

GENERAL NOTES:

Soffit and deck overhangs have leaching cracks throughout, some with rust staining.

Steel bearing assemblies have varying amounts of rust, dirt, guano and debris.

Nearly all concrete girders have diagonal-shear cracks at the supports and vertical-flexure cracks at midspan.

Many of the concrete I-girders have delaminations in the bottom flange on the outside face of the exterior girders (A & C) which have exposed rusty rebar. These delaminated areas have been patched during a previous repair, but these patches are now failing.

Many of the grout pad edges under the steel bearings have broken up and spalled off in many locations.

SPAN AND PIER NOTES:

Span 1: Girders have hairline vertical cracks (typ).

Soffit has transverse leaching cracks with some rust staining (typ).

Pier 2: Soffit has transverse leaching cracks near Pier 2.

Bearing 2C has heavy rust on the base.

Girder 2B is in contact with the catcher bearing (seismic retrofit) on the north side of Pier 2.

Pier cap south-face bottom edge in the middle has a 4-foot-long delamination which spalled exposing 34" of rusty rebar. The delamination extends 12" west beyond the spall.

Pier cap north-face bottom edge in the middle has an 8-foot long by 6" wide delamination.

Girder 2C exterior-face has a vertical full-height hairline crack near Pier 2.

Span 2: Girders have hairline vertical cracks (typ).

Soffit has transverse leaching cracks (typ).

Soffit at midspan is delaminated and has a 6" spall between Girders 2B & C.

Pier 3: Soffit has transverse leaching cracks near Pier 3.

Bearing 3C steel anchor base plate is heavily rusted.

Pier cap south-face west side has a 12" x15" x3" deep spall with exposed rusty rebar.

Girder 3C exterior face has a full height vertical crack near Pier 3.

Span 3: Girders have hairline vertical/diagonal cracks (typ).

Pier 4: Pier cap south-face under Girder 3B has hairline vertical cracks.

Girders have hairline vertical cracks near Pier 4.

Pile 4A east-side has narrow cracks on the near the top.

Soffit has transverse leaching cracks near Pier 4.

Shim plates for the steel girder bearings at Pier 4 are oversized and protrude 1"- 3" out from the front and 1" out from the back. The front shim plate under Girder 4B at Pier 4 was displaced and removed by hand in 2011.

Bearing 4B under Girder 4B (steel) has an anchor bolt that is not engaged on the west side.

Span 4: Steel girders have rust spots mainly on the lower web and bottom flange (typ).

Grout pads have broken up and spalled under all bearings at the north end of the steel span. Both ends of the steel span are steel sliding plate bearings.

Soffit has spalls between the girders.

Concrete corbel north-end under Girder 4C (steel) was previously repaired.

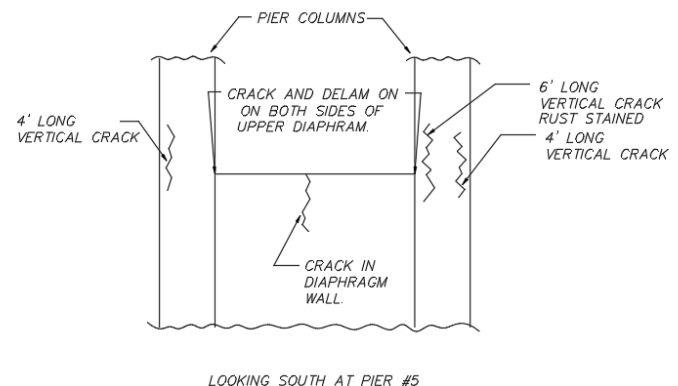
Steel bearings on the north-end of drop span are covered in dirt and debris.

Pier 5: Soffit has transverse leaching cracks on the south side of Pier 5.

Steel rocker bearings are tipped slightly to the south. Bearing 5C is tipped more than the others.

Pier cap has one 12" and one 6" long horizontal rusty rebar exposed in the west end of the north face.

Pier wall (lower) has a vertical crack at the top, horizontal crack on the south face, and multiple vertical cracks in the columns on the



north face (see diagram).

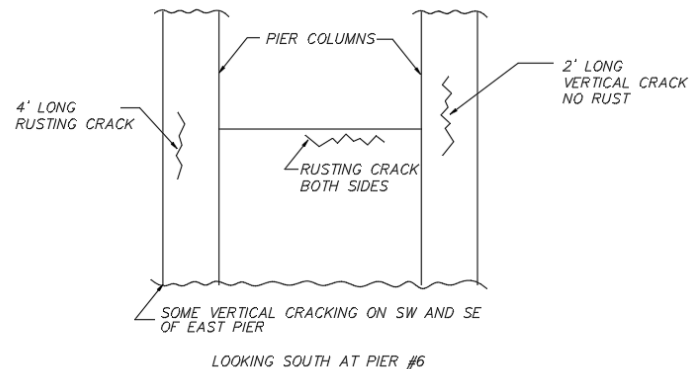
Span 5: Girder webs and bottom flanges have diagonal/vertical cracks near the piers.

Pier 6: Girder 6A bottom flange has hairline cracks near Pier 6.

Soffit has transverse leaching cracks near Pier 6.

Girder diaphragm east-side on the top has two pop outs with exposed rusty rebar.

Pier wall (lower) and columns have vertical/horizontal cracks (see diagram).



Span 6: Girder webs have hairline diagonal/vertical cracks (typ).

Girder 6A exterior-face in the middle of the web has a small spall near Pier 6.

Girder 6C bottom flange has rust stains near Pier 6.

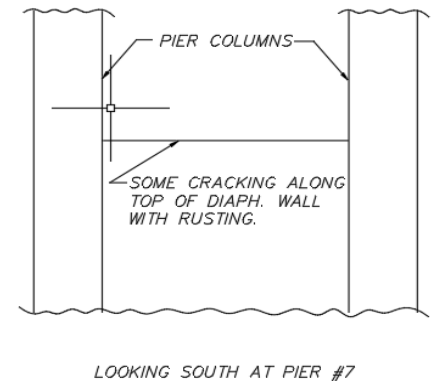
Pier 7: Pier cap on the southwest corner is delaminated and spalled with 24" of exposed rusty rebar.

Pier cap north-face east corner has a 12" delamination with some spalling.

Girder diaphragm north-face west side has a 4" diameter spall with exposed rebar.

Steel girders have rust spots mainly on the lower web to bottom flange interface (typ).

Pier wall (lower) has some narrow/open cracking along the top (see diagram).



Span 7: Soffit has spalls with exposed rebar at both ends of the steel drop span at drain hole locations.

Soffit has transverse leaching cracks (typ).

Bearing 7B & C shim plates are sticking out up to 3".

Bearings of drop span are covered in dirt and debris (typ).

Steel drop span has a slight sag. This is more pronounced in Girder 7C (below sidewalk).

Concrete corbel under Girder 7C (steel) on the south end of the drop span has a 6" diameter spall with 4" of exposed rusty rebar.

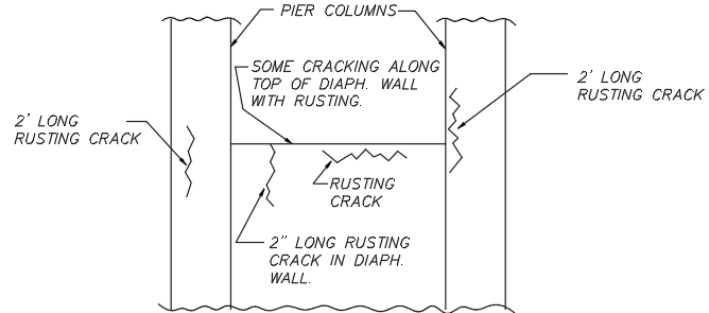
Concrete cantilever girder webs have hairline diagonal cracks near Pier 8.

Pier 8: Diaphragm south-face east side has two exposed rebar at the deck interface.

Soffit has transverse leaching cracks near Pier 8.

Girder 8A web exterior-face web has seven exposed rusty rebar due to lack of cover.

Pier wall (lower) and columns have vertical/horizontal rusty cracks (see detail).



LOOKING SOUTH AT PIER #8

Span 8: Soffit has transverse leaching cracks near the piers.

Girders have hairline diagonal/vertical cracks (typ).

Girder 8A has a 4-foot-long patch on the exterior of the bottom flange 40-feet north of Pier 8. The patch is beginning to break up and has a 24"x 4" spall.

Girder 8A exterior web has several diagonal cracks that have been grouted.

Girder 8A exterior bottom flange near midspan has (2) spalls with 6" and 12" of exposed rusty rebar. There is no measurable section loss.

Girder 8A exterior bottom flange has cracking and delamination for approximately 24-feet near beyond midspan.

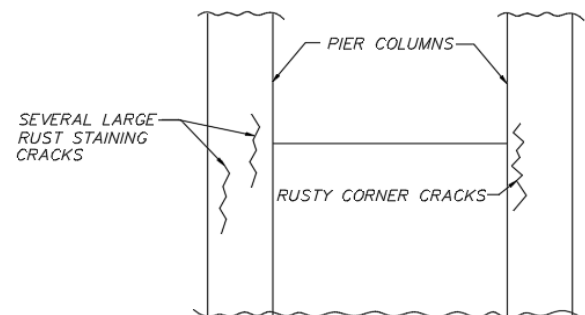
Girder 8A exterior bottom flange has exposed rusty rebar 30-feet south of Pier 9.

One of the 4" utility line covers under the sidewalk is separated.

Pier 9: All four corners of the east column have spalled off near the water line.

Soffit has transverse leaching cracks on the north side of Pier 9.

Pier wall (lower) and columns have several rusty vertical/horizontal cracks (see detail).



LOOKING SOUTH AT PIER #9

Span 9: Girder webs and bottom flanges have diagonal/vertical cracks (typ).

Girder 9A exterior bottom flange has an 8-foot-long patch which failed and exposed 7'-7" of rusty rebar. There is no measurable section loss.

Girder 9A exterior bottom flange had a 12-foot-long crack/spall reported in a previous inspection report. This has since been patched but is beginning to fail.

Girder 9A exterior web near the bottom flange has (3) 3" diameter spalls with exposed rusty rebar near Pier 9.

Pier 10: Soffit has transverse leaching cracks near Pier 10.

Pier 10 is the south main-channel pier and is surrounded by a timber fender system.

Pier wall (lower) has horizontal rusty cracks in the top.

Span 10: Bearings 10B & C on both ends of drop span are covered in dirt and debris.

Concrete corbel under Girder 10A (steel) on the north end of the drop span has a 5" diameter spall with 4" of exposed rusty rebar.

Pier 11: Pier 11 is the north main-channel pier and is surrounded by a timber fender system.

Pier wall (lower) has horizontal rusty cracks in the top.

Span 11: Girder webs and bottom flanges have diagonal/vertical cracks (typ).

Bearings at the drop span have minor surface rust (typ).

Channel diaphragm bottom flanges have minor surface rust (typ).

Soffit east side under sidewalk has exposed rusty rebar.

Girder A bottom flange has exposed rusty rebar near Pier 11.

Girder A exterior face has 20-feet of hairline cracking near midspan.

Girder A bottom flange has 15" of exposed rusty rebar near the north 1/3-point diaphragm.

Girder C bottom flange exterior face has a 24'-0" patch. The patch has shrinkage cracking but is not delaminated.

Pier 12: Steel fixed shoe bearings have slight pitting of the paint (typ).

Soffit has transverse leaching cracks near Pier 12.

Pier wall (lower) and columns have vertical cracks on the north side and at the column corners.

Span 12: Girder 12A has two exposed rusted stirrups due to lack of cover located at the 1/3-point north of Pier 12.

Girder 12A bottom flange exterior face has a 40-foot-long delamination.

Girder 12C bottom flange exterior face has horizontal/diagonal cracking for ½ the span.

Pier 13: Soffit has transverse leaching cracks near Pier 13.

Steel rocker bearings have slight pitting of the paint (typ).

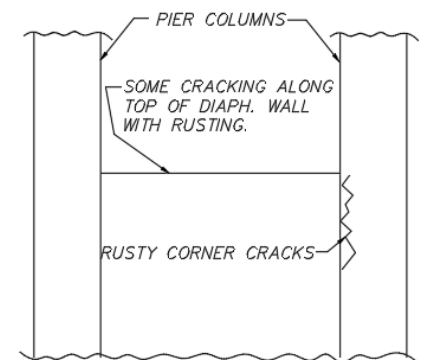
Concrete corbel under Bearing 13A on north side of drop span was previously repaired and is leaching along the patch joint both sides.

Column corners have vertical cracks with some spalling and delamination (typ).

Column 13A north face has a 4 square-foot delamination with rust staining.

Pier wall (lower) north face has an 18" square hole at 12'-0" below the top of the wall.

Pier wall (lower) and columns have short rusty leaching cracks (see diagram).



LOOKING NORTH AT PIER #13

Span 13: Girders have diagonal/vertical cracks (typ).

Steel girders, bearings and diaphragms are covered in guano and debris (typ).

Steel drop span paint has started to fail with noticeably more rust on this span mainly at spot welds and web to bottom flange connections. There is no measurable section loss (typ).

Steel girders have pack rust forming between the girder and bottom flange plate.

Concrete Girder 13B bottom flange east face has a 3" diameter spall.

Girder 13C top flange has a 16" x 6" x 1-1/2" deep spall.

Girder 13C bottom flange exterior edge has (4) spalls with exposed rebar near Pier 13.

Bearing 13B on the south end of the drop span is missing both nuts.

Bearing 13A shim under Girder 13A (steel) is pushed out of the bearing assembly about 3".

Pier 14: Soffit has transverse leaching cracks near Pier 14.

Pier wall (lower) has exposed rebar in the top.

Span 14: Soffit has transverse leaching cracks near the piers.

Girders have hairline diagonal/vertical cracks (typ).

Girder 14A bottom-flange exterior face has a 34-foot-long horizontal hairline crack and a 10-foot-long delamination at midspan with a 12" diameter spall.

Pier 15: Girder webs have hairline cracks (typ).

Soffit has transverse leaching cracks near Pier 15.

Pier wall (upper) northwest bottom corner has hairline cracks.

Pier wall (upper) south-face bottom east side has an 18" long spall near the column.

Pier wall (lower) has a vertical crack along centerline.

Span 15: Girder flanges have diagonal cracking (typ).

Soffit has transverse cracks (typ).

Girder 15A bottom-flange exterior face at midspan has a 30" long horizontal leaching hairline crack and delamination.

Pier 16: Pier wall (lower) has a vertical crack in the pier wall.

Soffit has transverse leaching cracks near Pier 16.

Rocker bearings have some minor pitting of paint and are tipped slightly to the north.

Pier cap south face west-side has an 18" corner spall with 12" of exposed rebar

Span 16: Span 16 has noticeably more rust on the steel beams likely due to the large amount of guano present.

Concrete corbel under Girder 16A (steel) drop span has been patched but the patch is beginning to break up.

Steel girder drop span has rust along the edges of the bottom flange and along the cover plate spot welds. There is no measurable section loss.

Girder 16B bottom-flange west side near midspan has a 1/8" gap between the cover plate and flange between the weld locations. The welds are intact.

Pier 17: Girder 17A south-face (end) at the bearing has broken up and spalled up to 4" from the end of the girder and has exposed rusty rebar and anchor bolts which were cast into the girder during initial construction. Concrete at the bearing plate is beginning to break up. Bearing area is reduced.

Girder 17B south-face (end) at the bearing has broken up and spalled up to 6" from the end of the girder and has exposed rusty rebar and anchor bolts which were cast into the girder during initial construction. Concrete at the bearing plate is beginning to break up. Bearing area is reduced.

Girder 17C south-face (end) at the bearing has broken up and spalled up to 4" from the end of the girder and has exposed rusty rebar and anchor bolts which were cast into the girder during initial construction. Concrete at the bearing plate is beginning to break up. Bearing area is reduced.



26211-A Girder 17A end spalling with exp rebar (4).JPG



26211-A Girder 17B end spalling with exp rebar (3).JPG



26211-A Girder 17C end spalling with exp rebar (2).JPG

Span 17: Girders have diagonal/vertical hairline cracks (typ).

Soffit has transverse leaching cracks some with exposed rusty rebar.

Pier 18: Soffit has transverse leaching cracks near Pier 18.

Girder webs have vertical/diagonal cracks (typ).

Pile A north-side has a 24" x 36" x 2" deep spall near the water line.

Span 18: Soffit has transverse leaching cracks some with exposed rusty rebar (typ).

Girder webs and bottom flanges have diagonal/vertical cracking (typ).

Pier 19: Girder webs and bottom flanges have diagonal/vertical cracks near Pier 19.

Soffit under sidewalk has transverse leaching cracks near Pier 19.

Span 19: Girder webs and bottom flanges have diagonal/vertical cracks (typ).

Soffit has transverse leaching cracks some with exposed rusty rebar.

Pier 20: Girders have diagonal spalls at the bearing with exposed rebar.

Girders ends at Pier 20 have been chipped, cleaned and painted (see diagrams).

Span 20: Girders have diagonal/vertical cracks (typ).

