BUILDING CONDITION ASSESSMENT

Prepared for:

Forum Theater Building

312-316 Main Street
Middlesex, New Jersey

Inspection Dates: 3/21/2019; 3/27/2019; 4/2/2019
Draft Report Date:
Final Report Date:

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INTRODUCTION

Falcon Engineering has prepared the following report based upon the Contract Documents for Professional Engineering Services Agreement between the Borough of Metuchen and Falcon Engineering. The purpose of the study is to identify and prioritize required maintenance and upgrades to select building systems and prepare an estimated order of magnitude budget for same. The following building components have been included in this study:

- Building Envelope
  - Exterior Walls
  - Roof Coverings

- ADA and Egress
  - ADA Observations
  - Egress Evaluation

- Plumbing Systems
  - Domestic Water Distribution
  - Heating / Cooling Condensate Plumbing
  - Sanitary / Waste Water Drainage System

- Electrical Systems
  - Existing Electrical Distribution
  - Electrical Sub-Panels
  - Fire Alarm System

- Mechanical Equipment
  - Domestic Hot and Cold-Water Supply
  - Heating / Cooling and Condensate Appliances
  - Exhaust Fan and Ventilation Systems

- Fire Safety Systems
  - Fire Sprinkler System Components
  - Fire Panels and Alarm System
  - Emergency Lighting Components

- Exterior Site Improvements
  - Pavement Structures / Curbing
  - Site Lighting Systems

- General Building Structure
  - Building Frame
  - Stage Framing

- Accessibility
  - Exits
  - Accommodations

It is our understanding that the interior of the building is proposed to be completed renovated and all costs associated with this work scope is being performed by others.

It is our understanding that evaluation of any environmental concerns is being performed by others.

It is our understanding that the existing parking area and site work including lighting will be part of an expansion from purchase of the adjacent land parcels to be designed and evaluated by others.

The subject building is located at 312-316 Main Street, Middlesex, NJ at the southeast intersection of Main Street and Bissett Place. The subject property was developed as a theatre/performing art building in 1920.

EXECUTIVE SUMMARY

Methodology

Falcon Engineering was not provided with original design plans, as-built drawings, or documentation for the subject building. Falcon Engineering communicated with the Township of Metuchen (prospective buyer for subject property) and conducted visual inspections of select building systems. No electric, hydraulic, photometric, radiometric, radar or sonar testing of any of the mechanical equipment has been performed as part of this evaluation. Probes and/or material testing was not conducted as part of this evaluation.

BUILDING ENVELOPE

FACADES

Overview

The building fronts Main Street (Metuchen NJ) to the West and Bissett Place to the North. There is one building on the lot with the West and North Elevations abutting the public sidewalk and the South and East Elevations abutting an at grade asphalt parking lot and drive on the same lot. The exterior walls are constructed of multi-wythe brick masonry in a common bond pattern and extend continuously from grade without setback. Punched openings in the masonry are provided at all elevations for windows, doors, louvers and mechanical equipment. The exterior walls are believed to not contain any embedded structural framing. A combination of steel and reinforced concrete provide supports over existing openings in the exterior walls. Appurtenances include a marquee at the Front/West Elevation, sheet metal downspouts and leaders at each the North and South Elevations, exterior egress stair along the South Elevation and bracket supported mechanical units along the East Elevation.

The exterior walls were observed in poor condition with deterioration consistent with weathering of exposed masonry and reinforced concrete. The exterior walls are classified in an UNSAFE condition due to loose materials above pedestrian walkways including but not limited to spalled concrete, and cracked & displaced brick masonry.

Observed Conditions

- Spalled concrete lintels present at three balcony level windows at the Front/West Elevation. Loose concrete and exposed corroded reinforcing present. An additional spalled concrete lintel was observed along the North Elevation above an exterior louver near the northeast building corner.
- Deteriorated and cracked mortar was observed specifically at the base of the parapet wall at the East, South and North Elevations
- Cracked brick masonry including vertical and diagonal (i.e. step) cracks were noted both at and between masonry piers at the North and South Elevations.
- Significant cracking and displacement of brick masonry was noted along the masonry chimney located at the southeast building corner.
- Sheet metal downspouts, specifically at the North Elevation were observed detached and directing uncontrolled water along the base of the exterior walls and underlying foundation.
- Brick masonry piers along the South Elevation were previously notched to route sheet metal drain piping reducing structural capacity.
- Water infiltration was observed into the Cellar Level along the East Elevation where abandoned door and window openings were noted to be clad with wood sheathing and apparently buried beneath grade during a prior renovation.

Figure 1. Front/West Elevation w/Marquee

Figure 2. Right/South Elevation w/Exterior Metal Egress Stair

Figure 3. Spalled Concrete Lintel at Front/West Elevation Typ. 3 Locations (Balcony Level)

Figure 4. Deteriorated/Open Joints at Parapet Wall (Front/West Elevation)

Figure 5. Cracked Brick Masonry (North Elevation)

Figure 6. Cracked Brick Masonry (South Elevation)

Figure 7. Significant Crack and Displacement of Masonry Chimney at Southeast Corner

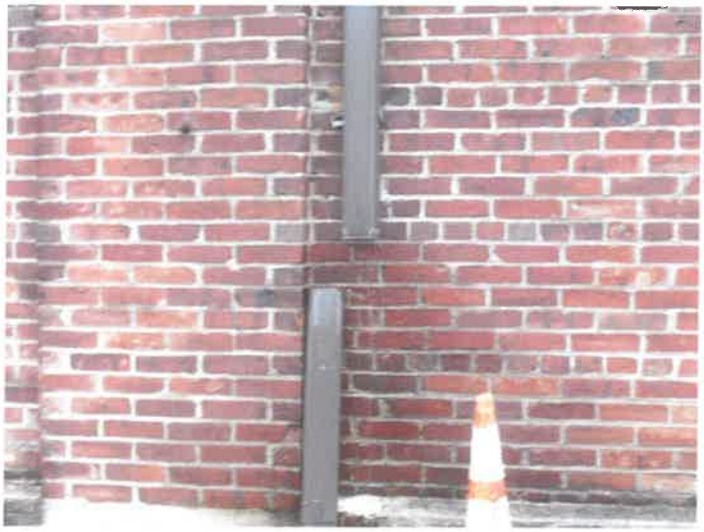

Figure 8. Detached Rain Leader (Downspout) at North Elevation

Figure 9. Notched Brick Masonry Piers to House Rain Leaders at South Elevation

Figure 10. Water Infiltration at Cellar Level Through Abandoned Exit

Recommendations

The exterior walls are in poor condition and present hazardous conditions requiring immediate repair. Repair including removal and replacement of loose/spalled concrete inclusive of corrosion mitigation of existing reinforcing steel should be performed at all concrete lintels; cracked brick should be removed and replaced and deteriorated and eroded mortar joints properly re-pointed. Please refer to Structural Section of this report as existing roof trusses supported by the exterior walls are in poor condition and require shoring and/or repair prior to repairs to the exterior walls. The masonry chimney at the southeast corner is believed to be no longer in use and the Owner may select to partially demolish the chimney and cap same at the roof level in lieu of reconstruction. Rain leads should be properly connected to the functioning underground piping and notched masonry along the South Elevation should be restored.

The abandoned wall opening along the East Elevation at the Cellar Level where water infiltration was observed should be properly closed with masonry and the exterior pavement and soil excavated to allow for installation of proper waterproofing.

The order of magnitude cost for repairs to the exterior walls is $250,000.00 inclusive of scaffolding and sidewalk protections.

ROOF COVERINGS

Overview

There are two (2) different roof areas present on the building; 1) Main Roof & 2) Marquee. The majority of the main roof is covered with architectural asphalt shingles on the center that drains into a low-slope Thermoplastic Polyolefin (TPO) roof around the perimeter. Falcon made the following general observations regarding the roofing condition:

Main Roof

- Asphalt shingles are in a "fair" condition.
- Several large depressions were observed in the roof surface towards the rear of the building.
- Three (3) large metal exhaust vents are present at the ridge and appear to be in a "fair" condition.
    - No metal step or counter flashing was observed around the base of the fans.
- Primary drainage is achieved by three (3) through-wall scuppers present in the North & South parapet walls.
- A TPO membrane is present along three of the roof edges and is in a "good" condition.
- Tapered crickets are present between the scuppers to provide adequate drainage.
- The membrane installation appears to be newer than the asphalt shingles as two newer courses of shingles are present at the transition of the two systems.
- The TPO membrane wraps up & over the top of the parapet wall where it is secured with a pre-manufactured gravel stop.

Figure 11. Overall View of Main Roof Area

Figure 12. Overall View of Main Roof Area

Figure 13. Depressions in Roof at Truss Damage

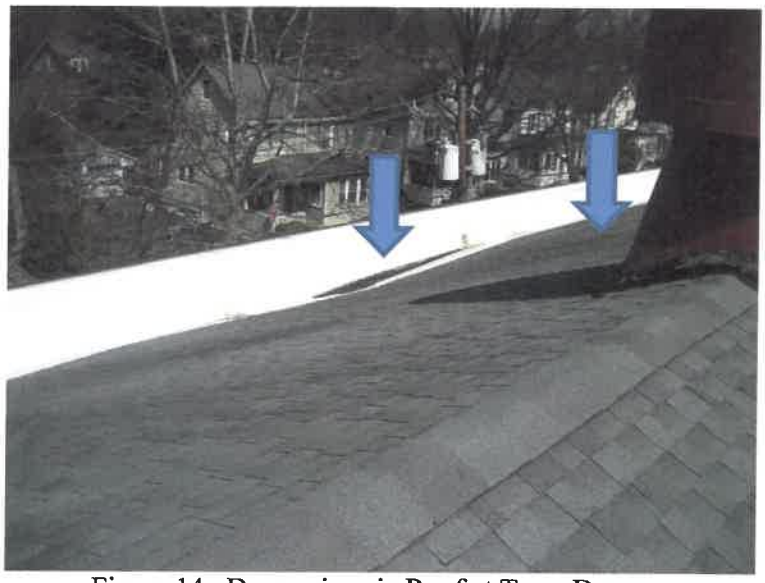

Figure 14. Depressions in Roof at Truss Damage

Marquee Roof

- A low-slope modified bitumen membrane is present on the marquee roof. The membrane appears to be in a "poor" condition as granule loss, ponding water, and repairs were observed.
- Steel signage supports are improperly flashed with roofing cement.
- Flashing around the roof perimeter is improperly completed with roofing cement.
- No roof drain assembly is present. Drainage appears to be achieved by use of a drop tube through the roof / structure.

Figure 15. Overall View of Marquee Roof

Figure 16. Debris Accumulation and Use of Roof Cement for Flashing

Recommendations

Based on Falcon's observations, the main roof is in a fair condition and the marquee roof is in a poor condition. From a waterproofing perspective it is Falcon's opinion that the main roof is functional and the marquee roof should be replaced. While the main roof may be watertight, there are significant structural concerns with the wood trusses which must be investigated. If review of the trusses is required from the building exterior it will require an approximately 5' x 5' area of roofing to be removed from about the truss connection to the masonry wall. This will require both the low-slope and asphalt shingles to be disturbed.

The cost associated with just performing & patching the invasive probes will be approximately $25,000 which does not include the cost of structural repairs or account for an expanded repair area if it should be deemed necessary.

In contrast the cost to completely replace the main roof area is approximately $75,000 - $100,000.

Cost associated with replacing the marquis roof is approximately $10,000.

ADA AND EGRESS

ADA OBSERVATIONS

Overview

The Falcon Group evaluated the Forum Theatre on March 21, 2019. The purpose of the evaluation is to offer a professional opinion pertaining to the conditions observed and reported and to provide the borough with our recommendations and opinions. Please be aware that our opinions are based upon our observations on this date and the historical information provided by the unit owner. Any additions or changes in this information may alter our opinion. Our evaluations are based on Current code in the NJ-IBC, 2015, and ICC ANSI A117.1-2009. Certain exceptions are made to existing buildings depending on the level of work being performed on a building.

We were informed the building was constructed in the late 1920's, was sold in the mid 1980's (minor renovations performed) and has generally remained in continued use over its lifetime.

Preliminary ADA Observations

The Falcon Group has performed preliminary visual observations for general ADA requirements. Exact field measurements and a full code review have not been performed for the building. We performed a preliminary review of the following building functions as they relate to ADA accessibility:

Accessible approach and entrance to the theatre is not code compliant, nor can it easily be made compliant. The theatre has a limited sized parking lot adjacent to the building, which appears to have room for ADA parking spaces. From the lot the public sidewalk is easily accessed. The entry to the theatre is level with the sidewalk. Upon entering the building, through the entry doors, the floor immediately starts to slope up to the ticket booth and first floor platform above the seating space (see photo below).

Figure 1. The entry lobby floor is continuously sloped. The floor would need to be level at the entry doors and in front of the ticket window. Elevation changes do not appear to be able to be met with level surfaces.

As can be seen on the photo above, the entire entry lobby slopes up from the entry doors up to the first floor. Code requires portions to be flat at the doors and at the ticket booth. Even if the entire floor were to be altered there does not appear to be enough room to meet maximum requirements for slope on the ramp portions. In the current layout of seating there are no wheel chair spaces. These could be added, but several seats would be lost for space requirements. There is a single Handicapped restroom on the first floor. Separate men's and women's rooms are located up the stairs on the second floor. These restrooms are not ADA compliant, nor do they appear to have the space to be made com-pliant. The upper mezzanine does not have accessible access.

Based on our observations typical space needed for code compliant accessible routes and restrooms exceeds the current amount of space allotted for these components. It appears that a significant amount of the seating area would be lost to meet current ADA code requirements.

EGRESS EVALUATION

Preliminary Egress Evaluation

Current egress conditions do not appear to meet current code requirements for egress size and path of travel. Egress requirements are based off the occupancy of the space. We observed a Metuchen fire department sticker of occupancy limiting 500 people on the first floor and 60 people in the mezzanine (see photo below).

Figure 2. Observed occupancy chart.

The main exit doors (front entry doors) do not appear to meet width requirements for egress. Preliminary calculations show the theater needing over 12' of door openings. Many of the stairs throughout the building do not meet requirements for height of each step and length of each tread (see photo below).

Figure 3. The existing stairs do not meet current code requirements for egress and accessibility

Several stairs did not meet required head room heights. The isles and seating in the main floor area appear to meet current requirements. Code does not allow for the use of stairs for egress. All but one of the emergency exits is serviced by stairs (see photo on the next page of an exit with non-compliant stairs).

Figure 4. This emergency exit does not meet current code requirements for egress.

Based on the existing conditions within the first floor of the theatre and exterior grade it does not appear feasible to meet current egress requirements.

INTERIOR FINISHES

Overview

At the main entrance to the building are two (2) sets of swing glass doors flanking a centrally located revolving door leading to the main lobby area. Walls are clad with polished granite observed to be in good condition. Granite tile floors are present throughout the lobby and are also observed to be in good condition. Lighting for the lobby areas consists of decorative wall sconces.

The interior corridors are finished with commercial carpeting along the floors. During a walkthrough of these corridors, the carpets appeared to be in fair condition.

The walls are painted gypsum board. The wall finishes ranged from poor to fair condition.

The ceilings are hung 24" x 24" grid with drop acoustical tile and fluorescent lighting in fair condition.

Recommendations

Interior refurbishments are generally performed not more than once every twenty-five years. This would typically include replacement of carpeting, light fixtures, and wall and ceiling (tile) finishes. Painting may be performed more often as necessary to upkeep the appearance.

Photographs pertaining to the Interior Finishes can be found on pages 30-32 and 36-37 of the photograph section in this report.

Order of magnitude cost for refurbishment of wall and ceiling finishes, new carpeting, and new lighting fixtures in main corridors in five to ten years:
$200,000.00

PARKING AREA / SIDEWALKS

Overview

The existing sidewalks are cast in place concrete on grade. The concrete sidewalk was in fair to good condition. The parking area is in fair condition.

Recommendations

1. Sidewalk replacement is not necessary at this time, however considering the work cope required at the building it is likely complete replacement will be needed due to damages as well as aesthetics. This cost will be in the magnitude of $7,500.

2. It is our understanding that the parking area will become part of an expanded parking lot encompassing the adjacent land parcels.

DOMESTIC WATER PLUMBING REVIEW

On 11/27/17 and 11/29/2017 a survey was conducted of the building's Domestic Hot/Cold Water systems. Currently there is a domestic water service that enters the building at the Basement Level. It is connected to two house pumps (one active, one stand-by) which is connected to a Hot water heater and distributed throughout the building.

Fire Pump:

The Fire pump was replaced a year ago and does not require replacement.

Domestic Water Pumps

The domestic water pumps appear to be in good condition and are about 2 ½ years old. Does not require replacement

HEATING, VENTILATION & AIR CONDITIONING REVIEW

On 11/27/17 and 11/29/2017, a survey was conducted of the building's heating, ventilation and air conditioning (HVAC) equipment. Only HVAC systems that were visible and readily accessible were inspected. This includes the chiller, cooling tower, Heat Exchanger, HVAC distribution system, boilers, ventilation equipment and associated equipment. Surveyed equipment is located in the roof Mechanical Equipment Room (MER), the roof and basement, and various points throughout the building.

Evapco Cooling Towers

Currently there are two (2) cooling towers located on the roof, one serving offices throughout floors 4-9 and the other serving Rite-Aid on the ground level. The cooling towers were installed approximately 6 years ago. However, they are leaking at the seams and basin, and spilling a large amount of water onto the roof causing roof damage as well. Repairs to these cooling towers are critical and require immediate repairs. Cost of repairing the cooling towers is approximately $15,000.

Condenser Water Pumps:

Currently there are four (4) condenser water centrifugal pumps located in the roof machine room, two (2) pumps serving floors 4-9 and two (2) pumps serving Rite aid. These pumps supply condenser water to approximately 112 units on the residential floors, and one unit that is dedicated to Rite Aid. Both sets of pumps were installed when the building was constructed and are in poor condition with leaks. Replacement of these pumps should be addressed immediately. New pumps will be mounted on a concrete inertia pad with spring isolators to reduce the effects of vibration and noise from being transmitted into the building structure. The order of magnitude cost associated with this recommendation is $60,000.

Baseboard Heating Pumps:

Currently there are six (6) in-line pumps located in the roof machine room that are serving the baseboard heating systems throughout each floor. These deliver hot water generated by the boilers also located in the roof machine room. These pumps were installed when the building was constructed and are in poor condition. Replacement of these pumps should be addressed immediately. New floor mounted inline pumps should be mounted on a neoprene pad with vibration isolators to reduce the effects of vibration and noise from being transmitted into the building structure. Elevated inline pumps shall be independently isolated from the pipe. The order of magnitude cost associated with this recommendation is $60,000.

Heat Exchanger:

Currently there is a Heat exchanger located in the Roof MER that exchanges heat from water generated from the boiler and condenser water from the cooling tower. Access to the heat exchanger was difficult due to the fact that is located on a platform above a stairwell. However, the heat exchanger looks relatively new and may not require replacement upon further investigation. However, if it is determined that the heat exchanger is in need of replacement after investigation, the cost associated with the replacement of the heat exchanger is $48,000.

Heat Exchanger Hot water pump:

Currently there is one hot water pump that supplies hot water generated from the boiler to the heat exchanger that is tied into the condenser water loop. The pump was installed at the beginning of the life of the building and approaching 23 years. Replacement of these pumps should be addressed immediately. Each pump would be mounted on an Neoprene pad with vibration isolators to reduce the effects of vibration and noise from being transmitted into the building structure. The order of magnitude cost associated with this recommendation is $10,000

Piping, Risers, and Insulation:

The piping, risers, and insulation are as old as the building. Piping appears to be rusted, insulation is damaged and missing in sections of the pipe. The piping is currently 23 years old and typically has 12-15 years left on its life expectancy depending on how well the water is treated and maintained. If not maintained properly, the expected life of the piping can be cut short. To determine the integrity of the interior of the pipe and useful life left, an ultra-sonic test can be conducted in various locations of the pipe to get a representative sample size to assess the conditions of the piping system. Any main distribution piping that is not insulated, shall be insulated in efforts to maintain efficiency throughout the system. Missing insulation in sections of pipe are not in accordance to code. Pipe insulation shall conform to the requirements of the NYC Energy Conservation Code. The order of magnitude costs associated with providing new insulation for the piping system is $20,000. The insulation should be addressed immediately.

Ventilation Units for Corridors:

Outside Air Units located in the bathrooms on each floor and serve the corridors. There is a dedicated Outside air shaft that runs through the bathrooms that these units tie into. The corridor on the 9th floor is served by a dedicated unit on the roof. Falcon was Unable to access the units in the bathroom. The unit on the roof serving the ninth floor did not appear to be in operation. Inoperable units to provide ventilation to corridors is in violation of the 2014 Mechanical Code Section 403.3. These units were installed at the beginning life of the building and are 23 years old. Units require replacement in the future within the next three to five years. The order of magnitude costs associated with replacing the unit on the roof serving the 9th floor is $20,000.

Unit Serving Rite-Aid:

There is a dedicated unit serving Rite-Aid and was installed in 2005 and is 12 years old. This unit is currently functional and appears to be in satisfactory condition. However, typically with water cooled units, the expected life is roughly 15 years and therefore is expected to be replaced within 3 to 5 years. The expected cost of this replacement is $20,000.

Air Conditioning Unit serving the Lobby:

Located in the second-floor machine room, this unit is dedicated to the lobby heating and cooling. This unit

is not in operation and has not been working for the last year. The new unit will be equipped to provide year-round comfort. This item is required to be addressed immediately to meet the 2014 Mechanical Code specifically section 403.3. The replacement of the unit will require disconnection of existing electrical circuits and installation of new wiring. The order of magnitude cost associated with this recommendation is $20,000.

Smoke Exhaust Fan for Lobby

The location of the smoke exhaust fan was not located as indicated on the fire panel in the lobby nor on any other floors. This is a major code compliance issue specifically section 910.4 of the 2014 Mechanical Code and needs to be addressed immediately. The cost to install a smoke exhaust fan for the lobby is $16,000.

Ductwork on Roof:

Double wall ductwork is installed on Rooftop Air Handling unit serving the corridors. The outer wall appears to be in poor condition and damaged. Ductwork needs to be replaced and is recommended to be replaced when the unit serving the 9th floor is replaced. The order of magnitude cost associated with this recommendation is $40,000.

Fan Coil Units serving the Office spaces:

Currently there are 112 units serving the office space on floors 4 through 9. Units currently are being replaced on the 5th floor, few on the basement level, and few on the 4th floor. Units were installed at the beginning of the building life. Units, along with branch piping serving the units, will require replacement in the future within the next three to five years. The replacement of the fan coil units will require disconnection of existing electrical circuits and installation of new wiring. The order of magnitude costs associated with this recommendation is $3,500 per fan coil.

Boilers:

Multi-temp Boilers located in the Roof MER serve the baseboard heating system on each floor and were installed when the building was constructed. The boilers are operational but in poor condition. Replacement is necessary during the 2018 cooling season to be ready for the following heating season. Since these types of boilers are no longer manufactured, it is recommended to replace the existing Multi-Temp Boilers with new high efficiency condensing boilers. The order of magnitude cost associated with this recommendation is $80,000.

Fan on Roof:

The condition of the fan located on the roof is in poor condition and appears to be rusting. A new fan should be installed on vibration isolators to reduce the effects of vibration and noise from being transmitted into the building structure. Replacement is recommended within the next twelve months. Cost associated with this replacement is roughly $5,000.

ELECTRICAL REVIEW

On April 3, 2019, a survey was conducted of the building electrical system. Please note, only electrical equipment that was visible and readily accessible were inspected. The following commentary represents observations and individual recommendations pertaining to specific equipment and systems observed within

the building.

Main Electrical Service and Distribution Equipment Observations:

The electrical service enters the building from pole mounted PSE&G utility transformers off of Bisset Place. The exact rating of the service is not identified, however based on the wiring and the service equipment in the building, it is likely that this is a 400A, 208V/120V service to the building. The service splits into two locations, both at the stage area. The first location is the right side of the stage adjacent to Bisset Place. This seems to be the original utility service into the building. This service enters into a current transformer cabinet and continues into a wireway, where it branches off. There are multiple service disconnects switches (more than six, which is very unusual) off of the wireway, along with a small electrical panel. The associated metering is operational.

The service also enters the building into another current transformer in the back of the stage. This is via a tap off in the street right after the utility transformers. This service continues into an adjacent 400A main circuit breaker, which feeds a 400A panel (and associated 200A sub panel) directly next to it. This configuration seems to have been installed in a subsequent renovation, possibly in the 1980s. The associated metering is operational as well.

The present loading on the service is unknown. It is unknown if the theater has experienced any blackouts due to overloading of the service.

Power is distributed through the building from the switches and panels located at the service entrances as described above as well as the 3 panels located in the projector room, and one panel by the main entrance. These panels are dated and are more than halfway through their life expectancy. There is original wiring to the building, with cloth type insulation. This wiring is past life expectancy. Wiring systems are installed either via conduit or armored cabling, and run both concealed within walls, and exposed in the attic and back stage areas. It is noted that the wiring in the attic space lacks proper securing/supports. The receptacles observed are 3-prong, indicating installation during the 1980s renovation. Aesthetically, they appear dated.

1. There are more than 6 service disconnects present for the building, which is a code violation.
2. In front of the service equipment there are random items stored. This is a code violation.
3. The Federal Pacific Stab-Lok panel in the projector room is unsafe and may present a fire hazard. This manufacturer is no longer in business and this product has been delisted due to fraudulent certifications.
4. The circuit identification of panels/switches are either absent or may be out of date.
5. There is damage to one of the connection points at the existing company switch/distribution block in back stage.
6. In the old boiler room, there is corroded control/devices/wiring that appear to be abandoned, but the circuits may still be active.

Main Electrical Service and Distribution Equipment Recommendations:

Further investigation is required to determine the load on the electrical service. Any modernization that may include additional loads may require a service upgrade to accommodate. The original wiring in the building is at the end and even past its life expectancy, with possible deterioration to the insulation, and thus should be replaced. All wiring shall be properly supported/secured.

1. The current service configuration is not allowed by code. The Electrical code does not permit more than six (6) service disconnects to be on a single service. It is recommended to provide a new electrical service infrastructure that will be code compliant and installed in a single location. The order of magnitude cost is $120,000.

2. It is also recommended to remove any and all storage items from the front of the electrical equipment. These clearances are required by code to be minimum 3 feet clear space in front of the major equipment. The order of magnitude cost is $200.
3. Remove and replace the existing Federal Pacific panel in the projector room. This has an order of magnitude cost of $3,000.
4. Trace and identify all circuits in panels and on switches for the loads they serve and provide typewritten directories for the respective equipment. The order of magnitude cost is $1,000.
5. The damaged connection point at the company switch/distribution block is a safety concern and is recommended to be replaced. Order of magnitude cost is $1,000.
6. Remove all abandoned equipment in the old boiler room. Order of magnitude cost is $1,000.
7. For mechanical equipment to be installed/replaced, existing wiring is recommended to be removed (if present) and new wiring be installed. The order of magnitude cost is approximately $2,000 per equipment to be wired, inclusive of installation of motor starter/disconnect for respective equipment.
8. Straight replacement of individual panels will have an order of magnitude cost of $80,000 for all the panels.
9. Straight replacement of the existing wiring within the building (exclusive of the mechanical equipment indicated above and also of lighting, which will be described in a separate section of this report) has an order of magnitude cost of $50,000.
10. Straight replacement of the receptacles has an order of magnitude cost of $3,000.
11. Securing of existing wiring in attic space has an order of magnitude cost of $1,000.

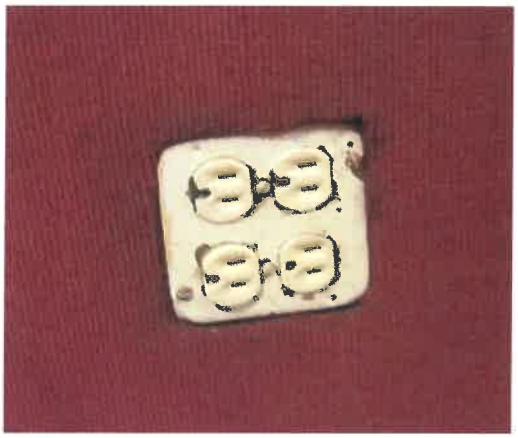

Figure 1 and 2. Typical receptacle.

Figure 3. Federal Pacific Panel in Projector room.

Figure 4 and 5. Typical storage in front of required dedicated space for equipment.

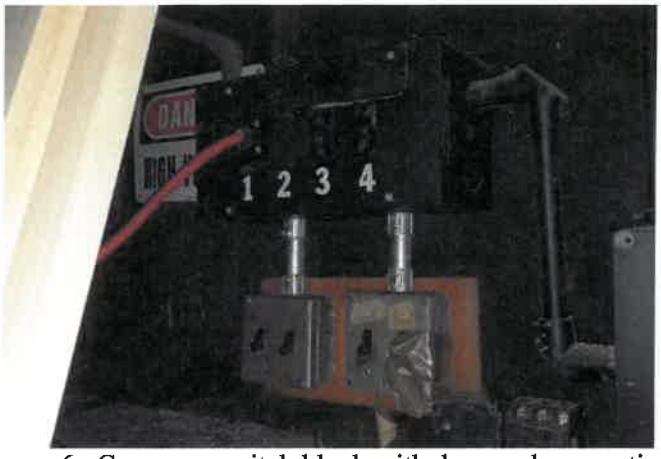

Figure 6. Company switch block with damaged connection.

Figure 7, 8, and 9. Panels at electrical service entrance in stage area.

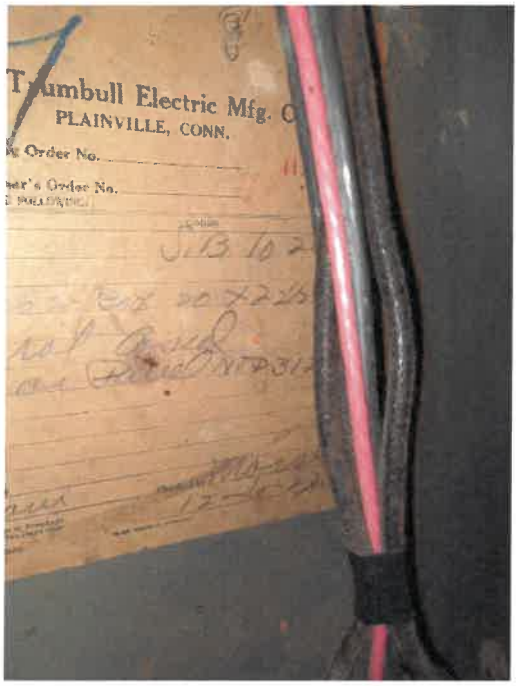

Figure 10. Typical original buiding wire, cloth insulation.

Figure 11. Typical disorganized, unsupported/unsecured wiring in attic space.

Figure 12. Typical corroded/abandoned devices in old boiler room.

Lighting System Observations:

The existing general lighting in the building is generally fluorescent/compact fluorescent, with some incandescent fixtures in the back of the balcony level. The original lighting fixtures may have originally been lamped with incandescent bulbs, and the majority of these fixtures were retrofitted with compact fluorescent bulbs, with the exception of the lamps for the vanity mirrors in the dressing area below the stage, which were re-lamped with LED bulbs. A few incandescent bulbs remain (i.e. within the chandeliers at the back of the balcony and in the restrooms by the dressing room below the stage). The fixtures that were observed were functioning normally. It appears that all lighting is manually controlled only, and can be 'always on', even if space is not in use.

Lighting System Recommendations:

For any major renovation/modernization, new lighting fixtures are recommended to be installed, especially if a more 'modern look' is desired. New lighting fixtures (and controls) will be energy code compliant. It is recommended to replace old fixtures rather than remove and reinstall (with risk of damage to the fixture during removals), as the old fixtures may not fit the theme of the renovations. New lighting controls can also supplement emergency/life safety functions with integration of a new fire alarm system. Additionally, the wiring of the fixtures should also be replaced. Any wiring for lighting original to the building is at the end and even past its life expectancy, with possible deterioration to the insulation, and thus should be replaced. The order of magnitude cost to replace the lighting system (including controls) and associated wiring is $100,000.


Figure 13 and 14. Typical lighting retrofit with CFL/LED bulbs (entrance and vanity mirrors)

Emergency Lighting System Observations:

The building also has emergency lighting facilities, in the form of battery powered wall mounted emergency fixtures and exit signage. All the fixtures appear dated. A random sample of these fixtures were tested and found to be operational. Based on inspection stickers, these fixtures were last maintained in 2018. It is unknown if they provide adequate emergency lighting levels in the paths of egress.

Emergency Lighting System Recommendations:

For any major renovation/modernization, new emergency lighting fixtures are recommended to be installed, especially if a more 'modern look' is desired, and if any reconfigurations of any of the spaces are made. While they currently in working order, further investigation is required to determine if they provide adequate illumination to the space. Any reconfiguration of the existing spaces may require additional emergency lighting to be installed. It is recommended to replace old fixtures rather than remove and reinstall (with risk of damage to the fixture during removals), as the old fixtures may not fit the theme of the renovations. Additionally, the wiring of the fixtures should also be replaced. Any wiring original to the building is at the end and even past its life expectancy, with possible deterioration to the insulation. The order of magnitude cost to replace the emergency lighting system and associated wiring is $20,000.

Fire Alarm System Observations:

The building currently has no fire alarm system. As the building was built in the 1920s, a fire alarm system may not have been required at that time.

Fire Alarm System Recommendations:

A new addressable fire alarm system with pull stations, smoke detectors, and audio/visual devices is recommended to be installed as part of any modernization/renovation of the project. The current certificate of occupancy indicates a max occupancy of 560, and this building is likely of occupancy group A-1. The current NJ code requires a fire alarm system for this type of space. The order of magnitude cost is $50,000.

GENERAL BUILDING STRUCTURE

BUILDING FRAME

Overview

No original building drawings were available for our use during this evaluation. No subsurface investigation or removal of existing building materials and/or finishes to review underlying construction or conditions of same was performed during this investigation.

The existing one-story structure is believed to be constructed of load bearing brick masonry exterior walls supported by shallow concrete foundations. A partial Cellar Level is present at the buildings eastern end and limited to the area beneath the original concrete stage. A partial balcony is located at the western end of the structure the framing of which was not exposed for review. The structure's roof frame consists of heavy timber trusses spanning north to south and spaced approximately 15ft. on center and supported by the exterior masonry walls. The roof trusses support purlins and ceiling joists both spanning east to west. Roof purlins support tongue and groove roof sheathing and the overlying shingle and membrane watertight coverings. Existing wood ceiling joists support an acoustic tile hung ceiling assembly. Limited review of the wood roof framing was performed from the attic interior.

The exterior masonry walls were observed in generally poor condition (see Façade section of this report). The exposed portions of the exterior Cellar Level walls were noted to be cast-in-place concrete and were observed in generally fair condition with localized water infiltration, particularly along the Rear/East Elevation. The roof framing was noted in poor condition and requires immediate shoring of timber trusses.

Observed Conditions

- Exterior brick bearing walls (See Façade Section of Report)
- Timber roof trusses observed with localized staining and cracked members at bearing support.
- Ceiling joists have insufficient capacity to support loads associated with stored electrical lights and stage props.
- Ceiling joists have insufficient capacity to act as catwalk for stage hands accessing lights and stage props.

Figure 1. Roof Framing (Note Timber Truss and Roof Purlins)

Figure 2. Timber Truss with Moisture Damage at Bearing Location (Exterior Brick Wall in Background)

Figure 3. Cracked Timber Truss at Bearing Location

Figure 4. Severely Cracked and Displaced Roof Truss at Exterior Wall Support

Figure 5. Stage Lights and Prop Hoisting Equipment on Inadequately Sized Attic Joints (Note Lack of Guardrails and Openings in Floor Creating Workplace Hazards

Recommendations

The general building frame has been compromised due to prolonged exposure to moisture. Specifically, timber roof trusses have experienced moisture damage at their supports along the exterior masonry walls. An immediate up-close examination of the timber trusses is recommended to determine the frequency and severity of structural damage. At all locations observed during this evaluation a minimum of moisture staining was present and at select locations structural cracks were noted, with one location noted as having structural displacement. The theatre should not be occupied by the public until an comprehensive engineering assessment on the condition of the truss supports is completed and either shoring or repairs completed.

Provided the Owner wishes to continue to operate the structure as a theatre a properly designed catwalk should be constructed to support loads from lighting and stage props as well as provide required fall protection for workers. A detailed structural analysis of the existing roof frame is required to determine if sufficient capacity is available to support these loads. If insufficient capacity is available from the existing roof frame a new independently supported steel frame can be constructed to support these loads and provide a safe work platform to operate the stage equipment.

The order of magnitude cost for a comprehensive structural assessment of the roof frame and timber support conditions is $50,000.00 inclusive of installing a temporary fall protection system. Order of magnitude cost for structural repairs to existing timber trusses and installing new steel supported catwalk structure would likely exceed $500,000.00.

STAGE FRAME

Overview

No original building drawings were available for our use during this evaluation.

The existing performance stage is located at the eastern end of the building is elevated above the partial Cellar Level and former orchestra pit. The original portion of the stage is constructed of a 4in thick simply

supported reinforced concrete slab supported by steel beams. The existing concrete and steel beams were observed in good condition with only localized corrosion noted where the beams frame into the eastern exterior foundation wall (see Façade section regarding water infiltration at Cellar Level). To the west of the original concrete stage a wood framed extension was previously constructed above the former orchestra pit.

The original concrete and steel stage was observed in generally fair condition. The wood framed extension was observed to be poorly constructed and without sufficient capacity to safely support minimum recommended loading for theatre performance.

Observed Conditions

- Localized corrosion of steel framing, supporting concrete stage, at eastern foundation wall.
- Wood joists supporting stage extension undersized and inadequate to support minimum recommended loads for theatre performance.

Figure 1. Localized Corrosion of Steel Framing at Rear/East Foundation Wall

Figure 2. Wood Stage Framing (Joists Over-spanned for Required Loads, Improper Girder Dimensions, Improper Support Post Anchorage, Note Temporary Steel Shore Post in Place)

Recommendations

The original steel and concrete stage is in fair condition with localized corrosion of steel. Improvements to the exterior wall and adjacent site drainage are required to prevent water infiltration and reduce potential for corrosion to the steel supported by the exterior wall. The affected framing was observed in what is believed to be an abandoned Boiler Room. A plywood panel along the eastern exterior wall is believed to be an abandoned door that once led directly to the building exterior. A significant amount of water infiltration was observed through and adjacent to the plywood panel during this investigation. Excavation of the pavement and underlying soil along the Rear/East Elevation Cellar Level wall is recommended to

allow for proper filling of abandoned openings and installation of a waterproofing membrane, see Façade section of this report for order of magnitude pricing to repair and waterproof the exterior walls.

The wood framed stage extension should be removed and reconstructed with a properly engineered framing system to support recommended loads and structural vibrations consistent with theatre performance. The order of magnitude cost for removal and reconstruction of the stage extension including engineering design is $200,000.00.

Cost Summary;

List and total