

Facilities Condition Assessment

For

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I. Executive Summary

JDB Engineering, Inc., was commissioned to conduct an on-site visual observation of the existing building's condition. The assessment focused on the following components: Building Envelope, HVAC, Electrical, Plumbing, and Fire Protection. The assessment of the HVAC, Electrical, Plumbing, and Fire Protection components were completed by JDB Engineering staff. The assessment of the Building Envelope including the Structural components was completed by Nutec Design Associates, Inc., as a consultant to JDB Engineering.

The following report identifies the general physical condition, estimated remaining useful life, noted deficiencies, and recommended actions for all components. Most current building codes do not require system upgrades as the codes change or becomes more stringent. However, as requested, deficiencies of current installations as they relate to current building codes are noted.

The assessments are based upon visual observations obtained during the on-site visits, professional experience, and industry standards. Disassembly of equipment, opening of energized components, destructive testing, or testing of equipment was not utilized in the assessment. A probable estimate of construction cost is included and offers a relative order of magnitude cost for the various recommendations.

II. Architectural

General

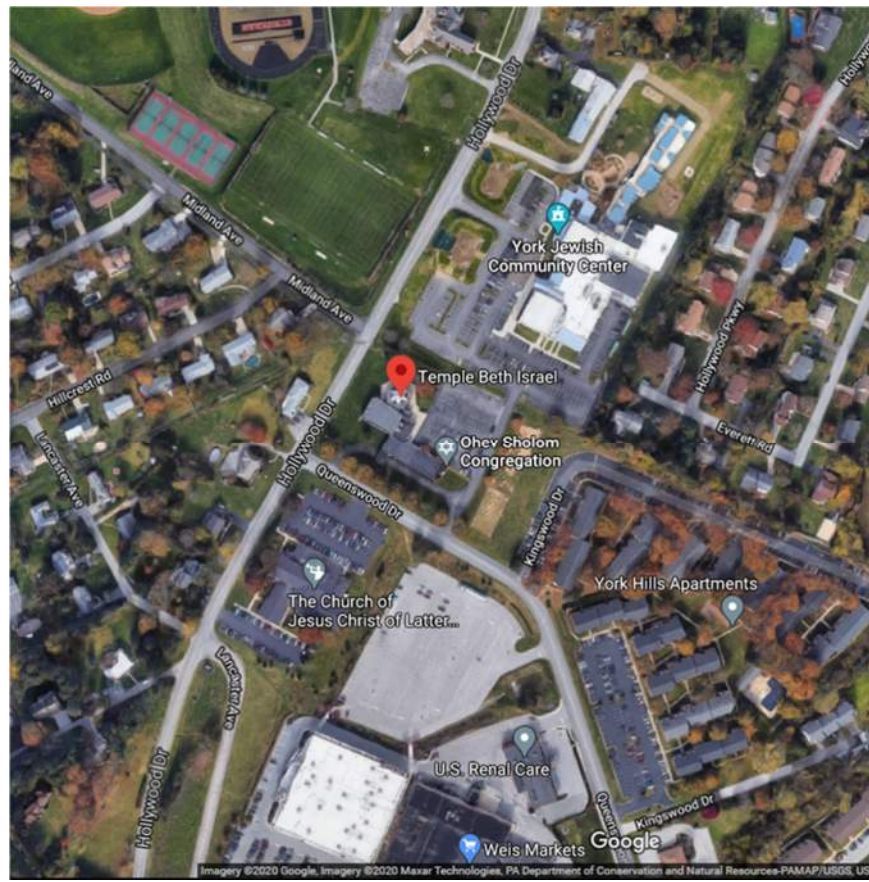
Overall, the building appears to be in good condition. However, there are a few items that require maintenance and should be addressed.

The photographs in this report document the condition of the exterior of the building. They show overall issues encountered during the walkthrough, but do not include all instances of potential maintenance items. There are numerous locations throughout the facility with similar conditions.

Areas of consideration are as follows:

1. Roof
2. Exterior Walls
3. Exterior Stairs and Railings

Location Map



BUILDING CODES AND STANDARDS

Pennsylvania Uniform Construction Code (including but not limited to the following):

- International Building Code 2015
- ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities Standard
- International Energy Conservation Code 2015
- International Existing Building Code 2015
- International Fire Code 2015
- International Mechanical Code 2015
- International Plumbing Code 2015
- NFPA 70-2014, National Electric Code
- American Society of Civil Engineers (ASCE)
- American Institute of Steel Construction (AISC)
- American Concrete Institute (ACI)

AREA 1: ROOF

It was observed that the existing roof is a Carlisle 60mil black EPDM roof. The Owner stated that the entire roof has been replaced, in sections, over the last five years. The anticipated lifespan of this roof type is typically 20-25 years. At the time of the walkthrough, no immediate failure was noted. However, there are a few areas that need addressed:

Item 1.1 Bubbles in seam tape

Potential Cause: Unsure as to why the seam tape is showing bubbles. The seal appears to be intact at time of observation.

Recommendation: Contact installer to evaluate, remove existing bubbled seam tape and install new. Continue to inspect and monitor to ensure the seam stays sealed and bubbles do not pop.



Item 1.2 Debris, dirt and gravel build up

Potential Cause: Exposed weather conditions and time.

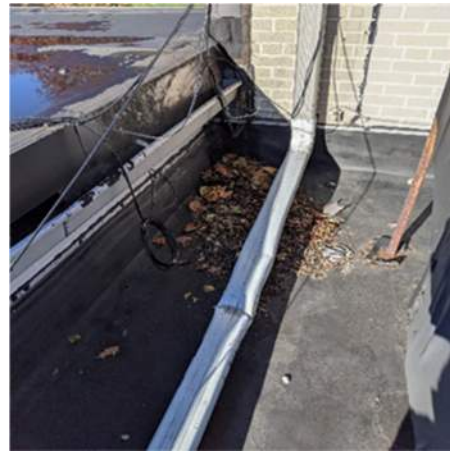
Recommendation: Periodically clean debris from roof and around drains to maintain proper drainage.



Item 1.3 Downspout replacement

Potential Cause: Exposed weather conditions, human traffic.

Recommendation: Replace portions of crushed or bent downspouts. If using concrete blocks to support and tilt downspouts, protective pad should be used to protect roof membrane from punctures and wear.

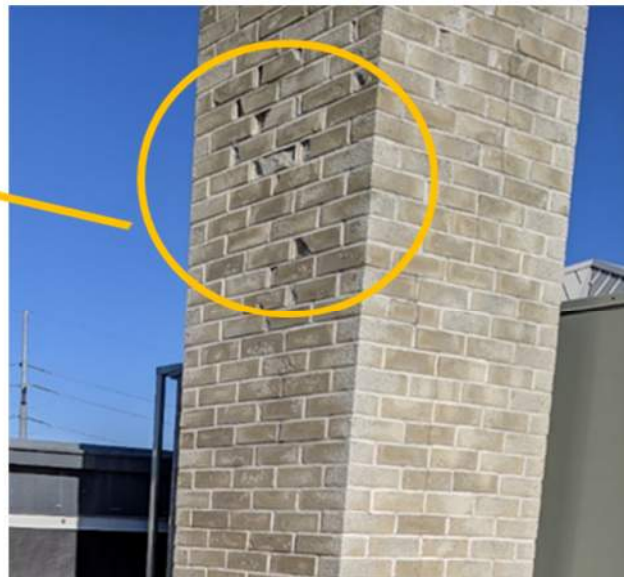




Item 1.4 Chimney brick shows wear, but appears to be in good condition

Potential Cause: Exposed Weather conditions and age of materials.

Recommendation: Periodically inspect chimney for signs of further wear and deterioration.



Item 1.5

Clean gutters

Potential Cause: Exposed weather conditions and time.

Recommendation: Periodically clean leaves and debris from gutters to ensure proper drainage flow.



Item 1.6

Puncture in roof membrane

Recommendation: Puncture should be patched.



AREA 2: EXTERIOR WALLS

It was observed that the existing exterior wall construction is a mix of brick, stone cladding, and precast paneling. At the time of the walkthrough, no immediate failure was noted. However, there are a few areas that need addressed:

Item 2.1 Step cracking in brick

Potential Cause: Movement due to thermal expansion and contraction or possible foundation settlement. Current construction practice recommends expansion joints at no more than 30'-0" on center, at openings, and within 3'-0" of a wall corner, however, no expansion joints were noted in the existing walls. There are no signs indicating an immediate structural failure is occurring, for example, differential settlement of foundations, large (greater than ¼") vertical cracking, or horizontal cracking.

Recommendation: There are two options to consider: (1) Further investigation including crack monitoring or subsurface investigation to confirm the probable cause of cracking, or (2) Cut expansion joints and repoint.



Item 2.2 Precast panel movement

Potential Cause: Thermal expansion and contraction action, settlement, previous replacement. Large, unsealed gaps allow water to penetrate wall system.

Recommendation: Remove precast panel and clean surface. Patch panel to match adjacent surfaces.



Item 2.3 Brick deterioration at wall base

Potential Cause: De-icing agents used on walking paths, snow being piled against brick walls.

Recommendation: Continue to monitor. If in the future, integrity is compromised, remove and replace.



Item 2.4 Sealant deterioration around windows and doors, in between panels, at intersecting materials

Potential Cause: Exposed weather conditions and age of materials.

Recommendation: Remove sealant and any backer material completely. Clean joint to prepare for new joint. Install new backer material and apply sealant. Make sure the joint sealant will provide the proper adhesion to the materials it will contact. Consider installation time (Fall/Spring), when joint should be at the “in-between” point of movement. Allow sealant to cure properly.



Item 2.5 Stone deterioration

Potential Cause: Exposed weather conditions and age of materials.

Recommendation: No immediate fix. Continue observation for any change.



Item 2.6

Concrete slab separated from wall and allows water through

Potential Cause: Settlement, freeze/thaw action.

Recommendation: There are two options to consider: (1) Remove and replace, or (2) Patch and seal crack to be weathertight.



Item 2.7

Precast panel gaps

Potential Cause: Panels cut and installed after initial construction. Large, unsealed gaps allow moisture to penetrate wall system.

Recommendation: Clean joints and provide backer rod and sealant for weathertight seal.



AREA 3: EXTERIOR STAIR AND RAILINGS

Item 3.1 Concrete deterioration

Potential Cause: Water infiltration, de-icing agents, freeze/thaw action, corrosion.

Recommendation: Patch concrete using standard concrete repair materials and manufacturer's recommendations.



Item 3.2 Steel railing is showing signs of deterioration and rust

Potential Cause: Exposed weather conditions, de-icing agents.

Recommendation: Replace any railings that are not structurally sound. Where railings are acceptable, clean, prepare surface, and provide new finish.

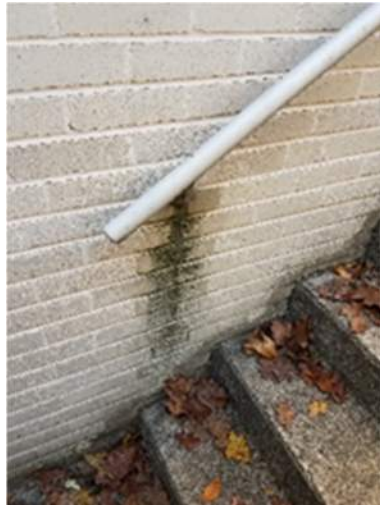


AREA 4: EGRESS AND ACCESSIBILITY CONFORMANCE

During the walkthrough, several conditions were noted that do not meet current egress requirements and accessibility standards. However, these are all existing conditions, and unless a significant amount of construction work were to be completed, these conditions can remain as-is. A few areas to note:

Item 4.1 Existing exterior stair does not meet current code requirements

Recommendation: Remove existing handrails and replace with code-compliant hand rails at appropriate height, circumference, and extensions.



Item 4.2 Several existing exterior doors have non-compliant hardware

Recommendation: Remove existing door hardware and replace with code-compliant hardware.



Item 4.3

Several existing exterior doors have non-compliant sill conditions

Recommendation: Provide code-compliant sills. Options to consider are to provide new sills, ramp/slope access, etc.



ORDER OF MAGNITUDE COSTS

Please note, for conceptual budgets, considerable assumptions have been made based on historical data and field installation subcontractor interaction. It is important to appreciate that a fair degree of subjectivity formed the basis of the budget.

To predict the actual construction costs to a more definitive accuracy, further design/engineering will be required. Additionally, at this conceptual stage it is important to recognize competitive bids from subcontractors have not yet been obtained.

Based on this preliminary effort, the order of magnitude estimate is as follows:

Order of Magnitude Estimate

AREA 1: ROOF

Item 1.1	Bubbles in seam tape	contact roof installer for warranty
Item 1.2	Debris, dirt and gravel build up	general maintenance item
Item 1.3	Downspout replacement	general maintenance item
Item 1.4	Chimney brick	continue to monitor
Item 1.5	Clean gutters	general maintenance item
Item 1.6	Puncture in roof membrane	contact roof installer – \$1000

AREA 2: EXTERIOR WALLS

Item 2.1	Step cracking in brick	continue to monitor, \$2000-\$4000
Item 2.2	Precast panel movement	\$2000-\$3000
Item 2.3	Brick deterioration at wall base	continue to monitor
Item 2.4	Sealant deterioration	general maintenance item
Item 2.5	Stone deterioration	continue to monitor
Item 2.6	Concrete slab separated from wall	\$1000-\$3000
Item 2.7	Precast panel gaps	\$500-\$1000

AREA 3: EXTERIOR STAIR AND RAILINGS

Item 3.1	Concrete deterioration	\$500-\$1500
Item 3.2	Steel railing	\$500-\$1500

AREA 4: EGRESS AND ACCESSIBILITY CONFORMANCE

Item 4.1	Existing exterior stair	\$500-\$1200
Item 4.2	Exterior doors: non-compliant hardware	\$500-\$2500 per door
Item 4.3	Exterior doors: non-compliant sill conditions	\$750-\$2500 per location

III. STRUCTURAL

A. Underslab Pipe Trenches

1. Description

- a) Consist of load bearing concrete masonry unit (CMU) walls supporting 4" concrete reinforced concrete slabs on form deck. The interior CMU walls are supported over the trenches by angle lintels and the base of the trenches is gravel and dirt.
- b) At some time during the lifespan of the building, the floor of the trenches were lined with plastic to discourage water infiltration from the ground. Condensation was noted below the plastic as well as some areas of standing water on top of the plastic.

2. Deficiencies

- a) Significant steel deck and lintel rust was noted, as well as deterioration of utilities, conduits, and supports.
- b) Based on the existing building drawings provided by Beth Israel, the reinforced four (4) inch concrete slab is adequate to span the pipe trenches.

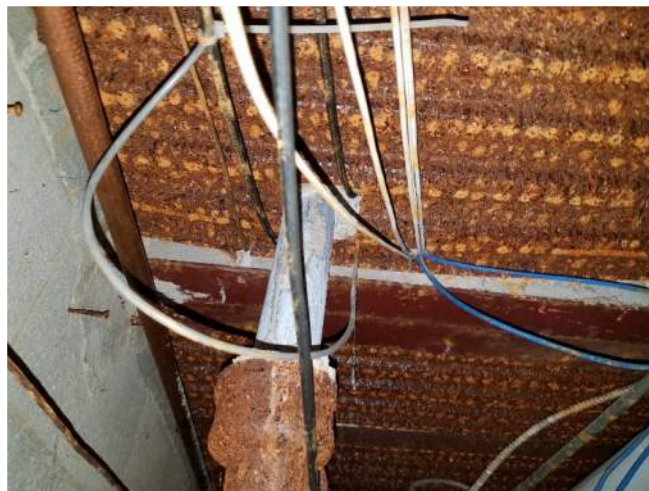
3. Code Violations

- a) No code violations found

4. Recommended Action

- a) Clean and repaint the lintels to provide protection against moisture in the trenches.

5. Probable Construction Cost \$8,000 - \$10,000



B. Pipes and Utilities in Pipe Trenches

1. Description
 - a) Located in underslab pipe trenches were supported by a combination of steel angles and hangers.
2. Deficiencies
 - a) These supports showed signs of significant rust, as did some areas of the utilities.
3. Code Violations
 - a) No code violations found
4. Recommended Action
 - a) Monitor the pipe supports and utilities for extensive deterioration and replace as required to maintain utility systems and support.
5. Probable Construction Cost
 - a) Include allowance with yearly maintenance budget



C. Basement

1. Description

- a) Consists of a five (5) inch concrete slab on grade reinforced with welded wire fabric and CMU walls.

2. Deficiencies

- a) Cracks were noted in the concrete floor which we believe were caused by a lack of contraction joints in the slab. Current construction practice recommends joints at no more than 15'-0" on center for a five (5) inch slab and the existing floor exceeded that spacing. Also, minor step cracks were noted in the CMU walls. These cracks could have been caused by differential settlement, but they are minor in nature (less than 1/8" wide).

3. Code Violations

- a) No code violations found

4. Recommended Action

- a) Monitor the basement for signs of change in the slab and wall cracks.

5. Probable Construction Cost

- a) Not applicable



D. Building Superstructure

1. Description

- a) Consists of load bearing CMU walls supporting steel joists or beams. Different wall finishes are present including decorative stone, precast panels, and brick.

2. Deficiencies

- a) At one (1) beam bearing location in the Education Building main vestibule, a step crack was noted in the brick below a steel beam bearing location that is located next to an interior door opening. Current construction practice recommends installing expansion joints at a maximum of 30'-0" on center, at wall openings, and within 3'-0" of wall corners. No joints were found in the existing construction, therefore we believe the step crack to be the result of thermal expansion and contraction of the wall.

3. Code Violations

- a) It appears the existing building was designed for the codes in place at the time of construction. No visual observations indicated significant structural issues with the lateral system. Though codes have changes since the original construction, structural upgrades are not typically required unless a change of building occupancy, change of building use, or major renovation is planned

4. Recommended Action

- a) Conduct additional investigation to confirm the CMU bearing wall is still intact behind the brick. This investigation consists of removing the wall finish, visually observing the CMU load-bearing wall, and patching to match the existing finish.

5. Probable Construction Cost

- a) \$2,500-\$3,500 (Cost is for investigation only)



E. Rooftop Unit Dunnage

1. Description
 - a) Consists of steel wide flange shapes supporting existing rooftop units.
2. Deficiencies
 - a) Significant rust was noted on most of the dunnage members.
3. Code Violations
 - a) No code violations found
4. Recommended Action
 - a) Clean and repaint the dunnage steel to increase the lifespan of the support members.
5. Probable Construction Cost
 - a) \$5,000-\$8,000



IV. PLUMBING SYSTEMS

A. Equipment

1. Description

- a) Domestic hot water is generated through an indirect water heater which utilizes water from the gas fired heating boilers to heat the domestic water through a stainless steel storage tank. A thermal expansion tank is installed on the indirect water heater.
- b) The kitchen dishwasher unit is a commercial stainless steel, counter mounted unit with an internal booster heater.
- c) A mechanical type grease interceptor is used to collect grease laden sanitary sewer from kitchen equipment. The grease interceptor is fully recessed in the kitchen floor.
- d) A sanitary sump pump discharges a portion of the building drainage to the municipal sewer system. The sump pumps are submersible type.

2. Deficiencies

- a) Refer to Appendix A - Plumbing for details on specific equipment.

3. Code Violations

- a) The kitchen dishwasher and single bowl dish cleaning sink are directly connected to the sanitary sewer system.

4. Recommended Action

- a) Provide a floor sink or indirect connection for the kitchen dishwasher and single bowl dish cleaning sink.

5. Probable Construction Cost

- a) \$1,000

B. Fixtures

1. Description

- a) Sensor operated flush valve type water closets and urinals are provided in the public men's and women's and one accessible restroom.
- b) Wall mounted vitreous china lavatories with sensor operated faucets are provided in the public men's, women's, and one accessible restroom.

- c) Flush tank water closets and counter mounted vitreous china lavatories with manual faucets are provided in the private office restrooms.
 - d) A hi-low accessible water cooler is located in the classroom corridor.
 - e) A wall mounted porcelain service sink is located in the classroom corridor storage closet.
 - f) A stainless steel single bowl dish cleaning sink is provided in the kitchen. Included is a pre-rinse hose and sprayer.
2. Deficiencies
 - a) Refer to Appendix A for details on specific equipment.
 3. Code Violations
 - a) Per the current ADA standard the public accessible lavatory water supply and drain piping must be covered.
 4. Recommended Action
 - a) Cover the lavatory water supply and drain piping with a preformed insulation kit.
 5. Probable Construction Cost
 - a) \$300

C. Natural Gas System

1. Description
 - a) Columbia Gas of PA provides a low pressure natural gas service to the building. The gas distribution pressure is 2 psig.
 - b) The gas meter is located outside at the east side of the building adjacent to the boiler room stairway.
 - c) The gas piping serves the heating hot water boilers, the HVAC rooftop units, and kitchen equipment. The piping system is black steel pipe with threaded fittings and joints.
2. Deficiencies
 - a) The natural gas piping is severely corroded near the exterior rooftop units.
3. Code Violations
 - a) No code violations found.

4. Recommended Action

- a) Paint the outdoor natural gas piping to protect it from the environment. Some portions of piping may need to be replaced due to level of corrosion.

5. Probable Construction Cost

- a) \$3,000

D. Domestic Water System

1. Description

- a) A 2-inch domestic water service enters the north side of the building into the boiler room located below grade.
- b) A pressure reducing valve lowers the building water pressure to approximately 75 psig.
- c) A double check backflow preventer is installed on the domestic water service.
- d) Domestic cold and hot water is distributed to plumbing fixtures and equipment. Copper piping was utilized for the domestic water piping. A Taco circulator pump takes water from the storage tank to the indirect water heater tank.
- e) The domestic hot water distribution temperature is controlled by a master mixing valve located in the boiler room. 140 degree F. hot water is distributed to the plumbing fixtures throughout the building.

2. Deficiencies

- a) The domestic hot water system does not recirculate water.
- b) The domestic water piping insulation needs replaced.

3. Code Violations

- b) Insulation required per the current code is 1-inch for hot water from water heater to plumbing fixture.
- c) There is no means to prevent the public or employees from being scalded at the lavatories and sinks.
- d) Per the current code, the maximum allowable hot water pipe length without recirculation to the public lavatories is exceeded.

4. Recommended Action

- a) Provide insulation on the domestic hot water piping.

- b) Provide point-of use mixing valves at each fixture to limit the hot water temperature 110 degree F.
- c) Provide recirculation hot water piping and circulator pump to water heater to maintain hot water temperature requirements.
- d) Extend hot water piping to within 18 inches of the fixture's outlet based on the current energy code.

5. Probable Construction Cost

- | | | |
|----|--|---------|
| a) | Domestic hot water piping insulation | \$6,000 |
| b) | Point of use mixing valves at each fixture | \$3,400 |
| c) | Recirculation hot water piping and circulator pump to water heater | \$3,500 |
| d) | Hot water piping within 18 inches of the fixture's outlet | \$500 |

E. Drains and Waste

1. Description

- a) Sanitary building drainage is collected from the plumbing fixtures and equipment and routed underground to the east side of the building. A 4-inch sanitary building drain exits the building. A house trap is provided at this location. The exterior building drainage extends and connects to the municipal sewer system located on the north side of the building.
- b) Grease laden waste is routed from the dishwasher and dish cleaning sink to a grease interceptor prior to entering a sanitary sump pit.
- c) The floor drains in the boiler room also discharge into the sanitary sump pit.
- d) The pumped sanitary piping is PVC and routed through the crawl space to the municipal sewer system. The piping appears to be recently installed.

2. Deficiencies

- a) Condition of the underground building sanitary piping system is not known. A camera scan of the sanitary system will help in accessing the condition.

3. Code Violations

- a) No code violations found.

4. Recommended Action
 - a) Provide a scan of underground building sanitary piping system.
5. Probable Construction Cost
 - a) \$2,500

F. Storm Drainage

1. Description
 - a) Rainwater is collected in gutters and discharged into downspouts which are routed to below grade. A portion of the rainwater is collected via roof drains and piping which is also routed to below grade. Storm water piping materials vary throughout the building. They include lead lined copper, aluminum, and PVC piping.
2. Deficiencies
 - a) Presently, there are no secondary roof drains or distribution system.
3. Code Violation
 - a) No secondary roof drains or distribution system.
4. Recommended Action
 - a) Provide secondary roof drains and distribution system.
5. Probable Construction Cost
 - a) \$4,000

V. MECHANICAL SYSTEMS

A. Equipment

1. Description

- a) Central Heating System: Two gas fired condensing hot water heating boilers, associated (2) primary loop boiler pumps, expansion tank and 20 gallon buffer tank are located in the basement mechanical room. The boilers were operating at 180 F during the survey. Maintenance staff were on-site to do programming of the boilers during the survey. Six circulator pumps are used to circulate hot water for heating to each perimeter temperature control zone in the building. All of the central heating equipment is new and recently installed.
- b) Classrooms, Conference rooms and Offices: Multiple split system heat pumps with direct expansion (DX) refrigeration and heating. Each split system utilizes a heat pump located outdoors connected via refrigerant piping to one or multiple wall mounted evaporators located indoors. The newer split systems utilize R-410A and the older units utilize R-22 refrigerant. Hot water baseboard radiation is used for perimeter heating under the windows and for heated-only spaces such as in the corridor. Heat pumps generally produce little to no heating when temperatures are less than 17 F. The perimeter hot water baseboard radiation will supplement the heat pump during the heating season as well as prevent drafts along the windows.
- c) Auditorium, Social Hall and Kitchen: Two 15-ton rooftop air conditioning units with direct expansion (DX) refrigeration and natural gas heating serve the auditorium and social hall. The units are configured for single zone control with a constant volume air distribution system. The rooftop units utilize three duct mounted electric coils for reheat to maintain space temperature control. The duct coils have since been disconnected and are not in operation. Hot water baseboard radiation is used for perimeter heating under the windows in the social hall and electric unit heaters around the perimeter of the auditorium.
- d) Exhaust/Make-up Air System: A centrifugal upblast roof fan is ducted to a kitchen hood to exhaust odors, grease and contaminants from the kitchen. A switch is located along the hood to operate the hood and associated exhaust fan. Makeup air is provided by a hot water fan coil unit (heating only). The fan coil

unit is located in the top of the storage closet in the kitchen. The unit appears to be original to the building.

- e) Basement Mechanical Room: Ventilation is provided by a wall louver located above the door. Heating is provided by a hot water horizontal unit heater.
- f) Toilet Rooms: Multiple combination ceiling mounted light/exhaust fans are ducted to relief ventilators on the roof for the private restrooms. The main men's and women's restrooms are also ducted from a ceiling fan to a relief ventilator on the roof.
- g) Miscellaneous Areas: Hot water cabinet unit heaters serve the end of the classroom corridor, lobby and vestibule area.

2. Deficiencies

- a) Refer to Appendix B - HVAC for details on specific equipment.
- b) PVC piping is utilized for flue venting through the chimney. Typically, PVC piping maximum service temperature is 140 F. Boiler flue temperatures according to the manufacturer will be approximately 190 F when operating hot water temperatures of 180 F.
- c) Large conference room split system (SSHP-1) is beyond its service life and utilizes R-22 refrigerant. R-22 is no longer being manufactured due to being harmful to the environment and will be difficult to find in the near future.
- d) Rooftop units are within 5 years of being at their service life and a plan for replacement should be put in place.
- e) Perimeter hot water baseboard radiation throughout the facility is in fair condition, heating coil fins are dirty and are beyond their service life. This is assuming the heating coils have never been replaced.
- f) Electric unit heaters in the auditorium, storage closet, speaker loft, and kitchen entry area are beyond their service life and may need replaced.
- g) No makeup air is provided to the kitchen to replace the exhaust air from the kitchen hood. An outdoor air louver is located near the entry area but not in the kitchen.
- h) Exhaust system for the men's and women's restrooms does not appear to be in operation.
- i) In the classroom corridor, the cabinet unit heater at the end of the hallway is in poor condition, past its service life and needs replaced.

The fan coil unit in the kitchen closet is past its service life and needs replaced.

3. Code Violation

- a) The outdoor air intake of the rooftop unit (RTU-2) is within 10 feet of the centrifugal exhaust fan associated with the kitchen hood.

4. Recommended Action

- a) Check with local authority having jurisdiction to see if PVC was acceptable for this installation.
- b) Replace split system air conditioning system serving large conference room (SSHP-1).
- c) Replace rooftop air conditioning units serving the social hall and the auditorium.
- d) Replace hot water baseboard radiation throughout the building. The hot water baseboard cabinets can remain, however, replace the heating coil element, internal pipe and associated valves and connect back to existing piping. Provide new controls with replacement of coils.
- e) Replace electric unit heaters which are in poor condition and beyond their service life. The unit heater in the worst condition is in kitchen entry. The other unit heaters in the auditorium are in better condition and may not need replaced immediately. Monitor these units for failing parts, assemblies and any repair costs and put a plan in place for future replacement. These units are mounted within the wall and new units may not match the exact size.
- f) Replace the fan coil unit (heater) in the kitchen with a gas fired makeup air unit/exhaust fan combination unit. The makeup air unit will operate in conjunction with the kitchen hood and associated exhaust fan. The exhaust fan needs to be relocated due to being within 10 feet of the outdoor air intake and a combination replacement unit will minimize roof penetrations and supports.
- g) Replace the men's and women's restroom exhaust system with a centrifugal roof fan. Provide exhaust ductwork and exhaust registers to the men's and women's restrooms.
- h) Replace the classroom corridor cabinet unit heater.
- i) Replace split system pipe insulation on the roof due to deterioration.

5. Probable Construction Cost

- a) Flue No Cost

b)	Replacement split system heat pump (SSHP-1)	\$5,000
c)	Replacement of (2) 15-ton rooftop units	\$50,000
d)	Replacement of hot water heating coil, valves, and controls in hot water baseboard radiation throughout the building	\$35,000
e)	Replacement of kitchen entry area unit heater	\$2,000
f)	Provide combination kitchen exhaust/makeup air unit with associated ductwork and connections to existing kitchen hood	\$20,000
g)	Replace men's and women's restroom exhaust system and associated ductwork, registers	\$3,000
h)	Replacement of corridor cabinet unit heater and controls	\$2,000
i)	Replacement of refrigerant piping insulation on roof	\$1,000

B. Air Distribution systems

1. Description

- a) Rectangular galvanized steel ductwork, externally insulated with duct-board, is utilized for concealed locations. External rubber jacketing is utilized for supply air and return air ductwork located outdoors above the roof.
- b) The return air for both rooftop units is located in the rear of the social hall in a storage room.

2. Deficiencies

- a) Deterioration of the rubber jacketing on the ductwork on the roof. Puddles of water are also piling on the rubber ductwork.
- b) The doors between the social hall and the auditorium must remain open as a return air path for the unit serving the auditorium.

3. Recommended Action

- a) Patch the portions of rubber jacketing located above the roof which have deteriorated and provide slope to rubber jacketing to avoid puddles of water on ductwork.
- b) Provide transfer air with two 90 degree rectangular elbows for sound attenuation between social hall and auditorium.

4. Probable Construction Cost

- a) Patch of rubber jacketing on ductwork above the roof \$1,000

b) Transfer air duct and associated registers \$2,000

C. Terminal Devices

1. Description

- a) (12) Sidewall supply registers are utilized in the auditorium.
- b) (6) Rows of linear slot diffusers are utilized in the social hall.
- c) Two return registers located in the storage closet ceiling provide return air to both rooftop units.
- d) A ceiling diffuser and a return register is utilized in the kitchen.
- e) A propeller fan is located in the center of the auditorium near the roof.

2. Deficiency

- a) Propeller fan near roof is not operable.

3. Recommended action

- a) Replace ceiling fan with multispeed fan.

4. Probable Construction Cost

- a) Provide ceiling fan and controls \$1,000

D. Associated Piping

1. Description

- a) Heating hot water piping utilizes copper tube throughout. Piping in the boiler room has been recently replaced. Branch hot water piping located in the crawl space is original to the building according to maintenance staff and the insulation was recently replaced on all the piping.

2. Deficiencies

- a) Piping service life is drastically different depending on the quality of water, velocity and pressure on the piping. Although the piping is old, according to maintenance staff, the piping has not had many problems. Typically, pitting occurs near elbows and pinholes are formed overtime which leads to a failure.

3. Recommended action

- a) No course of action at this time other than monitoring the hot water heating piping for failures.

E. Controls

1. Description

- a) Automatic Temperature Controls: The electric controls for the rooftop unit include an air side economizer cycle and a night setback programmable thermostat with digital display.
- b) Each hot water baseboard radiation loop utilizes a programmable thermostat with digital display or wall mounted thermostat and associated circulator pump. There are a total of six heating loops. One loop was recently modified to add (2) zone control valves to decouple the offices from the classrooms.
- c) Boiler controls are standalone and a digital display is located on each boiler.

2. Deficiencies

- a) New programmable thermostats have been installed and according to maintenance staff, occupied schedule and unoccupied schedules have not been set up. Proper setup of schedules with setback and setup temperatures reduces energy usage while maintaining comfort conditions when needed.

3. Recommended Action

- a) Provide setup of controls for newly installed programmable thermostats.

4. Probable Construction Cost

- a) Setup of standalone controls system \$1,000

VI. ELECTRICAL SYSTEMS

A. Electrical Service and Distribution

1. Description

- a) The service is fed from an overhead utility owned pole located on the North side of the building. The overhead wires convert to underground wiring at a pole, owned by Temple Beth Israel, located adjacent to the utility pole. The underground wiring travels underground to the utility basement.
- b) The original 400 amp service was installed in 1962. The system was expanded to a 800 amp service in 1965 by adding an additional feeder to the service pole and associated disconnect switch in the basement. The expanded configuration provides two points of disconnect to shut down the service: the main breaker in Panel A and the disconnect switch for Panel H, also labeled HVAC panel. This is located in the utility basement.
- c) Additional panels are located in the utility basement, kitchen annex, and lobby.

2. Deficiencies

- a) Refer to Appendix C - Electrical for details on specific equipment.
- b) The service is original to the building. With the exception of Panel E, the equipment is operating, but is currently beyond its average service life. Much of the equipment is no longer manufactured and new replacement parts are not available. There are refurbished replacement parts on the secondary market but these do not carry a UL listing and can effect insurance coverage in the event of a claim.
- c) The circuit breakers are presumed to be in working order, however, there is no simplified test to verify operation. Circuit breakers trip upon the detection of an overload using a thermo-magnetic sensing mechanism. The physical tripping is accomplished through mechanical means. If the mechanical mechanism is not properly functioning, the circuit breaker will not clear and can create a dangerous situation, potentially resulting in fire.

3. Code Violations

- a) Utility meter located within CT cabinet. CT cabinet has wooden mounting backing.

- b) A label is required at the service disconnects stating that there are two points of disconnect for the service. Sample language for the sign at Panel A is “Electrical Service Disconnect 1 of 2, Other Disconnect Located at Switch” and at for the Switch is “Electrical Service Disconnect 2 of 2, Other Disconnect Located at Panel A”.

4. Recommended Action

- a) Add Disconnect Labeling: Provide labeling using engraved plastic signs with red background and white lettering of ½” minimum. Not required if main service is replaced.
- b) Replace the Main Service: Replacement includes demolition of the service pole, vertical exterior conduit, CT cabinet, Panel A, disconnect switch, and wiring troughs. Replacement would consist of a new CT cabinet, utility meter base, owner pole, vertical conduit, and new larger Panel A. We recommend that this be completed in the next year, due to the lack of easily obtainable replacement parts.
- c) Replace Kitchen Annex Panels: Replacement includes Panels H (HVAC) and new Panel A (Lighting) located in kitchen annex. Replacement would consist of a 400 amp, 2 section electrical panel. We recommend that this be completed in the next year, due to the lack of easily obtainable replacement parts.
- d) Replace first floor panels: Replacement includes Panel B and Panel D. Replacement would consist of new, flush mounted electrical panels.

5. Probable Construction Cost

a)	Add disconnect labeling	\$50
b)	Replace the main service	\$10,620
c)	Replace kitchen annex panels	\$2,500
d)	Replace first floor panels	\$3,500

B. Emergency Power Systems

1. Description

- a) The system consists of a natural gas generator, automatic transfer switch, and fused electrical panel. The system feeds emergency egress lighting and exit signs.

2. Deficiencies

- a) Refer to Appendix C - Electrical for details on specific equipment.

3. Code Violations

- a) The automatic transfer switch and fused electrical panel are located above the generator. The placement violate the clear working space requirement in the National Electric Code.
- b) The existing installation does not comply with current code requirements for indoor installations. Deficiencies exist in the ventilation and fire rating of the room.

4. Recommended Action

- a) Replace emergency power system: Replacement includes the removal of the generator, automatic transfer switch, and electrical fuse panel and replacement with a 2,000 VA central battery inverter with integral circuit breakers.

5. Probable Construction Cost

- a) Replace emergency power system \$9,000

C. Fire Alarm Systems

1. Description

- a) The fire alarm system uses a conventional zoned combination security / fire system panel. Initiating devices consist of heat, smoke, and pull stations. Notification devices are typical horn / strobe or strobe devices.
- b) The system uses a combination of phone line and cellular repeater for secondary communication.

2. Deficiencies

- a) Refer to Appendix C - Electrical for details on specific equipment.
- b) Date code for smoke and heat detectors was not available during a visual evaluation. The condition and style of the devices indicate that they are past their average service life of 10-15 years.

3. Code Violations

- a) Abandoned fire alarm panels and associated equipment manufactured by Edward Signal is existing and no longer in service.

4. Recommended Action

- a) Remove Abandoned Equipment: Remove abandoned fire alarm equipment in basement. Remove abandoned phone lines and wiring in fire alarm cabinet.

- b) Replace Detectors: Replace heat and smoke detectors that are beyond their service life.

5. Probable Construction Cost

- a) Remove abandoned equipment \$300
- b) Replace detectors \$110 / device

D. Exterior Lighting System

1. Description

- a) Wall Packs: Die-cast aluminum housing with glass lens. Lamps are metal halide with field installed photocells. Some fixtures have LED lamp replacements lamps.
- b) Retaining Wall Lights: Die-cast aluminum housing with glass lens and die-cast shield. Lamp style is unknown.
- c) Ceiling Strip: Vapor-tight, 4', 2-Tube, T-8 strip lights with polycarbonate lens.
- d) Ceiling Awnings: 8" x 6" incandescent fixture with polycarbonate lens.
- e) Directional Sign Lights: Die-Cast aluminum LED lights mounted to existing concrete bases.

2. Deficiencies

- a) Wall Packs: Dirt located within some fixture lens.
- b) Retaining Wall Lights: Dirt located within some fixture lens.
- c) Ceiling Strip: None.
- d) Ceiling Awnings: Yellowing of some lenses.
- e) Directional Sign Lights: None.

3. Code Violations

- a) None

4. Recommended Action

- a) The existing fixtures are in good condition and do not require any modifications other than cleaning. LED lighting fixtures are more efficient than standard fixtures with replacement LED lamps. We recommend that in areas with perceived poor illumination, new LED fixtures are installed. The layout may be modified to fit the intended purpose.

- b) Clean Fixtures: Clean debris from interior and exterior of all lighting fixtures.
- c) LED Replacement: Replace incandescent and metal halide lamps with LED replacement lamps.
- d) Fixture Replacement: Replace wall packs and ceiling lights with LED style lighting fixtures.

5. Probable Construction Cost

- | | | |
|----|---------------------|-----------------------|
| a) | Clean Fixtures | \$500 |
| b) | LED Replacement | \$50-100 / fixture |
| c) | Fixture Replacement | \$300-\$500 / fixture |

E. Interior Lighting System

1. Description

- a) Exit Signs: Brushed aluminum frame, recessed and ceiling mounted fixtures with glass panels with painted lettering and incandescent lamps.
- b) Emergency Egress Fixtures: Lighting fixtures with acrylic lens. Not observed when illuminated, assumed to be incandescent.
- c) 2' x 2' Ceiling Lights: Milk White acrylic lens with decorative or hidden frame. Fluorescent lamps.
- d) 2' x 4' Ceiling Wrap: Prismatic acrylic lens with 2 or 4, T-8 lamps.
- e) Track Lighting: Adjustable steel cylinder incandescent track heads on 1" standard track.
- f) Indirect Tape Lighting: LED, continuous tape light in architectural cove.
- g) Recessed down lights: LED 5" recessed down lighting.
- h) 1' x 1' Recessed Lights: Incandescent recessed fixture with glass lens.
- i) Cylinder down lights: Metal halide down lighting mounted to beams.
- j) Decorative Ceiling Lighting: Incandescent ceiling lighting with decorative trim and patterned glass.

2. Deficiencies

- a) Exit Signs: LED is preferred to ensure constant illumination when powered. Incandescent can lead to lamp failure and increased maintenance.
- b) Emergency Egress Fixtures: LED is preferred to ensure constant illumination when powered. Incandescent can lead to lamp failure and increased maintenance.
- c) 2' x 2' Ceiling Lights: None
- d) 2' x 4' Ceiling Wrap: None
- e) Track Lighting: LED replacement lamps can increase illumination and will save energy. Fixtures can be upgraded if more illumination or a change in style is desired. The track can remain while the fixtures are replaced.
- f) Indirect Tape Lighting: None
- g) Recessed down lights: None
- h) 1' x 1' Recessed Lights: LED replacement lamps can increase illumination and will save energy. Fixtures can be upgraded if more illumination or a change in style is desired.
- i) Cylinder Down Lights: None
- j) Decorative Ceiling Lighting: LED replacement lamps can increase illumination and will save energy. Fixtures can be upgraded if more illumination or a change in style is desired.

3. Code Violations

- a) None

4. Recommended Action

- a) The existing fixtures are in good condition and do not require any modifications. LED lighting fixtures are more efficient than standard fixtures. We recommend that in areas with perceived poor illumination, that new LED fixtures in a more efficient layout are installed. The layout may be modified to fit the intended purpose.
- b) Exit Sign LED Replacement: Replace incandescent lamps with LED replacement lamps. We suggest making this change within the next year.
- c) Egress Lighting LED Replacement: Replace incandescent lamps with LED replacement lamps. We suggest making this change within the next year.

d) Incandescent LED Replacement: Replace incandescent and metal halide lamps with LED replacement lamps. We suggest making this change within the next year.

e) Fixture Replacement: Replace ceiling lights with LED style lighting fixtures.

5. Probable Construction Cost

a) Exit sign LED Replacement \$50 / fixture

b) Egress lighting LED Replacement \$50 / fixture

c) LED Replacement \$50-100 / fixture

d) Fixture Replacement \$300-\$500 / fixture

Summary of Critical/Priority Items

I. ARCHITECTURAL

- Item 1.1 Bubbles in seam tape.
- Item 1.6 Puncture in roof membrane.
- Item 2.7 Precast panel gaps.

II. STRUCTURAL

1. Clean and repaint the lintels in the underslab pipe trenches.
2. Investigate beam bearing in Education Building Main Vestibule.
3. Include allowance in yearly maintenance budget to replace pipe supports as required.

III. PLUMBING SYSTEMS

1. Provide a floor sink or indirect connection for the kitchen dishwasher and single bowl dish cleaning sink.
2. Cover the lavatory water supply and drain piping with a preformed insulation kit.
3. Provide point-of use mixing valves at each fixture to limit the hot water temperature 110 degree F

IV. HVAC SYSTEMS

1. Replace the men's and women's restroom exhaust system with a centrifugal roof fan. Provide exhaust ductwork and exhaust registers to the men's and women's restrooms.
2. Patch the portions of rubber jacketing located above the roof which have deteriorated and provide slope to rubber jacketing to avoid puddles of water on ductwork.

V. ELECTRICAL SYSTEMS

1. Replace the main service.
2. Replace Kitchen Annex electrical panels.
3. Replace emergency power system
4. Exit sign Led Replacement
5. Egress lighting LED replacement

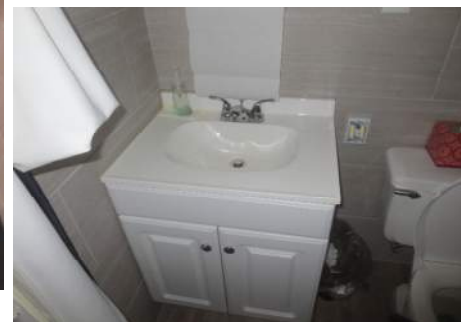
APPENDIX A - PLUMBING

PLUMBING EQUIPMENT INVENTORY



Equipment Type	Sump Pump	Year Built	8/19/2003
Equipment Tag	SP-1	Condition	Fair
Manufacturer	Myers	Actual Age	17 years
Model No	SP 25 Series	Service Life	10 years
Serial No	ME40PC-1	Refrigerant	
Location	Basement Mechanical Room		
Equipment Capacity		Electrical	
Cooling		Voltage	120/1
Heating		Motor Horsepower	4/10
Airflow		Run Load Amps	
		Full Load Amps	
		Min Circuit Amps	
Water Flow	1 1/2 inch discharge 30 inch diameter basin		1750 RPM
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

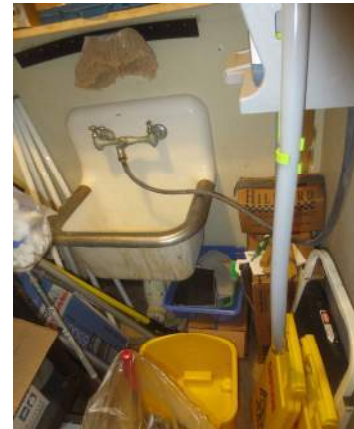
PLUMBING EQUIPMENT INVENTORY



Equipment Type	Water Closets, Sinks, Urinal	Year Built	
Equipment Tag	No nameplate data	Condition	Good / Fair
Manufacturer	Various - American Standard	Actual Age	
Model No		Service Life	
Serial No		Refrigerant	
Location	1st floor - Classroom, Office wing		
Equipment Capacity		Electrical	
Cooling		Voltage	N/A
Heating		Motor Horsepower	N/A
Airflow		Run Load Amps	
Water Flow		Full Load Amps	
		Min Circuit Amps	
Additional Comments	Main mens and womens toilet rooms utilize flush valve water closets and urinals, sensor operated faucets. All single use and private restrooms are flush tank with manual operated faucets. Handicapped accessible in main restrooms.		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		



PLUMBING EQUIPMENT INVENTORY



Equipment Type	Kitchen Dishwasher / Equip.	Year Built	2001
Equipment Tag	DW-1	Condition	Good
Manufacturer	Jackson	Actual Age	N/A
Model No	10A	Service Life	N/A
Serial No	B301504	Refrigerant	N/A
Location	Kitchen		
Equipment Capacity		Electrical	
Cooling		Voltage	208/1
Heating		Motor Horsepower	1/2
Airflow		Run Load Amps	
Water Flow		Full Load Amps	7.4
		Min Circuit Amps	
Additional Comments	Minimum incoming water temp. 180 F minimum potable water source for sanitizing		
	Rinse pressure - 20 / 0.5 psi		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

APPENDIX B - HVAC

HVAC EQUIPMENT INVENTORY



Equipment Type	Rooftop Air Conditioning Unit	Year Built	7/1/2010
Equipment Tag	RTU-1	Condition	Fair / Operating
Manufacturer	Trane Voyager	Actual Age	10 years
Model No	YCD180E3HABA	Service Life	15 years
Serial No	102710094D	Refrigerant	R-410A
Location	Roof		
Equipment Capacity		Electrical	
Cooling	15 Tons	Voltage	208/3
Heating	Natural Gas fired	Motor Horsepower	
	350 MBH Input/284 MBH Output	Run Load Amps	
Airflow	6000 CFM	Full Load Amps	
		Min Circuit Amps/MOP	78/100
Water Flow			
Additional Comments	Unit is in fair condition, bent condenser fins, fan looks good, clean filter, cooling coils are clean, Not in operation during survey, OA intake against wall Round ducts on roof smashed to oval ducts, Supply air ductwork on roof collecting water		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Rooftop Air Conditioning Unit	Year Built	7/1/2010
Equipment Tag	RTU-2	Condition	Fair / Operating
Manufacturer	Trane Voyager	Actual Age	10 years
Model No	YCD180E3HABA	Service Life	15 years
Serial No	102710031D	Refrigerant	R-410A
Location	Roof		
Equipment Capacity		Electrical	
Cooling	15 Tons	Voltage	208/3
Heating	Natural Gas fired	Motor Horsepower	
	350 MBH Input/284 MBH Output	Run Load Amps	
Airflow	6000 CFM	Full Load Amps	
		Min Circuit Amps/MOP	78/100
Water Flow			
Additional Comments	Unit is in fair condition, bent condenser fins, clean filter, cooling coils are clean, Unit outdoor air intake located adjacent to kitchen exhaust fan Condensate drain trap missing, Rubber membrane on roof duct coming apart		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Split System Heat Pump	Year Built	2000
Equipment Tag	SSHP-1 (Large Conference room)	Condition	Fair / Operating
Manufacturer	Sanyo	Actual Age	20 years
Model No	CH3642	Service Life	15 years
Serial No	0019544	Refrigerant	R-22
Location	Roof		
Equipment Capacity		Electrical	
Cooling	3 Tons	Voltage	208/1
Heating		Motor Horsepower	
		Run Load Amps	
Airflow	Nominal airflow of 1200 cfm	Full Load Amps	
		Min Circuit Amps / MOP	20 / 35
Water Flow			
Additional Comments	(1) Wall mounted evaporator unit, Heat pump operates down to 15 F		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Split System Heat Pump	Year Built	2017
Equipment Tag	SSHP-2 (2 Offices, 1 Classrm)	Condition	Good
Manufacturer	Mitsubishi	Actual Age	3 years
Model No	MXZ-3C30NAHZ2	Service Life	15 years
Serial No	7YP06778	Refrigerant	R-410A
Location	Roof		
Equipment Capacity		Electrical	
Cooling	2.5 Tons	Voltage	208/1
Heating	21 MBH @ 17 F, 28.6 MBH @ 47	Motor Horsepower	
Airflow	Nominal airflow of indoor units 300 cfm, 300 cfm, 400 cfm	Run Load Amps	
Water Flow		Full Load Amps	
		Min Circuit Amps / MOP	22.1 / 25
Additional Comments	(3) Wall mounted Evaporator units (3/4 ton, 3/4 ton, 1 ton) Refrigerant piping Insulation already torn in spots		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Split System Heat Pump	Year Built	2018
Equipment Tag	SSHP-3 (Small Conf. Rm)	Condition	Good
Manufacturer	Mitsubishi	Actual Age	2 years
Model No	MUZ-FH15NAH	Service Life	15 years
Serial No	8 000023T	Refrigerant	R-410A
Location	Roof		
Equipment Capacity		Electrical	
Cooling	1.5 tons	Voltage	208/1
Heating		Motor Horsepower	
		Run Load Amps	
Airflow	600 cfm Nominal airflow of indoor unit	Full Load Amps	
Water Flow		Min Circuit Amps / MOP	16/20
Additional Comments	(1) Wall mounted Evaporator unit		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Split System Heat Pumps	Year Built	2014
Equipment Tag	SSHP-4,5 (4 Classrooms)	Condition	Good
Manufacturer	Daikin	Actual Age	6 years
Model No	3MXS24JVJU	Service Life	15 years
Serial No	E015898	Refrigerant	R-410A
Location	Roof		
Equipment Capacity		Electrical	
Cooling	1.5 tons, 1.5 Tons	Voltage	208/1
Heating		Motor Horsepower	
		Run Load Amps	
Airflow	Each evaporator, 300 nominal cfm	Full Load Amps	
	Indoor units	Min Circuit Amps / MOP	17.8/20
Water Flow			
Additional Comments	(2) - 3/4 ton wall mounted evaporators with SSHP-4 and (2) - 3/4 ton wall mounted evaporators with SSHP-5. Insulation was falling off on refrigerant piping		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Split System Heat Pump	Year Built	2019
Equipment Tag	SSHP-6 (Office, Rabbi Office)	Condition	Good
Manufacturer	Mitsubishi	Actual Age	1 year
Model No	MXC-3C24NAHZ2	Service Life	15 - 20 years
Serial No	9XP06223	Refrigerant	R-410A
Location	Slab on grade		
Equipment Capacity		Electrical	
Cooling	2.0 tons	Voltage	208/1
Heating		Motor Horsepower	
Airflow	Each evaporator, 400 cfm each	Run Load Amps	
Water Flow	Indoor units	Full Load Amps	
		Min Circuit Amps / MOP	30.5/40
Additional Comments	(2) - 1.0 ton wall mounted evaporators		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



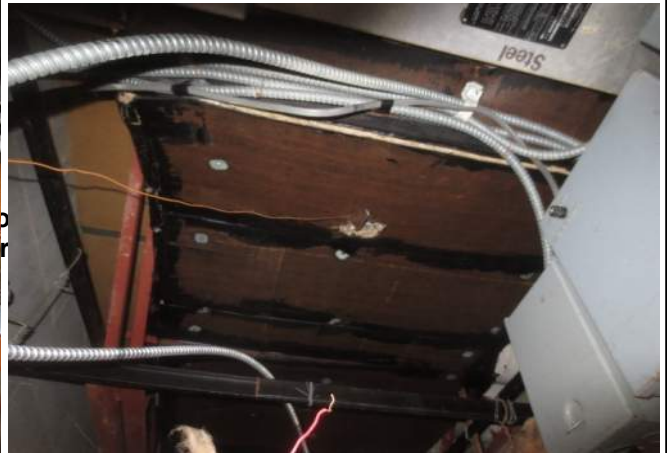
Equipment Type	Fan coil unit	Year Built	Looks original
Equipment Tag	FC-1	Condition	Fair
Manufacturer	Trane	Actual Age	20 years +
Model No	No nameplate data	Service Life	20 years
Serial No		Refrigerant	N/A
Location	Kitchen closet		
Equipment Capacity		Electrical	
Cooling		Voltage	
Heating	Hot water heating coil	Motor Horsepower	
Airflow		Run Load Amps	
Water Flow		Full Load Amps	
		Min Circuit Amps / MOP	
Additional Comments	Fair condition		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Electric Unit heaters	Year Built	Looks original
Equipment Tag	UH-1, UH-2	Condition	Fair
Manufacturer	Chromalox	Actual Age	20 years +
Model No	No nameplate data, BEE-2422	Service Life	13 years
Serial No	1186	Refrigerant	N/A
Location	Vestibule, Auditorium		
Equipment Capacity		Electrical	
Cooling		Voltage	208/3
Heating	UH-1 - 13.4 KW (Loft & Storage) (6) UH-2 - 6.7 KW (Auditorium)	Motor Horsepower	UH-1. 1/8. UH-2 - 1/20
Airflow	UH-1 915 cfm, UH-2 340 cfm	Run Load Amps	
Water Flow		Full Load Amps	
		Min Circuit Amps / MOP	
Additional Comments	Heater to Kitchen entry area in poor condition, other heaters are in fair condition		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

HVAC EQUIPMENT INVENTORY



Equipment Type	Duct Electric Heating Coils	Year Built	Looks original
Equipment Tag	No nameplate data	Condition	Fair
Manufacturer	Trane, Chromalox	Actual Age	20 years +
Model No		Service Life	13 years
Serial No		Refrigerant	N/A
Location	(2) Social Hall, (1) Auditorium		
Equipment Capacity		Electrical	
Cooling		Voltage	208/3
Heating	Auditorium - 30 KW	Motor Horsepower	
	Social Hall - (2) @ 15 KW	Run Load Amps	
Airflow		Full Load Amps	
Water Flow		Min Circuit Amps / MOP	
Additional Comments	Electric duct heating coils appear to be disconnected.		
Project Number:		JDB Engineering Inc	
Project Name:		PO Box 22160	
Client Name:		York PA 17402	
Date:		(717) 757-5602	



HVAC EQUIPMENT INVENTORY



Equipment Type	Exhaust Fans, Gravity Relief vent.	Year Built	No nameplate data
Equipment Tag	No nameplate data	Condition	Fair / Operating
Manufacturer		Actual Age	25 years +
Model No		Service Life	25 years
Serial No		Refrigerant	
Location	Roof (Kitchen, Toilet rm, Stage)		
Equipment Capacity		Electrical	
Cooling		Voltage	
Heating		Motor Horsepower	
Airflow		Run Load Amps	
Water Flow		Full Load Amps	
		Min Circuit Amps	
Additional Comments	Centrifugal Roof Upblast Fan (Ktchen Exh.) - Dimensons: 30 inch OD, 18 inch fan wheel (2) - Gravity relief ventilators on roof above stage area, (1) - Centrifugal roof downblast fan for toilet room		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		



HVAC EQUIPMENT INVENTORY



Equipment Type	Heating System - Boiler, Water htr.	Year Built	2020
Equipment Tag	B-1, B-2, IWH-1	Condition	Excellent
Manufacturer	Triangle Tube Instinct Solo, ACV	Actual Age	Less than 1 year
Model No	(2) Instinct Solo 199, Smart 60	Service Life	20 years
Serial No	IN199S0000392, Smart 60	Refrigerant	
Location	Basement Mechanical Room		
Equipment Capacity		Electrical	
Cooling		Voltage	120/1
Heating	Boilers 199 MBH Input/180 Output SS Heat exchanger, Condensing	Motor Horsepower	
Airflow		Run Load Amps	
Water Flow	Coupled with 20 gallon HTP buffer tank and 56 gallon Indirect Water heater	Full Load Amps	
		Min Circuit Amps	
Additional Comments	(2) Taco Primary pumps & (6) Taco Zone pumps, (1) Taco Domestic water pump all new pumps, Direct Vent up through chimney with PVC Original Extrol AX-60 (1969) ASME expansion tank		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		



APPENDIX C - ELECTRICAL

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distrubution	Equipment Type	Utility Pole
Equipment Tag	None	Condition	Poor / Operating
Manufacturer	-	Year Built	1962
Model No	-	Actual Age	58 Years
Catalog No	-	Average Service Life	35 Years
Location	Site	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	(2) 400	Main Overcurrent Type	N/A
Voltage	120 / 208	Comments	
Phase	3		
Wire	4		
AIC Rating	N/A		
NEMA Rating	-		
Mounting	-		
Fed From	Utility		
Additional Comments	Sign of surface rust on service conduit. Beginning deteration to wooden pole. Beginning deteriation on service head insulation. Failed verticle conduit straps.		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602 	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distrubution	Equipment Type	CT Metering Cabinet
Equipment Tag	None (CT Metering Cabinet)	Condition	Poor / Operating
Manufacturer	East Coast Panelboard	Year Built	1962
Model No	-	Actual Age	58 Years
Catalog No	-	Average Service Life	25 Years
Location	Basement	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	400	Main Overcurrent Type	N/A
Voltage	120 / 208	Comments	Meter Owned by Utility
Phase	3		
Wire	4		
AIC Rating	N/A		
NEMA Rating	1		
Mounting	Surface		
Fed From	Utility		
Additional Comments	Signs of surface rust due to ambient moisture. Sharp edges at cable pass through. Unapproved insulation barrier. Combustible material (wood) backing is no longer approved. Unsecured cabinet doors allowing exposure to energized parts.		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602 	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distribution	Equipment Type	Main Distribution Panel
Equipment Tag	Panel A	Condition	Fair / Operating
Manufacturer	Square D	Year Built	1962
Model No	ML	Actual Age	58 Years
Catalog No	ML-C1381	Average Service Life	25 Years
Location	Basement	Remaining Life	Beyond Service Life
Equipment Characteristics			
Amperage	400	Main Overcurrent Type	Main Breaker
Voltage	120 / 208	Comments	No Longer Manufactured
Phase	3		
Wire	4		
AIC Rating	Unknown		
NEMA Rating	1		
Mounting	Surface		
Fed From	CT Cabinet		
Additional Comments	Door not properly fastened.		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602 	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distrubution	Equipment Type	Branch Circuit Panel
Equipment Tag	Panel B	Condition	Good
Manufacturer	Square D	Year Built	1962
Model No	NQOB	Actual Age	58 Years
Catalog No	NQOBC1382A	Average Service Life	25 Years
Location	Classroom Wing	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	225	Main Overcurrent Type	Main Lug, 100A Feed
Voltage	120 / 208	Comments	-
Phase	3		
Wire	4		
AIC Rating	10k		
NEMA Rating	1		
Mounting	Recessed		
Fed From	Panel A		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distrubution	Equipment Type	Branch Circuit Panel
Equipment Tag	Panel D	Condition	Good
Manufacturer	Square D	Year Built	1962
Model No	QBL	Actual Age	58 Years
Catalog No	QBL-43435	Average Service Life	25 Years
Location	Lobby	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	225	Main Overcurrent Type	Main Lug, 200A Feed
Voltage	120 / 208	Comments	-
Phase	3		
Wire	4		
AIC Rating	10k		
NEMA Rating	1		
Mounting	Recessed		
Fed From	Panel A		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distribution	Equipment Type	Branch Circuit Panel
Equipment Tag	Panel E	Condition	Excellent
Manufacturer	Square D	Year Built	2010
Model No	NQ	Actual Age	10 Years
Catalog No	NQ442L2C	Average Service Life	25 Years
Location	Basement	Remaining Life	15 years
Equipment Characteristics			
Amperage	225	Main Overcurrent Type	Main Lug, 200A Feed
Voltage	120 / 208	Comments	-
Phase	3		
Wire	4		
AIC Rating	10k		
NEMA Rating	1		
Mounting	Surface		
Fed From	Panel A		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distribution	Equipment Type	Disconnect Switch
Equipment Tag	Switch for Panel H - Addition	Condition	Fair / Operating
Manufacturer	Federal Pacific	Year Built	1965
Model No	-	Actual Age	55 Years
Catalog No	-	Average Service Life	25 years
Location	Basement	Remaining Life	Beyond Service Life
Equipment Characteristics			
Amperage	400	Main Overcurrent Type	Fuses
Voltage	120 / 208	Comments	No Longer Manufactured
Phase	3		
Wire	4		
AIC Rating	Unknown		
NEMA Rating	1		
Mounting	Surface		
Fed From	CT Cabinet		
Additional Comments	Signs of surface rust due to ambient moisture.		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distrubution	Equipment Type	Branch Circuit Panel
Equipment Tag	Heating Panel (Panel H)	Condition	Fair / Operating
Manufacturer	Federal Pacific	Year Built	1965
Model No	NBLP	Actual Age	55 Years
Catalog No	AH-623791	Average Service Life	25 years
Location	Kitchen Annex	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	400	Main Overcurrent Type	Main Lug, 400A Feed
Voltage	120 / 208	Comments	No Longer Manufactured
Phase	3		
Wire	4		
AIC Rating	10k		
NEMA Rating	1		
Mounting	Surface		
Fed From	Panel A		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602 	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

ELECTRICAL EQUIPMENT INVENTORY



System Type	Electrical Distribution	Equipment Type	Branch Circuit Panel
Equipment Tag	Lighting Panel (Panel A New)	Condition	Fair / Operating
Manufacturer	Federal Pacific	Year Built	1965
Model No	NBLP	Actual Age	55 Years
Catalog No	AH-623784	Average Service Life	25 years
Location	Kitchen Annex	Remaining Life	Beyond Service Life
Equipment Characteristics			
Amperage	100	Main Overcurrent Type	Main Lug, 100A Feed
Voltage	120 / 208	Comments	No Longer Manufactured
Phase	3		
Wire	4		
AIC Rating	10k		
NEMA Rating	1		
Mounting	Surface		
Fed From	Panel H		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

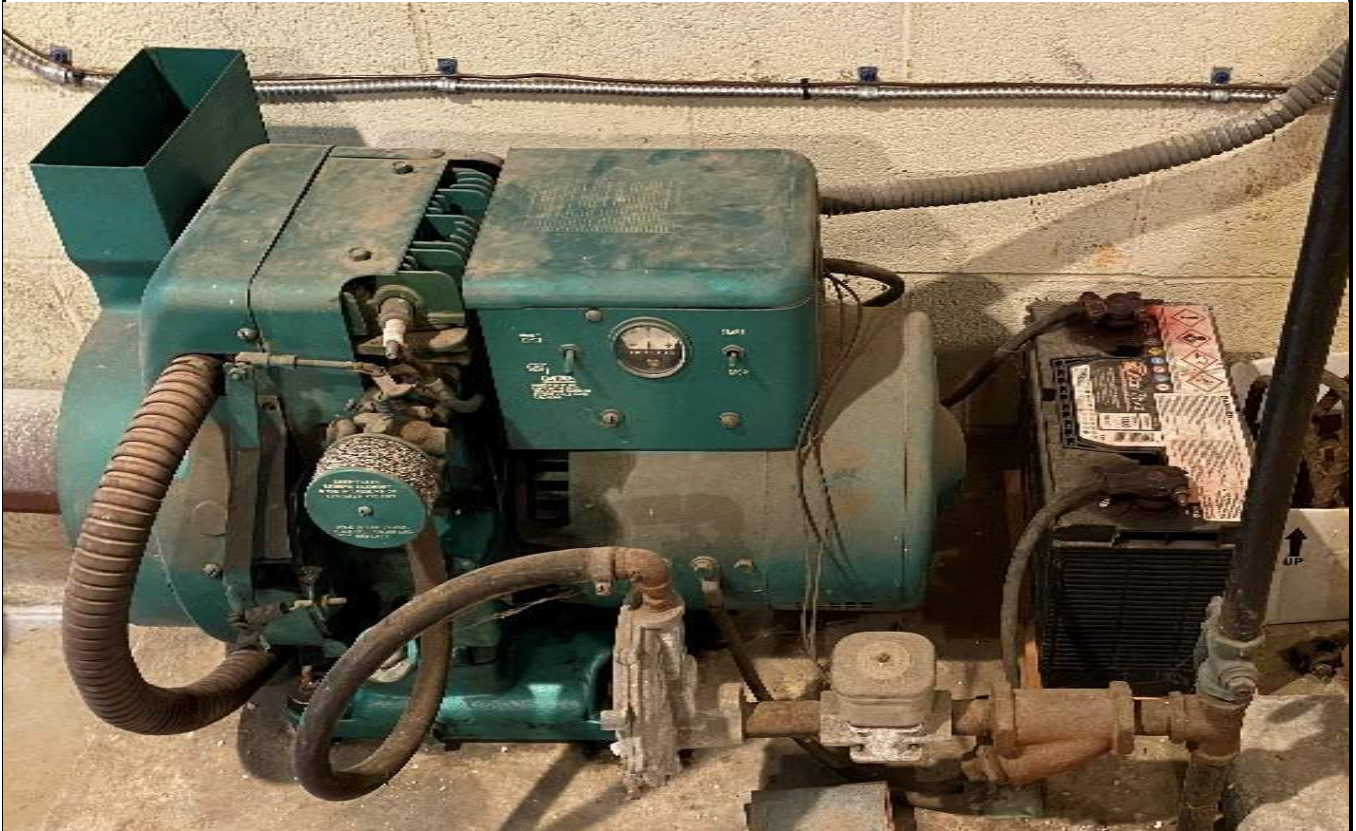


ELECTRICAL EQUIPMENT INVENTORY



System Type	Emergency Distrubution	Equipment Type	Automatic Transfer Swtich
Equipment Tag	None	Condition	Good
Manufacturer	Onan	Year Built	1992
Model No	LT60-1/P111OD	Actual Age	28 Years
Catalog No	692903	Average Service Life	20-25 Years
Location	Basement	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	60	Main Overcurrent Type	N/A
Voltage	120	Comments	-
Phase	1		
Wire	2		
AIC Rating	N/A		
NEMA Rating	1		
Mounting	Surface		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



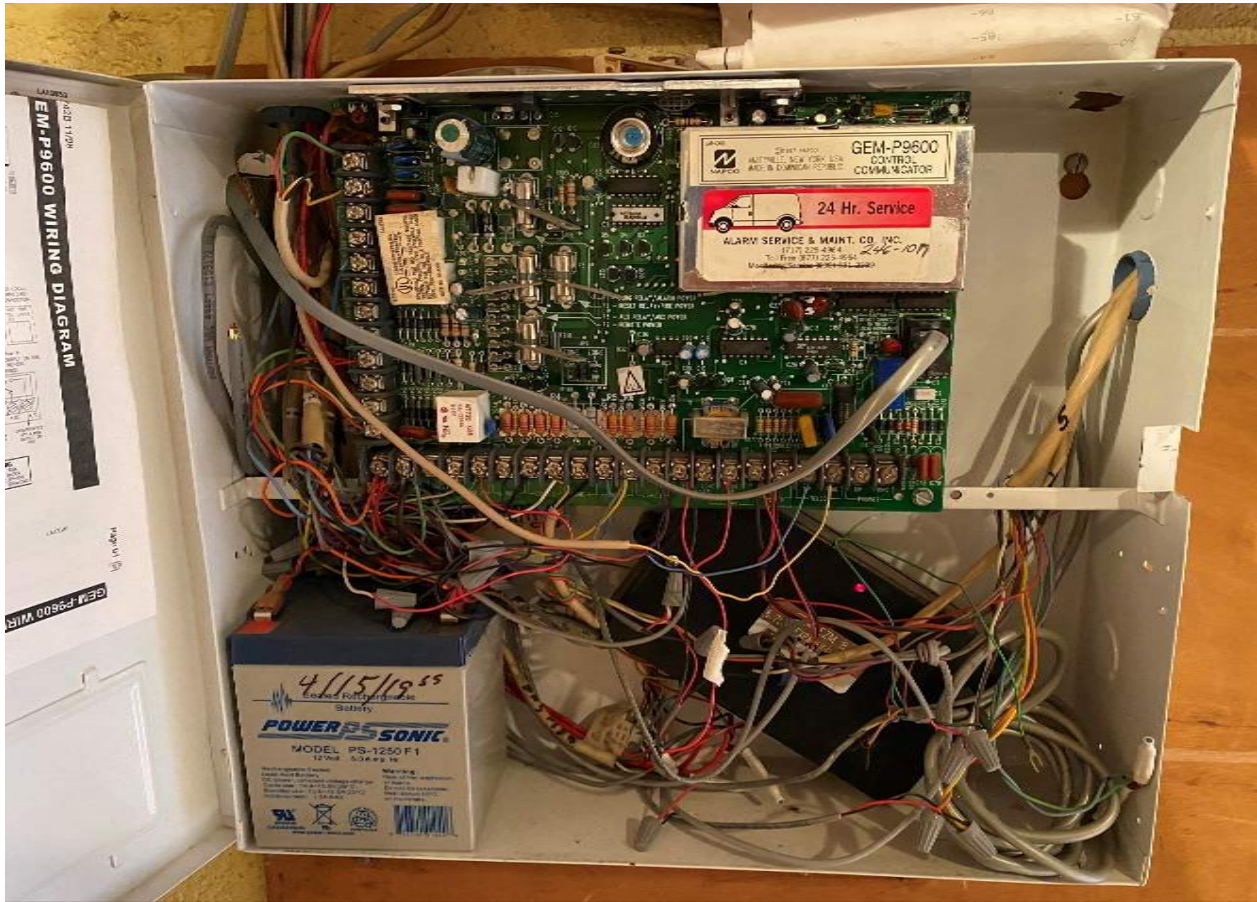
System Type	Emergency Distrubution	Equipment Type	Generator
Equipment Tag	None	Condition	Good
Manufacturer	Onan	Year Built	1992
Model No	2LK-1RV/31B	Actual Age	28 Years
Catalog No	92C696793	Average Service Life	25-30 Years
Location	Basement	Remaining Life	Near or at Service Life
Equipment Charateristics			
Watts	2000	Main Overcurrent Type	N/A
Watts	120	Comments	-
Phase	1		
Wire	2		
AIC Rating	N/A		
NEMA Rating	1		
Mounting	Floor		
Fuel Tyle	Natural Gas		
Additional Comments			
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602 	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

ELECTRICAL EQUIPMENT INVENTORY



System Type	Emergency Distrubution	Equipment Type	Branch Circuit Panel
Equipment Tag	None	Condition	Fair / Operating
Manufacturer	Square D	Year Built	1961
Model No	Series 2	Actual Age	59 Years
Catalog No	39811	Average Service Life	25 Years
Location	Basement	Remaining Life	Beyond Service Life
Equipment Charateristics			
Amperage	60	Main Overcurrent Type	N/A
Voltage	120	Comments	No Longer Manufactured
Phase	1		Fuses
Wire	2		
AIC Rating	N/A		
NEMA Rating	1		
Mounting	Surface		
Additional Comments	Unused fuse do not contain plug or unused fuses, allowing contact with energized components.		
Project Number:	420081.00	JDB Engineering Inc	
Project Name:	Facility Condition Assessment	PO Box 22160	
Client Name:	Temple Beth Israel	York PA 17402	
Date:	11/20/2020	(717) 757-5602	

ELECTRICAL EQUIPMENT INVENTORY



System Type	Fire Alarm	Equipment Type	Fire Alarm Control Panel
Equipment Tag	None	Condition	Good
Manufacturer	Napco Security Systems	Year Built	1998
Model No	ET90415CR	Actual Age	22 Years
Catalog No	-	Average Service Life	15-25 Years
Location	Basement	Remaining Life	Near or at Service Life
Equipment Characteristics			
Amperage	N/A	Main Overcurrent Type	N/A
Voltage	120	Comments	New Battery 4/15/19
Phase	1		Model still Manufactured
Wire	2		
AIC Rating	N/A		
NEMA Rating	1		
Mounting	Surface		
Additional Comments	Abandoned phone cabling left unterminated in cabinet, Poor wire management in cabinet.		
Project Number:	420081.00	JDB Engineering Inc PO Box 22160 York PA 17402 (717) 757-5602	
Project Name:	Facility Condition Assessment		
Client Name:	Temple Beth Israel		
Date:	11/20/2020		

