



1
2 **FIGURE 168.** Portion of the east elevation of the
3 service yard screen wall.



4
5 **FIGURE 169.** South end of the east elevation at the
6 first floor level of the concessionaire component.



7
8 **FIGURE 170.** North end of the east elevation at the
9 first floor level of the concessionaire component.

11 The second floor level of the east elevation is
12 divided into two sections defined by differing
13 window configurations and relationship to the
14 breezeway (Figure 171). The south end of the
15 elevation has three window openings consisting of
16 five metal-framed single-pane fixed windows with
17 tinted glazing, with small hopper window units
18 below each fixed unit. These windows were
19 installed in 2002. The north end of the elevation
20 has two rectangular window openings containing
21 three square-shaped aluminum-framed single-
22 pane window units and is connected to the south
23 portion of the breezeway.



24
25 **FIGURE 171.** East elevation of the concessionaire
26 component.

27 Between the two sections of the elevation is a
28 concrete U-shaped stair with a concrete landing
29 supported on concrete columns and beams and an
30 aluminum handrail. The stair provides access from
31 the upper level plaza to the south end of the
32 breezeway.

33 The service yard is an asphalt paved area defined
34 on three sides by a masonry screen wall. The wall
35 is constructed of hollow core concrete block with
36 a 12 inch concrete cap and a 1 inch stucco coating.
37 The east wall extends perpendicular from the
38 south elevation of the west wing, along the south
39 wing, and extends approximately 35 feet beyond
40 the building. At the point where it runs along the
41 south wing, the wall is 9 feet tall and has square-
42 shaped punched decorative openings. The
43 openings have been infilled with plywood. Beyond
44 the south wing, where the wall extends from the
45 building, it steps down to 7 feet tall and has no

1 penetrations (Figure 172). The south wall is 80 feet
2 long and is divided into six sections (Figure 173).
3 Each section has twelve square punched openings
4 configured in a six column by two row pattern.
5 The west wall is approximately 120 feet long and
6 has a 30 foot opening at the south end. Existing
7 physical evidence and a review of original
8 construction documents indicates that the original
9 wall opening has been expanded to either side
10 (Figure 174). To the south of the opening is a
11 7 foot tall wall with twelve punched openings in a
12 six-over-six formation (Figure 175). The north
13 portion of the wall follows the contours of the
14 sloping site and is 9 feet tall (Figure 176). The wall
15 is divided into five sections, each section
16 containing a configuration of twenty punched
17 openings arranged in a five by four grid. The wall
18 extends to meet the west elevation of the stair
19 tower. A small flat roofed concrete structure with
20 stucco-cladding is located west of the west wall,
21 outside of the service yard (Figure 177). The
22 structure has a metal-framed louvered door
23 centered on the south elevation and houses high
24 voltage electrical equipment for the concessionaire
25 component.



26
27 **FIGURE 172.** East elevation of the service yard screen wall.
28



29
30 **FIGURE 173.** South elevation of the service yard
31 screen wall.



32
33 **FIGURE 174.** Exposed masonry indicating alteration to
34 original wall construction.



35
36 **FIGURE 175.** South end of the west elevation of the
37 screen wall.



1
2 **FIGURE 176.** North end of the west elevation of the
3 screen wall.



4
5 **FIGURE 177.** Mechanical room adjacent to screen
6 wall.

7

1 **Windows and Doors.** The original drawings for
 2 the museum and office portion of the building call
 3 for a mixture of awning, jalousie, and fixed
 4 window types, all of which were to be framed in
 5 aluminum (Figure 178). Rather than traditional
 6 jalousie style windows, in which narrow strips of
 7 glass are supported only at either end (as implied
 8 by the drawings), most of the existing windows are
 9 configured as multiple aluminum-framed sash that
 10 operate as grouped awning units. Although not
 11 indicated on the drawings, based on historic
 12 photographs, it is likely that these are the original
 13 window units. What appear to be original
 14 traditional jalousie style windows exist at the west
 15 elevation of the concessionaire portion of the
 16 building and at the second floor south elevation of
 17 the concessionaire portion (at the kitchen).

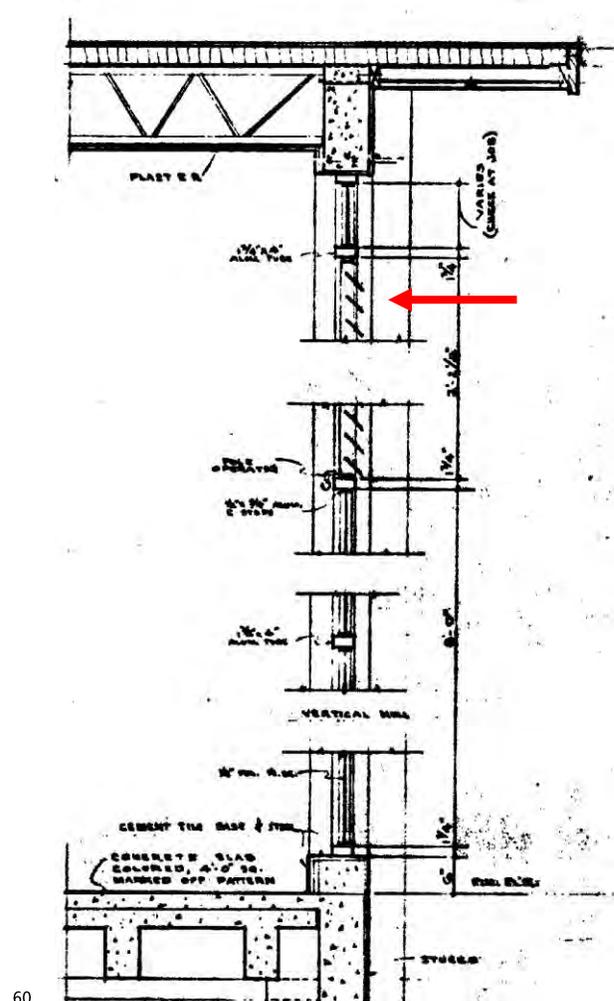
18 Window assemblies are typically grouped into
 19 ganged horizontal bands of windows as well as
 20 larger window wall areas configured with a
 21 combination of fixed and operable units
 22 (Figure 179 and Figure 180). Windows at the
 23 upper north elevation of the concessionaire
 24 portion of the building are trapezoidal-shaped
 25 fixed units consistent with the period and style of
 26 the building (Figure 181). At the perimeter of each
 27 window assembly, the joint between the aluminum
 28 frame and the stucco or stone substrate is filled
 29 with mortar, or is nonexistent with the window
 30 frame tight against the window opening; sealant is
 31 present at these joints at limited locations
 32 (Figure 182 and Figure 183). The aluminum
 33 window components have a mill finish. Some of
 34 the joinery at the ganged mullions is unsealed. At
 35 operable awning units, monolithic glazing is
 36 secured in the frame by quarter-round aluminum
 37 spring clips, or stops, on the exterior. In some
 38 areas, tempered safety glazing is present. Typical
 39 window details are shown in Figure 184 and
 40 Figure 185.

41 Original clerestory windows that were present in
 42 the main second floor lobby were removed as part
 43 of the 1994 re-roofing, and a solid wall has been
 44 installed at this location (Figure 186).

45 At the southern portion of the second floor of the
 46 concessionaire portion of the building, the original
 47 windows have been replaced with new aluminum

48 units finished in a dark bronze color with fixed
 49 upper lights and hopper-style operable lower
 50 lights (Figure 187). These windows were installed
 51 in 2002 (Figure 188).

52 At the second floor offices at the north portion of
 53 the building, aluminum hurricane shutters have
 54 been added at the building exterior. These shutters
 55 fold back for storage on the wall beyond the
 56 window openings, and slide into place on
 57 aluminum tracks mounted to the building wall
 58 above and below the window openings
 59 (Figure 189).



60
 61 **FIGURE 178.** Excerpt from original construction
 62 drawings showing window detail. The arrow
 63 indicates the jalousie type window units. In lieu of
 64 jalousie windows, it appears based on early
 65 photographs that awning type units were instead
 66 installed during original construction. Source: NPS
 67 drawing 160-3020D, dated October 1956.



1
2 **FIGURE 179.** Typical window assembly at the first
3 floor level.



16
17 **FIGURE 182.** Stucco or stone wall cladding returns at
18 the exterior window jambs to the aluminum window
19 units.



4
5 **FIGURE 180.** The window assembly at the east
6 elevation of the main lobby. Based on historic
7 photographs and the original drawings, this window
8 group was apparently installed after Hurricane
9 Donna in 1960 in place of the original window
10 group. The original section drawing in Figure 178
11 shows this window location.



20
21 **FIGURE 183.** Detail at the window sill and jamb at
22 Keystone cladding.



12
13 **FIGURE 181.** Windows at the upper north elevation of
14 the concessionaire portion of the building are
15 trapezoidal-shaped fixed units.



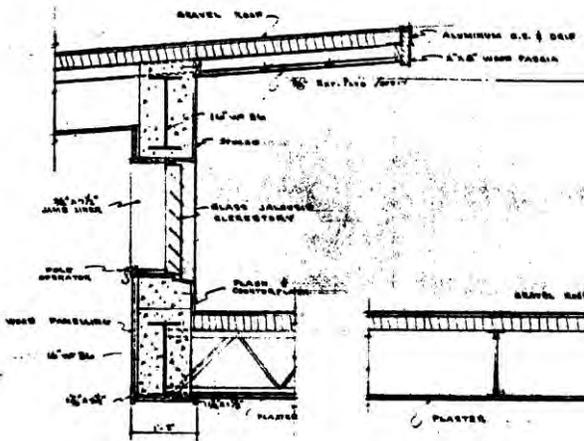
23
24 **FIGURE 184.** Detail of vertical ganged mullion and
25 meeting rail between awning window sash. The
26 arrow indicates the typical quarter-round spring clip
27 (stop) that secures the monolithic glazing.



1
2 **FIGURE 185.** Detail at the ganged mullion at the sill
3 of awning window units.



11
12 **FIGURE 188.** Installing new windows in the
13 restaurant, 2002.



4
5 **FIGURE 186.** Excerpt from original construction
6 drawings showing lobby clerestory window detail.
7 Source: NPS drawing 160-3020D, dated October 1956.



14
15 **FIGURE 189.** Non-original hurricane shutters at the
16 second floor office windows.



8
9 **FIGURE 187.** Non-original window units at the
10 concessionaire component of the building.

17 Some of the original exterior doors, for example at
18 the north end of the office wing, are simple, flat-
19 panel painted steel hollow core door units. At the
20 entrances to the main lobby at the first and second
21 floor levels of the office and museum component,
22 the door units were mill-finish aluminum-framed
23 units with insect screening. The door units in place
24 at the first floor are likely original, as they match the
25 appearance of those shown on the original
26 drawings (Figure 190). These doors have exterior-
27 mounted closers and steel hinges (which may
28 indicate a retrofit of the door hardware).
29 Expanded metal security screening has been
30 added to the doors behind the insect screening.

Physical Description and Condition Assessment

1 At the concessionaire component of the building,
2 exterior aluminum-framed storefronts with
3 aluminum-framed entrance doors exist. These
4 units appear to be original (Figure 191 and
5 Figure 192).

6 In addition to the window and door units, the
7 building originally featured aluminum-framed
8 insect screening enclosure around the entire
9 second floor loggia area (Figure 193). This
10 screening was apparently damaged by Hurricane
11 Donna in 1960, and the framing was removed and
12 not replaced.



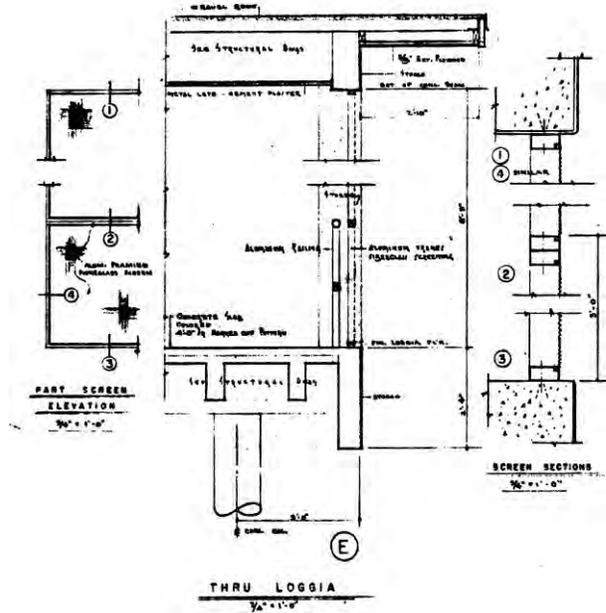
18
19 **FIGURE 192.** Original second floor entrance doors to
20 concessionaire portion of the building.



13
14 **FIGURE 190.** Original first floor lobby entrance doors.



15
16 **FIGURE 191.** Original first floor entrance doors to
17 concessionaire portion of the building.



21
22 **FIGURE 193.** Original drawing details showing loggia
23 insect screening, installed in aluminum framing
24 outboard of the second floor level railings. Source:
25 NPS drawing 160-3020D, dated October 1956.

26

1 **Roofing.** The roofs of the visitor center are
 2 typically low sloped assemblies protected by an
 3 apparent fully adhered white-coated
 4 thermoplastic membrane, 23 to 24 inch exposure,
 5 with heat welded seams. According to Park Facility
 6 staff, the existing roof membrane was installed in
 7 1994 and is a reinforced thermoplastic membrane
 8 with a ketone ethylene ester (KEE) based hybrid
 9 polymer vinyl coating, FiberTight, as
 10 manufactured by the Seaman Corporation. The
 11 roof was recoated in 2005 with a liquid applied
 12 solvent based thermoplastic rubber membrane
 13 identified as Topcoat Surface Seal SB as
 14 manufactured by GAF Materials Corporation. The
 15 existing membrane (1994 installation) is further
 16 discussed in the History section.

17 Roof configurations consist of low sloped shed
 18 roof forms at the museum and office component
 19 of the building, and an offset gable roof at the
 20 concessionaire component of the building; the
 21 breezeway that connects the two primary building
 22 components has a relatively flat roof.

23 The existing roof membrane is judged to be in fair
 24 condition, exhibiting un-bonded wrinkled areas,
 25 tenting at presumed insulation fasteners, open
 26 seams, and numerous patches from previous
 27 repairs. Patches were formed with both matching
 28 thermoplastic membrane and granule surfaced
 29 modified bitumen (Figure 194 through
 30 Figure 196). Many of the existing membrane
 31 patches were installed in late 2003 (Figure 197).

32 The perimeter of the roof has a thermoplastic
 33 coated metal fascia integrated with the roofing
 34 membrane; splice joints in the fascia are covered
 35 by strips of membrane that appear to have been
 36 heat welded to the surface of the fascia
 37 (Figure 198). The metal fascia laps over and covers
 38 the original solid wood fascia, which is painted
 39 where exposed along its bottom edge. Where roof
 40 overhangs exist there is a painted plywood soffit.

41 The stair tower at the concessionaire component
 42 of the building has a separate roof area at a higher
 43 level than the main roof. The stair tower roof has a
 44 parapet wall and one drain inlet at the southwest
 45 corner.



46
 47 **FIGURE 194.** A large roof membrane patch near the
 48 breezeway.



49
 50 **FIGURE 195.** An example of a small membrane patch.



51
 52 **FIGURE 196.** An example of a roof patch using
 53 modified bitumen membrane.



1
2 **FIGURE 197.** Installing a patching at the visitor center
3 roof, 2003. This location is shown in Figure 194.

4 A telecommunications cable runs across the roof
5 surface from one end of the building to the other.
6 The cable is secured to the membrane with spots
7 of mastic (Figure 199).

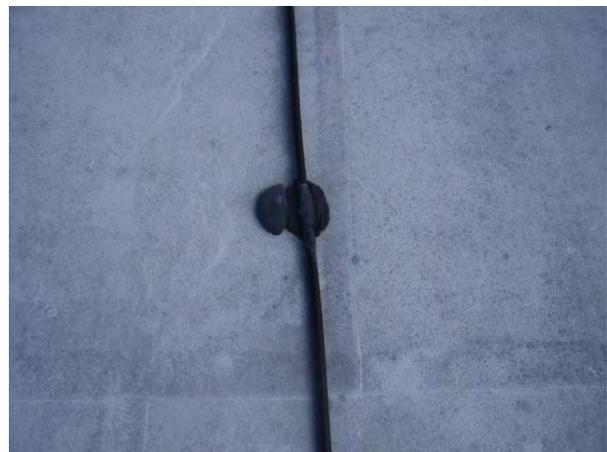
8 The roof structure is exposed to view at some
9 areas of the museum and office component of the
10 building due to the loss of the plywood soffit. At
11 these openings, the galvanized clips used in the
12 original construction to secure the tectum roof
13 deck to the steel framing were observed
14 (Figure 200). Where observed, the steel roof
15 structure exhibited minor corrosion; the
16 galvanized clips were in good condition as was the
17 tectum deck.

18 Originally the building was designed without
19 gutters; storm drainage was intended to occur off
20 the roof edge to the site below. As noted in the
21 History section, gutters were added to selected
22 portions of the building roof in 1972. The 1972
23 gutters have been removed. Currently, hanging
24 gutters supported by painted wood brackets are
25 present at two locations only. A gutter extends
26 across the north end of the office wing roof,
27 draining to a single downspout with a splash block
28 at the northwest corner. In addition, a gutter is
29 located at an approximately 8 foot long segment of
30 the breezeway roof at the top of the ramp; this
31 gutter does not have a downspout but is open at
32 one end for drainage (Figure 201; also refer to
33 Figure 128). It is not known when the existing
34 gutters were installed, but they likely post-date the
35 1994 roof replacement. The gutters were installed

36 prior to roof repair work in 2005, as they are
37 visible in photographs from that project. At all
38 other roof areas, drainage occurs over the edge of
39 the roof to the site below.



40
41 **FIGURE 198.** At joints in the fascia, strips of
42 membrane have been applied.



43
44 **FIGURE 199.** A telecommunications cable, secured
45 to the membrane with spots of mastic, runs across the
46 roof surface.



1
2 **FIGURE 200.** In the original construction, galvanized
3 clips secure the tectum decking to the steel framing
4 elements.



5
6 **FIGURE 201.** The hanging gutters are supported by
7 painted wood brackets bolted to the underside of
8 the roof soffit and the wood edge blocking.

9

10 **Exterior Condition Assessment**

11 **Exterior Paving.**

- 12 ▪ Organic growth in the form of small plants was
13 observed on upward facing surfaces at
14 construction joints and between concrete
15 construction joints (Figure 202). Organic
16 growth was most pronounced at the south end
17 of the site, where pedestrian traffic and
18 routine maintenance are less frequent.
- 19 ▪ Differential settlement at the control and
20 construction joints in the concrete paving
21 slabs were noted at the first floor patio. The
22 differential settlement ranged from 1/2 inch to
23 3 inches, with the basin side of the patio
24 typically being lower (Figure 203).
- 25 ▪ Cracks indicating differential settlement in the
26 plaza paving were observed just south of
27 the office and museum component (Figure 204
28 and Figure 205).
- 29 ▪ Extensive erosion and deterioration of the
30 rock salt finish of the first floor paving was
31 noted (Figure 206). Paving at the south end
32 of the site showed the most severe erosion and
33 deterioration.



34
35 **FIGURE 202.** Vegetation growing from joints in
36 concrete paving.



1
2 **FIGURE 203.** Differential settlement at construction
3 joints between concrete pavers.



10
11 **FIGURE 206.** Erosion of textured concrete finish.



4
5 **FIGURE 204.** Crack in concrete paving due to
6 differential settlement.



7
8 **FIGURE 205.** Crack in concrete paving and differential
9 settlement.

- 12
- 13 ▪ Sections of the original first floor patio
14 pavement on the north and west sides of the
15 building have been replaced by new concrete
16 pavement. The replacement paving does not
17 retain the texture, color, or paving pattern of
18 the original pavers (Figure 207 and
19 Figure 208). Differences in pavement texture
20 and color were most noticeable at the north
21 end of the office and museum component and
22 at the foot of the concrete ramp on the west
23 side of the site.
 - 24 ▪ Minor spalling and cracking at edges of
25 concrete paving were observed at the first
26 floor level (Figure 209).



26
27 **FIGURE 207.** Areas of replaced concrete paving do
28 not match the original in color or texture (original
29 concrete in the foreground).



1
2 **FIGURE 208.** Localized replacement of concrete
3 paving that does not match the original in color or
4 texture (original concrete in the background).



5
6 **FIGURE 209.** Minor spalling and cracks in first floor
7 concrete slab.

- 8 ■ Physical impact damage in the form of holes in
9 the first floor concrete pavement was
10 observed (Figure 210). Holes in the concrete
11 pavers were located at edges of the pavers
12 where construction joints were displaced.



13
14 **FIGURE 210.** Impact damage to concrete pavers.

16 **Exposed Concrete and Stucco Walls.**

- 17 ■ Peeling paint was observed on all painted
18 surfaces (Figure 211 through Figure 213).
19 Extensive peeling was identified at the base of
20 the first and second floor columns and on
21 stucco walls and spandrel panels. Blistering
22 and peeling paint were observed at several
23 locations on the first and second floor
24 columns and piers (Figure 214).
- 25 ■ Organic growth in the form of mold,
26 vegetation, and algae were observed at roof
27 gutters and on vertical surfaces such as the
28 raised stucco panels (Figure 215). Organic
29 growth was most pronounced on the west
30 elevation, where landscape vegetation is most
31 dense.



32
33 **FIGURE 211.** Peeling paint on concrete columns.



34
35 **FIGURE 212.** Peeling paint on stucco spandrel panel.



1
2 **FIGURE 213.** Peeling paint on stucco walls.



3
4 **FIGURE 214.** Blistering paint on concrete piers.



5
6 **FIGURE 215.** Organic growth on stucco cladding.

8 ■ Biological impacts in the form of
9 yellowjackets' nests were observed on the
10 underside of the double-tee beams. An osprey
11 nest is present on top of the
12 telecommunications tower adjacent to the
13 office and museum component (Figure 216).

14 ■ Peeling paint and surface corrosion was
15 observed on metal top plates above columns
16 under the south wing of the concessionaire
17 component (Figure 217 and Figure 218).
18 There appeared to be no sectional loss to the
19 metal plate.

20 ■ Exposed surfaces of the double-tee beams and
21 concrete girders have an abraded and etched
22 appearance (Figure 219). The deterioration
23 may be related to prior use of abrasive
24 cleaning or preparation techniques.¹²⁵



25
26 **FIGURE 216.** Yellowjacket nest on underside of
27 concrete structural framing.

125. "Sandblast and Paint Restaurant and Marina, Everglades National Park, Project No. 5280-82-3, May 21, 1982." Specification in Everglades National Park archive, accession 406, box 3. Park staff were unable to confirm if abrasive techniques have ever been implemented.



1
2 **FIGURE 217.** Surface corrosion of metal column top
3 plates.



4
5 **FIGURE 218.** Surface corrosion of metal column top
6 plates.



7
8 **FIGURE 219.** Overall abraded appearance of concrete
9 framing members attributed to prior use of high
10 pressure water cleaning techniques.

- 12
- 13 ■ Small spalls were noted at the edges of the second floor concrete slab (Figure 220).
- 14
- 15 ■ Corrosion staining and concrete patches were observed on the west side of the second level flooring (Figure 221). The staining and repairs were associated with the removal of previously existing seating units.
- 16
- 17
 - 18
- 19
- 20 ■ Grout within pockets at metal handrail supports was observed to have deteriorated and in many instances the grout pockets contained moisture and organic growth (Figure 222). Previous repairs included the infill of grout pockets with what appeared to be a gypsum-based grout (Figure 223). Expansion of the gypsum grout when exposed to moisture resulted in cracking and spalling of the textured concrete adjacent to the pockets.
- 21
- 22
 - 23
 - 24
 - 25
 - 26
 - 27
 - 28
 - 29
- 30
- 31 ■ Alterations were previously made to the concrete floor slab in an effort to reduce flooding of the breezeway area. Drainage was enhanced through the saw cutting of existing cracks in the concrete slab and installation of metal drainage channels and cross ties (Figure 224). Additionally, the edges of existing score or control joints in the concrete slab were deepened and widened through saw cutting. The joint was apparently enlarged to enhance drainage. As a result, staining and organic growth have appeared on the stucco of the spandrel panel immediately below the saw cut joints.
- 32
- 33
 - 34
 - 35
 - 36
 - 37
 - 38
 - 39
 - 40
 - 41
 - 42
 - 43



44
45 **FIGURE 220.** Concrete spall on top layer of second
46 floor slab.



1
2 **FIGURE 221.** Corrosion staining on second floor slab.



3
4 **FIGURE 222.** Open grout pocket for handrails.



5
6 **FIGURE 223.** Possible gypsum-based grout repair with
7 cracking of surrounding concrete.



8
9 **FIGURE 224.** Drainage channel saw cut in second floor
10 slab to enhance drainage.

- 11 ▪ Corrosion staining attributed to the metal
12 expansion bead used to frame the stucco
13 ceiling was observed on the ceiling of the
14 second floor breezeway (Figure 225).
- 15 ▪ Concrete spalling and exposed corroded
16 reinforcing was observed in the roof overhang
17 above the loading dock on the west elevation
18 of the concessionaire component (Figure 226).
- 19 ▪ Horizontal cracking of the raised stucco
20 panels was observed at multiple locations on
21 the office and museum component (Figure 227
22 and Figure 228). Typically, the cracks were 30
23 inches above the bottom of the panels and
24 were related to the location of the concrete
25 floor slab. The reflective cracking in the stucco
26 is associated with differential movement of the
27 concrete slab and concrete spandrel panels.



28
29 **FIGURE 225.** Corrosion of metal expansion bead in
30 stucco.



1
2 **FIGURE 226.** Concrete spalling and exposed corroded
3 steel reinforcing over the loading dock at the south
4 end of the concessionaire component.



5
6 **FIGURE 227.** Horizontal cracking in raised stucco
7 panels.



8
9 **FIGURE 228.** Horizontal cracking in raised stucco
10 panels.

11

12 ■ Cracks, spalls, and corrosion staining was
13 observed at the corner of concrete tie beams at
14 the second floor level of the breezeway
15 (Figure 229).

16 ■ The concrete topping slab on the second floor
17 slab was debonded at several locations. Cracks
18 were typically observed at areas of the
19 debonded concrete (Figure 230 and
20 Figure 231).

21 ■ Severe cracking and spalling of the loading
22 dock concrete was observed (Figure 232).

23 ■ Hairline horizontal cracks in precast concrete
24 framing members were noted at isolated
25 locations (Figure 233).



26
27 **FIGURE 229.** Cracking, spalling, and corrosion staining
28 on concrete tie beams at the second floor
29 breezeway.



30
31 **FIGURE 230.** Crack in second floor concrete slab and
32 delaminated top coat.



1
2 **FIGURE 231.** Cracks in the second floor concrete slab
3 and delaminated top coat.



4
5 **FIGURE 232.** Spalling and cracking of concrete at
6 loading dock.



7
8 **FIGURE 233.** Hairline crack in precast concrete
9 framing members.

- 11
- 12 ■ Exposed and corroded reinforcing steel was
13 observed at the stair tower of the
14 concessionaire component where a Keystone
15 veneer panel had been removed (Figure 234).
 - 16 ■ Staining and organic growth were observed at
17 areas of moisture run-off across stucco
18 spandrel panels and along stair structures
19 (Figure 235 and Figure 236).
 - 20 ■ Spalling of stucco spandrel panels due to
21 corroded metals anchors was observed on the
22 east elevation of the concessionaire
23 component (Figure 237).
 - 24 ■ Cracking and debonding of previously
25 patched and repaired concrete beams was
26 observed. The previously installed patches
27 appear to be shallow, trowel applied materials
28 that are not mechanically attached to the
29 concrete substrates and have debonded from
the original concrete substrate (Figure 238).



30
31 **FIGURE 234.** Exposed and corroded reinforcing bar in
32 concrete structure of Keystone-clad stair tower.



1
2 **FIGURE 235.** Staining and organic growth at stairs,
3 localized in areas subject to moisture run-off.



4
5 **FIGURE 236.** Staining and organic growth on stucco
6 spandrel panels localized to areas of moisture run-
7 off.



8
9 **FIGURE 237.** Spall in stucco and corroded exposed
10 metal anchor at spandrel panel.



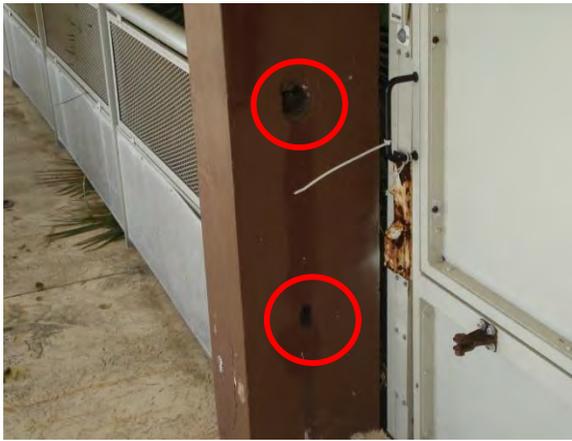
11
12 **FIGURE 238.** Cracking at a previously patched and
13 repaired concrete tie beam.

- 14 ▪ Electrical conduit and pipes are surface-
15 mounted and exposed to view on the
16 underside of structural framing members. In
17 some instances, the pipes and conduit
18 penetrate structural concrete columns
19 (Figure 239).
- 20 ▪ Exposed grout pockets are located in some
21 second floor columns where railings were
22 once installed and mounted (Figure 240). The
23 railing was removed between two columns on
24 the west elevation to allow for access to an
25 elevator lift.126
- 26 ▪ Spalling of parge coating was observed on the
27 concrete columns (Figure 241).



28
29 **FIGURE 239.** Arrows point to electrical conduit
30 penetrating concrete columns and beams (view
31 looking up at ceiling of first floor breezeway).

126. Upon removal of the elevator in spring 2010, a new railing was installed between the two columns.



1
2 **FIGURE 240.** Exposed railing grout pockets at location
3 of removed railing near elevator entrance in
4 concrete column.

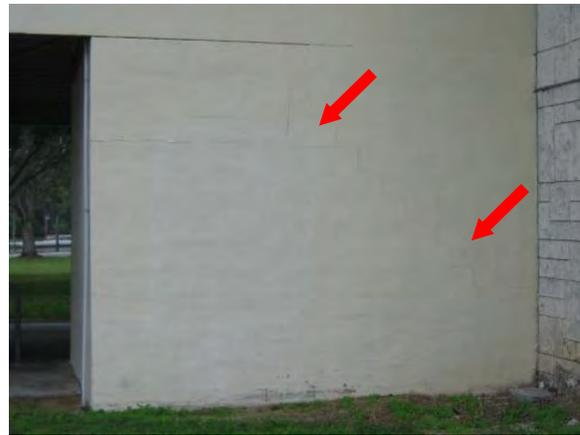


5
6 **FIGURE 241.** Spall in parge coating of at base of
7 second floor concrete column.

8

9 **Masonry.**

- 10 ■ Step cracking and open mortar joints were
11 noted at the west elevation of the north wing
12 of the office and museum component
13 (Figure 242).
- 14 ■ Deterioration and delamination of vertically
15 oriented Keystone veneer panels was observed
16 at the concessionaire component stair tower
17 and at elevated planting units at the south
18 plaza (Figure 243 and Figure 244).
19 Deterioration appeared to have occurred at
20 locations where the bedding plane of the
21 veneer panel was exposed or was impact
22 related. Delamination was associated with
23 failure of the mortar setting bed.
- 24 ■ Organic growth in the form of mold,
25 vegetation, and algae is present on the
26 Keystone veneer (Figure 245).



27
28 **FIGURE 242.** Step cracking in CMU wall on west
29 elevation of office and museum component.



1
2 **FIGURE 243.** Deteriorated Keystone veneer panel.



3
4 **FIGURE 244.** Delaminated Keystone veneer panel on
5 planting bed.



6
7 **FIGURE 245.** Organic growth on Keystone veneer.

8

9 **Service Yard Screen Wall.**

- 10 ■ Physical impact damage to masonry in the
11 form of holes was observed at the south screen
12 wall surrounding the service yard (Figure 246).
13 Reinforcing bar is exposed at the spalls in the
14 screen wall.
- 15 ■ Step cracking and open mortar joints were
16 observed at the concrete block screen wall
17 surrounding the service yard (Figure 247). The
18 cracking and deterioration of mortar joints is
19 associated with differential settlement and
20 lateral movement of the wall structure.
- 21 ■ Corroded reinforcing bar was observed
22 through open joints (Figure 248).
- 23 ■ Horizontal cracks were noted in the screen
24 wall surrounding the service yard (Figure 249
25 and Figure 250). The cracks were located
26 between the precast concrete perforated units
27 and the CMU wall or cast-in-place concrete
28 wall cap. Cracking is associated with
29 differential movement between the CMU wall
30 and cast concrete coping.
- 31 ■ Spalling of parge coating was observed on the
32 screen wall surrounding the service yard
33 (Figure 251).
- 34 ■ Organic growth in the form of mold and algae
35 was observed on the parge coating of the
36 service yard wall (Figure 252).



FIGURE 246. Impact damage to screen wall.

37



FIGURE 247. Step cracking in screen wall.



FIGURE 248. Cracking in concrete and exposed corroded reinforcing bar in screen wall.



FIGURE 249. Horizontal crack between precast concrete perforated wall unit and cast-in-place concrete wall cap.



FIGURE 250. Horizontal crack between precast concrete perforated wall unit and CMU construction.



FIGURE 251. Spall of parge coating on screen wall.



1
2 **FIGURE 252.** Organic growth on service yard screen
3 wall.

1 **Windows and Doors.**

- 2 ▪ The aluminum-framed windows of the visitor
3 center are generally judged to be in fair
4 condition, with isolated units in poor
5 condition and in need of immediate
6 stabilization.

- 7 ▪ Many window units are missing entire sash
8 sections or have sash that have become
9 displaced (Figure 253 and Figure 254).

- 10 ▪ Two pair of what appear to be original jalousie
11 windows are located at the first floor west
12 elevation of the concessionaire component of
13 the building. The frames are in relatively good
14 condition however at least one glass slat is
15 missing (Figure 255 and Figure 256).

- 16 ▪ Existing jalousie frames are also located at the
17 second floor south elevation of the
18 concessionaire component of the building; the
19 glass slats have been removed and replaced
20 with plexiglass infill and an exhaust louver has
21 been installed in one of the windows.



25
26 **FIGURE 254.** A dislodged window sash.



27
28 **FIGURE 255.** Possible original jalousie window at the
29 west elevation.



22
23 **FIGURE 253.** Two sash are missing from the east
24 elevation of the office and museum component.



30
31 **FIGURE 256.** One glass slat is missing.

32

- 1 ▪ Most operating hardware for the awning
2 windows is not functional or missing,
3 rendering many sash inoperable (Figure 257).
4 Park staff reported that replacement rotary
5 hardware has become increasingly difficult to
6 obtain, oftentimes requiring them to rely on
7 salvage suppliers.

- 8 ▪ The apparent mill finish of the window
9 framing appears to be in relatively good
10 condition, exhibiting only minor surface
11 corrosion. The most significant corrosion was
12 observed on the quarter round glazing stops of
13 the sash (Figure 258).

- 14 ▪ Cracks in the monolithic glazing were
15 observed in a number of windows at the
16 office/museum area as well as the
17 concessionaire portion of the building. Cracks
18 in window glazing appeared to be primarily
19 associated with physical impact damage;
20 however, some cracking may be related to
21 intimate contact between the glass and the
22 window frame (Figure 259 and Figure 260).



23
24 **FIGURE 257.** Missing hardware renders the unit
25 inoperable.



26
27 **FIGURE 258.** Most of the surface exhibits only minor
28 corrosion; the quarter round glazing stops have more
29 significant corrosion.



30
31 **FIGURE 259.** Cracked window glazing.



32
33 **FIGURE 260.** Cracked window glazing.

34

1 ■ The large window wall at the east elevation of
 2 the second floor lobby area is a non-original
 3 replacement unit, as documented in historic
 4 photographs and the original architectural
 5 drawings. The frame details and mullion
 6 configurations vary from other windows at the
 7 building. Several sash units are missing from
 8 this assembly; openings left by the missing sash
 9 are infilled with paneling. In addition, NPS
 10 staff report that many of the awning sash are
 11 inoperable and as such cannot be completely
 12 closed. Cracks exist in several of the glass
 13 panes (Figure 261 through Figure 263).



14
 15 **FIGURE 261.** Exterior view of the large window wall
 16 at the east elevation.



17
 18 **FIGURE 262.** Interior view of the lobby window wall.



19
 20 **FIGURE 263.** Cracked glass in the east wall lobby
 21 window.

22 ■ Windows typically do not have sealant at their
 23 perimeters, relying on the bond between the
 24 window frame and mortar or stucco for
 25 weather protection at this interface; cracks
 26 exist in the mortar and stucco at a number of
 27 these interface conditions. Where sealant does
 28 exist at the window perimeter, it is weathered
 29 and also exhibits cracking (Figure 264 through
 30 Figure 266).



31
 32 **FIGURE 264.** Window sill detail.



1
2 **FIGURE 265.** Window sill detail.



3
4 **FIGURE 266.** Weathered and split window perimeter
5 sealant.



14
15 **FIGURE 267.** Aluminum-framed storefront windows at
16 the concessionaire component.



17
18 **FIGURE 268.** The frames have been cap sealed to the
19 glass.

- 6
- 7 ■ Several windows at the concessionaire
 - 8 component of the building are exterior glazed
 - 9 aluminum-framed storefront assemblies with
 - 10 monolithic glass infill; several glazing stops are
 - 11 disengaged from the frame. In addition, the
 - 12 frames have been cap sealed to the glass;
 - 13 typically an indication of past water leakage
- (Figure 267 and Figure 268).

- 1 ■ At the vertical strip window at the north elevation of the stair tower of the concessionaire component of the building, much of the assembly is missing and plywood has been installed to protect the openings. The steel lintel at the head of the window assembly is corroded, which appears to be contributing to cracking and displacement of the stone above (Figure 269 and Figure 270).
- 2
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- 10 ■ Trapezoidal fixed aluminum-framed windows at the north elevation appear intact from the exterior but have been hidden from the interior by installation of a low suspended ceiling (Figure 271).
- 11
- 12
- 13
- 14



15
16 **FIGURE 269.** Vertical strip window at stair tower with
17 steel lintel.



18
19 **FIGURE 270.** Vertical strip window at stair tower.



20
21 **FIGURE 271.** Trapezoidal windows at the north
22 elevation appear intact but have been hidden by
23 installation of a low suspended ceiling

- 24 ■ New aluminum-framed thermally improved windows have been installed at the east and south elevations of the second floor of the concessionaire component of the building. These windows are configured with fixed units over bottom hinged inward projecting operable sash; both fixed and operable units have insulating glass infill. Despite the thermal improvements, these windows are unsympathetic to the original design due to their increased sightlines, dark bronze color, operation, and proportions. Despite the relatively young age of these replacement windows, minor corrosion has started to form on the operating hardware (Figure 272 and Figure 273).
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40
41 **FIGURE 272.** New windows at the concessionaire
42 component.



1
2 **FIGURE 273.** Minor corrosion on operating hardware
3 of replacement units.

- 4 ▪ Corrosion and corrosion staining were noted
5 at isolated window locations (Figure 274). The
6 cause of the localized staining has not been
7 confirmed.
- 8 ▪ Aluminum entrances exist at the first and
9 second floor of the concessionaire component
10 of the building and at the first floor restrooms
11 and second floor office and museum area. The
12 entrance doors are considered to be in poor
13 condition; hardware (closers and hinges) is
14 corroded or missing, frames have been
15 repaired by application of topical metal plates,
16 and the aluminum finish is severely weathered
17 and pitted (Figure 275 through Figure 276).



18
19 **FIGURE 274.** Corrosion staining below metal-framed
20 window unit.



21
22 **FIGURE 275.** Corroded steel hinge, possibly a retrofit,
23 at aluminum door.



24
25 **FIGURE 276.** Detail of corroded steel hinge at
26 aluminum door.

- 27 ▪ Aluminum- and wood-framed screens exist at
28 the first and second floor lobbies of the office
29 and museum portion of the building. The
30 aluminum-framed system at the second floor
31 lobby appears to be a relatively new
32 replacement system and is considered to be in
33 good condition. Narrow aluminum-framed
34 screens in wood frames enclose portions of
35 the first floor lobby; the aluminum frames are
36 severely corroded. Wood-framed screens also
37 enclose portions of the second floor lobby; the
38 wood is in varying degree of deterioration
39 (Figure 277 through Figure 281).



1
2 **FIGURE 277.** Failing paint coating and deterioration
3 of wood curb at screen framing.



9
10 **FIGURE 280.** Deteriorated wood-framed screen
11 enclosure at the second floor.



4
5 **FIGURE 278.** Screen enclosure at the first floor lobby.



6
7 **FIGURE 279.** The frames of the first floor lobby screen
8 enclosure are corroded.



12
13 **FIGURE 281.** Screen enclosure and doors at the second
14 level.

- 15 ▪ Corrosion and peeling paint were observed on
16 exterior hollow core metal doors (Figure 282).
17 The most significant deterioration was
18 observed at doors on the west elevation of the
19 concessionaire portion of the building, and
20 other doors that are most exposed to weather
21 conditions.



22
23 **FIGURE 282.** Corrosion of exterior metal doors.

1 **Roofing.**

- 2 ■ Storm related damage and deterioration of the
3 plywood eave have led to openings in the
4 overhanging roof structure (Figure 283).
- 5 ■ Paint on the plywood eave is peeling
6 (Figure 284).
- 7 ■ Vegetation is growing in some roof gutters
8 (Figure 285).
- 9 ■ Deterioration of the wood fascia was noted at
10 the southeast corner of the building
11 (Figure 286). Portions of the historic wood
12 fascia are obscured by the application of a
13 contemporary metal fascia.
- 14 ■ At some areas, the membrane is not fully
15 adhered to the roof deck. A few isolated open
16 seams were observed, although most roof
17 seams appear well bonded (Figure 287).



18
19 **FIGURE 283.** Missing plywood eave and exposure of
20 the roof framing.



21
22 **FIGURE 284.** Peeling paint on plywood eaves.
23 (Repainting of the building exterior was undertaken
24 by Park Facility staff in 2010 after completion of the
25 site visit.)



26
27 **FIGURE 285.** Vegetation growing at the roof gutter.



28
29 **FIGURE 286.** Wood fascia appears deteriorated and is
30 covered with metal cladding.