in all buildings for mass notification.



Emergency Generator

EMERGENCY POWER

OBSERVATIONS

- There is an emergency generator that serves this building. The generator is a Generac 100KW. There is one transfer switch for both life safety and equipment circuits. The generator was installed in 1999.
- The generator is natural-gas fueled.

RECOMMENDATIONS

1. Provide additional automatic transfer switch to separate life safety and equipment circuits per code. Add emergency equipment panelboard.
2. Provide emergency power to phone and PA system.

AUDITORIUM SOUND SYSTEM

OBSERVATIONS

- There is an old 50 year old sound system amplifier and recessed ceiling speakers in the Auditorium. The system is no longer functional.

RECOMMENDATIONS

1. Provide new Auditorium sound system.



Transfer Switches

PLUMBING

The following report is the result of a site visit by Tim Kehoe of Muermann Engineering, LLC. that occurred on November 8th, 2013. Site observations, existing plan review, and interviews with staff were all used in the preparation of this report.

RESTROOM FACILITIES

OBSERVATIONS

- Toilet rooms in the school and pool areas are generally in poor condition and in most locations these fixtures are original to the building.
- Water closets are wall-hung flush valve style fixtures. Urinals are floor outlet flush valve style fixtures which are not ADA compliant.
- Lavatories are wall-hung and appear to have been replaced within the last 15 years. The fixtures are in good condition whereas the faucets are in fair condition.
- Auditorium toilet rooms have also been remodeled. Water closets and urinals are wall-hung flush valve fixtures. The lavatories are drop in bowl fixtures with push button faucets. These fixtures are in fair condition.

RECOMMENDATIONS

1. All toilet room fixtures in the school and pool area should be scheduled for replacement. The rooms would need to be renovated to comply with current ADA requirements.
2. Toilet rooms in the Auditorium should be scheduled for renovation.



Typical Floor Outlet Urinals



Typical Water Closet



Typical Wall-Hung Lavatories



Auditorium Toilet Room



Auditorium Lavatory

PLUMBING EQUIPMENT

OBSERVATIONS

- The domestic water heating system for the school consists of two (2) A.O. Smith boilers and a 180 gallon domestic water storage tank. The boilers are old and inefficient. The storage tank is new and in good condition.
 - The water heating system is at the end of its expected life expectancy.
- The domestic water heating system for the school appears to be grossly oversized for the actual building demand.
- Water softening equipment is located within the mechanical room. The water softening equipment is in excellent condition however it is no longer required and is currently in by-pass mode.
- The domestic water heating equipment for the pool consists of an atmospheric boiler and a large storage tank. Both items appear to be in fair condition and sized appropriately for the building demand. Currently, this water heating system does not have redundancy.

RECOMMENDATIONS

1. Replace the existing domestic water heating system with new gas-fired, sealed-combustion, modulating domestic water heaters. The equipment should be sized appropriately for the actual building demand.
2. Schedule the domestic water heaters for the pool to be replaced. The new heaters shall be gas-fired, sealed-combustion, modulating domestic water heaters.



Domestic Water Heaters - School



Storage Tank - School



Domestic Water Heater - Pool



Water Softener

FIRE SPRINKLER SYSTEM

OBSERVATIONS

- Fire protection systems for the school and pool areas are not present in the building. It is likely that any major renovation would require the building to have a fire sprinkler system installed throughout. Further investigation with state codes and the local Fire Marshal would be required to determine if a system would be needed.
- The auditorium is provided with a fire protection system. It is unclear at this time if the sprinkler system is sized appropriately to accommodate the entire building.

RECOMMENDATIONS

1. Provide interior fire sprinkler system for the building as required.

DOMESTIC WATER SUPPLY SYSTEM

OBSERVATIONS

- The water supply piping for this building is a mixture of galvanized and copper piping. Much of the piping in the original building is run in the tunnel below the floor slab. Access to this piping is difficult.
- Some of the main supply piping has been replaced however most of the small branch piping in the walls serving fixtures and toilet rooms remain original to the building.
- The building is supported by a 4" water service and 4" water meter. This service appears to be appropriately sized for the building.
- Water pressure appears to be adequate throughout the building.



Water Piping at Tunnel

RECOMMENDATIONS

1. The remaining galvanized water piping should be scheduled for replacement.

SANITARY WASTE SYSTEM



Sanitary Piping

OBSERVATIONS

- The existing sanitary waste and vent piping is a mixture of cast-iron, galvanized and schedule 40 PVC. Schedule 40 PVC waste and vent piping was used to repair piping failures.
- Schedule 40 PVC was used throughout the 1999 addition. This piping is in good condition.
- The owner indicated that the primary piping system is original and is in good condition. The system was viewed with a camera in 2012 and appeared to be in good condition.
- Two interior grease interceptors are located in the kitchen. Interceptors have been provided for the two-compartment sink and four-compartment sink. The grease interceptors are in good condition and appear to be adequately sized for its usage. Current codes also require the dishwasher to discharge through a grease interceptor.
- Art room sinks appear to have been replaced however only one classroom has been provided with plaster traps.

RECOMMENDATIONS

1. Original sanitary sewers should be scheduled for replacement.
2. Per code, a grease interceptor is not required until modifications are made to the existing kitchen, dishwasher or the original grease interceptor. At that time a new grease interceptor should be added for dishwasher.
3. Continually maintain the existing grease interceptor.
4. Provide plaster traps for all art room sinks

STORM SYSTEM

OBSERVATIONS

- The existing roof drainage system above the gym area leaks continually in heavy rains. It appears that this is a roof drainage problem. It is possible that the existing roof drains and/or piping is undersized in this area. Further investigation is required.
- Piping materials for the storm sewer are original to the building. Materials consist of cast iron, galvanized piping and Schedule 40 PVC depending on the era of the addition.
- The pool building has a large 15" storm sewer that is exposed below the building. Per code, concrete storm piping is not permitted below the footprint of below and is allowed for exterior use only. This piping should be continually monitored and scheduled for replacement.
- Lower levels are provided with clear water sump pumps for drain tile. None of the pumps witnessed are provided with alarms or controls. A sump pump is installed in the lower level to discharge this storm water.
- The owner indicated problems with the storm sewer above room 215.

RECOMMENDATIONS

1. Continually monitor the 15" storm sewer below the building. Piping systems of this style tend to leak at the joints. This piping should be scheduled for replacement.
2. Add controls and alarms to sump pumps.
3. Repair problem with the existing storm sewer above room 215.

PLUMBING FIXTURES – CLASSROOM AREAS

OBSERVATIONS

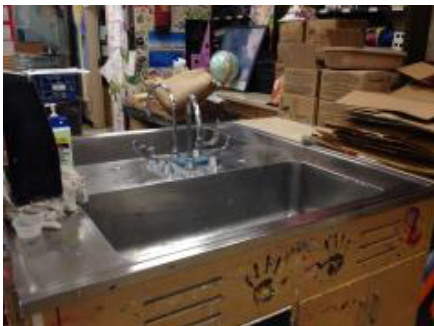
- Classroom sinks are generally in poor condition. Many of the fixtures are original to the building. Only a few classrooms have sinks within the room which is typical of middle schools.
- Science rooms are in fair condition.
- Art room sinks appear to have been recently updated and are in good condition.

RECOMMENDATIONS

1. All classroom fixtures should be scheduled for replacement.
2. Science rooms should be scheduled for replacement.



Storm Piping



Art Room Sinks

AMERICANS WITH DISABILITIES ACT (ADA) - FACILITY COMPLIANCE REPORT

A – SITE

	ITEM	ADA /ANSI A117.1 REFERENCE
1.	Striped and marked accessible vehicle parking spaces are provided.	F208, 502
2.	There is a marked accessible route from the parking to the “designated” main entrance.	502.3
3.	Public sidewalk pavement around the property is compliant at the “front” of the building. Public sidewalk to Auditorium entrance is not complaint.	302, 402, 403
4.	There is no identified accessible loading zone.	503
RECOMMENDATION:		
1. Provide an accessible loading zone. 2. Provide ramp to Auditorium entrance		



Auditorium entrance



Parent entrance

B - INTERIOR ACCOMODATIONS

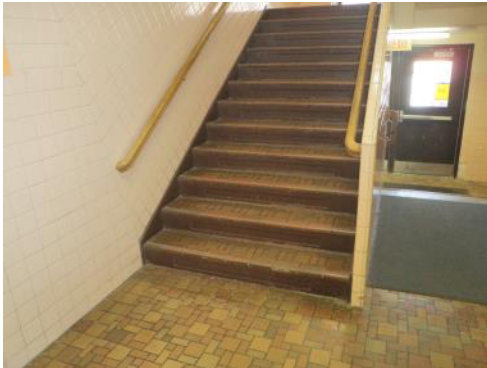
	ITEM	ADA REFERENCE
1.	Main Entrance (attendance office) is accessible.	402, 404
2.	Door hardware was typically updated in 1999 to be accessible.	404
3.	Main Office reception desk meets the requirements for accessibility.	308
4.	Pool bleachers are not accessible.	402, 404
5.	Access to the Auditorium is not accessible from the main entrance. (However a ramp is provided from the parking lot in the alley.)	
RECOMMENDATION:		
1. Consider providing a ramp for access to the auditorium from within the existing building.		
2. Consider providing an accessible entrance for the main exterior entrance off of Garfield Drive.		



Accessible
door lever

C - INTERIOR STAIRS / RAMPS

	ITEM	ADA REFERENCE
1.	Stair handrails do not have compliant extensions. Handrail sizes are not complaint.	505
RECOMMENDATION: 1. As building renovations take place, replace all non-compliant handrails and guardrails.		



Handrail extensions



Handrail extensions

D – ELEVATORS

	ITEM	ADA REFERENCE
1.	An elevator is provided to service all three floors.	407
2.	A lift is provided for the two Tech Ed rooms.	
RECOMMENDATION: 1. None.		



Elevator



Lift at Tech Ed

E - DRINKING FOUNTAINS

	ITEM	ADA REFERENCE
1.	All drinking fountains are not accessible.	602
RECOMMENDATION: 1. Replace any non-compliant drinking fountains.		



ADA-compliant drinking fountain

F - TOILET FACILITIES

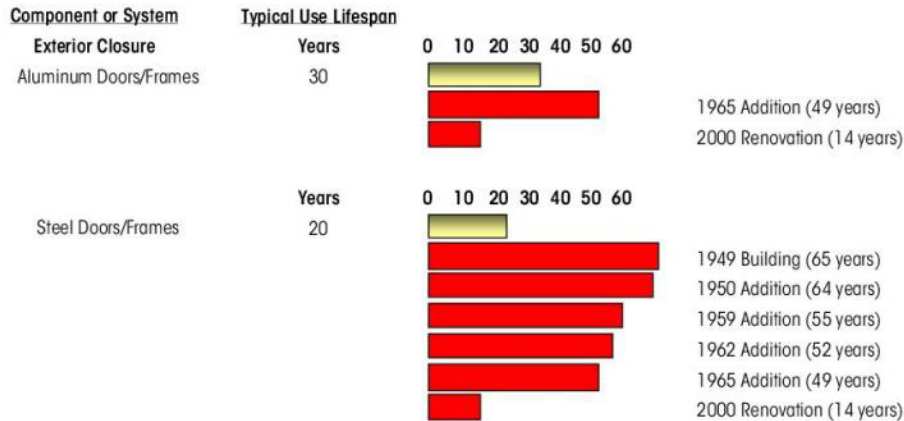
	ITEM	ADA REFERENCE
1.	Toilet facilities in the 1969 portion of the building have not been upgraded to meet accessibility requirements. However a single fixture restroom has been added nearby for students/staff.	603
2.	Toilet facilities at the main entrance are not accessible.	603
3.	Pool locker rooms were updated in 1999 to be accessible.	402. 404, 603
RECOMMENDATION: 1. None.		



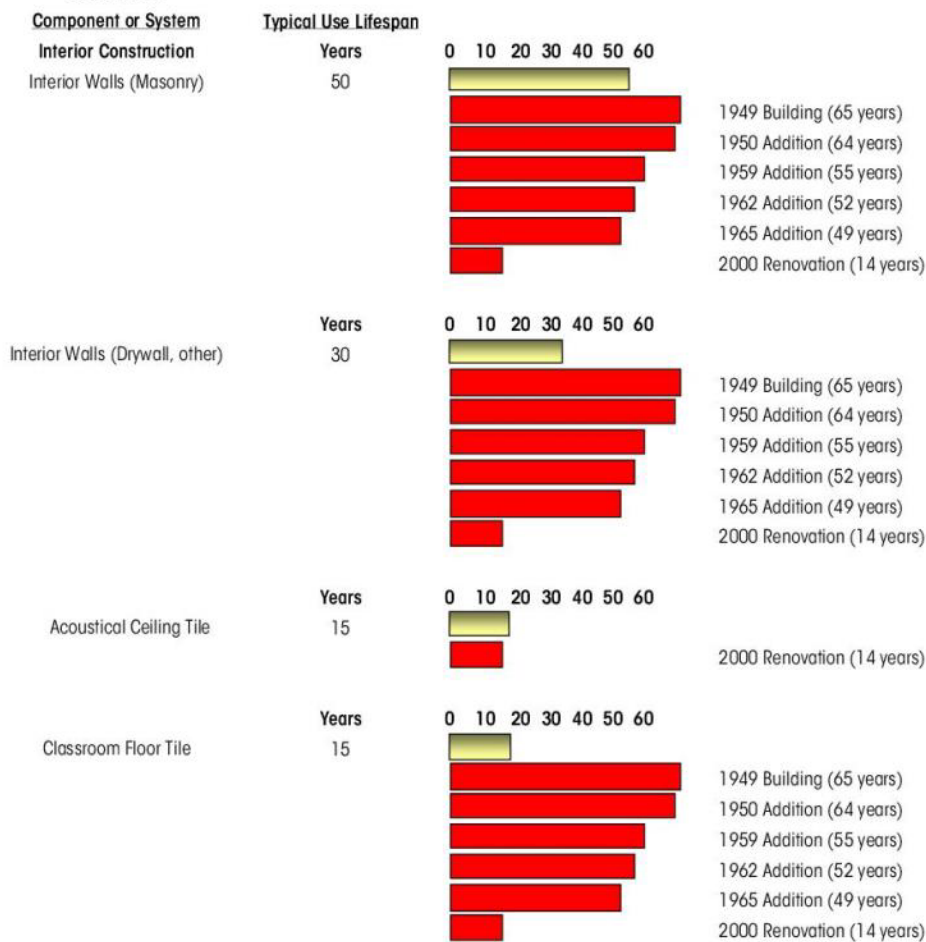
Anticipated Lifespan of Building Components

*Data from Institutional Facilities Manager resources, ASHRE research, and School District Facility Manager client information.

EXTERIOR

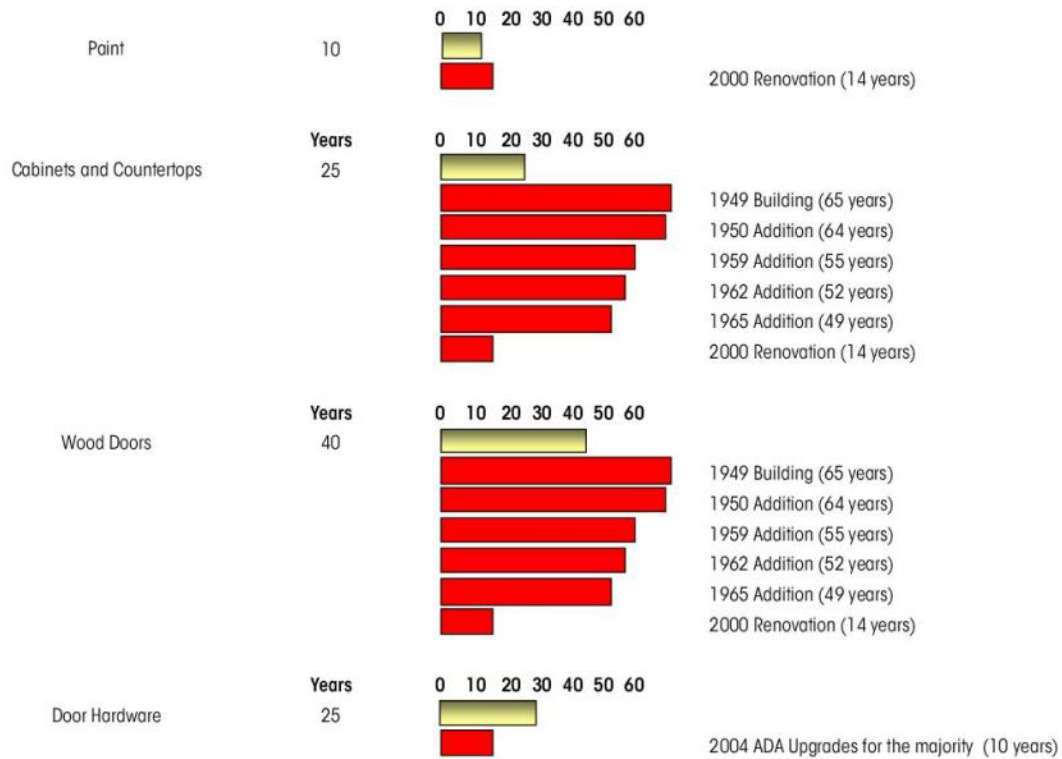


INTERIOR



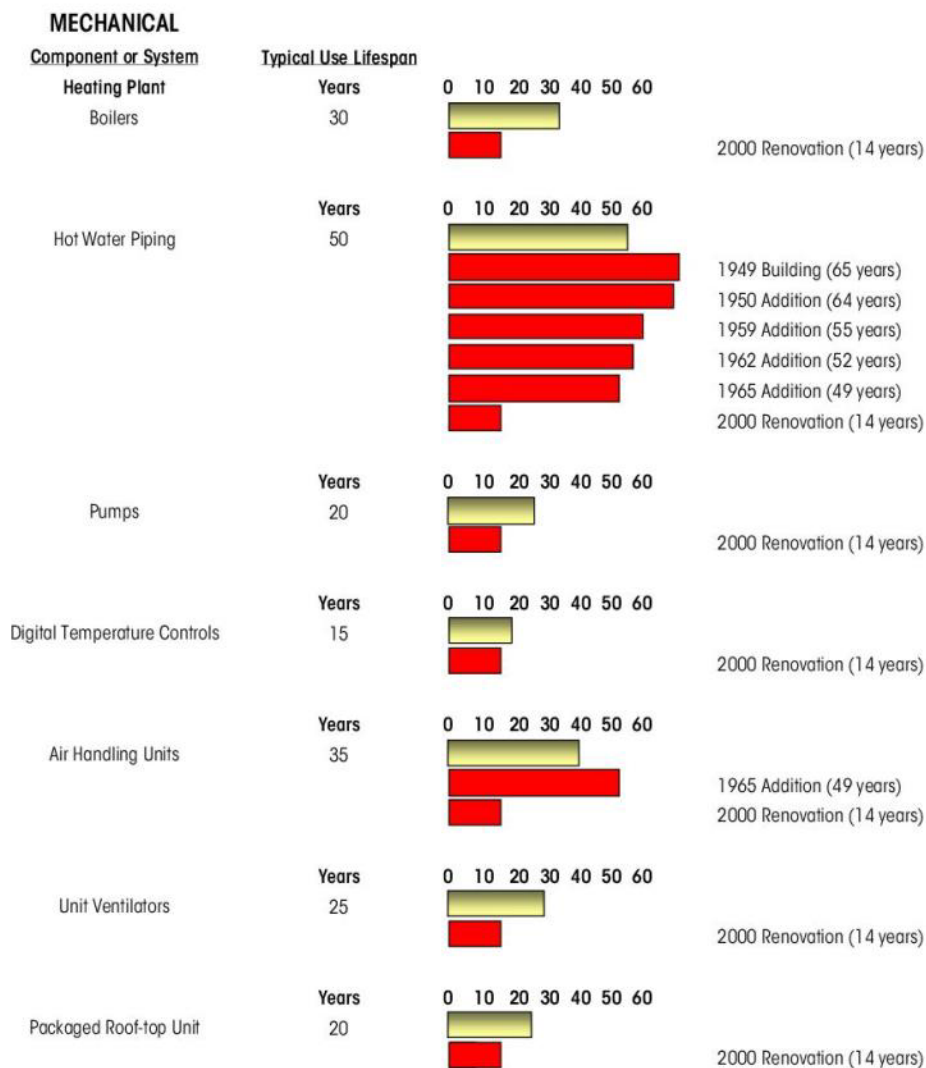
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Anticipated Lifespan of Building Components

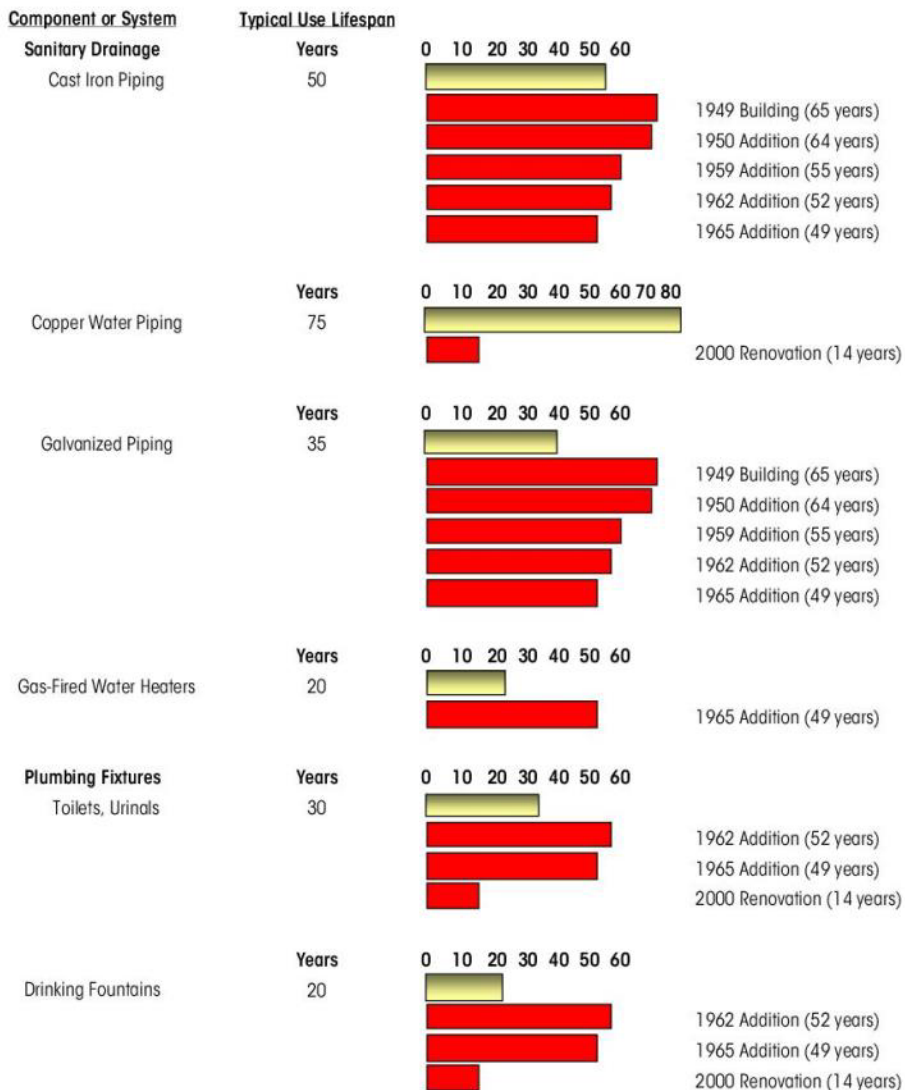
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Anticipated Lifespan of Building Components

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PLUMBING



Anticipated Lifespan of Building Components

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