BUILDING 109

Tool Room/Paint Booth/Sheet Metal & Non-UV Covered Storage

Figure 1 - Building 109, view from southwest

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

Building 109 stands near the district's northern edge, beside Slips 1, 2 and, 3. Building 109 was mostly constructed in 1912 as a Plate Shop and Mold Loft, although the easternmost section was added in 1936 as a Tool Room. The architect and builder of this industrial-vernacular building are unknown.

Building 109 measures 483'-6" east-west, by 152' north-south, and 37' at the peak of the mold loft. It contains 82,099 square feet of floor space. Corrugated steel clads the riveted steel frame. The plan forms a truncated "L" shape, with the short arm of the "L" facing south. Semi-exposed machine

shops occupy the western part of the plan, while enclosed machine shops and the second story Mold Loft occupy the eastern section.

Sixteen bays measuring approximately 20’ wide run the length of the eastern arm of the building, beneath the mold loft. The 1945 Bethlehem Steel architectural plans indicate that the two easternmost bays were added on to the rest of the building in 1936 for use as a tool shop. A series of five glazed monitors, each two bays wide, forms an uneven roofline along the north and south elevations, with a low-slope gable roof made of Howe trusses. The clerestory windows allowed maximum light into the mold loft, although most of the windows have been covered over with corrugated steel or fiberglass panels.

Diverse window and door openings appear on the elevations around the mold loft, reflecting the building’s expansions and alterations. A continuous band of wood framed multi-lite windows runs the length of the second story of the eastern elevation and wraps around the corner of the north elevation. Some of the windows are operable. The ground level of the east elevation features two bands of multi-lite windows, interrupted by multiple personnel doors and a vehicle door. The north elevation of the mold loft features an overhanging bay that projects approximately 12’ beyond the footprint of the building and houses offices, bathrooms, and crane rooms for moving material to and from the ground level. A diverse series of steel sash windows, personnel doors, and vehicle doors line the north elevation beneath the projecting bay of the Mold Loft. The south elevation of the Mold Loft is currently unfenestrated, although cuts and infill in the metal cladding relate to prior window openings. A post period of significance warehouse sits at the southeastern corner of the building, partially obscuring the south elevation. The Mold Loft was used to store a collection of wood templates used in the shipbuilding process in racks against the west wall. Along the east end, a series of numbers indicating the grid used to lay out templates is painted on the floor.

The western part of Building 109 features a saw-tooth roof with a shed roof over the “L” extension and multiple ventilators and monitors penetrating the roof. Open to the north and south, the steeply pitched roof forms abut the monitors of the Mold Loft to the east. A line of continuous steel frame multi-lite windows runs the length of the first floor of the west elevation, with corrugated steel panels above and below.

Building 52, added to Building 109 in 1941, consisted of a lean-to shed housing a craneway along the short “L” portion of the southern façade. It measured 16’ wide by 16’ high, and 181’ long in the east-west direction. Although this building is no longer extant it still appears on the maps in Figure B and Figure 17.

HISTORIC/CURRENT USE

Building 109 housed a mold loft and plate shop where essential steps in hull construction took place. In the process of producing a ship from blueprint to hull, the construction plans were first transferred to a life-size model in the mold loft. This pattern was then taken to the mold makers who made a template out of wood, used for the guidance of marking the steel plates. The marked plates were then cut and shaped into the desired hull shapes in the plate shop. The finished plates were then transferred to the adjacent layout yard east of Building 109, where the plates were checked against the molds and plans before final assembly. Building 109 stands next to Slips 1, 2, and 3, which facilitated the easy transfer of steel plates from the plate shop to the awaiting ships. The slips were infilled between 1959 and 1964. The plate shop served a critical role in the construction of a ship, and the multiple railways and craneways that served Building 109 underscore this role.

The Sanborn map from 1886 shows a machine shop and mold loft on piers in tidewater flats, at roughly the location of Building 109. The 1914 Sanborn Map shows an expanded machine shop in the same location, with the tidewater flats infilled. The 1945 Bethlehem Steel plans indicate that most of Building 109 was erected in 1912.

Currently, BAE Systems uses the exposed, western part of Building 109 for tool and equipment storage. The mold loft serves primarily as storage, although BAE Systems uses the central section for repair of sandblasting curtains. Multiple machine shops and painting sheds subdivide the area beneath the mold loft.

CONDITIONS

EXTERIOR: NON-U.V. COVERED STORAGE

WALLS

CMP (corrugated metal panels). Condition: Poor

The CMP at thIS western section of the building is painted on the exterior. It is heavily dented at the ground level. Plant growth at the perimeter is abundant on the west and south side of the building. There is a 3 square foot cut out above the windows on the west wall. The panels are torn at the northeast corner.

Figure 2 - Building 109, western section of building, view from northwest

Figure 3 - Building 109, the north side of this portion of the building is open.

WINDOWS

Steel Sash Multi-Light Windows. Condition: Poor

Almost 100% of the glass panes are broken or missing from this section of the building. The steel sash is heavily rusted.

Wood Sash Multi-Lite Windows. Condition: Poor

The wood at the windows is in very poor condition. Paint is missing from much of the surface of the wood. Approximately 10% to 15% of the glass panes are missing or broken.

Figure 4 - Building 109, western section of building, north wall. Wood windows at second story.

Figure 5 - Building 109, steel windows

INTERIOR

INTERIOR WALLS

CMP (corrugated metal panels). Condition: Poor

An interior room is enclosed with CMP and steel sash window. The walls and framing are in poor condition.

INTERIOR FLOORS

Dirt with small sections of concrete. Condition: Poor

There is heavy plant growth throughout the interior of the building.

INTERIOR CEILING

Tongue and groove wood planking. Condition: Poor

The wood is severely rotted. Large areas of ceiling are open to the sky.

Figure 6 - Building 109, western section of building, looking west. Note missing wood T&G ceiling.

STRUCTURAL ELEMENTS

Steel trusses on wide flange steel columns. Condition: Poor

The steel structure at the portion of the building is severely rusted. A partially collapsed beam was observed.

Figure 7 - Building 109, western section of building. Note collapsed steel beam.

DOORS

Steel frame and panel doors. Condition: Fair

Figure 8 - Building 109, interior steel frame doors

EXTERIOR: PAINT SHOP, PLATE SHOP, RIGGING/BREAK ROOM & TOOL ROOM

WALLS

CMP (corrugated metal panels). Condition: Fair

The CMP at the Paint Shop is painted. Most areas are in fair condition with some damage at ground level and around doorways.

Figure 9 - Building 109, Paint Shop south wall.

Figure 10 - Building 109, Tool Room east elevation..

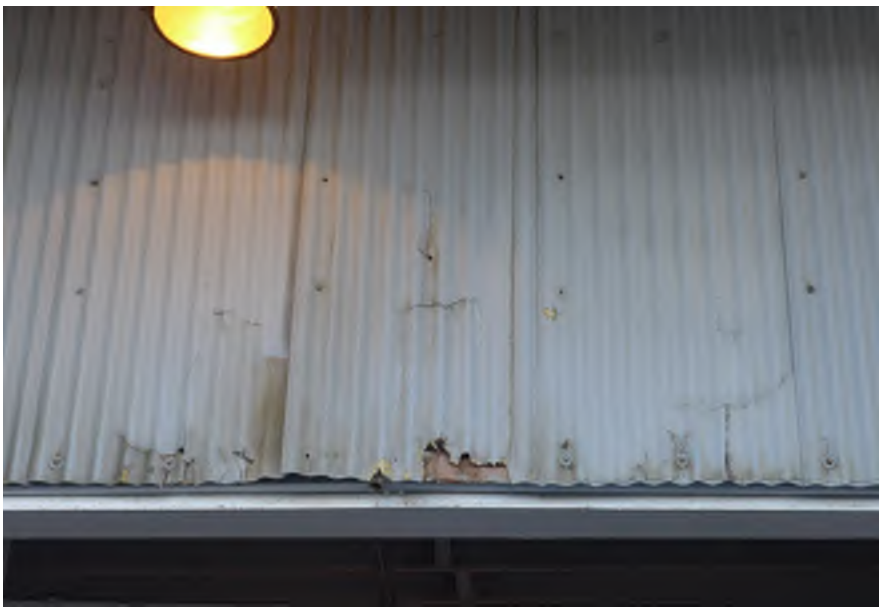


Figure 11 - Building 109, CMP damage at north elevation doorway.

Figure 12 - Building 109, CMP damage at Tool Room, south east corner

DOORS

Paired Metal Frame Door with CMP Cladding. Condition: Fair

Figure 13 - Building 109, Paint shop north door.

Paired Metal Frame Rolling Doors. Condition: Good

Figure 14 - Building 109, Plate shop metal sliding doors at north wall.

Hollow Metal Personnel Door. Condition: Good

Figure 15 - Building 109, Plate shop personnel door at south wall.

Two Wood Panel Doors. Condition: Poor

Figure 16 - Building 109, Wood panel door at north wall of Tool Room.

WINDOWS

Steel Sash Multi-Lite Windows. Condition: Fair

The steel windows on the south wall are rusted. The window has one missing and one broken glass pane. A section of the original window has been infilled with an aluminum window. One pane of the aluminum window is boarded up with plywood.

Figure 13 - Building 109, Paint shop south window.

Figure 14 - Building 109, Plate shop south window.

INTERIOR

Figure 15 - Building 109, Interior of plate shop, facing west.

INTERIOR WALLS

CMP. Condition: Good. Painted and well maintained.

Figure 16 - Building 109, Interior of plate shop, facing east.

INTERIOR FLOORS

Asphalt and concrete.

Condition: Good at Paint Shop and Plate Shop. Poor at Rigging/Break Room.

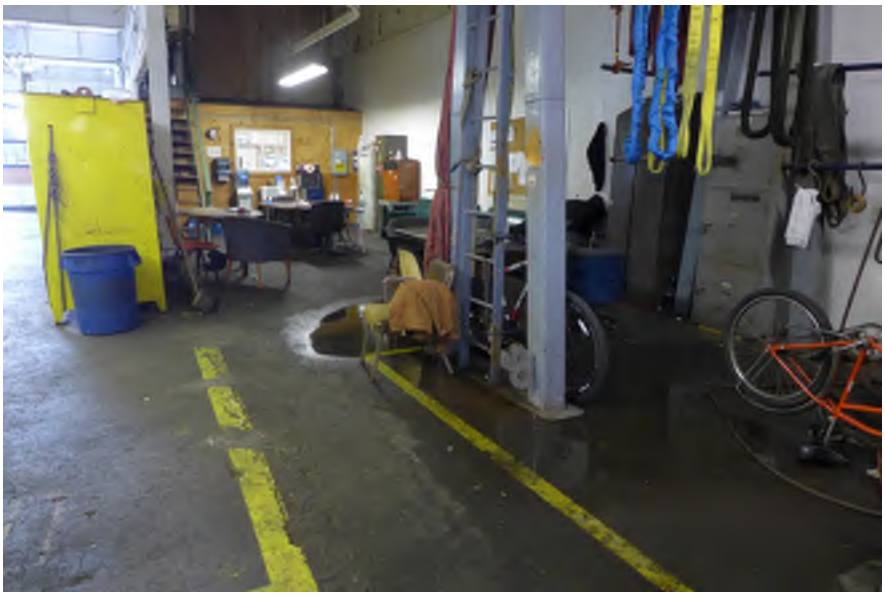


Figure 17 - Building 109, Asphalt Floor at Rigging/Break Room. Note ponding.

INTERIOR CEILING

Tongue and groove wood planking. Condition: Good. Painted and well maintained.

Figure 18 - Building 109, Paint shop ceiling.

EXTERIOR: MOLD LOFT

The Mold Loft is second floor above the Tool Room, Paint Shop, Plate Shop and the Rigging/Break Room.

Figure 19 - Building 109, Mold loft east elevation.

WALLS

CMP (corrugated metal panels). Condition: Fair

The CMP at the Mold Loft is painted. Most areas are in fair condition with some minor damage and corrosion.

Figure 20 - Building 109, Mold loft north elevation.

WINDOWS

Wood Sash Multi-Lite Windows. Condition: Poor

The window sash at the Mold Loft are fixed and sliding unit. The wood at the windows is in very poor condition. Paint is missing from much of the surface of the wood. The sliding units are inoperable. Approximately 10% of the glass panes are missing or broken. The gutters above the windows are severely clogged with plant growth causing serious damage to the interior.

Figure 21 - Building 109, Mold loft windows, north elevation.

Figure 22 - Building 109, Mold loft windows, north elevation. Note gutter condition.

INTERIOR: MOLD LOFT

Figure 23 - Building 109, Interior of plate shop, facing west.

INTERIOR WALLS

CMP. Condition: Good. Painted and well maintained.

INTERIOR FLOORS

Wood tongue and groove. Condition: Good - Poor

The floor areas on the northern side of the mold loft are in poor condition due to leaking of the roof at the roof/gutter interface.

Figure 24 - Building 109, wood T&G floor. Note water from deteriorated gutter condition.

INTERIOR CEILING

Tongue and groove wood planking. Condition: Fair. Painted with minor water damage.

CMP ceiling. Condition: Poor. Severe deterioration due to water infiltration.

Figure 25 - Building 109, Mold loft T&G ceiling.

Figure 25 - Building 109, Mold loft CMP ceiling.

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Repair 5% CMP panels.
  1. Replace deformed and deteriorated CMP with new galvanized corrugated steel to match the existing panels.
  2. Replace the panels from grade to the window sill level on the Non-UV Covered Storage portion of the building.
  3. Prime and paint the new panels.

WINDOWS

- Replace 15% of window panes at the 2nd floor of the Non-UV Covered Storage portion of the building.
- Replace 5% of window panes at the Paint Shop/Plate Shop/Rigging-Break Room/Tool Room
- Replace 10% of window panes at the Mold Loft
- Repaint 100% of all wood frames and sash.
- Repaint 100% of all steel window sash.

DOORS

- Salvage two (2) steel doors at interior of Non-UV Covered Storage portion of the building for possible reuse in other buildings.
- Repair/paint two (2) wood panel doors at Tool Room.
  1. Repair wood elements of doors and restore operation
  2. Repair existing hardware or replace missing components
  3. Prepare surfaces, prime and paint with two top coats

INTERIOR

STRUCTURAL ELEMENTS

- Remove or shore dangerous structural steel beam at the Non-UV Covered Storage portion of the building.

CEILINGS

- Repaint CMP ceiling at Mold Loft (rooms that overhang north yard).

FLOOR

- Resurface asphalt at Rigging/Break Room to prevent ponding.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance on a regular schedule.

BUILDING 109

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The roof is 1x sheathing laid perpendicular to wood joists that are supported by steel trusses and columns. The second floor is 1x sheathing laid perpendicular to wood joists, approximate size of 2x10, supported by steel beams and columns. The exterior walls are corrugated steel. There is a concrete slab on grade. The foundation is not visible and is not indicated on the drawings provided by the Port. There is a 2nd floor punch-out on the north side of the structure that cantilevers over steel trusses. The roof of the punch-out is comprised of corrugated metal panels (CMP) supported by wood 2x joists. See figure 2 for a picture of the 2nd floor punchout.

LATERAL SYSTEM

Both the roof and 2nd floor diaphragm strength is provided by 1x sheathing. The lateral strength in the north-south direction appears to be provided by moment frame behavior of the steel roof trusses, 2nd floor beams and knee braces, and full height columns. In the east-west direction there are tension rod "x" braces every third bay to provide lateral strength, at both floor levels.

CONDITIONS

- West portion of building 109 is severely damaged.
- Suspended platform with sign saying "Not For Storage" is heavily damaged.
- 2nd floor punch-out is moderately damaged due to water and dry rot. One outrigger supporting the punch-out is bent.
- Wood diagonal sheathing shows severe water damage and dry rot.
- At 2nd level there is some significant corrosion on the trusses on the west half.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- Replace the damaged suspended platform.
- Approximately 20% of punch-out CMP roof should be replaced in kind.
- Approximately 20% of punch-out wood floor is rotted due to water damage and should be replaced in kind.
- Re-tension the "x" braces.
- Due to the significant level of damage observed at the western portion of the structure, further investigation of this region is recommended to determine the potential for collapse under service conditions. Potential partial or total demolition may be required.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- Given the significant level of damage and decay observed at the west portion of the building, it is recommended that the structure be further investigated to assess the following seismic concerns.
  - Potential for collapse of the west portion
  - Potential for the west portion to impose additional lateral loads onto the east portion due to insufficient or compromised seismic resistance.

  Though in better condition when compared to the wet portion, the east portion exhibits the following structural concerns.

  - Potential weak/soft story irregularity at the first floor.
  - Potentially inadequate diaphragm strength.
  - Non-ductile connections.

  Given the above items noted at both the east and west portions, it is strongly recommended that a lateral analysis of the existing structure be conducted in order to accurately identify potential weaknesses and to develop a strengthening protocol if necessary.

Figure 1 – Hang down frame

Figure 2 – 2nd floor punchout

Figure 3 – Typical roof damage at 2nd floor punchout

Figure 4 – Typical 2nd floor damage at 2nd floor punchout

Figure 5 – Typical condition of west half of building 109

BUILDING 109 – Tool Room / Paint Shop / Sheet Metal Shop

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• Ground level shops provided with unit heaters supplied with gas connections.

• 2nd level provided with gas unit heaters, space appears largely abandoned.

• Small offices located within shops provided with fan-powered ventilation.

• Some spaces equipped with unit heaters retro-fitted with duct distribution. These heaters are not meant to be configured in this manner (See figure 109-1).

Plumbing & Fire Protection Systems

• Building is fully sprinklered with fire hoses available at the 2nd floor.

• Compressed air provided throughout building for shop use.

• Building is equipped with a restroom at the 2nd floor w/ water closet, urinal, and hand sink available. Restrooms also provided at shops with urinal and hand sink only. Restrooms provided with electric water heaters without disconnect switches on service wiring.

• Waste connection observed protruding from building with cleanout installed in the reversed position. (See fig. 109-2)

• Several CW connections fed from building 109 to nearby portable office units (See fig. 109-3).

• Many pipes at exterior of the building appear warped and bent from building settling. (See fig. 109-4).

Electrical Systems

• The building has 480V service with multiple panels.

• Restrooms provided with electric water heaters without disconnect switches on service wiring (See fig. 109-5).

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- Verify if unit heaters may be ducted. Possible noxious gas hazard with current configuration from natural gas combustion.

Plumbing & Fire Protection

- Repair building plumbing at noted points of damage.

Electrical Systems

- Provide local disconnect switch for electric water heaters to comply with current code.

Figures

Figure 109-1 – Unit heater with ducted discharge. Possible noxious gas hazard from burning fuel.

Figure 109-2 – Cleanout on drain installed backwards.

Figure 109-3 – Filtered CW service to nearby portable unit

Figure 109-3 – Plumbing Pipe damaged from building shifting.

Figure 109-4 – Waste pipe bent & damaged from collision.

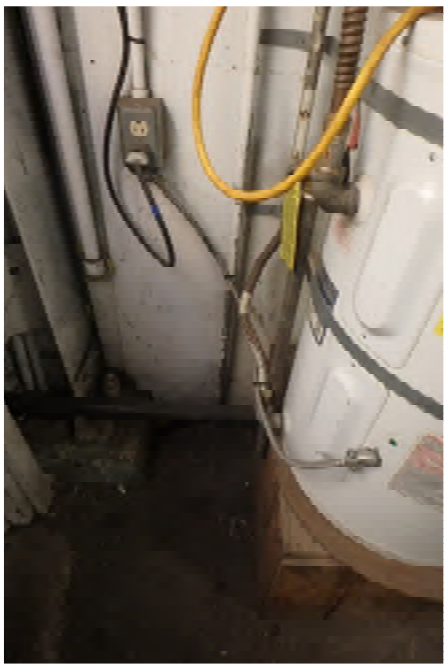


Figure 109-5 – Electric Water Heater Wired without Disconnect

BUILDING 109 Tool Room

Fig. 1 - Building 109 view from the interior

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This building is a Tool Room/ Paint Booth, Sheet Metal, Lagging. Approximately 100x300 this is a multi gable roof with different roof levels.

CONDITIONS

ROOF

GENERAL NOTES: The roof appears to have multiple leaks at roof transitions and throughout the roof, however when viewing this roof from the top of bldg 111 the roof appears to be in good condition, the visible stains may have been caused prior to the most recent re-roof.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- Install new Caulking and or roofing Patch at all penetrations

LONG-TERM REPAIR RECOMMENDATIONS

ROOF

- The roof should be replaced with a more energy efficient roof. The current roof condition appears to be very old and weathered and is exposing potential asbestos containing materials.

Fig. 2 – Building 109 viewed from northwest corner.

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This cantilevered office space is located on the north side of Building 109. It is approximately 10x300 shed type roof. It appears to have roof top landscape; there is excessive moisture damage in most all locations, from end to end

CONDITIONS

ROOF

GENERAL NOTES: The shed roof on the north side of bldg 109 appears to be in very bad condition this area of roof should be replaced ASAP.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- This roof should be replaced, the exposed moisture damaged areas are potential breeding grounds for mold and mildew.

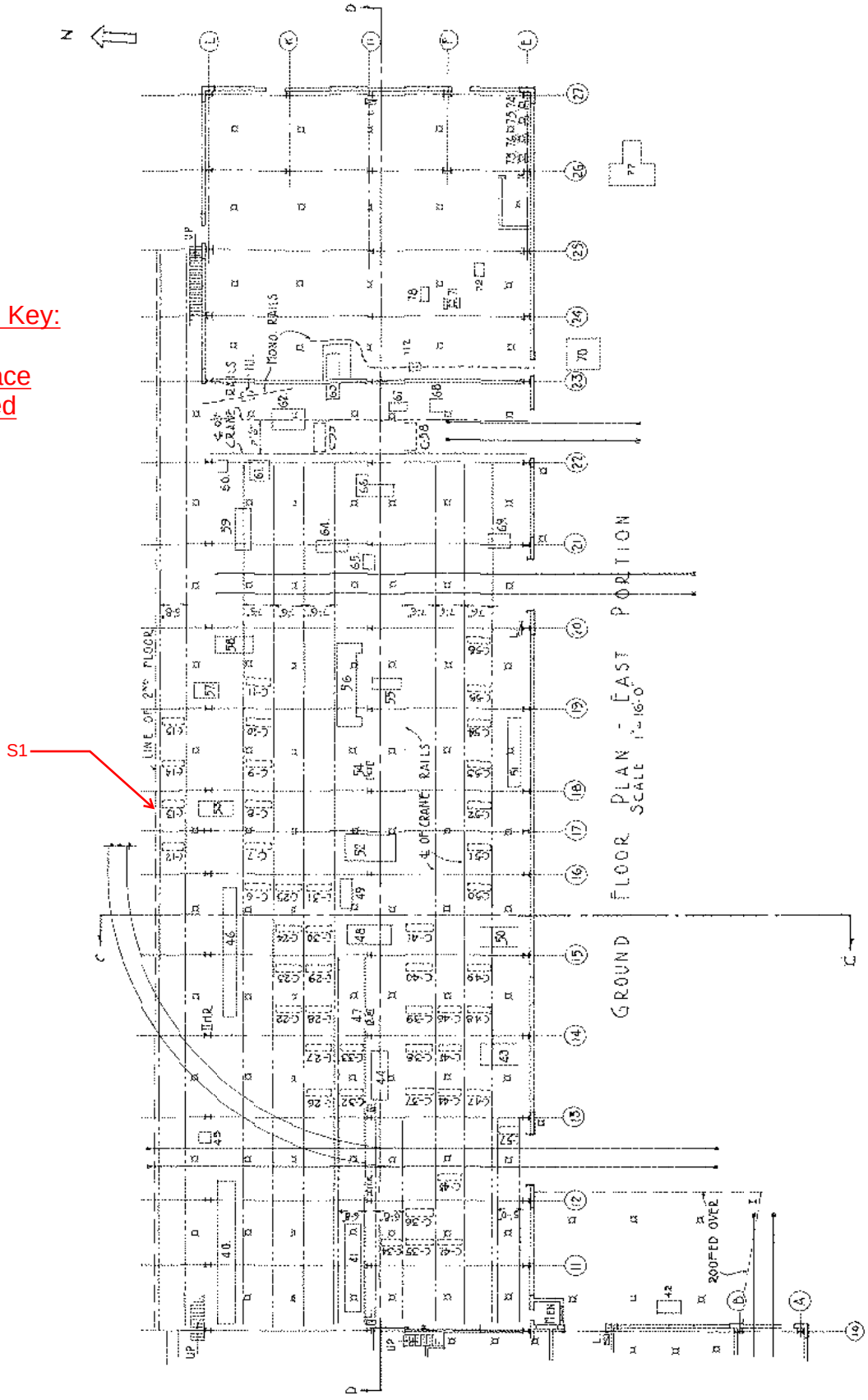
LONG-TERM REPAIR RECOMMENDATIONS

ROOF

- The new roof should be inspected for leaks or penetrations at least twice a year

Structural Key:

S1: Replace suspended platform



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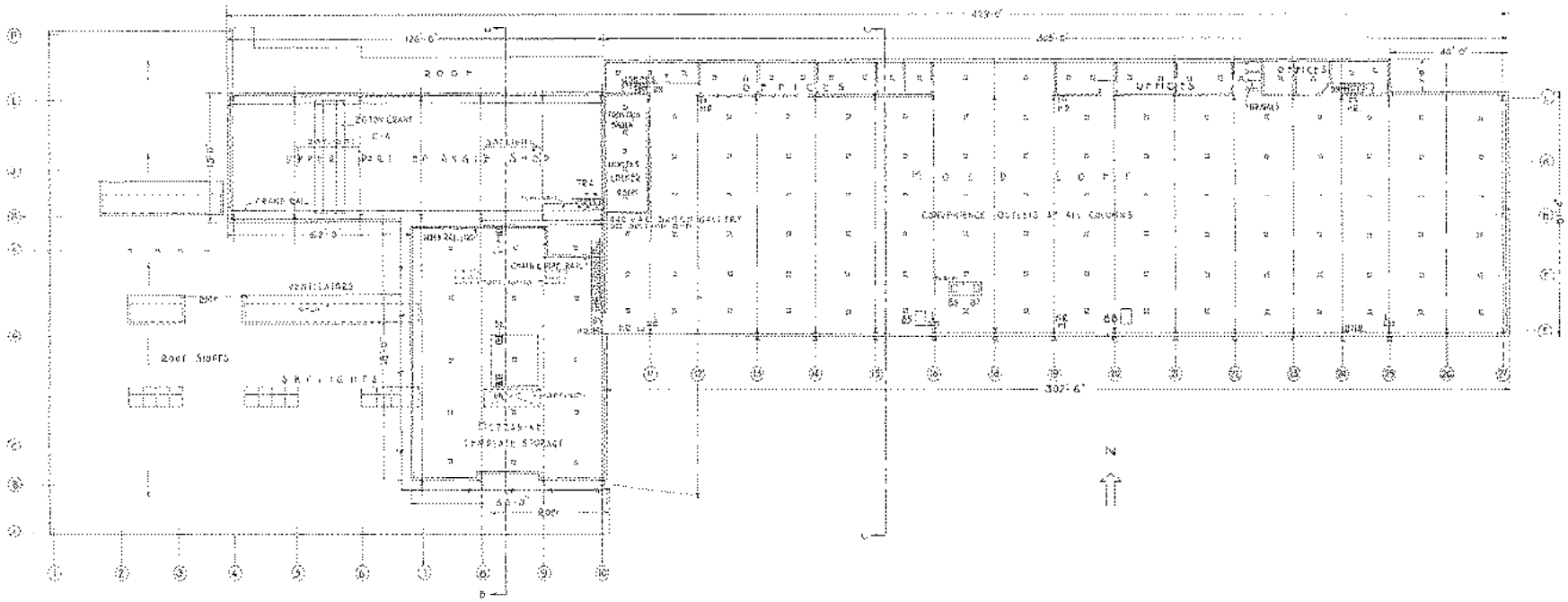

MEZZANINE AND SECOND FLOOR PLAN

BUILDING 109

A condition assessment of Building 109 was performed by AGS Inc. on June 28th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 109, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 109 has remained relatively unchanged since the previous condition assessment in 2015. The western section of Building 109 remains abandoned and unoccupied and continues to be fenced off from general use. The western section of Building 109 remains in general poor condition with no additional deficiencies found. The eastern section of Building 109 continues to be used as a paint shop, plate shop, rigging/break room, and tool room on the first floor and as a mold loft on the second floor. The recommended repairs provided in the previous condition assessment report have not been addressed. With exception to further general paint degradation on the building interior (most notably on the doors) and general advancement of the corrosion at the mold loft roof corrugated metal panels, no additional deficiencies were found at the eastern section of Building 109.

Figure 109-1 - Overall northeast view of Building 109 Tool Room.

Figure 109-2 - Overall northeast view of Building 109 Tool Room.

Figure 109-3 - Overall south view of Building 109 Paint Shop.

Figure 109-4 - South view of Building 109 Plate Shop metal sliding doors.

Figure 109-5 - Overall north view of Building 109 Mold Loft.

Figure 109-6 - Overall interior view of Building 109 Tool Room.

Figure 109-7 - Overall interior view of Building 109 Plate Shop.

Figure 109-8 – Overall interior view of Building 109 Paint Shop booth.

Figure 109-9 – Overall interior view of Building 109 Mold Loft.

Figure 109-10 – Overall northwest view of the abandoned west section of Building 109.

Figure 109-11 – Overall west view of the abandoned west section of Building 109.

Figure 109-12 – Overall interior view of the abandoned west section of Building 109.

Figure 109-13 – Overall interior view of the abandoned west section of Building 109.

BUILDING 111 - Administration Building

Figure 1 - Building 111, view from the northwest

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

Building 111 is part of a group of buildings that includes Building 38 (1915) and Building 108 (1911). This industrial/Renaissance Revival style building dates from 1917. The architect/engineer and builder are unknown.

This four-story, rectangular, and finely-detailed brick building has a flat roof and extensive glazing. It measures 212' long, 50' wide and 65' tall, and contains 46,272 square feet. The first floor is high, and topped by a wide, cast belt course. Openings on this floor have arched heads, with terra cotta keystones and impost blocks. At the northern end, a mezzanine creates a second story. This area contains office space, with wood, two-over-two double-hung windows and paneled spandrels between the two levels. The second bay has a personnel door in a profiled surround. An open, north-

south loading bay runs through the building from west to east. The seventh bay of the west elevation has a metal rolling door. At the southern end, the arched window openings contain steel sash panels with some operable awning sash. The three floors above are uniform, with wide rectangular steel sash windows. Windows on the second and third floors along the north elevation have been replaced with aluminum units. A machicolated cornice tops the building.

The brick masonry is of a very high quality. In addition to the cornice detailing, header courses run vertically up both sides of each pier. Rowlock courses run at the top of each window. Diagonally placed bricks form diamonds, centered in each spandrel panel at the third and fourth floor levels.

The approximately 40,000 square-foot interior consists primarily of open storage space, with some offices and partitions on each floor. The open warehouse space has board-formed square concrete columns with angled tops. Floors and ceilings are painted concrete and exterior walls are painted brick. Interior partitions on some floors include drywall and hollow clay tile. Board- formed poured concrete walls form the elevator shaft. Poured concrete stairs are surrounded by concrete walls, with metal pipe handrails at the upper floors. Plaster and marble wainscoting clad the stairwell between the first and second floors, along with decorative cast iron and wood handrail assemblies. Notable features include a counter-weighted metal fire door at the south end and original wood shelves and work benches.

The northern end of the first floor and the mezzanine that sits half a floor above it contain finely-detailed, richly-finished offices. Walls are painted plaster and brick. Marble wainscoting lines the foyer and oak trim includes door-height picture moldings. Doors are paneled wood, with wire-glazed upper panels and original hardware. Above the wood picture moldings are oak-trimmed clerestory windows (figures 2-5)

HISTORIC/CURRENT USE

Building 111 was built to be multifunctional, and principally provided support for outfitting activities at Pier 68. Within its walls were offices, warehouse space, and power generation facilities. It is currently used for inactive storage by BAE Systems.

Figure 2 – Building 111, East (blank) elevation

Figure 3 – South elevation

Figure 4 - Building 111, North elevation

Figure 5 - Partial west elevation showing pass-through

CONDITIONS

EXTERIOR

WALLS

Brick with parged, cementitous ornamental panels and isolated cementitous ornament.
Condition: Good – poor

The high quality brick masonry in Building 111 contains multiple deficiencies rooted in both seismic activity and water intrusion. Over time, the cracking caused by seismic activity has allowed water intrusion to damage the fabric of the building. The failure of sealants around windows has caused water damage as well. The building contains seismic cracks, loss of brick, failed window heads and sills, and cracked ornamental parge over brick panels (figures 6 - 9).

Figure 6 - North elevation, parge failure

Figure 7 – West elevation, failed header and sill

Figure 8 – Brick loss, south elevation

Figure 9 – Cracking, south elevation

WINDOWS

Wood windows. Condition: Fair – poor

Wood windows are located in the administrative portion of the building in the northernmost three bays, and only on the first floor. All windows are two over two double hung with the upper portions having arched tops. There are no broken glazing panes (figures 6-11).

Figure 10 – Typical wood window, north elevation

Figure 11 – Wood window detail

Steel windows: Condition: Fair- poor

Steel sash windows are the most numerous fenestrations in the building. Typically each unit has one operable portion. All windows are moderately to severely rusted, and many operating portions are bent such that they will not close. There are approximately (75) 14"x 20" broken glass panes. The sealant at the steel sash to brick joint has failed throughout (figure 12).

Figure 12 – Typical steel window, west elevation

DOORS

Historic loading dock steel doors. Condition: Fair

The south wall of the pass through at the fourth bay from the north contains a pair of large steel plate and angle iron loading doors on hinges. They are likely original to the building. They cover an opening 10" wide and 17' high. One leaf of the pair contains a personnel door. Both doors contain peeling paint and moderate rust. They operate with difficulty (figures 13 and 14).

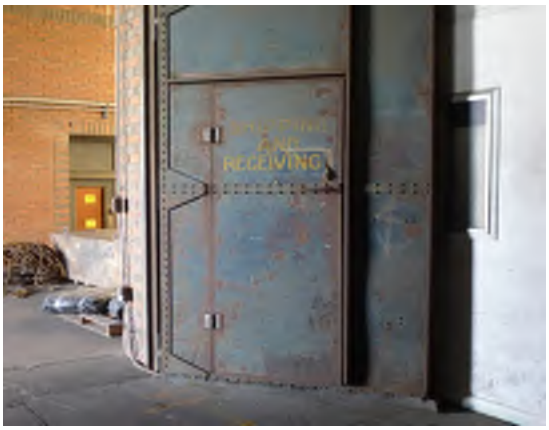

Figure 13 – steel loading door

Figure 14 – Leaf with inset personnel door

Steel roll-up. Condition: Fair

The building has four steel roll-up doors. Two are located on the south wall of the pass through and two are on the west elevation to the south of the pass through. All contain moderate rusting. It is unknown if they operate. The southernmost roll up door covers original double wood loading dock doors that are likely original (figures 15 and 16).

Figure 15 - Roll-up door, west elevation

Figure 16 - Wood loading doors, west elevation

Personnel. Condition: fair - poor

There are numerous personnel doors on the building. The south elevations contain four steel doors that exit onto the fire escape. The north elevation has an aluminum and glass entry door. The east elevation has a steel door and next to is a second entrance with a provisional wood door (figures 17 – 19).

Figure 17 - Aluminum door, north elevation

Figure 18 - Steel door, west elevation

Figure 19 – Wood door, west elevation

APPURTENANCES

Fire escapes. Condition: Good

There are two fire escapes. On the south elevation one fire escape rises to the fourth floor. On the northern end of the east elevation a second fire escape exists for evacuation of the first floor mezzanine. Both fire escapes have moderate rust and flaking paint.

Lights & alarm bell. Condition: Good – poor

The building contains three historic metal lights and numerous modern flood lights. There is one alarm bell at the mid- point of the west elevation at the first floor.

INTERIOR (figures 20 - 23)

Figure 20 - Building 111, mezzanine facing west

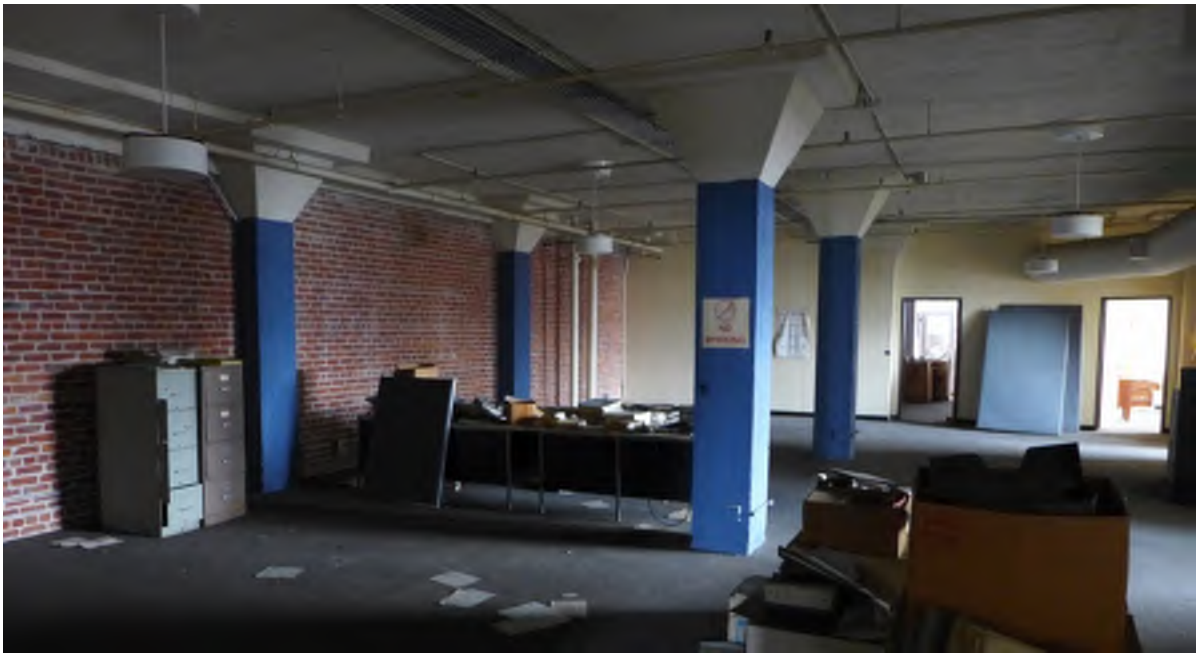

Figure 21 - Building 111, second floor facing south

Figure 22 - Building 111, third floor facing south

Figure 23 - Building 111, fourth floor facing south

INTERIOR WALLS

First Floor Warehouse - Brick. Condition: Fair (figure 24 and 25)

The brick on the first floor is generally in fair condition with some areas of deterioration predominantly under window sills. There are seismic cracks to brickwork in the open air loading dock.

Figure 24 - Building 111, first floor warehouse wall

Figure 25 - Building 111, first floor wall at loading dock

First Floor Offices - Painted plaster over hollow clay tile and brick. Condition: Poor

The walls in the first floor offices are cracked at all locations (figure 26). The plaster is delaminated and missing in many locations. Paint is cracked and peeling throughout.

Figure 26 - Building 111, first floor entry walls

First Floor Substation #3 - Painted plaster over hollow clay tile and brick with marble wainscot. Condition: Poor

Mezzanine - Painted plaster over hollow clay tile and brick with marble wainscot
Condition: Poor (figure 27 and 28)

The walls in the mezzanine are cracked at all locations. The plaster is delaminated and missing in many locations. There is significant moisture damage near windows. The marble wainscot is severely damaged, missing or separated from the substrate in many locations. Paint is cracked and peeling throughout. The bathrooms contain marble walls and partitions.

Figure 27 - Building 111, mezzanine lobby and office walls

Figure 28 - Building 111, mezzanine lobby and office walls, marble wainscot

Second Floor - Brick at exterior with steel stud and gypsum board demising walls.
Condition: Poor (figure 29)

The walls on the second floor are in poor condition. Significant moisture damage was observed around windows and where building debris remains in contact with wall surfaces. The mortar at most brick joints is heavily deteriorated. Demising walls have minor damage, predominantly at corners.

Figure 29 - Building 111, second floor exterior wall. Note moisture damage.

Third Floor - Brick at exterior with steel stud and gypsum board demising walls.
Condition: Poor (figure 30)

The walls on the third floor are in poor condition. Significant moisture damage was observed around windows and where building debris remains in contact with wall surfaces. The mortar at most brick joints is heavily deteriorated. Demising walls have minor damage, predominantly at corners.

Figure 30 - Building 111, third floor exterior wall.

Fourth Floor - Brick. Condition: Poor (figure 31)

The fourth floor wall brickwork is in poor condition due to moisture damage at areas of roof leaks and around window openings.

Figure 31 - Building 111, third floor exterior wall.

INTERIOR CEILING

First Floor Warehouse - Concrete (underside of floor slab). Condition: Good

First Floor Offices - Painted plaster over concrete underside of floor slab. Condition: Poor

The plaster ceiling throughout the first floor offices exhibits cracking, spalling and peeling paint.

First Floor Substation #3 - Painted plaster over concrete underside of floor slab.
Condition: Poor (figure 32)

The plaster ceiling throughout the substation exhibits cracking, spalling and peeling paint.

Figure 32 - Building 111, first floor substation # 3 ceiling

Mezzanine - Painted plaster over concrete underside of floor slab. Condition: Poor (figure 33)

The plaster ceiling throughout the mezzanine area exhibits cracking, spalling and peeling paint.

Figure 33 - Building 111, mezzanine floor ceiling

Second Floor - Painted concrete (underside of floor slab). Condition: Fair (figure 34)

Localized areas of moisture damage with biological growth, cracking, spalling and exposed, rusting rebar.

Figure 34 - Building 111, second floor ceiling

Third Floor - Painted concrete (underside of floor slab). Condition: Fair (figure 35)

Localized areas of moisture damage with biological growth, cracking, spalling and exposed, rusting rebar.

Figure 35 - Building 111, third floor ceiling

Fourth Floor - Concrete (underside of floor slab). Condition: Poor (figure 36)

Extensive cracking, spalling and exposed, rusting rebar, most pronounced at areas corresponding to roof low points. Organic growth at areas of heavy moisture.

Figure 36 - Building 111, fourth floor ceiling

INTERIOR FLOORS

Floor areas throughout the building are encumbered by haphazard storage, debris and pigeon guano.

First Floor Warehouse ~ Concrete. Condition: Fair (figure 37)

Figure 37 - Building 111, fourth floor concrete floor

First Floor Offices - Resilient tile and carpet. Condition: Poor

First Floor Substation #3 - 2" hexagonal white ceramic tile. Condition: Fair

The hexagonal tile floor is in fair condition. Minor cracking was observed.

Mezzanine - Resilient Tile and Carpet. Condition: Poor

Second Floor - Resilient Tile and Carpet. Condition: Poor

Third Floor - Concrete. Condition: Fair

Fourth Floor - Concrete. Condition: Fair

INTERIOR DOORS

Interior doors are of various types and vintages. Office doors from the first to the mezzanine level are general panel door with a glazed upper lite. Above the mezzanine, interior office doors tend to be more modern hollow wood doors.

Condition: Fair

Figure 38 - Building 111, mezzanine office door

INTERIOR STAIRCASE

The interior steps are comprised of concrete and terrazzo treads. From the first to the second floor levels the staircase contains an iron balustrade with wood top rail, plaster walls and a marble wainscot. From the second floor to the fourth floor the steps are concrete with a simple pipe rail. Walls are plastered to the third floor and unfinished from the third to the fourth floor. The staircase structural walls are board-formed concrete.

Condition: Poor

Seismic cracks were noted in the concrete structural walls. Plaster is cracked and fallen at many locations. The marble wainscot is broken, loose or completely missing at many locations. Stair areas are encumbered by debris and pigeon guano.

Figure 39 - Building 111, staircase from mezzanine to second floor level

Figure 40 - Building 111, staircase from second floor to third floor

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR WALLS

Note: All work to exterior brick and concrete must be specified and monitored by a preservation architect and performed by a qualified masonry contractor specializing in historic masonry and the repair of historic concrete.

- Repair brick at locations of spalls and cracks using Edison Custom System 45 masonry repair mortar. (Approx. 5% of the masonry surface area).
  1. Provide test samples for Architect's inspection and approval.
  2. Remove all contaminants, coatings, efflorescence, unsound masonry and inappropriate previous repair mortars.
  3. Prime masonry as per manufacturer's recommendations.
  4. Install patching mortar as per manufacturer's recommendations.
- Install new brick at locations of spalls and cracks. (Approx. 5% of the masonry surface area).
  1. Survey and map the existing condition of all brick.
  2. Rake out the mortar at existing deteriorated joints.
  3. Remove flaking rust where it is accessible.
  4. Paint the remaining reinforcing rod with rust inhibitive paint.
  5. Install new face brick to match sound existing brick.
  6. Repoint brick joints with matching mortar.
- Repair concrete spalls at sills, window headers, and ornamental panels using Edison System 44-Latex Modified Concrete Repair Mortar. (Assume 5 ornamental panels, two ornamental door surrounds, and 100% of headers and sills).
  1. Survey and map the existing condition of all headers, sills and ornamental panels.
  2. Remove all loose material.
  3. Remove flaking rust where accessible.
  4. Paint remaining reinforcing rod with rust inhibitive paint.
  5. Patch the area with a compatible repair material matching the original in strength, aggregate, color and texture.
  6. Repaint areas that were originally painted with a vapor permeable paint.

WINDOWS

- Steel Windows - Replace (75) 14”x20” window panes
- Repaint 100% of steel sash window components: frame, mullion and muntins.
  1. Remove all dirt and deteriorated glazing putty.
  2. Wire brush steel elements to remove rust.
  3. Install new glazing putty.
  4. Install new glazing where required to match existing original glazing.
  5. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats
  6. Protect all first floor windows with painted plywood.

- Wood Windows – No glazing replacement is required.
- Repair all wood frames and moveable sash.
  1. Remove all moveable sash for epoxy consolidation in a shop.
  2. Retain the glass and install new glazing putty in all windows.
  3. Repair and replace missing wood frame elements and epoxy consolidate, and patch the wood in situ.
  4. Install moveable sash into restored frames and install new sash chords. Ensure that all moveable sash operates.
  5. Prepare the wood surfaces, prime and paint with two top coats
  6. Protect all first floor windows with painted plywood.

DOORS

- North elevation aluminum and glass door – no recommendation
- West elevation, south elevation, steel doors (5)
  1. Replace missing hardware and components.
  2. Prepare surfaces, prime and paint with two top coats.
- West elevation, wood entry door.
  1. Remove air conditioners, and all infill materials, leaving the historic wood elements.
  2. Cover door opening and sidelights with painted plywood.
- West elevation and pass-through, steel roll-up doors (4)
  1. Replace missing hardware and components.
  2. Prepare surfaces, prime and paint with two top coats.
- Pass-through historic steel loading doors.
  1. Survey existing conditions
  2. Repair existing hardware or replace missing components
  3. Restore operation
  4. Prepare surfaces, prime and paint with two top coats
- West elevation, historic, wood double loading doors.
  1. Survey existing conditions
  2. Repair wood elements
  3. Repair existing hardware or replace missing components
  4. Restore operation
  5. Prepare surfaces, prime and paint with two top coats
- Survey existing condition of rolling doors.

APPURTENANCES

- Repaint both fire escapes.
  1. Verify that existing surfaces do not contain lead based paint.
  2. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations.
  3. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.

INTERIOR

The interior finishes of the building continue to deteriorate due to moisture infiltration from roof leaks and from deteriorated windows. The haphazard storage of materials and the accumulation of debris and pigeon guano contribute to poor conditions throughout the building. Moist and molding material in contact with building finishes contributes to further interior finish degradation. Debris should be cleared from the building and important documents salvaged and removed to a dry storage facility. Remove and dispose of carpets and resilient tile.

Clear the stairwell of debris, fallen building materials and pigeon guano to provide safe passage between floor levels. Salvage and remove loose marble panels from the stairwell.

Provide a 4' wide clear path at all floor areas.

RECOMMENDED LONG-TERM REPAIRS

- Develop a comprehensive preservation plan to address seismic structural repairs, restoration of the building envelope, restoration of interior finishes, and accessibility and feasibility considerations

BUILDING 111

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The building is a four story structure with reinforced concrete two-way slabs supported by concrete columns encasing a steel wide flange that was observed via previously conducted destructive testing throughout the building. There is a crawlspace below the first floor. The building's foundation according to the drawings are pile caps with the concrete/steel columns extending through the first slab to the cap; however, this was not verified in the field. On the east side of the structure is a full height masonry wall with no windows. On the north, west and south elevations there are steel frames encased in concrete that are infilled with brick masonry and windows. Hollow clay tile masonry was observed in the north stairwell. According to the drawings there appear to be concrete downturned beams at the exterior of the structure. There also appears to be a steel plate or angle that is connected to the downturned concrete beam which supports masonry.

LATERAL SYSTEM

The building's lateral strength appears to be provided by two part action of the concrete columns and downturned concrete beam infilled with masonry in all directions.

CONDITIONS

- There is major "x" cracking in the masonry shear walls particularly on the first two floors.
- There is damage to the one concrete column on the first floor. The column capital has spalled and the concrete slab at the column has cracked.
- The steel and concrete moment frames show damage at the multiple floors on the south side where concrete has spalled off.
- There has been destructive testing on the building that needs to be repaired. Multiple columns have been destructively tested and several locations of masonry testing were observed.
- Interior hollow clay tile was found to be extremely damaged in the first and second floor of the structure.
- The stairwell on the north side of the building had significant cracking and fallen debris was observed in the stairwell.
- Horizontal cracks were observed in the rooftop concrete parapet on the west, south and north side of the building possibly due to rusting steel within the parapet.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- Identify loose or crumbling interior and exterior elements and surfaces. Patch as necessary to reduce overhead falling hazards.

- Large cracks in parapet wall to be patched and sealed after cleaning of steel. If corroded steel exists, inside of parapet shall be cleared of all rust.
- Further investigation of the damaged concrete column to determine if significant decrease in vertical capacity has occurred.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- This building should be evaluated in more detail. It is recommended that the building have a full structural evaluation using ASCE 31/41 or a similar standard to determine its seismic capacity and in order to make recommendations for seismic strengthening.

Figure 1 – Concrete capital damage

Figure 2 – Destructive testing of concrete column

Figure 3 – Typical parapet cracking

BUILDING 111 – Main Office, Warehouse, and Substation #3

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• The building is equipped with gas-fired unit heaters that are not in use. The flues connected to many of the heaters are disconnected (see fig. 111-1).

• The third floor is equipped with a ducted heating and ventilation system (see fig. 111-2).

• The building has a freight elevator that appears to still be in use.

• The roof has (3) heat pump outdoor units that appear to not be in use.

Plumbing & Fire Protection Systems

• The building is fully sprinklered with an unused water storage tank located on the roof.

• A fire water hose reels are provided at every level near the stairway.

• There are many damaged rainwater leaders from the roof (see fig. 111-3).

• The building has men's and women's restroom facilities on floors 2 and 3.

Electrical Systems

• The electrical substation is located at the north end of the 1st floor.

• Each floor is equipped with a 120/240 volt electrical panel. Many electrical panels throughout the building are not fitted with protective panel covers.

• The building has an exterior light that is being powered by a flexible cable suspended from the neighboring building (see fig. 111-4).

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- Provide safety covers at electrical panels and wiring junctions.
- Provide permanent local power supply to building exterior light currently powered by temporary flexible cable hung from neighboring building.

Figures

Figure 111-1 – Disused Unit Heater with Flue Connection Broken

Figure 111-2 – 3rd Floor Ducted HVAC System

Figure 111-3 – Damaged Rainwater Leader

Figure 111-4 – Flexible Cable Feeding Power from Neighboring Building

BUILDING 111 Administration Building

Fig. 1 - Building 111 viewed from roof

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This roof area is approx 40ftx150ft, the existing roofing materials appear to be a more than 30 year old built up asphalt roof with a fiberglass membrane.

CONDITIONS

ROOF

GENERAL NOTES: The roof does not show any visible signs of leaking; however flashing along the parapet wall has become un- attached in multiple locations. The parapet wall is badly damaged, in multiple locations; structural repairs are recommended prior to installing a new roof. The current roof is old, weathered and may potentially be exposing asbestos containing materials.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- It is recommended the roof be replaced immediately.

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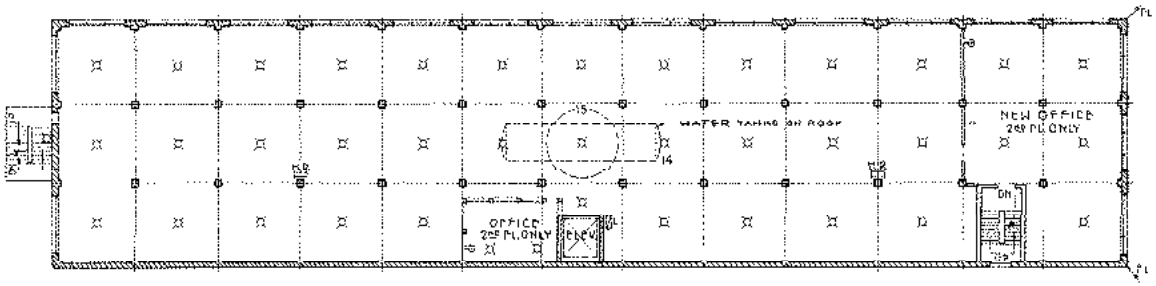
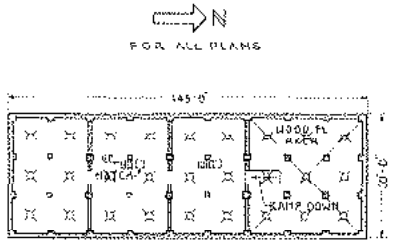
LONG-TERM REPAIR RECOMMENDATIONS

ROOF

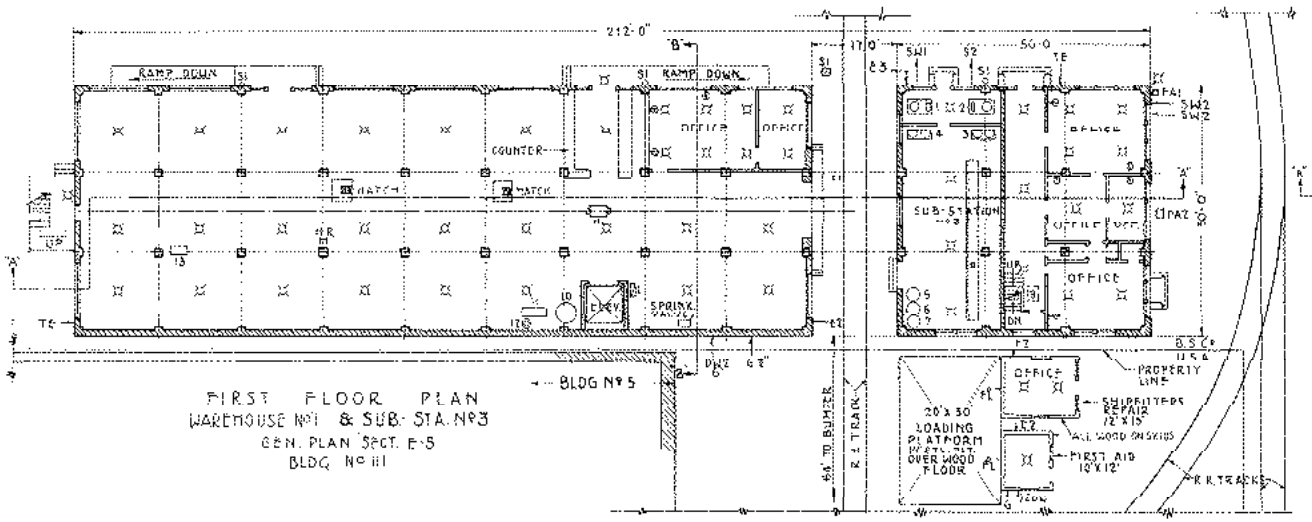
- Inspect for leaks or potential penetrations twice a year.



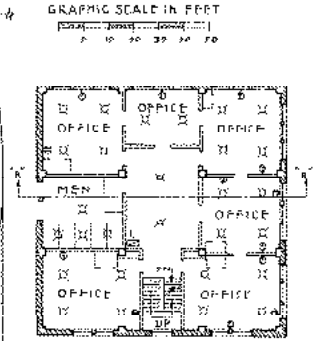
TYPICAL FOR 2ND, 3RD & 4TH FLOORS



BASEMENT PLAN
SCALE 1"=32'



FIRST FLOOR PLAN
WAREHOUSE Nº1 & SUB-STA. Nº3
GEN. PLAN SECT. E-5
BLDG Nº 111



MEZZANINE PLAN

BUILDING 111

A condition assessment of Building 111 was performed by AGS Inc. on June 29th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 111, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 111 has remained relatively unchanged since the previous condition assessment in 2015. The building continues to be used as an inactive storage facility and the recommended repairs provided in the previous condition assessment report have not been addressed. With exception to further general paint degradation on the building interior, no additional deficiencies were found.

Figure 111-1 - Overall northwest view of Building 111.

Figure 111-2 – Overall southwest view of Building 111.

Figure 111-3 – Typical view of Building 111 steel sash windows.

Figure 111-4 – Typical view of Building 111 wood windows.

Figure 111-5 – Typical view of Building 111 wood doors.


Figure 111-6 and Figure 111-7 – Typical view of Building 111 steel roll-up and double doors.

Figure 111-8 – View of the typical cracking on the exterior brick of Building 111.

Figure 111-9 – View of second floor interior at the north end of Building 111

Figure 111-10 – View of fourth floor interior at the south end of Building 111.

Figure 111-11 – View of fifth floor interior at the south end of Building 111.

Figure 111-12 – View of typical interior plaster damage in Building 111.

Figure 111-13 – View of typical interior paint deterioration in Building 111

Figure 111-14 – View of fifth floor interior ceiling efflorescence in Building 111.

BUILDING 120 - Compressed Gas & Haz. Mat. Storage

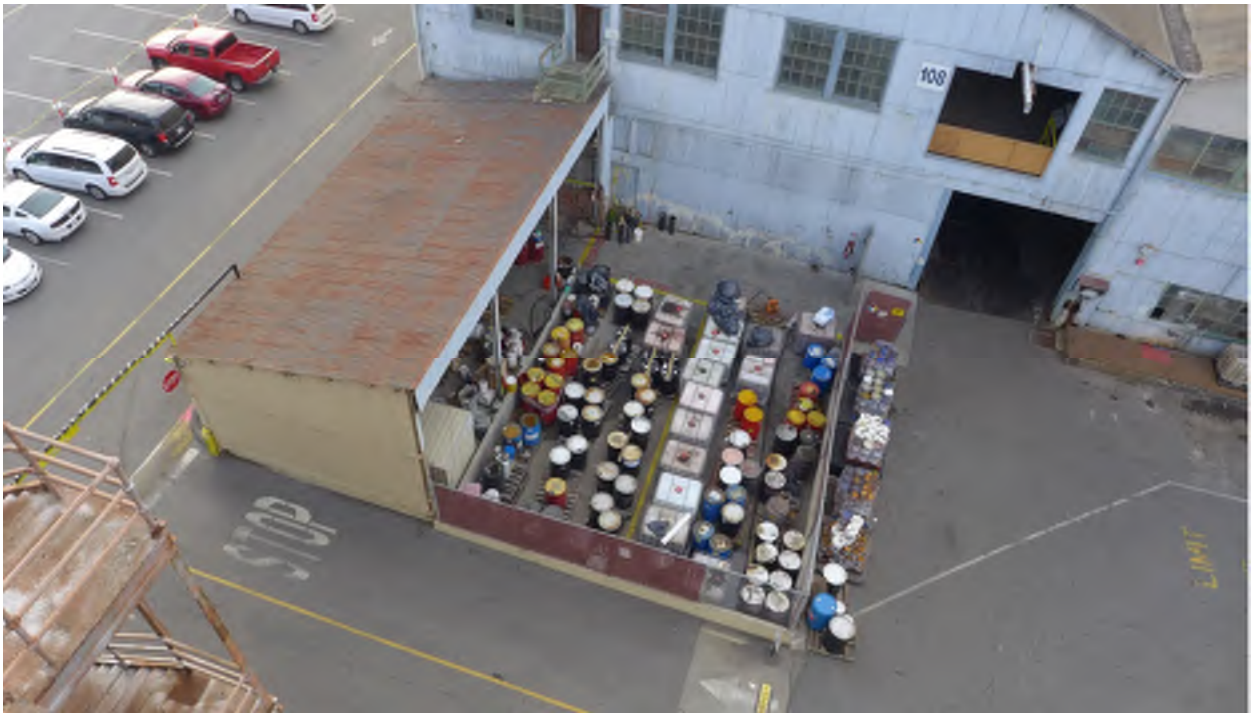


Figure 1 - Building 120, view from north

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

Building 120 is an open shed located between Buildings 108 and 111(figure 1). A simple utilitarian building, this single story, steel frame shed was constructed in 1936 and expanded in 1942. The building originally measured 71' long, by 22' wide, by 20' 8" high, and contained 1,392 square feet. The northernmost bay of the building has been removed to allow for access to the east yard which is used for parking. The present configuration measures 45' long, by 22' wide, by 20' 8" high, and contains 990 square feet. The cladding is corrugated metal set above a brick base.

HISTORIC/CURRENT USE

This building served as a "Pipe Rack," an ancillary building to the adjacent Planing Mill [Building 108](figure 2). The northern end was constructed in 1942 to provide a women's washroom and lockers. During World War II separate women's facilities were added to existing buildings (Buildings 11, 12, 14, 39, 54 101, 104, 110, and 113 all have clearly marked women's facilities), and several separate facilities, no longer extant, were erected on the wharves. This building is currently used for hazardous material storage.

Note: Considerations of the building to be used as a hazardous material storage area are outside the scope of architectural conditions assessment.

CONDITIONS

EXTERIOR

WALLS (figures 2 - 4)

WALLS - CMP (corrugated metal panels) above brick base on concrete curb. The north elevation CMP wall is supported on a 16" x 7" structural beam.

CMP. Condition: Fair

The CMP is painted on the north and east elevations of the building. The panels throughout the building are generally in fair condition with some localized denting above the opening on the west elevation. On the north elevation the panels have been cut around the structural steel roof supports which protrude from the wall. At the southeast corner the panel wrapping the steel beam has been damaged above the brick base wall. A PVC drain pipe from building 108 is poorly supported on the east wall of building 120 by wire hangers. The sheet metal corner guard at northeast corner is dented.

Figure 2 - Building 120: West Elevation

Figure. 3 - Building 120: West Elevation

Figure 4 - Building 120: East Elevation

Brick. Condition: Fair

The condition of the brick is generally in better condition than many of the other buildings of this era, but rusting rebar is also contributing to general brick and joint deterioration. The brick has been painted on the east wall. The mortar joints are deteriorated above grade. Approximately one foot of the wall has been buried below grade. Soil and plant growth is in contact with the wall. At the northeast corner, broken brickwork was observed behind a dented sheet metal cover. Damage to the corner is likely due to traffic entering and exiting the east parking lot. The brick corner at the southwest where the yard leads to the building interior is also broken, likely from forklift activity.

Concrete curb wall. Condition: Fair

A concrete curb wall extends from the building to provide an open yard enclosure. A chain link fence is attached to the curb wall. The curb wall has a 4"-6" spall at the entrance gate and <1/8" crack at the northeast where it meets the building.

WINDOWS

No windows

DOORS

No doors

APPURTENANCES

Four fire extinguishers. Condition: Unexamined

2 of 4 fire extinguishers were not easily accessible.

INTERIOR

INTERIOR WALLS

CMP (corrugated metal panels). Condition: Fair (see exterior description)

CMP wall support steel angle at brick support wall has significant rust and corrosion.

Brick. Condition: Fair (see exterior description)

INTERIOR FLOORS

Concrete, Condition: Good where visible, most of floor covered with storage.

INTERIOR CEILING

CMP, Condition: Poor

The underside of the CMP roof panels have significant rust and corrosion.

STRUCTURAL ELEMENTS

Four steel rafters and purloins and on structural steel columns: Condition: Poor

The steel exhibits significant rust and corrosion.

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Repair 10% CMP panels.
  1. Replace dented and damaged components in kind to match original.
  2. Install sealant at all structural steel, conduit and pipe penetrations.
- Clean and repair brick wall at east elevation.
  1. Remove soil and plant growth at brick.
  2. Inspect wall to identify areas of damage. Repair damaged wall areas as per results of exploratory probe findings.
  3. Install drainage mat against brick wall.
  4. Fill excavated area with clean 3/4" drainage gravel.
- Perform two (1sf) exploratory probes at locations of rusting steel in the brick wall. **Probes and repair/reconstruction work shall be specified and monitored by a qualified historical architect. Work shall be performed by a qualified historic masonry contractor.**
  1. Architect and engineer to determine location of probes in field.
  2. Remove face brick to fully expose steel.
  3. Allow architect and engineer to review.
  4. Remove rust from rebar or plates to fullest extent possible.
  5. Allow architect and engineer to review.
  6. Based on results of probe, two repair options are outlined below.
- Repair option 1 (preferred): Install new brick at locations of spalls and cracks.
  1. Survey existing condition of all brick.
  2. Rake out mortar at existing deteriorated joints.
  3. Remove flaking rust where accessible.
  4. Paint remaining reinforcing rod with rust inhibitive paint.
  5. Install new face brick to match sound existing brick in size, color, texture and strength. Allow for three rounds of brick and mortar submittals/mock-ups.
  6. Repoint brick joints with matching mortar. Match historic joint profile.
- Repair option 2 (if repair is not possible): Reconstruct entire wall to faithfully reproduce existing as described below.
  1. Provide one square foot brick and mortar mock-ups. Bricks need to be the exact size, color, texture, and strength as the originals. Any existing variations in color and texture also must be recreated. Mortar joints must match exactly in profile, color, texture and strength. Assume 3 rounds of mock-ups and mortar testing.
  2. Photo-document prior to demolition. Submit to historical architect. Carefully demo wall taking care to not disturb adjacent building elements. Protect and shore steel CMP wall supports and steel sash windows. Assume that wall will be rebuilt in twenty foot sections. Salvage sound brick wherever possible for reuse.
  3. Rebuild brick walls to match original in size color, texture, profile and bonding pattern.

INTERIOR

STRUCTURAL ELEMENTS

- Repaint steel rafters, purlins, columns and CMP support structure.
  1. Verify that existing surfaces do not contain lead based paint.
  2. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations.
  3. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.

CEILINGS

1. No recommendation. Structural engineering report recommends 100% replacement.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance and repainting on a regular schedule.
- The following conditions identified in the conditions assessment should be considered for long-term repair:
  1. Corner damage at locations of vehicular traffic.
  2. Concrete curb wall at yard.
  3. PVC support at east wall.

BUILDING 120

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The roof is corrugated steel decking on steel purlins, supported by steel beams and columns. Walls are corrugated steel siding supported on partial height masonry walls. The floor is a concrete slab on grade. The foundation was not observed and not indicated on the drawings provided by the Port.

LATERAL SYSTEM

The roof diaphragm strength is provided by diagonal steel rod bracing. The lateral strength in all directions appears to be provided by steel tension rod "x" braces with a diameter of ¾" along each of the three sides. The building has an open front.

CONDITIONS

- The corrugated steel roof decking shows moderate to severe corrosion throughout. Rust holes are present in multiple locations
- Roof beams and purlins show minor signs of corrosion.
- "x" braces on the north side appear to have been removed. Other "x" braces are loose.
- Masonry wall has significant cracks and the mortar is spalling out where water has infiltrated and rusted the steel plates in the masonry. In one area, the masonry courses are splitting apart from each other.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- Clean existing rusted steel framing and roof deck to remove rust and paint, assess its condition, and re-coat with a rust-inhibiting primer and paint. There is a potential for the presence of lead or other hazardous materials in the existing coating.
- "x" tension rod brace that is removed should be replaced. All other "x" braces should be re-tensioned.
- Repair the damaged brick wall: remove brick and mortar to access the embedded steel plates, clean the plates of all rust and coat with a rust-inhibiting epoxy, replace the brick and mortar and repoint all joints.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- Given the light weight of the roof and walls, seismic demands on the structure will likely be less than the wind loads that the structure has already experienced. Therefore, based on our limited observations, it is our opinion that seismic strengthening of this building is not necessary.

Figure 1 – Typical rusting to roof CMP

Figure 2 – Typical corrosion on steel members

Figure 3 – Missing tension “x” brace

Figure 4 – Partial height masonry wall mortar damage

BUILDING 120 – Hazardous Materials Storage

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• The structure is open on one side with natural ventilation only.

Plumbing & Fire Protection Systems

• Structure has no fire protection service.

• A fire extinguisher is provided at the East Wall.

• An eyewash station & shower is located near the entrance of the structure (see fig. 110-1).

• The hazardous materials are stored inside metal drums inside a sump just outside the structure. Standing water was observed in an area near the drain (see fig. 110-2).

Electrical Systems

• The structure has no power service.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

Figure 110-1 – Eyewash and Shower Facilities

Figure 110-2 – Standing Water Inside Chemical Storage Sump at the Drain.

BUILDING 120 Compressed Gas & Haz Mat Stor.

Fig. 1 - Building 120 view from Bldg. 108 2nd floor

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This structure is open on one side, it has a half shed roof that slopes in one direction,

CONDITIONS

ROOF

GENERAL NOTES: This roof has a rusted Corrugated Metal roof with holes in multiple location, visible from the interior.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- Immediate replacement of the entire roof is recommended

LONG-TERM REPAIR RECOMMENDATIONS

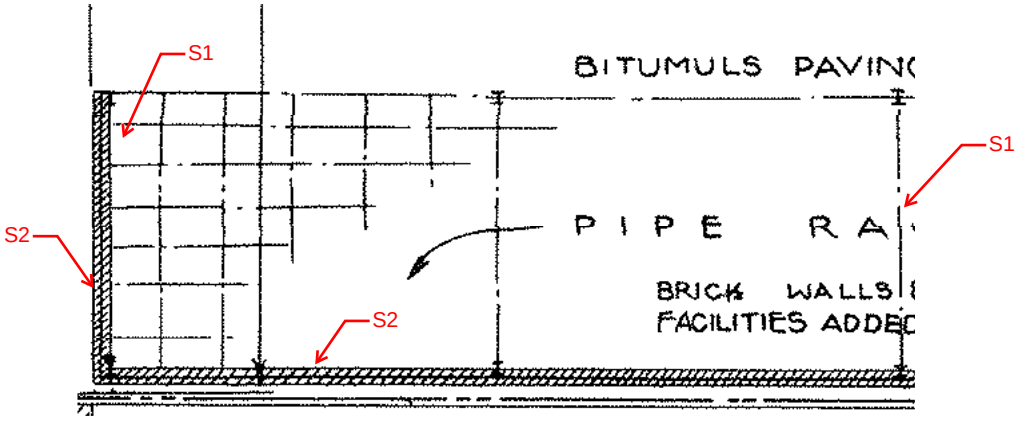
ROOF

- Inspect the new roof twice a year for leaks and penetrations

Structural Key:

S1: Steel rod "x" brace to be replaced or re-tensioned.

S2: Partial height masonry wall to be repaired per report.



PLAN BLDG. NO. 120

BUILDING 120

A condition assessment of Building 120 was performed by AGS Inc. on June 29th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 120, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 120 has remained relatively unchanged since the previous condition assessment in 2015. The building continues to be used for hazardous material storage and the recommended repairs provided in the previous condition assessment report have not been addressed. The corrosion on the interior of the corrugated metal roof panels has worsened and there is minor to moderate corrosion typically along the bottom edge of the interior corrugated metal wall panels. No additional deficiencies were found.

Figure 120-1 - Overall west view of Building 120.

Figure 120-2 – Overall northeast view of Building 120.

Figure 120-3 –View of deterioration in the exterior mortar joint at Building 120.

Figure 120-4 – View of the typical interior roof corrosion in Building 120.

Figure 120-5 – View of the corrosion along the bottom edge of the interior corrugated metal wall panels.

Figure 120-6 – View of typical interior paint deterioration in Building 120.

Figure 120-7 – View of the typical loose steel braces in Building 120.

BUILDING 121 - Pipe Office

Figure 1 - Building 121, view from northeast

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

This building stands in an open area north of Building 105 (figure 1). Originally constructed in 1941, it was moved before 1975 from its original location near Building 6, where it was designed to fit between two buildings so as not to impede traffic on the dock.

This single-story, freestanding, flat-roofed wood frame office building is clad in shiplap siding and has an irregularly shaped six-sided footprint that contains 584 square feet. The building has a variety of opening types. Doors are wood; they are found at the east, the short north wall, and the west elevations. Windows along the east and northeast elevations are continuous bands of multi-lite wood sash, while the western façade features three high, four-lite wood sash.

HISTORIC/CURRENT USE

Building 121 originally served as a Timekeeper's Office. It remains in use as a field office by BAE Systems.

CONDITIONS

EXTERIOR

WALLS

Wood Siding. Condition: Fair (figures 2 and 3)

Peeling paint throughout. Siding is patched in several locations with plywood. The 1"x4" wood trim is damaged, as are the wood skirt at the base and the siding at the parapet. Rusted nails occur throughout the walls.

Figure 2 - Building 19: East Elevation

Figure 3 - Building 121: South Elevation

WINDOWS

Wood Sash Windows. Condition: Poor but serviceable (figures 4 and 5)

Wood sash multi-lite, fixed in frame typical. Paint is in very poor condition throughout. There are rusted nails and holes in the wood sash. The window putty is in poor condition and missing in many locations. One sash batten is missing.

Figure 4 - Building 121: Windows at east elevation

Figure 5 - Building 121: Windows detail. Poor paint and missing glazing putty.

DOORS

Personnel Doors: Three wood-panel doors with glazed upper panels and transoms (figure 6). Condition: Poor

Door panels are damaged. Jambs are damaged near the threshold and at the hinges. Transoms are boarded up or inoperable. Metal thresholds are poorly fitted. There is a screen door with self-closing hinges on the east elevation. The screen is completely missing. The doors at the east and south have poorly constructed plywood awnings.

Figure 6 - Building 19: Personnel door at north elevation

APPURTENANCES

Two fire-extinguishers. Condition: Unexamined.

Two through-wall air-conditioners. Condition: Poor, one is defunct.

INTERIOR

Figure 7 - Building 121: Interior view

INTERIOR WALLS

Undetermined panel, possibly particle board, textured paint finish. Condition: Poor.

INTERIOR FLOORS

Resilient tile. Condition: Poor, very poor at thresholds.

CEILING

Undetermined panel, possibly particle board, painted. Condition: Poor, vent panels loose.

FIXTURES

Seven fluorescent ceiling lamps. Condition: Poor, one is defunct.

Two through-wall air-conditioner. Condition: Poor, one is defunct. (see exterior)

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Replace 25% of wood trim.
- Paint 100% of wood siding.
  1. Verify that existing surfaces do not contain lead based paint.
  2. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations.
  3. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.
  4. Replace damaged components and patched areas with new siding to match original.
  5. Remove defunct air-conditioner. Provide plywood panel at opening.
  6. Remove deteriorated sealant and install new sealant at all conduit, pipe penetrations, AC penetration, door and window frames.
  7. Install specified primer and two finish coats as per manufacturer's recommendations.

WINDOWS

- Replace 2% of window panes
- Restore 100% of window frame, mullion and muntins.
  1. Verify that existing surfaces do not contain lead based paint.
  2. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rules and all applicable state and local regulations.
  3. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.
  4. Restore damaged wood window sash.
  5. Consolidate and repair deteriorated wood sills.
  6. Replace missing window trim to sound condition and existing appearance.
  7. Replace cracked, broken or missing glass.
  8. Remove all deteriorated putty and replace with new.
  9. Install specified primer and two finish coats as per manufacturer's recommendations.
  10. Clean all glass.
  11. Provide new window shades/blinds at all locations.

DOORS

- Repair three wood doors and wood frames
  1. Verify that existing surfaces do not contain lead based paint.
  2. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rules and all applicable state and local regulations.
  3. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.
  4. Repair damaged wood door components.
  5. Consolidate and repair deteriorated wood frame.
  6. Install specified primer and two finish coats as per manufacturer's recommendations.
  7. Install new thresholds.
  8. Replace screen at screen door.

APPURTENANCES

- Remove existing air-conditioners and a/c support brackets.
- Provide new a/c sleeve at easternmost a/c opening.
- Provide new a/c brackets.
- Provide and install new a/c unit, tilt to provide proper drainage.

INTERIOR

INTERIOR WALLS

- Patch holes and repair cracks in wall surface. Prepare for paint.
- Install specified primer and two finish coats as per manufacturer's recommendations.

INTERIOR FLOORS

- Remove existing resilient tile.
- Repair floor substrate as required to install new tiles.
- Install new resilient tile floor.

CEILING

- Remove vent gratings at ceiling.
- Patch holes and repair cracks in ceiling surface.
- Prepare for paint.
- Install specified primer and two finish coats as per manufacturer's recommendations.
- Reinstall ceiling grates.

FIXTURES

- Provide and install new AC unit (see exterior appurtenances)
- Repair/replace one fluorescent light fixture.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance and repainting on a regular schedule.
- The following conditions identified in the conditions assessment should be considered for long-term repair:
  1. Missing glazing at transoms
  2. Plywood awnings

BUILDING 121

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

This building is a small one-story structure. Drawings indicate it was built in 1944 but do not indicate the framing or foundations. It appears to be wood framed, with exterior wood siding. Interior walls are finished in gypsum board. Plywood wall sheathing was observed at a hole in a wall, possibly added after the original construction.

LATERAL SYSTEM

The exterior wood siding and possible plywood sheathing are assumed to provide lateral strength in both directions.

CONDITION

There does not appear to be any visible structural damage to this building.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- No immediate repairs are required at this time.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- Based on the small size of the building, its construction type, and its existing condition, it is our opinion that seismic strengthening is not necessary.

Figure 1 – Building 121 exterior

BUILDING 121 – Pipe Storage Office

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• The offices are provided with window-mounted DX units for cooling (See fig. 121-1).

• Each office has access to operable windows and ceiling vents with opening & closing controls (See fig. 121-2).

Plumbing & Fire Protection Systems

• No fire sprinkler service.

• Fire extinguisher cabinets are provided at the NW and SE corners of the building.

• No plumbing service.

Electrical Systems

• The building has a single electrical panel controlling all building power.

• Power is fed via an underground service channel.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- Natural ventilation currently meets code for this building. No immediate actions required.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

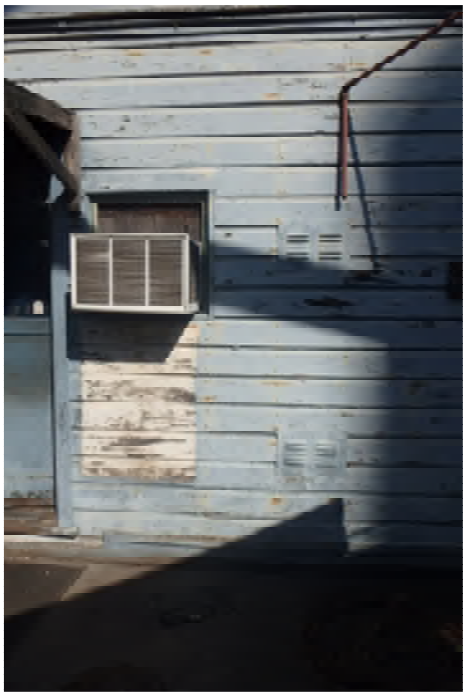


Figure 121-1 – Window-Mounted DX Cooling Unit

Figure 121-2 – Operable Ceiling Vents

BUILDING 121 Pipe Office

Fig. 1 - Building 121 view from adjacent mens restroom

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This is an old house approximately 900 Sq. Ft. currently being used as an office.

CONDITIONS

ROOF

GENERAL NOTES: It appears a re-roof was recently completed within the last 10 years.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- No recommendation for repairs

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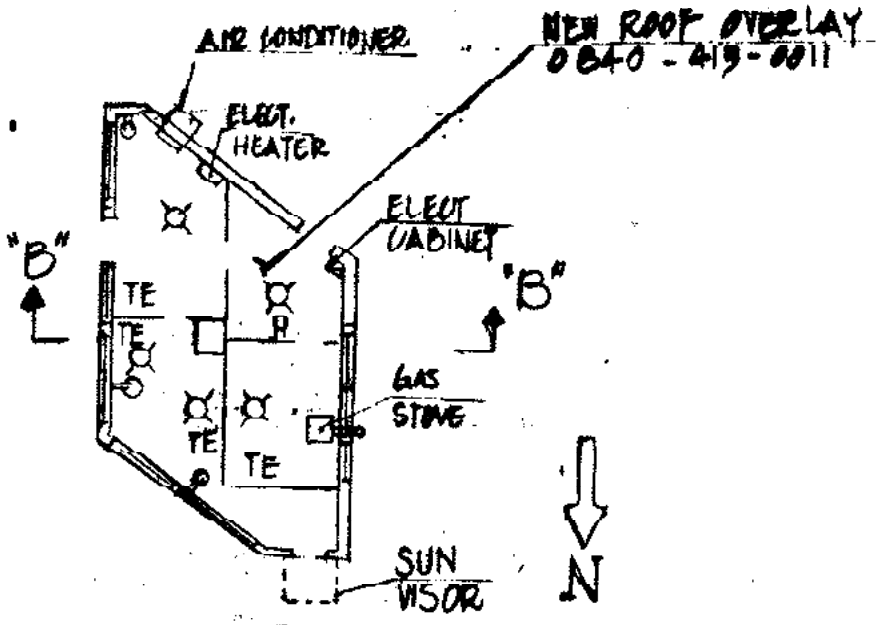
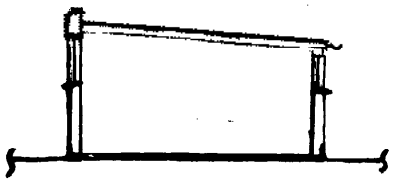
LONG-TERM REPAIR RECOMMENDATIONS

ROOF

- Inspect roof for leaks and potential penetrations twice a year



BLDG NO. (121) GEN PLAN E-4
SCALE: 1" = 16"



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(121)

BUILDING 121

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The overall condition of Building 121 has remained relatively unchanged since the previous condition assessment in 2015. The building continues to be used as a field office and the recommended repairs provided in the previous condition assessment report have not been addressed. With exception to further general paint degradation on the building interior and exterior and window glazing deterioration, no additional deficiencies were found.

Figure 121-1 - Overall northeast view of Building 121.

Figure 121-2 - Overall southeast view of Building 121.

Figure 121-3 and Figure 121-4 – Typical view of the wood doors at Building 121.

Figure 121-5 – Typical view of wood windows at Building 121.

Figure 121-6 – View of the typical paint deterioration on the exterior of Building 121.

Figure 121-7 – View of typical interior condition of Building 121.

Figure 121-8 – View of typical interior ceiling condition of Building 121.

BUILDING 127 – Production Office

Figure 1 - Building 127, south elevation

ARCHITECTURAL DESCRIPTION

PHYSICAL DESCRIPTION

Building 127, a two story, wood framed building with a shallow gable roof, is sited on Pier 68 between Building 58 to the east, and immediately adjacent to Building 143 to the west. It measures 24' by 44', is oriented east-west, and it rises to 22' at the ridgeline. It contains 1,056 square feet. The first and second floors are not internally connected, and an exterior stair on the east elevation accesses the second story. The building was originally constructed of wood with corrugated galvanized iron cladding, composite roofing.

After the period of significance, the building underwent major alteration. Vinyl siding replaced the original corrugated galvanized iron cladding. The building now has a combination of aluminum and vinyl double-hung windows, vinyl composite flooring, hollow metal doors and door frames, and

gypsum board interior partitions. The ceilings are both gypsum wall board on the second floor, and suspended 2'x 4' acoustic tile on the first floor.

The building currently houses offices. The first floor contains seven small private offices around a double loaded corridor at the east end. The west end contains the main entrance opening onto a large combined conference room and kitchen. The second floor contains an open office plan with one large and one small private office and a bathroom. The building was altered with residential grade materials.

HISTORIC/CURRENT USE

Bethlehem Steel erected the building in 1944 to house offices on the second floor, and storage rooms and lockers on the first. BAE Systems continues to use the building for offices.

CONDITIONS

EXTERIOR

WALLS

Residential grade vinyl siding. Condition: Good (figures 2 - 4)

The vinyl siding is sound except for one puncture to the east side of the first floor entry door (figure 5).

Figure 2 - South and east elevations

Figure 3 - West elevation

Figure 4 - North elevation

Figure 5 – Puncture damage to vinyl siding

EXTERIOR STAIRS AND WOOD ELEMENTS

Wood stair and eave soffits and roof fascia. Condition: Fair (figures 5 and 6)

The wood stair leading to the second floor appears to be sound but the painted surfaces have failed. Similarly, the eaves, which reveal the original roof sheathing, and the fascia at the edges of the roof contain deteriorated paint.

Figure 5 - Paint deterioration at fascia and eaves.

Figure 6 - Paint deterioration at second floor entry stair.

WINDOWS

Double hung aluminum and vinyl windows. Condition: Good (figures 7 and 8)

The aluminum and vinyl double hung residential windows are sound. There is one cracked window on the first floor of the west side. Vinyl was also used for the window trim and the sills.

Figure 7 - vinyl windows with faux muntins

Figure 8 - Aluminum windows

DOORS

Entry Doors. Condition: Good

There are three steel exterior entry doors. Two are on the first floor and one is at the top of the stair leading to the second floor. All doors are sound, and in good condition.

APPURTENANCES

Floodlights and speakers and utility chase. Condition: Functional (figures 9 and 10)

All building mounted fixtures appear to be functional. There is a wood utility chase hung from the pier that carries pipe and conduit across the south face of the building. Access to the pipe run is apparently required because there is a wood barrier railing in disrepair.

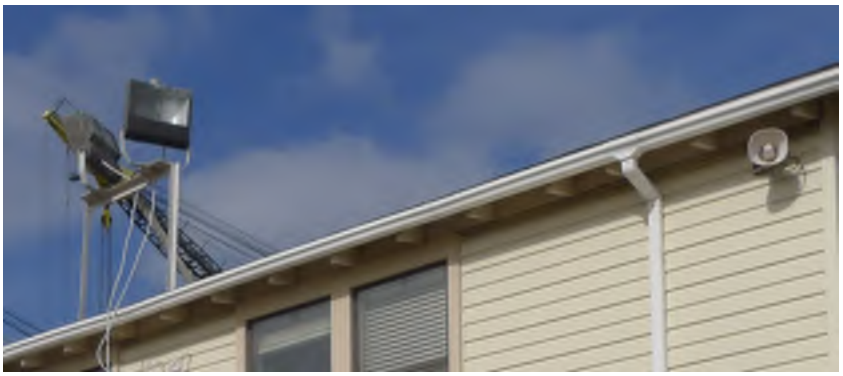


Figure 9 - Roof mounted flood lights and speakers

Figure 10 - Pipe chase and wood railings

INTERIOR

Figure. 11 - Building 127, Interior view conference room and kitchen

INTERIOR WALLS

Gypsum Wall Board (GWB) and plastic laminate in first floor conference room

GWB. Condition: Good

CEILING

GWB (second floor). Condition: Good

Suspended acoustic tile in T -bar grid (first floor). Condition: Good

INTERIOR FLOORS

First and second floors, vinyl. Condition: Good

FIXTURES

Ceiling lights. Condition: Good

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS AND WOOD ELEMENTS

- Repair breach in vinyl cladding at first floor front door.
- Prep and paint wood elements
  1. Scrape all deteriorated paint.
  2. Prepare and prime all wood surfaces.
  3. Apply two coats of oil based paint over prepared surfaces.

WINDOWS

- Replace one cracked window pane on the first floor west elevation.

DOORS

- No recommendation.

INTERIOR

FLOORS

- No recommendation.

CEILINGS

- No recommendation.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance on a regular schedule.

BUILDING 127

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

Building 127 is a two-story building consisting of wood-framed construction. It is our understanding that the building was constructed around 1945. The roof appears to be either plywood or 1x sheathing over roof trusses. The roof trusses were observed but the roofing was not. There are partition walls in the building that could be bearing, but from the drawings it appears that there are columns in the interior of the walls that could be supporting beams that support the joists. The building is built on the pier and it is unknown how the building is attached to the concrete slab that is the pier.

LATERAL SYSTEM

The building is assumed to have wood shear walls in all directions. The walls would appear to stack, however the nailing was not observed and not apparent in the drawings provided by the port. The diaphragm is assumed to be wood 1x siding or plywood, but could not be confirmed via observation.

CONDITIONS

- There is minor condensation on the interior of the windows that could indicate water damage to the wood framing.
- Moderate deterioration of the outside stairway to second floor was observed, which is the only egress point.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- Outside stair to the second floor should be replaced in kind.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- Based on the construction type and the building's existing condition, it is our opinion that seismic strengthening is not necessary.

Figure 1 – Building 127 Exterior

Figure 2 – Exterior stair damage

BUILDING 127 – Production Offices

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• The building is equipped with (2) wall-mounted heat pumps that are zoned separately for the 1st and 2nd floors (see fig. 127-1). The units are in good condition.

Plumbing & Fire Protection Systems

• The building has no fire protection service.

• Fire extinguishers are located on the building exterior (see fig. 127-2).

• The first floor is equipped with a kitchenette area with a sink.

• The 2nd floor is equipped with a restroom with (1) toilet and (1) lavatory.

Electrical Systems

• The building is equipped with a 480/220 volt transformer (see fig. 127-3).

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

Figure 127-1 – Wall-mounted Heat Pumps

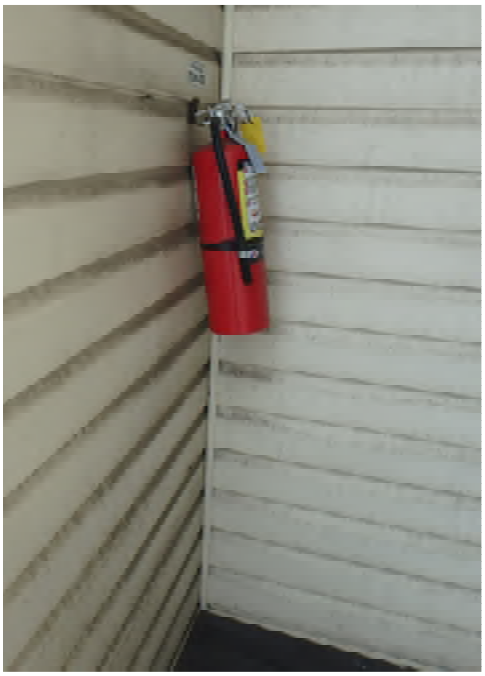


Figure 127-2 – Fire Extinguisher at Exterior of Building

Figure 127-3 – Dedicated Transformer

BUILDING 127 Production Office

Fig. 1 - Building 127 view from bldg 68 roof top

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This is a 2 story structure currently being used as the Production Office

CONDITIONS

ROOF

GENERAL NOTES: This roof has asphalt shingles, the roof appears to be approximately 20 years old roof. This roof also has had some recent patch work and a show sign of significant moisture damage at the eves and over hangs.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- Install new caulking or roofing patch to all holes penetrations.

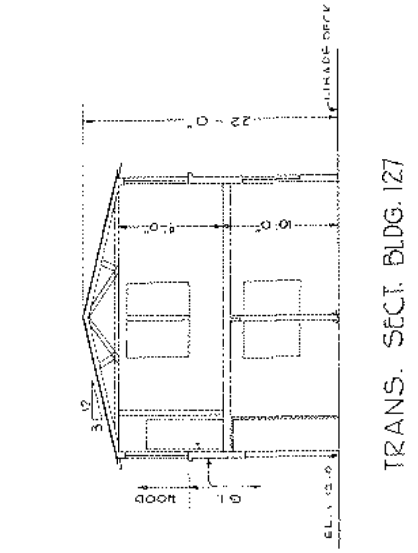
LONG-TERM REPAIR RECOMMENDATIONS

ROOF

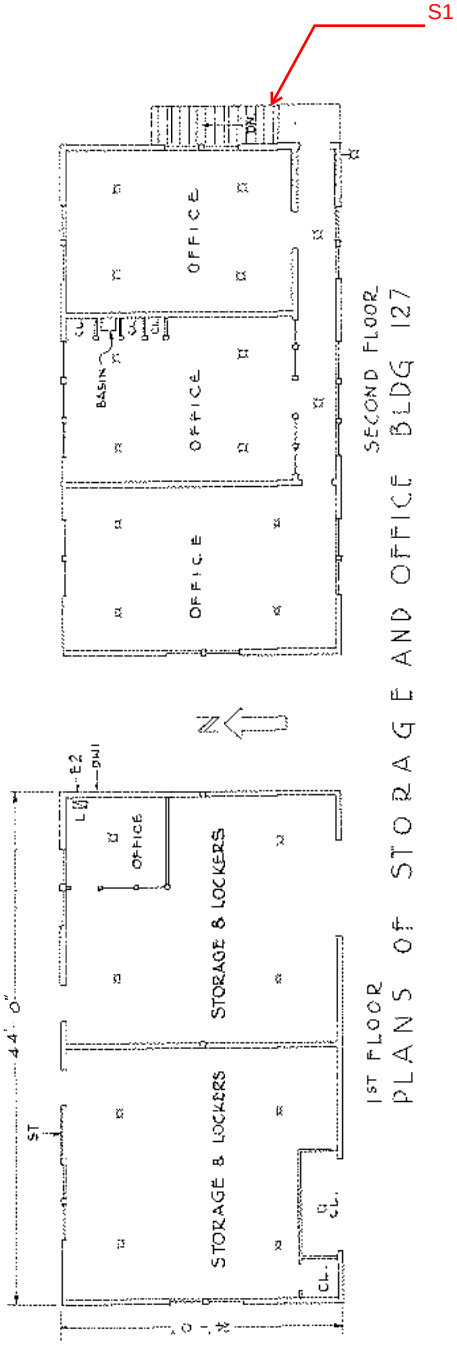
- Repair dry-rot, install new shingles to the entire roof

Structural Key:

S1: Wood stair to be replaced.



TRANS. SECT. BLDG. 127



1ST FLOOR PLANS OF STORAGE AND OFFICE BLDG 127

BUILDING 127

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The overall condition of Building 127 has remained unchanged since the previous condition assessment in 2015. The building continues to be used as office space and the recommended repairs provided in the previous condition assessment report have not been addressed. No deficiencies in addition to the deterioration identified in the previous condition assessment were found.

Figure 127-1 - Overall southeast view of Building 127.

Figure 127-2 - Overall northwest view of Building 127.

Figure 127-3 and Figure 127-4 – View of the typical windows and doors at Building 127.

Figure 127-5 – View of the existing paint deterioration on the fascia and eaves at Building 127.

Figure 127-6 - Overall southeast view of Building 127.

Figure 127-7 – View of typical first floor interior condition of Building 127.

Figure 127-8 - View of typical second floor interior condition of Building 127.

BUILDING 143 – Break Area/Washroom

Figure 1 - Building 143, view from southwest

ARCHITECTURAL DESCRIPTION

PHYSICAL DESCRIPTION

Building 143 is sited five feet south of Building 68, and to the west of Building 127. It is surrounded by open space on the west and south elevations. Constructed in 1999, the architect and builder of this simple, employee amenity are unknown, but it is likely that it is a pre-fabricated, proprietary design adapted for toilet room use. It is a one-story, rectangular-plan, shallow shed-roofed structure with corrugated, painted steel roofing and cladding. The framing is structural steel. It measures 60’ by 21’ in plan and is 14’ tall. It is divided into two sections with Men’s and Women’s toilet rooms in the enclosed section at the east end, and an open seating and vending machine area at the west end. Within the open seating area is a wood frame and plywood vending machine enclosure. Fluorescent 1’x4’ light fixtures illuminate the seating area. The total footprint is 1,260 square feet, of which 777 square feet is enclosed toilet room space. There are no windows and one 3’x 7’ steel toilet room entry door occurs on the west and one on the south elevations. Various utility penetrations through the metal wall occur on the north elevation.

The interior is divided into the Women’s room to the east and the Men’s room to the west. Walls are gypsum wall board with a laminate wainscot. The floors are ceramic tile with tile base and the ceilings are 2’x4’ suspended lay-in acoustic tile with 2’x4’ fluorescent lights. The fixtures include sinks, toilet stalls with steel partitions including disabled accessible stalls, as well as an accessible shower stall. Other fixtures include mirrors, dispensers, and other standard items appropriate to gender (figures 2 and 3).

Figure 2 - Women's Room

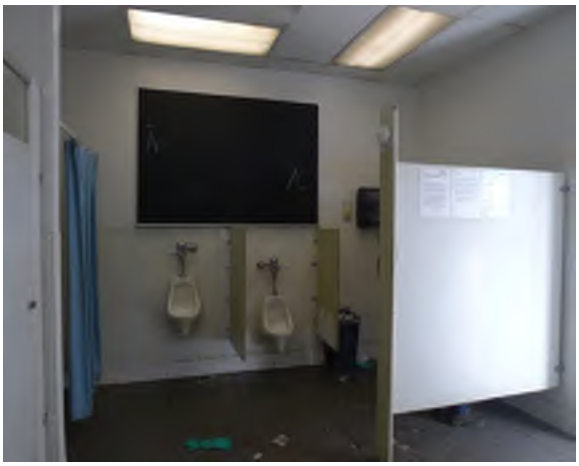

Figure 3 - Men's Room

HISTORIC/CURRENT USE

Building 143 does not appear on the 1945 Bethlehem Steel Plan. It was constructed in 1999 and is outside the District's Period of Significance; therefore, it not a contributor to the historic character of the site. The building retains its original use as an exterior break area and toilet /wash room. The addition of vending machines is recent, and occurred at an unknown date.

CONDITIONS

EXTERIOR

WALLS / STRUCTURE

CMP (corrugated metal panels). Condition: Good

The CMP on Building 143 is a proprietary pattern with angular bends forming the corrugations rather than the wave pattern found in generic, historic panels throughout the site. Most damage occurs at the ground level, including a crushed southeast corner (the result of impact damage) and minor scrapes and dents along the south elevation. The building appears to have been repainted within the past several years (figures 4 and 5).

Figure 4 - Building 143: South Elevation

Figure 5 - Damaged southeast corner

Exposed Structural Steel. Condition: Good

The exposed columns and spanning elements are also part of the proprietary prefabricated building system. There is no apparent impact damage, and like the CMP, the exposed steel appears to have been recently repainted.

WINDOWS

There are no windows in the building.

DOORS

Personnel Doors: Hollow metal. Condition: Good

The doors and hardware are sound but the operation of the doors is stiff, and likely exceeds the allowable operating pressure for accessibility.

APPURTENANCES

Fluorescent light fixtures. Condition: Good

Steel mesh fixed picnic tables and seats. Condition: Good

Tubular steel railings. Condition: Good

INTERIOR

Figure 6 - interior view, Women's Room

INTERIOR WALLS

Painted gypsum wall board (GWB) with plastic laminate wainscot. Condition: Fair

INTERIOR FLOORS

Ceramic tile. Condition: Good

INTERIOR CEILINGS

Suspended acoustic tile. Condition: Good to Fair (figure 7)

The T-bar metal suspension grid is lightly rusted. The tiles are stained and warped.

Figure 7 - Suspended ceiling, Men's Room

INTERIOR LIGHTING

2'x4' fluorescent lighting. Condition: Fair

The diffusers are yellowed and warped. One diffuser is missing in the Men's Room, and the lighting is dim.

FIXTURES

Ceramic, including sinks toilets and urinals. Condition: Good to Fair

Ceramic fixtures are worn dirty, and stained.

Plumbing fixtures including faucets and drains. Condition: Good.

The sink drains are missing the ADA required protective wrapping.

Steel toilet and urinal partitions. Condition: Good to Fair

The partitions are dirty with peeling paint

Dispensers. Condition: Good

Mirrors. Condition: Fair.

The mirrors are deteriorating with missing silvering at edges.

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Prep and repaint a 3'x30' section of the CMP panels on the south side
  1. Install sealant at all conduit and pipe penetrations. Scrape, prime and paint rusted conduit or pipe.
  2. Wipe the pipes with mineral spirits, prime clean metal with specially formulated zinc rich, rust consolidating primer and paint with two finish coats of compatible oil-based paint.

WINDOWS

- Not applicable

DOORS

- Survey the Men's and Women's personnel doors for accessibility.
  1. Adjust the operating force on two closers or replace them to meet the operating force requirements.

INTERIOR

INTERIOR WALLS

- Clean and repaint all walls
  1. Clean the painted GWB walls of stains and grime
  2. Prepare and re-paint the GWB with two coats of gloss oil based paint.
  3. Clean the plastic laminate wainscot with a mild detergent.

INTERIOR FLOORS

- Deep clean the tile floors and tile base with a steam based system using a mild detergent.
  1. Survey grout lines for missing material and re-grout.

INTERIOR CEILINGS

- Clean, re-paint, and replace acoustic tile
  1. Remove light rust from T-bar grid, prime with rust inhibiting primer and re-paint with oil based paint.
  2. Replace 100% of 2'x4' acoustic ceiling tiles.

INTERIOR LIGHTING

- Rehabilitate the existing fixtures

1. Replace 100% of the 2'x4' plastic diffusers.
2. Re-lamp all fixtures with new 4 foot fluorescent tubes.

FIXTURES

- Rehabilitate the ceramic fixtures
  1. Clean all ceramic fixtures of dirt, stains and paint.
- Plumbing fixtures
  1. Clean all faucets and flush valves of dirt and corrosion.
  2. Wrap all under sink drain lines with ADA compliant insulation.
- Steel partitions
  1. Remove de-bonded paint. Prep and paint with rust resistant primer and repaint with two coats of oil based paint.
- Mirrors
  1. Replace four mirrors – in-kind.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance and repainting on a regular schedule.
- The following conditions identified in the conditions assessment should be considered for long-term repair:
  1. Damaged southwest corner

BUILDING 143

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The roof is corrugated steel decking on steel beams, supported by steel columns. Walls are corrugated steel siding supported by the columns. The floor is a concrete slab on grade. The foundation is not visible and is not indicated on the drawings provided by the Port.

LATERAL SYSTEM

The roof diaphragm strength is provided by the corrugated roof decking. In the north-south direction the lateral strength appears to be provided by moment frames. In the east-west direction the lateral strength appears to be provided by corrugated steel shear wall however there were no drawings to confirm this observation.

CONDITIONS

- The building showed no signs of damage.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- No immediate repairs are required at this time.

LONG-TERM REPAIR RECOMMENDATIONS

- No long-term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- No seismic strengthening needed.

Figure 1 – Building 143 exterior

BUILDING 143 – Break Area / Washroom

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• The break area is an open-air space with no heating or ventilation

• The restrooms are equipped with exhaust fans and wall heaters (see fig. 143-1). The wall heaters do not appear to be operational.

Plumbing & Fire Protection Systems

• Men's restroom is equipped with 5 toilets, 2 urinals, 2 lavatories, 1 floor drain, and 1 shower. The shower is not usable and has no head connected to the tap.

• Women's restroom is equipped with 4 toilets, 2 lavatories, 1 floor drain, and 1 shower.

Electrical Systems

• The building is equipped with a 120/208 volt electrical panel.

• The exterior lights are equipped with photosensors (see fig. 143-2).

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

Figure 143-1 – Wall-mounted Restroom Heater

Figure 143-2 – Exterior Lighting Photosensor Controls

BUILDING 143 Break Area/Washroom

Fig. 1 - Building 143 view from roof top of bldg 68

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This building is currently being used as the break area washroom

CONDITIONS

ROOF

GENERAL NOTES: The roof on this building is a corrugated Metal Roof approximately 15 years old the roof appears to be in good condition.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- No recommendations for repairs.

LONG-TERM REPAIR RECOMMENDATIONS

ROOF

- Inspect for leaks or potential penetrations twice a year.

BUILDING 143

A condition assessment of Building 143 was performed by AGS Inc. on June 28th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 143, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 143 has remained relatively unchanged since the previous condition assessment in 2015. The building continues to be used as an exterior break area and washroom and the recommended repairs provided in the previous condition assessment report have not been addressed. There was minor surface corrosion on the exposed structural steel framing and roof gutters located on the west side of the building. No additional deficiencies were found.

Figure 143-1 - Overall southwest view of Building 143.

Figure 143-2 - Overall southeast view of Building 143.

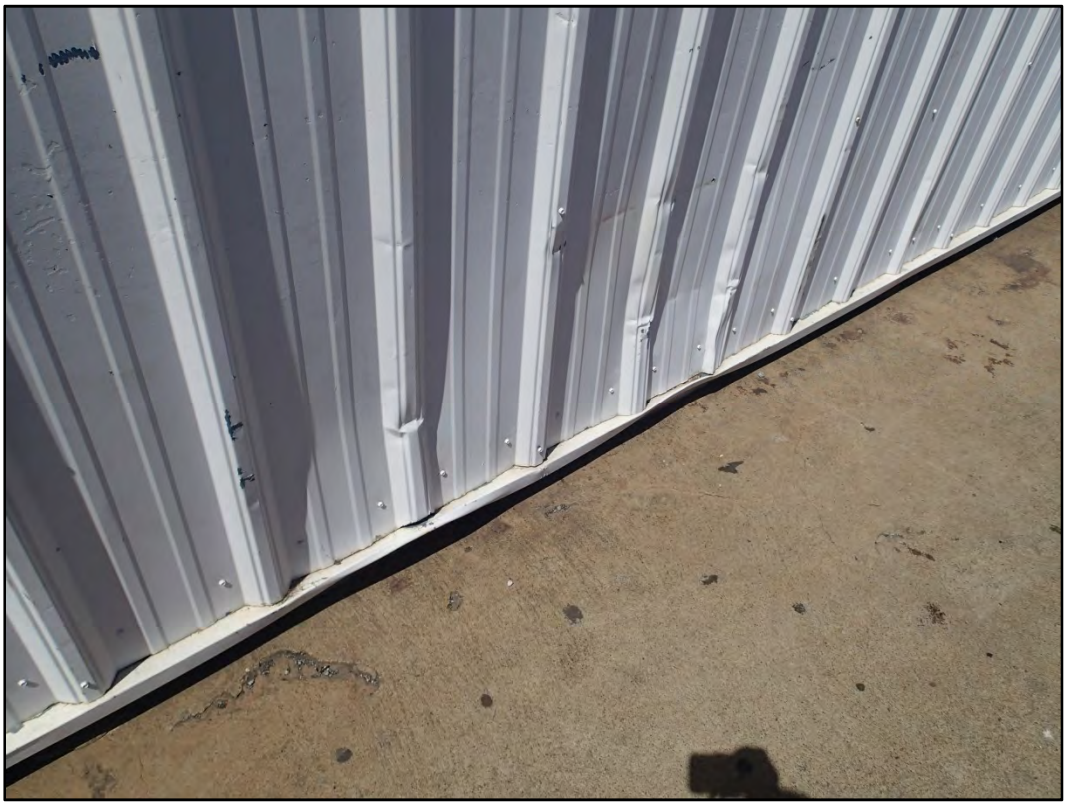

Figure 143-3 – View of previous damage to corrugated metal wall panel at Building 143.

Figure 143-4 – View of the minor surface corrosion on the structural steel members at Building 143.

Figure 143-5 - View of the surface corrosion on the structural members and gutters at Building 143.

Figure 143-6 - View of typical interior condition of Building 143.

Figure 143-7 - View of typical interior ceiling condition of Building 143.

BUILDING 250 - Warehouse

Figure 1 - Building 250, East elevation

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

Building 250 was constructed in 2004. and is sited 6’ to the south of Building 109 It is a one story pre-fabricated "Butler" type building with a simple rectangular structure and a shallow gable roof. The building measures approximately 80 ' long by 40' wide by 22' high, and contains approximately 3200 square feet. The cladding is corrugated steel siding over a structural steel frame. The interior contains a small plywood clad office and entry hall as well as heavy industrial steel shelving lining the north and south walls.

HISTORIC/CURRENT USE

This building serves as a BAE Systems warehouse and distribution point for parts.

CONDITIONS

EXTERIOR

WALLS

Corrugated steel siding on concrete curb. Condition: Good (figures 2 and 3)

The corrugated steel panels are painted and are generally in good condition with some minor localized damage at the doors and at the bottom edge of the cladding on the east and west elevations. The sealant joints around the doors are deteriorated. In particular, the corrugated steel panels along the south elevation are badly bent from being hit by vehicles in the course of parking. Sheet metal trim around personnel and vehicular doors is damaged in several locations.

Figure 2 - West elevation

Figure. 3 - Damage to the south wall caused by vehicles

WINDOWS - There is one residential type vinyl window on the south elevation serving the office. Condition: Good.

DOORS

There are two vehicle roll-up doors. Condition: Good.

There are two hollow metal personnel doors. Condition: Good. There is rust at all door hinges (figure 4).

Figure 4 - East personnel door.

APPURTENANCES

Light fixtures. Condition: Good.

INTERIOR

Figure 5 - Building 250: Interior, facing west.

INTERIOR WALLS

Corrugated steel siding. Condition: Good

Plywood office walls. Condition: Good

INTERIOR FLOORS

Concrete, Condition: Good

Vinyl office floor: Condition: fair

INTERIOR CEILING

Corrugated steel. Condition: Good

STRUCTURAL ELEMENTS

Three steel prefabricated modular rafter/columns. Condition: Good

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Install new concrete wheel stops along the south elevation.

INTERIOR

- No recommendations.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance and repainting on a regular schedule.
- The following conditions identified in the conditions assessment should be considered for long-term repair:
  1. Damaged sheet metal trim around doorways.
  2. Replace damaged corrugated steel wall panels along the south elevation

BUILDING 250

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The corrugated roof decking is supported by steel purlins, beams and columns. Corrugated cladding is attached to the exterior steel columns. The building is assumed to be supported by a slab on grade, but that was not observed nor confirmed via the drawings provided by the Port. The foundation is not visible and is not indicated on the drawings provided by the Port.

LATERAL SYSTEM

The roof diaphragm strength is provided by diagonal steel rod bracing at the steel beam level. The lateral resistance appears to be provided by perimeter "x" tension rod braces, approximately ¾" in diameter, in the north-south direction, and "x" tension rod braces, approximately ¾" in diameter, in the east-west direction. Tapered interior moment frames appear to provide additional lateral resistance, but only occur in the north-south direction.

CONDITIONS

- Slab on grade has a few cracks.
- Vertical "x" braces are all loose.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- The "x" braces should be tensioned.

LONG-TERM REPAIR RECOMMENDATIONS

- Slab on grade should be patched.

RECOMMENDED SEISMIC STRENGTHENING

- No seismic strengthening needed.

Figure 1 – Typical “x” brace configuration

Figure 2 – Typical slab on grade cracks

BUILDING 250 – Warehouse

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• No ventilation systems.

• No heating or cooling in the main warehouse area.

• Window-mounted DX unit provided at the interior office rejecting heat into the warehouse area (see fig. 250-1).

• Large louvered opening available for passive ventilation.

Plumbing & Fire Protection Systems

• Building has no fire protection service.

• No plumbing service.

Electrical Systems

• The building is equipped with a small office with a dedicated transformer and service panel.

• Lighting provide by high-mounted hanging fluorescent fixtures.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

Figure 250-1 – Window Mounted DX Unit for Office

BUILDING 250 Warehouse

Fig. 1 - Building 250 view from interior

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This warehouse building roof appears to be approximately 20 years old in fairly decent condition

CONDITIONS

ROOF

GENERAL NOTES: This corrugated metal building has a single hole in the roof, visible from the interior of the building.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

- minor caulking of small holes is recommended

LONG-TERM REPAIR RECOMMENDATIONS

ROOF

BUILDING 250

A condition assessment of Building 250 was performed by AGS Inc. on June 28th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 250, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 250 has remained relatively unchanged since the previous condition assessment in 2015. The building continues to be used as a warehouse and parts distribution facility and the recommended repairs provided in the previous condition assessment report have not been addressed. There was minor to moderate corrosion along the bottom edge of the interior corrugated metal panel walls, typically along the south wall with several corrosion holes. No additional deficiencies were found.

Figure 250-1 - Overall southeast view of Building 250.

Figure 250-2 - Overall southwest view of Building 250.

Figure 250-3 – View of the typical condition of the corrugated metal panels at Building 250.

Figure 250-4 – View of steel roll-up door at Building 250.

Figure 250-5 – View of the existing impact damage to the south wall at Building 250.

Figure 250-6 - Overall interior view of Building 250 looking northeast.

Figure 250-7 - View of Building 250 roof structure and corrugated metal panels.

Figure 250-8 – View of the interior structural steel framing in Building 250.

Figure 250-9 – View of the minor to moderate corrosion along the bottom of the corrugated metal panels.

BUILDING 251 - Blast Booth

Figure 1 - Building 251, view from northwest

ARCHITECTURAL DESCRIPTION

GENERAL PHYSICAL DESCRIPTION

Building 251 was constructed in 2007. It is a one storey pre-fabricated "Butler" type building with a simple rectangular footprint and a shallow gable roof. The building measures approximately 58 ' long by 40' wide by 22' high, and contains approximately 2,320 square feet. The cladding is corrugated steel siding over a structural steel frame.

HISTORIC/CURRENT USE

This building serves as a blast booth for BAE Systems.

CONDITIONS

EXTERIOR

WALLS - Corrugated steel siding on concrete curb. Condition: Good (figures 2 and 3)

The corrugated steel panels are painted and are generally in good condition with some minor localized damage at the doors and at the bottom edge on the east elevation. The sealant joint at this location is deteriorated. Sheet metal trim around personnel and vehicular doors is damaged in several locations. Two vent hoods, one on the east and one on the west, have rusting metal collars.

Figure 2 - Building 251: East Elevation

Figure. 3 - Building 251: North Elevation

WINDOWS

No windows

DOORS

Two hollow metal personnel doors. Condition: Good. Rust at all door hinges.

Two vehicle roll-up doors. Condition: Good.

Figure. 4 - Building 250: East personnel door. Note damage at door trim.

APPURTENANCES

Exhaust ductwork. Condition: Good

Light fixtures. Condition: Good.

INTERIOR

Figure. 4 - Building 250: Interior, facing west.

INTERIOR WALLS

Corrugated steel siding. Condition: Good

INTERIOR FLOORS

Concrete. Condition: Good where visible; most of the floor is covered with blasting sand.

INTERIOR CEILING

Corrugated steel. Condition: Good

STRUCTURAL ELEMENTS

Three steel prefabricated modular rafter/columns. Condition: Good

RECOMMENDED IMMEDIATE REPAIRS

EXTERIOR

EXTERIOR WALLS

- Install new sealant at bottom edge of corrugated steel panels on the east elevation.
- Paint rusted collars at two vent hoods.

INTERIOR

- No recommendations.

RECOMMENDED LONG-TERM REPAIRS

- Provide maintenance and repainting on a regular schedule.
- The following conditions identified in the conditions assessment should be considered for long-term repair:
    1. Damaged sheet metal trim around doorways.

BUILDING 251

GENERAL STRUCTURAL SYSTEM DESCRIPTION

GRAVITY SYSTEM

The corrugated roof decking is supported by steel purlins, beams and columns. The corrugated cladding is attached to the exterior steel columns. The building is assumed to be supported on a slab on grade, but that was not observed nor confirmed via the drawings provided by the Port. The foundation is not visible and is not indicated on the drawings provided by the Port.

LATERAL SYSTEM

The roof diaphragm strength of the structure is present through tension "x" bracing rods approximately ¾" in diameter at the steel beam level. The lateral resistance is provided by steel moment frames in the north-south direction, and "x" tension rod braces approximately ¾" in diameter in the east-west direction.

CONDITIONS

- There is minimal damage to the base of the structure near the large rollup entry door possibly due to the forklift running into it.

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

- No immediate repairs are required at this time.

LONG-TERM REPAIR RECOMMENDATIONS

- No long0term repairs are required at this time.

RECOMMENDED SEISMIC STRENGTHENING

- No seismic strengthening needed.

Figure 1 – Building 251 exterior

Figure 2 – Building 251 interior

BUILDING 251 – Blast Booth

MEP DESCRIPTION AND CONDITIONS ASSESSMENT

HVAC systems

• There are multiple process fans serving the building with sand collectors.

• The building has several Bry-Air industrial dehumidifiers serving the building (see fit. 251-1).

• The building has (4) vent openings on the East and West walls of the building, each equipped with a weather cover.

Plumbing & Fire Protection Systems

• The building has no fire protection service.

• Fire extinguishers are furnished at the East and West walls of the structure.

• The building has a 3" compressed air service line into the building with a rising stem gate valve (see fig. 251-2).

Electrical Systems

• The building has a 45 KVA transformer feeding a 3-phase 120/208 service panel.

• The building has a 480 volt panel serving the industrial equipment outside of the building (fans and dehumidifiers).

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

HVAC

- None.

Plumbing & Fire Protection

- None.

Electrical Systems

- None.

Figures

Figure 251-1 – Industrial Dehumidifiers

Figure 251-2 – 3" Service Line with Gate Valve

BUILDING 251 Blast Booth

Fig. 1 - Building 251 view from front

BUILDING DESCRIPTION AND CONDITIONS ASSESSMENT

GENERAL ROOF DESCRIPTION

This is a new warehouse building approximately less than ten years old.

CONDITIONS

ROOF

GENERAL NOTES: This a new roof this roof appear to still be in good condition

RECOMMENDATIONS

IMMEDIATE REPAIR RECOMMENDATIONS

ROOF

1. no recommendation for repairs

LONG-TERM REPAIR RECOMMENDATIONS

ROOF

2. Inspect roof twice a year for leaks and potential penetrations

BUILDING 251

A condition assessment of Building 251 was performed by AGS Inc. on June 28th, 2017 based on the 2015 Pier 70 Building Condition Assessment Report by DCI+SDE Engineers. The purpose of the condition assessment and this addendum is to provide an update and field verification of the architectural and structural deficiencies found at Building 251, which was described in the aforementioned report by DCI+SDE Engineers. The condition assessment was based on a general visual observation of the exposed portions of the building from the ground level. No assessment was performed in areas that were not easily and/or safely accessible.

The overall condition of Building 251 has remained unchanged since the previous condition assessment in 2015. The building continues to be used as a sandblasting facility and the recommended repairs provided in the previous condition assessment report have not been addressed. The repair recommendations provided in the 2015 condition assessment were minor and of low priority. No deficiencies in addition to the deterioration identified in the previous condition assessment were found.

Figure 251-1 - Overall northeast view of Building 251.

Figure 251-2 - Overall northwest view of Building 251.

Figure 251-3 – View of the typical condition of the corrugated metal panels at Building 251.

Figure 251-4 – View of steel roll-up door at Building 251.

Figure 251-5 and Figure 251-6 – View two hollow metal doors at Building 251.

Figure 251-7 - Overall interior view of Building 251 looking southwest.

Figure 251-8 – View of the interior structural steel framing in Building 251.

Figure 251-9 – View of the interior concrete slab in Building 251.

Figure 251-10 – View of the interior concrete stem wall along the north and south sides of Building 251.

Immediate Life Safety Recommendations

Based on the limited visual observations made by the team members as described in this report, we have identified the following recommendations for mitigation of life safety hazards that currently exist. Our original scope of work did not include investigation of life safety hazards. The report was prepared for the purpose of evaluating the condition of the buildings and recommending repairs intended to extend the life of the buildings, not including improvements or upgrades of any sort. As such, there may be other existing hazards that we did not make note of. For example, we have not evaluated hazards that may exist due to exiting conditions, fire safety, ADA requirements, etc. Also, additional life safety hazards may develop if other recommended Immediate Repairs in this report are not made in the near future.

Architectural:

Building 111:

- Roof gutters are full of debris and plant materials which may overload the gutters and their connections, potentially creating a hazard due to falling debris. It is recommended that all gutters and downspouts be cleaned.

Structural:

Building 58:

- Immediate patching to the holes in the concrete slab is required for life safety. Initial patching with plywood screwed into concrete slab is acceptable. Concrete patching required for long-term fix.

Building 108:

- Replacement of 5% of the 1x diagonal sheathing roof boards that are damaged to the point of major water leaks, extreme deflection or broken boards is required for life safety.

Building 111:

- 5-10% of the brick veneer appears to be loose and constitutes a falling hazard. A more detailed physical inspection is recommended to determine the extent of repairs needed to mitigate the falling hazard. The area around the perimeter of the building should be cordoned off to limit access.
- This building is currently listed as condemned and therefore has a no entry policy until a full seismic evaluation and retrofit has been completed by a licensed structural engineer.

General:

- Due to the danger of falling through the roofs of the buildings where the existing decking is damaged, no access to the roofs should be allowed at all buildings excluding 68, 121, 127, 143, 250, and 251 until the repairs listed in the condition assessment have been made.

- The buildings have not been evaluated for their seismic or wind load resisting capacity. As such we have not made a determination about the life safety of any buildings with regards to seismic or wind loads.

Mechanical:

Building 109:

- Several unit heaters were observed with supply duct attached to the discharge. These types of heaters are not designed for a ducted supply, and possible noxious gas leakage may result.

Electrical:

Building 19:

- The overhead power service lines remain, but the switchgear is damaged. This presents an electrical hazard; it is recommended that the overhead service line be removed.

Building 103:

- The main electrical service to the building appears to be fed from the neighboring building 108 using flexible conductors laid on the ground. These are prone to damage and subsequent electrical shock hazard. It is recommended that the flexible cable be replaced with permanent conduit connection for all electrical service.

Building 108:

- A flexible cable feeds off building main service to supply neighboring building #103. Provided with "Caution – High Voltage" signage where exposed, it is recommended that the flexible cable be replaced with permanent conduit connection for all electrical subservice.

Building 111:

- A flexible cable is hung from the neighboring building to supply an exterior light. This cable is not meant for permanent power supply and may wear and become an electrical hazard. It is recommended that the flexible cable be replaced with permanent conduit connection to power the light.

Hazardous Materials:

The observation or evaluation of hazardous materials within or around the buildings is not included in the scope of this report. However, note that many building likely contain lead-based paint that is peeling and the buildings may contain other hazardous materials that may be released due to ongoing deterioration of the materials and substrates.

Pier 70
San Francisco, California

February 9, 2015

Port of San Francisco
Conditions Assessment Cost Estimate

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PROJECT DESCRIPTION

The project involves various improvements to Pier 70. The scope of work is based on various consultant reports and subsequent emails and comments from the client . We recommend a review of scope by all consultants .

The work has been itemized by building and discipline.

REFERENCE DOCUMENTATION

Documents:

We have attempted to input the information received through November 30,2014

BASIS FOR PRICING

This estimate reflects the fair construction value for this project and should not be construed as a prediction of low bid. Prices are based on local prevailing wage construction costs at the time the estimate was prepared. Pricing assumes a procurement process with competitive bidding for all sub-trades of the construction work, which is to mean a minimum of 3 bids for all subcontractors and materials/equipment suppliers. If fewer bids are solicited or received, prices can be expected to be higher.

Subcontractor's markups have been included in each line item unit price. Markups cover the cost of field overhead, home office overhead and subcontractor's profit. Subcontractor's markups typically range from 15% to 25% of the unit price depending on market conditions.

General Contractor's/Construction Manager's Site Requirement costs are calculated on a percentage basis. General Contractor's/Construction Manager's Jobsite Management costs are also calculated on a percentage

General Contractor's/Construction Manager's overhead and fees are based on a percentage of the total direct costs plus general conditions, and covers the contractor's bond, insurance, site office overheads and profit.

Unless identified otherwise, the cost of such items as overtime, shift premiums and construction phasing are not included in the line item unit price.

This cost estimate is based on standard industry practice, professional experience and knowledge of the local construction market costs. TBD Consultants have no control over the material and labor costs, contractors methods of establishing prices or the market and bidding conditions at the time of bid. Therefore TBD Consultants do not guarantee that the bids received will not vary from this cost estimate.

CONTINGENCY

Design Contingency ***20%***

The Design Contingency is carried to cover scope that lacks definition and scope that is *anticipated* to be added to the Design. As the Design becomes more complete the Design Contingency will reduce.

Construction Contingency ***20%***

The Construction Contingency is carried to cover the unforeseen during construction execution and Risks that do not currently have mitigation plans. As Risks are mitigated, Construction Contingency can be reduce, but should not be eliminated.

An owners contingency has not been included in this construction cost estimate, but it is advised that the owner carry additional contingency to cover scope change, claims and delays.

ESCALATION

Escalation has been **excluded** from the estimate. All costs are in 'Today's Dollars'.

EXCLUSIONS FROM DIRECT COST

- Land acquisition, feasibility, and financing costs
- All Owner soft costs
- All professional fees and insurance
- Construction Manager Agency Costs
- Site or existing condition survey investigation costs, including determination of subsoil conditions
- Hazardous materials inspection costs, or accommodations in construction for hazardous materials. Hazardous materials abatement and removal
- Construction or occupancy phasing
- Owners Construction Contingency for scope changes and market conditions at time of bid
- Permits and fees
- Bldg 19 - assumes grit is removed by others to permit work by General Contracator

SOFT COST/INDIRECT COST

An allowance has been added to grand summaries to allow for client Soft Cost
This allowance is to cover for all client related costs not included in the Direct Cost
Thse would typically include all professional fees, permits,testing,inspection etc. (typically range from 20-25%)

ITEMS THAT MAY AFFECT THIS ESTIMATE

Such items include, but are not limited to the following:

Modifications to the scope of work subsequent to the preparation of this estimate
Unforeseen existing conditions
Compression of planned construction schedule (current assumption is approx. 6 months + duration)
Special requirements for site access, off-hour work or phasing activities
Restrictive technical specifications, excessive contract or non-competitive bid conditions
Sole source specifications for materials, products or equipment
Bid approvals delayed beyond the anticipated project schedule
Overtime, 2nd shift and lost productivity premiums - except where specifically identified

OVERALL SUMMARY

			COST ($'s)	Area SF	DIRECT COST ($'s) W M/Ups	$/SF
Proposed Repairs						
1	Building 19 - Blast Grit Remediation Building		296,778	6,348	572,224	90.14
2	Building 36 - Shipping & Recieveing / Machine Shop		546,789	12,150	1,054,275	86.77
3	Building 58 - Power Sub Station #4		88,790	1,047	171,198	163.51
4	Building 68 - Power Sub Station #7		36,005	560	69,422	123.97
5	Building 103 - Steam Power House		336,116	2,391	648,072	271.05
6	Building 105 - Forging / Machine Shop		1,045,945	20,739	2,016,707	97.24
7	Building 107 - Pipe Storage		104,160	3,549	200,833	56.59
8	Building 108 - Carpentry Shop & Storage		1,280,104	41,083	2,468,194	60.08
9	Building 109A-C Tool Room / Sheet Metal / Storage		804,441	53,500	1,551,059	28.99
10	Building 120 - Compressed Gas & Hazardous Material Storage		113,450	1000	218,745	218.75
11	Building 111 - Main Office, Warehouse, and Substation #3		924,830	51,269	1,783,183	34.78
12	Building 121 - Pipe Storage Office		33,286	1000	64,179	64.18
13	Building 127 - Production Office		30,887	2,211	59,554	26.94
14	Building 143 - Break Area / Washroom		20,089	1,260	38,734	30.74
15	Building 250 - Warehouse		5,300	3,200	10,219	3.19
16	Building 251 - Blast Booth		318	2,320	613	0.26
DIRECT COSTS SUB-TOTAL			**5,666,970**	203,627	**10,927,211**	53.66
	SITE REQUIREMENTS	6.0%	340,018			
	JOBSITE MANAGEMENT	12.0%	680,036			
ESTIMATE SUB-TOTAL			**6,687,024**			
	INSURANCE + BONDING	2.5%	167,176			
	FEE	5.0%	334,351			
ESTIMATE SUB-TOTAL			**7,188,551**			
	DESIGN CONTINGENCY	20.0%	1,437,710			
	CONSTRUCTION CONTINGENCY	20.0%	1,437,710			
	MARKET CONDITIONS FACTOR	2.0%	143,771			
*	OFF-HOURS WORKING / PRODUCTIVITY FACTOR	10.0%	718,855			
ESTIMATE SUB-TOTAL			**10,926,597**			
	ESCALATION	EXCLUDED				
ESTIMATE TOTAL-DIRECT COST			**10,926,597**			
SOFT COSTS-INDIRECT COST	Allow	22.50%	**2,458,484**			
GRAND TOTAL DIRECT AND SOFT COST			**13,385,081**			

AREA TABULATION

Building 19 - Blast Grit Remediation Building

Location	Enclosed	Covered	Height	Comment
Basement				
First Floor	6,348	0	31'-6"	
Second Floor				
Total Area	**6,348 SF**	**0 SF**		
Façade Area	8,649	1.36	W/F Ratio	
Glazing	732	8%		
Metal	4,317	50%		
Doors	600	7%		
Concrete north wall	3,000	35%		
Total Façade	**8,649 SF**			
Roof	7,491			
Total Roof	**7,491 SF**			

Building 19 - Blast Grit Remediation Building

GFA 6,348

DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
STRUCTURAL					
Replace 100% of roof metal decking	7,491	SF	15.00	112,365	Includes Demo.
Replace the missing and damaged steel rod x-braces to restore the original lateral strength	2	LOC	3,000.00	6,000	
STRUCTURAL				**118,365**	
ARCHITECTURAL & ROOFING					
Architectural					
Exterior Walls					
Repair 10% CMP panels.	432	SF	25.00	10,800	Inc. removal and misc metal replacement
Paint CMP panels	4,317	SF	2.00	8,634	
Paint Doors	600	SF	2.25	1,350	
Replace dented and damaged components in kind to match original.	1	LS	5,000	5,000	
Install sealant at all conduit and pipe penetrations. Scrape prime and paint rusted conduit or pipe.	1	LS	2,000	2,000	
Windows					
Replace 10% of window panes at west elevation	73	SF	50.00	3,650	
Repaint 100% of window frame, mullions and muntins at west elevation Remove all dirt and deteriorated glazing putty. Wire brush steel elements to remove rust. Install new glazing putty. Install new glazing where required to match existing original glazing. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	80	SF	18.00	1,440	
Replace existing ad-hoc plywood covering at (2) east elevation windows and (2) south elevation windows with new painted plywood and wood frame covering.	60	SF	14.00	840	
Interior Floors					
Ground plane not visible.		NA			
Structural Elements					
Repaint steel columns and trusses. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	6,348	SF	10.00	63,480	

Building 19 - Blast Grit Remediation Building **GFA** 6,348

DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
Doors					
Repair/Paint roll-down doors and track	3	EA	2,500.00	7,500	
Repair metal door and frame	1	EA	1,000.00	1,000	
Ceiling					
Repaint CMP ceiling Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	7,491	SF	3.50	26,219	New ceiling
Roofing					
See structural above					
ARCHITECTURAL & ROOFING				**131,913**	
MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
HVAC					
Natural ventilation currently meets code for this building. No immediate actions required.					
Plumbing & Fire Protection					
Non-combustible construction does not require fire sprinkler protection. No immediate actions required.					
Clean & repair existing restroom plumbing systems for a usable restroom facility.	1	LS	5,000	5,000	
Repair rainwater leaders to discharge into provided drainage collectors	1	LS	1,500	1,500	
Electrical Systems					
Repair the overhead electrical connection & switchgear and service panel for permanent use. Alternative: safely remove overhead service and abandon existing switch gear and panel. Current configuration has live wires tied to a damaged panel and can be considered a safety hazard.	1	LS	10,000.00	10,000	Alternate: remove existing= $2000
Provide permanent conduit connection and sub-panel for electrical service being fed from adjacent building.	1	LS	30,000.00	30,000	
MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**46,500**	
SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
Demolition Included in rates					
Temporary Protection					
SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
SITE WORK					
SITE WORK					
DIRECT COSTS SUB-TOTAL				**296,778**	

AREA TABULATION

Building 36 - Shipping & Recieveing / Machine Shop

Location	Enclosed	Covered	Height	Comment
Basement				
First Floor	12,150	0	47'	
Second Floor				
Total Area	**12,150 SF**	**0 SF**		
Façade Area	17,748	1.46	W/F Ratio	
Glazing	2,929	17%		
Metal	14,546	82%		
Doors	63	0%		
Sliding Doors	210	1%		
Total Façade	**17,748 SF**			
Roof (High)	10,571			
Roof (Low)	4,040			
Total Roof	**14,611 SF**			

Building 36 - Shipping & Recieveing / Machine Shop **GFA** 12,150

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Clean existing rusted steel framing and bottom and top four feet of columns to remove rust and paint, assess its condition, and re-coat with a rust-inhibiting primer and paint. There is a potential for the presence of lead or other hazardous materials in the existing coating.	12,150	SF	8.00	97,200	
	Truss members showing extreme corrosion after closer inspection should be replaced in kind.	1	LS	60,000	60,000	9 trusses
	Replace 100% of corrugated roof deck in kind.	14,611	SF	15.00	219,165	
	STRUCTURAL				**376,365**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Remove defunct hoses, electrical boxes and other non-functional items from CMP.	1	LS	1,800.00	1,800	
	Seal penetrations at northeast corner roof access ladder.	1	LS	500.00	500	
	Seal CMP at all conduit and pipe penetrations.	1	LS	1,000.00	1,000	
	Replace deformed CMP on north elevation (approximately 10% of panels).	940	SF	25.00	23,500	
	Windows					
	Replace 10% of window panes	293	SF	50.00	14,650	
	Repaint 100% of window frames, mullions and muntins.	2,929	SF	18.00	52,722	
	Remove all dirt and deteriorated glazing putty.					
	Wire brush steel elements to remove rust. Install new glazing putty. Install new glazing where required to match existing original glazing.					
	Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats					
	Doors					
	Replace personnel door at west elevation.	1	EA	3,000	3,000	
	Repair metal bi-fold door at west elevation.	1	EA	3,000	3,000	
	Survey existing condition of door.					
	Replace missing hardware and components.					
	Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.					
	Provide weather stripping.					
	INTERIOR					
	Floors					
	Patch areas of spalled concrete. Survey existing condition of floor. Clean spalled areas of all loose concrete. Fill voids with approved concrete patching mix.	12,150	SF	0.75	9,113	

Building 36 - Shipping & Recieveing / Machine Shop **GFA** 12,150

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Structural Elements					
	Repaint steel columns and trusses. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats		N/A			See above
	Ceilings					
	Repaint CMP ceiling Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats	14,611	SF	3.50	51,139	New deck
	Roofing					
	See structural above					
	ARCHITECTURAL & ROOFING				**160,424**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	Repair leaky or damaged stormwater gutters and downspouts	1	LS	10,000	10,000	
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**10,000**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**546,789**	

AREA TABULATION

Building 58 - Power Sub Station #4

Location	Enclosed	Covered	Height	Comment
Basement				
First Floor	1,047	0	21'	
Second Floor				
Total Area	**1,047 SF**	**0 SF**		
Façade Area	2,102	2.01	W/F Ratio	
Glazing	840	40%		
Metal	566	27%		
Doors	252	12%		
Concrete Base	444	21%		
Total Façade	**2,102 SF**			
Roofing	1,400			
Total Roof	**1,400 SF**			

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	The column on the south side is recommended to be patched with steel plate approximately two feet by eight inches.	1	LS	5,000	5,000	
	Clean existing rusted steel framing to remove rust and paint, assess its condition, and re-coat with a rust-inhibiting primer and paint. There is a potential for the presence of lead or other hazardous materials in the existing coating.	1,047	SF	10.00	10,470	
	Holes in concrete slab should be patched. Approximately twelve holes of various sizes.	1	LS	5,000	5,000	
	Replace 100% of roof CMP deck in kind.	1,400	SF	15.00	21,000	
	STRUCTURAL				**41,470**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	Exterior					
	Walls					
	Allow for scaffolding at elevations above water	2,000	SF	9.00	18,000	
	Repair southeast and southwest corner CTP . Replace shattered and missing corner panels with galvanized corrugated metal panels. Note that CTP is considered a hazardous material. Install sealant at all conduit and pipe penetrations. Scrape, prime and paint rusted conduit or pipe.	1	LS	3,500	3,500	
	Windows					
	Replace ten (10) 14”x20” window panes	20	SF	50.00	1,000	
	Repaint 100% of steel sash window components: frame, mullion and muntins. Remove all dirt and deteriorated glazing putty. Wire brush steel elements to remove rust. Install new glazing putty. Install new glazing where required to match existing original glazing. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats. Seal all joints where sash meets adjacent elements	840	SF	18.00	15,120	
	Install plywood impact protection on south elevation					

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Doors					
	Repair south elevation, metal double personnel doors Survey existing condition of doors. Replace missing hardware and components. Replace broken glass pane. Prepare surfaces, prime and paint with two top coats.	1	LS	1,200	1,200	
	Repair south elevation, metal double sliding door and frame. Survey existing condition and operation of doors. Replace missing hardware and components. Prepare surfaces, prime and paint with two top coats	1	LS	5,000	5,000	
	INTERIOR					
	Floors					
	Close floor penetrations. Use plywood as a temporary cover or plug holes in the slab with concrete as a permanent repair	1	LS	3,500.00	3,500	
	Ceilings					
	No work required					
	Structural Elements					
	Repaint steel columns and trusses.	See Structural above				
	Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.					

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Roofing					
	See structural above					
	ARCHITECTURAL & ROOFING				**47,320**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**88,790**	

AREA TABULATION

Building 68 - Power Sub Station #7

Location	Enclosed		Covered		Height	Comment
Basement						
First Floor	560		0		16'	
Second Floor						
Total Area	**560**	**SF**	**0**	**SF**		
Façade Area	1,540	SF	2.75	W/F Ratio		
Glazing	339		22%			
Metal	N/A		N/A			
Brick	1,201		78%			
Total Façade	**1,540**	**SF**				
Roof	560					
Total Roof	**560**	**SF**				

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	No work required					
	STRUCTURAL					
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Repair Masonry joints.					
	Conduct a survey of the masonry joints for mortar failure	1	LS	3,000.00	3,000	
	Paint exposed reinforcing rod with rust inhibitive paint.	1	LS	1,500	1,500	
	Re-point approximately 50 linear feet of the masonry joints where rebar is exposed and mortar is missing with matching mortar.	1	LS	4,000.00	4,000	
	Install sealant at all conduit and pipe penetrations. Scrape, prime and paint rusted conduit or pipe.	1	LS	1,800.00	1,800	
	Windows					
	Replace 1 window pane	1	EA	500	500	
	Repaint 100% of steel and aluminum sash window components: frame, mullion and muntins.	339	SF	18.00	6,102	
	Remove all dirt and deteriorated glazing putty.					
	Wire brush metal elements to remove rust or corrosion.					
	Install new glazing putty.					
	Install new glazing where required to match existing original glazing.					
	Prepare metal surfaces, prime with rust inhibitive primer and paint with two top coats.					
	Apply sealant at metal frame to brick joints					
	Doors					
	Repair and rehabilitate doors	1	LS	4,500.00	4,500	
	Survey existing condition of all doors					
	Replace missing hardware and components.					
	Repaint all metal doors and frames. Prepare surfaces, prime and paint with two top coats.					
	Apply sealant at metal frame to brick joints					
	Floors					
	No work Required					

Building 68 - Power Sub Station #7 **GFA** 560

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Ceiling					
	No work Required					
	Structural Elements					
	Identify and repair the sources of water intrusion on the roof.	1	LS	5,000.00	5,000	
	Clean wall of efflorescence by brushing.	1,201	SF	3.00	3,603	
	Roofing					
	Repair patched roof, build up crickets to reduce or eliminate ponding.	300	SF	20.00	6,000	Flat roof (Partial Area)
	ARCHITECTURAL & ROOFING				**36,005**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**36,005**	

AREA TABULATION

Building 103 - Steam Power House

Location	Enclosed		Covered	Height	Comment
Basement					
First Floor	2,391		0	45'-6"	Floor to top of roof Floor to eaves
Second Floor					
Total Area	**2,391**	**SF**	**0**	**SF**	
Façade Area	7,150	2.99	W/F Ratio		
Glazing	1,965	27%			
Louvers	393	5%			
Bricks	949	13%			
Door	94	1%			
Metal	3,749	52%			
Total Façade	**7,150**	**SF**			
Roof	3,029				
Total Roof	**3,029**	**SF**			

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Replace 'x' bracing at the south wall	1	LOC	3,000.00	3,000	
	4ft high wall to be rebuilt	949	SF	180.00	170,820	
	Temp shoring for rebuilt wall	1	LS	20,000.00	20,000	
	STRUCTURAL				**193,820**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Repair 10% CMP panels.	375	SF	25.00	9,375	
	Replace dented and damaged components in kind to match original.					
	Paint CMP panels	3,749	SF	2.00	7,498	
	Install sealant at all conduit and pipe penetrations.	1	LS	4,000.00	4,000	
	Scrape, prime and paint rusted conduit or pipe.					
	Install new brick at locations of spalls and cracks. Approx. 30%.		SF			See above
	Survey existing condition of all brick.					
	Rake out mortar at existing deteriorated joints.					
	Remove flaking rust where accessible.					
	Paint remaining reinforcing rod with rust inhibitive paint.					
	Install new face brick to match sound existing brick.					
	Repoint brick joints with matching mortar.					
	Windows					
	Replace 10% window panes	197	SF	50.00	9,850	
	Repaint 100% of steel sash window components: frame, mullion and muntins.	1,965	SF	18.00	35,370	Moving scaffolding
	Remove all dirt and deteriorated glazing putty.					
	Wire brush steel elements to remove rust.					
	Install new glazing putty.					
	Install new glazing where required to match existing original glazing.					
	Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats					
	Doors					
	Repair north elevation wood rolling doors	1	EA	4,000	4,000	
	Survey existing condition of rolling doors.					
	Replace missing hardware and components.					
	Prepare surfaces, prime and paint with two top coats.					
	Repaint hollow metal fire door and frame.	1	EA	300	300	

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	INTERIOR					
	Floors					
	N/A					
	Ceiling					
	Repaint CMP ceiling Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats	3,029	SF	3.50	10,602	
	Structural Elements					
	Repaint steel columns and trusses. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	2,391	SF	11.00	26,301	
	Roofing					
	No roofing work					
	ARCHITECTURAL & ROOFING				**107,296**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	Natural ventilation currently meets code for this building. No immediate actions required.					
	Plumbing & Fire Protection					
	Clean & repair existing restroom plumbing systems for a usable restroom facility.	1	LS	5,000.00	5,000	
	Electrical Systems					
	Replace the flexible cable with permanent conduit connection for electrical service from adjacent building.	1	LS	30,000.00	30,000	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**35,000**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**336,116**	

AREA TABULATION

Building 105 - Forging / Machine Shop

Location	Enclosed		Covered		Height		Comment
Basement							
First Floor, Low Roof	7,400				23'	To eaves	
First Floor, High Roof	13,339				63'	To peak	
Second Floor							
Total Area	**20,739**	**SF**	**0**	**SF**			
Façade Area	24,363	1.17	W/F Ratio				Excludes open end
Glazing	9,035	37%					
Louvers	2,652	11%					
Bricks	6,417	26%					
Door	433	2%					
Metal	5,826	24%					
Total Façade	**48,726**	**SF**					
Roof	23,391	SF					
Total Roof	**23,391**	**SF**					

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Repaint all steel members	20,739	SF	10.00	207,390	
	Replace 4ft high wall	2,100	SF	180.00	378,000	
	STRUCTURAL				**585,390**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Remove defunct fixtures other non-functional items from CMP.	1	LS	4,000	4,000	
	Patch holes throughout the building.	24,363	SF	0.25	6,091	
	Seal CMP at all conduit and pipe penetrations.	1	LS	3,000.00	3,000	
	Replace deformed and deteriorated CMP with new galvanized corrugated steel to match the existing panels.	583	SF	25.00	14,575	Allow 10% of panels
	Paint all metal panels	5,826	SF	2.00	11,652	
	Install new brick at locations of spalls and cracks and moisture deterioration. Approx. 30% of the total masonry wall area.	1,925	SF	60.00	115,500	
	Survey existing condition of all brick.					
	Rake out mortar at existing deteriorated joints.					
	Remove flaking rust where accessible.					
	Paint remaining reinforcing rod with rust inhibitive paint.					
	Install new face brick to match sound existing brick.					
	Repoint approximately 80% of the brick joints with matching mortar.					
	Windows					
	Steel Windows - Replace approximately (35) 14"x20" window panes	70	SF	50.00	3,500	
	Repaint 100% of steel sash window components: frame, mullion and muntins.	8,131	SF	18.00	146,358	
	Remove all dirt and deteriorated glazing putty.					
	Wire brush steel elements to remove rust.					
	Install new glazing putty.					
	Install new glazing where required to match existing original glazing.					
	Prepare steel surfaces, and prime with rust inhibitive primer and paint with two top coats.					
	Flash and seal to adjacent CMP and brick sills.					
	Wood Windows - Replace (12) 14"x20" window panes.	25	SF	50.00	1,250	
	Repair all wood frames and moveable sash (hopper operation).	904	SF	65.00	58,760	10% of total glazing
	Remove all moveable sash for epoxy consolidation in a shop.					
	Salvage and repair the hardware for re-use.					
	Replace missing or deteriorated pieces.					
	Retain the sound glass, replace broken glass and install new glazing putty in all windows.					
	Repair and replace missing wood frame elements and epoxy consolidate, and patch the wood in situ.					
	Install moveable sash into restored frames and. ensure the operation of all moveable sash.					
	Prepare the wood surfaces, and prime and paint with two top coats.					
	Flash and seal to the adjacent CMP					

Building 105 - Forging / Machine Shop **GFA** 20,739

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Doors					
	Personnel doors – No Recommendation		N/A			
	Roll-up vehicle doors – No recommendation		N/A			
	Replace the plywood closure in the abandoned roll-up door opening on the west elevation with a permanent but reversible wood stud ball and CMP.	1	LS	9,000	9,000	
	.					
	INTERIOR					
	Floors					
	N/A					
	Structural Elements					
	See above					
	Ceiling					
	Repaint CMP ceiling Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats	23,391	SF	3.50	81,869	
	Roofing					
	No roofing work					
	ARCHITECTURAL & ROOFING				**455,555**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	Provide ventilation to the interior offices that currently don't have access to exterior windows.	1	LS	5,000.00	5,000	
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**5,000**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**1,045,945**	

AREA TABULATION

Building 107 - Pipe Storage

Location	Enclosed		Covered	Height	Comment
Basement					
First Floor	3,549			20'-3"	
Second Floor					
Total Area	**3,549**	**SF**	**0 SF**		
Façade Area	2,777	0.78	W/F Ratio		
Brick	496	18%			
Metal	2,135	77%			
Glazing	80	3%			
Doors	21	1%			
Louvers	45	2%			
Total Façade	**2,777**	**SF**			
Roof 1	1,246				
Roof 2	2,532				
Total Roof	**3,778**	**SF**			

Building 107 - Pipe Storage

GFA 3,549

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Clean and repaint steel framing	3,549	SF	10.00	35,490	
	Replace purlins	100	LF	40.00	4,000	
	Repair damaged lower 3ft of steel column	1	EA	4,000.00	4,000	
	Replace corrugated sheet metal roof decking	3,778	SF	15.00	56,670	Incl accessories
	STRUCTURAL				**100,160**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Repoint brick walls (assume 100 linear feet)	500	SF	8.00	4,000	
	INTERIOR					
	Structural Elements					
	See structural above					
	Roofing					
	See structural above					
	ARCHITECTURAL & ROOFING				**4,000**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**104,160**	

AREA TABULATION

Building 108 - Carpentry Shop & Storage

Location	Enclosed	%	Covered	Height	Comment
Basement					
First Floor	20,660			16'-6"	
Second Floor	20,423			33'-6"	
Total Area	**41,083 SF**		**0 SF**		
Façade Area	18,318	0.45	W/F Ratio		Excludes areas where Buildings 107 & 127 join
Glazing	1,500	8%			
Metal	16,071	88%			
Doors	404	2%			
Brick	343	2%			
Total Façade	**36,293 SF**				
Roof 1	12,951				Pitched Wood Roof
Roof 2	10,181				Pitched Metal Roof
Total Roof	**23,132 SF**				

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Sanding and scraping of steel members and recoat	41,083	SF	5.00	205,415	Road & second floor
	Replace 30% steel truss members on second floor	20,423	SF	15.00	306,345	
	Replace 30% of steel column bases	30	EA	4,000.00	120,000	Allow
	Replace 'x' bracing	4	LOC	3,500.00	14,000	
	Replace steel deck 15%	1,527	SF	15.00	22,905	
	Replace wood roof 30%	3,885	SF	20.00	77,700	
	Replace purlins at roof framing 20%	4,626	SF	7.00	32,382	
	Replace 10% of first floor plywood	2,042	SF	10.00	20,420	
	STRUCTURAL				**799,167**	**19.45**
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Remove defunct fixtures other non-functional items from CMP.	1	LS	4,000.00	4,000.00	
	Patch holes throughout the building.	18,318	SF	0.25	4,579.50	Façade area
	Seal CMP at all conduit and pipe penetrations.	1	LS	3,000.00	3,000.00	
	Repair CMP.	1,607	SF	25.00	40,175.00	10% of metal
	Replace deformed and deteriorated CMP with new galvanized corrugated steel to match the existing panels.					
	Replace the panels from grade to the next panel above on the north, east and south elevations.					
	Replace the deformed panels above the western loading doors.					
	Prime and paint the new panels.					
	Paint 100% of panels	18,318	SF	2.00	36,636.00	
	Windows					
	Steel Windows - Replace approximately (50) 14”x20” window panes	100	SF	50.00	5,000.00	
	Repaint 100% of steel sash window components: frame, mullion and muntins.	750	SF	18.00	13,500.00	
	Remove all dirt and deteriorated glazing putty.					
	Wire brush steel elements to remove rust.					
	Install new glazing putty.					
	Install new glazing where required to match existing original glazing.					
	Prepare steel surfaces, and prime with rust inhibitive primer and paint with two top coats.					
	Flash and seal to adjacent CMP.					

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Wood Windows - Replace (20) 14"x20" window panes.	40	SF	50.00	2,000.00	
	Repair all wood frames and moveable sash. Remove all moveable sash for epoxy consolidation in a shop. Retain the sound glass, replace broken glass and install new glazing putty in all windows. Repair and replace missing wood frame elements and epoxy consolidate, and patch the wood in situ. Install moveable sash into restored frames and install new sash chords. Ensure that all moveable sash operates. Prepare the wood surfaces, and prime and paint with two top coats. Flash and seal to adjacent CMP	750	SF	65.00	48,750.00	
	Doors					
	Replace deteriorated wood personnel doors at the northernmost end of the west elevation and at the second floor of the north elevation with new steel doors.	3	EA	4,000	12,000.00	
	Repair the second personnel door to the south on the west elevation. Remove door to a shop for the work Clean and repair all original hardware. Remove flaking paint from diagonal tongue and groove wood cladding. Seal tongue and groove joints. Prime and repaint the exterior surface only with two top coats. Lightly clean the inside surface of the door preserving the painted signage. Apply a clear sealer to the inside surface. Replace the original wood jambs and head. Re-hang the door ensuring proper operation.	1	EA	1,500.00	1,500.00	
	Repair two wood loading doors on the west elevation. Repair the doors in-situ. Survey the existing condition of the door. Remove flaking paint from diagonal tongue and groove wood cladding. Seal tongue and groove joints. Prime and repaint the exterior and interior surface with two top coats. Create a 4" curb to lift the doors out of standing water. Repair all hardware and components. Flash the tops of the doors into the CMP. Repair and repaint the wooden lifting guides. Fix doors in the closed position	2	EA	6,000.00	12,000.00	Sliding Doors

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	INTERIOR					
	Floors					
	Patch areas of deteriorated wood. Survey the existing condition of the floor. Replace deteriorated wood in-kind	2,066	SF	11.00	22,726.00	
	Structural Elements					
	Repaint steel columns and trusses. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.		See above			
	Ceiling					
	Repair roof skylight (Note: skylight was not surveyed from roof by Carey & Co. Repair recommendation is based on conditions observed from interior only.)	1	LS	20,000	20,000.00	
	Repaint CMP ceiling on second floor Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	10,181	SF	3.50	35,633.50	
	Repaint exposed wood joists, bridging and underside of the tongue and groove second floor surface. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare wood surfaces, prime and paint with two top coats.	20,423	SF	2.50	51,057.50	
	Offices /Personal Amenities					
	Repaint gypsum wall board, plywood or tongue and groove wall and ceiling surfaces on the second floor. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare wood surfaces, prime and paint with two top coats of semi-gloss finish.	15,000	SF	1.50	22,500.00	

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Roofing					
	CM Roof Temporary roofing patch or caulking is recommended	10,181	SF	1.50	15,271.50	
	T & G Roof A re-roof and moisture damaged repair is recommended	12,951	SF	8.00	103,608.00	
	ARCHITECTURAL & ROOFING				**453,937**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	N/A					
	Plumbing & Fire Protection					
	Repair building plumbing service to restroom.	1	LS	5,000	~~5,000~~	
	Replace existing non-plumbing transitions with correct plumbing fittings	1	LS	4,000	4,000	
	Repair existing rainwater leaders and route to terminate at floor drains.	1	LS	3,000	3,000	
	Electrical Systems					
	Replace current temporary flexible cable connections with new rigid conduit	1	LS	15,000.00	15,000	Assume all work within building
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**27,000**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**1,280,104**	

AREA TABULATION

Building 109A-C Tool Room / Sheet Metal / Storage

Location	Enclosed		Covered		Height		Comment
	Excl West section						
Basement							
First Floor	25,000				17'-3"		
Mezzanine	3,500						avg height
Second Floor	25,000				18'-1"		
Total Area	**53,500**	**SF**	**0**	**SF**	**35'**	**To peak**	
Façade Area	26,456	0.49	W/F Ratio				3 sides
Glazing	4,822	18%					
Metal	21,046	80%					
Doors	588	2%					
Total Façade	**26,456**	**SF**					
Roof (Flat)	5,500						
Roof (Slope)	21,083						
Mezznine	3,338						
Total Roof	**29,921**						

Building 109A-C Tool Room / Sheet Metal / Storage **GFA** 53,500

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Take down frame for signage	1	LS	4,000.00	4,000	
	Replace 2nd floor punch-out wood roof	3,500	SF	25.00	87,500	
	Replace 'x' bracing	4	LOC	3,000.00	12,000	
	STRUCTURAL				**103,500**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Repair 5% CMP panels.	1,052	SF	25.00	26,300	
	Paint to CMP panels	21,046	SF	2.00	42,092	
	Replace deformed and deteriorated CMP with new galvanized corrugated steel to match the existing panels. Replace the panels from grade to the window sill level on the Non-UV Covered Storage portion of the building. Prime and paint the new panels.					
	Windows					
	Replace 15% of window panes at the 2nd floor of the Non-UV Covered Storage portion of the building.	270	SF	50.00	13,500	
	Replace 5% of window panes at the Paint Shop/Plate Shop/Rigging-Break Room/Tool Room	55	SF	50.00	2,750	
	Replace 10% of window panes at the Mold Loft	50	SF	50.00	2,500	
	Repaint 100% of all wood frames and sash.	1,800	SF	18.00	32,400	
	Repaint 100% of all steel window sash.	3,022	SF	18.00	54,396	
	Doors					
	Salvage two (2) steel doors at interior of Non-UV Covered Storage portion of the building for possible reuse in other buildings.	1	LS	600.00	600	
	Repair/paint two (2) wood panel doors at Tool Room. Survey existing conditions Repair wood elements Repair existing hardware or replace missing components Restore operation Prepare surfaces, prime and paint with two top coats	2	EA	1,200.00	2,400	
	INTERIOR					
	Structural Elements					
	Remove or shore dangerous structural steel beam at the Non-UV Covered Storage portion of the building	1	LS	5,000.00	5,000	
	Ceiling					
	Repaint CMP ceiling at Mold Loft	25,000	SF	2.00	50,000	

Building 109A-C Tool Room / Sheet Metal / Storage **GFA** 53,500

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Floors					
	Resurface asphalt at Rigging/Break Room to prevent ponding.	500	SF	10.00	5,000	
	Roofing					
	The roofing should also be replaced because the current roof appears to be very old and weathered and is potential exposing asbestos containing materials					
	Replace flat roof	8,838	SF	16.00	141,408	Incl accessories, flashings etc
	Replace pitched roof	21,083	SF	15.00	316,245	
	ARCHITECTURAL & ROOFING				**694,591**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	Verify if unit heaters may be ducted. Possible noxious gas hazard with current configuration from natural gas combustion.	1	LS	3,000.00	3,000	
	Plumbing & Fire Protection					
	Repair building plumbing at noted points of damage.	1	LS	3,000.00	3,000	
	Electrical Systems					
	Provide local disconnect switch for electric water heaters to comply with current code.	1	LS	350.00	350	$350/heater
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**6,350**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**804,441**	

AREA TABULATION

Building 111 - Main Office, Warehouse, and Substation #3

Location	Enclosed		Covered		Height	Comment
Basement	7,250				9'	
First Floor	9,750				19'-8"	
Second Floor	10,600				12'	
Third Floor	10,600				12'	
Fourth Floor	10,600				12'	
Mezzaine	2,469					
Total Area	**51,269**	**SF**	**0**	**SF**	**65'**	
Façade Area	33,340	0.65	W/F Ratio			
Glazing	6,616	20%				
Metal	N/A	N/A				
Brick	26,211	79%				
Doors	513	2%				
Other						
Total Façade	**33,340**	**SF**				
Roof	10,388					
Total Roof	**10,388**	**SF**				

Building 111 - Main Office, Warehouse, and Substation #3 **GFA** 51,269

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Large cracks in parapet wall and in brick walls to be patched and sealed.	1	LS	100,000	100,000	
	STRUCTURAL				**100,000**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Scaffolding- three sides	20,000	SF	6.00	120,000	
	Repair brick at locations of spalls and cracks using Edison Custom System 45 masonry repair mortar. (Approx. 5% of the masonry surface area). Provide test samples for Architect's inspection and approval. Remove all contaminants, coatings, efflorescence, unsound masonry and inappropriate previous repair mortars. Prime masonry as per manufacturer's recommendations. Install patching mortar as per manufacturer's recommendations.	1,311	SF	35.00	45,885	
	Install new brick at locations of spalls and cracks. (Approx. 5% of the masonry surface area). Survey and map the existing condition of all brick. Rake out the mortar at existing deteriorated joints. Remove flaking rust where it is accessible. Paint the remaining reinforcing rod with rust inhibitive paint. Install new face brick to match sound existing brick. Repoint brick joints with matching mortar.	1,311	SF	85.00	111,435	
	Repair concrete spalls at sills, window headers, and ornamental panels using Edison System 44-Latex Modified Concrete Repair Mortar. (Assume 5 ornamental panels, two ornamental door surrounds, and 100% of headers and sills).	2,000	LF	70.00	140,000	sills and headers
	Ornamental panels and door surrounds Survey and map the existing condition of all headers, sills and ornamental panels. Remove all loose material. Remove flaking rust where accessible. Paint remaining reinforcing rod with rust inhibitive paint. Patch the area with a compatible repair material matching the original in strength, aggregate, color and texture. Repaint areas that were originally painted with a vapor permeable paint.	1	LS	10,000.00	10,000	

Building 111 - Main Office, Warehouse, and Substation #3 **GFA** 51,269

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Windows					
	Steel Windows - Replace (75) 14"x20" window panes	150	SF	29.00	4,350	
	Repaint 100% of steel sash window components: frame, mullion and muntins. Remove all dirt and deteriorated glazing putty. Wire brush steel elements to remove rust. Install new glazing putty. Install new glazing where required to match existing original glazing. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats	6,000	SF	15.00	90,000	
	Protect all first floor windows with painted plywood.		See below			
	Wood Windows – No glazing replacement is required.		NA			
	Repair all wood frames and moveable sash. Remove all moveable sash for epoxy consolidation in a shop. Retain the glass and install new glazing putty in all windows. Repair and replace missing wood frame elements and epoxy consolidate, and patch the wood in situ. Install moveable sash into restored frames and install new sash chords. Ensure that all moveable sash operates. Prepare the wood surfaces, prime and paint with two top coats	1,400	SF	35.00	49,000	
	Protect all first floor windows with painted plywood.	1	LS	15,000.00	15,000	
	Doors					
	North elevation aluminum and glass door – no recommendation					
	West elevation, south elevation, steel doors (5) Replace missing hardware and components. Prepare surfaces, prime and paint with two top coats.	5	EA	900.00	4,500	
	West elevation, wood entry door. Remove air conditioners, and all infill materials, leaving the historic wood elements. Cover door opening and sidelights with painted plywood.	1	EA	1,400.00	1,400	
	West elevation and pass-through, steel roll-up doors 4 Replace missing hardware and components. Prepare surfaces, prime and paint with two top coats.	4	EA	1,800.00	7,200	
	Pass-through historic steel loading doors. Survey existing conditions Repair existing hardware or replace missing components Restore operation Prepare surfaces, prime and paint with two top coats	1	EA	1,800.00	1,800	
	West elevation, historic, wood double loading doors. Survey existing conditions Repair wood elements Repair existing hardware or replace missing Restore operation Prepare surfaces, prime and paint with two top coats	1	EA	4,000.00	4,000	
	Survey existing condition of rolling doors.	1	LS	500.00	500	

Building 111 - Main Office, Warehouse, and Substation #3 **GFA** 51,269

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Appurtenances					
	Repaint both fire escapes. Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats.	1	LS	7,000.00	7,000	
	INTERIOR					
	The interior finishes of the building continue to deteriorate - See report for full description		N/A			Removing of garbage by others
	Roofing					
	The roof should also be replaced because the current roof appears to be very old and weathered and is potential exposing asbestos containing materials	10,388	SF	20	207,760	
	ARCHITECTURAL & ROOFING				**819,830**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	N/A					
	Plumbing & Fire Protection					
	N/A					
	Electrical Systems					
	Provide safety covers at electrical panels and wiring junctions	1	LS	2,500	2,500	
	Provide permanent local power supply to building exterior light currently powered by temporary flexible cable hung from neighboring building.	1	LS	2,500	2,500	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION				**5,000**	
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**924,830**	

AREA TABULATION

Building 120 - Compressed Gas & Hazardous Material Storage

Location	Enclosed	Covered	Height	Comment
Basement				
First Floor	1,000			
Second Floor				
Total Area	**1,000 SF**	**0 SF**	**20' 8"**	
Façade Area	1,900	1.90	W/F Ratio	
Glazing	N/A	N/A		
Metal	1,500	79%		
Masonry	400	21%		
Total Façade	**1,900 SF**			
Roofing	1,200			
Total Roof	**1,200 SF**			

Building 120 - Compressed Gas & Hazardous Material Storage **GFA** 1,000

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Sanding and scraping of all steel members to determine if significant corrosion has occurred. Repaint members after inspection.					
	Paint steel members	1,000	SF	7.50	7,500	
	"x" brace that is removed should be replaced. All other "x" braces should be re-tensioned	1	LS	5,000.00	5,000	
	Replaced masonry low wall	400	SF	180.00	72,000	
	STRUCTURAL				**84,500**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	Exterior					
	Walls					
	Repair 10% CMP panels.	150	SF	25	3,750	
	Paint CMP panels	1,500	SF	2	3,000	
	Replace dented and damaged components in kind to match original.					
	Install sealant at all structural steel, conduit and pipe penetrations					
	Clean and repair brick wall at east elevation.		See structural			
	Remove soil and plant growth at brick. Inspect wall to identify areas of damage. Clean wall with approved cleaning solution. Install new brick at locations of spalls and cracked Repoint brick at east wall. Approx 25%. Match Install drainage mat against brick wall. Fill excavated area with clean 3/4" drainage gravel.					
	Interior					
			See above			
	Repaint steel rafters, purlins, columns and CMP Verify that existing surfaces do not contain lead based If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. Prepare steel surfaces, prime with rust inhibitive primer					
	Ceilings					
	Repaint CMP ceiling	1,200	SF	3.5	4,200	
	Prepare steel surfaces, prime with rust inhibitive primer and paint with two top coats					
	Roofing					
	Replace 100% CMP panels	1,200	SF	15	18,000	
	Survey existing condition of all galvanized CMP and flashing or trim elements.					
	ARCHITECTURAL & ROOFING				**28,950**	

Building 120 - Compressed Gas & Hazardous Material Storage

GFA 1,000

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**113,450**	

AREA TABULATION

Building 121 - Pipe Storage Office

Location	Enclosed	Covered	Height	Comment
Basement	N/A			
First Floor	584		9' 8"	
Second Floor	N/A			
Total Area	**584 SF**	**0 SF**		
Façade Area	967	1.66	W/F Ratio	
Glazing	176	18%		
Metal	N/A	N/A		
Wood	728	75%		
Doors	63	7%		
Other				
Total Façade	**967 SF**			
Roof	584			
Total Roof	**584 SF**			

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	No work required					
	STRUCTURAL					
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Replace 25% of wood trim.	182	SF	12.00	2,184	
	Paint 100% of wood siding.	728	SF	3.00	2,184	
	Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good -adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth. Replace damaged components and patched areas with new siding to match original. Remove defunct air-conditioner. Provide plywood panel at opening. Remove deteriorated sealant and install new sealant at all conduit, pipe penetrations, AC penetration, door and window frames. Install specified primer and two finish coats as per manufacturer's recommendations					
	Windows					
	Replace 2% of window panes	4	SF	30.00	120	
	Restore 100% of window frame, mullion and muntins.	176	SF	35.00	6,160	
	Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rules and all applicable state and local regulations. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good -adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth. Restore damaged wood window sash. Consolidate and repair deteriorated wood sills. Replace missing window trim to sound condition and existing appearance. Replace cracked, broken or missing glass. Remove all deteriorated putty and replace with new. Install specified primer and two finish coats as per manufacturer's recommendations. Clean all glass.					
	Provide new window shades/blinds at all locations.	176	SF	10.00	1,760	

Building 121 - Pipe Storage Office **GFA** 584

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Doors					
	Repair three wood doors and wood frames Verify that existing surfaces do not contain lead based paint. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rules and all applicable state and local regulations. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good -adhesion. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth. Repair damaged wood door components. Consolidate and repair deteriorated wood frame. Install specified primer and two finish coats as per manufacturer's recommendations. Install new thresholds. Replace screen at screen door.	3	EA	1,200.00	3,600	
	Appurtenances					
	Remove existing air-conditioners and a/c support brackets.	1	EA	120.00	120	
	Provide new a/c sleeve at easternmost a/c opening.	1	EA	110.00	110	
	Provide new a/c brackets.	1	EA	90.00	90	
	Provide and install new a/c unit, tilt to provide proper drainage.	1	EA	1,000.00	1,000	
	INTERIOR					
	Walls					
	Patch holes and repair cracks in wall surface. Prepare for paint.	1	LS	3,000.00	3,000	
	Install specified primer and two finish coats as per manufacturer's recommendations to patch areas	1	LS	1,000.00	1,000	
	Floors					
	Remove existing linoleum tile.	584	SF	2.00	1,168	
	Repair floor substrate as required to install new tiles.	584	SF	3.00	1,752	
	Install new linoleum tile floor.	584	SF	7.00	4,088	
	Ceilings					
	Remove vent gratings at ceiling.	1	LS	500.00	500	
	Patch holes and repair cracks in ceiling surface.	1	LS	1,800.00	1,800	
	Prepare for paint.	1	LS	700.00	700	
	Install specified primer and two finish coats as per manufacturer's recommendations.	1	LS	1,100.00	1,100	
	Reinstall ceiling grates.	1	LS	500.00	500	
	Fixtures					
	Provide and install new AC unit (see exterior appurtenances)		See above			
	Repair/replace one fluorescent light fixture.	1	LS	350.00	350	
	Roofing					
	No work required					
	ARCHITECTURAL & ROOFING				**33,286**	

Building 121 - Pipe Storage Office

GFA 584

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	Natural ventilation currently meets code for this building. No immediate actions required.					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**33,286**	

KEY CRITERIA **Building 127 - Production Office**

AREA TABULATION

Building 127 - Production Office

Location	Enclosed		Covered		Height	Comment
Basement						
First Floor	1,079					
Second Floor	1,132					
Total Area	**2,211**	**SF**	**0**	**SF**	**22'**	
Façade Area	3,000		1.36	W/F Ratio		
Glazing	660		22%			
Metal	N/A		N/A			
Viynal Siding	2,340		78%			
Total Façade	**3,000**	**SF**				
Roof	1,295					
Total Roof	**1,295**	**SF**				

Building 127 - Production Office **GFA** 2,211

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	Replace Stair	1	LS	15,000.00	15,000	
	STRUCTURAL				**15,000**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls & Wood Elements					
	Repair breach in vinyl cladding at first floor front door.	1	LS	700.00	700	
	Prep and paint wood elements Scrape all deteriorated paint. Prepare and prime all wood surfaces. Apply two coats of oil based paint over prepared surfaces.	2,211	SF	1.50	3,317	
	Windows					
	Replace one cracked pane	1	EA	100.00	100	
	Roofing					
	Repair dry rot	1	LS	4,000.00	4,000	
	Install new shingles	1,295	SF	6.00	7,770	100% replace
	ARCHITECTURAL & ROOFING				**15,887**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**30,887**	

AREA TABULATION

Building 143 - Break Area / Washroom

Location	Enclosed	Covered	Height	Comment
Basement				
First Floor	1,260			
Second Floor				
Total Area	**1,260 SF**		**SF**	**14'**
Façade Area	2,000	1.59	W/F Ratio	
Glazing	N/A	N/A		
Metal	2,000	100%		
Other				
Total Façade	**2,000 SF**			
Roof	1,900			
Total Roof	**1,900 SF**			

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	N/A					
	STRUCTURAL					
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Prep and repaint a 3'x30' section of the CMP panels on the south side	100	SF	20.00	2,000	
	Install sealant at all conduit and pipe penetrations. Scrape, prime and paint rusted conduit or pipe. Wipe the pipes with mineral spirits, prime clean metal with specially formulated zinc rich, rust consolidating primer and paint with two finish coats of compatible oil-based paint.	1	LS	1,100.00	1,100	
	Windows					
	N/A					
	Doors					
	Survey the Men's and Women's personnel doors for accessibility.		N/A			
	Adjust the operating force on two closers or replace them to meet the operating force requirements.	1	LS	150.00	150	
	INTERIOR					
	Walls					
	Clean and repaint all walls	1	LS	3,000.00	3,000	
	Clean the painted GWB walls of stains and grime					
	Prepare and re-paint the GWB with two coats of gloss oil based paint.					
	Clean the plastic laminate wainscot with a mild detergent.					
	Floors					
	Deep clean the tile floors and tile base with a steam based system using a mild detergent.	777	SF	3.00	2,331	
	Survey grout lines for missing material and re-grout.					
	Ceiling					
	Clean, re-paint, and replace acoustic tile	777	SF	4.00	3,108	
	Remove light rust from T-bar grid, prime with rust inhibiting primer and re-paint with oil based paint.					
	Replace 100% of 2'x4' acoustic ceiling tiles.					

Building 143 - Break Area / Washroom **GFA** 1,260

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	Lighting					
	Rehabilitate the existing fixtures Replace 100% of the 2'x4' plastic diffusers.	1	LS	2,000.00	2,000	
	Re-lamp all fixtures with new 4 foot fluorescent tubes					
	Fixtures					
	Rehabilitate the ceramic fixtures Clean all ceramic fixtures of dirt, stains and paint.	1	LS	2,000.00	2,000	
	Plumbing Fixtures					
	Clean all faucets and flush valves of dirt and corrosion.	1	LS	1,000.00	1,000	
	Wrap all under sink drain lines with ADA compliant insulation	1	LS	800.00	800	
	Steel Partitions Remove de-bonded paint and repaint	1	LS	1,500.00	1,500	
	Mirrors Replace mirrors	4	EA	275.00	1,100	
	Roofing					
	No work required					
	ARCHITECTURAL & ROOFING				**20,089**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**20,089**	

KEY CRITERIA **Building 250 - Warehouse**

AREA TABULATION

Building 250 - Warehouse

Location	Enclosed		Covered		Height	Comment
Basement						excludes utility space
First Floor	3,200	SF				
Second Floor						
Total Area	**3,200**		**0**	**SF**	**22'**	
Façade Area	5,300	SF	1.66	W/F Ratio		
Glazing	N/A		N/A			
Metal	5,300		100%			
Other						
Total Façade	**5,300**	**SF**				
Roofing	3,300					
Total Roof	**3,300**	**SF**				

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	'x' braces to be tensioned	1	LS	2,500	2,500	
	STRUCTURAL				**2,500**	
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Install new concrete wheel stops along the south elevation.	1	LS	1,800	1,800	
	Roofing					
	Minor caulking of small holes	1	LS	1,000	1,000	
	ARCHITECTURAL & ROOFING				**2,800**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**5,300**	

KEY CRITERIA **Building 251 - Blast Booth**

AREA TABULATION

Building 251 - Blast Booth

Location	Enclosed		Covered		Height	Comment
Basement						excludes utility space
First Floor	2,320	SF				
Second Floor						
Total Area	**2,320**	**SF**	**0**	**SF**	**22'**	
Façade Area	2,750		1.19	W/F	Ratio	
Glazing						
Metal	2,750		100%			
Other						
Total Façade	**2,750**	**SF**				
Roof	2,400					
Total Roof	**2,400**	**SF**				

Building 251 - Blast Booth **GFA** 3,200

REF	DESCRIPTION	QUANTITY	UoM	UNIT RATE	TOTAL	COMMENTS
	STRUCTURAL					
	No work required					
	STRUCTURAL					
	ARCHITECTURAL & ROOFING					
	Architectural					
	EXTERIOR					
	Walls					
	Install new sealant at bottom edge of corrugated steel panels on the east elevation.	35	LF	15.00	525	
	Paint rusted collars at two vent hoods.	1	LS	700	700	
	Roofing					
	No work required					
	ARCHITECTURAL & ROOFING				**1,225**	
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	HVAC					
	None					
	Plumbing & Fire Protection					
	None					
	Electrical Systems					
	None					
	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	Demolition					
	Included in rates					
	Temporary Protection					
	SELECTIVE BUILDING DEMOLITION / TEMPORARY WORK					
	SITE WORK					
	SITE WORK					
	DIRECT COSTS SUB-TOTAL				**1,225**	