BRIDGE CONDITION REPORT

REGION: 2

DISTRICT: 3

ROUTE: F.A.P. Route 607 (US Route 52)

COUNTY: LaSalle

JOB NUMBER: P-93-015-17

STRUCTURE NUMBER: 050-0058

LOCATION: US Route 52 over the Fox River in LaSalle County

PREPARED BY: Steve Schwarz, SE – HR Green

DATE INSPECTED: November 28, 2016

PROPOSED LETTING DATE: November 2021

Table of Contents

Item: **Page:**

Attachments:

I. Geographical & Administrative Data:

Structure Number: 050-0058
County: LaSalle
Route Carried: F.A.P. Route 607 (US Route 52)
Feature Crossed: Fox River
Section: (125)BR-1
Station: 353+79.00

Roadway Classification: Minor Arterial
Design/Posted Speed: 55/55
ADT (2015/2040): 2100 / 2604
ADTT (2015/2040): 210 / 260
DHV: 252
Inventory Rating (HS20): 1.020 (10/7/15)
Operating Rating (HS20): 1.710 (10/7/15)
Sufficiency Rating: 68.5

Construction / Reconstruction / Repair History:

The bridge was originally constructed in 1931 with a deck out to out width of 26'-4". In 1980 the superstructure was removed to the top of each arch and reconstructed with new spandrel columns, floorbeams, deck, and parapets. The deck was widened to an out to out of 35'-2". The profile was also raised at this time and varied between 1.61' at the front face of the west abutment to 0.47' at the front face of the east abutment. The abutments were also reconstructed and repairs were made to the arches and the pier noses.

II. Physical Description of Structure:

The bridge is a reinforced concrete open spandrel deck arch supported on reinforced concrete vaulted abutments at the ends and four intermediate reinforced concrete piers. The bridge is 459'-0" long back to back of abutments and 35'-2" wide out to out. The structure has no skew. It has 5 main spans over the Fox River and 2 approach spans above the vaulted abutments. Main spans 1 and 5 are 77'-9" long, measured from the front face of the abutments to the centerline of the piers. Main spans 2 through 4 are 80' long, measured from centerline to centerline of the piers. The approach spans are 31'-9" long, measured from back to front of the abutments. The bridge is on the Historic Bridges of Illinois list coded 125, Group 1A "Concrete Arch-Deck, Open Spandrel."

The bridge is on a horizontal tangent. The west 140.5' of the bridge is part of a 420' vertical sag curve. The slope at the back of the west abutment is approximately -2%. The remaining east portion of the bridge is on a tangent slope of -1%. The low grade elevation of the roadway is 543.95 at the back of the east abutment; 11.15' above the 100-yr Base Flood Elevation of 532.80 as indicated on the Waterway Information Table (See Part III of this report). There are no utilities attached to the bridge. Aerial utilities run adjacent to the bridge, approximately 14' south of the south parapet.

The top layer of reinforcing bars in the 7 1/2" thick reinforced concrete deck is epoxy coated. The bottom layer of reinforcing is uncoated "black" bars. There are expansion joints in the deck at each abutment and pier. The deck spans longitudinally between transverse reinforced concrete floorbeams which are spaced 8'-6" on center. The floorbeams are 1' wide and 34'-10" long. The depth varies from 2'-0½" at the crown to 1' at the cantilever ends. The floorbeams are each supported by a pair of 1' thick by 6'-3" wide spandrel columns. The floorbeams cantilever 7'-1" each way past the columns to support the shoulders and parapets. The columns are centered above each of the 2 arches. Column heights vary from approximately 11.5' to 0.5' depending on span and location on the arch, measured from top of arch to bottom of floorbeam.

The east and west approach spans, over each "vaulted" abutment (actually a massive 26' x 32' concrete abutment founded on rock), are similar except the transverse floorbeams are typically spaced 7'-4" on center and supported by the vaulted abutment "curtain walls" (actually reconstructed wingwalls from original structure). The approach floorbeams are 3'-4½" deep at crown and cantilever 4'-4" past the curtain walls.

Deck floor drains are located at the face of both parapets and are spaced between every transverse floorbeam, 8'-6" on center across the entire length of the bridge. The drains extend approximately 6" below the bottom of the deck.

Two 7'-3" wide arches support the deck system for main spans 1 through 5 and are spaced 13'-5" apart centerline to centerline. The arch thickness varies from 1'-4½" at the top to 3'-6" at the base. All arches span 75' and rise 10'-6" measured from the springline. Original plans indicate each arch has 18 longitudinal bars of 7/8" diameter; 9 on the top and bottom faces. The percentage of steel is 0.75% at the apex.

The original plans indicate the piers and abutments are supported by reinforced concrete spread footings set on rock. The pier footings are 31’ by 16’. The top of the pier caps are 21’-1” above the bottom of footings for all four piers. The pier walls taper from 5’ by 26’-2” below the cap to 8’ by 29’-2” above the footing. The abutments are 31-9” long and 26’-2” wide on a mass footing. The arch springline is 15’ to 18’ above the bottom of the abutment footings. The front walls of the vaults are 2’ thick, the curtain walls are 1’-8” to 1’-10” thick and extend down to the top of the footings, and the back walls are 1’-6” thick. The 4 wingwalls are parallel to the roadway and extend 5’ past the back of the abutment. The wingwalls are horizontally cantilevered off the transverse floorbeam at the back of the abutment. The top of the wingwalls act as the approach parapet.

In 1980, this structure underwent major rehabilitation. The deck, floorbeams and spandrel columns above the arches and pier caps were completely removed and reconstructed. This new superstructure was designed for HS-20 loading with a 25 p.s.f. future wearing surface. The existing stub type abutments and wingwalls were removed down to a construction joint located 3.5’ above the arch spring line elevation and reconstructed as vaulted abutments. The profile was raised by increasing the length of the vertical curve at the west end of the bridge. The elevation of the PGL increased from 1.61’ at the front face of the west abutment to 0.47’ at the front face of the east abutment. The deck out to out width was increased to 35’-2” by increasing the cantilever length of the floorbeams. The additional dead load from the deck widening was offset by removing the 4” PCC pavement wearing surface shown on the original plans. A rough calculation shows no net increase in dead load. The decorative concrete parapets were replaced with F-shaped parapets. Concrete patching and crack injection repairs were also made to the arches and noses of the piers in 1980.

III. Field Inspection & Physical Evaluation:

See the accompanying sketches in Attachment D, E, and photos in Attachment H for a visual depiction of many of the defects noted below. All accessible portions of the bridge were inspected by boat on November 15, 2016, and using an underbridge inspection truck on November 28 and 29, 2016.

Superstructure:

Deck: The top surface of the deck is generally in good condition. The deck exhibits some hairline cracks in the transverse and longitudinal directions. During the inspection the entire deck was sounded for delamination using the chain drag method. Approximately 1.5% (23 sq. yds.) of the top surface was found to be delaminated. Chloride concentration levels were tested and found that the corrosion initiation level has been exceeded at least 5" below the surface of the deck. The section loss threshold has been exceeded 3" below the deck surface. The deck underside had deterioration including delamination and spalls with exposed reinforcement at the deck drains (70 sq. yd. total) and adjacent to the deck expansion joints (44 sq. yds. total) equaling approximately 8% of the deck. Much of the remaining deck underside was in good condition. The parapets were generally in good condition with some vertical hairline cracks.

Approach Slabs: There is an approach slab behind the vaulted abutments at each end of the structure. The 1978 rehabilitation plans only indicate "Prop. Bridge Approach Method I". The slabs are 20' long and 24' wide and centered in the roadway. The slabs are supported by the back wall of the vaulted abutment at one end and (apparently) on grade at the other end. The east approach slab has a wide longitudinal crack running down the centerline. The west approach slab has 2 longitudinal narrow to wide cracks.

Soil erosion in front of the abutment curtain walls is causing a void to form behind both abutment back walls, exposing the underside of both approach slabs and shoulders (see bottom right photo on H-11). At the west abutment, a void also extends under the south approach shoulder. The approach shoulder drain inlets may be contributing to the loss of fill.

The bituminous approach pavement is mapped-cracked with narrow to wide cracks at both ends.

Floorbeams and Columns: These superstructure elements are generally in good condition. Adjacent to the deck joints, minor deterioration including delamination and spalls with exposed reinforcement is present in the floorbeams and columns, typically a total of 40 sq. ft. per joint. Many of the columns in Span 1 had a circumferential hairline cracks around column where it met the column base. The columns were replaced as part of the 1980 rehabilitation.

Arches: The surfaces of the arches are in poor condition. The deterioration was widespread and included large spalls on the arch side faces with exposed or debonded reinforcement, large delaminated areas on the top and bottom of the arches, and large failed concrete patches. Most of the concrete deterioration did not extend deeper than the reinforcement. Typically the section loss in the exposed reinforcement was less than 10%. Approximately 16% (2,500 sq. ft.) of the total arch surface area is deteriorated. Three south arches have a transverse hairline to narrow cracks on the inside face near the base. There were several inches of gravel and debris below the deck joints on top of the piers between the arch bases.

The north arch in Span 2 is in the worst condition at a bar lap location about 25' from pier 2. The outside face is a delaminated concrete patch. The inside face is completely spalled with a top and bottom bar debonded. The bottom of the arch is spalled 30% across with 5 reinforcement bars exposed. Two (2) of the bars have up to 25% section loss. Total loss of steel is approximately 15%. Loss of concrete is approximately 20% of the gross area.

Salt laden water from the deck drains may be contributing to the widespread deterioration of the arches. The drains are located 6' outside the arches and angled away from the structure, but the top of the arches are 2' to 13' below the drain extensions which may allow the wind to blow it back onto arches.

Deck Joints: The preformed joints are in very poor condition and in many places have completely failed. Leakage and rust stains were noted below all deck joints. Most joints had damaged or missing portions of the steel armor angles. Most of the preformed compression seals have dropped out and hang below the deck or are completely missing.

Bearings: The bearing pads, located between the top of the abutment stem and the concrete deck slab, were "walking" up to 5" out of position (see bottom left photo on H-8). The 1978 rehabilitation plans indicate the abutment bearing pads are made from graphited asbestos.

<u>Substructure</u>:

Abutments: The abutments are generally in good condition. There are some cracks, delamination, and spalls noted in the front face below the deck joints. The west abutment front face had 42 sq. ft. of deterioration and the east abutment front face had 51 sq. ft. The inside of the vaulted abutments were wet, indicating leakage through cracks in the deck. Vaulted abutment access is available through hatches located in the southeast and southwest curtain walls. The curtain walls and wingwalls are in good condition with no notable defects. The side slopes at both abutments are very steep with gullies forming in the unstabilized soil at the curtain wall faces. The approach span deck drains may be compounding the problem.

Piers: The piers are in fair condition. The piers typically had several hairline to narrow vertical cracks in the side faces and cap. A horizontal construction joint was visible just above the waterline at each pier. The reconstructed pier caps and decorative concrete quarter spheres at upstream nose of the piers were typically spalled or delaminated. The reconstructed upstream and downstream noses of the piers wall were typically sound with some minor leaching. Several of the piers had minor spalls or areas of delamination at the edges of the reconstructed concrete. No reinforcement was exposed. The average deterioration per pier was 40 sq. ft.

During the inspection, the top of the footing at Pier 2 was found with a probe on each side near the pier centerline. The 1978 rehabilitation plans indicate that the footing at the pier face is 4'-3" thick and set on rock. The sandy river bottom was at the same level as the top of the exposed footing. We were unable to push the probe through the river bottom below the top of the footing elevation.

Inspection History (NBIS Ratings):

Date	Deck	Super	Sub
4/21/2015	6	4	6
4/14/2016	6	4	6
8/10/2016	6	4	6

Geometric, Horizontal & Vertical Clearance / Hydraulic Data:

The approach roadway width to the east and west is 22' with 5' bituminous shoulders on each side for a total width of 32'. Guardrail is present at the edge of shoulder at all the approaches/departures. The total bridge roadway width is presently 32' face to face of parapet.

According to the 1978 plans for the existing structure, the current K value for stopping sight distance, sag vertical curve, of the western vertical curve calculates to be 105. The vertical alignment does not meet current guidelines for new roadways according to the BDE Manual, Figure 33-4.F: K Values for Sag Vertical Curves-Stopping Sight Distances (Passenger Cars-Adjusted For Downgrades). The current minimum required K value is 129 per the table for 55 mph design speeds.

The profile change needed to meet current policy for a new bridge would lengthen the vertical curve from 420' (current) to 520' to meet a minimum K value of 129. This would raise the profile of the bridge by up to 6" within the length of the curve near the west abutment for a complete replacement.

WATERWAY INFORMATION TABLE

Route:	US Hwy 52	**S.N.:**	353+79	**Existing**	**Computed:**	**CRP**	**Date:** 03/17/17
Section:	P-93-036-07	**S.N.:**	P-93-036-07	**Proposed**	**Checked:**	**SRB**	**Date:** 03/17/17
County:	LaSalle	**Waterway:**	Fox River				**Printed Date:** 03/17/17

			Existing Low Grade Elevation (edge of pavement at local sag) =			543.78		**at Sta.**	355+75	
Drainage Area =	**2642 sq. mi.**		**Proposed Low Grade Elevation (edge of pavement at local sag) =**			543.95		**at Sta.**	355+75	
Flood	**Frequency Year**	**Discharge (cfs)**	**Waterway Opening (sq. ft.)**		**Natural H.W.E**	**Head (ft.)**		**Headwater Elev.**		
			Existing	**Proposed**		**Existing**	**Proposed**	**Existing**	**Proposed**	
	10	24500	3543	3543	530.0	0.3	0.3	530.3	530.3	
DESIGN	50	36900	4350	4350	532.3	0.4	0.4	532.8	532.8	
BASE	100	42600	4350	4350	532.3	0.4	0.4	532.8	532.8	
	200	49000	4678	4678	533.4	0.5	0.5	533.9	533.9	
MAX CALC	500	57500	5230	5230	535.5	0.9	0.9	536.4	536.4	

10 Year Velocity Through Existing Bridge = 6.97 fps

2 year flow rate = 10100 ft^3/s

DATUM:	NAVD88
ALL-TIME H.W.E. & DATE:	None reported.
STREAMBED ELEVATION:	514.00

EXISTING STRUCTURE:		**PROPOSED STRUCTURE:**	
TYPE:	Bridge	**TYPE:**	Bridge
SIZE/LENGTH:	35.17'	**SIZE/LENGTH:**	35.17'
SPANS:	5	**SPANS:**	5
LOW BEAM:	540.19	**LOW BEAM:**	540.19
SKEW:	0 °	**SKEW:**	0 °
UPSTREAM INV.	N/A.	**UPSTREAM INV.**	N/A.
DOWNSTREAM INV.	N/A.	**DOWNSTREAM INV.**	N/A.

IV. Potential Scope of Work Determination & Analysis:

The options including deck and arch repair was considered but not developed because the relatively small cost increase of a concrete overlay and its potential to lengthening the usable life of the deck result in an overlay being cost effective.

Option 1: Arch Repairs and Deck Overlay

This option includes patching the deck, resetting the abutment bearing pads, replacing the deck joints and adding a concrete overlay. Full depth patches would be used to remove the 108 floor drains and repair the surrounding deck underside deterioration. Scuppers at increased spacing with extended downspouts would be installed to replace the drains. This option also includes major rehabilitation of the arches including concrete patching and epoxy crack injection. Additional concrete patching would be performed on the abutments and piers. The ditches would be re-graded and rip rap would be installed at the abutments to address the erosion undermining the approach slabs and shoulders.

The armored deck joints would be cut out and replaced with new strip seal joints.

A new composite concrete wearing surface (GGBFS CO, Microsilica CO or Latex Modified Concrete CO, 2 ¼" thick) would be installed after removing 1" of chloride laden clear cover using the scarification methods outlined in the appropriate Guide Bridge

Special Provision. The addition of the overlay would help slow the chloride infiltration to the uncoated bottom layer of deck reinforcement, but the current chloride levels are already over the corrosion initiation level at that depth.

Staged construction would require temporary concrete barrier and temporary traffic signals for alternating one-way traffic.

Option 1 will extend the life of the 37 year old deck by 10-15 years. The life of the arches will be extended by approximately 25-30 years, approximately matching the remaining useful life of the other elements of the bridge.

The total amount of deck patching required is 8% of the total deck. The BCR Procedures and Practices Manual states that if the amount of deck repair is less than 25% of the deck, repair can be cost effective.

The cost of Option 1 would be $ 3,710,000.

Option 2: Superstructure Replacement

This option includes completely removing the deck and concrete superstructure down to the tops of the arches. It would be replaced with 3 steel box girders with an 8" concrete deck. The box girders would be placed to avoid arches. The piers and abutments would be reconstructed above the arches for the new superstructure type and to meet the desired vertical alignment. The number of deck joints could be cut in half. A "Texas style" decorative concrete railing, TL-4, would replace the Type F barriers for a more historical look.

Preliminary steel box girders 4' tall and 6' wide with 5/8" thick webs, a 1" bottom flange and 18" x ¾" top flanges were used to determine the weight of the new superstructure. An 8" deck was assumed along with the "Texas Style" Decorative Concrete Railing, TL-4, and pier extensions which would support the new girders. It was found that the new superstructure would add about 10% more dead load to the existing footings.

The arches would be repaired as described in Option 1 above, but would no longer be the main load carrying component of the superstructure. The arches would be left in place to maintain the historical aspect of the structure. The spandrel columns would not be replaced. The proposed clear width would be 32'-0"

Staged construction is not a viable option because removing the transverse floorbeams under traffic is not feasible. Therefore, a detour route is required. A detour route utilizing state and interstate highways has been identified and would result in a 22 mile longer trip. A shorter route using County Highways is available and could also be considered.

Option 2 will extend the life of the bridge by approximately 30 years.

The cost of Option 2 would be $ 5,656,000.

Option 3: Complete Replacement – No Historic Elements

This option completely replaces the structure. It would retain the existing horizontal alignment and width but would be brought up to a new vertical alignment meeting current guidelines for replacement bridges, per BDE Manual Chapter 49-3.05(b). The new, longer vertical curve results in the western portion of the approach roadway and bridge being raised by slightly over 6". Significant amounts of cuts and fills will be required due to the change in elevation as well as the flatter side slopes in the clear zone and embankments, which are current policy. Approximately 0.05 acres of land acquisition would be required to accommodate new embankment, slopes, and ditches. Please see Attachments J and K.

The new three span structure would have an overall length of 500' to reduce the amount of embankment needed west of the west abutment. It would consist of span lengths of 150'-200'-150' with pile supported stub abutments at both ends and concrete piers for the center two supports. The bridge would have a clear width of 32'-0" and an 8" thick deck. The piers would bear on new footings which bear on rock, similar to the existing bridge. The weathering steel plate girders would have webs preliminarily sized at 60" deep. Cofferdams and seal coat would be required to construct the two piers.

To account for the profile changes, 330' of roadway removal and replacement, along with 60 CY of cut and 900 CY of fill are included. It is anticipated that some tree and brush removal would also be needed.

This replacement bridge should have a lifespan of 75 years.

Similar to Option 2, this work would require a detour.

The cost of Option 3 would be $ 6,453,000.

Option 4: Complete Replacement – Arch Bridge

Options 4 and 5 are included to give an upper bound cost for full replacement with a new bridge approximating the appearance of the old bridge to satisfy historic content requirements.

Option 4 is for the complete replacement of the existing bridge with a new concrete arch bridge. It would be similar to I-88 over the Fox River. By using 3 spans of about 165' and shifting the bridge over by 10'-15' west, the new footings would miss the existing ones. Vaulted abutments would be on each end of the bridge. There would be an arch located under each beam and it would have supports at the third points of the arch. These arches could be cast in place or precast.

The superstructure would consist of five lines of precast prestressed concrete I-beams made continuous for live load between the piers. It may be possible to make the beams continuous over one or more of the piers also. The deck would be 8” thick and use the historic looking concrete railing, and have a clear width of 32’-0”.

As with Option 3 above, the bridge would use the same horizontal alignment, but the vertical alignment would be improved to meet current policy BDE 49-3.05(b) and BDE Figure 33-4.F. This would also require additional excavation and land acquisition like Option 3.

Since this would be a replacement bridge, its lifespan is assumed to be 75 – 80 years.

This Option would require the use of a detour.

The cost of option 4 would be $ 11,474,000.

Option 5: Complete Replacement – “Faux” Arch Bridge

This option is the same as Option 3 but adds precast concrete fascia panels on the outside of the exterior girders to mimic the look of a concrete arch. It would have an 8” thick deck and a clear width of 32’. It would require slightly larger piers and footings to support the additional weight of the panels, and would also be built using a new vertical curve to meet current policy BDE 49-3.05(b) and BDE Figure 33-4.F.

Excavation and land acquisition would also be required as well as a detour. The lifespan of this new bridge would be 75 – 80 years.

The cost for Option 5 would be $ 7,165,000.

V. Discussion and Recommended Scope of Work:

Option 1 (Arch Repairs and Deck Overlay) is the least expensive option and provides a new concrete overlay. Due to extensive chloride infiltration below the upper layer of deck reinforcing bars, this option is expected to extend the remaining service life of the 37 year old deck only 10 to 15 years. The current chloride levels in the deck limit the remaining useful life that can be expected. The cost of deck rehabilitation is 66% of the cost of complete superstructure replacement, and 57% of the cost of complete bridge replacement with no historical value (Option 3).

Option 2 (Superstructure Replacement) provides a complete new superstructure that will approximately match the life of the existing substructure (roughly 30 years). The cost of superstructure replacement is 88% of the cost of complete replacement with no historical value.

Option 3 (Complete Replacement - No Historical Elements) will result in a much longer service life, but costs considerably more than the previous two options. It does not address the historical nature of the existing structure because it is just a plain steel multi-girder bridge and doesn't have any arches. The cost of this bridge is 59% of the cost of a concrete arch replacement structure and 91% of the cost of the same bridge with faux arch panels.

Options 4 and 5 were included to provide a cost range for full replacement if historic context is required for replacement.

Option 4 (Complete Replacement - Arch Bridge) provides a structure which is a modern day replacement of the same type of bridge. It has load bearing arches made with current concrete mixes which can provide durability that the historic mixes don't have. Provisions would be made to reduce the potential damages from salt laden runoff from the deck and epoxy coatings would extend the useful life of the reinforcement. This option costs 78% more than a "bare bones" replacement.

Option 5 (Complete Replacement - "Faux" Arch Bridge) is a mixture of the concrete arch look and the economics of a plain steel girder bridge. It is less expensive than Option 4 but only hints at the historical nature of the existing structure. If this option is acceptable to the historians, it is a cost effective solution for complete replacement.

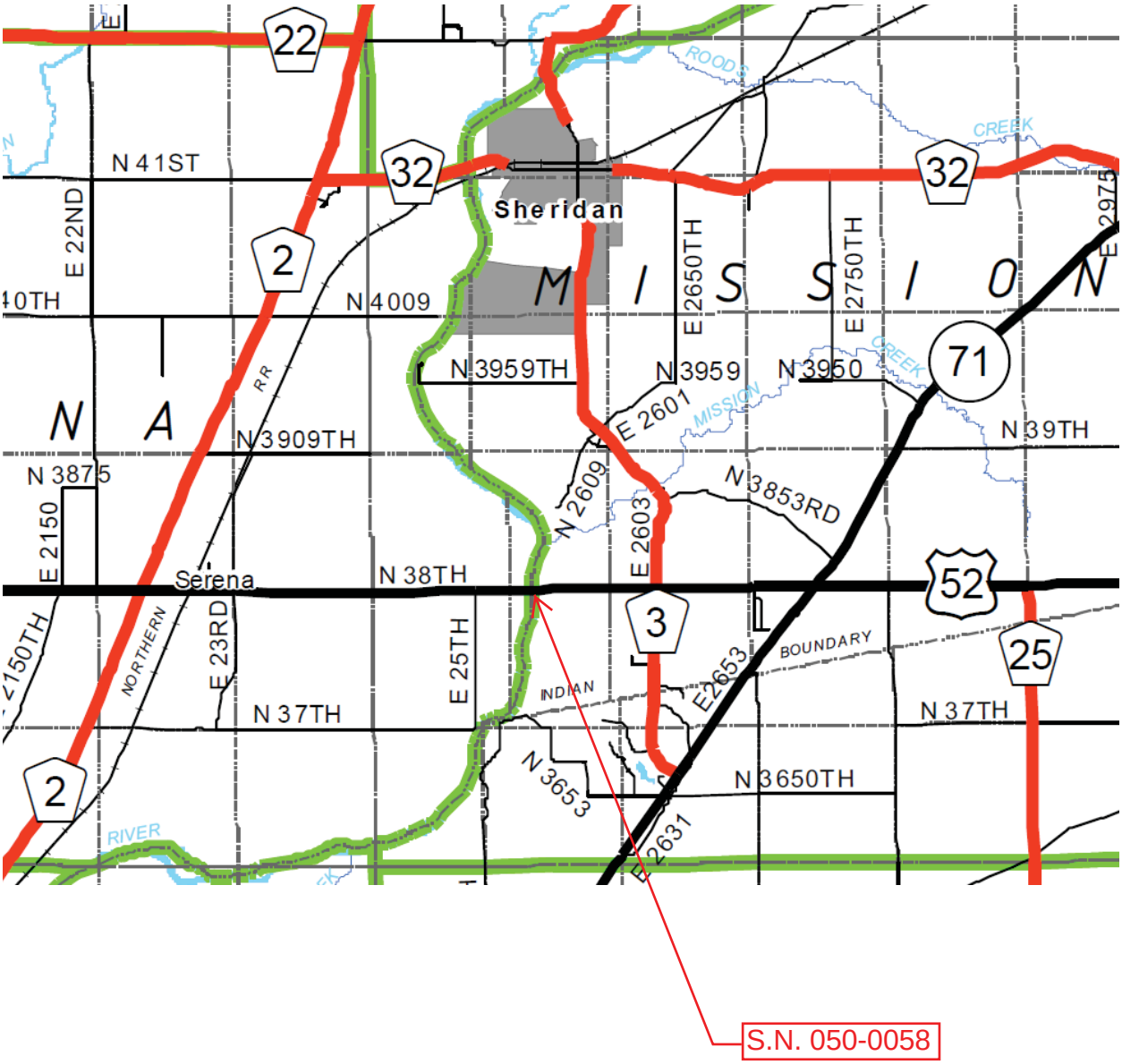
Recommendation:

The BCR Procedures and Practices Manual indicates that when deck patching is less than 25% of the deck area, deck rehabilitation (patching and wearing surface) is cost effective. Superstructure replacement gains about twice the years of usable life than deck rehabilitation, but at a much higher cost. Deck rehabilitation cost (Option 1) is 57% of the cost of complete bridge replacement but is only expected to last 10 to 15 years. Deck rehabilitation is 66% of the cost of complete superstructure replacement. The BCR Manual states that if the cost of repairing major components is less than 60% of the cost

of complete replacement, repairs (deck rehabilitation) is economically feasible, but the cost of superstructure (Option 2) is 88% of the cost of complete replacement of a non-historic bridge (Option 3). Therefore, we recommend Option 3, complete replacement.

This bridge should be replaced with a new structure since the superstructure is in poor condition, and the majority of the substructure elements are over 85 years old. It should be pointed out that about a million dollars of the cost in Deck Rehabilitation (Option 1) and Superstructure Replacement (Option 2) is from repairing the arches which are really not part of the superstructure. This patching of the arches will likely have a limited lifespan. A new bridge will provide a structure that brings the vertical profile up to current department policies, will be largely maintenance free for many years, and have a design life of at least 75 years.

ATTACHMENT A



LOCATION MAP

ATTACHMENT B

Illinois Department of Transportation
Structures Information Management System
Structure Summary Report

Structure Number: 050-0058 **District:** 3

Inventory Data

Facility Carried: US ROUTE 52
Feature Crossed: FOX RIVER
Bridge Remarks:
Bridge Status: 1 OPEN - NO RESTRICT
Status Remarks:
Maint County: 050 LASALLE
Maint Responsibility: 01 I.D.O.T.
Service On/Under: 1 HIGHWAY 5 / WATERWAY
Reporting Agency: 1 I.D.O.T. - BUREAU OF MAINTENANCE
Main Span Matl/Type: 1 CONCRETE / 25 ARCH-DECK, OPEN SPANDREL
Nbr Of Main Spans: 5 **Nbr Of Approach Spans:** 2
*****Approaches*****
Near #1 Matl/Type: 1 CONCRETE / 01 SLAB
Near #2 Matl/Type: /
Far #1 Matl/Type: 1 CONCRETE / 01 SLAB
Far #2 Matl/Type: /
Median Width/Type: 0 Ft. / 0 None
Guardrail Type L/R: 0None / 0 None
Toll Facility Indicator: 0 No Toll
Latitude: 41.48541377 **S** **Longitude:** 88.68699103 **S**
Deck Structure Type: A CIP CON NRMLLY FORM
Sidewalks Under Structure: 0 None

Bridge Name:
Location: 2.10 MI W OF ILL 71
Status Date: 04/1988
Maint Township: 31 SERENA

Sufficiency Rating: 68.5
HBP Eligible: Yes
Replaced By: -
Replaces: -
Last Update Date: 07/05/2012
Parallel Structure: None
Multi-Level Structure Nbr:
Skew Direction: N None
Skew Angle: 0 **D**
Structure Flared: No
Historical Significance: Yes
Border Bridge State:
Bdr State SN:
Bdr State % Responsibility: 0
Structural Steel Wt 0
Substructure Material:

Rated By: 2 IDOT
Inventory Rating: 1.020(36)
Operating Rating: 1.710(61)
Design Load: 02 HS20
Deck Structure Thickness: 7.5 **SD:** Y **FO:** N

Structure Length: 459.0
AASHTO Bridge Length: 99.9
Length of Long Span: 80.0
Bridge Roadway Width: 32.0
Appr Roadway Width: 24.0
Deck Width: 35.0
Sidewalk Width Right: 0.0
Sidewalk Width Left: 0.0
Navigation Control: 0 No
Navigation Horiz Clear: 0
Navigation Vert Clear: 0
Culvert Fill Depth: 0.0
Number Culvert Cells: 0
Culvert Opening Area: 0.0
Culvert Cell Height: 0.00
Culvert Cell Width: 0.00

Rate Method: 6 LOAD FACTOR (LF) REPORTED BY RATING FACTOR (RF)
Load Rating Date: 10/07/2015
Railroad Crossing Info
Crossing 1 Nbr:
Crossing 1 Nbr:
RR Lateral Underclear: 0.0
RR Vertical Underclear: 0 **Ft** 0 **In**

Key Route On Data

Key Route Nbr: FEDERAL-AID PRIMARY 0607
Appurtenances Main Route 00000
Inventory County: 050 LASALLE
Township/Road Dist 31 SERENA
Municipality 0000
Urban Area: None 0000
Functional Class: 4 MINOR ARTERIAL
**** CLEARANCES **** **South/East** **North/West**
Max Rdwy Width: 32.0
Horizontal: 32.0 0.0
Lateral:

Station: 6.6600
Segment:
Linked: Y
Natl. Hwy System: Not on NHS
Inventory Direction:
Curr AADT Yr/Count: 2015 / 2100
Est Truck Percentage: 10
Number Of Lanes: 2
One Or Two Way: 2 Two-Way
Bypass Length: 6
Future AADT Yr/Cnt: 2032 / 2122
Designated Truck Rte: CLASS II
Special Systems: No

Key Route Under Data

Station:
Segment:
Linked:
Natl. Hwy System:
Inventory Direction:
Curr AADT Yr/Count: /
Est Truck Percentage:
South/East **North/West**
Number Of Lanes:
One Or Two Way:
Bypass Length:
Future AADT Yr/Cnt: /
Designated Truck Rte:
Special Systems:

*** Marked Route On Data ***

	Designation	Kind	Number
Route #1:	1 Mainline	2 U.S. Highways	052
Route #2:	1 Mainline		
Route #3:	1 Mainline		

*** Marked Route Under Data ***

	Designation	Kind	Number

Structure Number: 050-0058 **District: 3**

Data Related to Inspection Information

*** Inspection Intervals ***				*** Maximum Allowable Posting Limits ***				Bridge Posting Level:	
Routine NBIS:	12 MOS	**Underwater:**	0 MOS	**One Truck At A Time:**	0	**Combination Type 3S-1:**	Tons	5	No Posting Required
		Special:	N	**Single Unit Vehicles:**	Tons	**Combination Type 3S-2**	Tons		

Inspection/Appraisal Information

Inspection Date: 08/10/2016 **Inspection Temperature:** 80Deg. F

Deck:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Single Unit Vehicles:**	Tons
Superstructure:	4	POOR CONDITION - ADVANCED DETERIORATION						**Combination Type 3S-1:**	Tons
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION						**Combination Type 3S-2:**	Tons
Culvert:	N	NOT APPLICABLE						**One Truck At A Time:**	0
Channel and Protection:	7	GOOD CONDITION - SOME MINOR PROBLEMS		**Deck Wearing Surf:**	A	BARE DECK NO OVRLAY		**Last Paint Type:**	
Structural Evaluation:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		**Deck Membrane:**	F	NONE			
Deck Geometry:	4	MINIMUM ADEQUACY TO BE LEFT IN PLACE		**Deck Protection:**	A	EPOXY COATED REINF			
Underclearance-Vert/Lat.:	N	NOT APPLICABLE		**Total Deck Thick:**	7.5				
Waterway Adequacy:	8	EQUAL TO PRESENT DESIRABLE CRITERIA		**Last Paint Date:**					
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA							
Bridge Railing Appraisal:	3	Meets Standards							
Approach Guardrail:	322	Acceptable	Not Acceptable	Not Acceptable					
Pier Navig Protection:	N	N/A							

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: **Inspection Method:**
Appraisal Rating:

Scour Critical Information

Rating: 8 CALCULATED SCOUR ABOVE FOOTING **Evaluation Method:** B Rational Analysis
Analysis Date: 11/23/1992

Miscellaneous

Microfilm Data Recorded: Yes

Construction Information

Year:	1931	Original		1980	Reconstructed		
Route:	FA-607		**Sta:** 353+79	FA-607		**Sta:** 353+79	
Section Nbr:		125-B,125-BR			125-B,125-BR		
Contract Nbr:							
Fed Aid Pr#:		BR-F-607027000			BR-F-607027000		
Built By:	1	I.D.O.T.		0	UNKNOWN		

ATTACHMENT C

Illinois Department of Transportation

Routine Inspection Report

SN: 050-0058	District: 3	Spans: 5	Appr. Spans: 2	Skew: 0	ADT: 2100	Truck Pct: 10
ADT Un:	Maint. Co: LASALLE		Twsp: SERENA		Status: OPEN, NO RESTRICTIONS	
Facility Carried: US ROUTE 52			Feature Crossed: FOX RIVER			
Location: 2.10 MI W OF ILL 71	Municipality:				Team/Sub Section: 343/521	Insp/Rte: 000
Bridge Name:			Material & Type: CONCRETE/ARCHDECK/OPEN SPANDREL			
Insp. Intervals Routine: 12	Fracture Critical: 0		Underwater: 0		Special: N/A	Element Level: 24

90 - Inspection Date:	8/10/16	90C - Temp. (°F):	80°	90B1 - In-Depth	☐
Is Delinquent: N	Reason:				
90A - Agency Program Manager:	JUNIOR SENAT			90A3 - Consultant Program Manager:	
90A1 - Team Leader:	JUNIOR SENAT			90A2 - Inspector:	
90B - Inspection Remarks:					

Previous Inspection: 2016 Inspection from ground. Preformed joint torn and missing. Armor anchorage exposed and or missing. East and west approach undermined. Deck surface has longitudinal and transverse cracking. Several areas along edges of archers delaminated and spalled. Vertical crack extending full height of piers and at abutments. 2015 Inspection from ground. Preformed

Resources

Time to Inspect(H:M):	4:0	4:00	Traffic Control:	3	3	Boat:			Waders			Snooper:	S		
Ladder:			Manlift:			Bucket Truck:			Other:		

Inspector's Appraisals

	Prev	New	
58 - Deck Condition:	6	6	
59 - Superstructure Cond:	4	4	2016 Inspection from ground. Preformed joint torn and missing. Armor anchorage exposed and or missing. 05/2014 Lowered due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss.
8/2016 - NO CHANGE IN CONDITIONS NOTED FROM PREVIOUS INSP.			
60 - Substructure Cond:	6	6	
62 - Culvert Condition:	N	N	
61 - Channel Condition:	7	7	
71 - Waterway Adequacy:	8	8	
72 - Approach Rdwy Align:	8	8	
111 - Pier Navig Protection:	N	N	

90B - Inspection Remarks:

2016 - DECK SURFACE - INTERSECTING TRANSV. & LONG. CRACKS THROUGHOUT THE DECK. ALL JOINTS ARE WORN OUT/FAILING W/ MISSING STEEL ARMOR PIECES & SECT. LOSS AT THE REMAINING STEEL ARMOR ANCHORAGE. DECK UNDERSIDE - DELAMINATED/SPALLED W/ EXPOSED REBARS.

Illinois Department of Transportation

Structure Number: 050-0058

Routine Inspection Report

Additional Inspection Data

	Prev	New
36A - Bridge Railing Adequacy:	3	3

Approach Guardrail Adequacy:	Prev	New	36B - Transitions:	Prev	New	36C - Guardrail:	Prev	New	36CD - Ends:	Prev	New
	3	3		2	2		2	2			

	Prev	New
108A - Wearing Surface Type:	A	A
108B - Type of Membrane:	F	F
108C - Deck Protection:	A	A
108D - Total Deck Thickness (In.):	7.5	7.5

If 'L-Other' Describe:

If 'E-Other' Describe:

If 'I-Other' Describe:

59A - Paint Date(Mo/Yr):		
59B - Paint Type:		
59C - Utilities Attached:	N N N	N N N

Color: Fascia - _____; Inter. - _____; Railing - _____.

If 'B-Other' Describe:

Weight Limit Posting:				
	70A2 - Single Unit Vehicles:			Tons
	70B2 - Combination Type 3S-1 (3 or 4 axles):			Tons
	70C2 - Combination Type 3S-2 (5 or more axles):			Tons
	70D2 - One Truck at a Time:			

Joint Openings (In.): N/A

90B - Inspection Remarks:

Conc. Arch Rib - Delams/Spalls/Longitudinal Cracks w/ Exposed Rebars with the South Conc. Arch @ East Span being the worse. Abuts & Piers - Vert. Cracks/Delaminations. Minor Erosion @ NW corner of the Bridge @ W. Abutment. Inspection From Ground, Snooper is need for In-Depth Inspection of the Structure, Especially over the water.

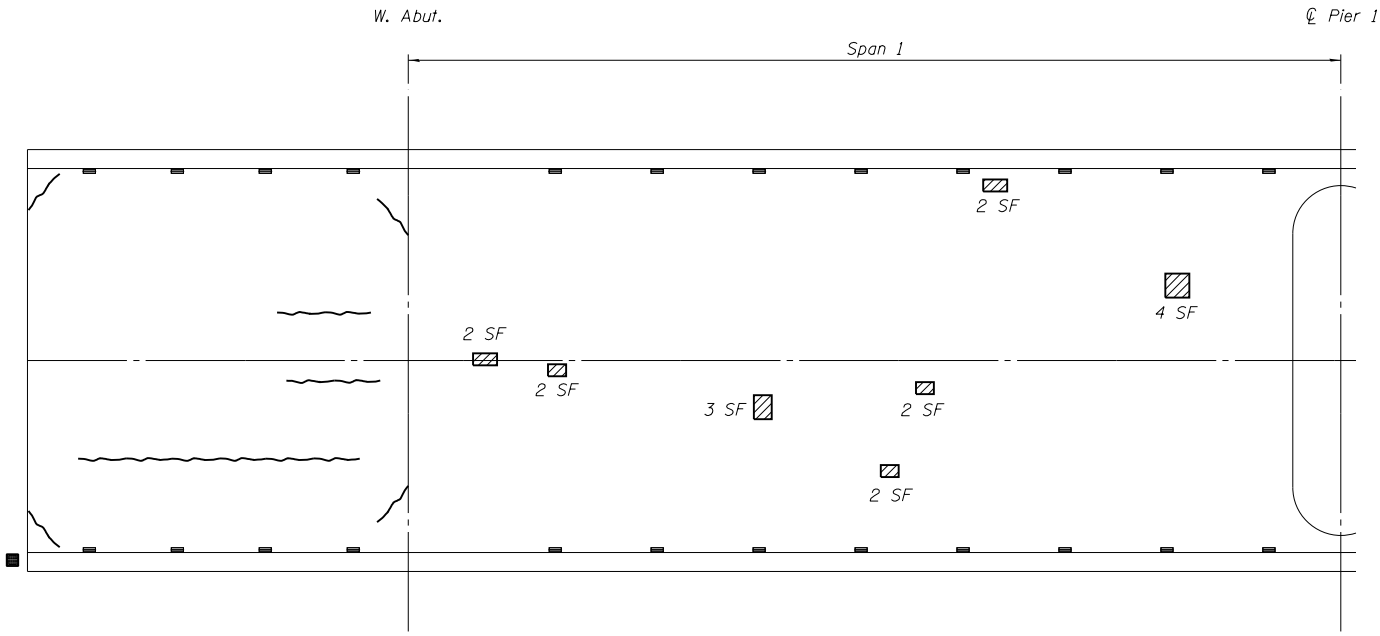
	Signature	Date
Inspection Team Leader:		8/10/16
Consultant Program Manager:		/ /
Agency Program Manager:		8/15/16

Historical Remarks

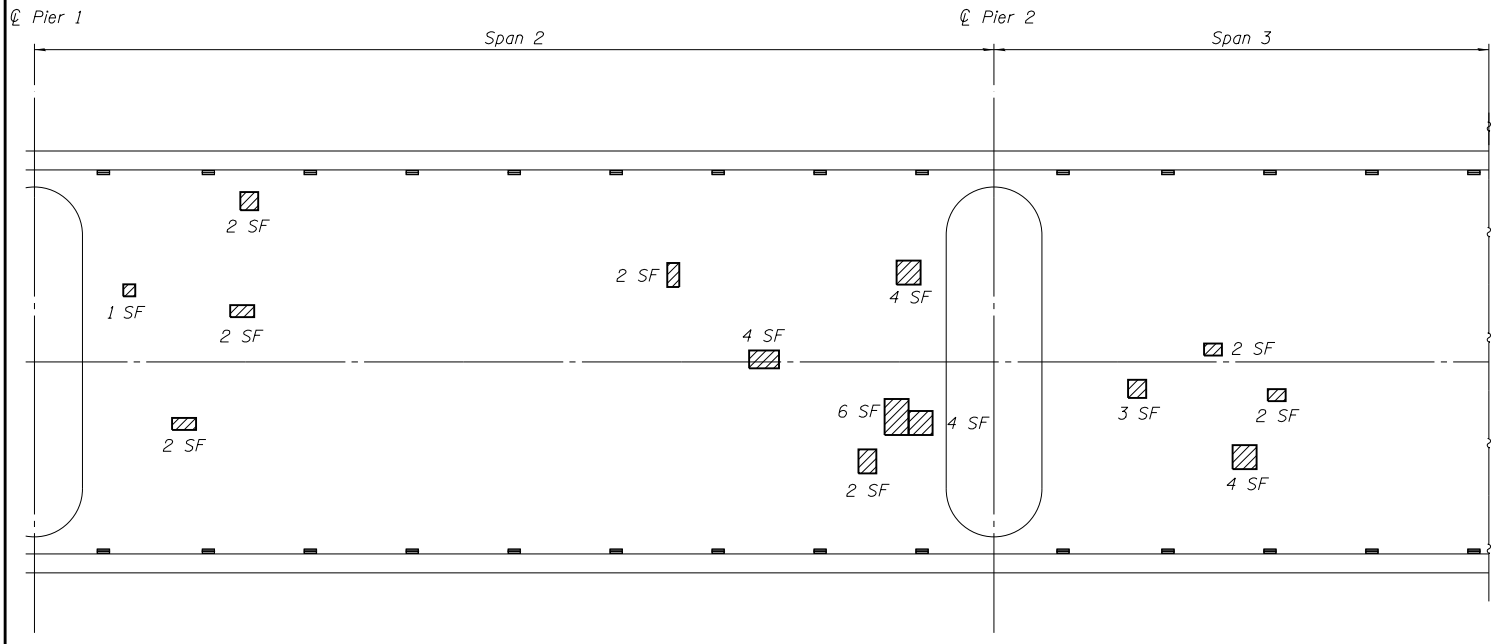
Inspection Date	Remarks
04/14/16	2016 Inspection from ground. Preformed joint torn and missing. Armor anchorage exposed and or missing. East and west approach undermined. Deck surface has longitudinal and transverse cracking. Several areas along edges of archers delaminated and spalled. Vertical crack extending full height of piers and at abutments. 2015 Inspection from ground. Preformed joints have slid down at all but west joint. East approach slightly undermined. Otherwise same as previous inspection. 05/2014 Snooper used (Aspen A62). Lowered superstructure rating to a 4 due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss. Several areas along edges of arches are delaminated and spalled with exposed rebar. The arch delaminations need to be chipped off. The deck surface has intersecting cracks with some potholes. The soffit has scattered delaminations and some cracking. Also spalls and delaminations along construction joints and large spalled areas at drains. Expansion joints have failed and some sections of angle armor were cut out due to being a road hazard. Abutments have delaminations. Wide cracks on approaches. Undermining on the approach shoulders. Graffiti on piers and abutments. 04/2014 Wearing surface has minor cracks and a few spalls. Soffit has spalls with exposed rebar at drains and construction joints. Expansion joints- rubber sagging and some angle armor missing. Abutments have delaminations. Superstructure patched areas failing and spalls with exposed rebar of arches. Approaches cracked. Approach shoulder undermined slightly. Wingwalls have minor erosion. Abutments have graffiti and garbage. 2013 Many spalled areas with exposed rebar. Joints total failure. Graffiti on east abutment with garbage laying all over east abutment area.
04/14/16	Superstructure Condition: 2016 Inspection from ground. Preformed joint torn and missing. Armor anchorage exposed and or missing. 05/2014 Lowered due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss.
04/21/15	2015 Inspection from ground. Preformed joints have slid down at all but west joint. East approach slightly undermined. Otherwise same as previous inspection. 05/2014 Snooper used (Aspen A62). Lowered superstructure rating to a 4 due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss. Several areas along edges of arches are delaminated and spalled with exposed rebar. The arch delaminations need to be chipped off. The deck surface has intersecting cracks with some potholes. The soffit has scattered delaminations and some cracking. Also spalls and delaminations along construction joints and large spalled areas at drains. Expansion joints have failed and some sections of angle armor were cut out due to being a road hazard. Abutments have delaminations. Wide cracks on approaches. Undermining on the approach shoulders. Graffiti on piers and abutments. 04/2014 Wearing surface has minor cracks and a few spalls. Soffit has spalls with exposed rebar at drains and construction joints. Expansion joints- rubber sagging and some angle armor missing. Abutments have delaminations. Superstructure patched areas failing and spalls with exposed rebar of arches. Approaches cracked. Approach shoulder undermined slightly. Wingwalls have minor erosion. Abutments have graffiti and garbage. 2013 Many spalled areas with exposed rebar. Joints total failure. Graffiti on east abutment with garbage laying all over east abutment area.
04/21/15	Superstructure Condition: 05/2014 Lowered due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss.
05/08/14	05/2014 Snooper used (Aspen A62). Lowered superstructure rating to a 4 due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss. Several areas along edges of arches are delaminated and spalled with exposed rebar. The arch delaminations need to be chipped off. The deck surface has intersecting cracks with some potholes. The soffit has scattered delaminations and some cracking. Also spalls and delaminations along construction joints and large spalled areas at drains. Expansion joints have failed and some sections of angle armor were cut out due to being a road hazard. Abutments have delaminations. Wide cracks on approaches. Undermining on the approach shoulders. Graffiti on piers and abutments. 04/2014 Wearing surface has minor cracks and a few spalls. Soffit has spalls with exposed rebar at drains and construction joints. Expansion joints- rubber sagging and some angle armor missing. Abutments have delaminations. Superstructure patched areas failing and spalls with exposed rebar of arches. Approaches cracked. Approach shoulder undermined slightly. Wingwalls have minor erosion. Abutments have graffiti and garbage. 2013 Many spalled areas with exposed rebar. Joints total failure. Graffiti on east abutment with garbage laying all over east abutment area.
05/08/14	Superstructure Condition: 05/2014 Lowered due to the north arch in span 2 from west having 12 of 36 rebar exposed with section loss.
04/07/14	04/2014 Wearing surface has minor cracks and a few spalls. Soffit has spalls with exposed rebar at drains and construction joints. Expansion joints- rubber sagging and some angle armor missing. Abutments have delaminations. Superstructure patched areas failing and spalls with exposed rebar of arches. Approaches cracked. Approach shoulder undermined slightly. Wingwalls have minor erosion. Abutments have graffiti and garbage. 2013 Many spalled areas with exposed rebar. Joints total failure. Graffiti on east abutment with garbage laying all over east abutment area.
01/10/13	2013 Many spalled areas with exposed rebar. Joints total failure. Graffiti on east abutment with garbage laying all over east abutment area.

Inspection Date	Remarks
02/27/12	2011 SNOOPER USED. DELAMS & SPALLS W/EXP REBAR @ CONST JTS DECK SOFFIT. DELAMS & SPALLS W EXP REBAR TOPS & BOTTOM SURFACE OF ARCHES ESP MID SPAN & END 1/4. ALL PFJ SAGGING SOME STEEL MISSING. LONGIT CL MAP CRACKS DECK- LOWERED RATING.
10/05/11	2011 SNOOPER USED. DELAMS & SPALLS W/EXP REBAR @ CONST JTS DECK SOFFIT. DELAMS & SPALLS W EXP REBAR TOPS & BOTTOM SURFACE OF ARCHES ESP MID SPAN & END 1/4. ALL PFJ SAGGING SOME STEEL MISSING. LONGIT CL MAP CRACKS DECK- LOWERED RATING.
02/28/11	2010 SPALLS W/EXP REBAR @ DECK DRAINS. FAILED PATCHES ON ARCHES & ABUTS. NW APPPR SHOULDER UNDERMINED. 2011 ARCHES- SPALLS W/EXP REBAR + DELAMS. EXP JTS- OVER COMPRESSED + RIPPED. SOOFFIT- MINOR CRACKS, FAILED PATCHES ON ARCHES & ABUTS.
02/03/10	2010 ARCHES- SPALLS W/EXP REBAR + DELAMS. EXP JTS- OVER COMPRESSED + RIPPED. SOOFFIT- MINOR CRACKS, SPALLS W/EXP REBAR @ DECK DRAINS. FAILED PATCHES ON ARCHES & ABUTS. NW APPR SHOULDER UNDERMINED.
05/08/08	SNOOPER INSP 5-2008--EXP JT MAT'L RIPPED AND FAILING,DELAMINATIONS ON BOTTOM OFF ARCHES AND WEST ABUT WALL; SPALLS, CRACKING ON SIDES OF ARCHES, PREVIOUS REPAIRS FAILING;SPALLS, WET SOFFIT @ DECK DRAINS; CRACKS IN APPROACH PAVEMENTS
01/29/08	SEE PREVIOUS REPORT/PIER 1 EB LANE EXP JT MISSING 2' STEEL ANGLE,EROSION @ VAULLLT WALL CORNERS,WOUTHWEST SPANDREL DETERIORATION BELOW WEST ABUT-DECK JOINT
04/19/06	SEE PREVIOUS REPORT/PIER 1 EB LANE EXP JT MISSING 2' STEEL ANGLE,EROSION @ VAULLT WALL CORNERS,WOUTHWEST SPANDREL DETERIORATION BELOW WEST ABUT-DECK JOINT
05/27/04	SIMILAR 2003/EROSION AROUND CORNERS @ VAULTS/ARCH SPALLS, DELAMS, EXPOSED BARS/EXP JT SEALS RIPPED-TORN-OVERCOMPRESSED/CRACKING IN APPROACHES/TRANSVERSE CRACKS IN DECK SURFACE
05/15/03	2003 SUPER LOWERED FROM 6 TO 5 DUE TO INCREASING AMOUNTS OF EXPOSED REBAR ALONG ARCH. THE N ARCH ON THE 2ND SPAN FROM THE W IS IN THE WORST CONDITION.
05/03/01	TRANSVERSE DECK CRACKS/SPALLS AT EXPANSION ANGLES/JOINT LEAKAGE/EPOXY MORTAR REPAIRS FAILING/EROSION AT EACH END ALONG VAULT WALLS/PIER REPAIRS STARTING TO FAIL/VAULT WALLS WET W/MINOR VERTICAL CRACKS/HOLLOW AREAS ON ARCH BOTTOMS
05/05/99	TRANSVERSE DECK CRACKS/SPALLS AT EXPANSION ANGLES/JOINT LEAKAGE/EPOXY MORTAR REPAIRS FAILING/EROSION AT EACH END ALONG VAULT WALLS/PIER REPAIRS STARTING TO FAIL/VAULT WALLS WET W/MINOR VERTICAL CRACKS/HOLLOW AREAS ON ARCH BOTTOMS
01/08/97	TRANSVERSE DECK CRACKS/SPALLS AT EXPANSION ANGLES/JOINT LEAKAGE/EPOXY MORTAR REPAIRS FAILING/EROSION AT EACH END ALONG VAULT WALLS/PIER REPAIRS STARTING TO FAIL
12/14/94	TRANSVERSE DECK CRACKS/SPALLS AT EXPANSION ANGLES/JOINT LEAKAGE/EPOXY MORTAR REPAIRS FAILING/EROSION AT EACH END ALONG VAULT WALLS/PIER REPAIRS STARTING TO FAIL
11/30/93	TRANSVERSE DECK CRACKS/SPALLS AT EXPANSION ANGLES/JOINT LEAKAGE/EPOXY MORTAR REPAIRS FAILING/EROSION AT EACH END ALONG VAULT WALLS
02/08/93	POURED 7 CU.YDS. CONCRETE IN VOID UNDER WEST APPROACH SLAB 3/9/89
01/28/92	POURED 7 CU.YDS. CONCRETE IN VOID UNDER WEST APPROACH SLAB 3/9/89
03/01/91	POURED 7 CU.YDS. CONCRETE IN VOID UNDER WEST APPROACH SLAB 3/9/89
02/08/90	POURED 7 CU.YDS. CONCRETE IN VOID UNDER WEST APPROACH SLAB 3/9/89
03/07/89	POURED 7 CU.YDS. CONCRETE IN VOID UNDER WEST APPROACH SLAB 3/9/89

ATTACHMENT D



PLAN



PLAN

N

LEGEND

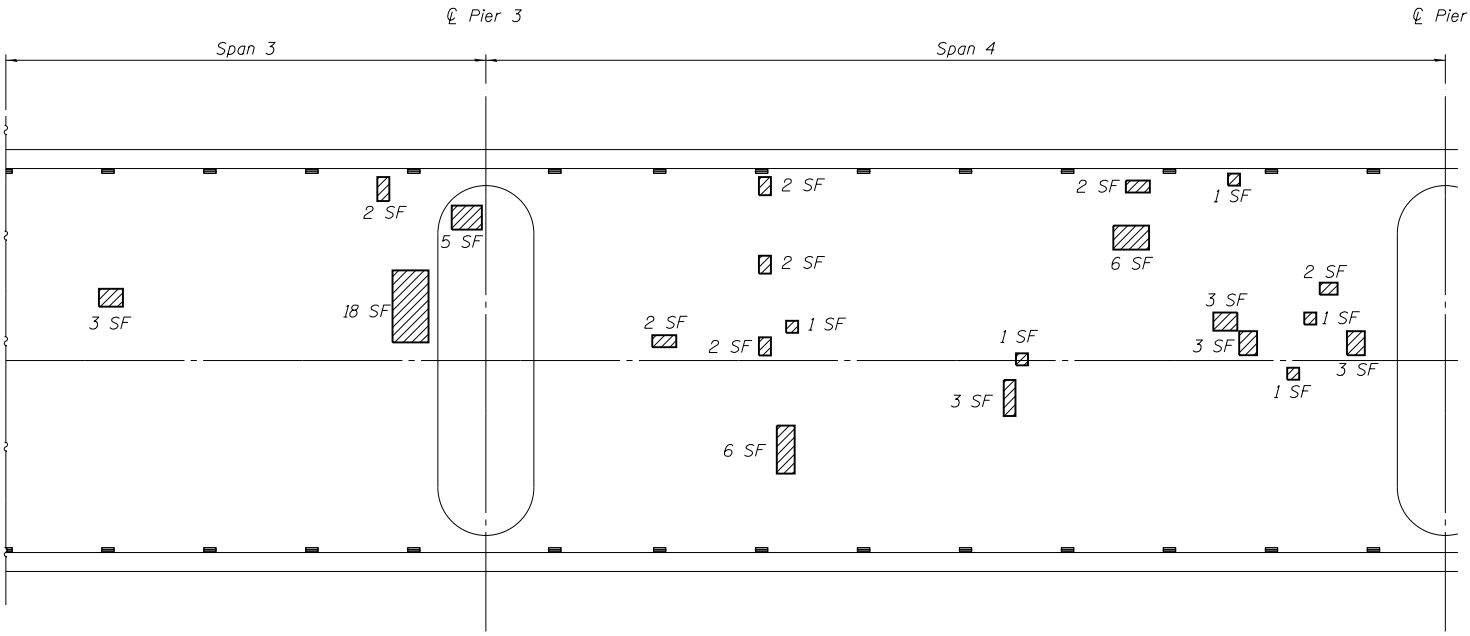
Spall

Delamination

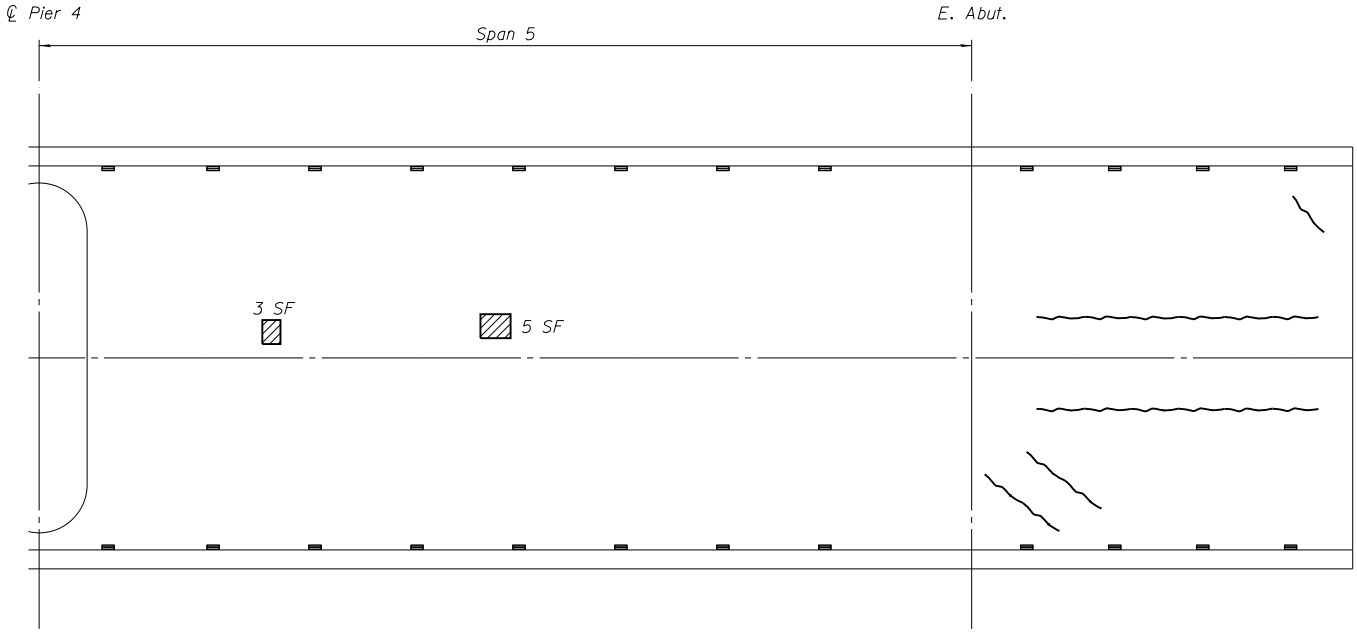
PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_D1.dgn	HRGreen.com HRGreen	TOP OF DECK	US RTE 52 OVER THE FOX RIVER SN 050-0058(ex) LASALLE COUNTY, ILLINOIS	SHEET NO. D-1

plotlabel.tbl IL_pdf_bw.pltcfg



PLAN



PLAN

N

LEGEND

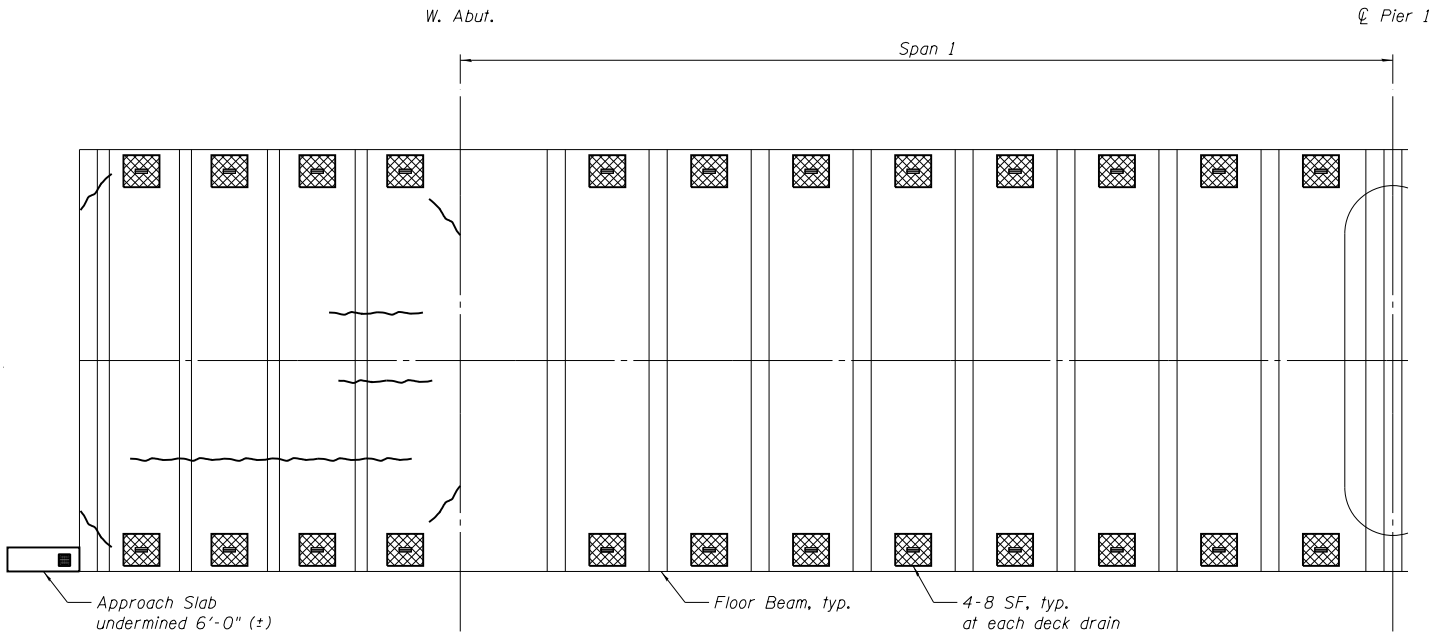
Spall

Delamination

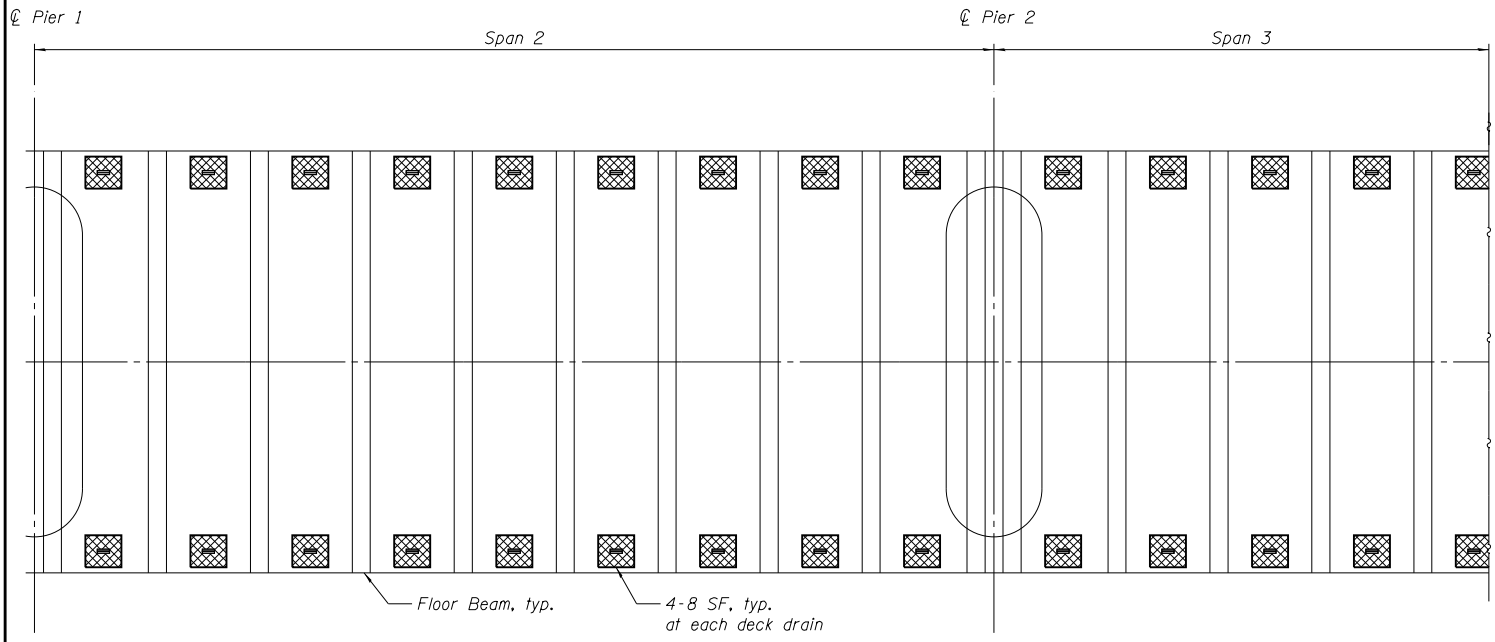
PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_D2.dgn	HRGreen.com HRGreen	**TOP OF DECK**	**US RTE 52 OVER THE FOX RIVER** **SN 050-0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. D-2

plotlabel.tbl IL_pdf_bw.pltcfg



PLAN



PLAN

N

LEGEND

Spall

Delamination

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016
APPROVED: SLS JOB NUMBER: 070696.20
CAD DATE: 4/7/2017
CAD FILE: 070696.20_BCR_D3.dgn

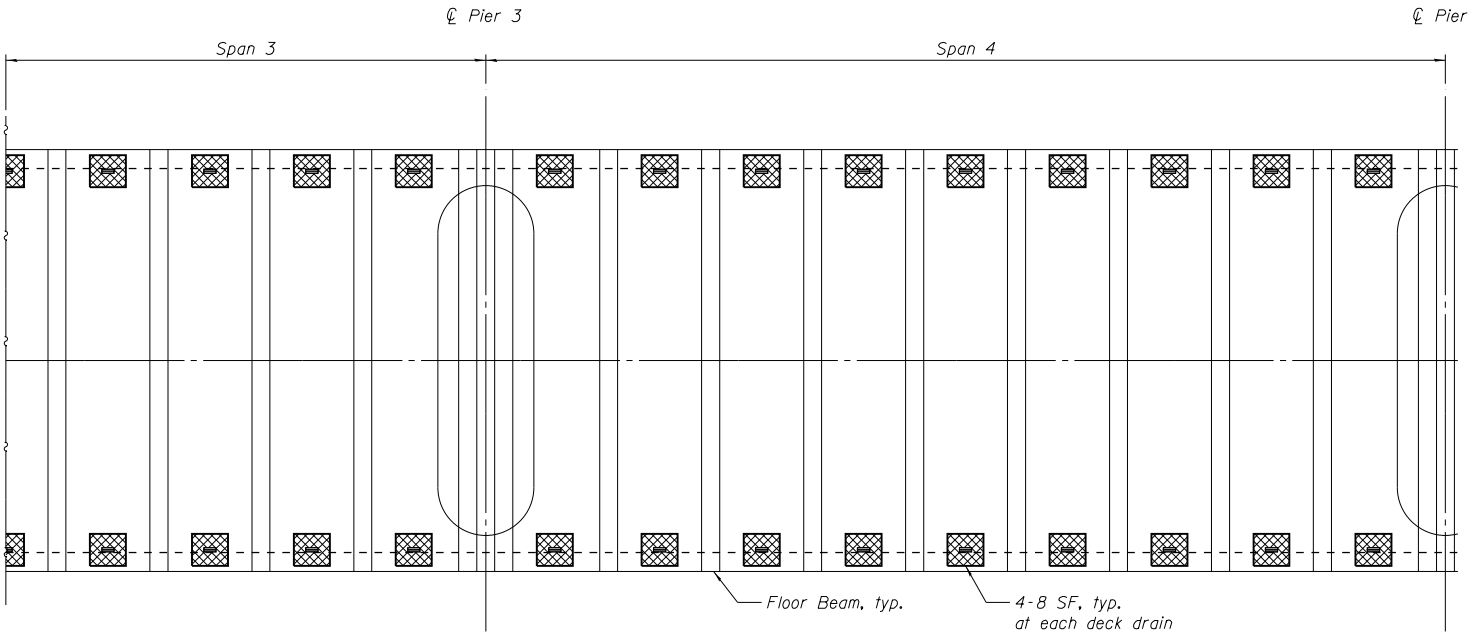
HRGreen.com
HRGreen

BOTTOM OF DECK

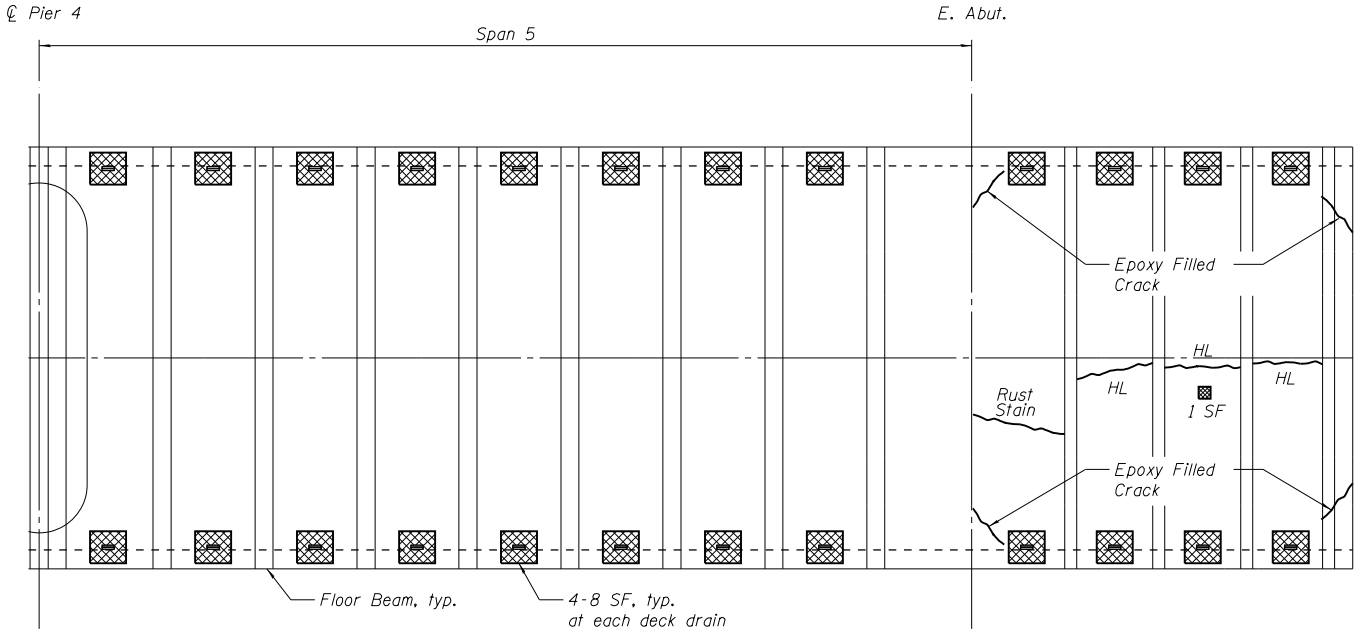
US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO.
D-3

plotlabel.tbl IL_pdf_bw.pltcfg



PLAN



PLAN

N

LEGEND

Spall

Delamination

PROJECT CONTACT: Robert G. Davies

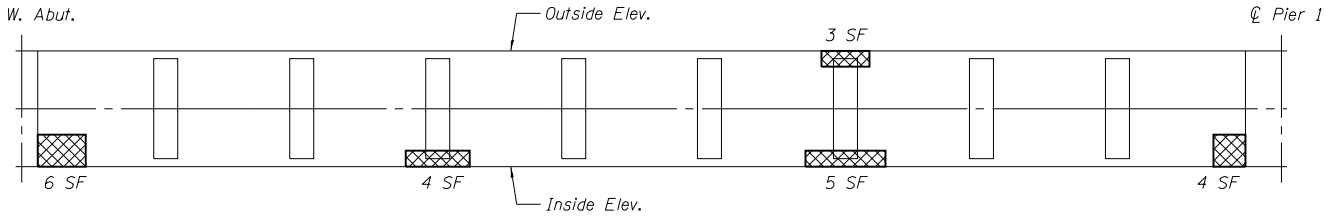
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	BOTTOM OF DECK
APPROVED: SLS	JOB NUMBER: 070696.20		
CAD DATE: 4/12/2017			
CAD FILE: 070696.20_BCR_D4.dgn			

US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO. D-4

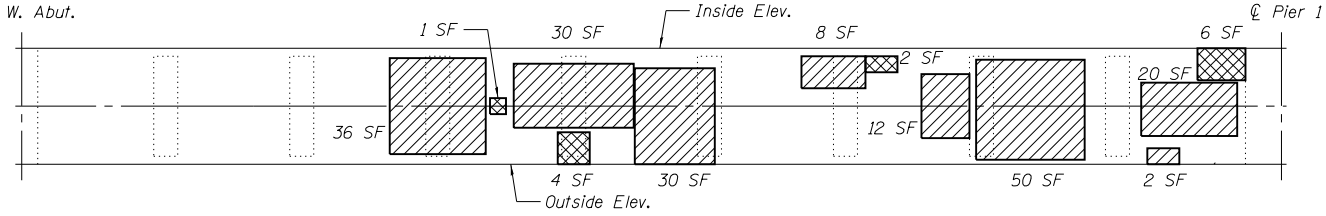
plotlabel.tbl IL_pdf_bw.pltcfg

ATTACHMENT E



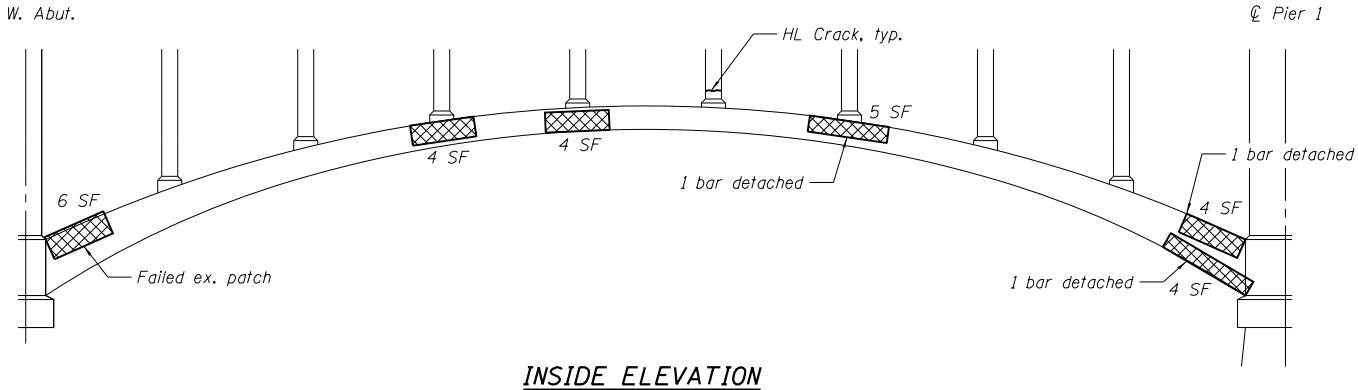
TOP OF ARCH

Looking Down



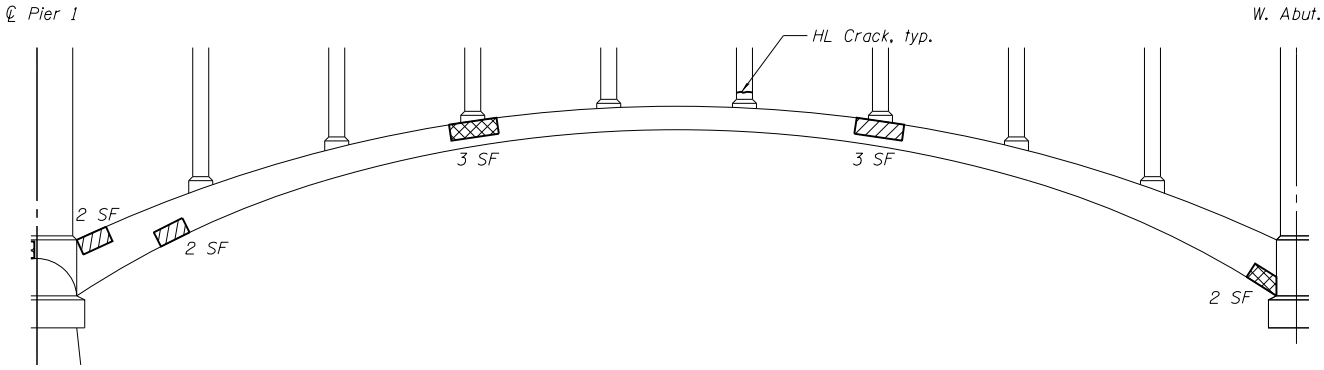
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

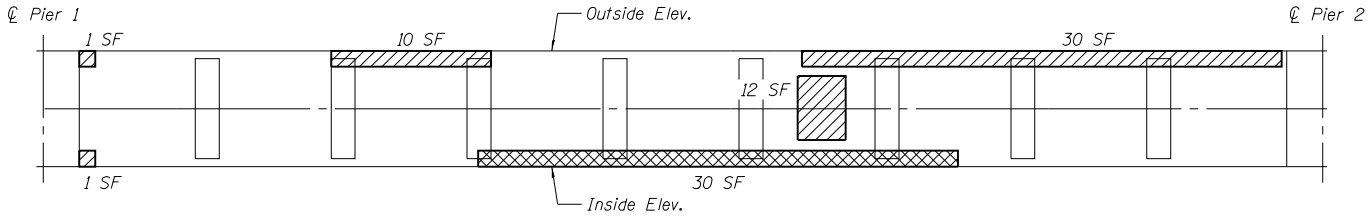
Spall

Delamination

PROJECT CONTACT: Robert G. Davies

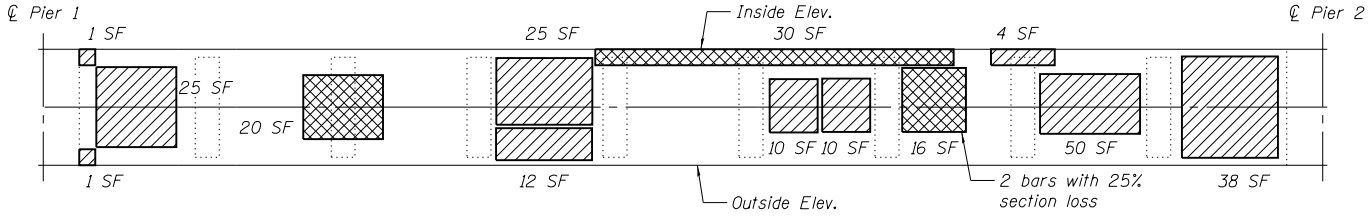
DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_N_Span 1.dgn	HRGreen.com HRGreen	**SPAN 1 – NORTH ARCH**	**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. E-1

plotlabel.tbl IL_pdf_bw.pltcfg



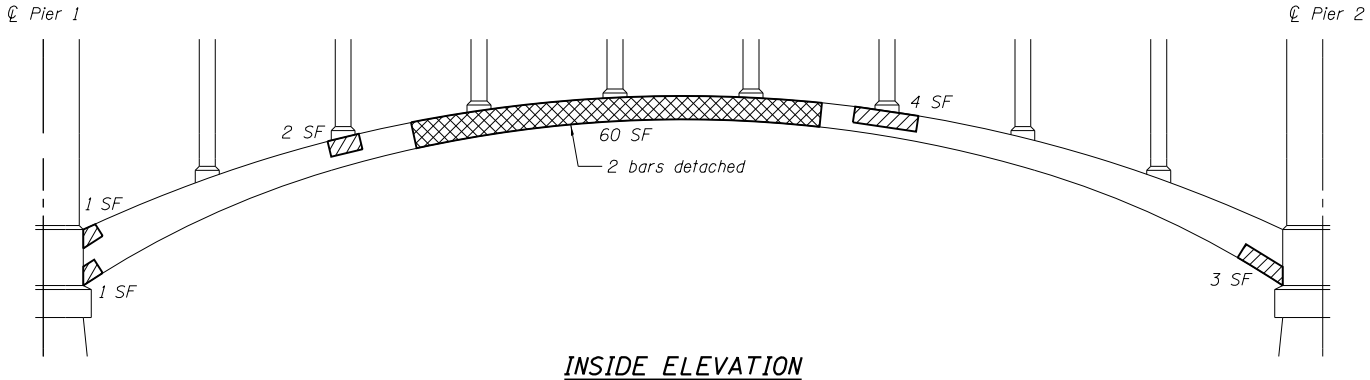
TOP OF ARCH

Looking Down



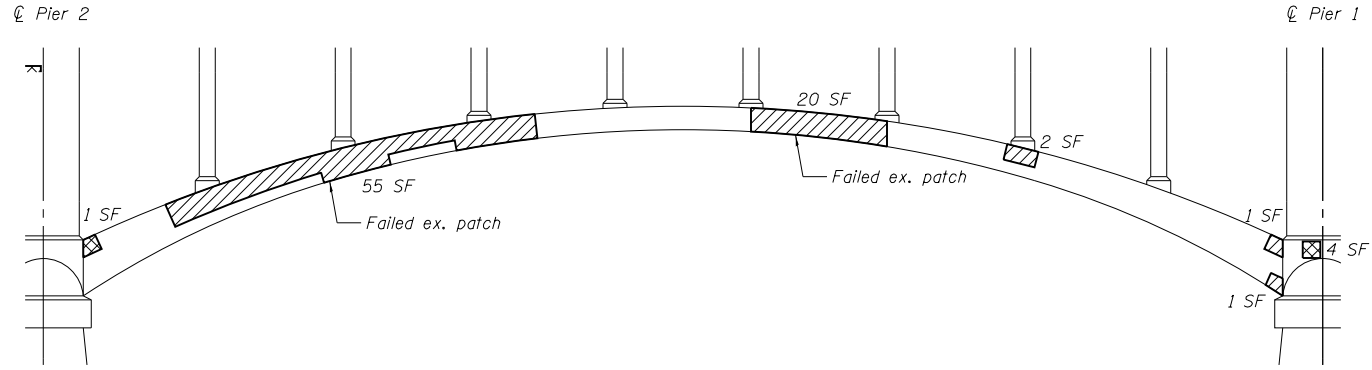
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

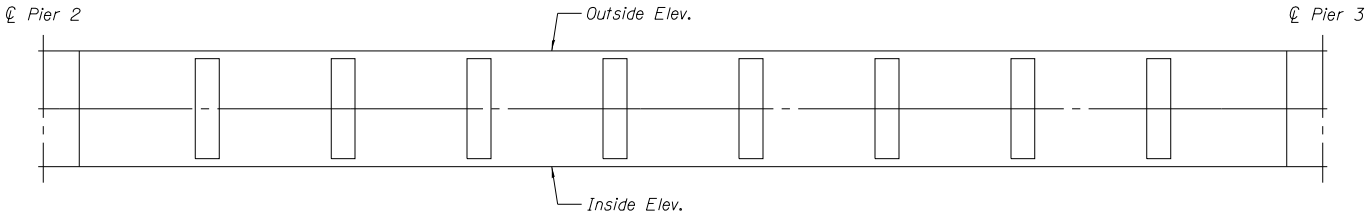
Spall

Delamination

PROJECT CONTACT: Robert G. Davies

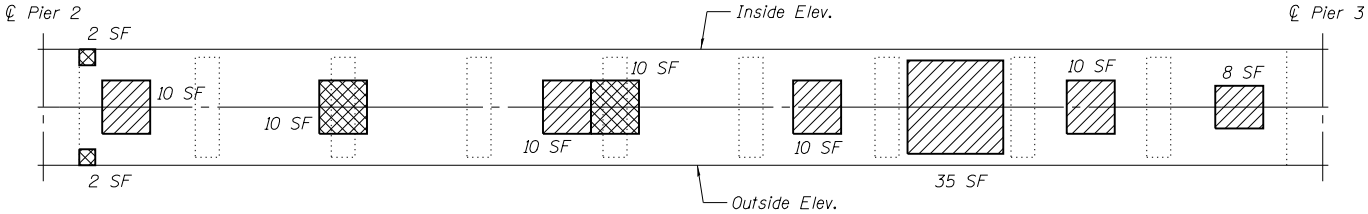
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**SPAN 2 – NORTH ARCH**
APPROVED: SLS	JOB NUMBER: 070696.20		**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-2
CAD FILE: 070696.20_BCR_N_Span 2.dgn			

plotlabel.tbl IL_pdf_bw.pltcfg



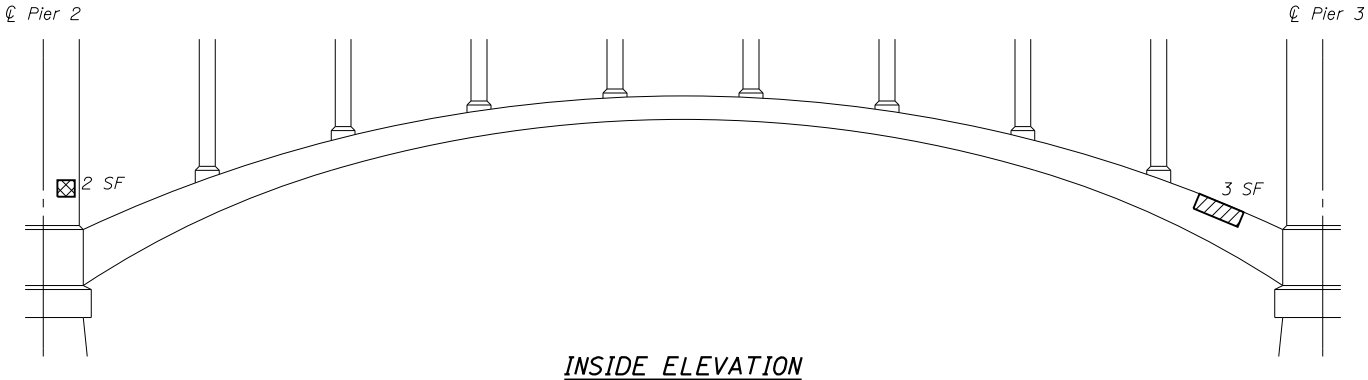
TOP OF ARCH

Looking Down



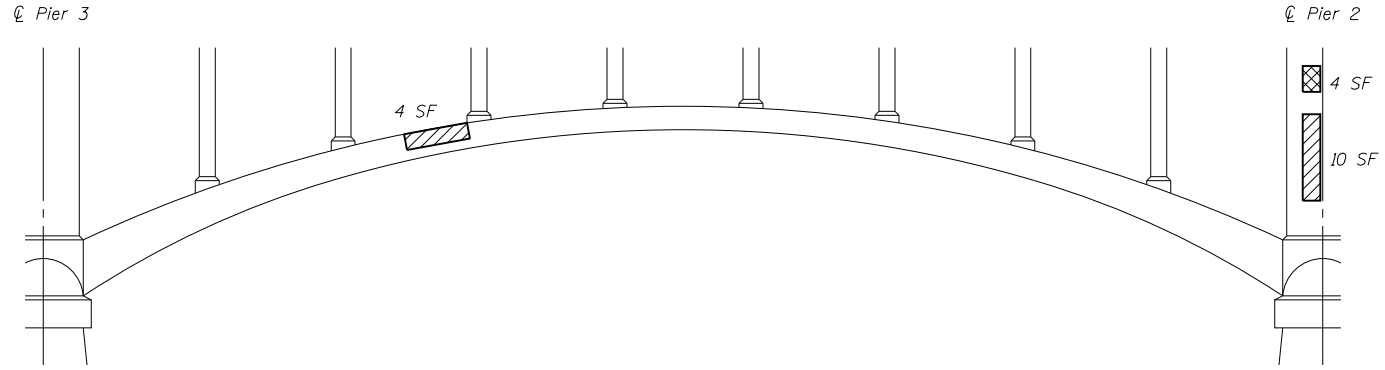
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

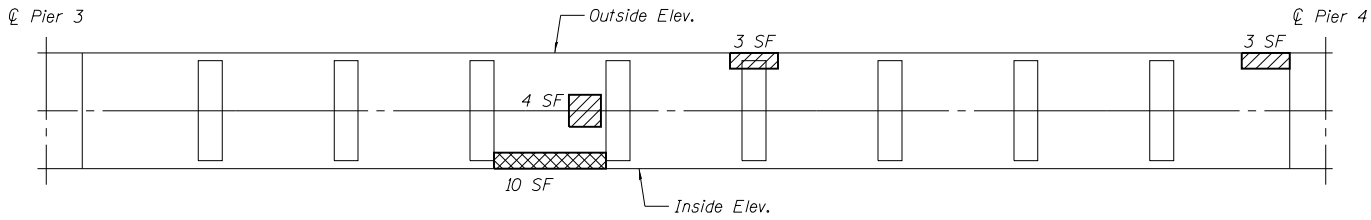
Spall

Delamination

PROJECT CONTACT: Robert G. Davies

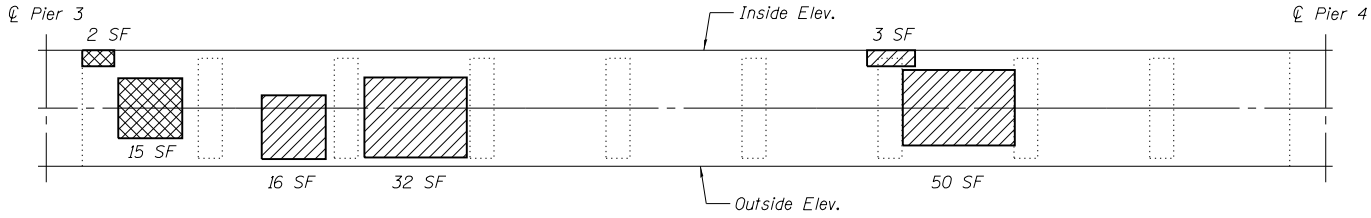
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**SPAN 3 – NORTH ARCH**
APPROVED: SLS	JOB NUMBER: 070696.20		**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-3
CAD FILE: 070696.20_BCR_N_Span 3.dgn			

plotlabel.tbl IL_pdf_bw.pltcfg



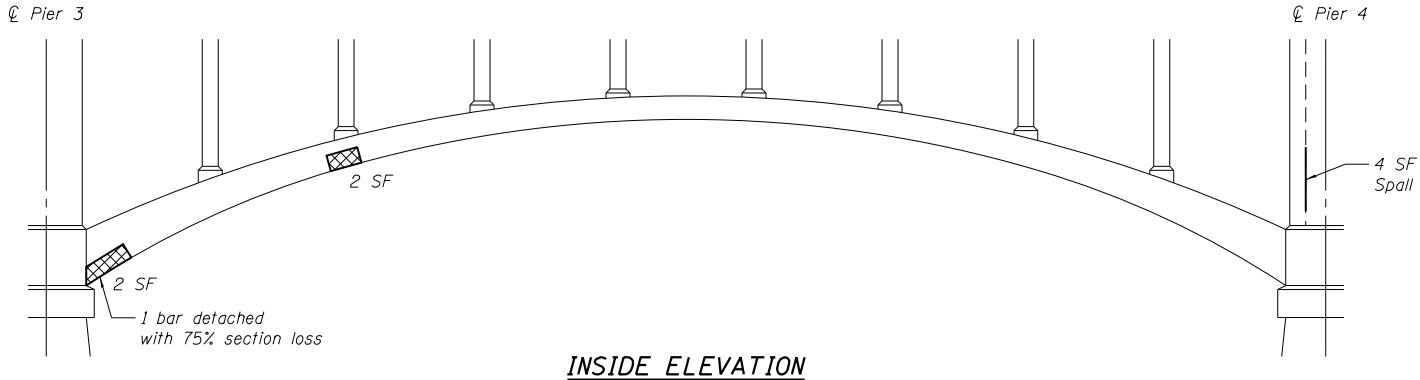
TOP OF ARCH

Looking Down



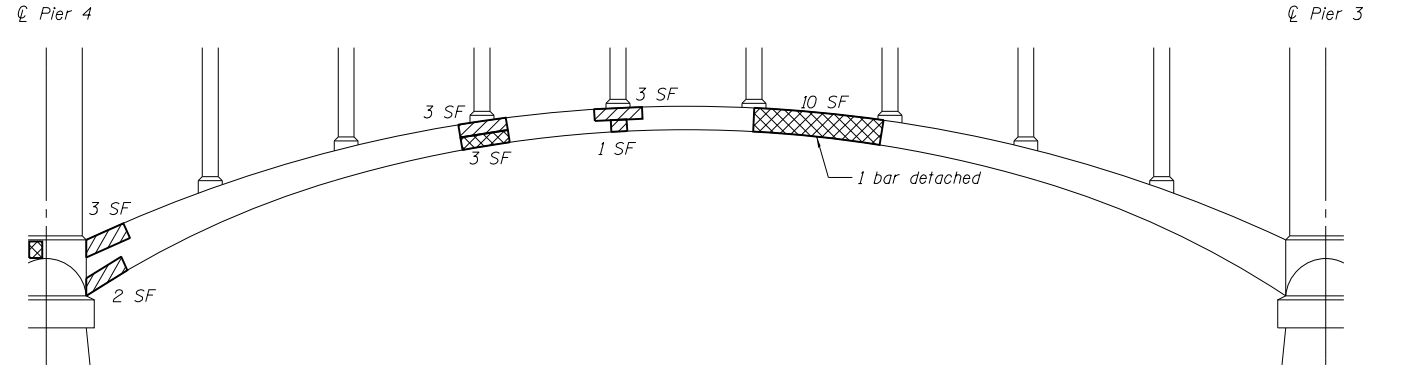
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

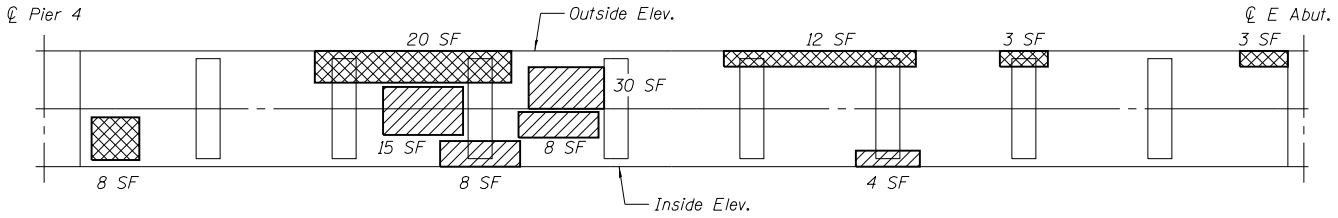
Spall

Delamination

PROJECT CONTACT: Robert G. Davies

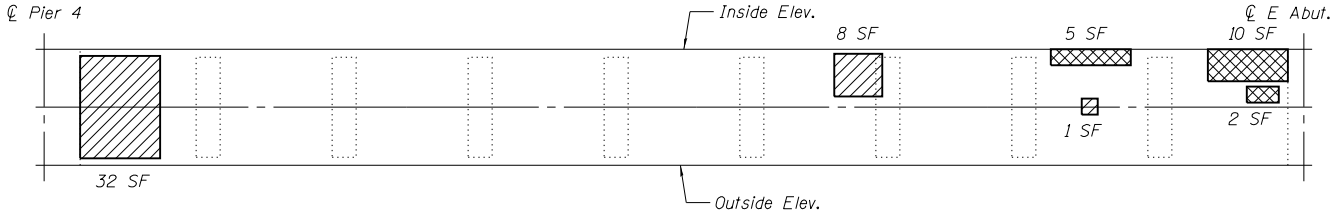
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**SPAN 4 – NORTH ARCH**
APPROVED: SLS	JOB NUMBER: 070696.20		**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-4
CAD FILE: 070696.20_BCR_N_Span 4.dgn			

plotlabel.tbl IL_pdf_bw.pltcfg



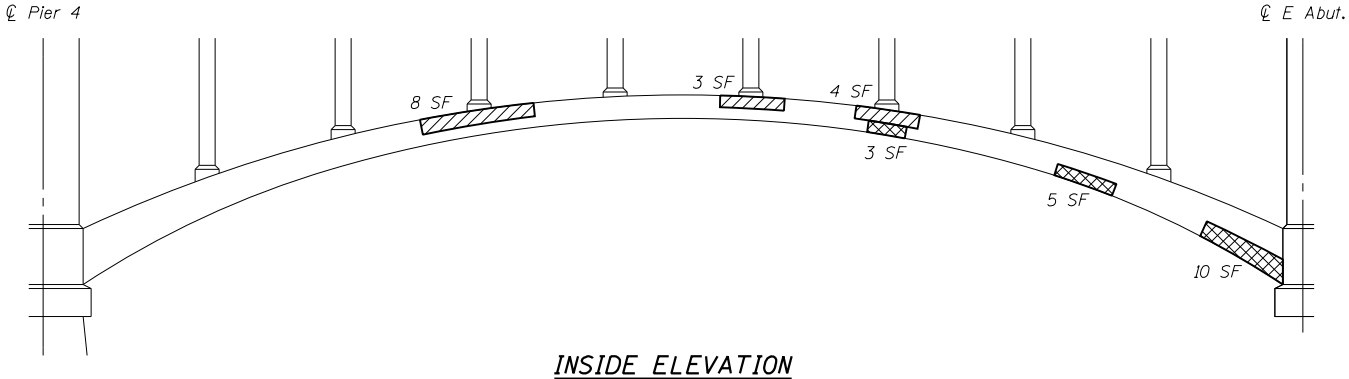
TOP OF ARCH

Looking Down



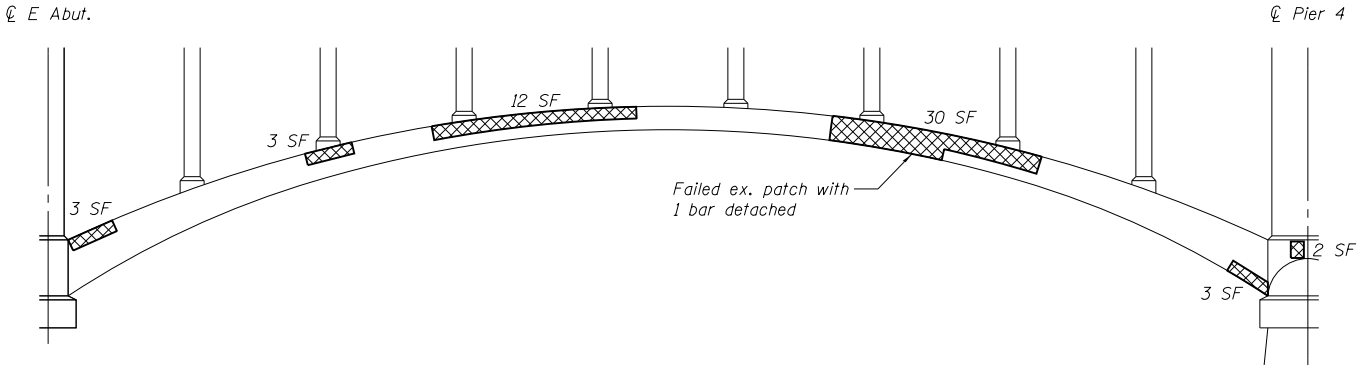
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

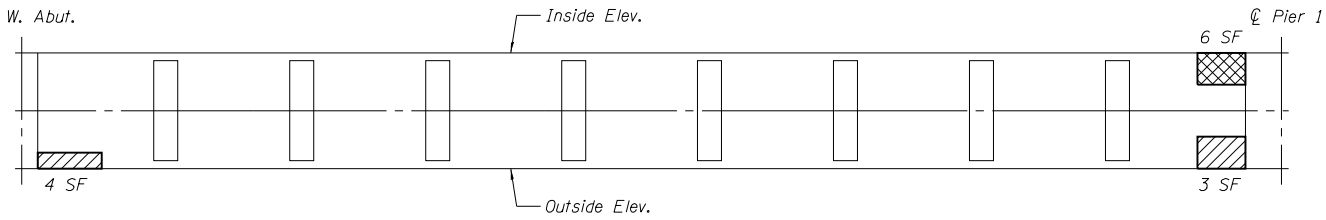
Spall

Delamination

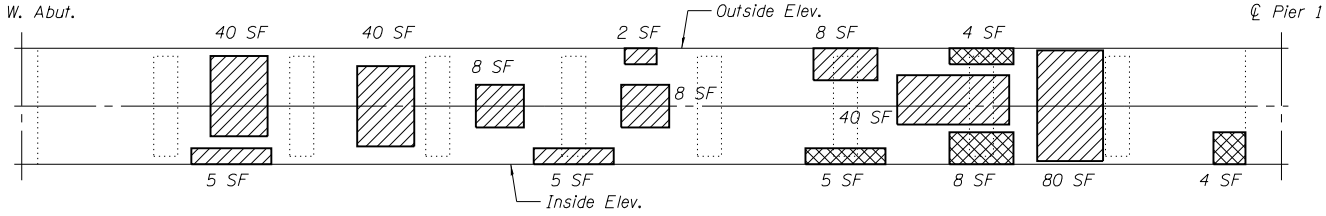
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**SPAN 5 – NORTH ARCH**
APPROVED: SLS	JOB NUMBER: 070696.20		**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-5
CAD FILE: 070696.20_BCR_N_Span 5.dgn			

PROJECT CONTACT: Robert G. Davies

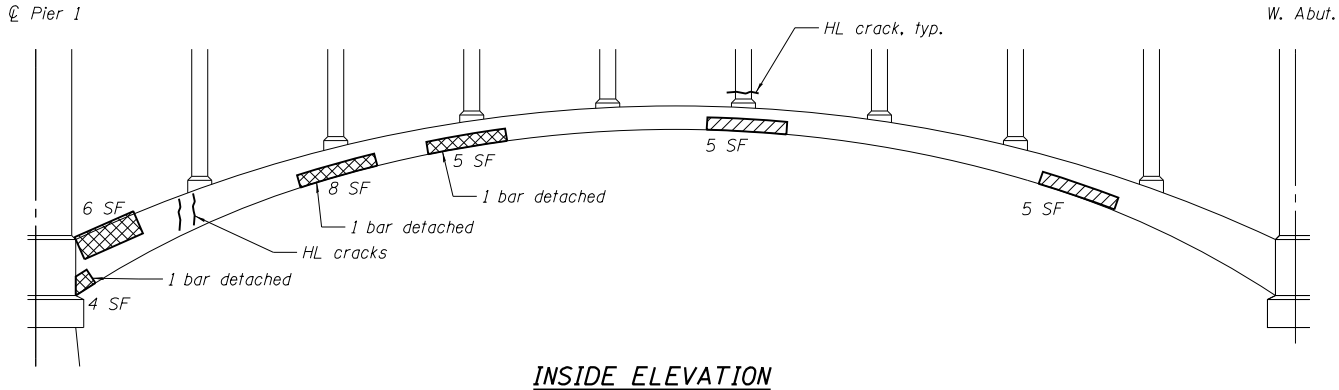
plotlabel.tbl IL_pdf_bw.pltcfg



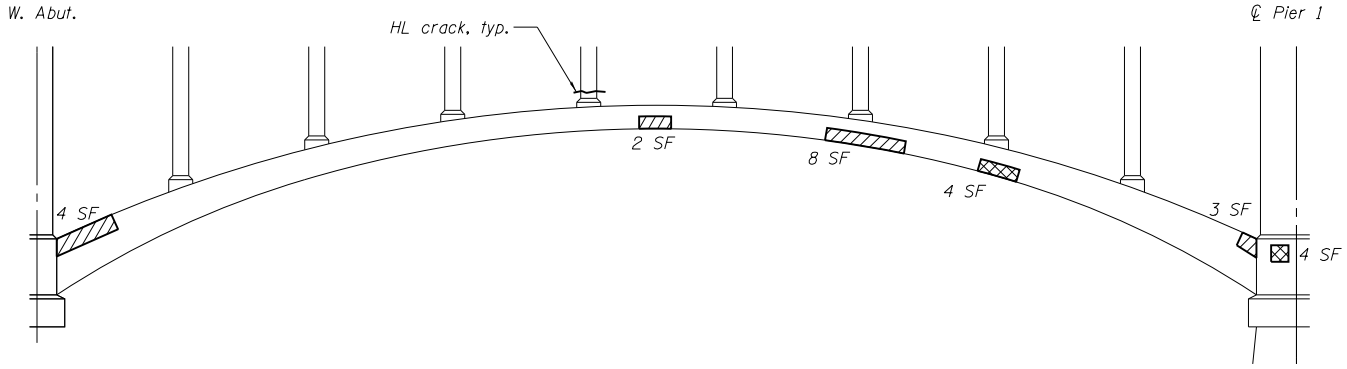
TOP OF ARCH
Looking Down



BOTTOM OF ARCH
Looking Up



INSIDE ELEVATION
Looking Out



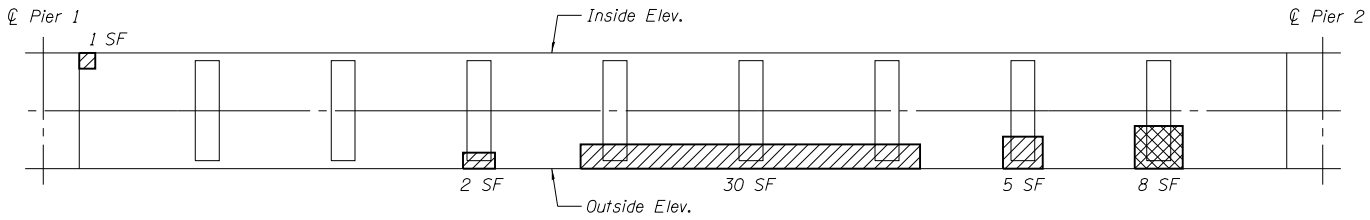
OUTSIDE ELEVATION
Looking In

LEGEND
Spall
Delamination

PROJECT CONTACT: Robert G. Davies

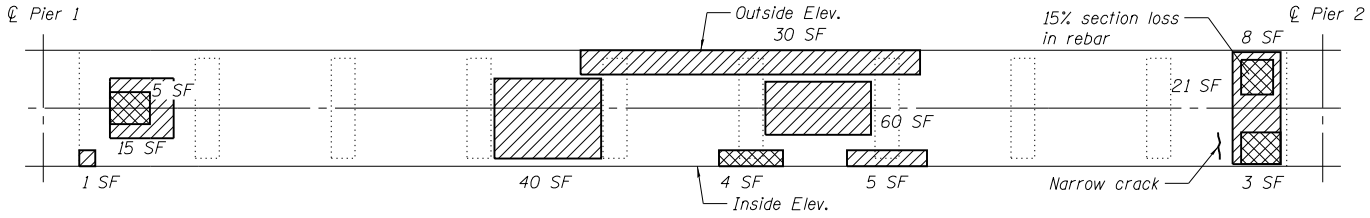
DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_S_Span 1.dgn	HRGreen.com HRGreen	**SPAN 1 – SOUTH ARCH**	**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. E-6

plotlabel.tbl IL_pdf_bw.pltcfg



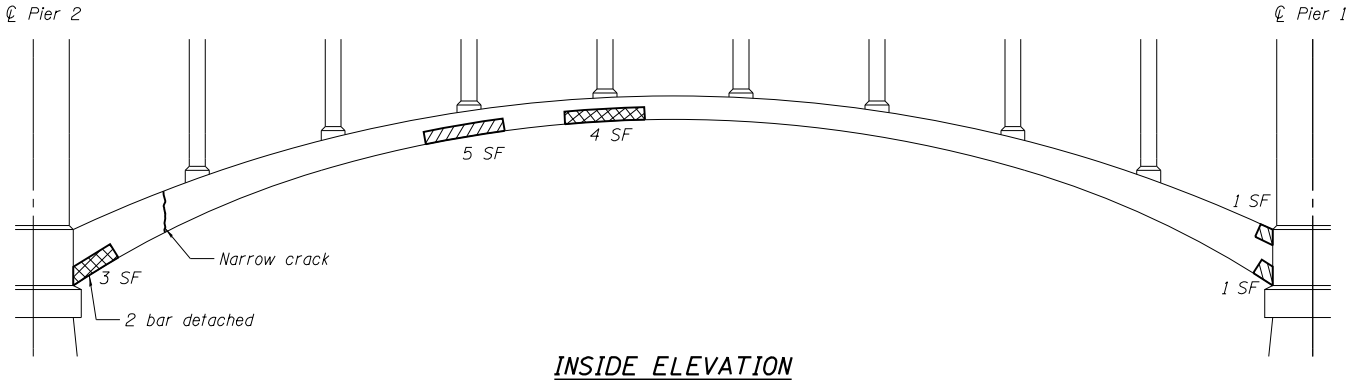
TOP OF ARCH

Looking Down



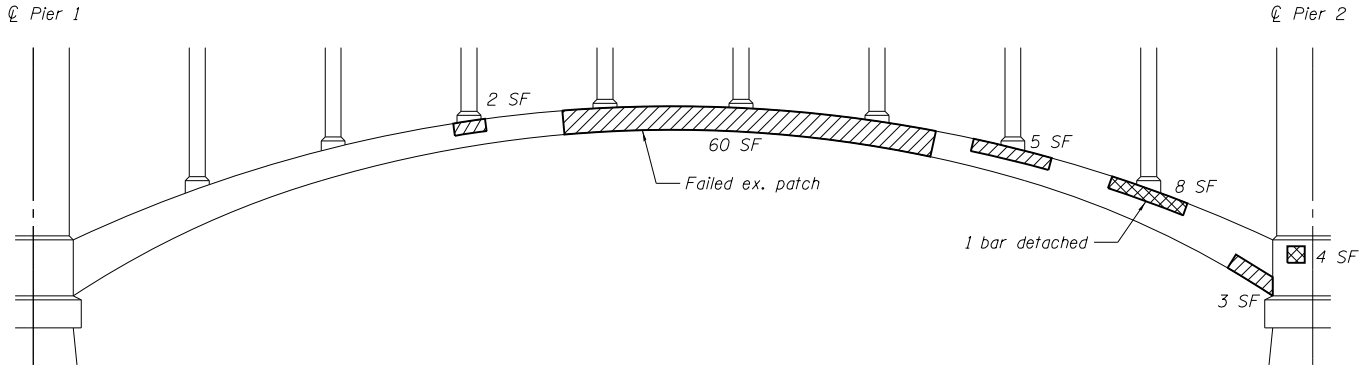
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

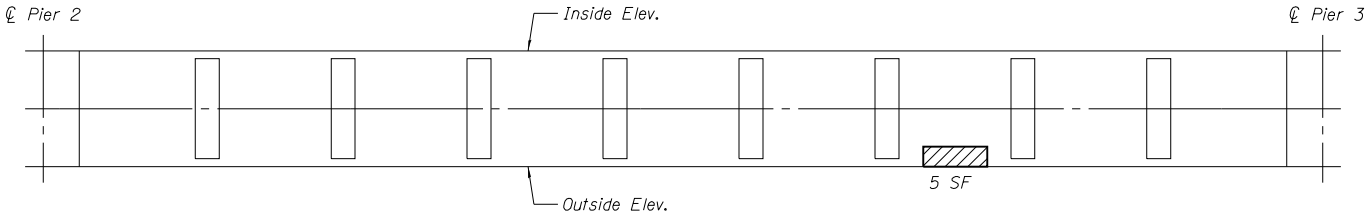
Spall

Delamination

PROJECT CONTACT: Robert G. Davies

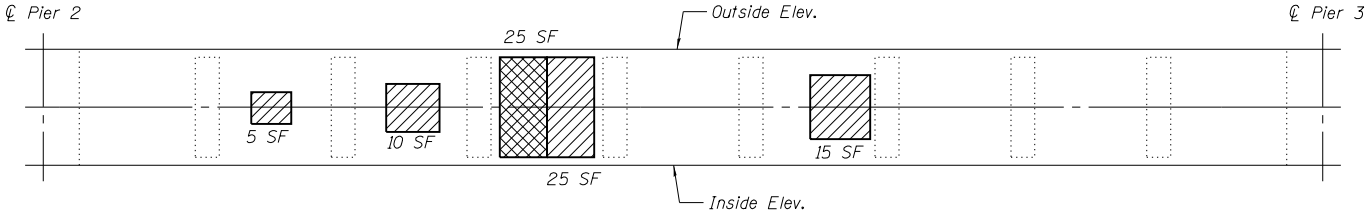
DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**SPAN 2 – SOUTH ARCH**
APPROVED: SLS	JOB NUMBER: 070696.20		**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-7
CAD FILE: 070696.20_BCR_S_Span 2.dgn			

plotlabel.tbl IL_pdf_bw.pltcfg



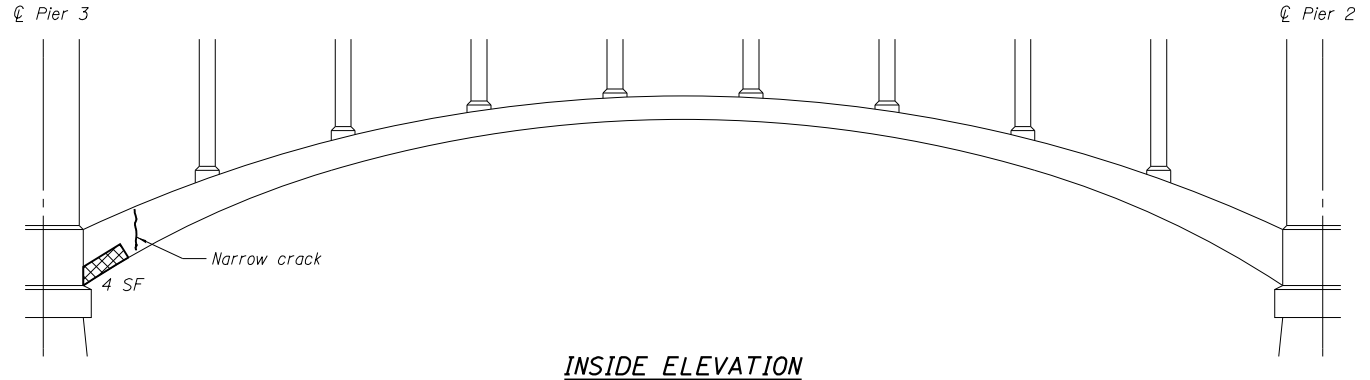
TOP OF ARCH

Looking Down



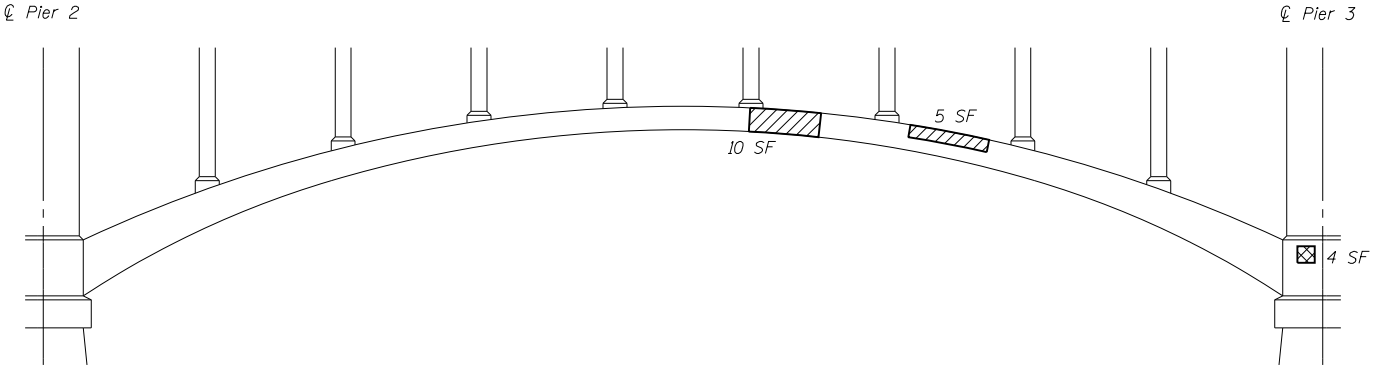
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

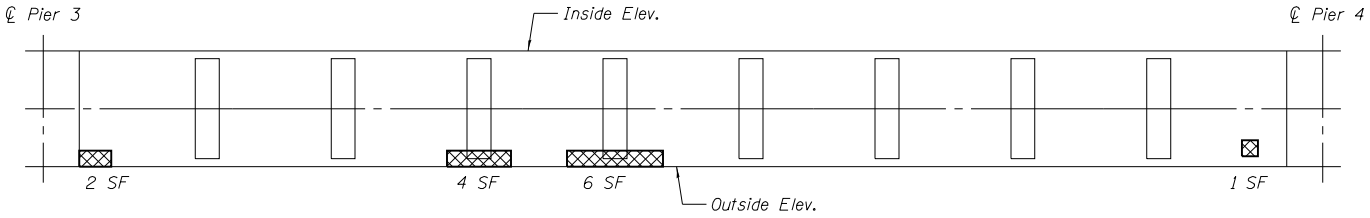
Spall

Delamination

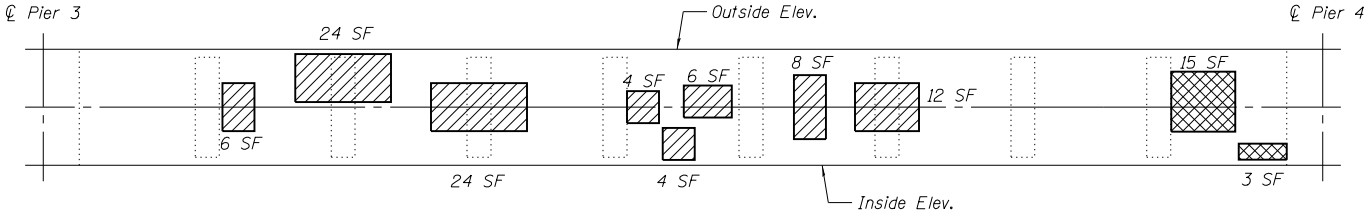
PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_S_Span 3.dgn	HRGreen.com HRGreen	**SPAN 3 – SOUTH ARCH**	**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. E-8

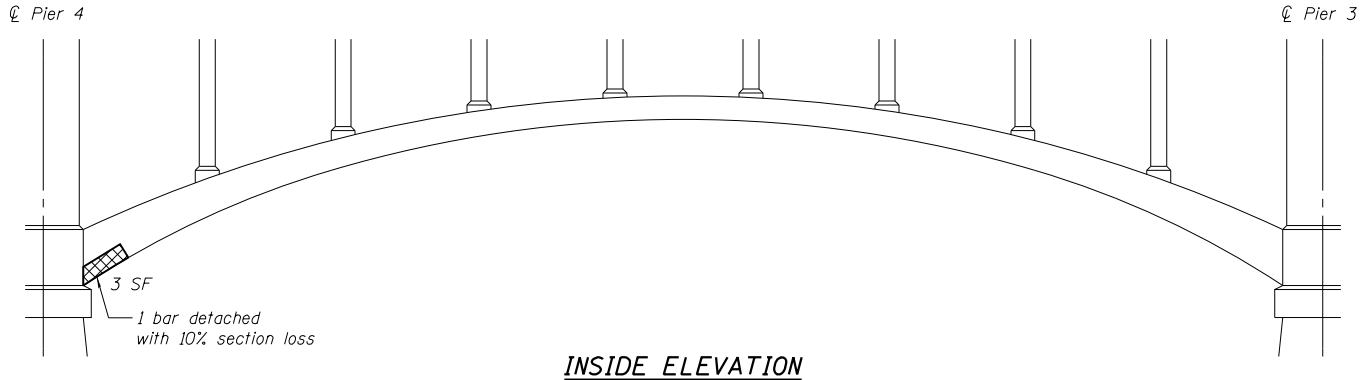
plotlabel.tbl IL_pdf_bw.pltcfg



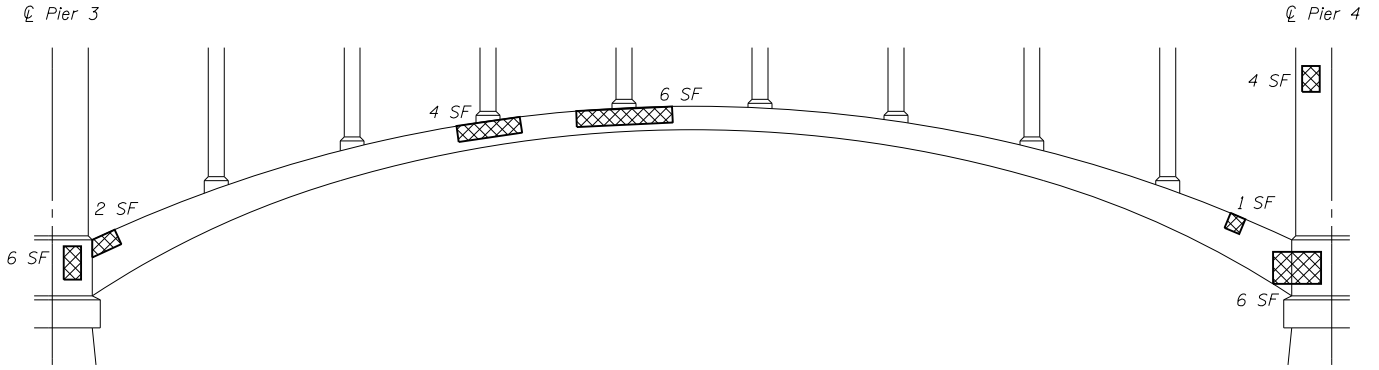
TOP OF ARCH
Looking Down



BOTTOM OF ARCH
Looking Up



INSIDE ELEVATION
Looking Out



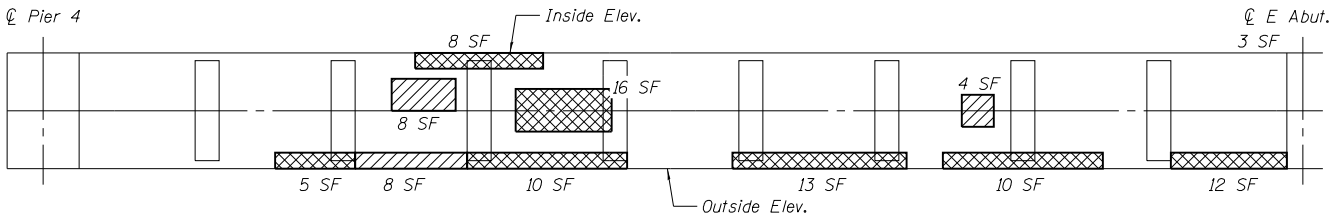
OUTSIDE ELEVATION
Looking In

LEGEND
Spall
Delamination

PROJECT CONTACT: Robert G. Davies

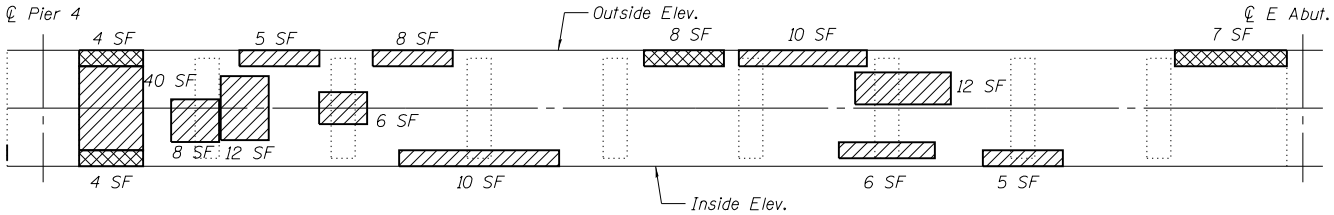
DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_S_Span 4.dgn	HRGreen.com HRGreen	**SPAN 4 – SOUTH ARCH**	**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. E-9

plotlabel.tbl IL_pdf_bw.pltcfg



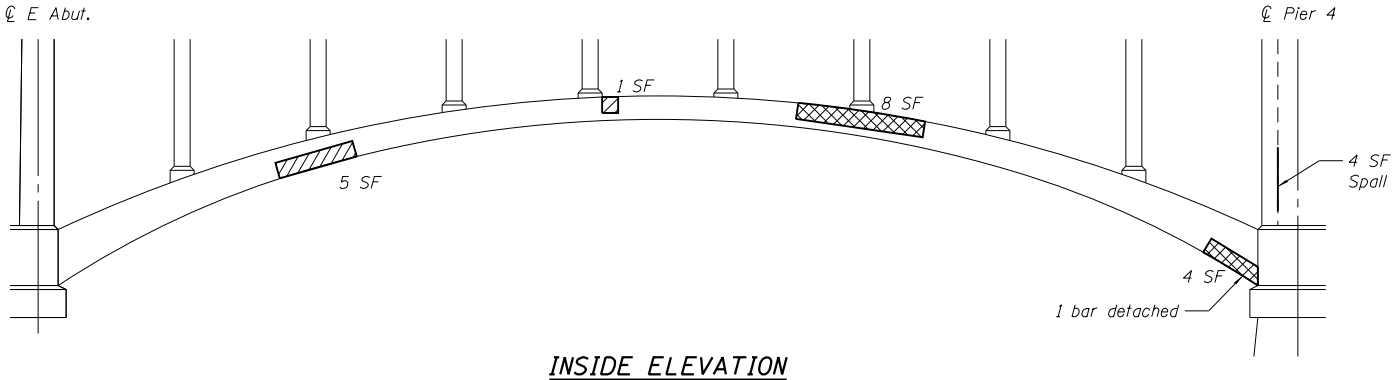
TOP OF ARCH

Looking Down



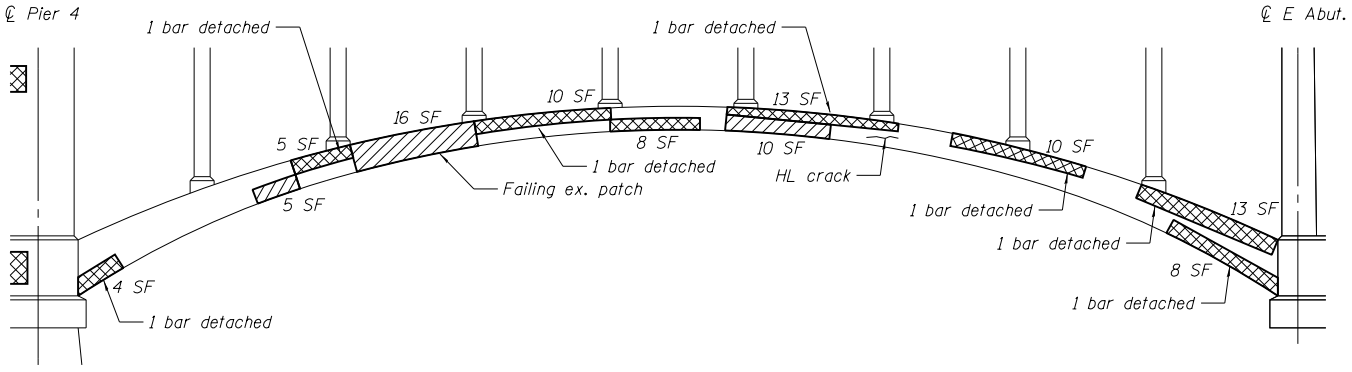
BOTTOM OF ARCH

Looking Up



INSIDE ELEVATION

Looking Out



OUTSIDE ELEVATION

Looking In

LEGEND

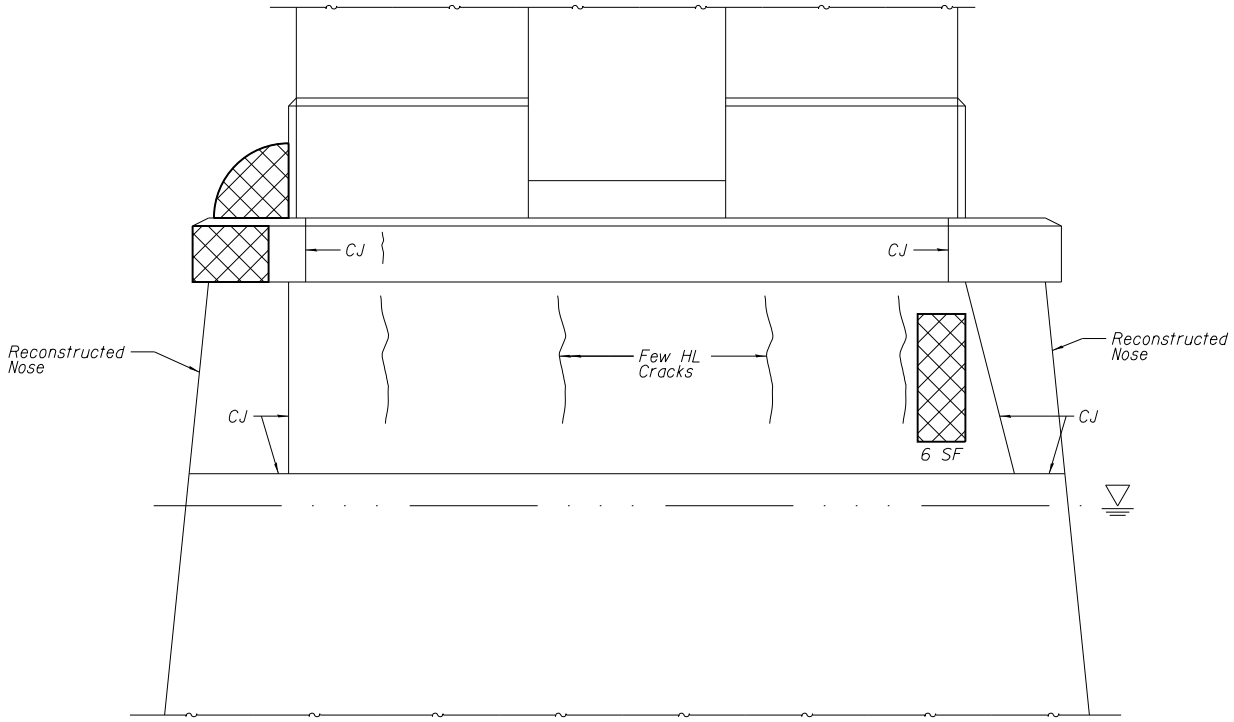
Spall

Delamination

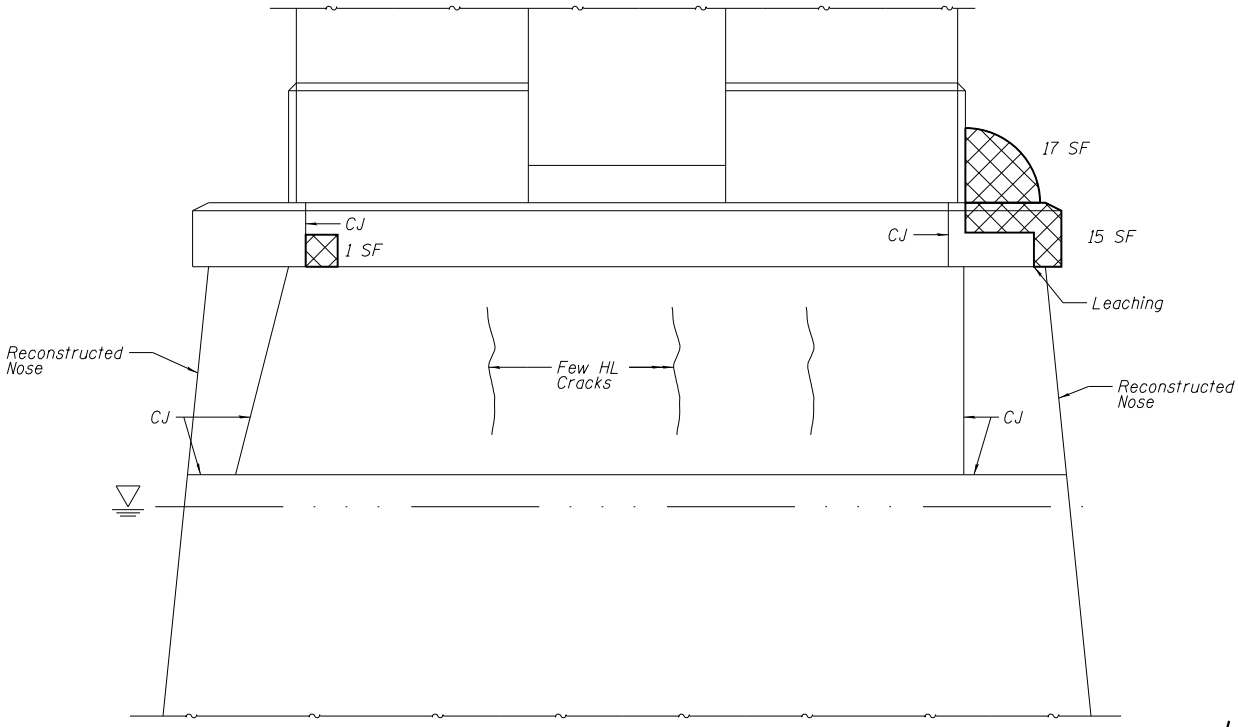
PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 3/24/2017 CAD FILE: 070696.20_BCR_S_Span 5.dgn	HRGreen.com HRGreen	**SPAN 5 – SOUTH ARCH**	**US RTE 52 OVER THE FOX RIVER** **SN 050–0058(ex)** **LASALLE COUNTY, ILLINOIS**	SHEET NO. E-10

plotlabel.tbl IL_pdf_bw.pltcfg



WEST FACE
Looking East



EAST FACE
Looking West

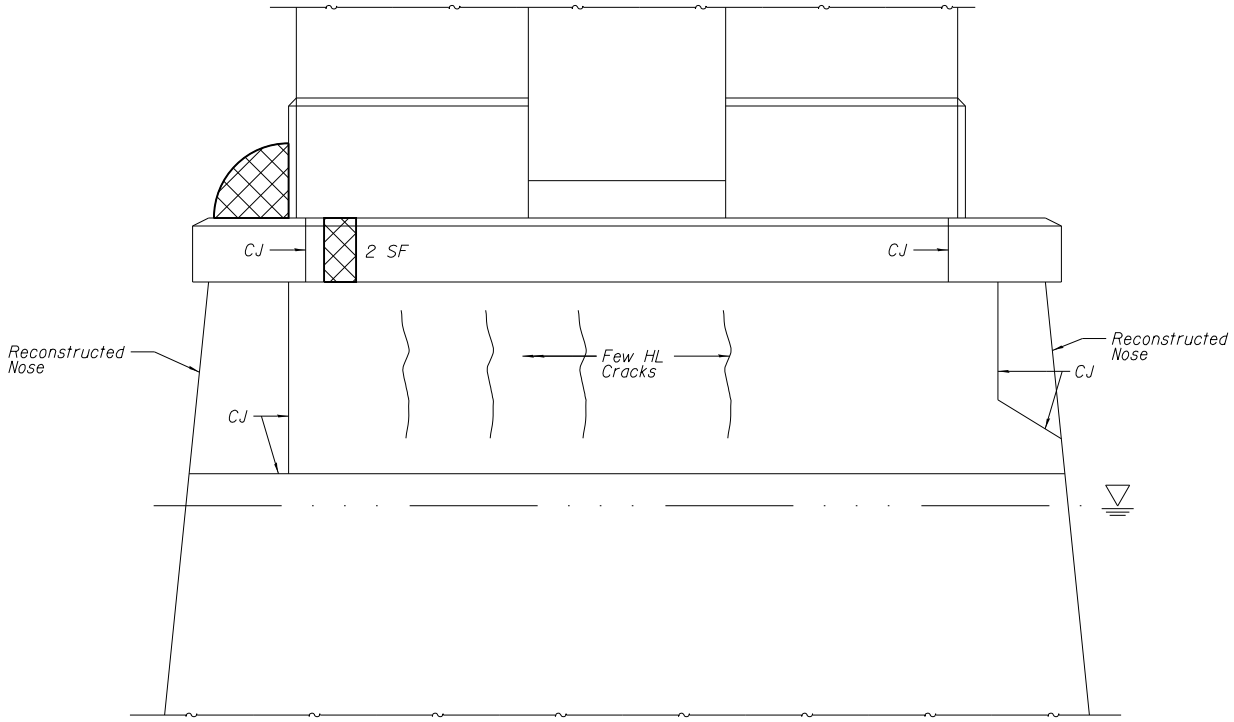
LEGEND

	Spall
	Delamination
N	Narrow Crack
HL	Hairline Crack

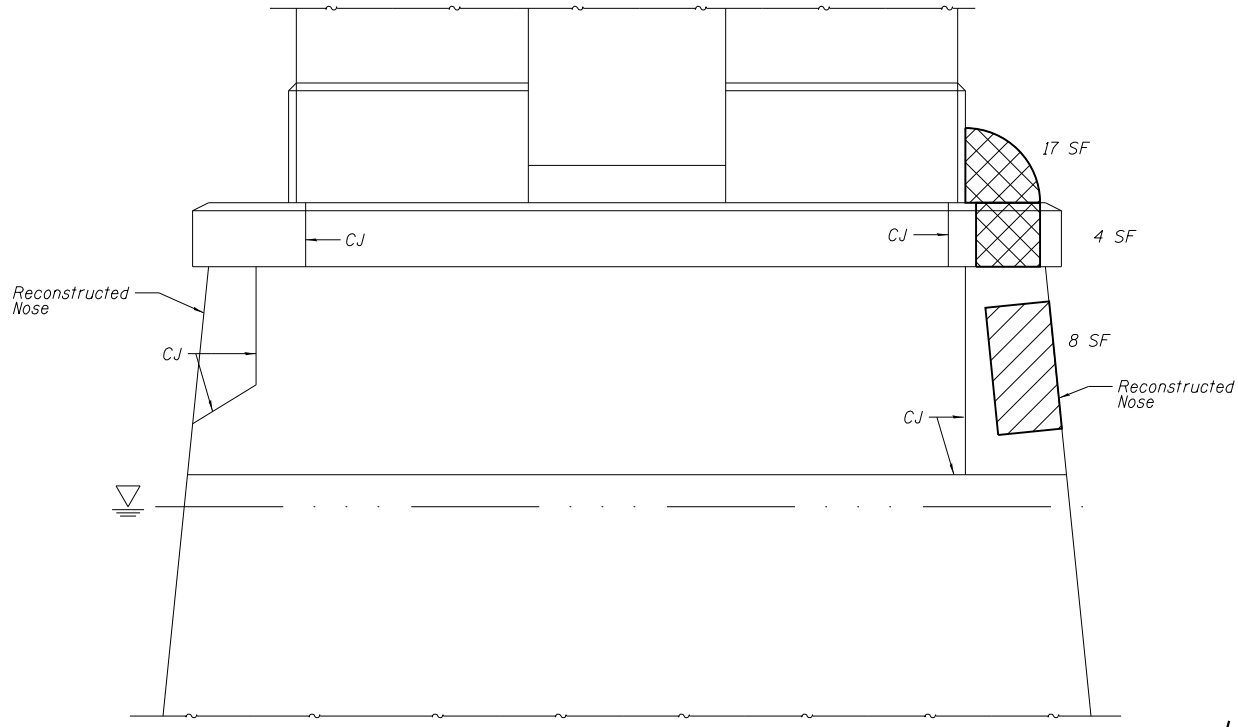
PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	**PIER 1**
APPROVED: SLS	JOB NUMBER: 070696.20	HRGreen	**US RTE 52 OVER THE FOX RIVER** **SN 050-0058(ex)** **LASALLE COUNTY, ILLINOIS**
CAD DATE: 3/24/2017			SHEET NO. E-11
CAD FILE: 070696.20_BCR_Pier 1.dgn			

plotlabel.tbl IL_pdf_bw.pltcfg



WEST FACE
Looking East



EAST FACE
Looking West

LEGEND

	Spall
	Delamination
N	Narrow Crack
HL	Hairline Crack

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016
APPROVED: SLS JOB NUMBER: 070696.20
CAD DATE: 3/24/2017
CAD FILE: 070696.20_BCR_Pier 2.dgn

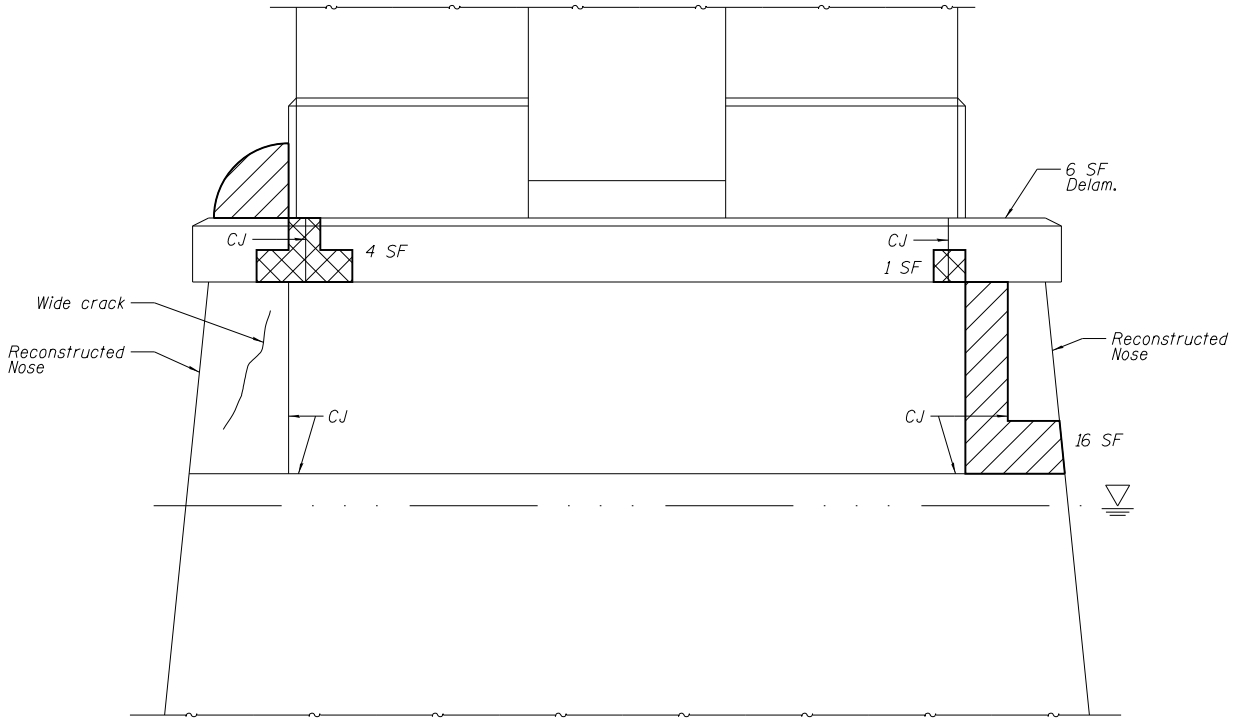
HRGreen.com
HRGreen

PIER 2

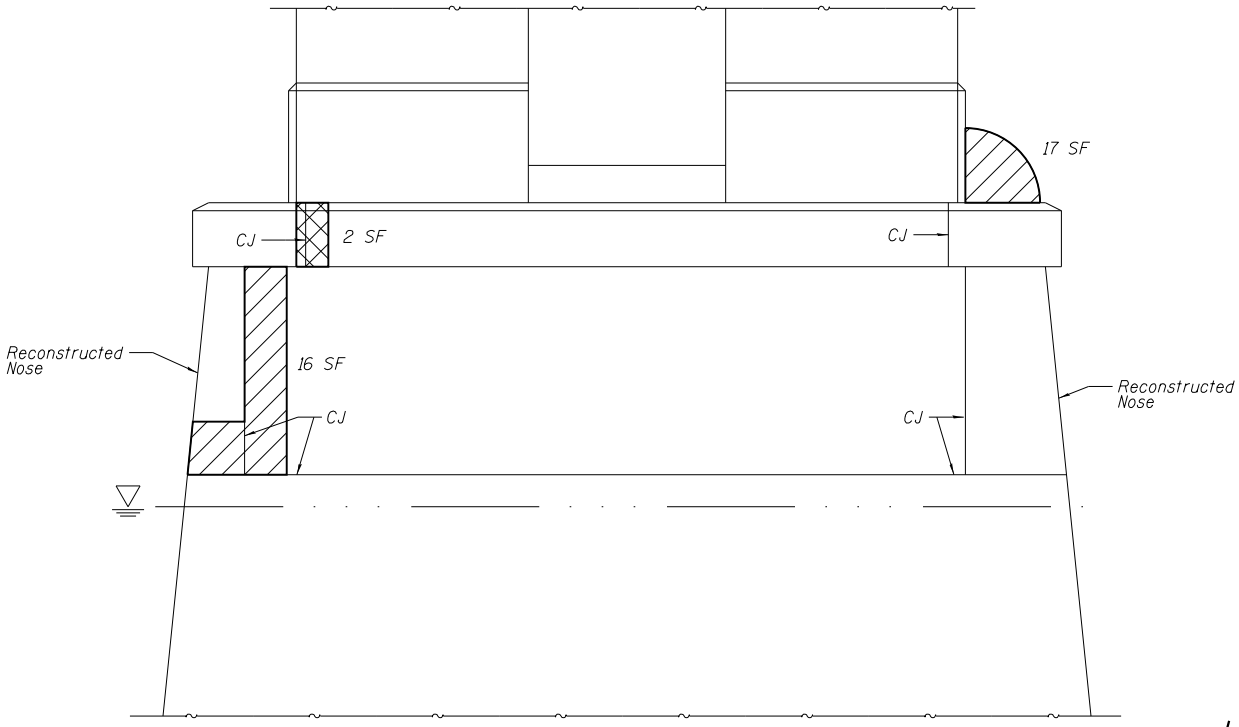
US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO.
E-12

plotlabel.tbl IL_pdf_bw.pltcfg



WEST FACE
Looking East



EAST FACE
Looking West

LEGEND

	Spall
	Delamination
N	Narrow Crack
HL	Hairline Crack

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016
APPROVED: SLS JOB NUMBER: 070696.20
CAD DATE: 3/24/2017
CAD FILE: 070696.20_BCR_Pier 3.dgn

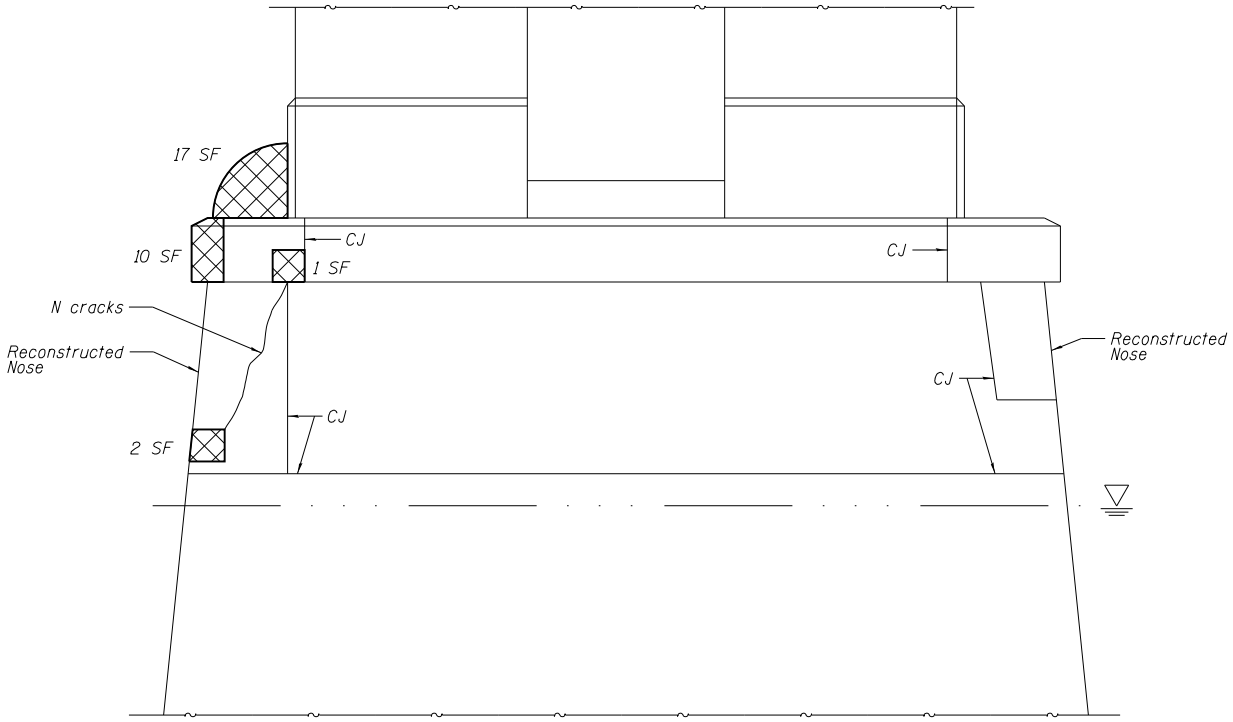
HRGreen.com
HRGreen

PIER 3

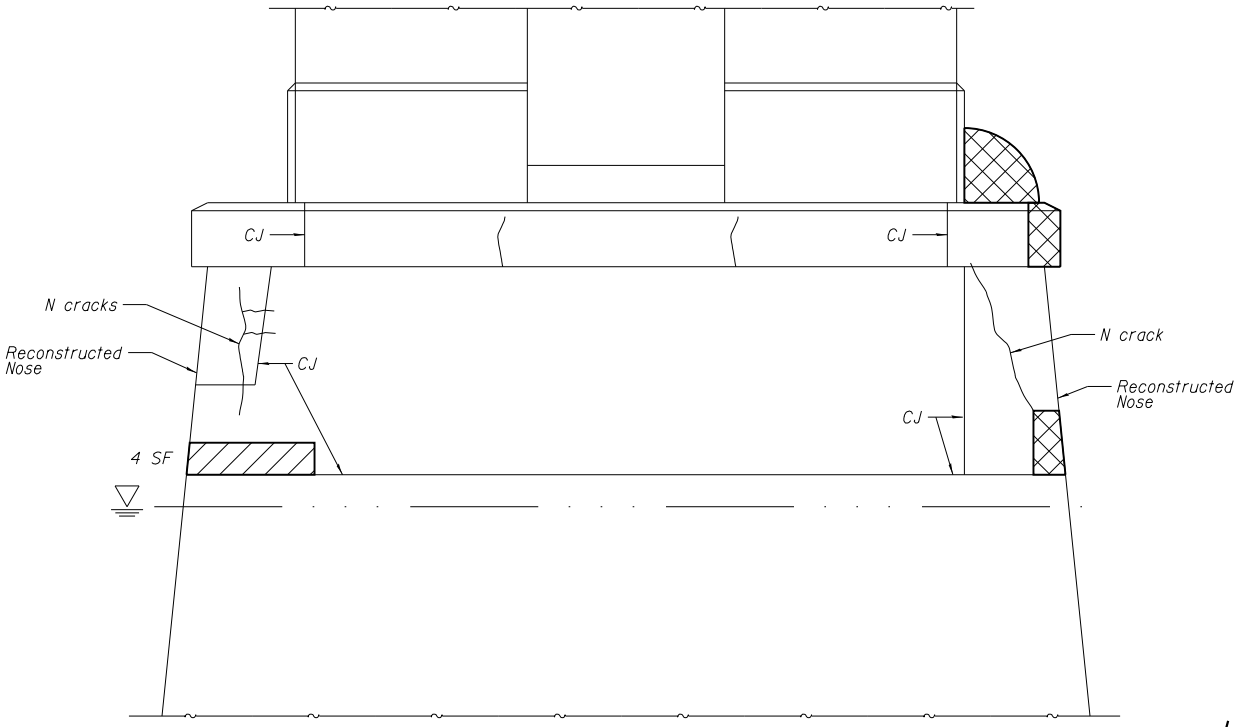
US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO.
E-13

plotlabel.tbl IL_pdf_bw.pltcfg



WEST FACE
Looking East



EAST FACE
Looking West

LEGEND

	Spall
	Delamination
N	Narrow Crack
HL	Hairline Crack

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016
APPROVED: SLS JOB NUMBER: 070696.20
CAD DATE: 3/24/2017
CAD FILE: 070696.20_BCR_Pier 4.dgn

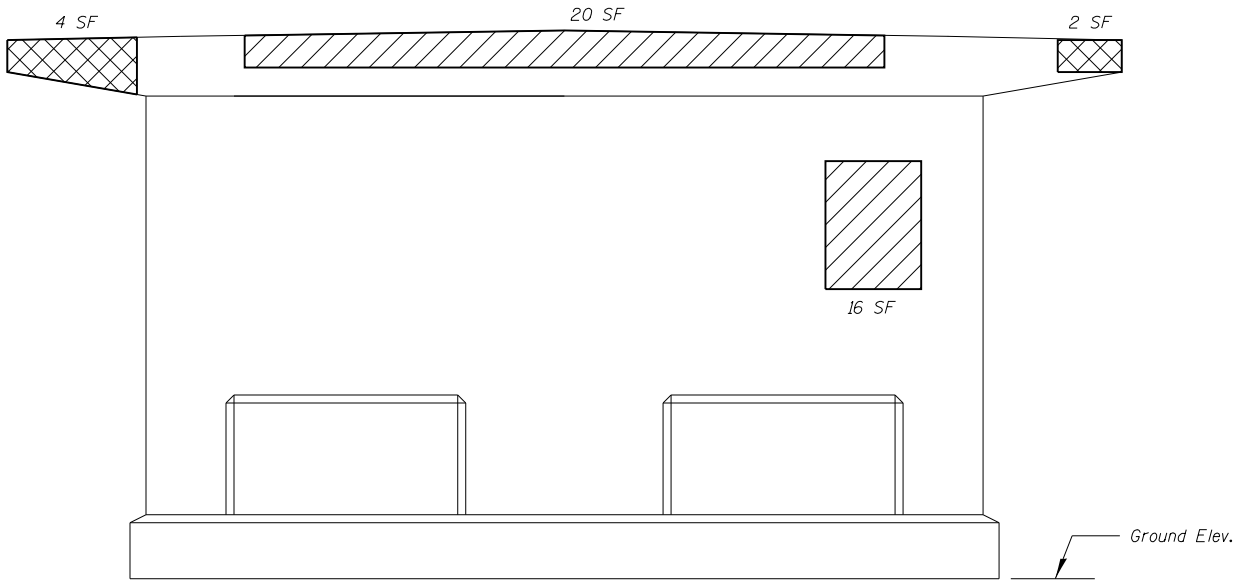
HRGreen.com
HRGreen

PIER 4

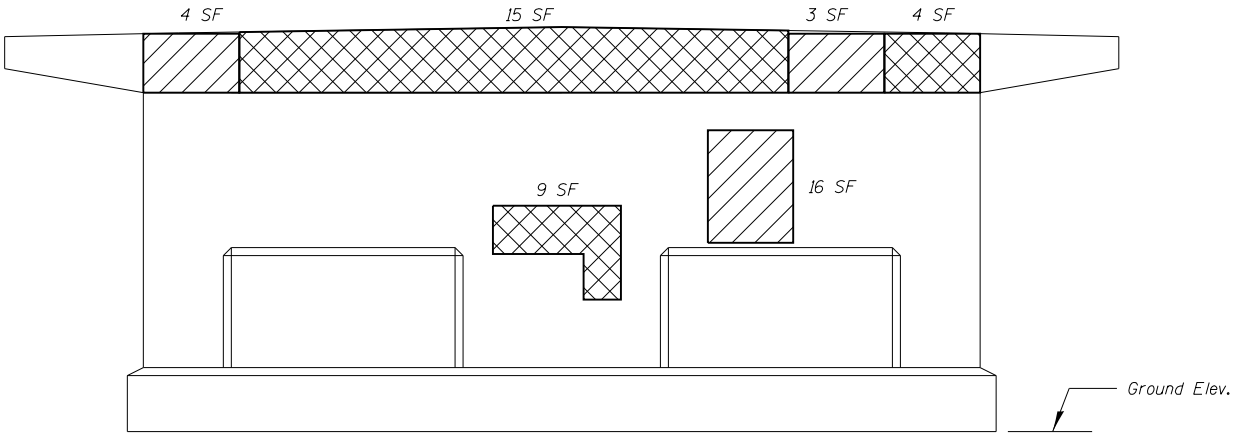
US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO.
E-14

plotlabel.tbl IL_pdf_bw.pltcfg



WEST ABUTMENT



EAST ABUTMENT

LEGEND

Spall

Delamination

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016
APPROVED: SLS JOB NUMBER: 070696.20
CAD DATE: 3/24/2017
CAD FILE: 070696.20_BCR_W_Abut.dgn

HRGreen.com
HRGreen

ABUTMENTS

US RTE 52 OVER THE FOX RIVER
SN 050-0058(ex)
LASALLE COUNTY, ILLINOIS

SHEET NO.
E-15

plotlabel.tbl IL_pdf_bw.pltcfg

ATTACHMENT F

Client: IDOT District 3
Job Name: W.O. #20; US 52 over Fox River
Job No.: 070696.20
PTB:
Date: 3/13/2017
SN 05-0058

OPINION OF PROBABLE COST

OPTION 1 - DECK REHABILITATION

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
40600982	Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	200	$20.00	$4,000.00
50102400	Concrete Removal	Cu. Yd.	105	$2,000.00	$210,000.00
50300255	Concrete Superstructure	Cu. Yd.	140	$800.00	$112,000.00
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	150	$400.00	$60,000.00
52000110	Preformed Joint Strip Seal, 4"	Foot	211	$350.00	$73,850.00
59000200	Epoxy Crack Injection	Foot	400	$75.00	$30,000.00
X7010216	Traffic Control and Protection	L. Sum	1	$25,000.00	$25,000.00
Z0006014	Bridge Deck Latex Concrete Overlay 2 1/4"	Sq. Yd.	1636	$100.00	$163,600.00
Z0012102	Concrete Bridge Deck Scarification 3/8 Inch	Sq.Yd.	1556	$35.00	$54,460.00
Z0012754	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	3250	$300.00	$975,000.00
Z0016001	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	90	$2,000.00	$180,000.00
Z0016002	Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	90	$2,000.00	$180,000.00
Z0016200	Deck Slab Repair (Partial)	Sq.Yd.	23	$700.00	$16,100.00
Z0018000	Drainage Scuppers, Special	Each	50	$4,000.00	$200,000.00
	Drainage Repairs	L. Sum	1	$40,000.00	$40,000.00
				SUBTOTAL	$2,324,010.00
	Mobilization (6%)	L. Sum	1	$139,440.60	$139,440.60
				SUBTOTAL	$2,463,450.60
	Minor Items Not Included Above (20%)				$492,690.12
				SUBTOTAL	$2,956,140.72

Construction (with 3 yr. interest of 1.5% per year)	**TOTAL**	**$3,091,172.42**
Phase II Engineering (10%)	SUBTOTAL	$309,117.24
Phase III Engineering (10%)	SUBTOTAL	$309,117.24
Construction & Engineering Total	**TOTAL**	**$3,709,406.91**

Client: IDOT District 3
Job Name: W.O. #20; US 52 over Fox River
Job No.: 070696.20
PTB:
Date: 3/13/2017
SN 05-0058

OPINION OF PROBABLE COST

OPTION 2 - SUPERSTRUCTURE REPLACEMENT

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
40600982	Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	200	$20.00	$4,000.00
50102400	Concrete Removal	Cu. Yd.	132	$500.00	$66,000.00
50104720	Removal of Existing Concrete Deck	Each	1	$130,000.00	$130,000.00
50300225	Concrete Structures	Cu. Yd.	100	$650.00	$65,000.00
50300255	Concrete Superstructure	Cu. Yd.	600	$800.00	$480,000.00
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	100	$400.00	$40,000.00
50500405	Furnishing and Erecting Structural Steel	Pound	612,000	$2.00	$1,224,000.00
50800205	Reinforcement Bars, Epoxy Coated	Pound	90,000	$2.00	$180,000.00
52000110	Preformed Joint Strip Seal, 4"	Foot	106	$350.00	$37,100.00
52100030	Elastomeric Bearing Assembly, Type III	Each	18	$1,500.00	$27,000.00
58700300	Concrete Sealer	Sq.Ft.	2900	$2.00	$5,800.00
59000200	Epoxy Crack Injection	Foot	400	$75.00	$30,000.00
X7010216	Traffic Control and Protection	L. Sum	1	$25,000.00	$25,000.00
Z0004552	Approach Slab Removal	Sq.Yd.	240	$60.00	$14,400.00
Z0012754	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	3250	$300.00	$975,000.00
Z0018000	Drainage Scuppers, Special	Each	50	$4,000.00	$200,000.00
	Drainage Repairs	L. Sum	1	$40,000.00	$40,000.00
				SUBTOTAL	$3,543,300.00
	Mobilization (6%)	L. Sum	1	$212,598.00	$212,598.00
				SUBTOTAL	$3,755,898.00
Minor Items Not Included Above (20%)					$751,179.60
				SUBTOTAL	$4,507,077.60

Construction (with 3 yr. interest of 1.5% per year)	**TOTAL**	**$4,712,953.58**
Phase II Engineering (10%)	SUBTOTAL	$471,295.36
Phase III Engineering (10%)	SUBTOTAL	$471,295.36
Construction & Engineering Total	**TOTAL**	**$5,655,544.30**

Client: IDOT District 3
Job Name: W.O. #20; US 52 over Fox River
Job No.: 070696.20
PTB:
Date: 3/13/2017
SN 05-0058

OPINION OF PROBABLE COST

OPTION 3 - COMPLETE BRIDGE REPLACEMENT (Non-Historic)

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
	Land Acquisition	L. Sum	1	$250,000.00	$250,000.00
	Tree & Brush Removal	L. Sum	1	$50,000.00	$50,000.00
20200100	Earth Excavation (Widening)	Cu. Yd.	100	$12.00	$1,200.00
20201200	Removal and Disposal of Unsuitable Material	Cu. Yd.	100	$30.00	$3,000.00
20400100	Borrow Excavation	Cu. Yd.	900	$20.00	$18,000.00
20700220	Porous Granular Embankment	Cu. Yd.	200	$40.00	$8,000.00
40600982	Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	200	$20.00	$4,000.00
44000100	Pavement Removal	Sq.Yd.	5,000	$12.00	$60,000.00
50100100	Removal of Existing Structures	L. Sum	1	$750,000.00	$750,000.00
50200300	Cofferdam Excavation	Cu. Yd.	532	$50.00	$26,600.00
50201101	Cofferdam, Type 1, 2 Locations	Each	2	$100,000.00	$200,000.00
50300225	Concrete Structures	Cu. Yd.	700	$650.00	$455,000.00
50300255	Concrete Superstructure	Cu. Yd.	650	$800.00	$520,000.00
50300265	Seal Coat Concrete	Cu. Yd.	266	$450.00	$119,700.00
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	110	$400.00	$44,000.00
50500405	Furnishing and Erecting Structural Steel	Pound	550,000	$2.00	$1,100,000.00
51201400	Furnishing Steel Piles HP10X42	Foot	1,740	$54.00	$93,960.00
	Roadway Pavement Section	Sq.Yd.	5,000	$60.00	$300,000.00
X7010216	Traffic Control and Protection	L. Sum	1	$25,000.00	$25,000.00
Z0004552	Approach Slab Removal	Sq.Yd.	240	$60.00	$14,400.00
				SUBTOTAL	$4,042,860.00
	Mobilization (6%)	L. Sum	1	$242,571.60	$242,571.60
				SUBTOTAL	$4,285,431.60
Minor Items Not Included Above (20%)					$857,086.32
				SUBTOTAL	$5,142,517.92

Construction (with 3 yr. interest of 1.5% per year)	**TOTAL**	**$5,377,419.78**
Phase II Engineering (10%)	SUBTOTAL	$537,741.98
Phase III Engineering (10%)	SUBTOTAL	$537,741.98
Construction & Engineering Total	**TOTAL**	**$6,452,903.74**

Client: IDOT District 3
Job Name: W.O. #20; US 52 over Fox River
Job No.: 070696.20
PTB:
Date: 3/13/2017
SN 05-0058

OPINION OF PROBABLE COST

OPTION 4 - COMPLETE BRIDGE REPLACEMENT (CONCRETE ARCH BRIDGE)

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
	Land Acquisition	L. Sum	1	$250,000.00	$250,000.00
	Tree & Brush Removal	L. Sum	1	$50,000.00	$50,000.00
20200100	Earth Excavation (Widening)	Cu. Yd.	100	$12.00	$1,200.00
20201200	Removal and Disposal of Unsuitable Material	Cu. Yd.	100	$30.00	$3,000.00
20400100	Borrow Excavation	Cu. Yd.	900	$20.00	$18,000.00
20700220	Porous Granular Embankment	Cu. Yd.	100	$40.00	$4,000.00
40600982	Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	200	$20.00	$4,000.00
44000100	Pavement Removal	Sq.Yd.	5,000	$12.00	$60,000.00
50100100	Removal of Existing Structures	Each	1	$750,000.00	$750,000.00
50200100	Structure Excavation	Cu. Yd.	500	$25.00	$12,500.00
50200300	Cofferdam Excavation	Cu. Yd.	1064	$50.00	$53,200.00
50200400	Rock Excavation For Structures	Cu. Yd.	100	$200.00	$20,000.00
50201101	Cofferdam, Type 1, 4 Locations	Each	4	$100,000.00	$400,000.00
50300225	Concrete Structures	Cu. Yd.	3,600	$650.00	$2,340,000.00
50300255	Concrete Superstructure	Cu. Yd.	750	$800.00	$600,000.00
50300265	Seal Coat Concrete	Cu. Yd.	532	$450.00	$239,400.00
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	110	$400.00	$44,000.00
50400805	Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 in.	Foot	2,775	$250.00	$693,750.00
50800205	Reinforcement Bars, Epoxy Coated	Pound	530,000	$2.00	$1,060,000.00
52000110	Preformed Joint Strip Seal, 4"	Foot	72	$350.00	$25,200.00
52100030	Elastomeric Bearing Assembly, Type III	Each	10	$1,500.00	$15,000.00
58700300	Concrete Sealer	Sq.Ft.	2,900	$2.00	$5,800.00
	Roadway Pavement	Sq.Yd..	5,000	$60.00	$300,000.00
X7010216	Traffic Control and Protection	L. Sum	1	$25,000.00	$25,000.00
Z0004552	Approach Slab Removal	Sq.Yd.	240	$60.00	$14,400.00
Z0018000	Drainage Scuppers, Special	Each	50	$4,000.00	$200,000.00
				SUBTOTAL	$7,188,450.00
	Mobilization (6%)	L. Sum	1	$431,307.00	$431,307.00
				SUBTOTAL	$7,619,757.00
Minor Items Not Included Above (20%)					$1,523,951.40
				SUBTOTAL	$9,143,708.40
Construction (with 3 yr. interest of 1.5% per year)				**TOTAL**	**$9,561,378.14**
Phase II Engineering (10%)				SUBTOTAL	$956,137.81
Phase III Engineering (10%)				SUBTOTAL	$956,137.81
Construction & Engineering Total				**TOTAL**	**$11,473,653.77**

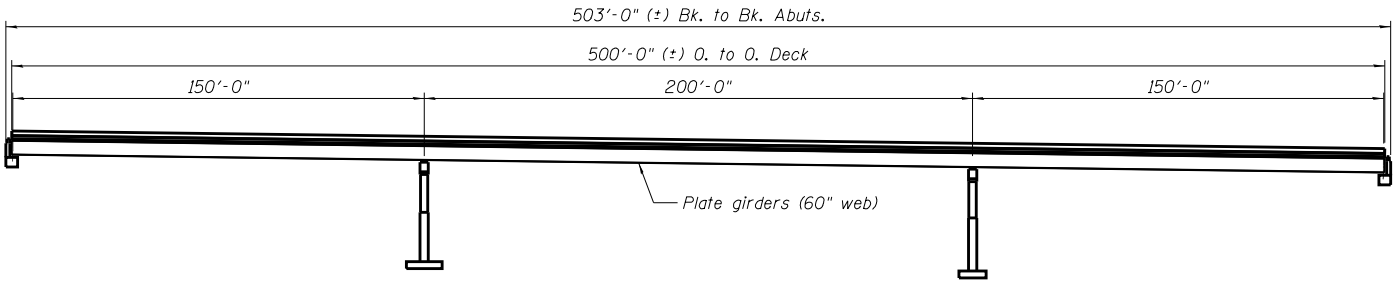
Client: IDOT District 3
Job Name: W.O. #20; US 52 over Fox River
Job No.: 070696.20
PTB:
Date: 3/13/2017
SN 05-0058

OPINION OF PROBABLE COST

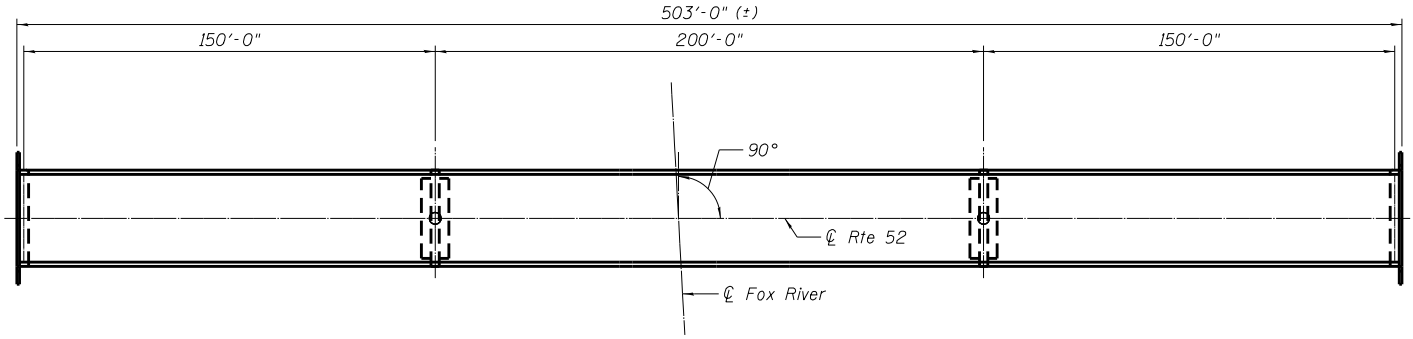
OPTION 5 - COMPLETE BRIDGE REPLACEMENT (PRECAST PANEL ARCH BRIDGE)

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
	Land Acquisition	L. Sum	1	$250,000.00	$250,000.00
	Tree & Brush Removal	L. Sum	1	$50,000.00	$50,000.00
20200100	Earth Excavation (Widening)	Cu. Yd.	100	$12.00	$1,200.00
20201200	Removal and Disposal of Unsuitable Material	Cu. Yd.	100	$30.00	$3,000.00
20400100	Borrow Excavation	Cu. Yd.	900	$20.00	$18,000.00
20700220	Porous Granular Embankment	Cu. Yd.	100	$40.00	$4,000.00
40600982	Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	200	$20.00	$4,000.00
44000100	Pavement Removal	Sq.Yd.	5,000	$12.00	$60,000.00
50100100	Removal of Existing Structures	L. Sum	1	$750,000.00	$750,000.00
50200300	Cofferdam Excavation	Cu. Yd.	532	$50.00	$26,600.00
50201101	Cofferdam, Type 1, 2 Locations	Each	2	$100,000.00	$200,000.00
50300225	Concrete Structures	Cu. Yd.	700	$650.00	$455,000.00
50300255	Concrete Superstructure	Cu. Yd.	650	$800.00	$520,000.00
	Precast Arch Fascia Panels	Cu. Yd.	450	$1,000.00	$450,000.00
50300265	Seal Coat Concrete	Cu. Yd.	266	$450.00	$119,700.00
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	110	$400.00	$44,000.00
50500405	Furnishing and Erecting Structural Steel	Pound	550,000	$2.00	$1,100,000.00
51201400	Furnishing Steel Piles HP10X42	Foot	1,740	$54.00	$93,960.00
	Roadway Pavement Section	Sq.Yd.	5,000	$60.00	$300,000.00
X7010216	Traffic Control and Protection	L. Sum	1	$25,000.00	$25,000.00
Z0004552	Approach Slab Removal	Sq.Yd.	240	$60.00	$14,400.00
				SUBTOTAL	$4,488,860.00
	Mobilization (6%)	L. Sum	1	$269,331.60	$269,331.60
				SUBTOTAL	$4,758,191.60
	Minor Items Not Included Above (20%)				$951,638.32
				SUBTOTAL	$5,709,829.92
	Construction (with 3 yr. interest of 1.5% per year)			**TOTAL**	**$5,970,645.67**
	Phase II Engineering (10%)			SUBTOTAL	$597,064.57
	Phase III Engineering (10%)			SUBTOTAL	$597,064.57
	Construction & Engineering Total			**TOTAL**	**$7,164,774.81**

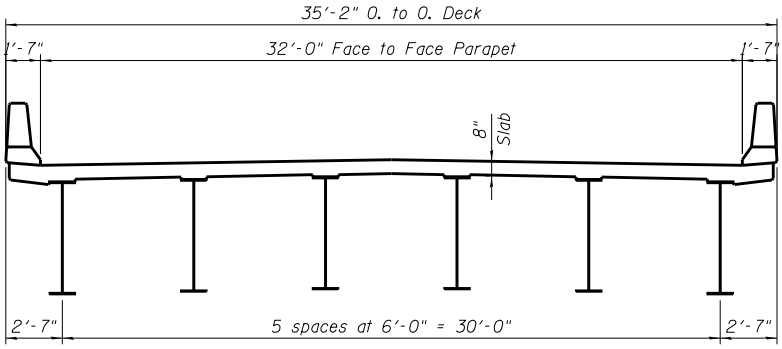
ATTACHMENT G



PROPOSED
ELEVATION



PROPOSED
PLAN



PROPOSED
CROSS SECTION

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH JOB DATE: 12/05/2016 APPROVED: SLS JOB NUMBER: 070696.20 CAD DATE: 7/14/2017 CAD FILE: 070696.20_BCR_G1.dgn	HRGreen.com HRGreen	**PROPOSED STRUCTURE**	**US RTE 52 OVER THE FOX RIVER SN 050–0058(ex) LASALLE COUNTY, ILLINOIS**	SHEET NO. **G–1**

plotlabel.tbl IL_pdf_bw.pltcfg

ATTACHMENT H

ATTACHMENT H-1

Looking Up Station (East)

Looking Down Station (West)

Looking North

Looking South

ATTACHMENT H-2

Elevation Looking North

Elevation Looking South

Southwest Corner

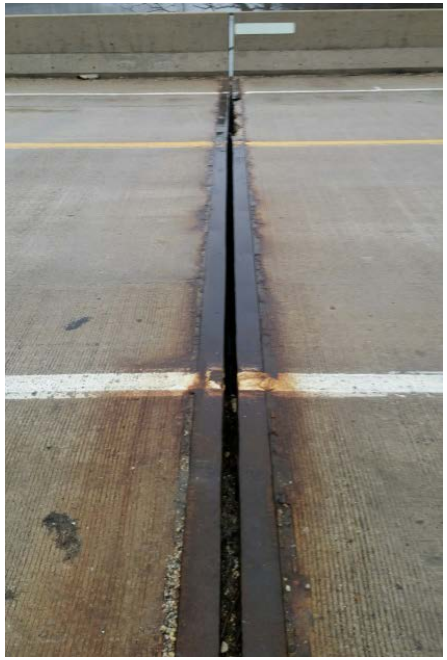
Northwest Corner

ATTACHMENT H-3

Northeast Corner

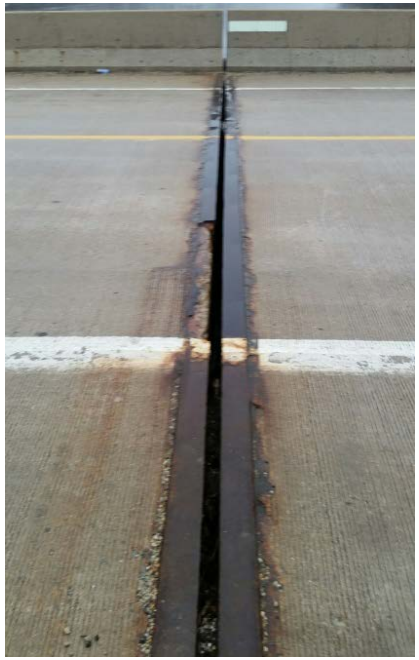
Southeast Corner

West Abutment Expansion Joint

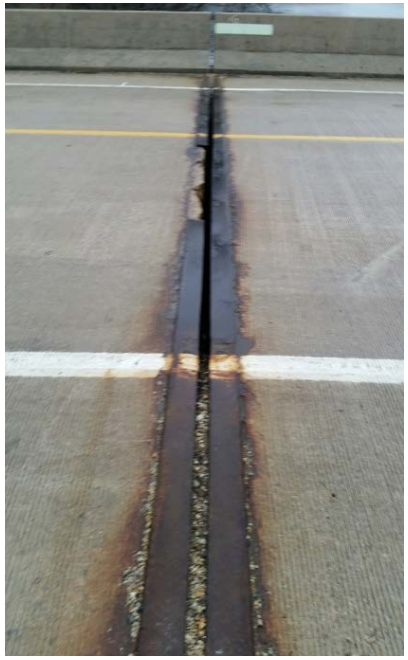


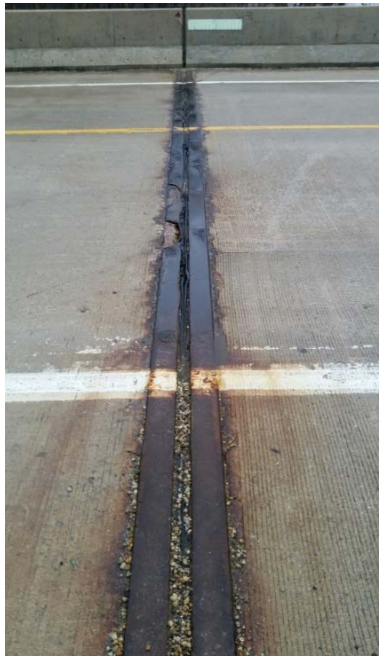
Pier 1 Expansion Joint

ATTACHMENT H-4


Pier 2 Expansion Joint


Pier 3 Expansion Joint


Pier 4 Expansion Joint


East Abutment Expansion Joint

ATTACHMENT H-5

Typical Bridge Rail

General Condition of Deck

General Condition of Underside (Span 1)

General Condition of Underside (Span 2)

ATTACHMENT H-6

General Condition of Underside (Span 3)

General Condition of Underside (Span 4)

General Condition of Underside (Span 5)

Arch Deterioration (Span 2)

ATTACHMENT H-7

Hairline Cracks in Arch near Pier 1

Arch Deterioration (Span 5)

Top of Arch Delamination & Spall

Failed Patch on Arch

ATTACHMENT H-8

Spall on Underside of Arch

Debonded Arch Reinforcement

Spall at Deck Drain and Bearing Pad Movement at East Abutment

Crack in Column at Base

ATTACHMENT H-9

Deterioration Under Joint

Pier and Columns under Joint

East Abutment

West Abutment

ATTACHMENT H-10

Typical Crack in Deck and Leakage inside Vaulted Abutment

Typical Pier Nose Deterioration

Pier 1

Pier 2

Pier 3

Pier 4

Void under South Side of West Approach Shoulder

Void Under West Approach Slab

ATTACHMENT I

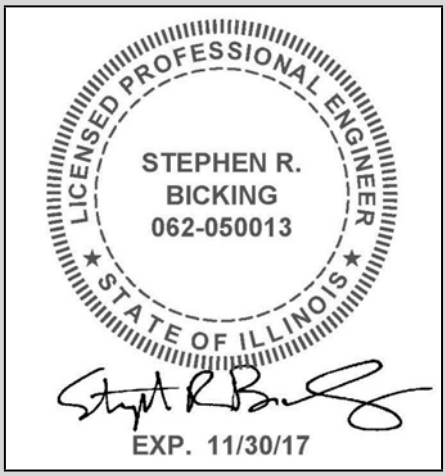
HRGreen

June 2017

Hydraulic Report

Project Name: US Hwy 52 over Fox River
Project Location: LaSalle County, IL
Project Number: 070696.20 (HRG #)
Structure Number: 050-0058

Project Engineer: Charles Pugh, EIT, CFM
Project Manager: Stephen Bicking, PE, DWRE, CFM



HR Green, Inc.
420 N. Front St. Suite 100
McHenry, Illinois 60050
Phone: (815) 385-1778
Fax: (815) 385-1781

TABLE OF CONTENTS

HYDRAULIC REPORT
US Highway 52 over the Fox River
LaSalle County, Illinois

I. NARRATIVE

a. General Project Description

This Hydraulic Report summarizes a hydraulic analysis that was performed for the existing US Hwy 52 bridge over the Fox River in LaSalle County, Illinois. The existing 5-span bridge arches and piers are proposed to be replaced with a 3-span bridge. The project is located in the southwest Quarter of Section 20, Township 35N, Range 5 East. It is shown on the 7.5 minute U.S.G.S. (United States Geological Survey) Quadrangle Map of Serena in Illinois.

The Fox River is in Zone AE as shown on the FEMA FIRM panel (17099C0410F) included in Section 6. The FEMA Flood Insurance Study and FIRM Map were reviewed for this project, although the FIS modeling was not obtained from FEMA.

The existing structure consists of a five span bridge with vertical abutments having a total face to face length of 450', width of 32.17', and a skew angle of 0-degrees (with respect to the US Hwy 52 alignment). Survey indicates that the low grade elevation is 544.2' with a low arch point of 540.19'.

Proposed improvements consist of rebuilding the bridge. The new three-span structure would have an overall length of 500 feet to reduce the amount of embankment needed west of the west abutment. It would consist of span lengths of 150'-200'-150' with pile supported stub abutments at both ends and concrete piers for the center two supports. The piers would bear on new footings which bear on rock, similar to the existing bridge.

b. Site Information

The Fox River flows in a southerly direction upstream of the US Hwy 52 crossing. Immediately downstream of the US Hwy 52 crossing the river flows in a southerly direction and then a southwesterly direction until it eventually flows into the Illinois River waterway. The watershed area for Fox River at the Dayton Dam, downstream of the US Hwy 52 crossing, is approximately 2,642 square miles (1,690,880 acres), as listed in the FIS included in Section 5. Based upon the USGS Web Soil Survey (see Section 8), the soil in the vicinity of the waterway crossing consists primarily of silt loam.

c. Field Observation

The site was surveyed by HR Green, Inc. (HRG) in November, 2016. Please see Section 7 for photographs that depict the channel and streambank conditions. These photographs were used to determine the Manning's Roughness Coefficients needed in HEC-RAS for the overbanks and the channel per the formula of n = (nb+n1+ n2+n3+n4)*m presented in the IDOT Drainage Manual Chapter 5.

The channel consists primarily of silt with minor obstructions, occasional alteration in cross sections, and small vegetation.
Channel n = (0.025 + 0.003 + 0.003+ 0.002 + 0.005) * 1 = 0.038

The overbank areas primarily consist of dense wood and row crops.
Overbank n = (0.025+0.001+ 0.45)*1 = 0.071

These "n" values are consistent with those listed in the FIS.

d. Historical Flooding Observations

There are no reports of roadway flooding at this crossing.

e. Other Studies and Affected Agencies

A FEMA Flood Insurance Study was completed for LaSalle County in May 2014. To the best of our knowledge, there are no other known studies of this floodplain or the US Hwy 52 bridge by other agencies. The stream survey was collected by HRG and is in NAVD88 vertical datum, which is the same datum in which the roadway plans are being designed.

f. Sensitive Flood Receptors

A review of the low opening survey was utilized in determining if structures located within the backwater of the bridge are sensitive flood receptors. The survey shows no buildings in the vicinity of the crossing.

g. Hydrologic and Hydraulic Analysis

Hydrologic Analysis

The FEMA FIS was used to determine the tributary area and flows for the 10, 50, 100, and 500 year storm events. The total watershed area for the bridge at US Hwy 52 Dayton Dam, downstream of the US Hwy 52 crossing, is approximately 2,642 square miles (1,690,880 acres).

The FIS data for the various flood events are listed below.

Flood Event	10-Year	50-Year	100-Year	*200-Year	500-Year
Discharge (cfs)	24,500	36,900	42,600	49,000	57,500

*Interpolation

Hydraulic Model

The hydraulic modeling for the subject structure was completed utilizing HEC-RAS computer modeling software. The stream survey data, aerial mapping, and County topographic mapping were utilized to set up the hydraulic model. Cross-sections were surveyed in accordance with the requirements of the IDOT Drainage Manual. Three (3) hydraulic models were prepared for this crossing: proposed, existing and natural.

The existing condition model was completed in order to model the stream in its existing state, with the existing US Hwy 52. The natural condition model was completed in order to model the stream in its natural state, without the bridge. The proposed condition model was completed to verify that the proposed three span bridge will meet regulations.

For all models the starting downstream boundary conditions were the water surface elevations determined in the FIS for each storm event at the location of the most downstream cross section (the 200 year storm WSE was interpolated). FIS discharge values were used to be conservative and did not result in the bridge open area needing to be increased.

A starting upstream boundary condition of critical depth was used since the model was run utilizing a mixed flow regime for the purpose of identifying if the stream

goes into supercritical flow.

Contraction and expansion ratios of 1:1 and 2:1, respectively, were used to determine the locations of ineffective flow. As shown in the site photographs, the overbanks nearest the channel typically consisted mainly of woodlands and row crops. The channel was largely free off obstructions and vegetation. Therefore, a Manning's Roughness Coefficient of 0.071 was used for the dense brush overbanks and a value of 0.038 was used for the channel.

The HEC-RAS model resulted in the following existing and proposed flood elevations and head:

Flood Event	10-Year	50-Year	100-Year	200-Year	500-Year
Existing Upstream	530.3	532.7	533.9	535.0	536.4
Existing Head	0.4	0.6	0.7	0.9	1.2
Proposed Upstream	530.3	532.7	533.8	534.8	536.1
Proposed Head	0.3	0.5	0.6	0.7	0.8

Please see Section 6 for both the input and output summaries of all hydraulic models and Section 4 for the Cross-Section Location exhibit.

Proposed improvements consist of rebuilding the bridge as a two pier structure with spans of 150'-200'-150'. The piers would bear on new footings which bear on rock, similar to the existing bridge.

A summary of the existing and natural conditions water surface elevations and created heads is provided in the Waterway Information Table (WIT) in Section 2.

h. Scour Analysis

After reviewing the existing bridge plans, HRG verified that the existing pier foundations are set into bedrock.

The HEC-RAS scour analysis resulted in the following maximum total scour depths for the existing condition:

Flood Event	10-Year	50-Year	100-Year	200-Year	500-Year
Existing Total Scour Depth	14.77	16.25	16.75	17.48	17.97

The IDOT Bridge Manual allows for a 90 percent reduction in scour depths for footings founded on weathering rock, which results in a final maximum scour depth of 1.8' for the US Hwy 52 bridge.

During the bridge inspection, the top of the footing at Pier 2 was found with a probe on each side near the pier centerline. The 1978 rehabilitation plans indicate that the footing at the pier face is 4'-3" thick and set on rock. The sandy river bottom was at the same level as the top of the exposed footing. The inspector was unable to push the probe through the river bottom below the top of the footing elevation.

Given the lack of any observed undermining, and the minimal scour resulting from the HEC-RAS model, the existing bridge is not scour susceptible.

The proposed bridge would also have pier foundations set into bedrock. The HEC-RAS scour analysis resulted in the following maximum total scour depths for the proposed condition:

Flood Event	10-Year	50-Year	100-Year	200-Year	500-Year
Proposed Total Scour Depth	11.24	12.68	13.23	13.50	13.69

The IDOT Bridge Manual allows for a 90 percent reduction in scour depths for footings founded on weathering rock, which results in a final maximum scour depth of 1.4' for the US Hwy 52 bridge.

i. Permit Requirements

Since this crossing has a tributary area greater than 640 acres, the proposed bridge replacement requires an IDNR Individual Section 3700 permit.

j. Compensatory Storage

Per coordination with IDOT, there is no need to provide compensatory storage for

fill in the Zone 'AE' regulatory floodplain at this location (please see the Correspondence under Section 8). In addition, the proposed bridge improvements will decrease the number of piers.

k. Conclusion and Design Recommendation

HR Green's design recommendation is for a complete bridge replacement with two piers. This proposed design will decrease the created head in the 50 year (design) and 100-year (base) storm event by 0.1' compared to the existing condition. The proposed freeboard is 9.3 feet and the proposed clearance is 5.2 feet, both of which are consistent with IDOT's design policy. The proposed bridge configuration complies with IDNR-OWR 3700 rules.

WATERWAY INFORMATION TABLE

Route:	US Hwy 52	**S.N.:**	050-0058	**Existing**	**Computed:**	**CRP**	**Date:** 6/20/2017
Section:		**S.N.:**	050-0058	**Proposed**	**Checked:**	**SRB**	**Date:** 6/20/2017
County:	LaSalle	**Waterway:**	Fox River				**Printed Date:** 6/20/2017

Existing Low Grade Elevation (edge of pavement at local sag) = 542.31 **at Sta.** 358+50

Drainage Area = **2642 sq. mi.** **Proposed Low Grade Elevation (edge of pavement at local sag) =** 542.31 **at Sta.** 358+50

Flood	Frequency Year	Discharge (cfs)	Waterway Opening (sq. ft.)		Natural H.W.E	Head (ft.)		Headwater Elev.	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
	10	24500	3520	3745	530.1	0.4	0.3	530.5	530.4
DESIGN	50	36900	4302	4600	532.5	0.6	0.5	533.1	533.0
BASE	100	42600	4628	5000	533.6	0.7	0.6	534.3	534.2
	200	49000	4845	5356	534.5	0.9	0.7	535.4	535.2
MAX CALC	500	57500	5178	5857	535.8	1.2	0.8	537.0	536.6

10 Year Velocity Through Existing Bridge = 6.97 fps

2 year flow rate = 10100 ft^3/s

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: None reported.
STREAMBED ELEVATION: 514.00

EXISTING STRUCTURE:

TYPE:	Bridge
SIZE/LENGTH:	450
SPANS:	77.75, 80, 80, 80, 77.75
LOW BEAM:	540.19
SKEW:	0 °
UPSTREAM INV.	N/A.
DOWNSTREAM INV.	N/A.

PROPOSED STRUCTURE:

TYPE:	Bridge
SIZE/LENGTH:	500
SPANS:	150, 200, 150
LOW BEAM:	537.7
SKEW:	0 °
UPSTREAM INV.	N/A.
DOWNSTREAM INV.	N/A.

Back-Up Calculations for WIT

Route: US Hwy 52
Waterway: Fox River

Computed By: CRP Date: 6/20/2017
Checked By: SRB Date: 6/20/2017

CALCULATE CREATED HEAD

Frequency	Natural H.W.E. (ft) (1)		Exist. H.W.E. (ft)		Prop. H.W.E. (ft)		Created Head (ft) @ Face Section		Created Head (ft) @ Approach Section		Controlling Head (ft) (2) @ Face Section		Headwater Elevation	
	At U/S Face of Structure (Linear Interpolation)	At Approach Sect. (Cross Section 1137, 101' Upstream)	At U/S Face of Structure	At Approach Sect. (Cross Section 1137, 101' Upstream)	U/S Face of Structure	At Approach Sect. (Cross Section 1137, 101' Upstream)	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
10-Year	530.09	530.17	530.31	530.54	530.26	530.50	0.2	0.2	0.4	0.3	0.4	0.3	530.5	530.4
50-Year	532.49	532.56	532.78	533.16	532.69	533.08	0.3	0.2	0.6	0.5	0.6	0.5	533.1	533.0
100-Year	533.57	533.62	533.90	534.34	533.79	534.24	0.3	0.2	0.7	0.6	0.7	0.6	534.3	534.2
200-Year	534.52	534.56	534.93	535.45	534.76	535.29	0.4	0.2	0.9	0.7	0.9	0.7	535.4	535.2
500-Year	535.82	535.83	536.42	536.99	536.07	536.68	0.6	0.3	1.2	0.8	1.2	0.8	537.0	536.6

(1) The natural highwater elevation is the water surface elevation at the upstream side of the crossing, as modeled in the stream natural condition, without the structure.

(2) The created head is calculated at the Approach or Face cross section (Existing or Proposed H.W.E. at Approach or Face Section - Natural H.W.E.), whichever is higher. The created head is then added to the Natural H.W.E. at the U/S. face of the structure. This method of calculating created head is only required for bridges and some major culvert crossings. Also, the preferred created head should never be negative (if calculated created head is negative, a value of zero is reported in the created head column). Headwater elevation = Natural highwater elevation at U/S Face of Structure + created head.

All elevations are in NAVD (values from FIS model have been converted to NAVD by subtracting 0.28')

CALCULATE FREEBOARD AND CLEARANCE

Low Road Elevation (ft) (3)			
Existing	Station	Proposed	Station
542.31	355+75	542.31	358+50
Low Beam Elevation (ft)			
Existing	Station	Proposed	Station
540.19	355+75	537.70	355+75

Proposed Freeboard (ft)				
10-year	50-year (4)	100-year	200-year	500-year
11.9	9.3	8.1	7.1	5.7
Proposed Clearance (ft)				
10-year	50-year (5)	100-year	200-year	500-year
N/A	5.2	N/A	N/A	N/A

(3) Low road elevation is calculated at the edge of pavement, and on the low side of the roadway.
Profile increase due to addition of curb and gutter - there is no change in the roadway profile.

(4) Freeboard is calculated from the 50-year design headwater elevation to the proposed low road elevation in the floodplain.

(5) Vertical clearance is calculated from the 50-year natural high-water elevation to the proposed low chord (beam) bridge elevation (2 ft minimum requirement).

(6) Depth of Water is calculated from the natural H.W.E to the invert elevation of the structure at the upstream face.

CALCULATE EFFECTIVE WATERWAY OPENING AREA FOR A BRIDGE

	Initial Waterway Opening Area in Bridge (ft^2) (7)		Top Width of Flow in Bridge (ft) (7)		H.W.E. U/S Internal Bridge X-Sect.		Area to add below Natural H.W. E. (ft^2) (8)		Final Waterway Opening Area (ft^2)	
Frequency	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
10-Year	3512.5	3713.9	335.0	345.9	530.1	530.2	7.1	31.5	3520	3745
50-Year	4302.1	4567.6	314.6	364.7	532.5	532.6	-0.5	32.2	4302	4600
100-Year	4630.1	4965.7	296.8	372.1	533.6	533.7	-2.6	33.9	4628	5000
200-Year	4876.7	5322.4	280.3	378.7	534.4	534.6	-31.3	33.5	4845	5356
500-Year	5212.1	5821.0	249.5	387.7	535.7	535.9	-34.2	36.0	5178	5857

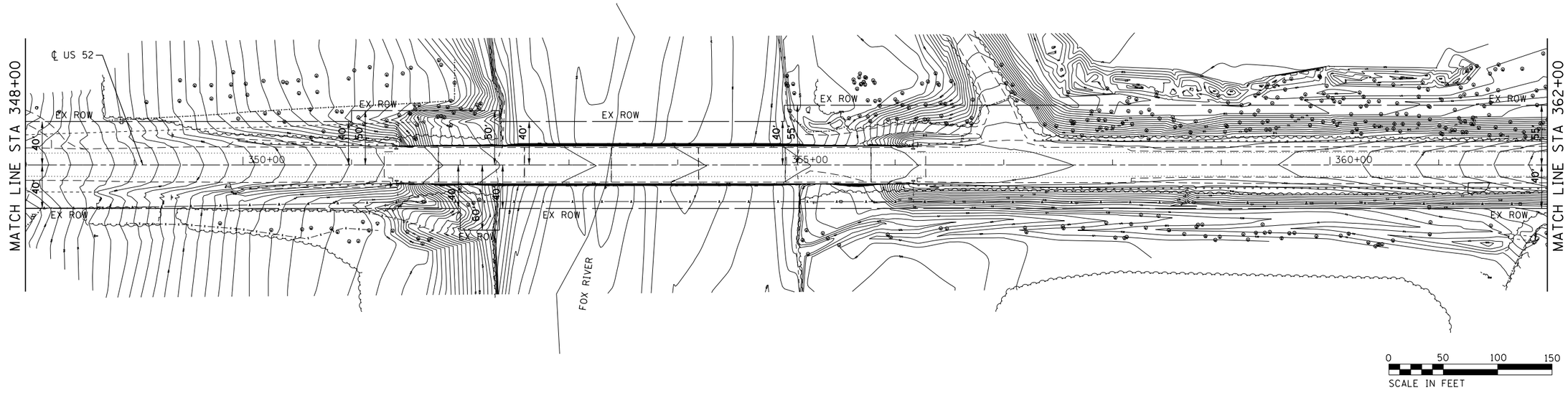
(7) Taken from HEC-RAS Bridge Output

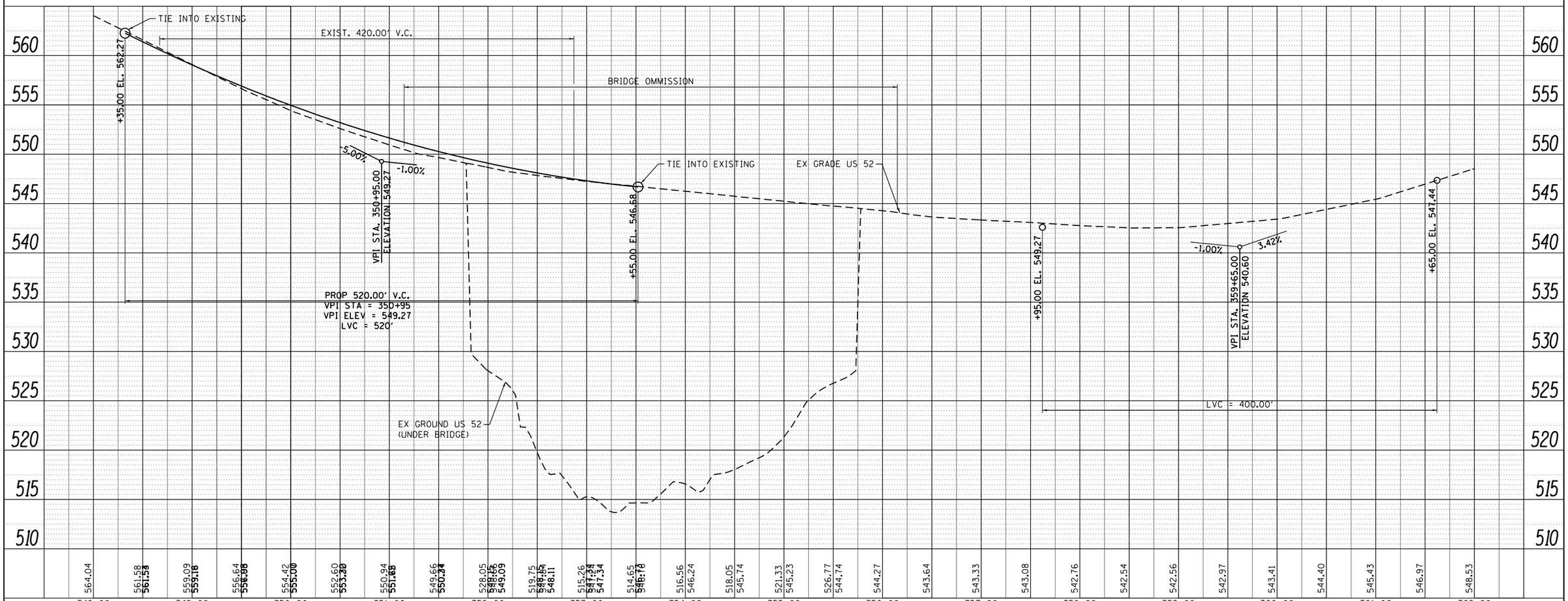
(8) Area is difference of Existing/Proposed W.S. Elevation inside bridge and Natural H.W.E. at upstream face, multiplied by top width

ATTACHMENT J

PLAN
SURVEYED
PLOTTED
QUANTITIES CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
QUANTITIES CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE





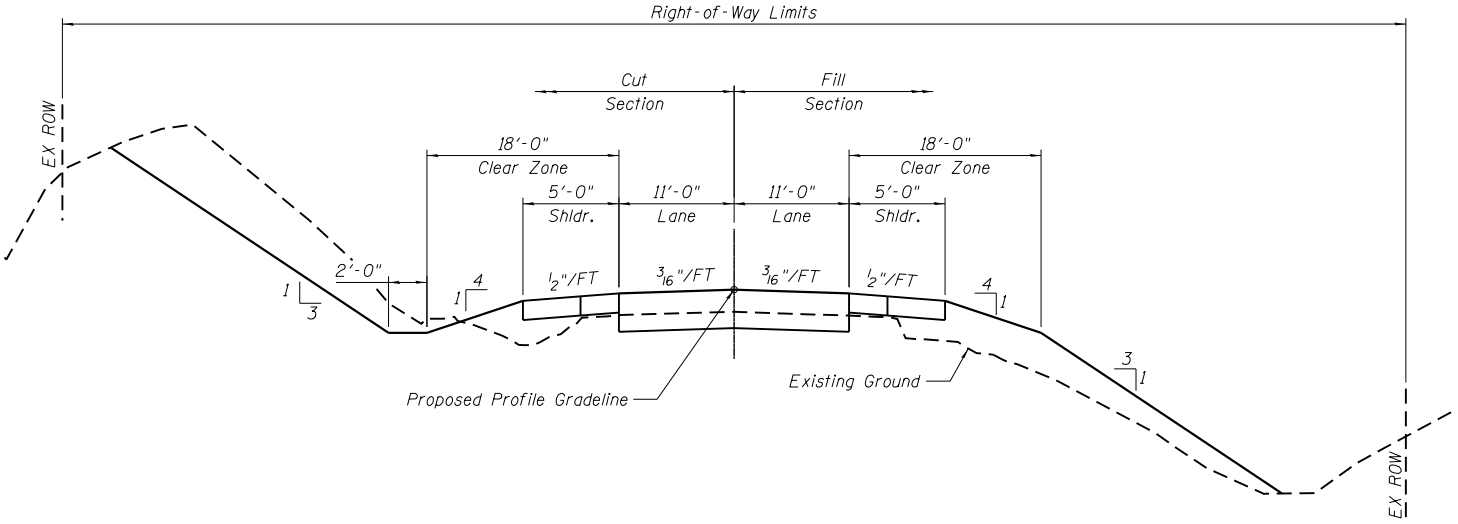
FILE NAME = 03P9303607-20_BCR_Attachment J.dgn Default	USER NAME = whood	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE =	CHECKED -	REVISED -
	PLOT DATE = 8/23/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 607 (US 52) OVER FOX RIVER
OPTIONS 3, 4 & 5 PLAN AND PROFILE (ATTACHMENT J)
SCALE: 1"=50' | SHEET 1 OF 1 SHEETS | STA. 106+50 TO STA. 120+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	(125)BR-1	LASALLE	1	1
		CONTRACT NO. 66F85		
	ILLINOIS FED. AID PROJECT			

ATTACHMENT K



EXISTING AND PROPOSED ROADWAY CROSS SECTION

(Complete Replacement)

PROJECT CONTACT: Robert G. Davies

DRAWN BY: WJH	JOB DATE: 12/05/2016	HRGreen.com	EXISTING AND PROPOSED CROSS SECTION
APPROVED: SLS	JOB NUMBER: 070696.20	HRGreen	US RTE 52 OVER THE FOX RIVER SN 050-0058(ex) LASALLE COUNTY, ILLINOIS
CAD DATE: 7/11/2017			SHEET NO. K-1
CAD FILE: 070696.20_BCR_K1.dgn			

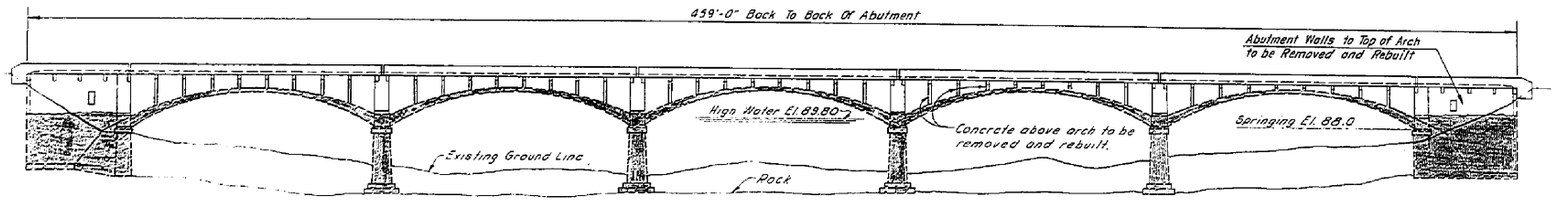
plotlabel.tbl IL_pdf_bw.pltcfg

ATTACHMENT L

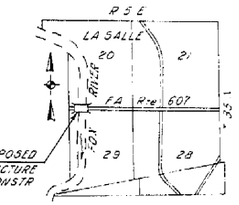
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. 607	125 - BR	LA SALLE	23	6
FED. ROAD DIV. NO. 7		ILLINOIS	PROJECT	

B.M. ELEV. 88.00 SPRINGING LINE AT N.W. CORNER OF EAST ABUTMENT

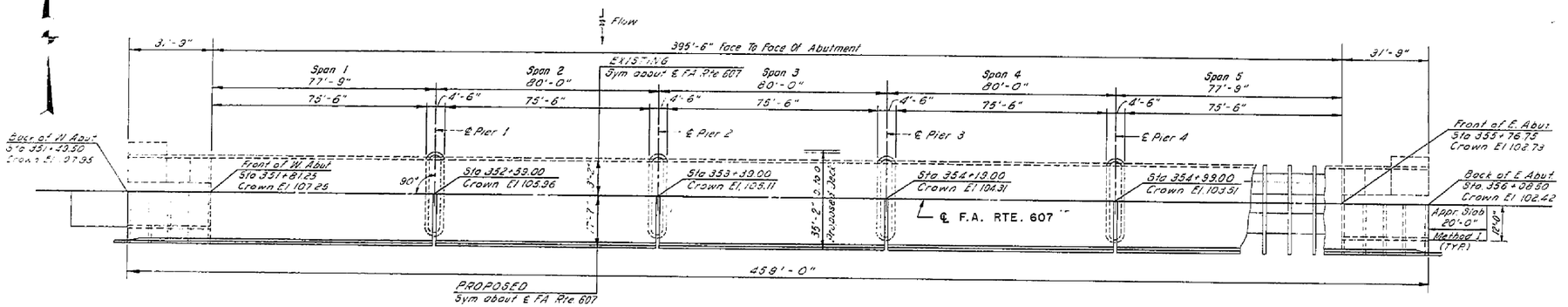
EXISTING STRUCTURE WAS BUILT IN 1931 AS S.B.I. ROUTE 69 SECTION 125 B STA. 353+79. IT IS A 5 SPAN REINFORCED CONCRETE OPEN SPANDREL ARCH ON SOLID PIERS AND CLOSED ABUTMENTS.



ELEVATION



LOCATION PLAN



PLAN

STATION 353+79
BUILT 1931 BY
STATE OF ILLINOIS
F.A. RT. 607 SEC. 125 BR
F.A. PROJ. BR-F-607(7)
LOADING H520
STR. NO. 060-0058

NAME PLATE
See Standard 2113
(Locate Name Plate as directed by the Engineer)

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPERST.	SUBSTR.	TOTAL
*	Concrete Removal Ⓕ	Cu. Yds.	125.7	132.9	258.6
	Expansion Bolts ¾ Inch × 12 Inch	Each	——	178	178
	Protective Coat	Sq. Yds.	377	——	377
	Class X Concrete	Cu. Yds.	791.3	141.9	933.2
	Pressure Injecting Cracks	Lin.Ft.		142	142
	Structural Steel	Lbs.	5458	——	5458
	Reinforcement Bars	Lbs.	118,540	13,090	131,630
	Reinforcement Bars Epoxy Coated	Lbs.	71,520	——	71,520
	Name Plates	Each	1	——	1
	Epoxy Grouting (1"-3")	Sq. Ft.		336	336
	Preformed Joint Sealer ½ Inch	Lin. Ft.	210	——	210
	Expansion Bolts ¾"ø	Each		444	444
	Roadway Excavation	Cu Yds.	——		
	Porous Granular Embankment	Cu. Yds.	——	271	271
	Pipe ___ Underdrain 6"	Lin. Ft.	——	135	135
**	Removal of Concrete Deck Ⓕ	L.S.	1	——	1
	Pipe Drain 6"	Lin. Ft.		24	24
	Concrete Headwall for Pipe Drain	Each	4		4
	Concrete Removal (Partial Depth)	Cu. Yds.		26.3	26.3
	Concrete Patching (Partial Depth)	Cu. Yds.		26.3	26.3

*Includes Columns, Curtain Walls & Abutments.
**Includes Parapets, Slab & Floor Beams.

DESIGNED BY A.T.
DRAWN BY V.P.
CHECKED BY A.T.

Ⓕ Plans of the existing structure are available at the office of the District Engineer.

GENERAL NOTES

CALCULATED WEIGHT OF STRUCTURAL STEEL = 5458 LBS.

ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH TWO COATS OF BASIC LEAD SILICO CHROMATE PAINT.

THE CONTRACTOR SHALL MAKE ALLOWANCE FOR THE DEFLECTION OF FORMS, SHRINKAGE AND SETTLEMENT OF FALSEWORK, IN ADDITION TO ALLOWANCE FOR DEAD LOAD DEFLECTION.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

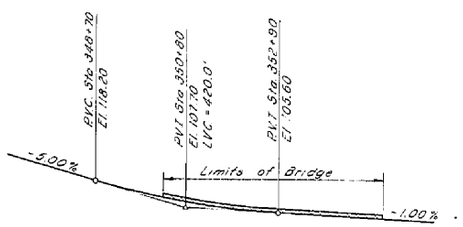
THE CONCRETE RAIL SECTION ABOVE THE BONDED CONSTRUCTION JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDRAIL CONCRETE.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION ANCHORS AND 3/4" ø X 12" HOOKED BOLTS.

ALL REINFORCEMENT BARS SHALL CONFORM TO A.A.S.H.T.O. M-31 GRADE 60 OR M-53 GRADE 60.

SEQUENCE OF REMOVAL AND CONSTRUCTION OF THE SUPERSTRUCTURE IN ARCH SPANS

1.- THE REMOVAL AND RECONSTRUCTION OF THE SUPERSTRUCTURE SHALL BE MADE IN SUCH A MANNER THAT SYMMETRY OF LOADING IS MAINTAINED.
2.- THE CONTRACTOR SHALL SUBMIT REMOVAL AND CONSTRUCTION PROCEDURES FOR APPROVAL BY THE ENGINEER PRIOR TO THE REMOVAL AND CONSTRUCTION OF THE SUPERSTRUCTURE.



PROFILE GRADE ALONG ℄
FA ROUTE 607

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridge & Traffic Structures

WATERWAY INFORMATION

DRAINAGE AREA	2260 SQ.MI.
REQUIRED OPENING	3720 SQ.FT.
EXISTING OPENING	3720 SQ.FT.
PROPOSED OPENING	3720 SQ.FT.

		U.S.G.S.	LOCAL DATUM
Q50 =	21,425 c.f.s.	H.W.E. 531.65	89.80
Q100 =	24,560 c.f.s.	H.W.E. 532.30	90.45
DESIGN		H.W.E. 531.65	89.80
ALL TIME		H.W.E. 535.60	93.75 (1954)

CREATED HEAD FOR DESIGN FLOOD 0.38'
CREATED HEAD FOR 100 YEAR FLOOD 0.60'

DESIGN SPECIFICATIONS

1973 A.A.S.H.T.O. AS APPLICABLE

DESIGN STRESSES

f'c = 3,500 psi DECK SLAB, CURB, PARAPET, COLUMNS, AND FLOOR BEAMS

fy = 60,000 psi REINFORCEMENT

LOADING

HS 20-44 (NEW CONSTRUCTION)
25#/ø' FUTURE WEARING SURFACE

DESIGN METHOD

LOAD FACTOR DESIGN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A. RTE. 607 - (U.S. RTE. 52)
OVER
FOX RIVER
STA. 353+79

GENERAL PLAN

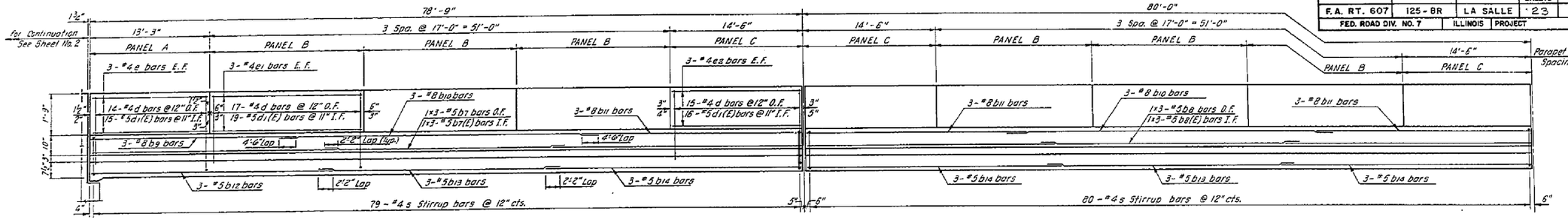
F.A. RT. 607 LA SALLE COUNTY SECTION 125 - BR

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

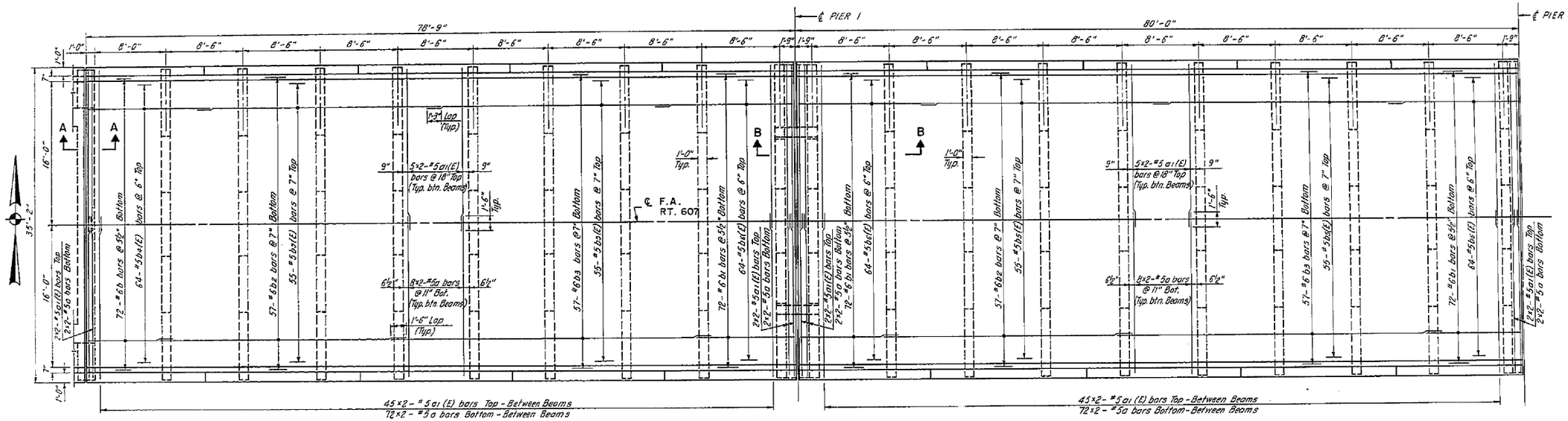
SHEET 1 OF 15

Rein. Bars Epoxy Coated Super & Total from 118,540# to 118,220# total from 130,630# to 131,310#, Reinf Bars Epoxy Coated Super & Total from 71,320# to 71,570#. 1-24-79 D.D.

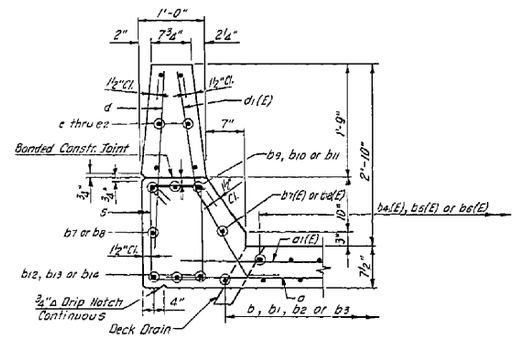
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. 607	125-BR	LA SALLE	23	9
FED. ROAD DIV. NO. 7		ILLINOIS	PROJECT	



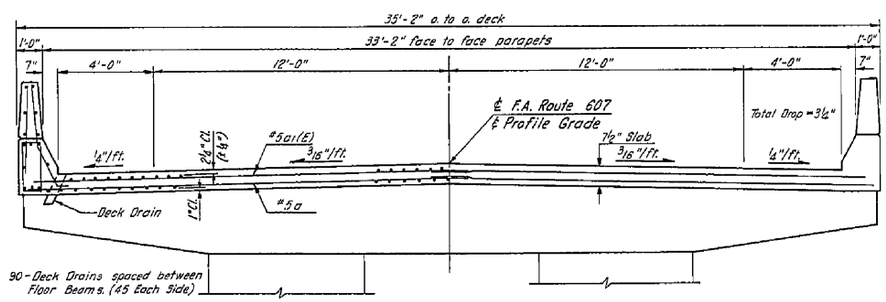
ELEVATION OF PARAPET



PARTIAL PLAN



SECTION THRU PARAPET



TYPICAL CROSS SECTION

NOTES:

Bars indicated thus 10x3-#5 etc. indicates 10 lines of bars with 3 lengths per line.

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

For Superstructure Details, Section and Bill of Material See Sheet No. 5.

DESIGNED BY A.T.
DRAWN BY V.P.
CHECKED BY A.T.

Rev. Bar Lists 1-26-79 D.D

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A. RTE. 607 - (U.S. RTE. 52)
OVER
FOX RIVER
STA. 353+79

SUPERSTRUCTURE SPANS

F.A. RT. 607 LA SALLE COUNTY SECTION 125-BR

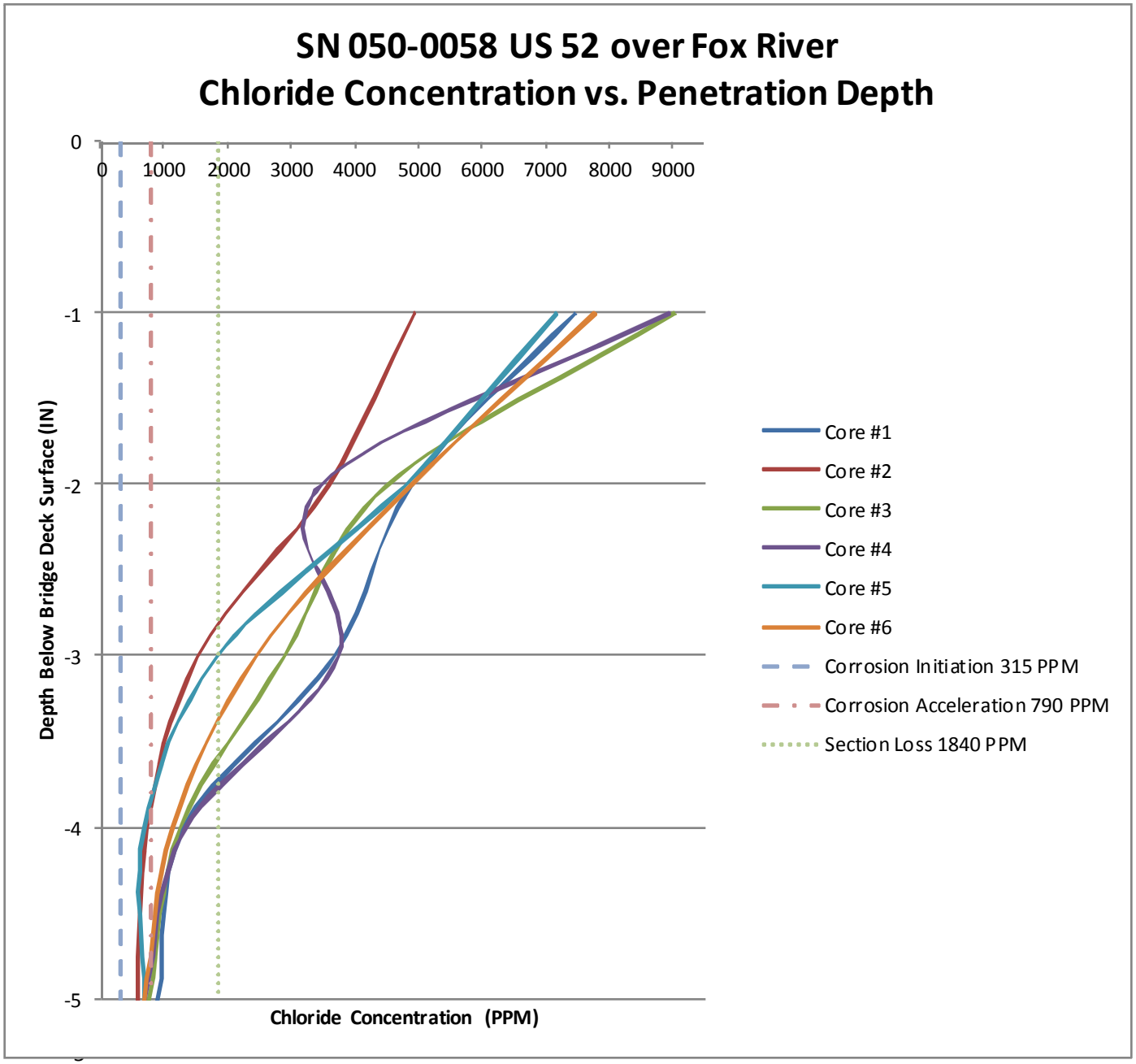
CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 4 OF 15

ATTACHMENT M

SN 050-0058 Chloride Concentration

Hole #	PPM
Hole # 1 - 0.5 - 1.5"	7445
Hole # 1 - 1.5 - 2.5"	4883
Hole # 1 - 2.5 - 3.5"	3655
Hole # 1 - 3.5 - 4.5"	1295
Hole # 1 - 4.5 - 5.5"	898
Hole # 2 - 0.5 - 1.5"	4916
Hole # 2 - 1.5 - 2.5"	3569
Hole # 2 - 2.5 - 3.5"	1512
Hole # 2 - 3.5 - 4.5"	722
Hole # 2 - 4.5 - 5.5"	567
Hole # 3 - 0.5 - 1.5"	9008
Hole # 3 - 1.5 - 2.5"	4494
Hole # 3 - 2.5 - 3.5"	2877
Hole # 3 - 3.5 - 4.5"	1238
Hole # 3 - 4.5 - 5.5"	755
Hole # 4 - 0.5 - 1.5"	8925
Hole # 4 - 1.5 - 2.5"	3450
Hole # 4 - 2.5 - 3.5"	3726
Hole # 4 - 3.5 - 4.5"	1329
Hole # 4 - 4.5 - 5.5"	677
Hole # 5 - 0.5 - 1.5"	7146
Hole # 5 - 1.5 - 2.5"	4775
Hole # 5 - 2.5 - 3.5"	1822
Hole # 5 - 3.5 - 4.5"	673
Hole # 5 - 4.5 - 5.5"	679
Hole # 6 - 0.5 - 1.5"	7765
Hole # 6 - 1.5 - 2.5"	4864
Hole # 6 - 2.5 - 3.5"	2430
Hole # 6 - 3.5 - 4.5"	1124
Hole # 6 - 4.5 - 5.5"	677



ATTACHMENT N

Illinois Department of Transportation

Asbestos Determination Certification

Structure Identification

Structure Number(s) (000-0000):
SN 050-0058

Asbestos Determination

☒ 1. The identified structures are included in the list that the USEPA exempted from the asbestos notification requirements in its letter of October 19, 2001.

☐ 2. The identified structures were unconfirmed for asbestos involvement as of October 19, 2001 but have subsequently been determined, on the basis of information available in the District office, not to involve asbestos in a bituminous bridge deck wearing surface or waterproofing membrane.

☐ 3. The identified structures were unconfirmed for asbestos involvement as of October 19, 2002 but have subsequently been determined, through testing, not to involve asbestos in a bituminous bridge deck wearing surface or waterproofing membrane. The test results were obtained in conformance with the approved "Sampling and Testing Procedures for Asbestos in Bituminous Bridge Deck Wearing Surface or Waterproofing Membrane" (Attachment 2 to BDE Procedure Memorandum 26-02).

☐ 4. The identified structures have been determined to involve asbestos in a bituminous bridge deck wearing surface and/or waterproofing membrane. The District will ensure compliance with the asbestos notification requirements for work on these structures that could disturb the asbestos-containing materials. The District also will ensure that the special provision for "Asbestos Waterproofing Membrane and Asbestos Bituminous Concrete Surface Removal (BDE)" is included in any contract for demolition of these structures or for other work involving removal of the existing bituminous bridge deck wearing surface and/or waterproofing membrane.

☐ 5. The identified structures had been determined to involve asbestos in a bituminous bridge deck wearing surface and/or waterproofing membrane. Removal operations have been completed for all asbestos bituminous concrete surface and asbestos waterproofing membrane on the identified structures.

Certification

Name: Mr. Steve Ferguson Position Title: Bridge & Hydraulics Engineer

Office Address: 700 East Norris Drive

Ottawa, IL 61350 Phone Number: (815) 434-8964

Steve Ferguson
Signature

8/22/17
Date

BBS 2536 (Rev. 5/02)