

Bridge Inspection Report

03609

I 540-District 4

over

SH 59, ARK RIV/R.R.



Inspection Date:

Inspected By:

Inspection Type(s):

Inspector:

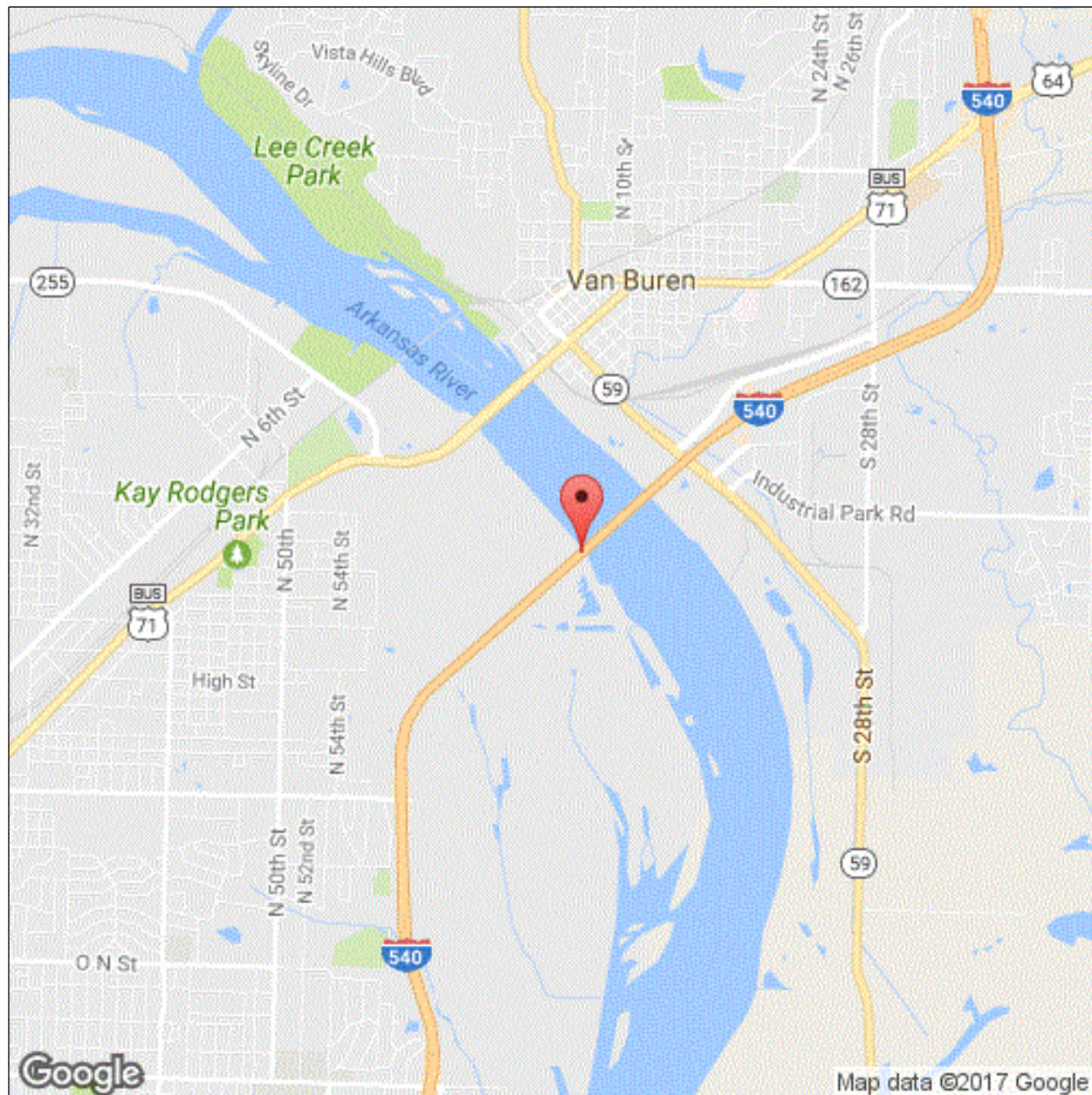
Structure Number: 03609

Inspection Date:

Facility Carried: I 540-District 4

Bridge Inspection Report

Location Map



Latitude: 35.41926

Longitude: -94.35213

Inspector:

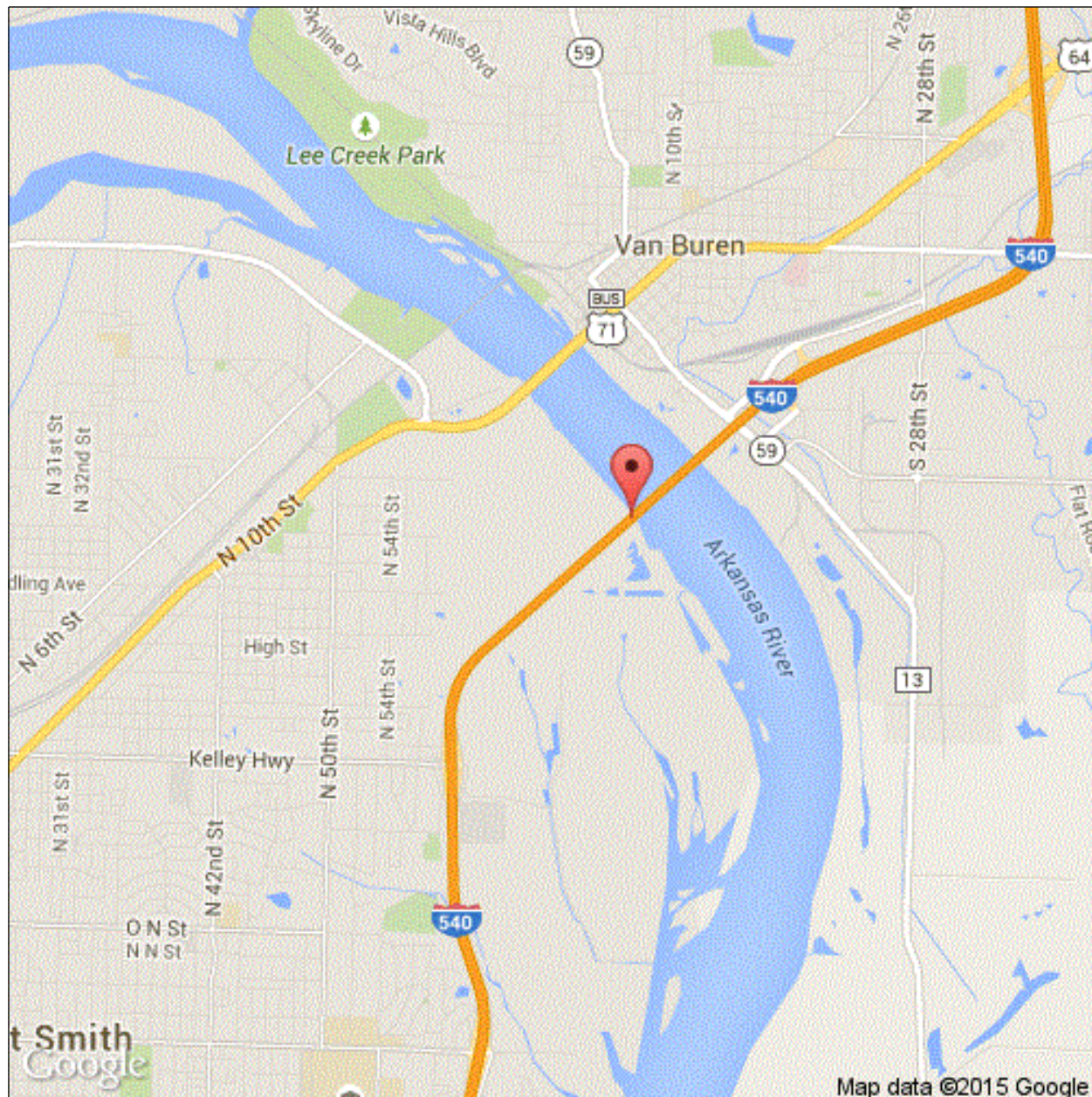
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Bridge Inspection Report

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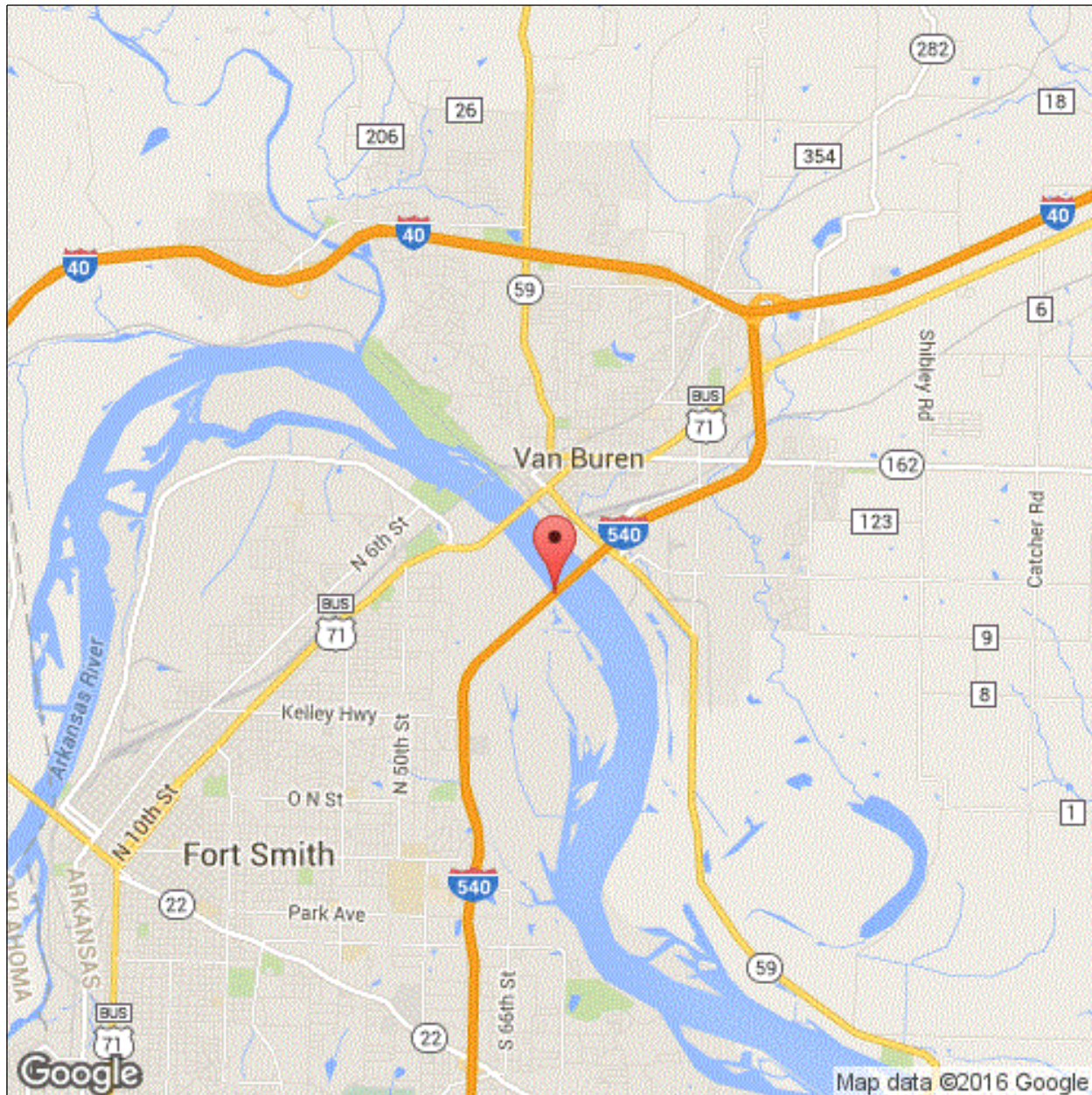
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Location Map



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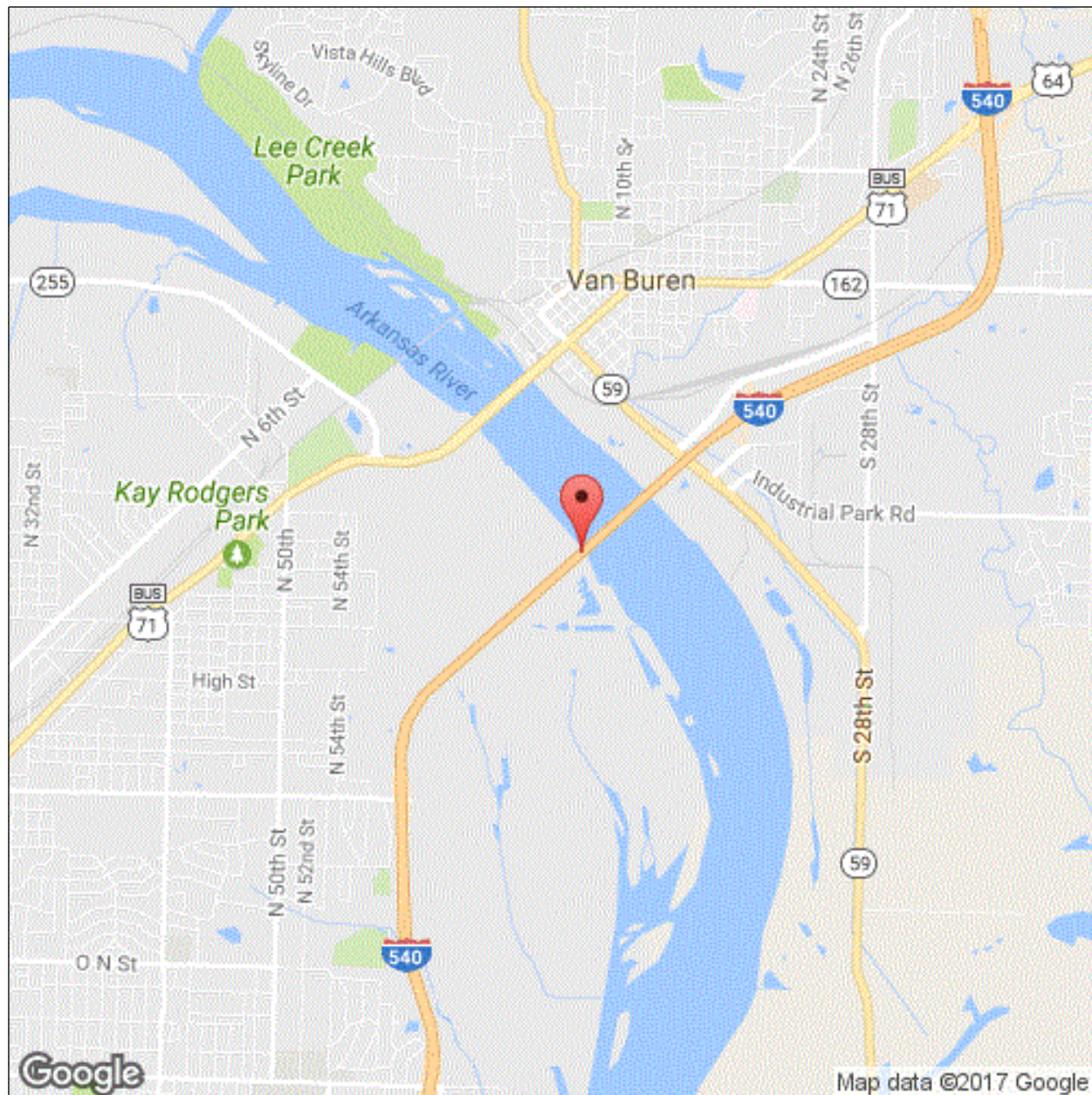
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Bridge Inspection Report

Location Map



Latitude: 35.41926

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Inspector:

Structure Number: 03609

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Facility Carried: I 540-District 4

Bridge Inspection Report

Maintenance Needs

Date Reported: 4/21/2010 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Deck Cracks

Numerous deck cracks in all spans. Some of the cracks have been sealed with epoxy.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Southbound lanes. This is a common condition of the deck. Most of the transverse and longitudinal cracks have been sealed.

Stage: Monitor



PHOTO 2 Description

Inspector:

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Facility Carried: I 540-District 4

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Maintenance Needs

Date Reported: 4/21/2010 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Curb

Span 6, Northbound Rt. lane: Curb deteriorated.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

Structure Number: 03609

Inspection Date:

Facility Carried: I 540-District 4

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Maintenance Needs

Date Reported: 4/21/2010 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Lateral Bracing

Joint 10A, 13A, 17A and 20A: Pack rust between the lateral brace and the gusset plate has deformed the gusset plate.

Added on 5/15/2013

Pier 11, Ahd: Between the first and second floor beam. The bolt is loose on the lateral brace hanger bar.

Added on 11/20/2013

Span 21, G7, 2nd gusset plate ahead of pier: One loose bolt.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Span 17, girder 3 ,3rd floor beam at the diagonal bracing connection: Section loss up to 1/4 inch in a 7" x 3" area. Pack rust distorting gusset plate at this location.

Stage: Monitor



PHOTO 2 Description

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description 13A Girder3 at the bracing and gusset plate connection has pack rust which is distorting the plate.

Inspector:

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code: Repair

Deficiency Description:

R/C COLUMNS AND WEB WALLS:

Shallow spalls with 40' exposed rebar on the ahead face of pier 1.

Vertical 1/8" to 3/16" open cracks in the web walls at piers 6 - 13 and 19.

Vertical hairline cracks in the cap at piers 7 - 17.

*(Large spall developing with rebar exposed on the Rt. column at Pier 26.) Created separate Maintenance Item

Work Description:

Date Repairs Completed:

Maintenance Comments:

* indicates maintenance item is completed

Stage: Monitor



PHOTO 1 Description repair

Stage: Monitor



PHOTO 2 Description Pier wall: 1 spall with reinforcing steel exposed.

Inspector:

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

GRAFFITI:

Graffiti on the girders at abutment 1 and at pier 1.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment 1 Horizontal cracking in face.

Inspector:

Structure Number: 03609

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

CHANNEL:

Pier 10, Upstream. Debris on pier.

Trees next to the bridge in the north approach spans restrict access for inspection.

Vines growing on Piers 16, 18, 21 and 22.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Ahead side pier 18 vines climbing up column onto the cap.

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

BEARING DEVICES:

Bearings at Pier 1 thru 7 and at abutment 1 and 2 are rusting and corroding.

Bearings corroded at Piers 2, 23, 24, 25 and 26.

Pier 2: Has debris on beam seats.

Pier 2: Two broken anchor bolts girder 5.

Pier 2: One broken anchor bolt girder 7.

Pier 23: One broken anchor bolt girder 2.

Pier 23: One broken anchor bolt girder 4, 5 and 6.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Created separate maintenance item for Abutments that were cleaned and painted by HBM 8/11/2015

Stage: Monitor

Stage: Monitor



PHOTO 1 Description Pier 2 girder 5 both anchor bolts are missing at this bearing.



PHOTO 2 Description Abutment 1 girder 2: active corrosion and laminating rust to bearing, this is a typical condition of bearings at this abutment.

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Stage: Monitor



PHOTO 3 Description Debris has accumulated from the joint on to the backside of pier 23 between girders 4 and 5.

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Maintenance Needs

Date Reported: 7/9/2014 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

Windlocks

Span 20, Joint 20A:

The wind locks have debris accumulating and active corrosion. Some of the bolts have up to 90% section loss.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description 13A, girder 2 above the wind lock: a 20" long by 4" high area of laminating rust. Typical condition to all wind locks.

Stage: Monitor



PHOTO 2 Description

Inspector:

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Maintenance Needs

Date Reported: 4/21/2010 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

PIN AND HANGER ASSEMBLIES

6A (multi-beam) G1 – G8: Active corrosion with debris on bottom flange. Pack rust between the web and the hanger bar. Not functioning. Frozen from corrosion.

Joint 10A, q

G1, G2, G3 & G4: Active corrosion. Pack rust between the web and the hanger bar. 1/16" to 1/8" section loss to the hanger. Not functioning. Frozen from corrosion.

Joint 13A,

G1: Washer missing between hanger and web at top pin.

G4: The lock bolt on the top pin is sheared.

G1, G2, G3 & G4: Active corrosion. Pack rust between the web and the hanger bar. 1/16" to 1/8" section loss to the hanger. Not functioning. Frozen from corrosion.

Joint 17A,

G1, G2, G3 & G4: Active corrosion. Pack rust between the web and the hanger bar. 1/16" to 1/8" section loss to the hanger. Not functioning. Frozen from corrosion.

Joint 20A,

G1, G2, G3 & G4: Active corrosion. Pack rust between the web and the hanger bar. 1/16" to 1/8" section loss to the hanger. Not functioning. Frozen from corrosion.

Added on 11/20/2013, TJB

Joint 13A, G4: The lock bolt on top pin is sheared.

Work Description:

Date Repairs Completed:

Maintenance Comments:

17A pin and hanger assemblies have been repaired by HBM.

Stage: Monitor



Inspector:

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PHOTO 1 Description 17A girder 1, This pin and hanger assembly has been repaired. This picture represents the repair work performed.

Stage: Monitor



PHOTO 2 Description

Stage: Monitor



PHOTO 3 Description

Stage: Monitor



PHOTO 4 Description 17A girder 1 bottom pin. These pin and hanger assemblies have been repaired. This picture represents the repair work performed.

Inspector:

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Stage: Monitor



PHOTO 5 Description Joint 20a Girder 3 active corrosion, nuts reduced to nodes.

Stage: Monitor



PHOTO 6 Description Joint 20a Girder 2 Pack rust in the hanger bars with section loss.

Stage: Monitor



PHOTO 7 Description 17a Girder 3 pack rust with section loss in the hanger.

Stage: Monitor



PHOTO 8 Description 13A Girder 3 1/8" section loss to web and 1/16" section loss to hanger bar. 1/4 pack rust

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Stage: Monitor



PHOTO 9 Description 13A Girder 2. 1/8 section loss to Girder 1/16 section loss to hanger bar.

Stage: Monitor



PHOTO 10 Description 13A Girder 3 gusset plate connection.

Stage: Monitor



PHOTO 11 Description 13A Girder 3 gusset plate connection.

Stage: Monitor



PHOTO 12 Description Joint 10A Girder 3. 3/16 section loss to the hanger bar.

Inspector:

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Date Reported: 4/21/2010 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Metal bridge railing

Expansion sleeves are missing in several locations. Minor collision damage scattered throughout bridge.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Span 20 Northbound loose bridge rail connections.

Inspector:

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

GIRDERS:

Span 10, Joint 10A: The ends of the girders have section loss to 1/8" at the bottom flange and the bottom of the web. Pack rust has formed between all connections. Pack rust has deformed the gusset plates at the lateral brace connection.

Span 13, Joint 13A: The ends of the girders have section loss to 1/8" at the bottom flange and the bottom of the web. Pack rust has formed between all connections.

The ends of the lateral bracing have pack rust and 1/8" section loss at the connection with the girders. Pack rust has deformed the gusset plates at the lateral brace connection.

Span 17, Joint 17A: The ends of the girders have section loss to 1/8" at the bottom flange and the bottom of the web. G2: Pack rust has formed to 5/8" thick deforming the plates at the connection of the floor beam and girder. The ends of the lateral bracing have pack rust and 1/8" section loss at the connection with the girders. Pack rust has deformed the gusset plates at the lateral brace connection.

Span 20, Joint 20A: The ends of the girders have up to 1/8" section loss at the bottom flange and the bottom of the web. Pack rust has formed at all connections but no swelling or deformation of the plates was noted. The ends of the lateral bracing have pack rust and 1/8" section loss at the connection with the girders. Pack rust has deformed the gusset plates at the lateral brace connection.

Pack rust is forming between the plates at the field splice connections. Typical condition throughout.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



Inspector:

Inspection Date:

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Maintenance Needs



PHOTO 1 Description

Stage: Monitor



PHOTO 2 Description

Stage: Monitor



PHOTO 3 Description Joint 17A Girder 3 bolted connection reduced to nodes on two of four bolts.

Stage: Monitor



PHOTO 4 Description Span 15 Girder 3 at the third diaphragm connection.

Stage: Monitor



PHOTO 5 Description 13A Girder 2. 1/8 section loss to Girder 1/16 section loss to hanger bar.

Inspector:

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Stage: Monitor



PHOTO 6 Description 13A Girder 3 1/8" section loss to web
and 1/16" section loss to hanger bar.
1/4 pack rust

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Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

Utility attachments:

Electrical conduit has active corrosion and is exposed in many locations. Attachments have many loose and missing brackets. Abutments 1 & 2, Joints 10A,13A,17A,20A left and 23A right conduit is broken and loosely attached. Electrical boxes mounted to the back walls are open, wont close or have missing access doors.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment 2

Stage: Monitor



PHOTO 2 Description Span 17 loose utilities attachment.

Inspector:

Inspection Date:

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Pier 10 left typical elect connection.

Stage: Monitor



PHOTO 4 Description Missing brackets

Stage: Monitor



PHOTO 5 Description Abutment 2 right open junction box.

Stage: Monitor



PHOTO 6 Description Abutment 2 Girder 1 conduit

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Priority: D - Routine

Work Code:

Deficiency Description:

GIRDERS:

Heavy debris accumulating on the bottom flange of girders at the finger joints. Girders have freckled rust developing in scattered locations throughout the bridge. Pack rust is forming between the plates at the field splice connections. Typical condition throughout. Top flange of girders has active corrosion in scattered locations.

Debris accumulating on the bottom flange at the finger joints.

Pier 2: Debris on the bottom flange of the girder 4.

Span 6, Joint 6A: Girders 4 and 5 have debris with active corrosion.

Span 6, Girder 6 and 7. Diaphragm connection: Active corrosion with pack rust.

Span 8, Girder 4: Pack rust forming in bottom flange of field splice, typical condition throughout bridge.

Added on 5/15/2013

Sp. 6, Joint 6A, G4: 1" hole corroded through bottom of vertical stiffener. The bottom of the girder's web and the bottom flange has active corrosion and 1/8" to 1/4" section loss.

Sp. 6, Joint 6A, G5: 3" hole corroded through bottom of vertical stiffener. The bottom of the girder's web and the bottom flange has active corrosion and 1/8" to 1/4" section loss.

Added on 5/15/2013, TJB

Pier 23, G5, Ahd: 3" hole corroded through bottom of girders vertical stiffener in bearing area. The bottom of the girder's web and the bottom flange has active corrosion and 1/8" to 1/4" section loss.

Added 5/20/2015, CDD

Bent 23, Girder 4: A 4"x1" hole in the web. Deep pitting to the lower web and flange.

Girder 3 at this bent has deep pitting and section loss to its lower web and top of the bottom flange.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



Inspector:

Inspection Date:

Structure Number: 03609

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Maintenance Needs



PHOTO 1 Description Left side of Girder 5 span 6 the last stiffener from the joint. Severe section loss to the lower section of the stiffener creating a 2" x 1 1/2" hole. Section loss also to the web and to the top of the bottom flange toward the joint at a length of 20". This is similar to Right side of girder 5 in the same span.

Stage: Monitor



PHOTO 2 Description Span 2 girder 4 in the built up section at the end of the girder at pier 2. Dirt and debris from the joint is causing laminating rust at this location and also at girder 5.

Stage: Monitor



PHOTO 3 Description Bent 23, Girder 4: A 4"x1" hole in the web. Deep pitting to the lower web and flange. Girder 3 at this bent has deep pitting and section loss to its lower web and top of the bottom flange.

Stage: Monitor



PHOTO 4 Description Pier 23 girder 5: a 2 3/4" by 1 1/2" hole at the bottom of the stiffener.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 5 Description Pier 23 back Girder 4: Hole in Bottom of web 4 1/2" x 1".

Stage: Monitor



PHOTO 6 Description Pier 23: G5, Ahd: 3" hole corroded through bottom of girders vertical stiffener in bearing area.

Inspector:

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Maintenance Needs

Date Reported: 5/3/2011 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

R/C CAPS:

8' exposed rebar on the underside of the cap right end of pier 16.
Debris on seat at Pier 1, 2, and 23.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Bent 16 bottom cap right side Spalls with exposed rebar. This is the worst condition at this structure.

Stage: Monitor



PHOTO 2 Description Bent 16 Right cap spalling with exposed reinforcing steel in under side of cap.

Inspector:

Inspection Date:

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Facility Carried: I 540-District 4

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Maintenance Needs

Stage: Monitor



PHOTO 3 Description Pier 24 Spalling with exposed reinforcing steel on under side of cap.

Stage: Monitor



PHOTO 4 Description Pier 23 Delaminations in the face of cap.

Inspector:

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Facility Carried: I 540-District 4

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Maintenance Needs

Date Reported: 7/9/2014 12:00:00 AM

Priority: C - Important

Work Code:

Deficiency Description:

FLOORBEAMS:

Span 10, Joint 10A: The floorbeams have section loss from 1/16" to 1/8" to the bottom member at the floorbeam to girder connections. The bottom flange of the floorbeam on the backside has sheet metal installed to prevent debris from accumulating on the flange. Corrosion with 1/8" section loss has occurred to the bottom flange under this plate.

Span 13, Joint 13A: The floorbeams have section loss from 1/16" to 1/8" to the bottom member at the floorbeam to girder connections. Corrosion with 1/8" section loss has occurred to the bottom flange under this plate.

Span 17, Joint 17A: The floorbeams have section loss from 1/16" to 1/8" to the bottom member at the floorbeam to girder connections.

Span 20, Joint 20A: The floorbeams have section loss from 1/16" to 1/8" to the bottom member at the floorbeam to girder connections. The bottom flange of the floorbeam on the backside has sheet metal installed to prevent debris from accumulating on the flange. 1/8" section loss has occurred to the bottom flange under this plate. Debris has accumulated on all horizontal surfaces. Typical condition at these locations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor

PHOTO 1

Description

Joint 20A the bottom flange of floor beam under the protective sheet metal shield has active corrosion with section loss up to 1/8". This condition is typical to 10A, 13A, and 17A floor beams.



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Stage: Monitor



PHOTO 2 Description

Stage: Monitor



PHOTO 3 Description

Stage: Monitor



PHOTO 4 Description

Stage: Monitor



PHOTO 5 Description

Inspector:

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Maintenance Needs

Stage: Monitor



PHOTO 6 Description Joint 20A Protective cover failing active corrosion.

Stage: Monitor



PHOTO 7 Description Span 17 Girder 1 joint 17A active corrosion with section loss to stringer connection.

Stage: Monitor



PHOTO 8 Description Span 15 Girder 3 at the third diaphragm connection.

Stage: Monitor



PHOTO 9 Description Pier 10 First Floor beam back on Girder 1 loose bolted connection.

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Maintenance Needs

Stage: Monitor



PHOTO 10	Description	Spire 10 Second floor beam. Back flaking rust with up 1/8 section loss
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