Abbreviated Bridge Condition Report

For

REGION / DISTRICT: **1 / 1**

ROUTE: **F.A.P. 360 (Kirk Road)**

COUNTY: **Kane County**

STRUCTURE NUMBER: **045-3096**

LOCATION: *Kirk Road over Union Pacific RR & Reed Road*

PREPARED BY: Hampton, Lenzini & Renwick Inc. and Strand Associates, Inc.®

DATE INSPECTED: January 16, 2014

PROPOSED LETTING DATE: unknown

Hampton, Lenzini and Renwick, Inc.
Civil Engineers, Structural Engineers & Land Surveyors
Springfield, IL
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Table of Contents

I. Geographical and Administrative Data

Structure Number:	045-3096
County:	Kane
Route Carried:	FAU Route 2 (Kirk Road)
Feature Crossed:	Union Pacific Railroad and Reed Road
Section:	21-000192-04-BR
Station:	13+50.11
Roadway Classification:	Other Principal Arterial
Design/Posted Speed:	
ADT (current/design):	25,900/33,048 (2010/2032)
ADTT (current/design):	1,813/2,313 (7 percent)
DHV:	
Inventory Rating HS:	20.0 (IDOT Master Structure Report)
Operating Rating HS:	27.3 (IDOT Master Structure Report)
Sufficiency Rating:	66.0

Construction / Reconstruction / Repair History:

Year Constructed:	1974–Original construction
Year/s Reconstructed:	1987–Concrete deck overlay
	2003–New joints, drain extensions, and deck, parapet, and steel repairs
	2013–Deck repairs

II. Physical Description of Structure

Superstructure Type: Steel girder (I-section)

Substructure Type:
Abutments: reinforced concrete spill through
Piers:reinforced concrete multi-column

Length and Width: 1,376'-2" back to back of abutments; 62'-0" out-to-out of deck; 55'-6" roadway width (plus 3'-0" raised concrete median)

Span Arrangement and Lengths: 4-units totaling 18-spans on a curved/tangent alignment with super-elevation transition

Skew: 0˚

Existing Wearing Surface Type and Thickness: Concrete wearing surface–3"

Existing Horizontal and Vertical Alignment:
Horizontal–a horizontal curve is present at the north end of the structure
Vertical–the bridge sits in a section with a crest and sag vertical curve

Utilities and Attachments Present: One–2" utility pipe is located on the east side of the bridge in the first interior bay of the deck from that end. Two additional utility pipes are located on the west side of the bridge, a 2 1/2" pipe is attached to the outside of the fascia beam and 1 3/4" pipe is suspended from the deck in the first interior bay from that end.

III. Field Inspection and Physical Evaluation

Superstructure:

Deck: The deck was originally constructed in 1974 with a 7.5" thickness. In 1987 the deck had a concrete overlay placed on it. The overlay consisted of milling off the top 2" of concrete and replacing it with 3" of concrete overlay to make for a new total concrete thickness of 8.5". An additional deck patching contract was completed in 2013. The deck is currently in **poor condition** overall.

Top of Deck–The deck overlay is heavily delaminated with map cracking and numerous open cracks present. A few small areas are spalled and numerous locations have concrete and temporary bituminous patches in place. The total top of deck area is approximately 76,260 square feet (sq. ft.) (minus median and parapets). An estimated 17,300 sq. ft., or 22.7 percent of this area is delaminated, spalled or patched. (See the Top of Deck Survey and photos 18 to 26)

Bottom of Deck–The bottom of the deck has numerous areas with cracking, leaching, delaminations and spalls present. There are three longitudinal construction joints in the deck, one in each of the outer bays and one in the center bay. It is estimated the concrete along these joints is delaminated or spalled over an area approximately 1' wide for 35 percent of the length of each of the outer construction joints. The total bottom of deck area is approximately 80,380 sq. ft. (minus the area beneath the parapets). An estimated 5,200 sq. ft., or 6.5 percent minimum of this area is delaminated, spalled or is heavily cracked and leaching. (See the Bottom of Deck Survey and photos 28 to 35)

Parapets and Bridge Lighting–The parapet is a GM type with an aluminum handrail. Large areas of the inside face of the concrete parapet are cracked with delaminations and spalls present. Concrete repairs have been made in many locations to this portion of the parapet in the past; however, many of these repairs are failing. It is estimated approximately 35 percent of the inside face of each parapet is damaged, or 2,400 sq. ft. The deck located beneath the parapets is heavily damaged. It is estimated 50 percent of the length of the east and 30 percent of the west deck area located beneath the parapets is damaged over a width of 1.5'. This is equal to approximately 1,650 sq. ft. (2.1 percent) of additional concrete damage to the bottom of the deck area. (see photos 14 to 17 and 28)

The aluminum handrail anchorage is damaged due to impact on the west side of Span-14.

The parapet mounted light poles are missing or damaged in a number of locations. Light poles are missing on the east side of Span-7 and the west side of Span-14 (see photo 27). There is impact damage to the light poles located on the east side of Span-3, west side of Span-5, west side of Span-10 and the east side of Span-16. The concrete at the base of the light pole on the east side of Span-12 is spalled, causing reduced bearing area.

Joints: The bridge has transverse joints located at the North and South Abutments as well as Piers 3, 8, and 13.

Abutment Transverse Joints–The original joint seals at both abutments have been replaced with silicon joint seals. These seals have failed at both abutments allowing large amounts of runoff from the deck to pass through to the beams and substructure elements located below (see photos 9 and 13).

Pier Transverse Joints–The transverse joints at Piers 3, 8, and 13 are currently modular type joints. They are in satisfactory condition with only minor damage and leakage noted (see photos 10 to 12).

Beams: The bridge girders consist of non-composite weathering steel W36 sections. They are in **satisfactory condition** with only minor problems noted (see photos 28 to 35).

Some beam ends located below the transverse deck joints have suffered minor section loss to the web and bottom flange. These areas were originally unpainted. Minor pitting and section loss occurred on the steel in these areas once the deck joints began to fail and allowed roadway drainage to pass through to the beams. The beam ends and bearings located below the joints were painted in 2003 to prevent further corrosion. This paint is beginning to fail at a few locations. The section loss at these locations is approximately 1/16" at the most (see photos 39 and 40).

Minor corrosion with no significant section loss has also occurred on the bottom flanges at a few locations adjacent to deck drain down spouts that do not extend sufficiently far below the bottom of the beams. The section loss at these locations is approximately 1/16" at the most.

The bridge was rated for its current condition using LFD. The resulting ratings were:

Operating Rating = 1.21, (without FWS allowance)
Inventory Rating = 2.02, (without FWS allowance)

Bearings: All bearings are steel high profile fixed or expansion bearings. They are in good condition overall (see photos 36 to 38). A few bearing locations have loose or missing anchor bolt nuts (see the Bottom of Deck Condition Survey for locations). The paint has failed on a number of bearings at the abutments due to the heavy amount of roadway drainage passing through the failed transverse deck joints located above. This has allowed minor corrosion to start on these bearings. No unusual tilting of the expansion bearings was noted during the inspection.

Substructure:

Abutments: The abutments are reinforced concrete spill through type with parallel wingwalls. They are in **satisfactory condition**. Damage noted to the abutments consisted of tight cracks in the caps and moderate amounts of delaminated and spalled concrete. This damage was primarily noted at the north abutment. It is estimated that approximately 15 sq. ft. of concrete repair is currently required on the abutments (see photos 41 and 42).

Piers: The piers are reinforced concrete multi-column type. They are in **satisfactory condition**. The piers located beneath continuous deck locations exhibit little or no damage. Those located beneath the transverse deck joints, Piers 3, 8, and 13, have large amounts of concrete delaminations and spalls present. It is estimated that approximately 470 sq. ft. of concrete repair is currently required on the piers (see photos 43 to 50).

Slope Protection: Riprap has been placed at each end of the bridge and is in good condition. It covers the area beneath each end span, around the abutment wingwalls and around each first interior pier from each end of the bridge (see photos 5 and 41 to 43).

Inspection History (NBIS Ratings):

Year:	Deck:	Super:	Sub:
2010	5	6	6
2011	4	6	6
2012	4	6	6
2014	4	6	6

Geometric, Horizontal and Vertical Clearances:

The horizontal clear width through this structure matches the urban approach roadway cross section at the south end of the bridge.

This structure crosses a road and a double track rail line. The minimum vertical clearances to these are as follows:

Reed Road = 14.70'

UP Rail Line = 22.77'

IV. Potential Scope of Work Determination and Analysis:

The following potential scopes of work were considered for this structure:

Scope of Work-A: Rehabilitation-Deck Repair and Overlay

For this scope of work the existing deck would be repaired and a new microsilica-concrete overlay placed on the deck. The major work items for this scope of work would include:

- Deck scarification using hydro-demolition
- Full depth deck repairs
- Microsilica concrete overlay of the deck
- New transverse deck joints at the abutments
- Concrete repairs to the parapets and raised median
- Lighting repairs
- Replace the existing bearings beneath the transverse deck joints with elastomeric bearings
- Concrete repairs to the substructure
- Deck drain extensions
- Painting the structural steel located beneath the transverse deck joints

This scope of work has an estimated service life of 12 years before major deck repairs are required again. This reduced service life for the overlay is based on the advanced age of the existing deck and estimated high chloride content of the remaining concrete. The estimated cost for this bridge work is $2,873,000.

Scope of Work-B: Rehabilitation-Deck Replacement

For this scope of work the existing deck would be replaced with a new composite 8" deck. The major work items for this scope of work would include:

- Deck removal and replacement with an 8" composite deck
- Concrete repairs to the substructure
- Replace the existing bearings beneath the transverse deck joints with elastomeric bearings
- Painting the structural steel located beneath the transverse expansion deck joints
- New lighting

This scope of work has an estimated service life of 25 years before deck replacement is potentially required. The estimated cost for this bridge work is $6,454,000.

The bridge was rated for this proposed condition using LFD. The resulting ratings were:

Operating Rating = 1.15, (with 50 psf FWS allowance)

Inventory Rating = 1.92, (with 50 psf FWS allowance)

Scope of Work-C: Structure Replacement

The scope of work for this option would be to remove the existing structure and replace it with two separate single-span structures. The major work items for this scope would include:

- Two new single-span bridge structures of sufficient width to support an additional lane of traffic in each direction with a widened median and a shared-use path. One structure will be over the Union Pacific Railroad and the other over Reed Road.
- MSE wall to be constructed to "close off" the other existing spans.
- Shared-use path along Kirk Road between Cherry Lane and IL-38.
- New lighting.
- New culvert for White's Creek through the MSE wall.

This scope of work has an estimated design life of 75 years. The estimated cost for this bridge work is $19,500,000.

V. Discussion and Recommended Scope of Work:

Kane County has identified Kirk Road in its Strategic Plan to be widened to three lanes in each direction. Kane County, the Kane County Forest Preserve, and other agencies also expressed the need to connect the shared-use path along Kirk Road between IL 38 and Fabyan Parkway. Since the existing structure would not be able to accommodate the future roadway widening requirements, rehabilitation options were ruled out. Therefore, **Scope of Work-C: Structure Replacement** is recommended as the preferred alternative.

The bridge over the Union Pacific Railroad will span approximately 115' to 125'. The bridge over Reed Road will span approximately 70' to 80'. The clearance over the railroad will be increased to achieve a minimum 23'-0" clearance. The clearance over Reed Road will be increased to 14'-9" minimum, in accordance with the Bureau of Local Roads Manual.

Three mechanically stabilized earth (MSE) retaining walls will be constructed to support new fill. The southernmost wall will be "U" shaped. This wall will parallel Kirk Road and will support the south abutment of the bridge over the railroad. The middle wall will be box shaped. It will parallel Kirk Road between the railroad and Reed Road and will support the north abutment on the railroad bridge and the south abutment of the Reed Road Bridge. The northernmost wall will be "U" shaped and parallel Kirk Road and will support the north abutment of the Reed Road Bridge. A schematic sketch of the bridge and wall layout can be found in Figure 1.0. The wall lengths will be further defined during the TS&L development.

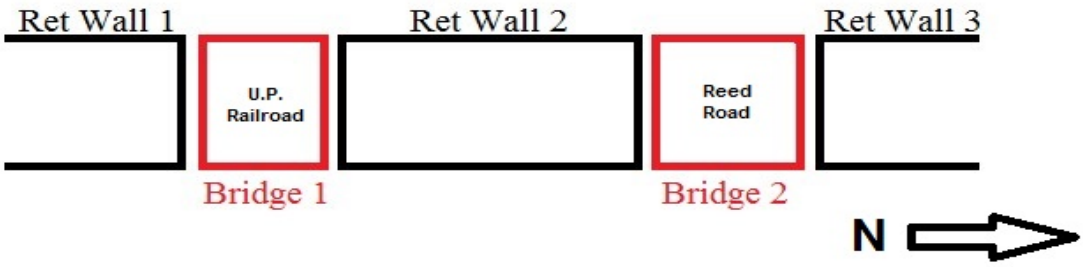


Figure 1.0 Schematic sketch of proposed structures along Kirk Road.

ATTACHMENTS:

Attachment A. Roadway Classification Map

Attachment B. IDOT Master Structure Report

Attachment C. Bridge Inspection Report

Attachment D. Top and Bottom of Deck Condition Surveys

Attachment E. Substructure Condition Surveys

Attachment F. Cost Estimates

Attachment G. Proposed Structure

Attachment H. Staging Sketch

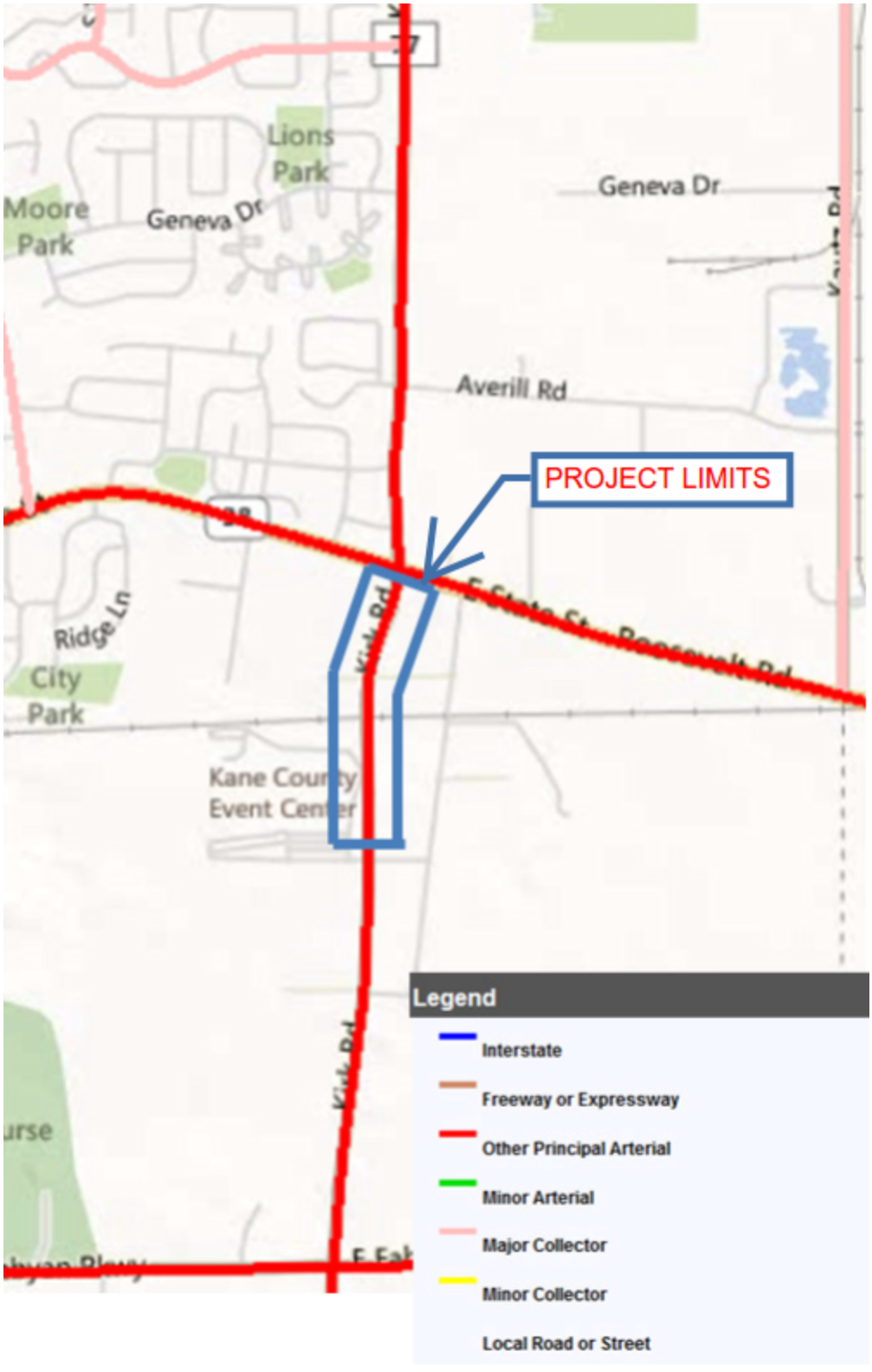
Attachment I. Structure Photographs

Attachment J. Existing and Proposed Roadway Cross Sections

Attachment K. Abbreviated Existing Plans

ATTACHMENT A

ROADWAY CLASSIFICATION MAP



KIRK ROAD OVER THE UNION PACIFIC RAILROAD
ROADWAY CLASSIFICATION MAP

KANE COUNTY, ILLINOIS

STRAND ASSOCIATES®

ATTACHMENT A

ATTACHMENT B

IDOT MASTER STRUCTURE REPORT

Structure Number: 045-3096 **District:** 1

Inventory Data

Facility Carried:	KIRK ROAD	**Bridge Name:**		**Sufficiency Rating:**	66.0	**Structure Length:**	1376.3
Feature Crossed:	UNION PACIFIC R.R.	**Location:**	1 MI E GENEVA	**HBP Eligible:**	Yes	**AASHTO Bridge Length:**	99.9
Bridge Remarks:				**Replaced By:**		**Length of Long Span:**	87.0
Bridge Status:	1 OPEN - NO RESTRICT	**StatusDate:**	04/1988	**Replaces:**		**Bridge Roadway Width:**	55.5
Status Remarks:				**Last Update Date:**	07/05/2012	**Appr Roadway Width:**	72.0
Maint County:	045 KANE	**Maint Township:**	09 GENEVA	**Parallel Structure:**	None	**Deck Width:**	62.0
Maint Responsibility:	03 COUNTY			**Multi-Level Structure Nbr:**		**Sidewalk Width Right:**	0.0
Service On/Under:	1 HIGHWAY / 2 RAILROAD			**Skew Direction:**	None	**Sidewalk Width Left:**	0.0
Reporting Agency:	3 COUNTY			**Skew Angle:**	0 D 0 M 0 S	**Navigation Control:**	N N/A
Main Span Matl/Type:	4 STEEL CONTINUOUS / 02 STRINGER/MULTI-BEAM/GIRDER			**Structure Flared:**	No	**Navigation Horiz Clear:**	0
Nbr Of Main Spans:	18 **Nbr Of Approach Spans:** 0			**Historical Significance:**	No	**Navigation Vert Clear:**	0
Approaches				**Border Bridge State:**		**Culvert Fill Depth:**	0.0
Near #1 Matl/Type:	/			**Bdr State SN:**		**Number Culvert Cells:**	0
Near #2 Matl/Type:	/			**Bdr State % Responsibility:**	0	**Culvert Opening Area:**	0.0
Far #1 Matl/Type:	/			**Structural Steel Wt:**	0	**Culvert Cell Height:**	0.00
Far #2 Matl/Type:	/			**Substructure Material:**	55	**Culvert Cell Width:**	0.00
Median Width/Type:	3 Ft. / 3 Curb			**Rated By:**	N N/A	**Rate Method:**	E
Guardrail Type L/R:	0 None / 0 None	**Inventory Rating:**	1.000 (36)	**Load Rating Date:**	01/01/1900	***Railroad Crossing Info***	
Toll Facility Indicator:	0 No Toll	**Operating Rating:**	1.365 (49)			**Crossing 1 Nbr:**	174987P
Latitude:	42.00000000 **Longitude:** 88.00000000	**Design Load:**	02 HS20			**Crossing 1 Nbr:**	
Deck Structure Type:	A CIP CON NRMLLY FORM	**Deck Structure Thickness:**	7.5 **SD:** Y **FO:** N			**RR Lateral Underclear:**	35.6
Sidewalks Under Structure:	0 None					**RR Vertical Underclear:**	23 Ft 06 In

Key Route On Data

Key Route Nbr:	FEDERAL-AID PRIMARY 0360	**Station:**	19.0800
Appurtenances	Main Route 00000	**Segment:**	
Inventory County:	045 KANE	**Linked:**	Y
Township/Road Dist	09 GENEVA	**Natl. Hwy System:**	On NHS
Municipality	0000	**Inventory Direction:**	
Urban Area:	1051	**Curr AADT Yr/Count:**	2010 / 25900
Functional Class:	3	**Est Truck Percentage:**	6 %
**** CLEARANCES ****	**South/East** **North/West**	**Number Of Lanes:**	4
Max Rdwy Width:	0.0	**One Or Two Way:**	2 Two-Way
Horizontal:	60.0 0.0	**Bypass Length:**	6
Min Vertical:	99 Ft 11 In 00 Ft 00 In	**Future AADT Yr/Cnt:**	2032 / 33048
10 Ft Vertical:	99 Ft 11 In 00 Ft 00 In	**Designated Truck Rte:**	NONE
Lateral:		**Special Systems:**	Yes

Key Route Under Data

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

*** Marked Route On Data ***

	Designation		Kind	Number
Route #1:	1 Mainline	8	Other	
Route #2:	1 Mainline			
Route #3:	1 Mainline			

*** Marked Route Under Data ***

	Designation		Kind	Number

Structure Number: 045-3096 **District:** 1

Data Related to Inspection Information

***Inspection Intervals ***

Routine NBIS:	24 MOS	Underwater:	0 MOS		
Fracture Critical:	0 MOS	Special:	N		

*** Maximum Allowable Posting Limits ***

One Truck At A Time:	0	Combination Type 3S-1:	Tons
Single Unit Vehicles:	Tons	Combination Type 3S-2:	Tons

Bridge Posting Level: 5 No Posting Required

Inspection/Appraisal Information

Inspection Date: 05/17/2012 Inspection Temperature: 64 Deg. F

Deck:	4	POOR CONDITION - ADVANCED DETERIORATION
Superstructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION
Substructure:	6	SATISFACTORY CONDITION - MINOR DETERIORATION
Culvert:	N	NOT APPLICABLE
Channel and Protection:	N	NOT APPLICABLE
Structural Evaluation:	6	EQUAL TO PRESENT MINIMUM CRITERIA
Deck Geometry:	5	BETTER THAN ADEQUATE TO BE LEFT IN PLACE
Underclearance-Vert/Lat.:	9	SUPERIOR TO PRESENT DESIRABLE CRITERIA
Waterway Adequacy:	N	NOT APPLICABLE
Approach Roadway Align:	8	EQUAL TO PRESENT DESIRABLE CRITERIA
Bridge Railing Appraisal:	2	Doesn't Meet Standards
Approach Guardrail:	333	Acceptable / Acceptable / Acceptable
Pier Navig Protection:	N	N/A

Insp by (Name): C.C SCHRAMM/HLR 2
Insp by (Name):

Utilities Attached:	9	ELECTRIC
	N	N/A
	N	N/A
Deck Wearing Surf:	F	MICRO SIL CON OVRLY
Deck Membrane:	F	NONE
Deck Protection:	J	NONE
Total Deck Thick:	7.5	
Last Paint Date:		

** Actual Posted Limits **

Single Unit Vehicles:	Tons
Combination Type 3S-1:	Tons
Combination Type 3S-2:	Tons
One Truck At A Time:	0

Last Paint Type:

Inspection Remarks:
OVERLAY HEAVILY MAP CRACKED WITH NUMEROUS OPEN CRACKS. APPROX. 22.5% OF DECK SU RFACE IS DELAMINATED. MANY AREAS WITH CRACKS, LEACHING, DELAMINATIONS AND SPALL S ON UNDERSIDE OF DECK.

Underwater Inspection/Appraisal Information

Inspection Date:
Temperature: Inspection Method:
Inspected By: Inspected By: Appraisal Rating:
Inspection Remarks:

Scour Critical Information

Rating: Evaluation Method:
Analysis Date: Analysis By:

Miscellaneous

Fracture Critical Members: No
Microfilm Data Recorded: No

Construction Information

Year:	1974 Original		Reconstructed		
Route:	FAS1100	Sta:	13+50.11	Sta:	
Section Nbr:	192-3VB				
Contract Nbr:					
Fed Aid Pr #:	SU 1100(101)				
Built By:	3 COUNTY AGENCY				

Proposed Improvement

Cost Estimate Year: Length:
Type of Work:
Done By:
Remarks:

*** Costs in Dollars ***

Bridge Cost:
Roadway Cost:
Total Project Cost:

ATTACHMENT C

BRIDGE INSPECTION REPORT

Illinois Department of Transportation

Routine Inspection Report

SN: 045-3096	**District:** 1	**Spans:** 18	**Appr. Spans:**	**Skew:** 90	**ADT:** 26,000	**Truck Pct:** 7
ADT Un:	**Maint. Co:** Kane	**Twsp:** Geneva		**Status:**		
Facility Carried: Kirk Road, FAU Rt. 2		**Feature Crossed:** UP RR & Reeds Rd.				
Location: 0.2 MI S of IL-38		**Municipality:**		**Team/Sub Section:** /		
Bridge Name:		**Material & Type:** 4 / 2				
Insp. Intervals Routine:	**Fracture Critical:**	**Underwater:**	**Special:**			

90– Inspection Date:	01 / 16 / 2014	90C– Temp. (°F):	35	90A- Program Manager:	Mike Zakosek
Is Delinquent: ☐	Reason:				
90A1– Team Leader:	Mike Cima	90A2- Inspector:	Ted Alleni		

90B– Inspection Remarks:

Previous Inspection: Overlay heavily map cracked, approx 22% of deck surface is delaminated or spalled. Underside of deck has many areas with cracks, leaching, delaminations and spalls.

Resources

Time to Inspect (H:M):	__ : __	7 : 0	Traffic Control:	Y	Y	Boat:	_		Waders:	_		Snooper:	Y	Y
Ladder:	_		Manlift:	_		Bucket Truck:	_		Other:	____				

Inspector's Appraisals

	Prev	New	Comments
58 – Deck Condition:	4	4	Between 10-25% of the deck surface has delams/spalls present.
59 – Superstructure Cond:	6	6	Steel girders have minor section loss in non-critical areas
60 – Substructure Cond:	6	6	Moderate levels of delams/spalls present on Piers 3, 8 & 13
62 – Culvert Condition:	N	N	
61 – Channel Condition:	N	N	
71 – Waterway Adequacy:	N	N	
72 – Approach Rdwy Align:	8	8	
111 – Pier Navig Protection:	N	N	

90B – Inspection Remarks:

The transverse joint seals at both abutments have failed. The top of deck is heavily delaminated & cracked with a large number of patchs present. The bottom of the deck has numerous spalls and delaminations present. The steel beams have minor section loss near the transverse deck joints in non-criritcal areas. The piers located beneath the

Routine Inspection Report

Structure Number: 045-3096

Additional Inspection Data

	Prev	New
36A – Bridge Railing Adequacy:	2	2

Rail Types: GM Concrete Parapet w/aluminum railing

Approach Guardrail Adequacy:	Prev	New
36B – Transitions:	3	3
36C – Guardrail:	3	3
36D – Ends:	3	3

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

	Prev	New
59A – Paint Date (Mo/Yr):	01 / 2003	01 / 2003
59B – Paint Type:	– – – – – – – –	

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

	Prev	New
59C – Utilities Attached:	9 N N	9 N N

Weight Limit Posting:	Prev	New
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.): _____

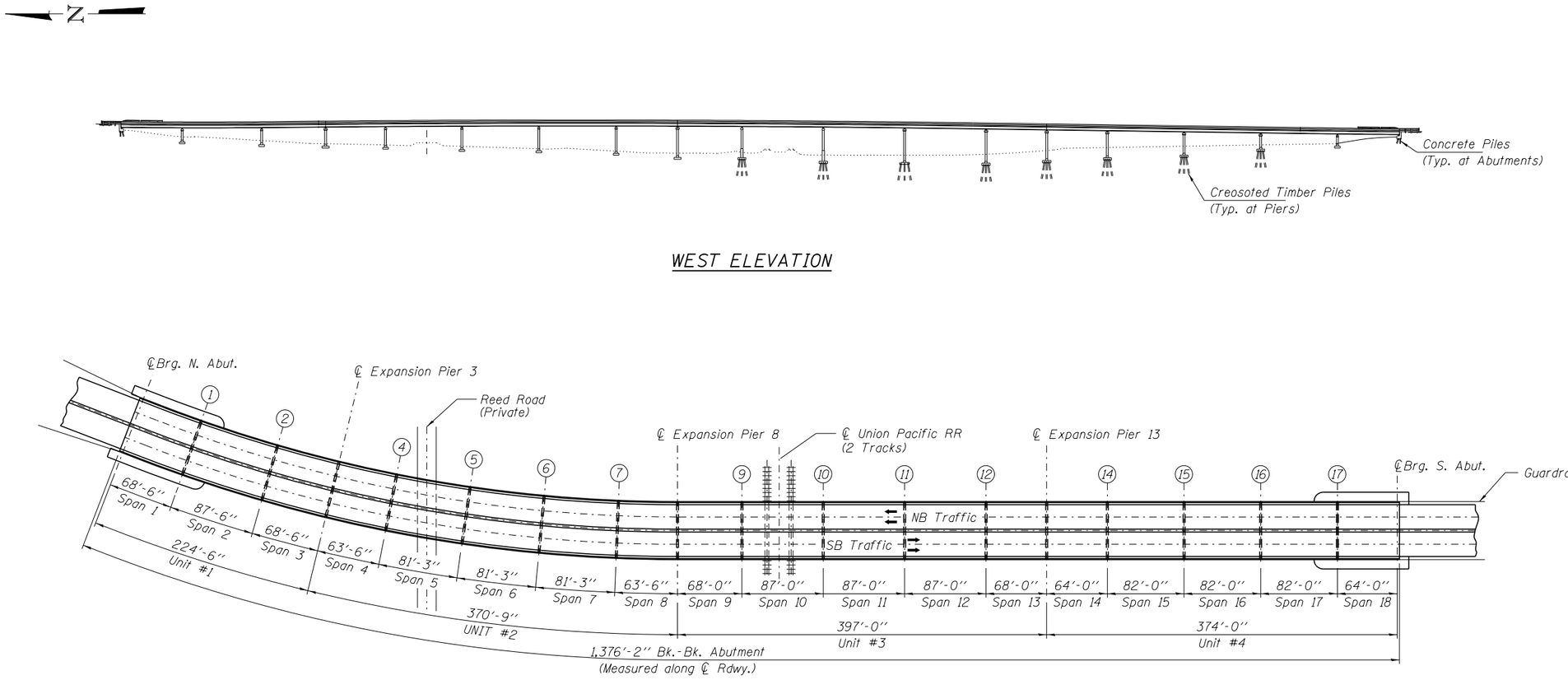
90B – Inspection Remarks Continued:

transverse deck joints have numerous spalls and delams present. The piers not located below joints show little damage.The bridge approach slab at the north end has large open transverse cracks present. See the Bridge Inspection Narrative report for addition details.

	Signature	Date
Inspection Team Leader:	Michael D. Cirs	2 / 3 / 2014
Consultant Program Manager:		/ /
Agency Program Manager:		/ /

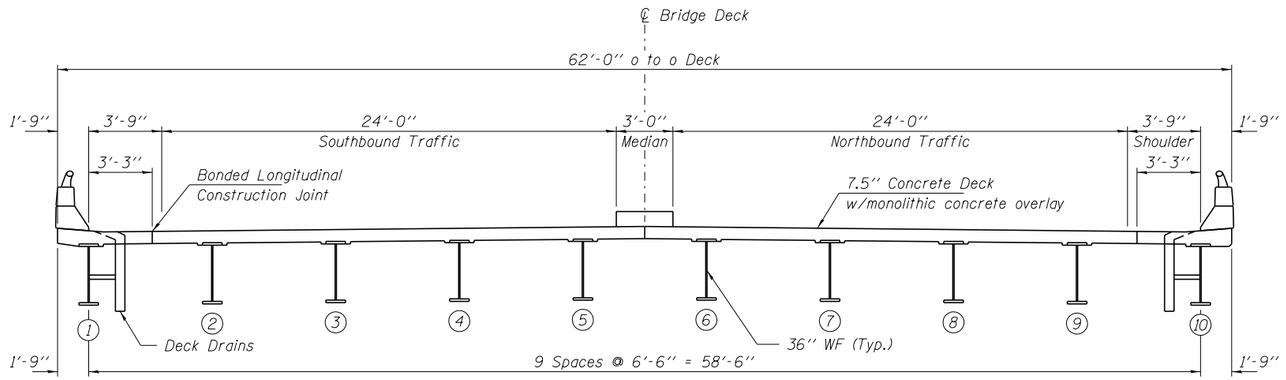
ATTACHMENT D

TOP AND BOTTOM OF DECK CONDITION SURVEYS



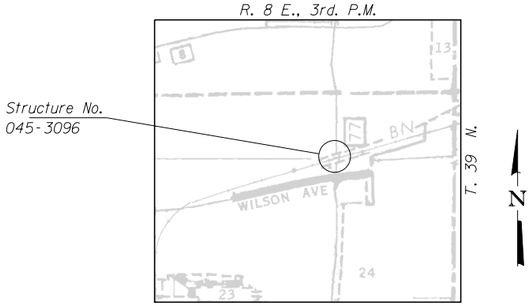
WEST ELEVATION

PLAN



TYPICAL BRIDGE DECK CROSS SECTION

(Looking North)



LOCATION SKETCH

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

GENERAL PLAN AND ELEVATION

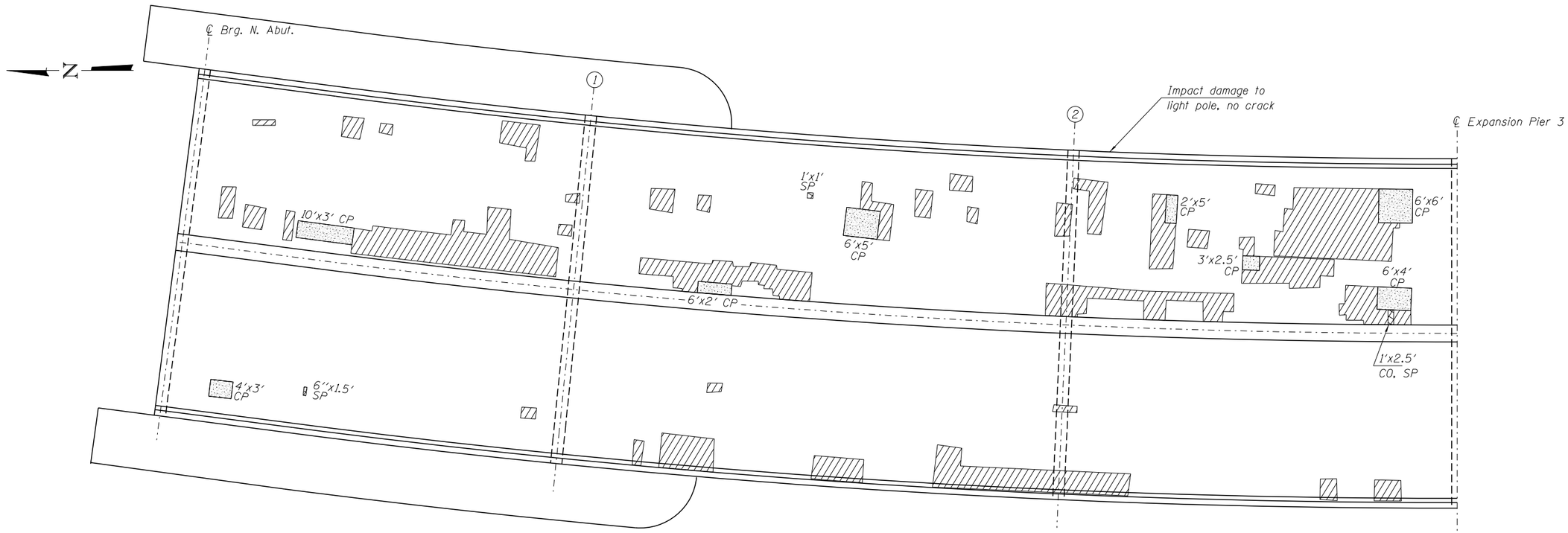
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

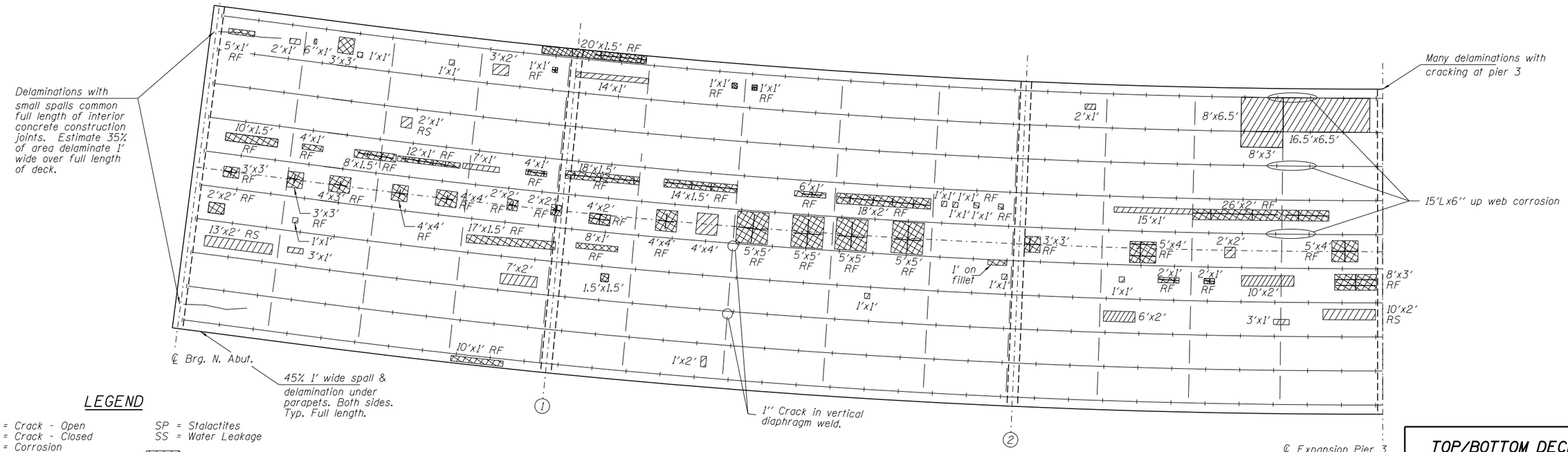
KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



SPANS 1-3
(Top View)



SPANS 1-3
(Bottom View)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

Note:
Damage area dimensions are shown as length along beam x width across beam.

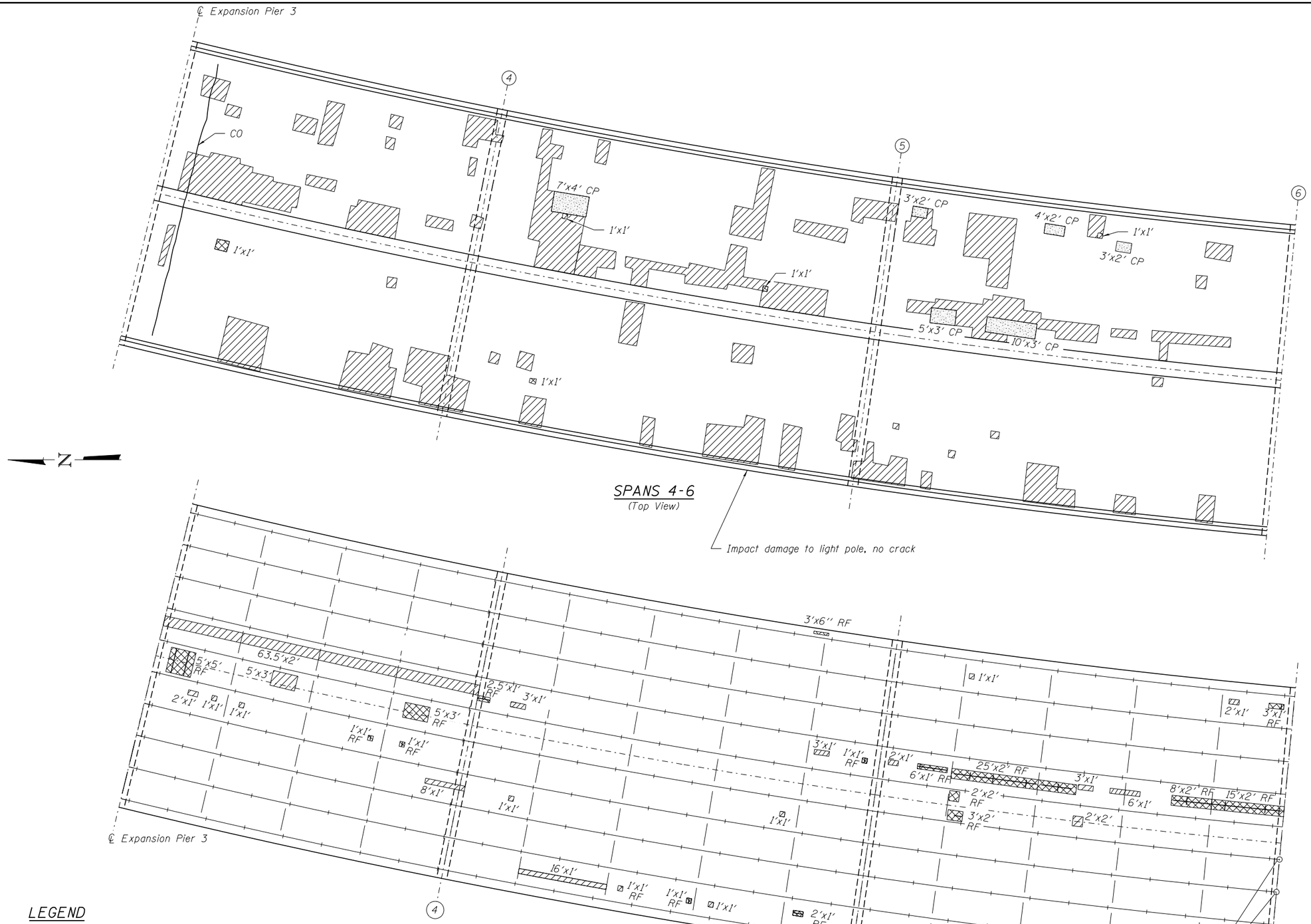
TOP/BOTTOM DECK SPANS 1-3

KIRK ROAD OVER UNION PACIFIC RAILROAD AND REED ROAD

KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



SPANS 4-6
(Top View)

SPANS 4-6
(Bottom View)

Note:
Damage area dimensions are shown as length along beam x width across beam.

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

TOP/BOTTOM DECK SPANS 4-6

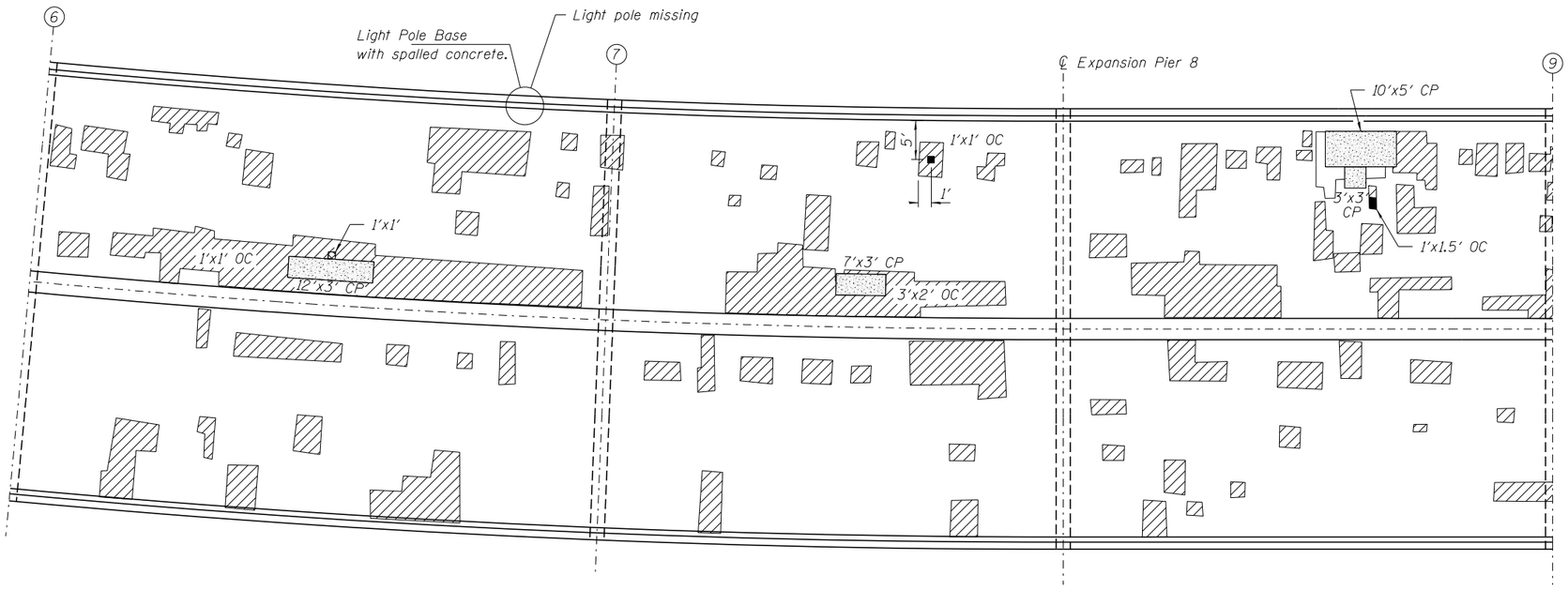
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

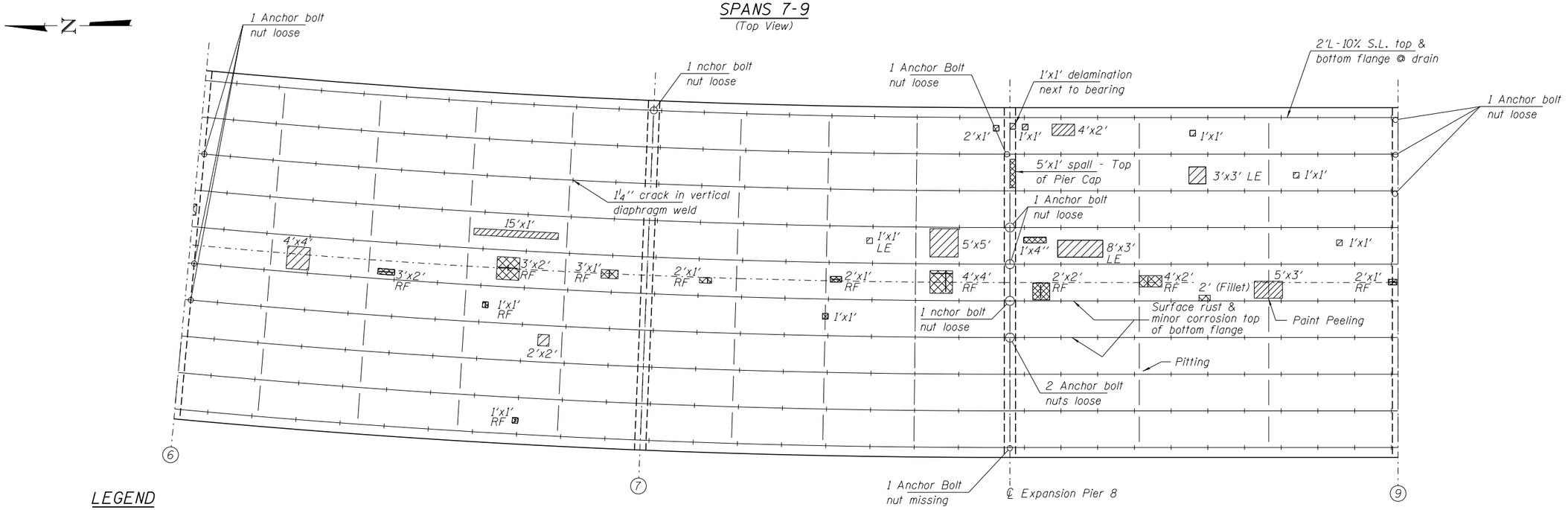
KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



SPANS 7-9
(Top View)



SPANS 7-9
(Bottom View)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

Note:
Damage area dimensions are shown as length along beam x width across beam.

Minor damage to interior top and bottom flanges of fascia beams is common at drain locations (±5-10% loss max). Many drains do not extend 6" or more beyond the low steel elevation as desired.

TOP/BOTTOM DECK SPANS 7-9

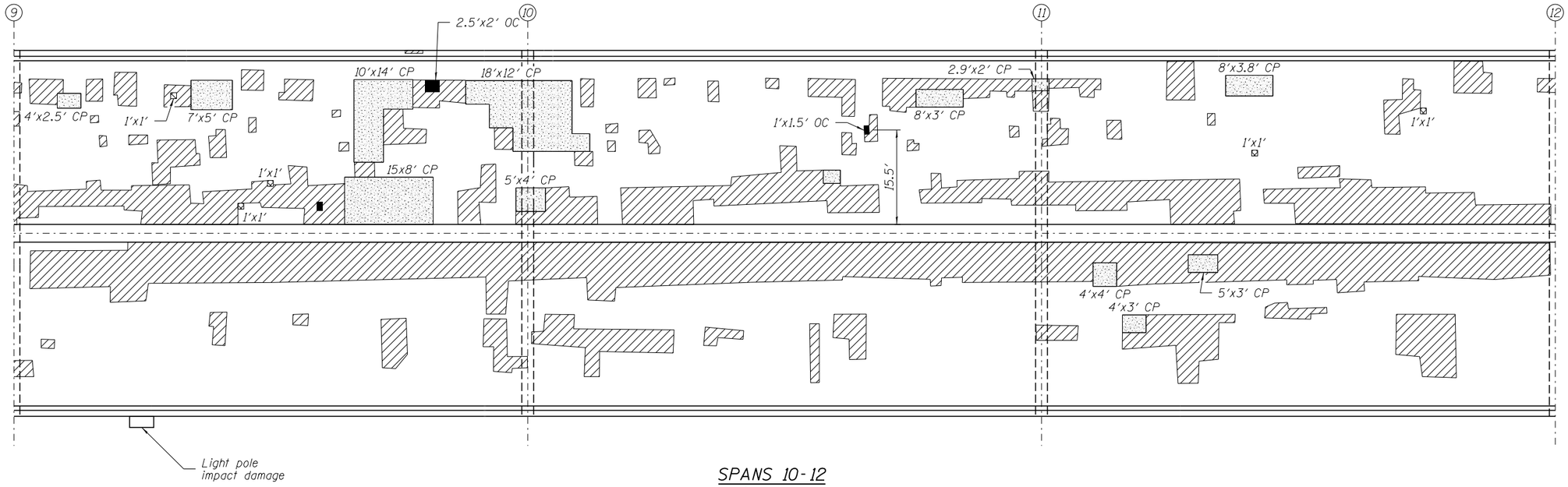
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

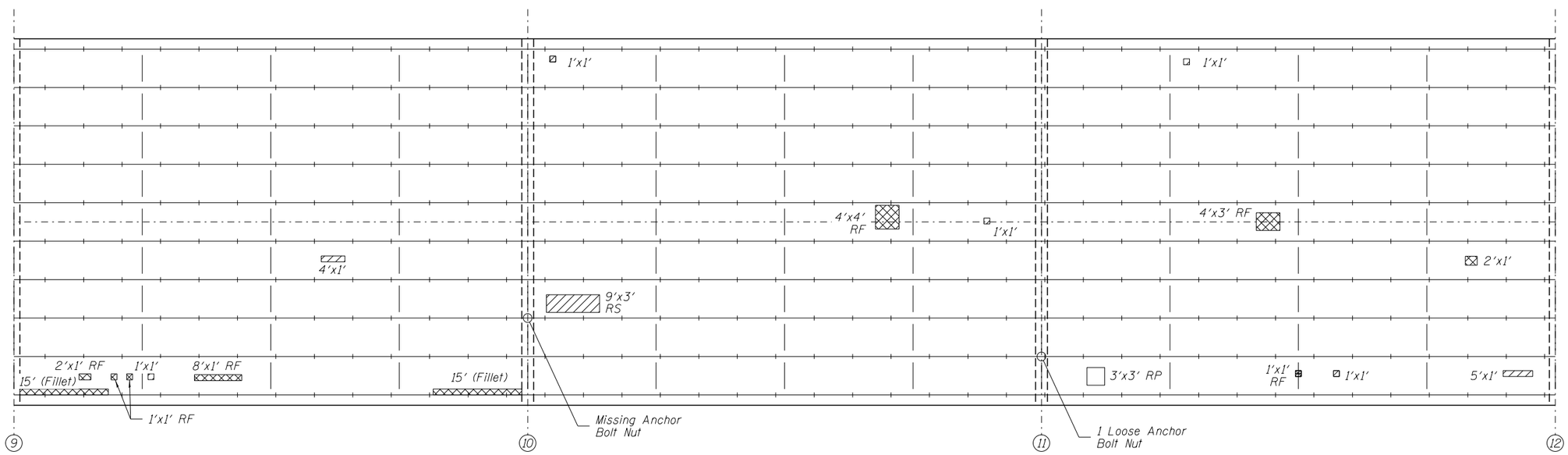
KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



SPANS 10-12
(Top View)



SPANS 10-12
(Bottom View)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

Note:
Damage area dimensions are shown as length along beam x width across beam.

TOP/BOTTOM DECK SPANS 10-12

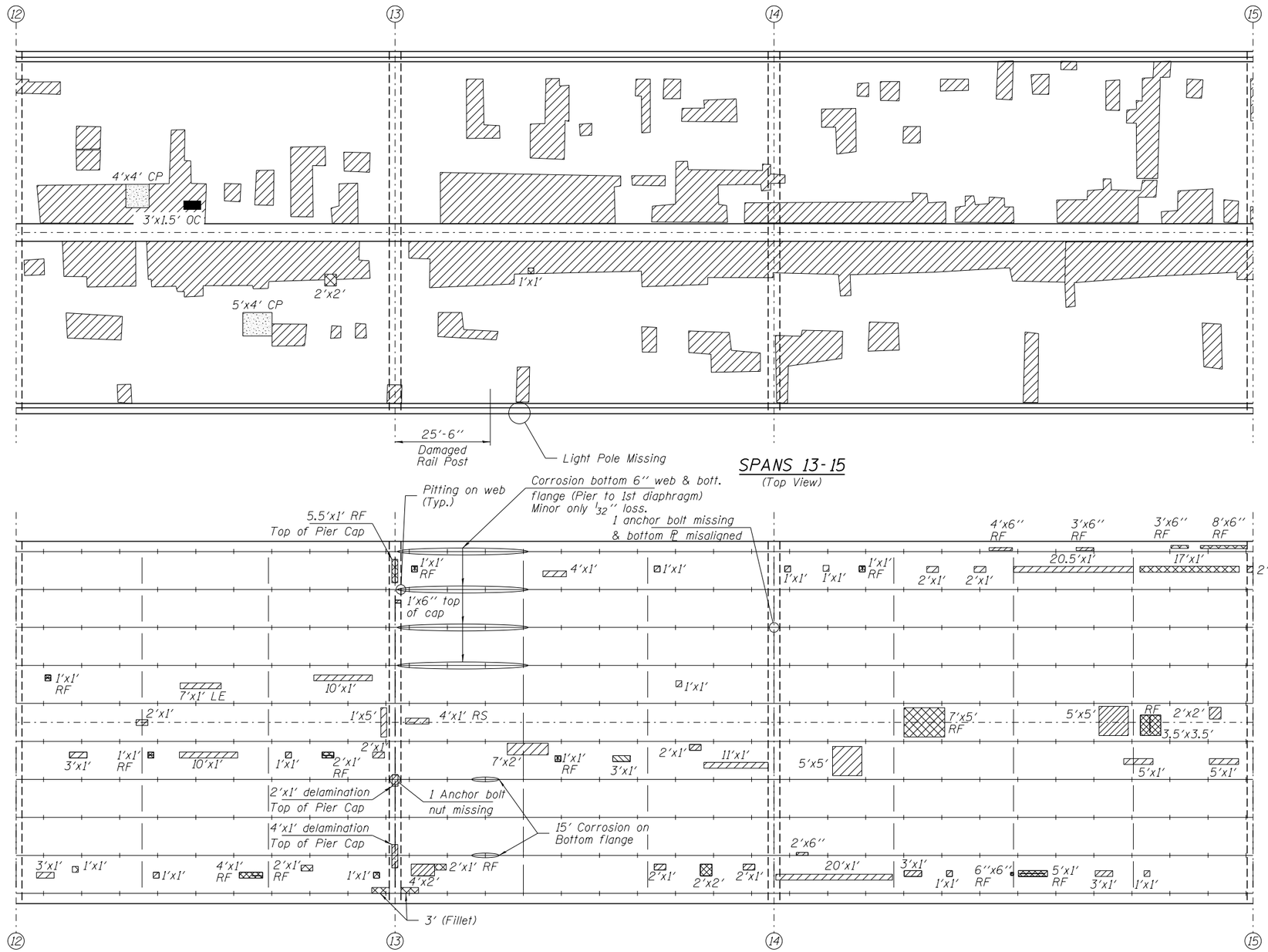
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



N

SPANS 13-15
(Top View)

SPANS 13-15
(Bottom View)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

Note:
Damage area dimensions are shown as length along beam x width across beam.

TOP/BOTTOM DECK SPANS 13-15

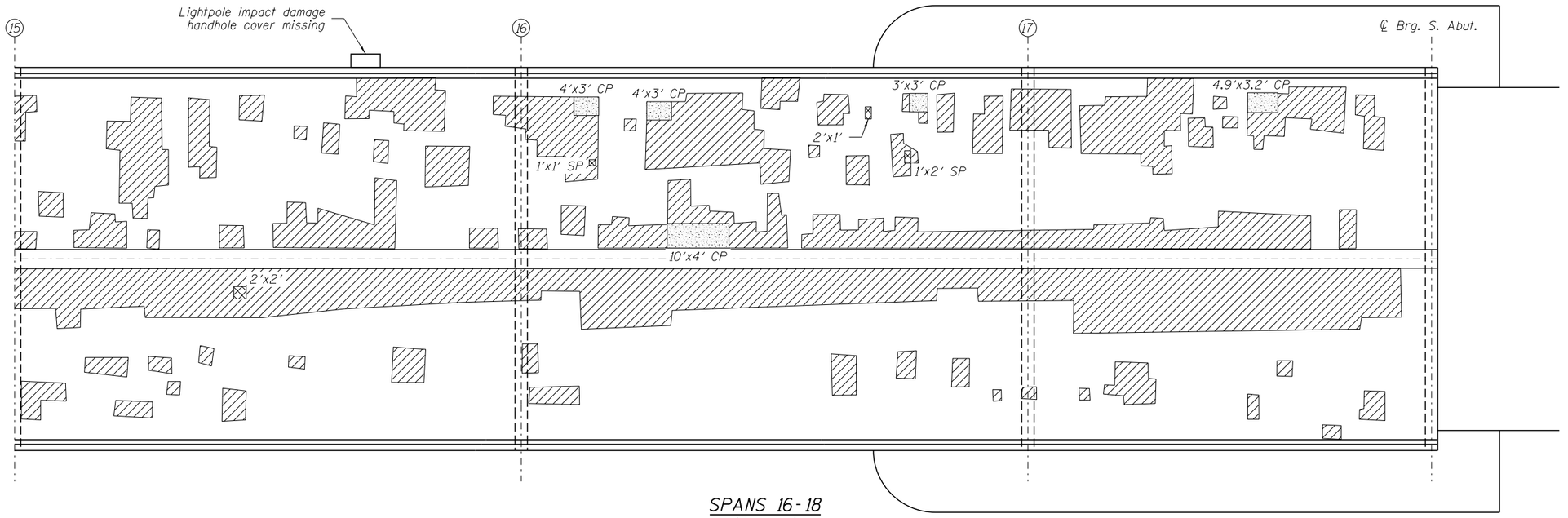
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

KANE COUNTY

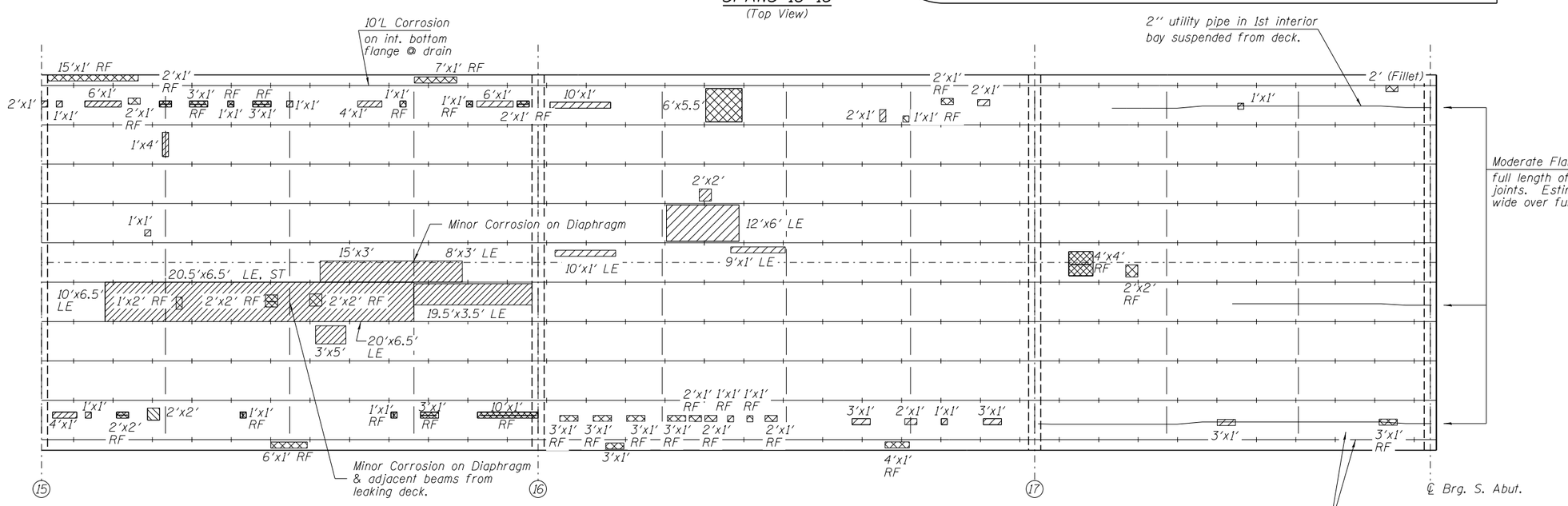
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



SPANS 16-18
(Top View)

N



SPANS 16-18
(Bottom View)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

Note:
Damage area dimensions are shown as length along beam x width across beam.

TOP/BOTTOM DECK SPANS 16-18

KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

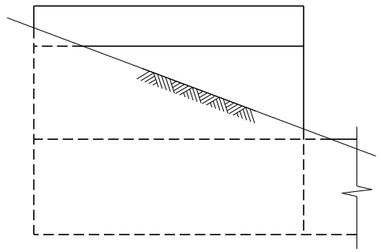
KANE COUNTY

STRUCTURE NO. 045-3096

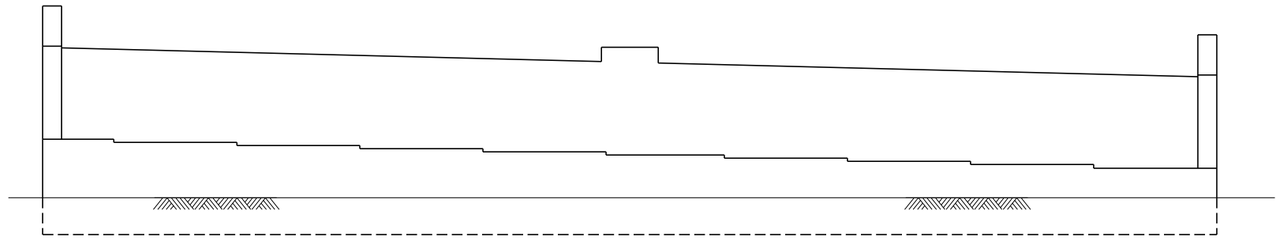
PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14

ATTACHMENT E

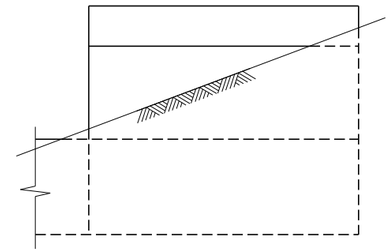
SUBSTRUCTURE CONDITION SURVEYS



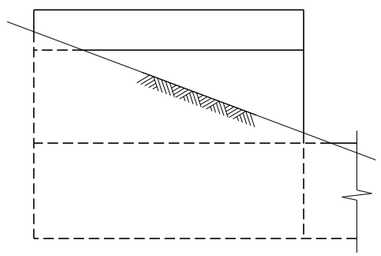
ELEVATION
(Looking West @ Wingwall)



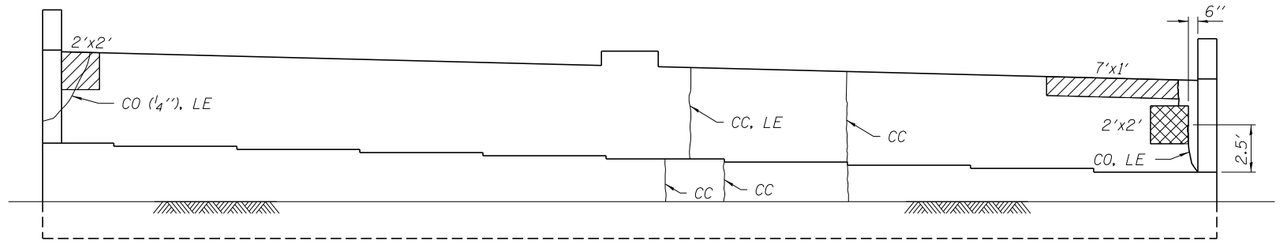
ELEVATION - S. ABUT.
(Looking South)



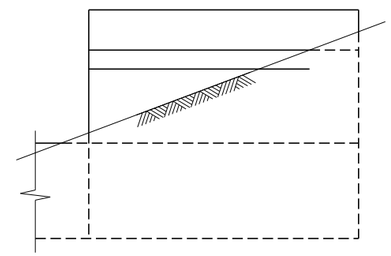
ELEVATION
(Looking East @ Wingwall)



ELEVATION
(Looking East @ Wingwall)



ELEVATION - N. ABUT.
(Looking North)



ELEVATION
(Looking West @ Wingwall)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

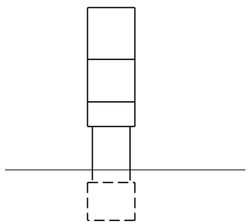
SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

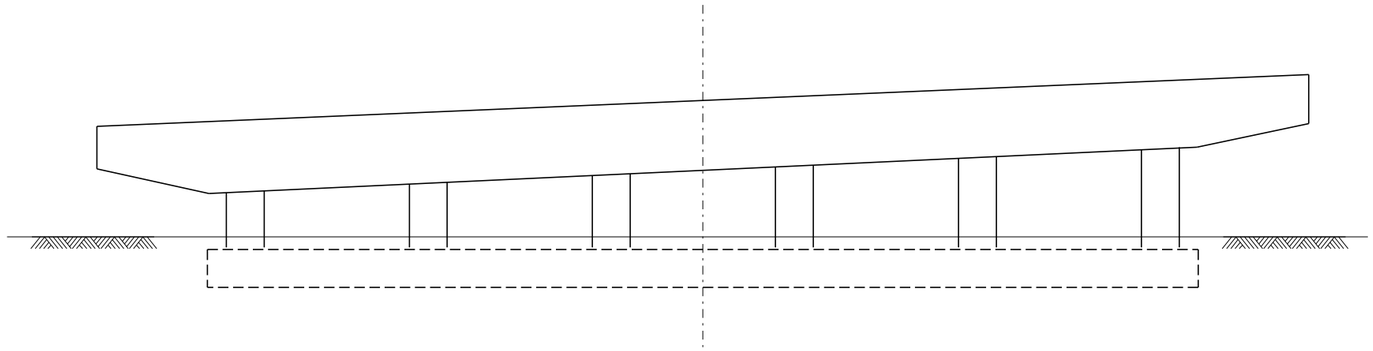
ABUTMENTS

KIRK ROAD OVER UNION PACIFIC
RAILROAD AND REED ROAD
KANE COUNTY
STRUCTURE NO. 045-3096

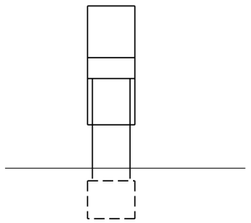
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



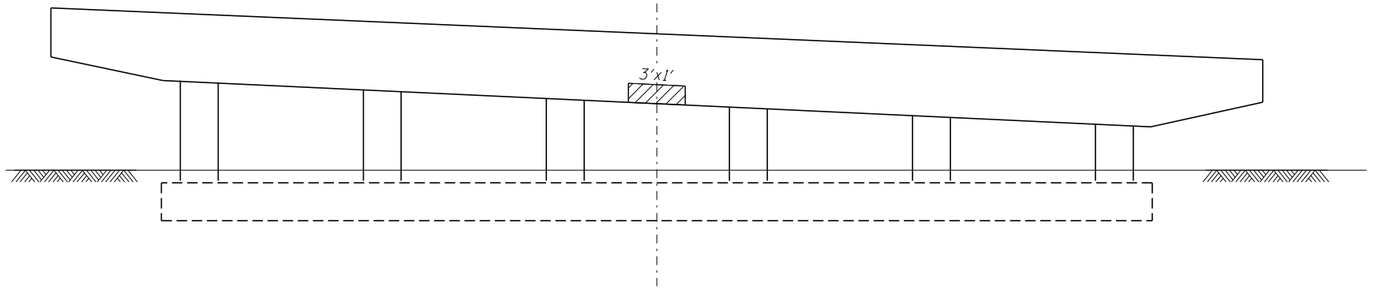
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination

Spalls

Crack

OC = Oil & Chip Patch

Concrete Patch

PIER 1

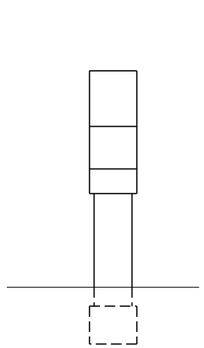
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

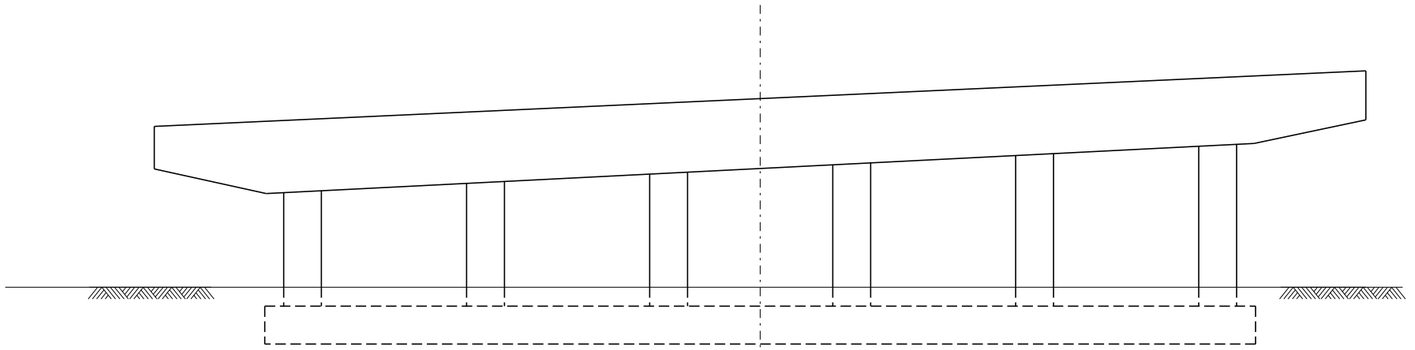
KANE COUNTY

STRUCTURE NO. 045-3096

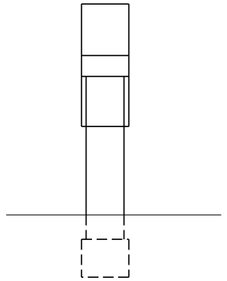
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



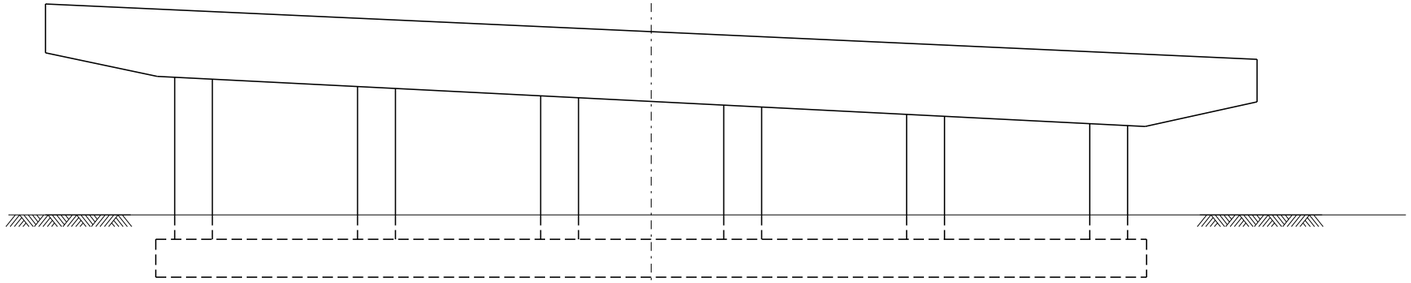
END VIEW



ELEVATION
(Looking South)



END VIEW

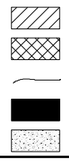


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage



Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 2

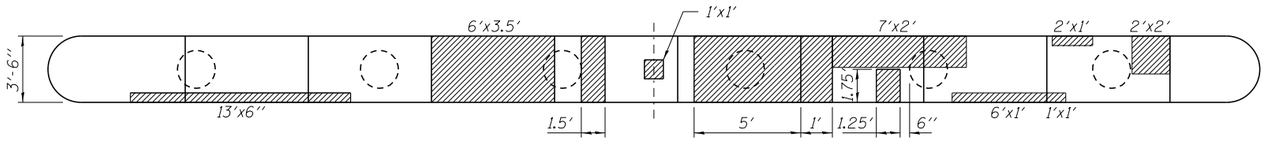
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

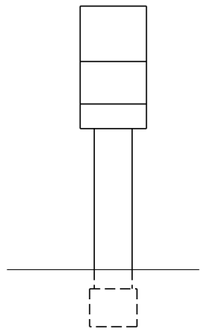
KANE COUNTY

STRUCTURE NO. 045-3096

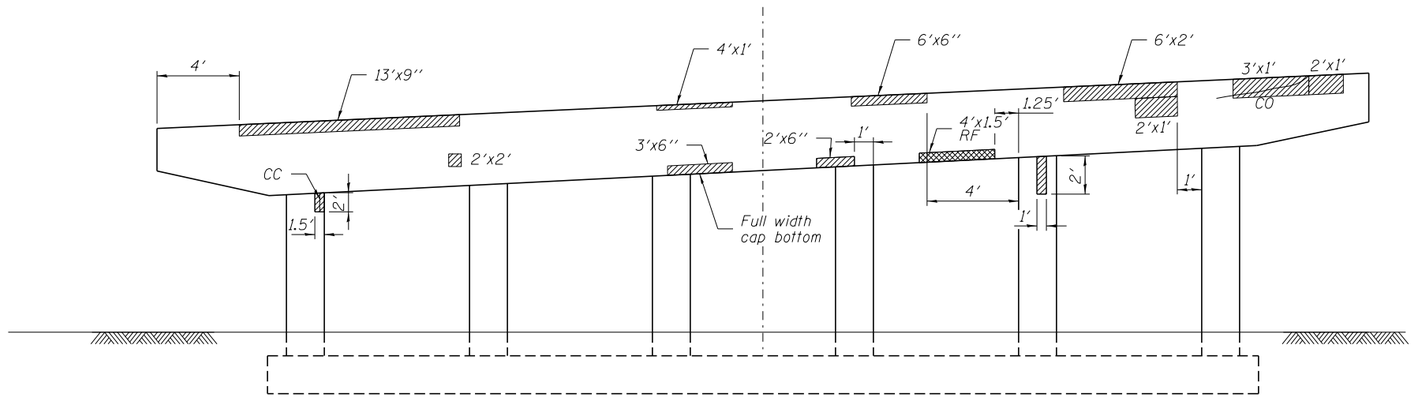
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



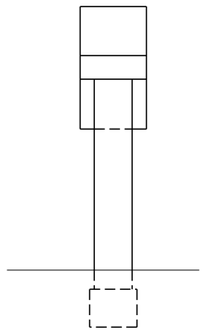
TOP PLAN



END VIEW



ELEVATION
(Looking South)



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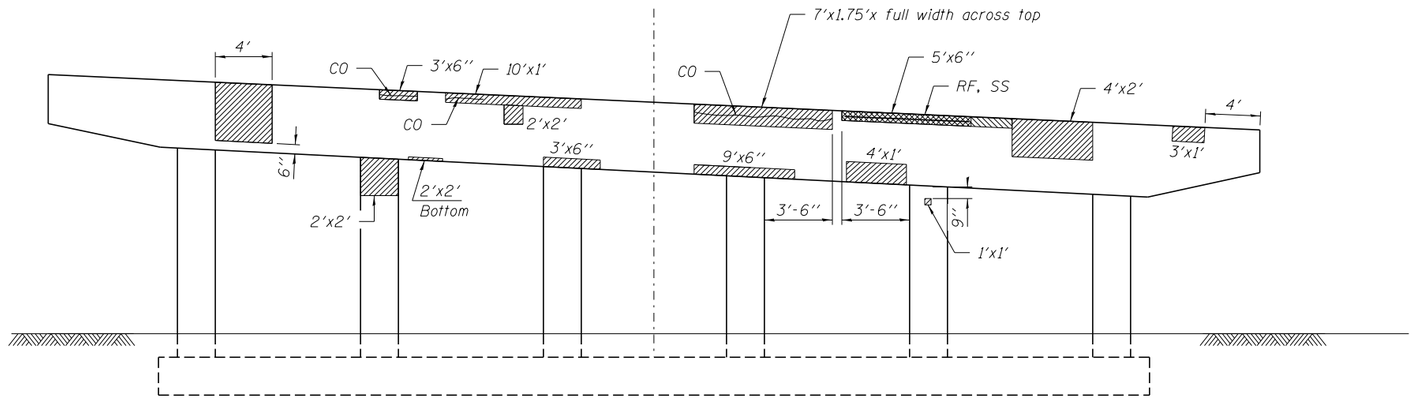


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 3

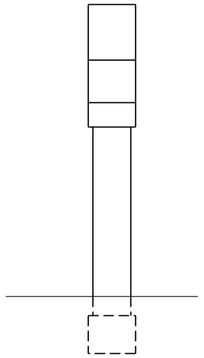
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

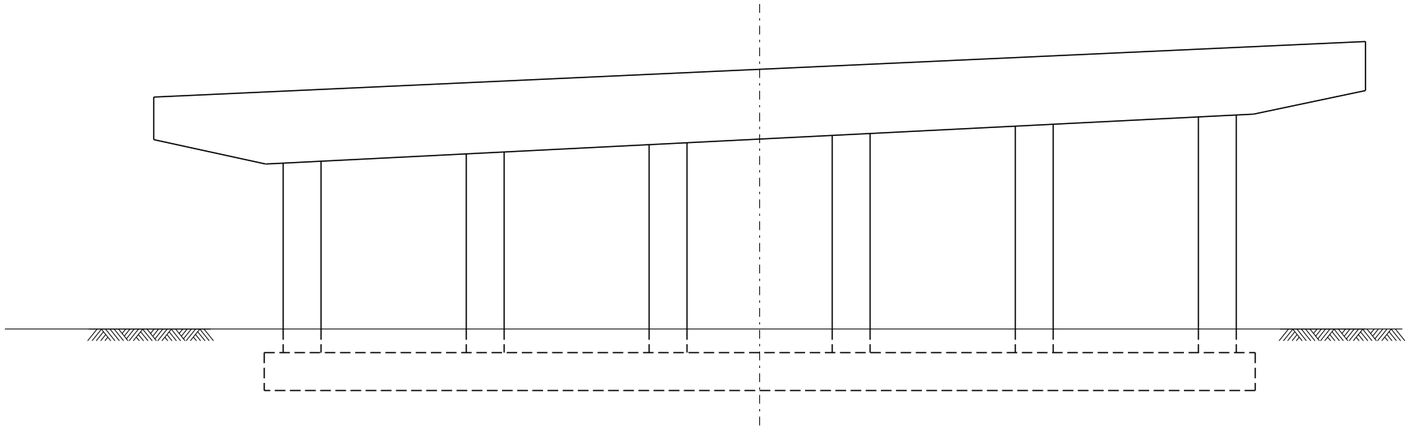
KANE COUNTY

STRUCTURE NO. 045-3096

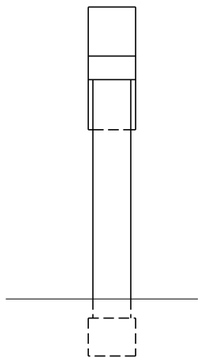
PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



END VIEW



ELEVATION
(Looking South)



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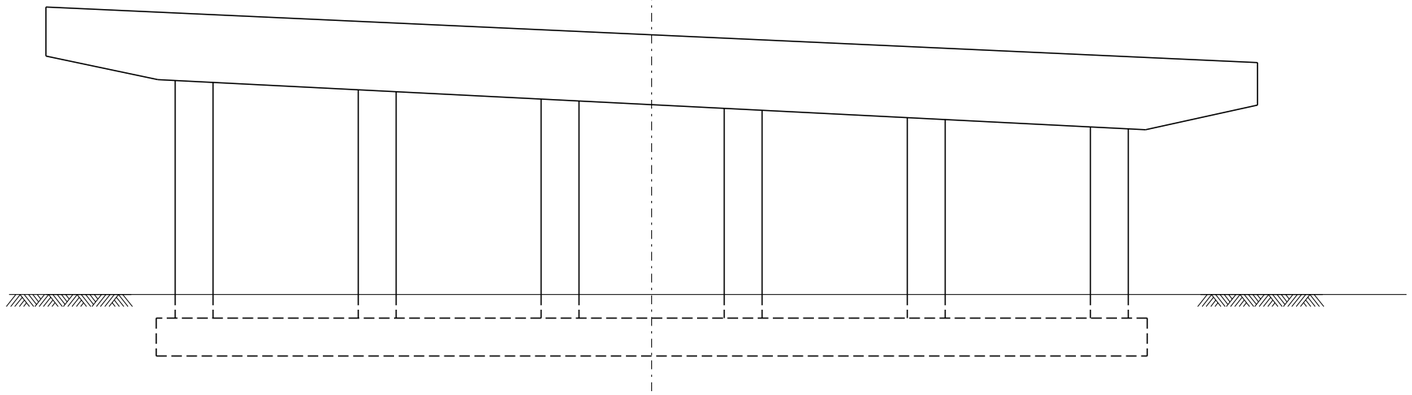


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 4

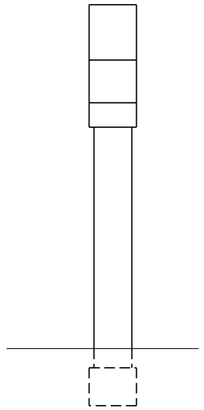
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

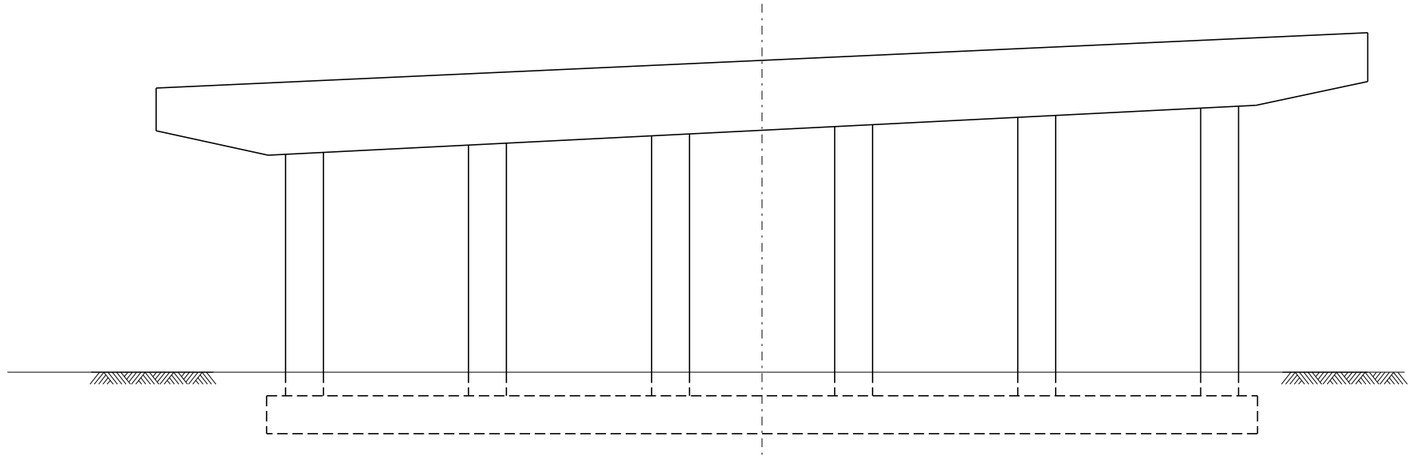
KANE COUNTY

STRUCTURE NO. 045-3096

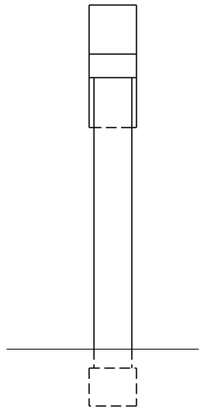
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



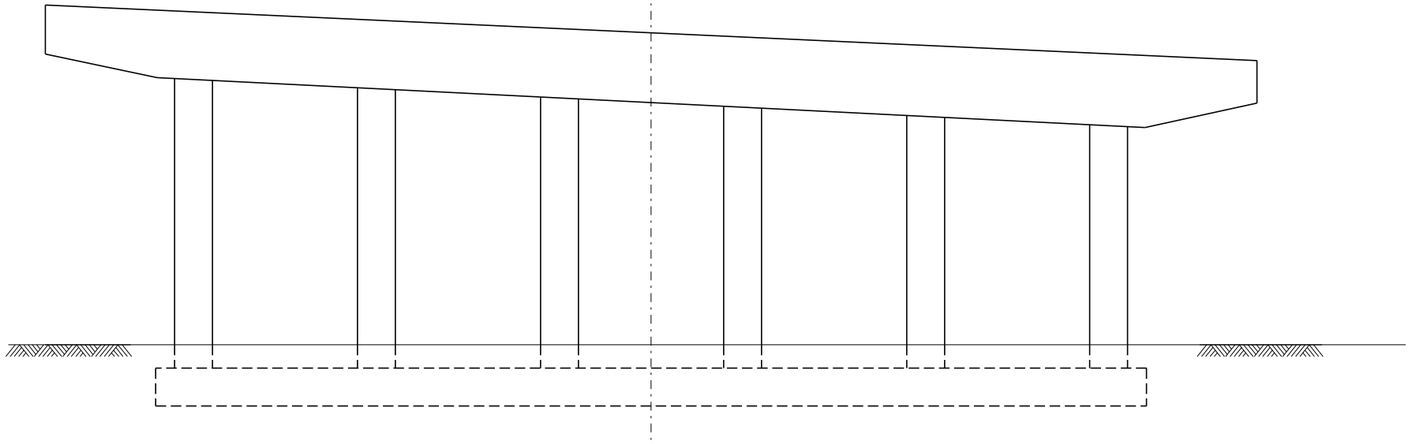
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 5

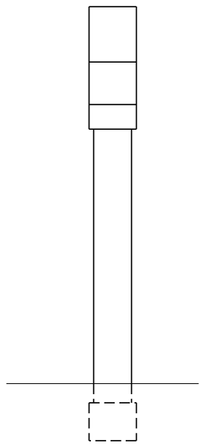
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

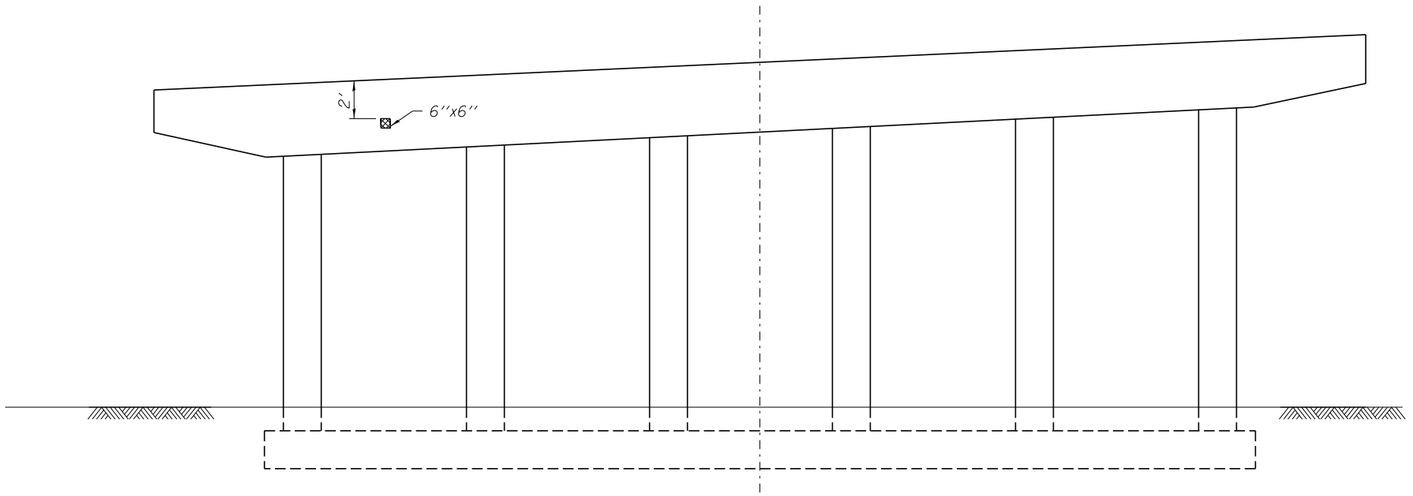
KANE COUNTY

STRUCTURE NO. 045-3096

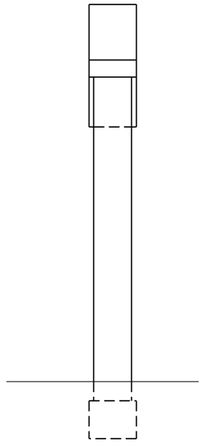
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



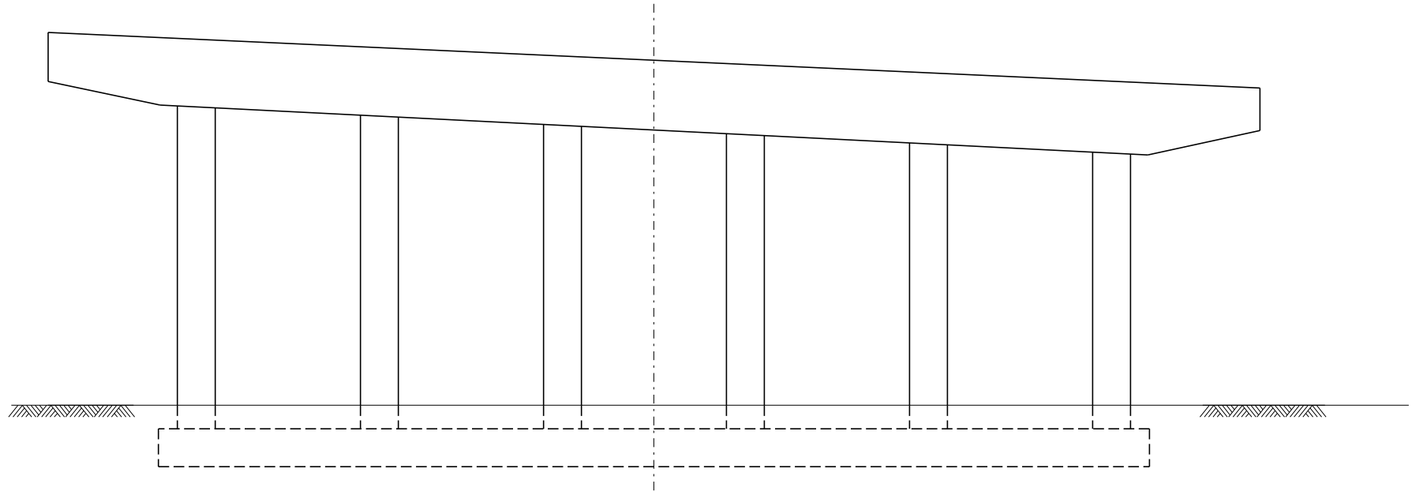
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 6

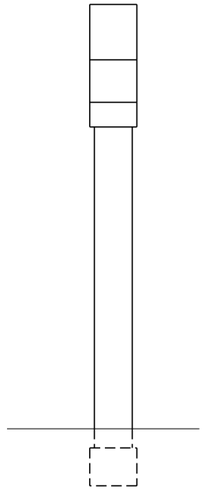
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

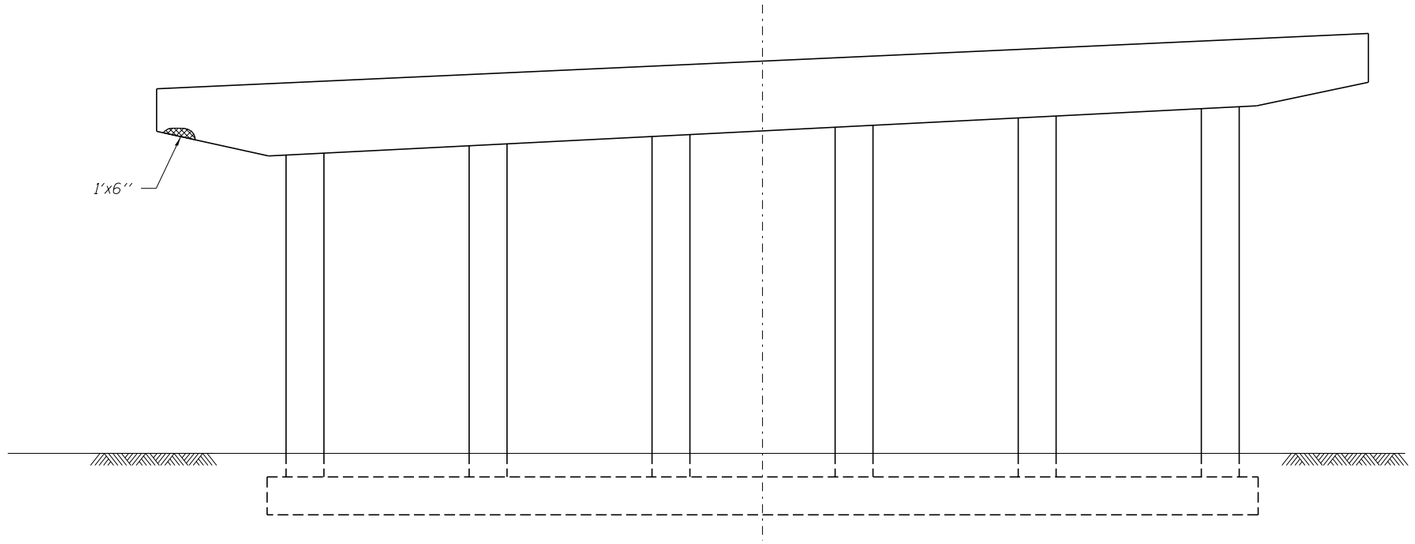
KANE COUNTY

STRUCTURE NO. 045-3096

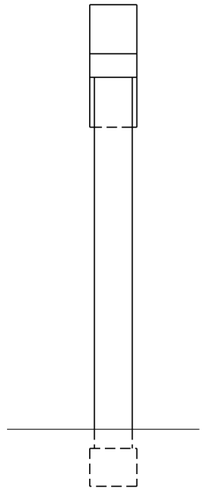
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



END VIEW



ELEVATION
(Looking South)



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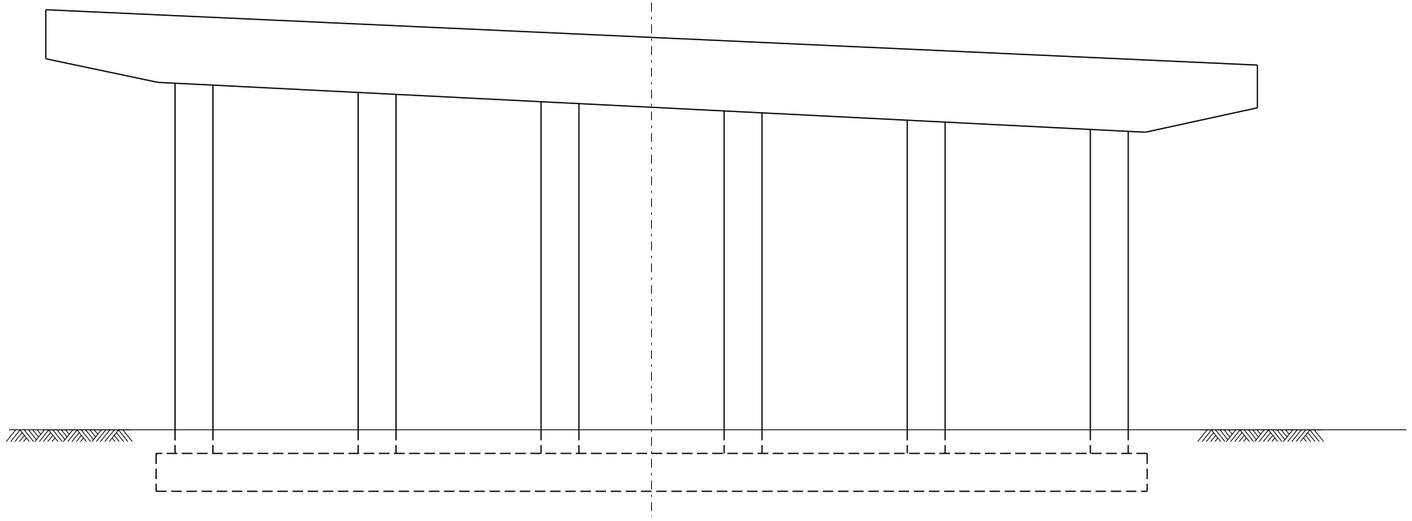


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 7

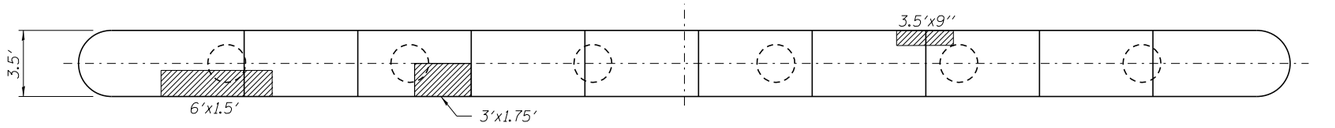
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

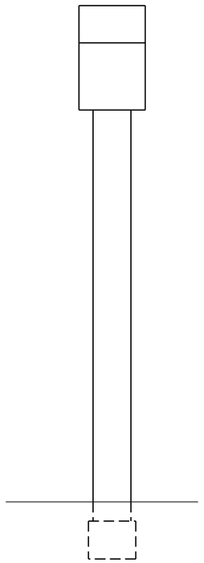
KANE COUNTY

STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



TOP PLAN



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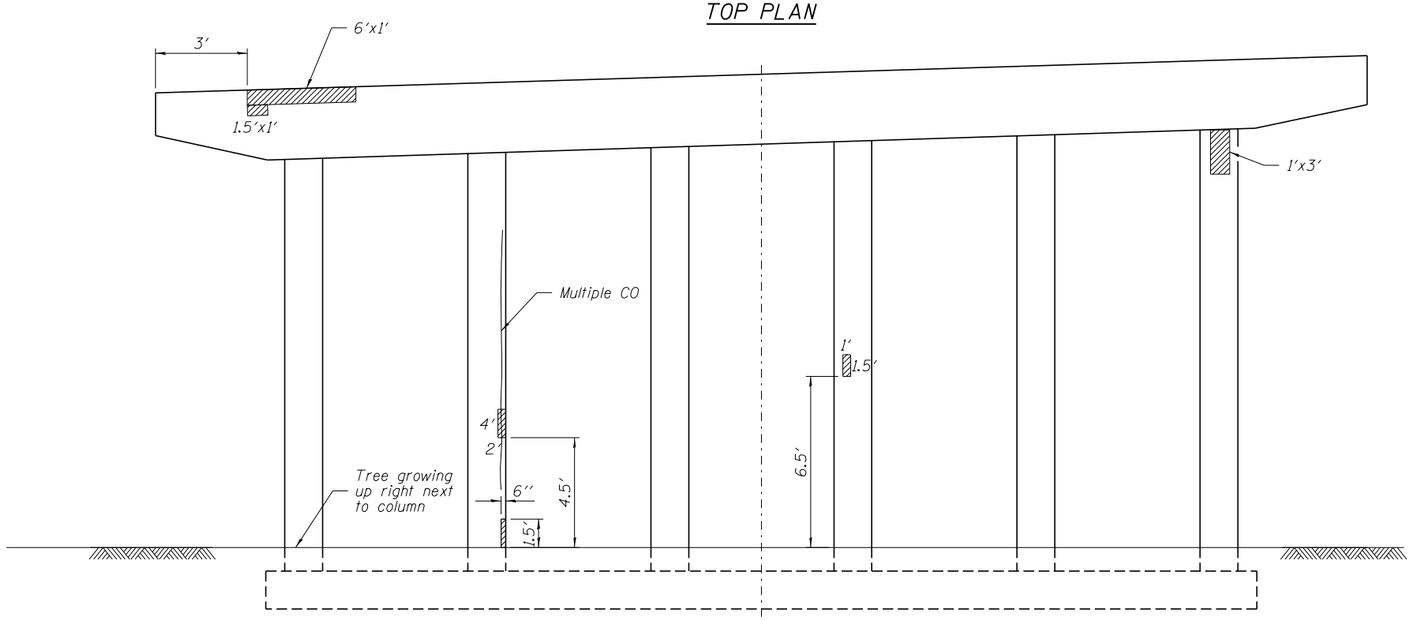
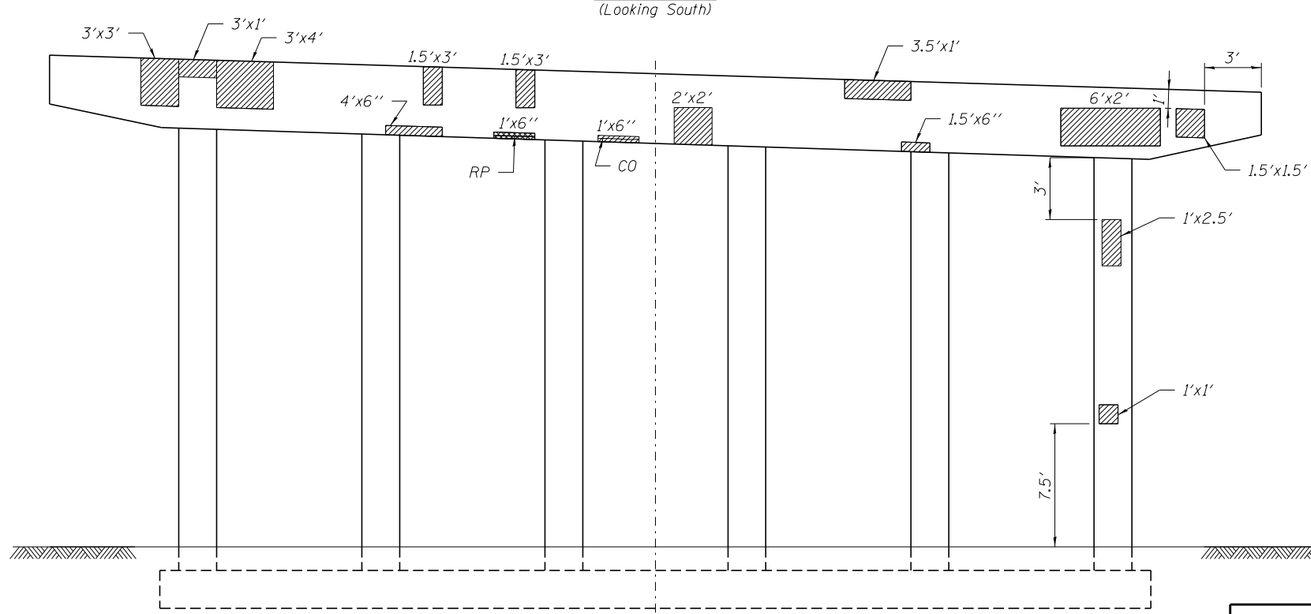
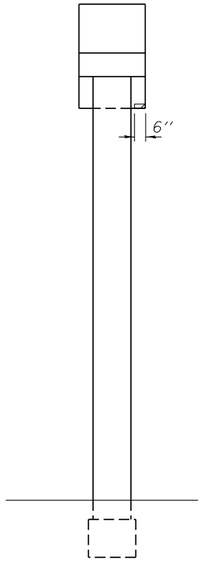


ELEVATION
(Looking South)



ELEVATION
(Looking North)



END VIEW

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 8

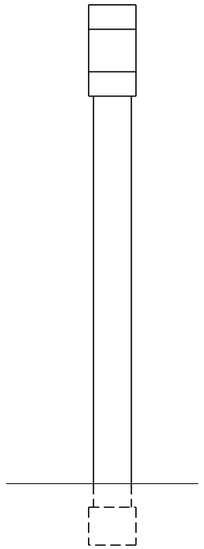
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

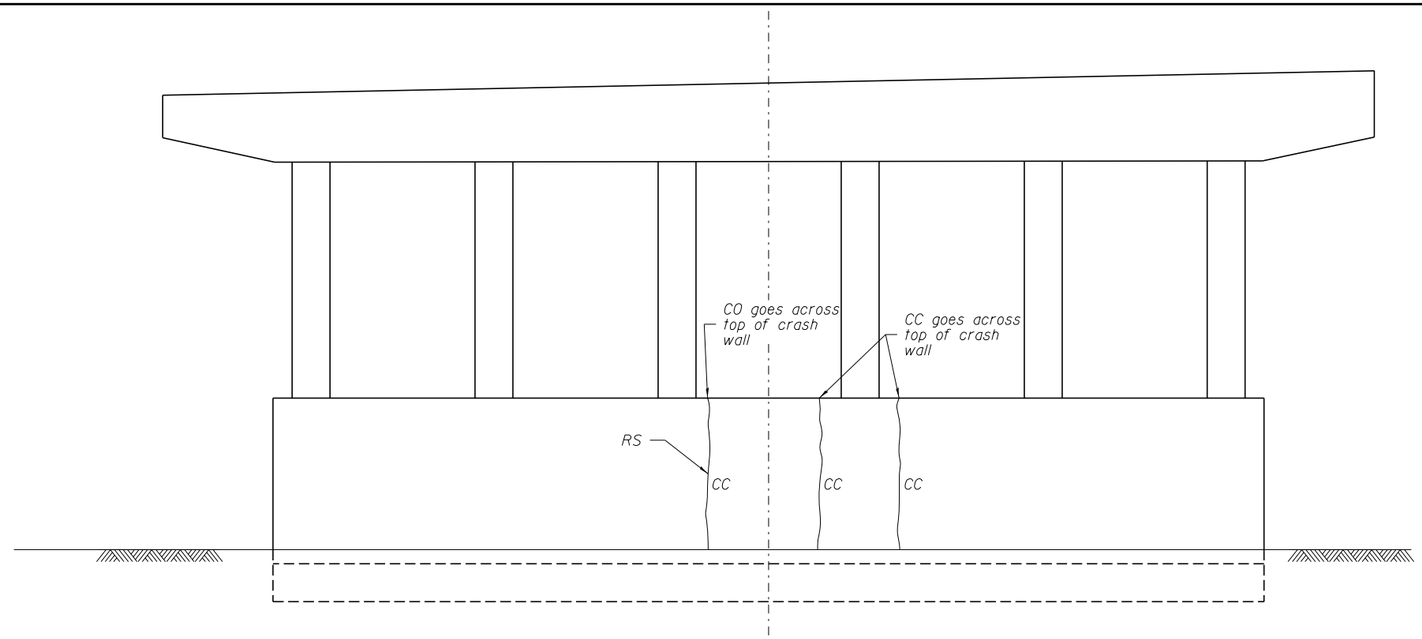
KANE COUNTY

STRUCTURE NO. 045-3096

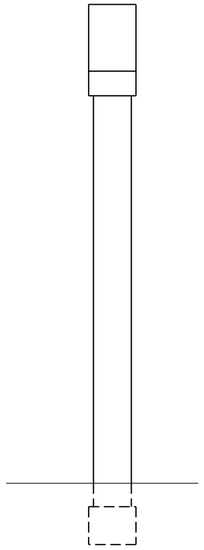
PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



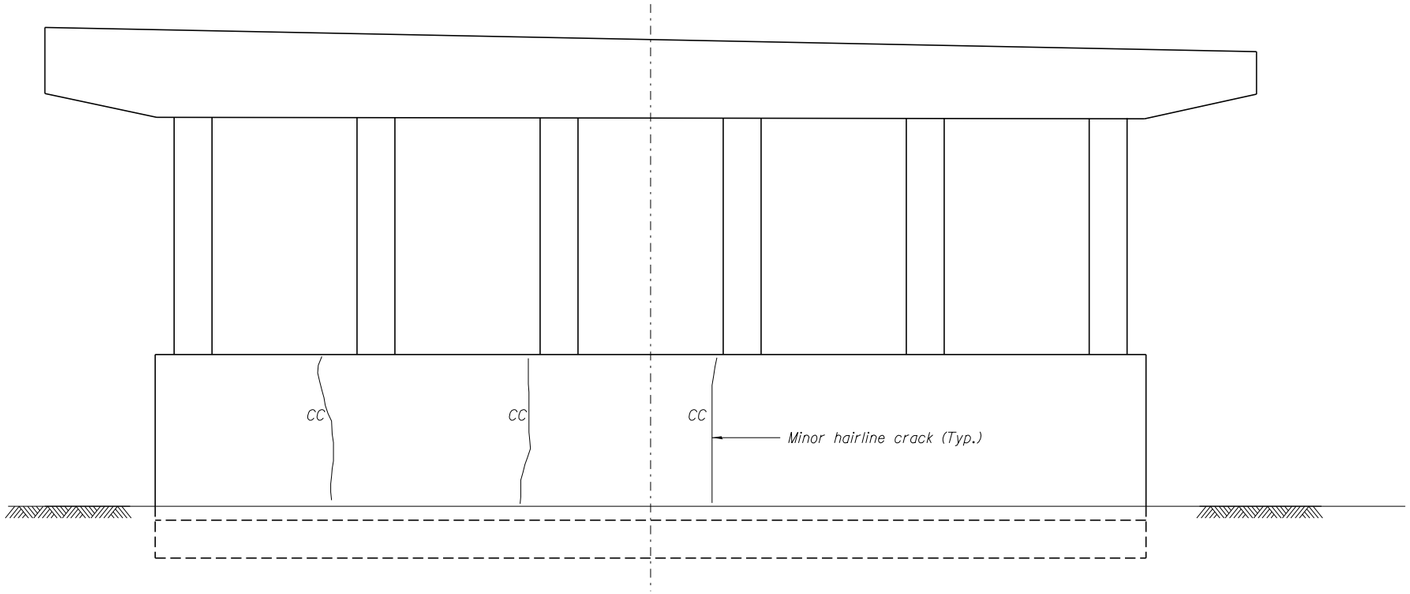
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

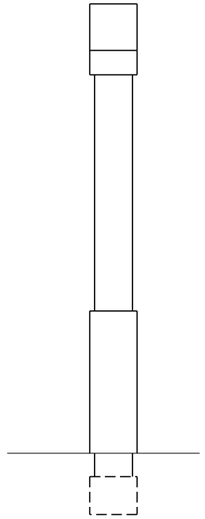
PIER 9

KIRK ROAD OVER UNION PACIFIC RAILROAD AND REED ROAD

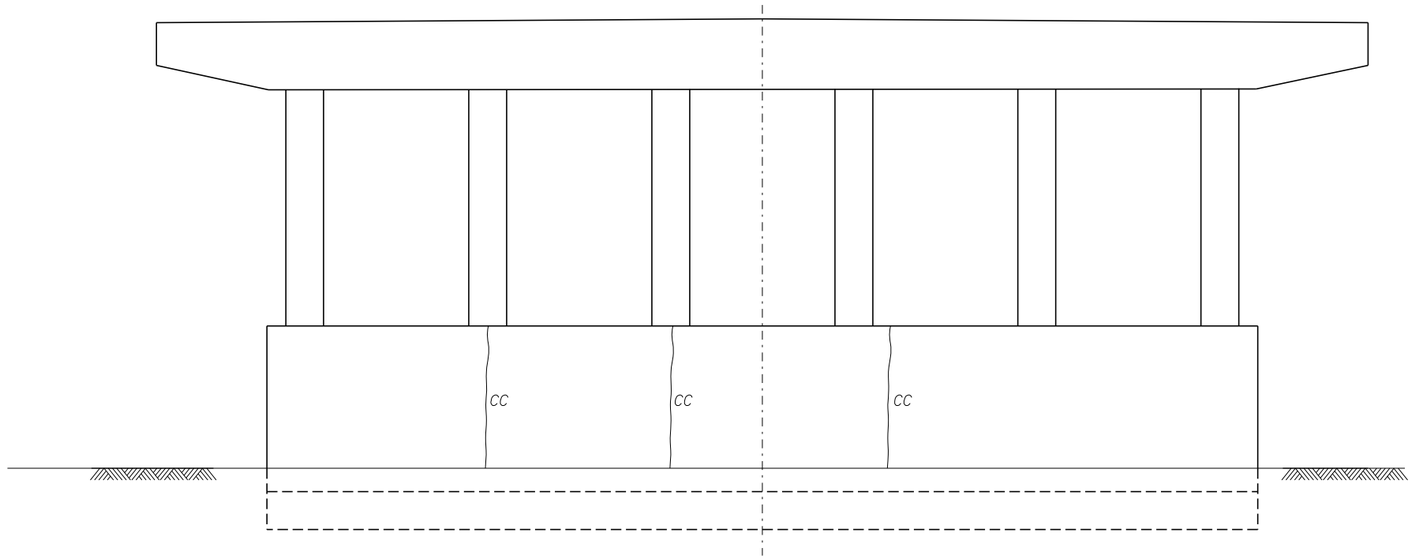
KANE COUNTY

STRUCTURE NO. 045-3096

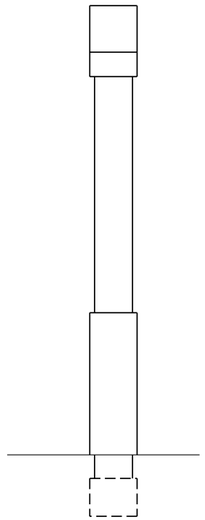
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



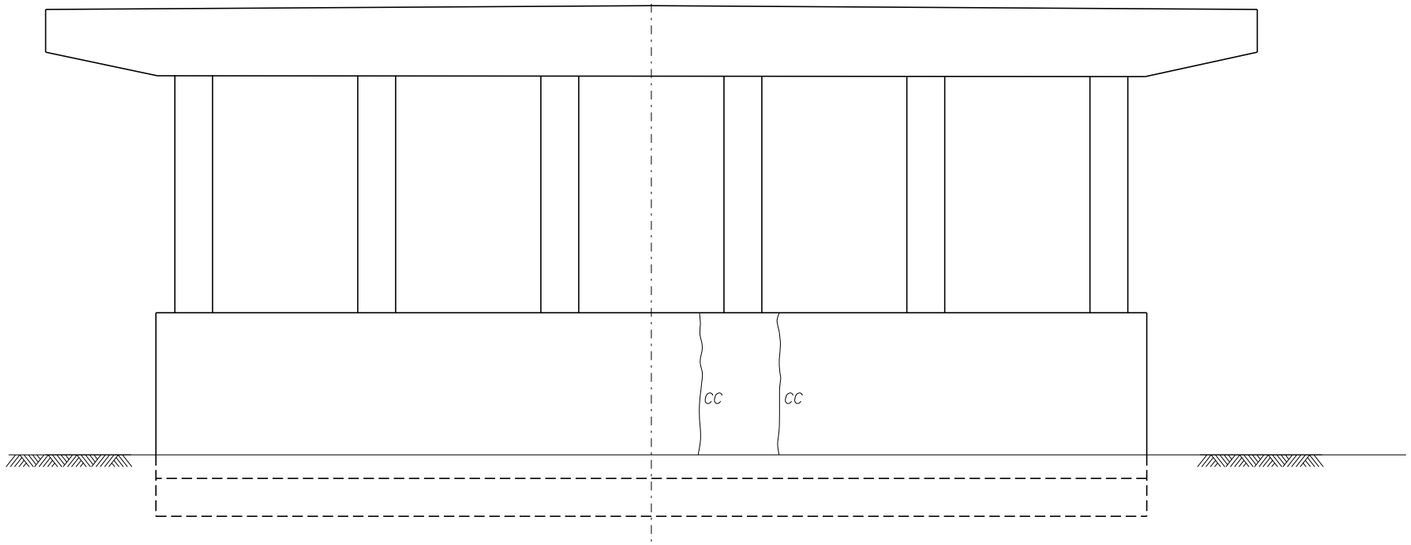
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 10

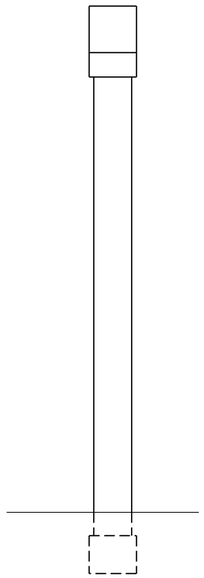
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

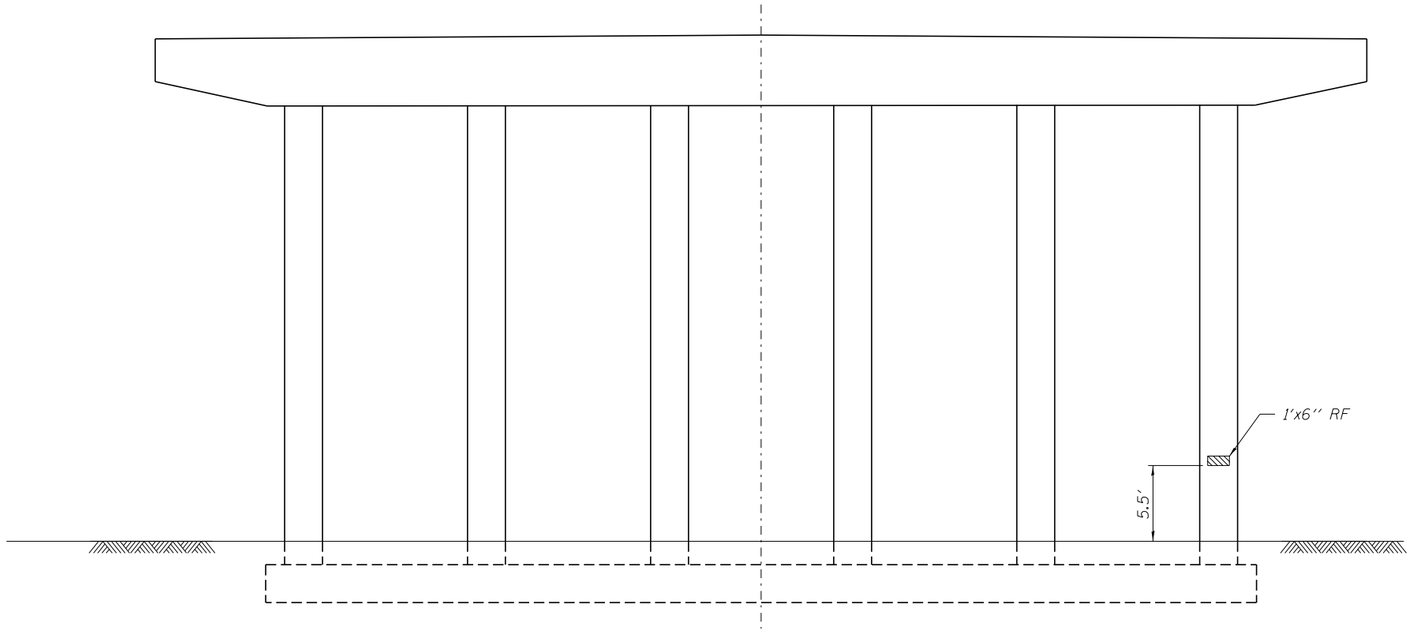
KANE COUNTY

STRUCTURE NO. 045-3096

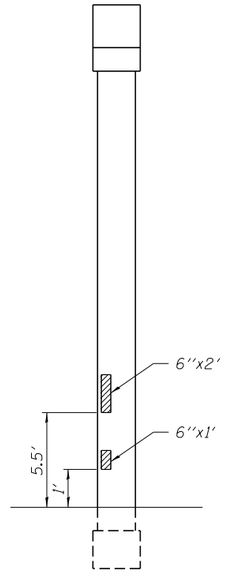
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



END VIEW



ELEVATION
(Looking South)



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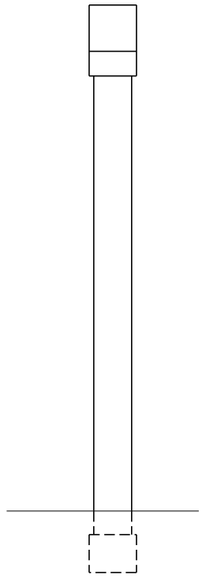

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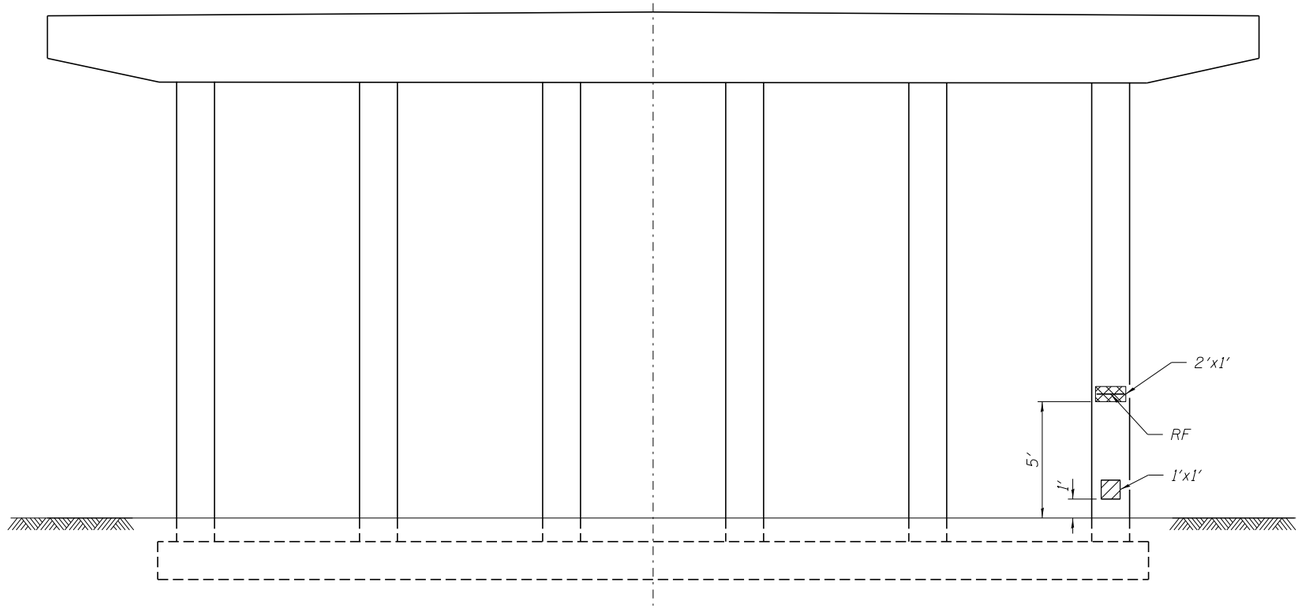
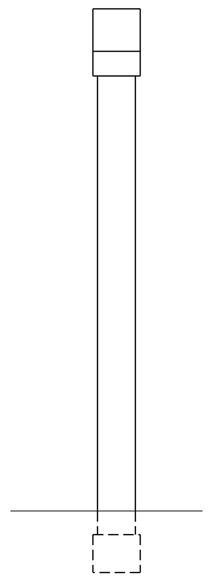


ELEVATION
(Looking North)



END VIEW

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination

Spalls

Crack

OC = Oil & Chip Patch

Concrete Patch

PIER 11

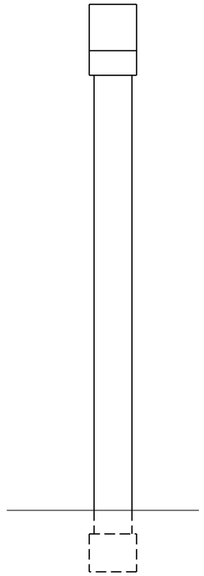
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

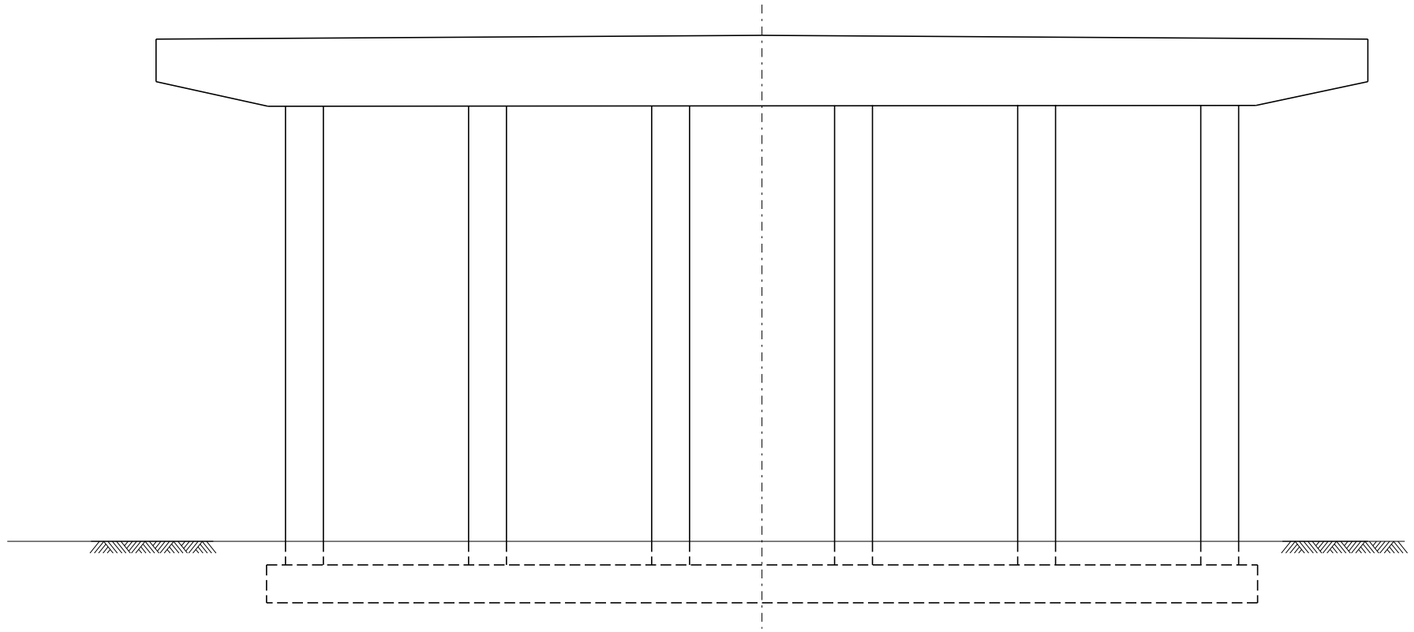
KANE COUNTY

STRUCTURE NO. 045-3096

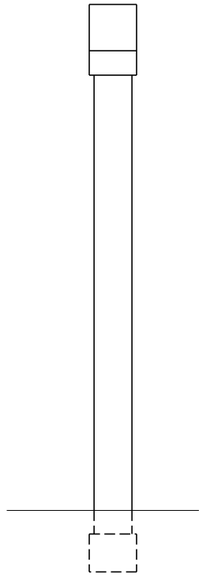
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



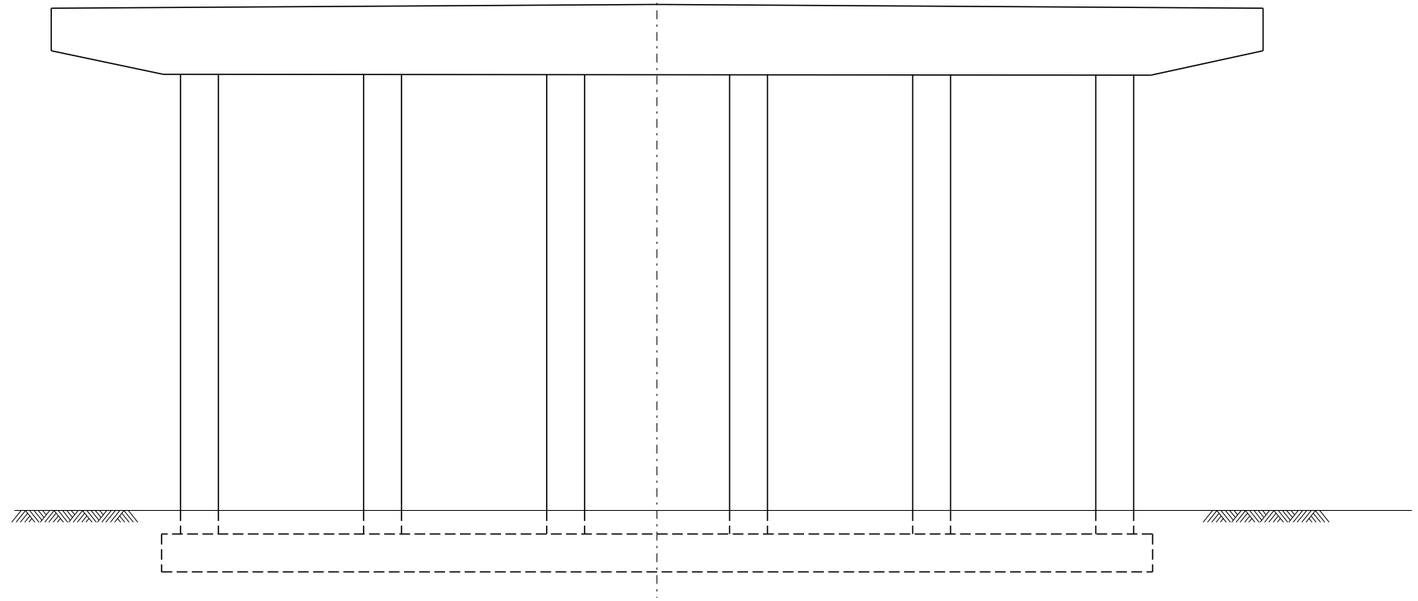
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 12

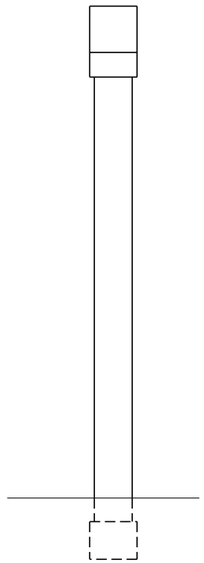
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

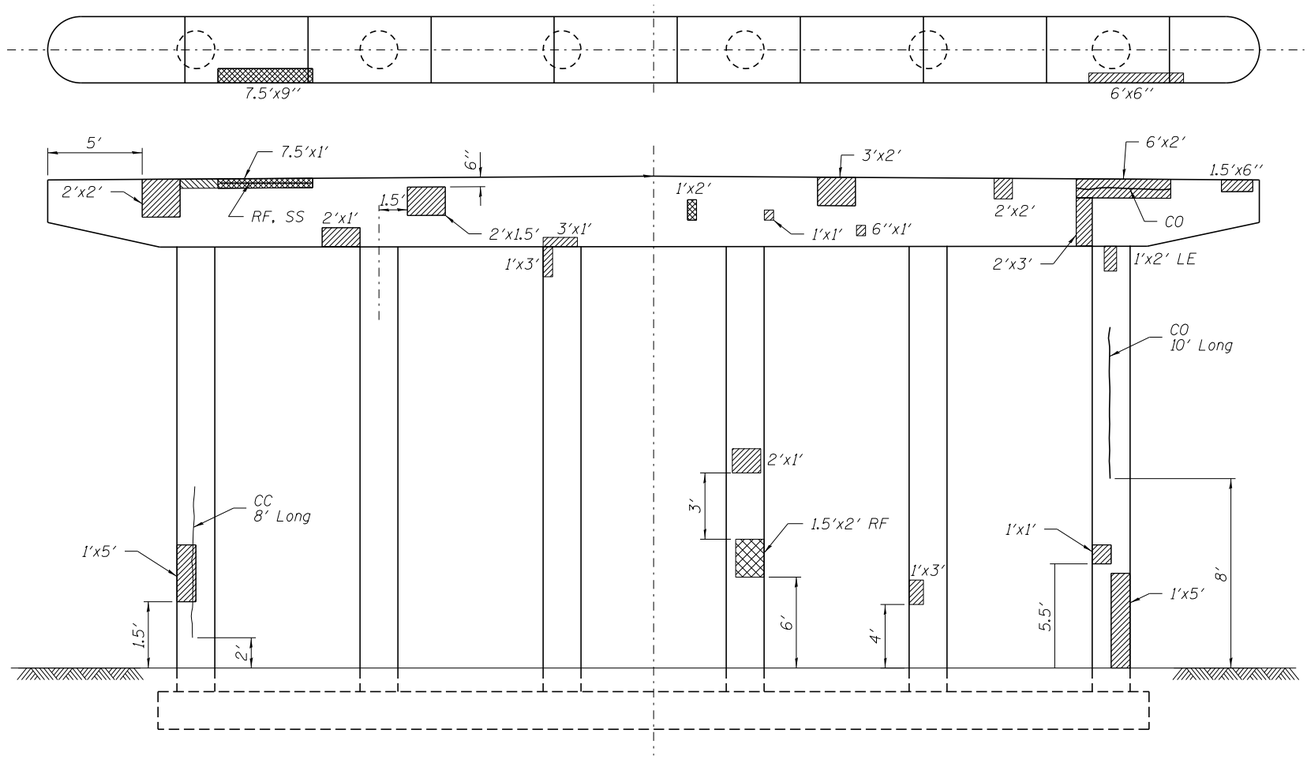
KANE COUNTY

STRUCTURE NO. 045-3096

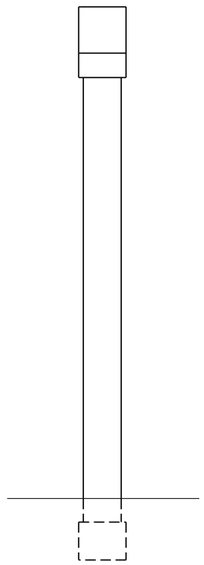
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



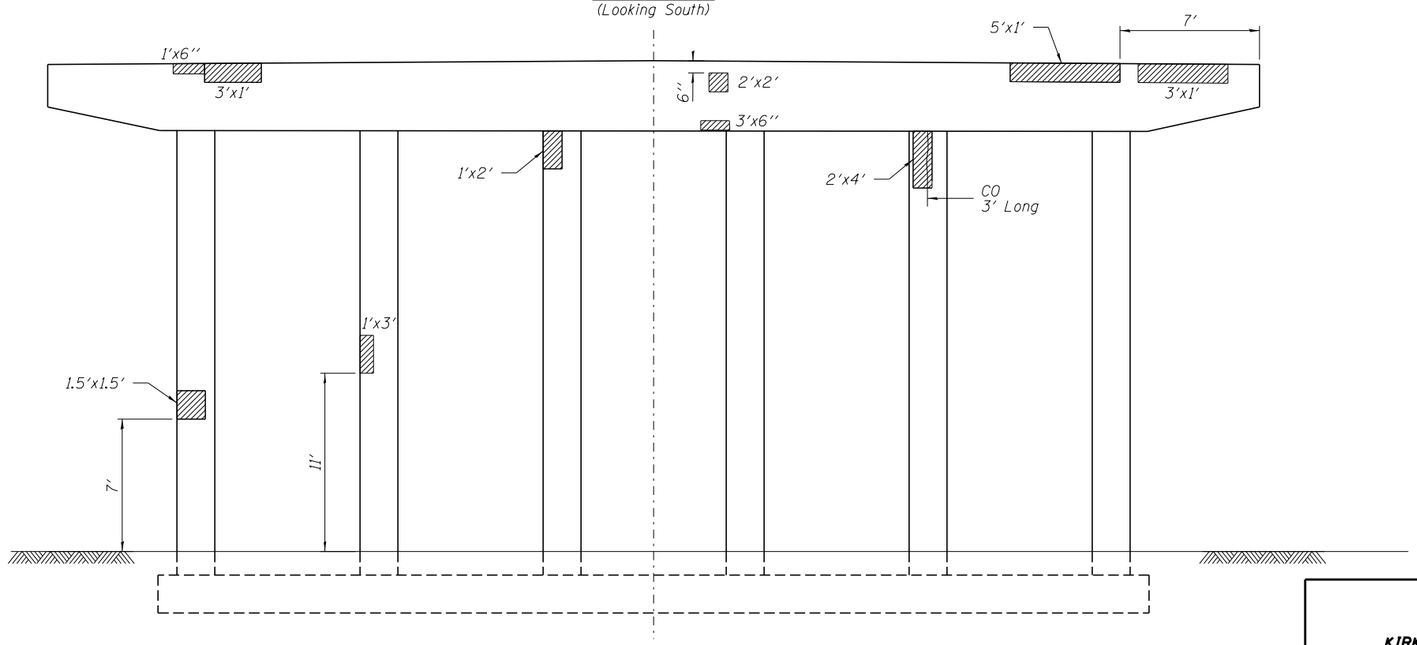
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage
Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

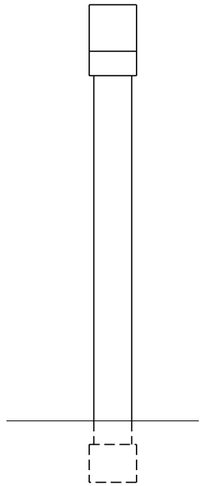
PIER 13

KIRK ROAD OVER UNION PACIFIC RAILROAD AND REED ROAD

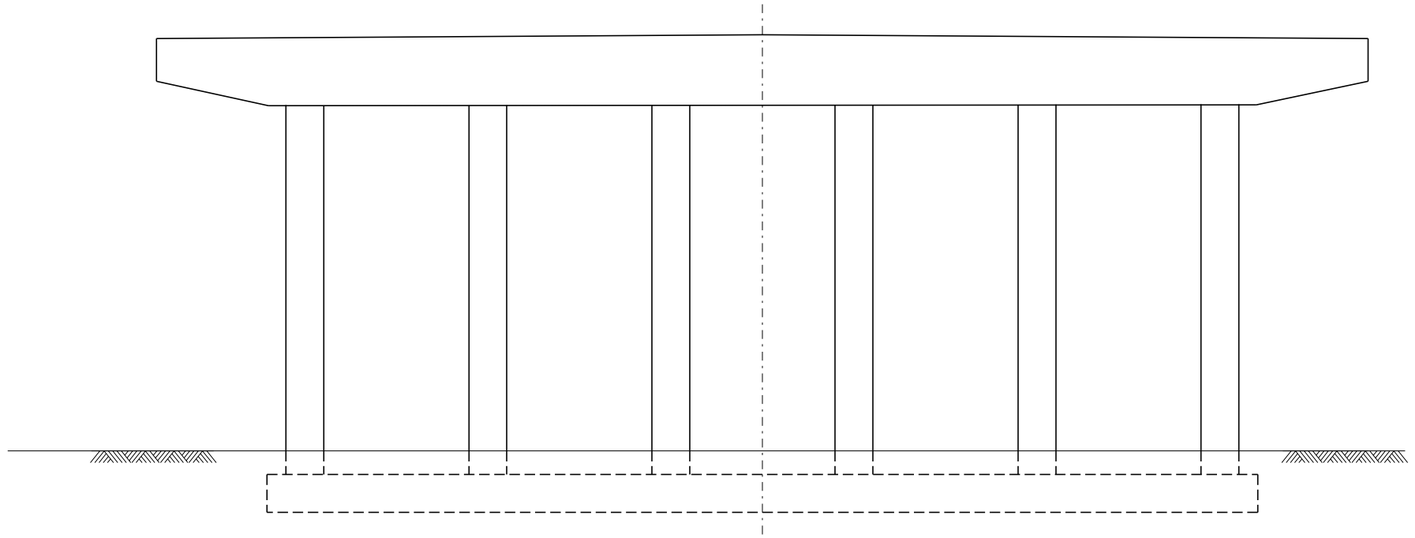
KANE COUNTY

STRUCTURE NO. 045-3096

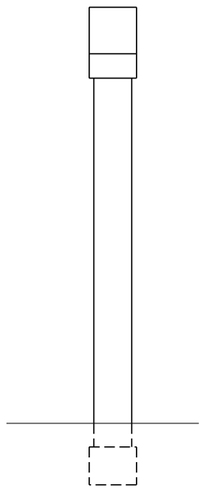
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



END VIEW



ELEVATION
(Looking South)



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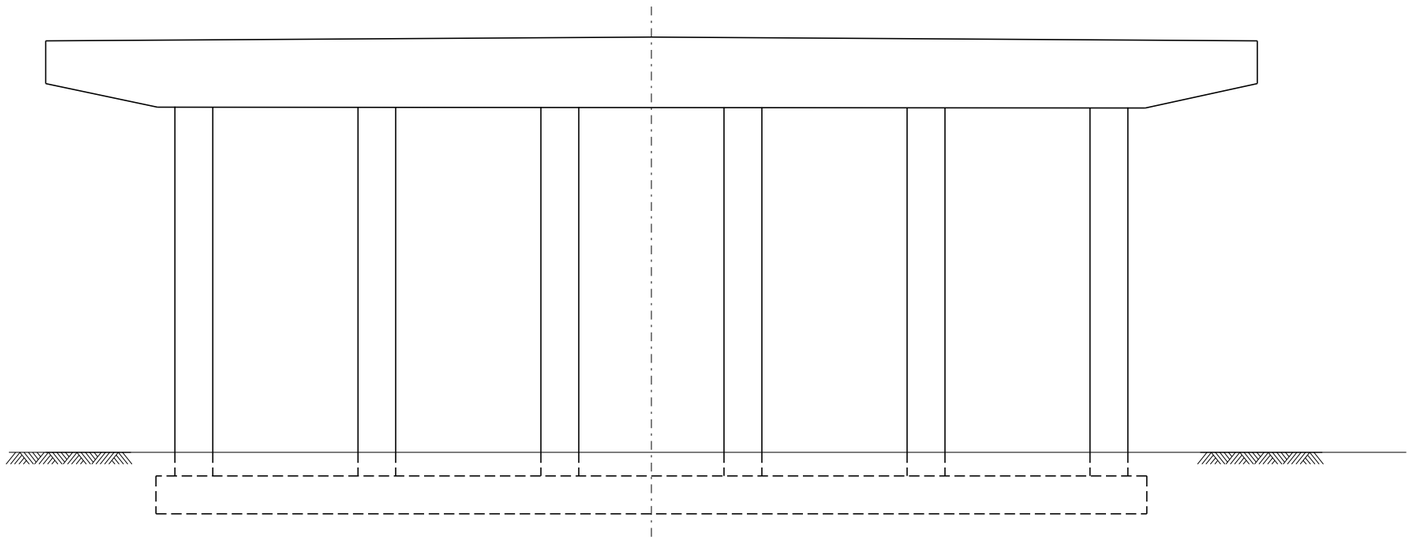


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 14

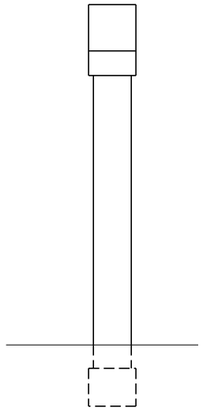
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

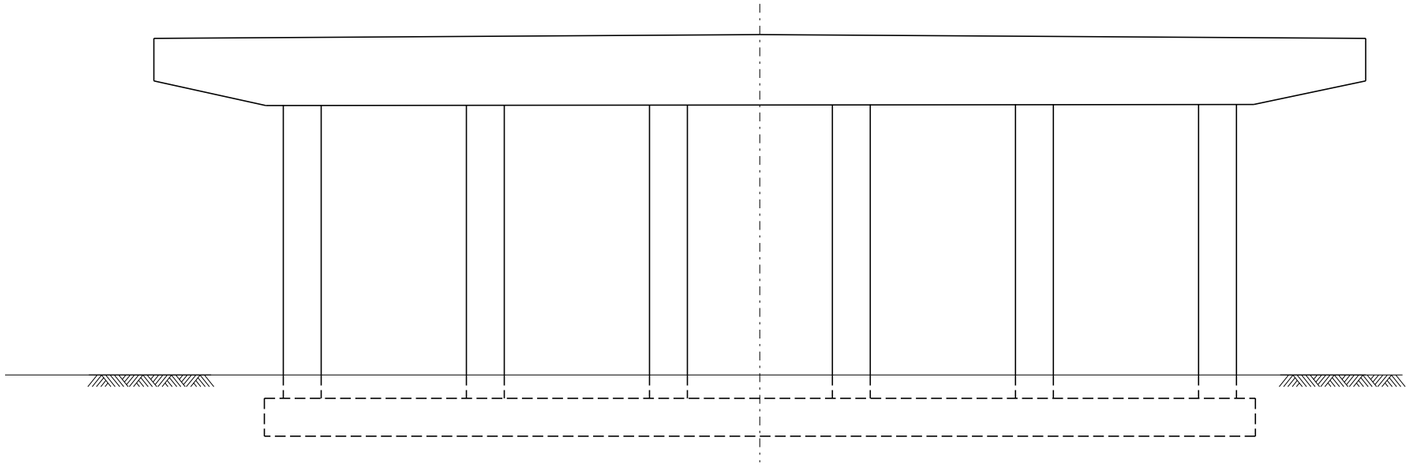
KANE COUNTY

STRUCTURE NO. 045-3096

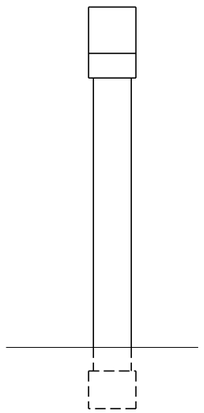
PROJECT NUMBER: 13.0342 | DRAWN: D.A.B. | DATE: 04/01/14



END VIEW



ELEVATION
(Looking South)



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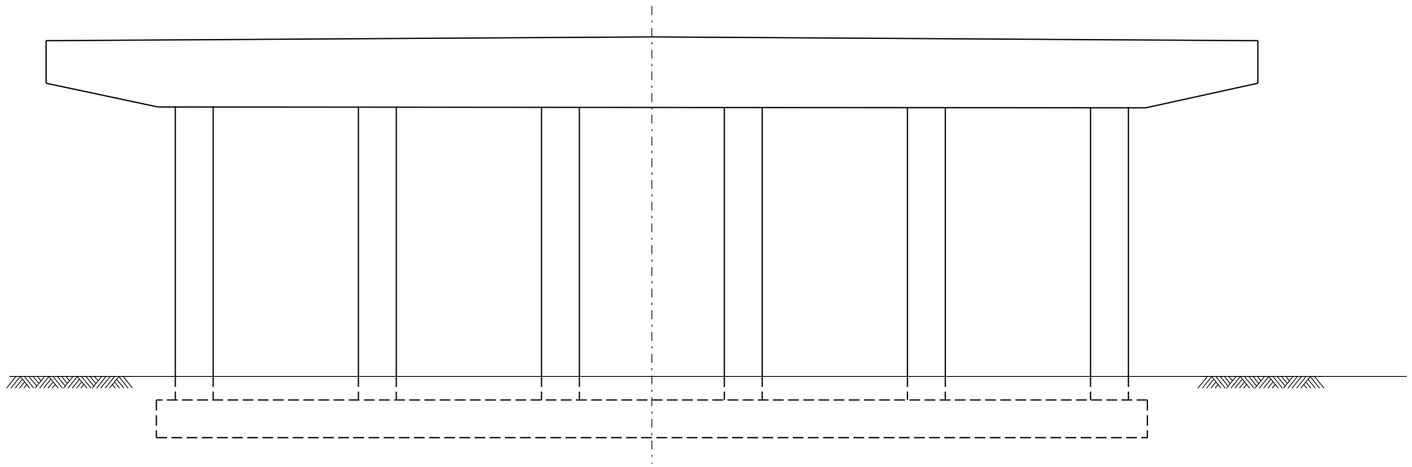


ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination

Spalls

Crack

OC = Oil & Chip Patch

Concrete Patch

PIER 15

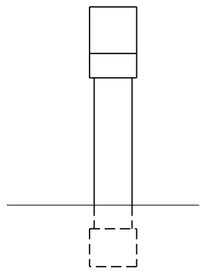
KIRK ROAD OVER UNION PACIFIC

RAILROAD AND REED ROAD

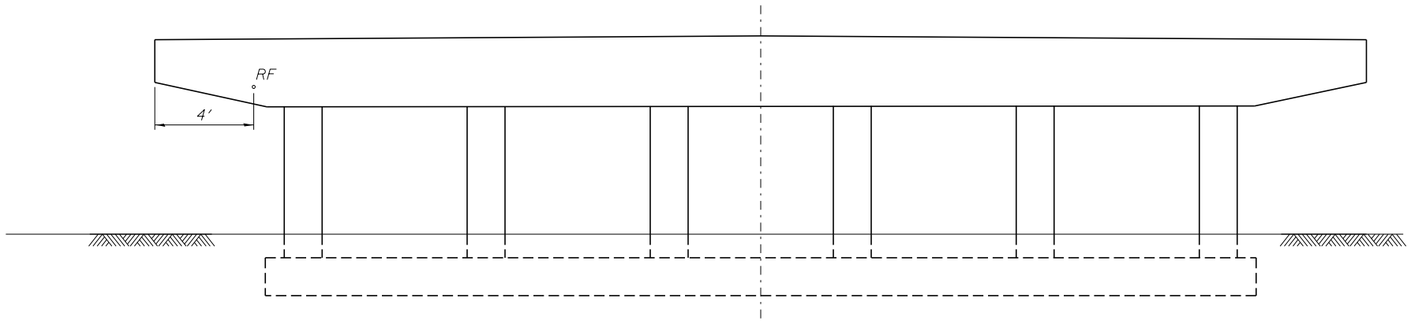
KANE COUNTY

STRUCTURE NO. 045-3096

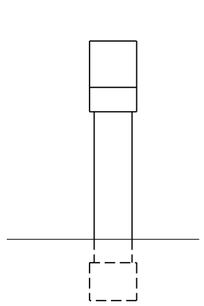
PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



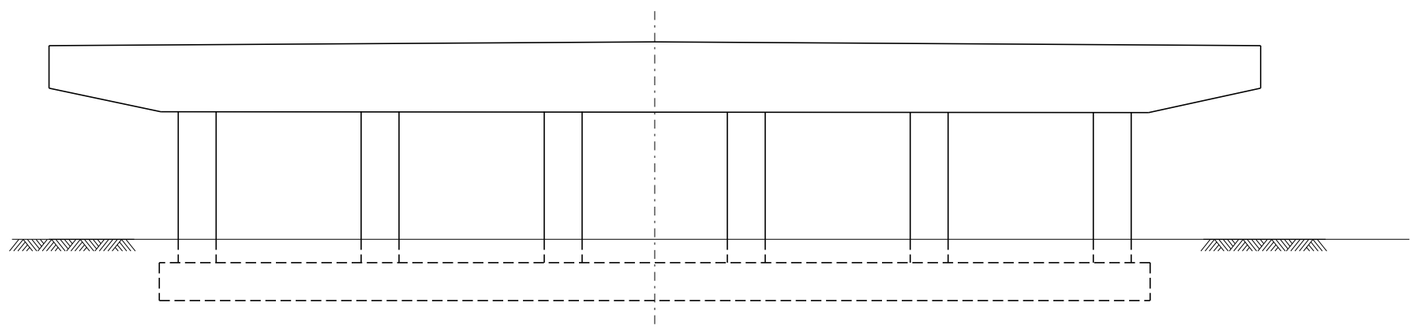
END VIEW



ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

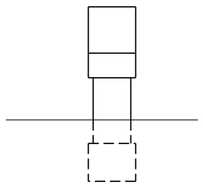
SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 16

KIRK ROAD OVER UNION PACIFIC
RAILROAD AND REED ROAD
KANE COUNTY
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



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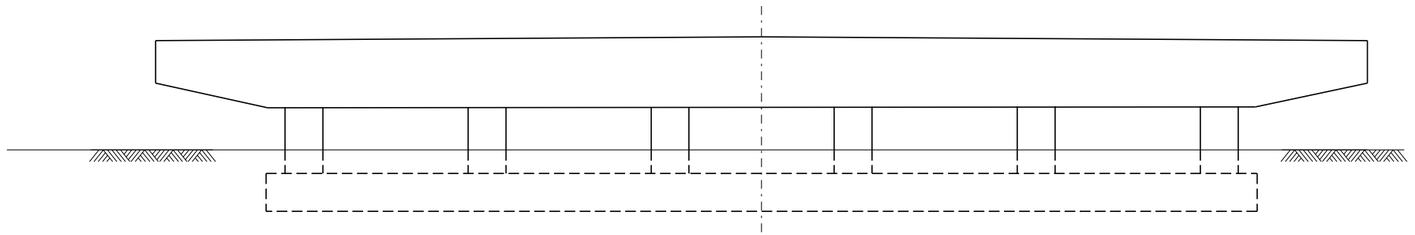
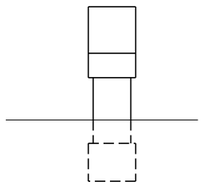
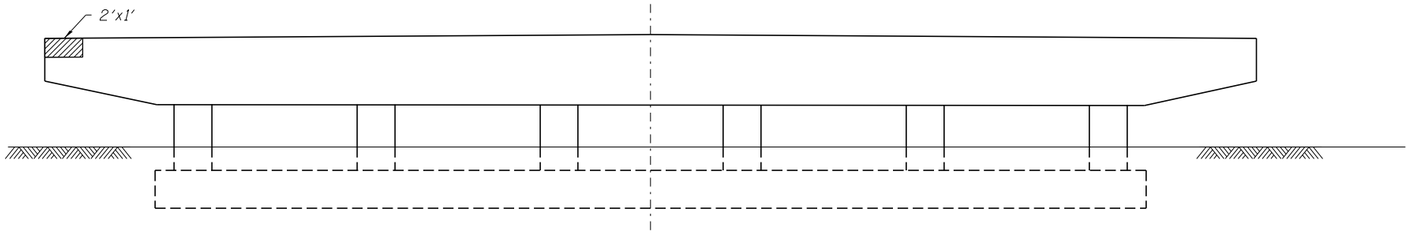


ELEVATION
(Looking South)



END VIEW



ELEVATION
(Looking North)

LEGEND

CO = Crack - Open
CC = Crack - Closed
CO = Corrosion
DL = Delamination
LE = Leaching
PD = Plugged Drain Hole
PS = Prestressed Strand
RF = Reinforcement
RP = Repair
RS = Rust Staining
SP = Spall
SS = Shear Stirrup

SP = Stalactites
SS = Water Leakage

Delamination
Spalls
Crack
OC = Oil & Chip Patch
Concrete Patch

PIER 17

KIRK ROAD OVER UNION PACIFIC
RAILROAD AND REED ROAD
KANE COUNTY
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14

ATTACHMENT F

COST ESTIMATES

OPINION OF PROBABLE CONSTRUCTION COST

Computed: **MDC** County: Kane
Struct. No.: **045-3096** Date: 4/21/2014
Location: **Kirk Rd over UP RR**

SCOPE OF WORK-A: Deck Repair and Overlay

Item	Unit	Quantity	Unit Price	Total
Concrete Super Structure:	cu yd	19	$1,200.00	$22,800.00
Reinf. Bars, (Epoxy Coated):	lb	4900	$1.50	$7,350.00
Bridge Deck Grooving:	sq yd	7875	$5.00	$39,375.00
Protective Coat:	sq yd	10193	$2.00	$20,386.00
Elastomeric Bearing, Type-1:	each	10	$900.00	$9,000.00
Elastomeric Bearing, Type-2:	each	70	$1,200.00	$84,000.00
Strip Seal Expansion Joint:	ft	124	$200.00	$24,800.00
Traffic Barrier Terminal, Type 5:	each	2	$1,000.00	$2,000.00
Traffic Barrier Terminal, Type 6:	each	2	$3,000.00	$6,000.00
Steel End Sections-Guardrail:	each	4	$3,000.00	$12,000.00
Steel Plate Beam Guardrail:	ft	400	$32.00	$12,800.00
Lighting Repairs	LS	1	$25,000.00	$25,000.00
Floor Drain Extensions:	each	140	$225.00	$31,500.00
Concrete Removal (special):	cu yd	19	$1,500.00	$28,500.00
Erosion Control	LS	1	$8,000.00	$8,000.00
Temp. Concrete Barrier (w/relocation):	ft	1500	$38.00	$57,000.00
Traffic Control and Protection	LS	1	$45,000.00	$45,000.00
Guardrail Removal:	ft	150	$10.00	$1,500.00
Clean & Paint Steel:	LS	1	$60,000.00	$60,000.00
Bridge Deck Hydro/Mech Scarification:	sq yd	8490	$40.00	$339,600.00
Bridge Deck Microsilica Conc. Overlay:	sq yd	8490	$80.00	$679,200.00
Deck Slab Repair (full depth):	sq yd	761	$700.00	$532,700.00
Concrete Repair-Parapet & Median:	sq yd	360	$290.00	$104,400.00
Epoxy Crack Sealing:	ft	200	$45.00	$9,000.00
Formed Concrete Repair <= 5":	sq ft	500	$125.00	$62,500.00
Jack & Remove Existing Bearing:	each	80	$1,500.00	$120,000.00
RR Protective Liability Insurance	LS	1	$50,000.00	$50,000.00
	each	0	$50.00	$0.00
Sub-Total from above:				**$2,394,411.00**
Mob., Contingency & Other (20%):				$478,882.20

Total Estimated Cost = $2,873,293

OPINION OF PROBABLE CONSTRUCTION COST

Computed: **MDC** County: Kane
Struct. No.: **045-3096** Date: 4/21/2014
Location: **Kirk Rd over the UP RR**

SCOPE OF WORK-B: Deck Replacement

Item	Unit	Quantity	Unit Price	Total
Stud Shear Connectors	each	41280	$2.75	$113,520.00
Concrete Super Structure:	cu yd	2840	$1,000.00	$2,840,000.00
Reinf. Bars, (Epoxy Coated):	lb	737960	$1.25	$922,450.00
Bridge Deck Grooving:	sq yd	7951	$5.00	$39,755.00
Protective Coat:	sq yd	10404	$2.00	$20,808.00
Elastomeric Bearing, Type-1:	each	10	$900.00	$9,000.00
Elastomeric Bearing, Type-2:	each	70	$1,200.00	$84,000.00
Strip Seal Expansion Joint:	ft	124	$200.00	$24,800.00
Finger Plate Expansion Joint	ft	186	$1,900.00	$353,400.00
Guardrail Removal:	ft	150	$10.00	$1,500.00
Traffic Barrier Terminal, Type 5:	each	2	$1,000.00	$2,000.00
Traffic Barrier Terminal, Type 6:	each	2	$3,000.00	$6,000.00
Steel End Sections-Guardrail:	each	4	$3,000.00	$12,000.00
Steel Plate Beam Guardrail:	ft	400	$32.00	$12,800.00
Light Pole w/Luminair, Bridge Mounted:	each	10	$3,500.00	$35,000.00
Floor Drains:	each	150	$345.00	$51,750.00
Drainage Scuppers, DS-11:	each	16	$1,275.00	$20,400.00
Deck Removal on steel bm-reuse bm:	cu yd	2467	$150.00	$370,050.00
Traffic Control and Protection	LS	1	$60,000.00	$60,000.00
Temp. Concrete Barrier (w/relocation):	ft	1500	$38.00	$57,000.00
Staging Traffic Control Prot & Signing:	LS	1	$55,000.00	$55,000.00
Clean & Paint Steel:	LS	1	$60,000.00	$60,000.00
Epoxy Crack Sealing:	ft	200	$45.00	$9,000.00
Formed Concrete Repair <= 5":	sq ft	500	$125.00	$62,500.00
Erosion Control	LS	1	$10,000.00	$10,000.00
Jack & Remove Existing Bearing:	each	80	$1,200.00	$96,000.00
RR Protective Liability Insurance	LS	1	$50,000.00	$50,000.00
	each	0	$50.00	$0.00
Sub-Total from above:				**$5,378,733.00**
Mob., Contingency & Other (20%):				$1,075,746.60

Total Estimated Cost = $6,454,480

Illinois Department of Transportation

Project
Route
Section
County

Estimate of Cost

Location of Improvement: Scope of Work C: Structure Replacement

For a total distance of
Net improvement of
Type
Width
Thickness
Shoulders
Average Haul
Maximum Grade

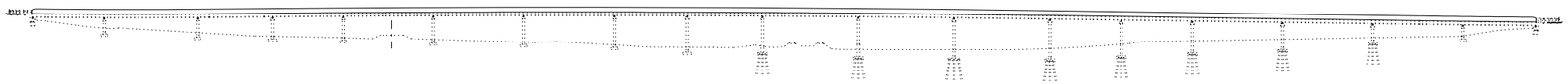
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	24,210	$14.00	$338,940.00
-	HOT-MIX ASPHALT (BASE/BINDER/SURFACE COURSE)	TON	290	$105.00	$30,450.00
-	PORTLAND CEMENT CONCRETE PAVEMENT	SQ YD	18,830	$47.00	$885,010.00
44000100	PAVEMENT REMOVAL	SQ YD	7,210	$11.00	$79,310.00
50102400	CONCRETE REMOVAL	CU YD	524	$300.00	$157,200.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	$1,280,000.00	$1,280,000.00
50300225	CONCRETE STRUCTURE	CU YD	837	$800.00	$669,600.00
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1,073	$1,000.00	$1,073,000.00
50401315	FURNISHING AND ERECTING PRECAST CONCRETE BEAMS, IL36N	FOOT	750	$220.00	$165,000.00
50401335	FURNISHING AND ERECTING PRECAST CONCRETE BEAMS, IL54N	FOOT	1,580	$220.00	$347,600.00
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	419,000	$2.00	$838,000.00
50901720	BICYCLE RAILING	FOOT	1,150	$120.00	$138,000.00
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE 1	EACH	24	$800.00	$19,200.00
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	4,900	$23.00	$112,700.00
60618300	CONCRETE MEDIAN SURFACE, 4"	SQ FT	11,450	$4.00	$45,800.00
60620000	CONCRETE MEDIAN, TYPE SB-6.24	SQ FT	17,100	$10.00	$171,000.00
Z0034210	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	68,500	$55.00	$3,767,500.00
Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	28,750	$50.00	$1,437,500.00
-	EXPANSION JOINTS	FOOT	450	$200.00	$90,000.00
-	EMBANKMENT	CU YD	60,000	$30.00	$1,800,000.00
-	RAILROAD LIABILITY INSURANCE	L SUM	1	$50,000.00	$50,000.00
-	LIGHTING	L SUM	1	$40,000.00	$40,000.00
-	DRAINAGE	L SUM	1	$100,000.00	$100,000.00
-	SIGNING/PAVEMENT MARKINGS	L SUM	1	$80,000.00	$80,000.00
-	EARTH EXCAVATION/FURNISHED EXCAVATION	L SUM	1	$100,000.00	$100,000.00
-	EROSION CONTROL/LANDSCAPING	L SUM	1	$75,000.00	$75,000.00
-	FOREST PERSERVE REALIGNMENT ROAD	L SUM	1	$137,000.00	$137,000.00
-	MOBILIZATION (4%)	-	-	-	$725,000.00
-	TRAFFIC CONTROL (5%)	-	-	-	$905,000.00
-	MISCELLANEOUS (5%)	-	-	-	$905,000.00
	CONTINGENCY (15%)	-	-	-	$2,740,000.00
PAGE 1 TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					$19,302,810.00

Made by BRL Date 9/25/2015 Examined , Regional Engineer
Checked by Date

ATTACHMENT G

PROPOSED STRUCTURE

N



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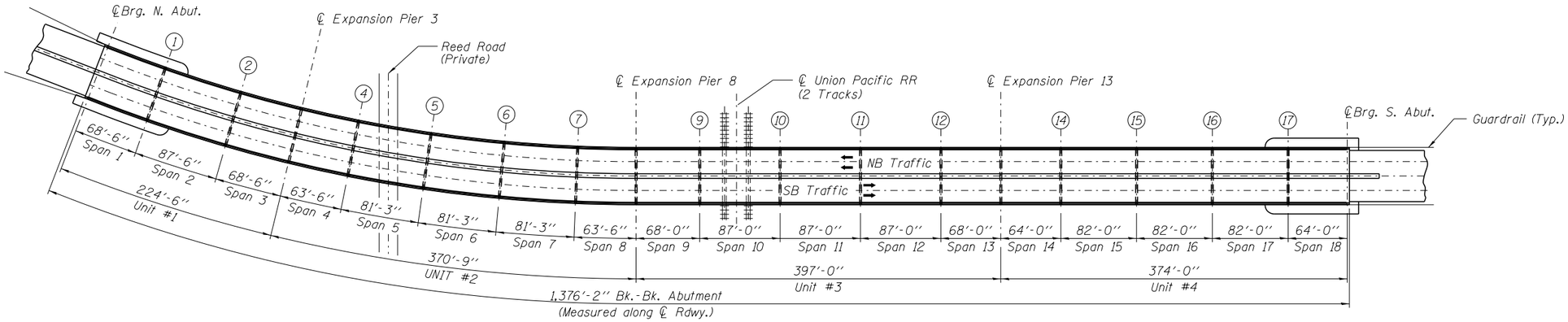

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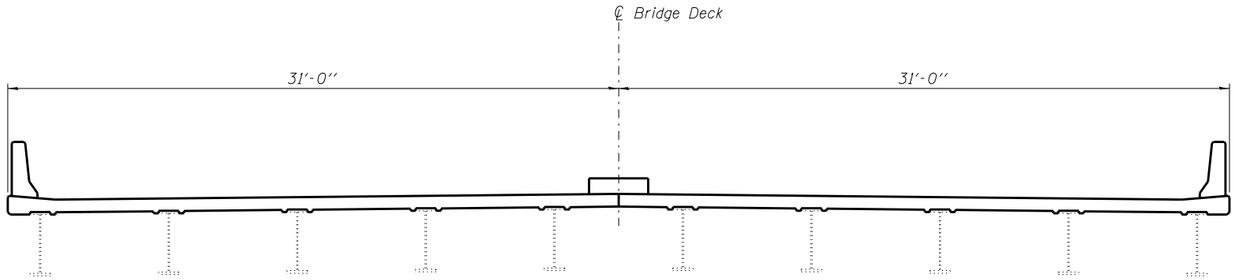


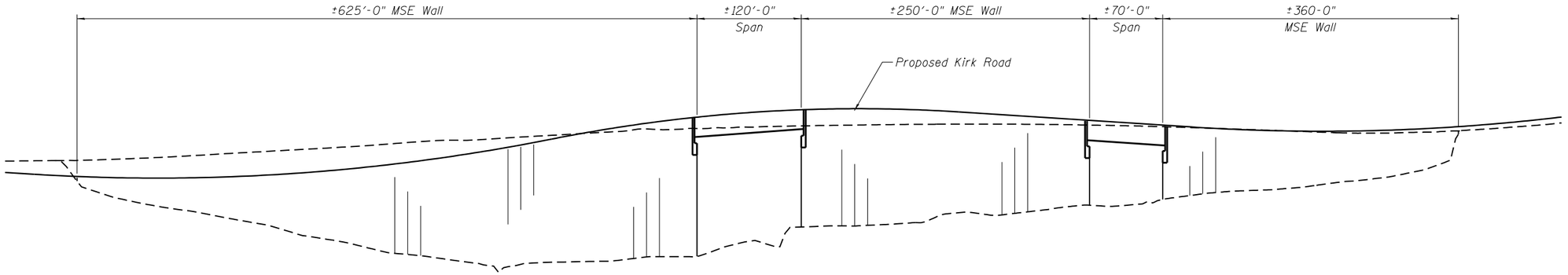
TYPICAL BRIDGE DECK CROSS SECTION
(Looking South)

SCOPE OF WORK A & B

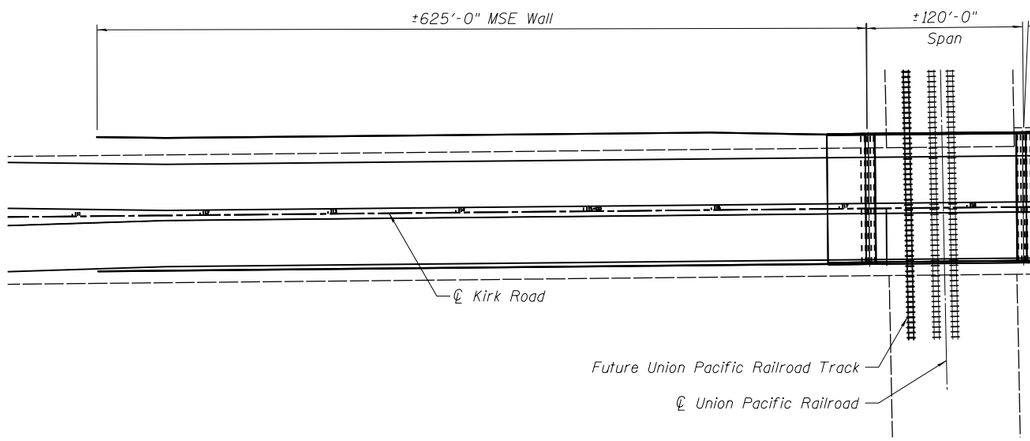
PROPOSED STRUCTURE

KIRK ROAD OVER UNION PACIFIC
RAILROAD AND REED ROAD
KANE COUNTY
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342	DRAWN: D.A.B.	DATE: 04/01/14



ELEVATION



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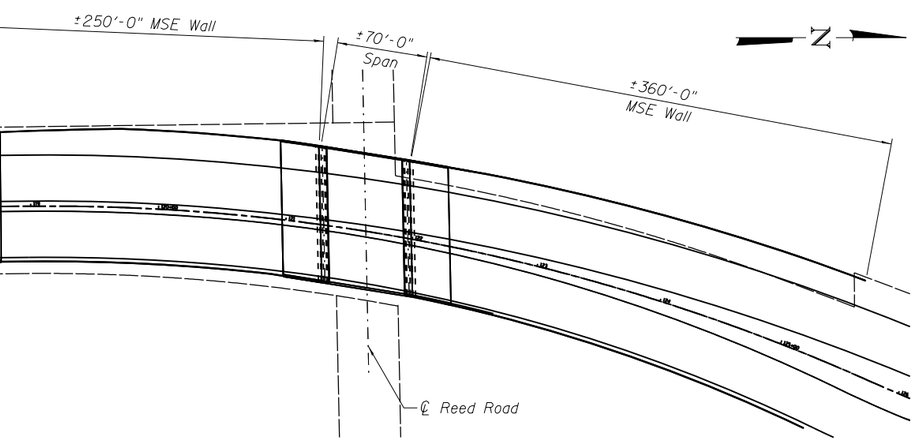
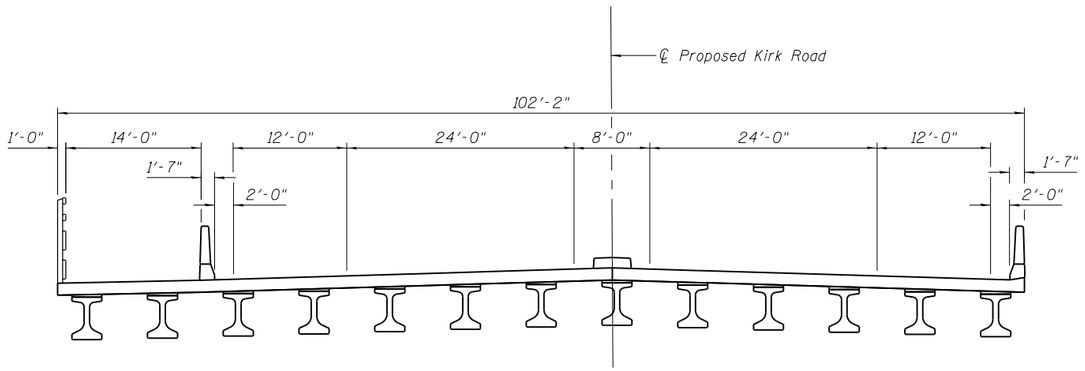
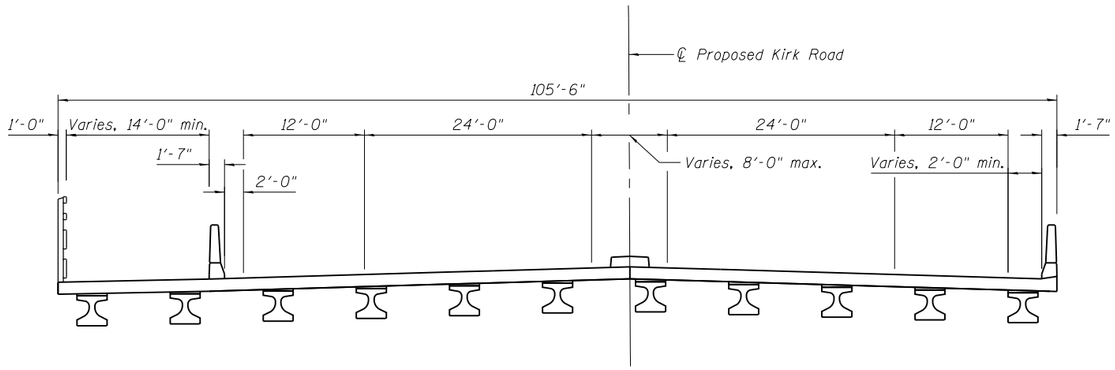




PROPOSED TYPICAL SECTION - OVER UNION PACIFIC RAILROAD
(Looking North)



PROPOSED TYPICAL SECTION - OVER REED ROAD
(Looking North)

Scope of Work C

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STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	DESIGNED -	REVISED
	CHECKED -	REVISED
PLOT SCALE =	DRAWN -	REVISED
PLOT DATE =	CHECKED -	REVISED

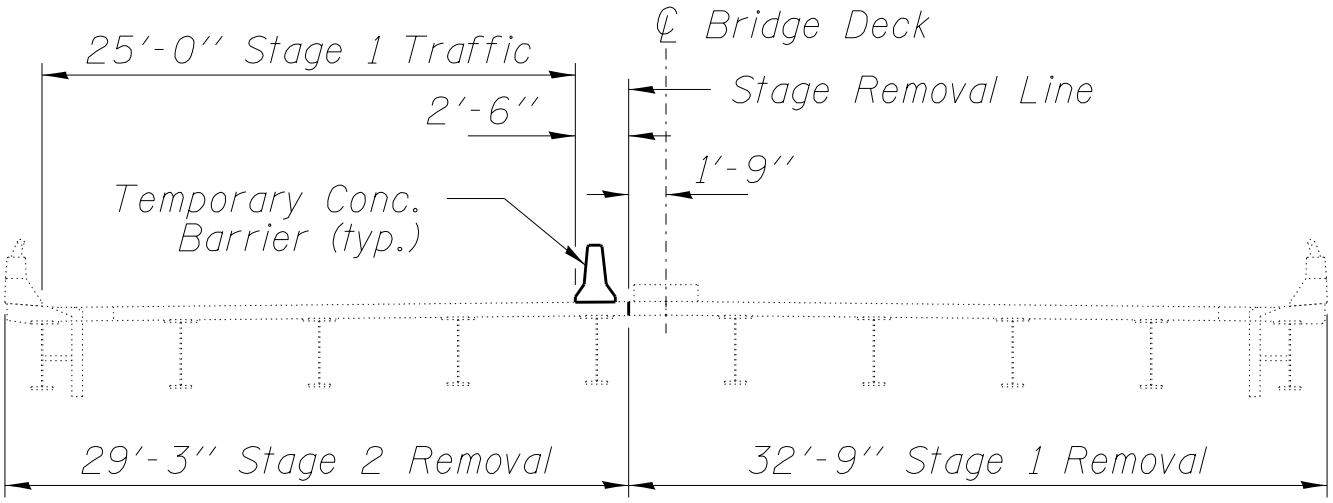
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED STRUCTURE
STRUCTURE NO. 045-3096
SHEET NO. OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	12-000192-04-BR	KANE		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

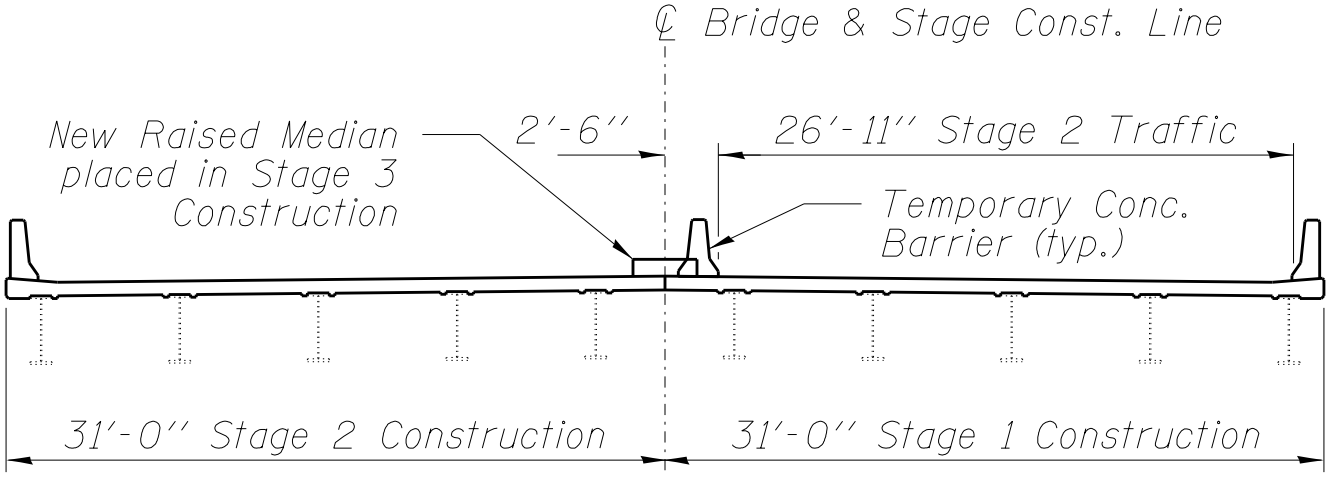
ATTACHMENT H

STAGING SKETCH



STAGE 1 TRAFFIC AND REMOVAL

(Looking North)



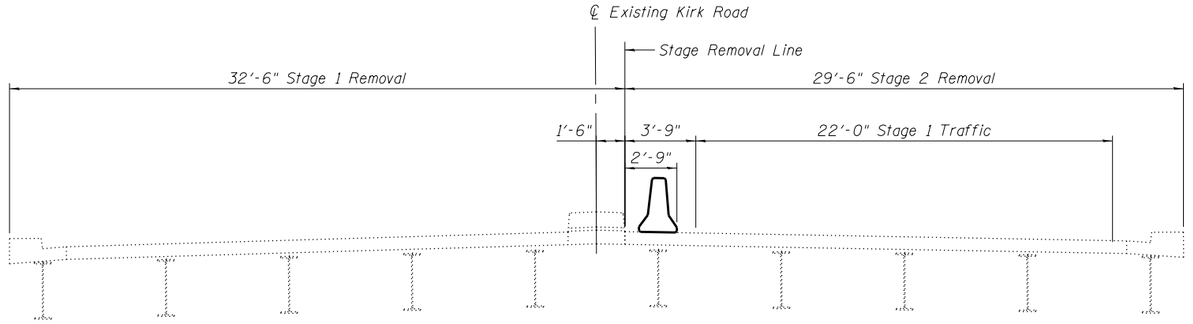
STAGE 2 TRAFFIC AND CONSTRUCTION

(Looking North)

SCOPE OF WORK A & B

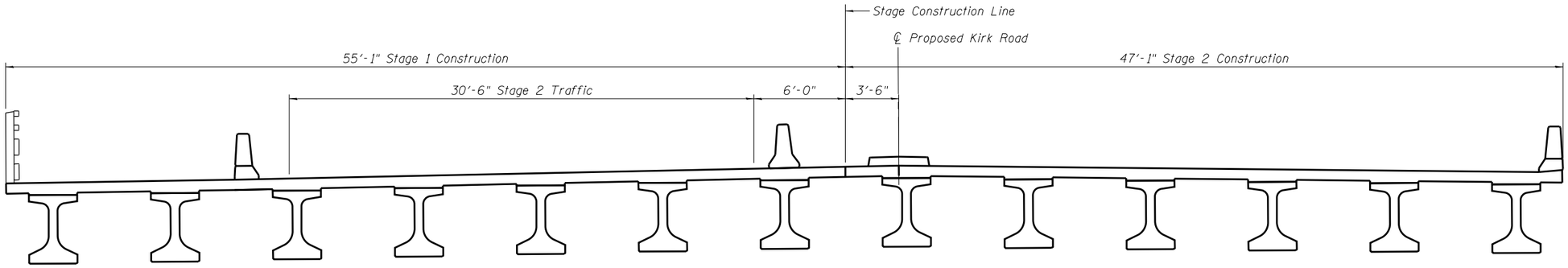
STAGING SKETCH
KIRK ROAD OVER UNION PACIFIC RR & REED ROAD
FAU ROUTE 2
KANE COUNTY
SECTION 21-000192-04-BR
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342.120	DRAWN: T.W.K.	DATE: 04/17/14



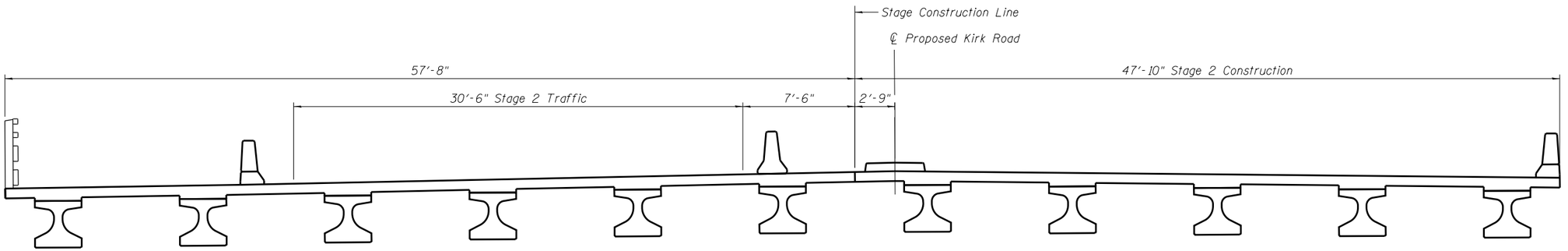
STAGE 1 TRAFFIC AND REMOVAL SECTION - TYPICAL

(Looking North)



STAGE 2 TRAFFIC AND CONSTRUCTION SECTION - KIRK ROAD OVER UNION PACIFIC RAILROAD

(Looking North)



STAGE 2 TRAFFIC AND CONSTRUCTION SECTION - KIRK ROAD OVER REED ROAD

(Looking North)

Scope of Work C

FILE NAME = S:\JOL\3500-3599\3597\003\Micros\CADD Sheets\BCR Exhibits\045308P6-01234-BCR2.dgn

STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	DESIGNED -	REVISED
	CHECKED -	REVISED
PLOT SCALE =	DRAWN -	REVISED
PLOT DATE =	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING SKETCH
STRUCTURE NO. 045–3096
SHEET NO. OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	12-000192-04-BR	KANE		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

ATTACHMENT I

STRUCTURE PHOTOGRAPHS

BCR Photos for SN 045-3096; January 16, 2014

Photo No. 1
Looking south through bridge

Photo No. 2
Looking north through bridge

Photo No. 3
Looking east from bridge (2012 photo)

Photo No. 4
Looking west from bridge (2012 photo)

Photo No. 5
East elevation of bridge

Photo No. 6
West elevation of bridge

Photo No. 7
North approach pavement looking east

Photo No. 8
South approach pavement looking east

Photo No. 9
North abutment transverse joint, seal is leaking

Photo No. 10
Pier 3 transverse joint

Photo No. 11
Pier 8 transverse joint

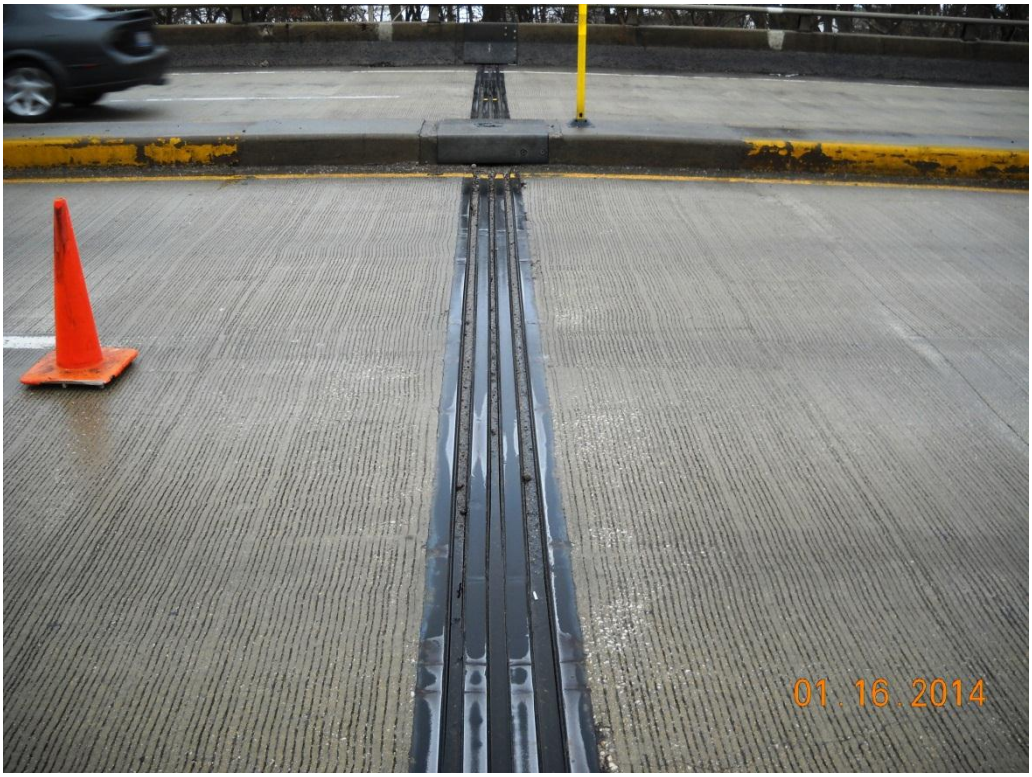


Photo No. 12
Pier 13 transverse joint

Photo No. 13
South abutment transverse joint, seal has failed

Photo No. 14
West parapet looking south

Photo No. 15
East parapet looking northeast

Photo No. 16
Delaminated concrete on parapet - common

Photo No. 17
Spalled concrete on parapet - common

Photo No. 18
Top of deck, span 5 SB, looking south

Photo No. 19
Top of deck, span 5 SB – intersecting open cracks in overlay (common)

Photo No. 20
Top of deck, span 9 SB, looking south

Photo No. 21
Top of deck, span 9 SB – open cracks in overlay (common)

Photo No. 22
Top of deck, span 16 SB - spall

Photo No. 23
Top of deck, span-8 NB, looking north

Photo No. 24
Top of deck, span-7 NB, oil and chip patch

Photo No. 25
Top of deck, span-7 NB, damaged concrete patch

Photo No. 26
Top of deck, span-3 – intersecting open cracks in overlay

Photo No. 27
Missing light pole, span-14, west side

Photo No. 28
West deck fascia – typical condition, looking SW

Photo No. 29
Bottom of deck and beams, span-4 – center bays, looking south

Photo No. 30
Bottom of deck and beams, span-8 – center bays, looking south

Photo No. 31
Bottom of deck and beams, span-15 – center bays, looking south

Photo No. 32
Bottom of deck and beams, span-16 – center bays, looking south

Photo No. 33
Fascia bay - typical

Photo No. 34
Bottom of deck and beams, span-13, looking north

Photo No. 35
Beams and deck, span-10, looking NE

Photo No. 36
Expansion bearing at north abutment – typical condition

Photo No. 37
Expansion bearings at Pier-3, typical condition beneath interior transverse joints

Photo No. 38
Expansion bearing at Pier-5, typical condition beneath continuous deck locations

Photo No. 39
Corrosion on web and bottom flange on Beam-6 from west side near Pier 3

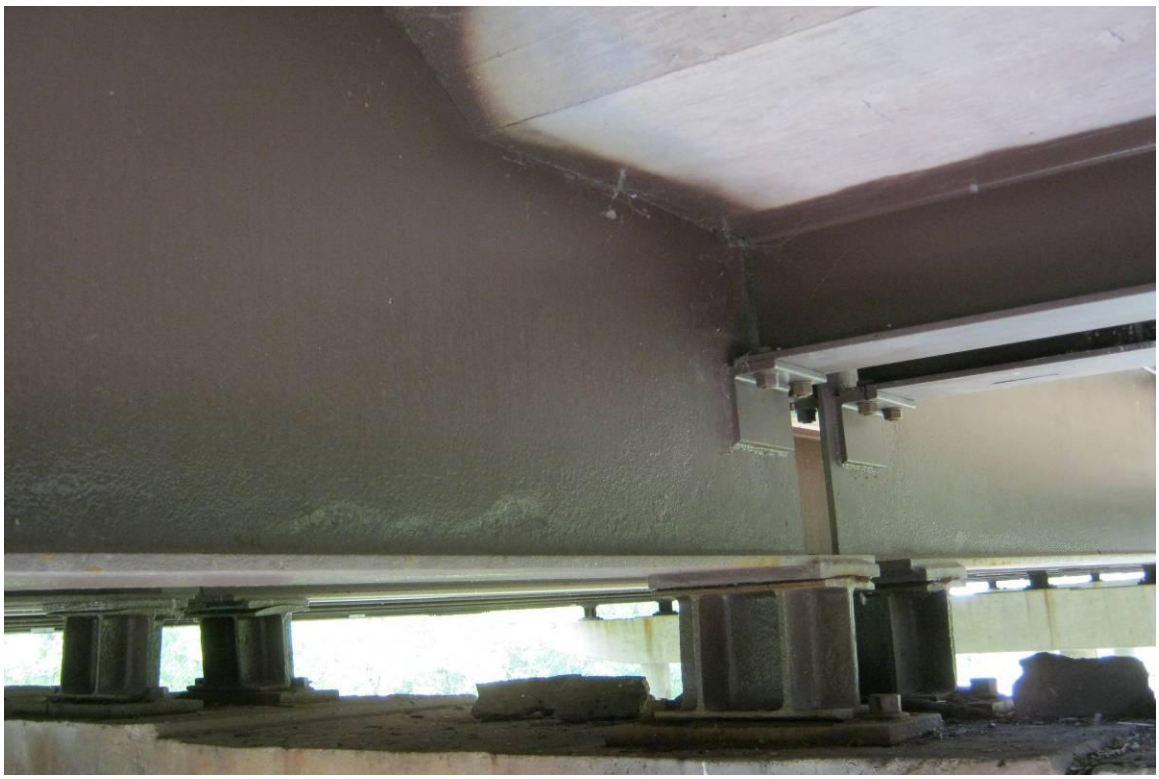


Photo No. 40
Typical pitting of web near Pier-13

Photo No. 41
Abutment cap – typical condition

Photo No. 42
NE abutment wingwall

Photo No. 43
Pier 1, looking SW

Photo No. 44
Pier 3, looking SE

Photo No. 45
Pier 3, looking SW, cracking and delaminations common in cap

Photo No. 46
Pier 7, looking south (typical pier condition without transverse deck joint)

Photo No. 47
Pier 8, looking south

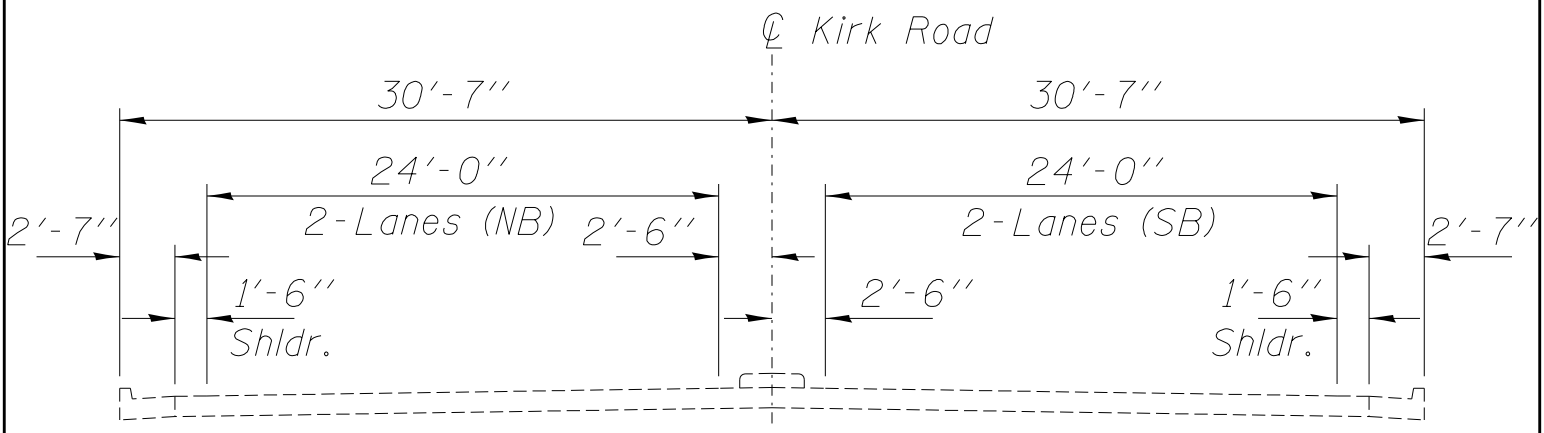
Photo No. 48
Pier 8, delaminations at top of west column, looking SW

Photo No. 49
Pier 13, looking south

Photo No. 50
Pier 13, east end looking south, spalling and delaminations common in cap

ATTACHMENT J

EXISTING AND PROPOSED ROADWAY CROSS SECTIONS

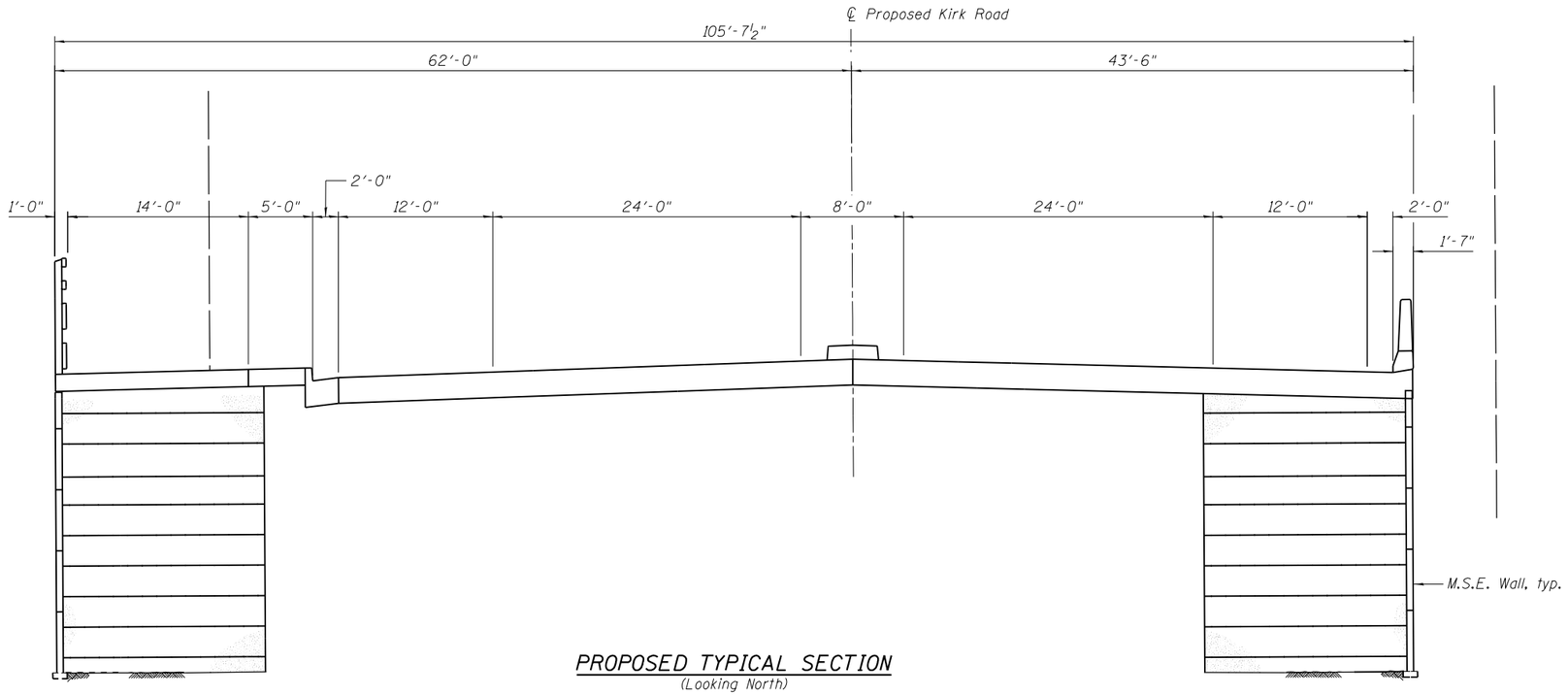


EXISTING ROADWAY CROSS SECTION

(Looking South)

EXISTING & PROPOSED CROSS SECTIONS
KIRK ROAD OVER UNION PACIFIC RR & REED ROAD
FAU ROUTE 2
KANE COUNTY
SECTION 21-000192-04-BR
STRUCTURE NO. 045-3096

PROJECT NUMBER: 13.0342.120	DRAWN: T.W.K.	DATE: 04/17/14



PROPOSED TYPICAL SECTION
(Looking North)

FILE NAME = S:\JOL\35001-35999\35071\003\Micros\CADD_Sheets\BER Exhibits\045309R5-D1234-BER3.dgn

STRAND ASSOCIATES® 1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 IDFPR NO. 184-001273	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
	PLOT SCALE =	DRAWN -	REVISED
	PLOT DATE =	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

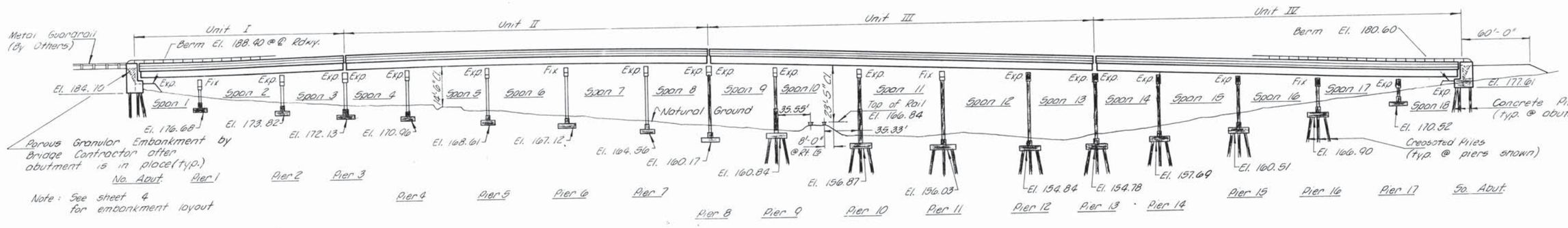
PROPOSED ROADWAY CROSS SECTIONS
STRUCTURE NO. 045-3096
SHEET NO. OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	12-000192-04-BR	KANE		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

ATTACHMENT K

ABBREVIATED EXISTING PLANS

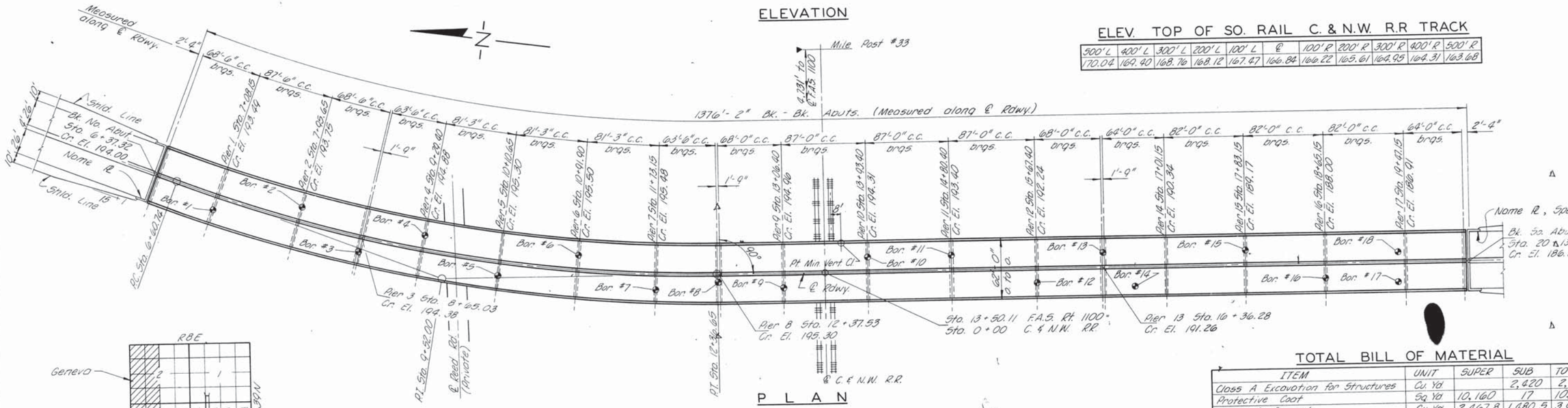
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1100	192-3VB	KANE	53	3
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	SU-SUB-1100(101)	

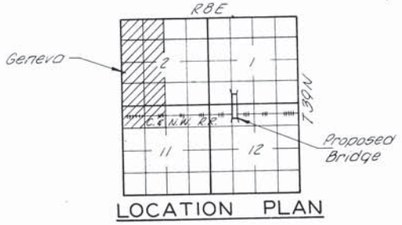


ELEVATION

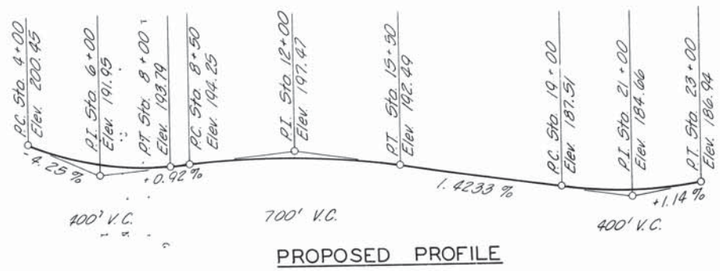
ELEV. TOP OF SO. RAIL C. & N.W. R.R TRACK

500' L	400' L	300' L	200' L	100' L	℄	100' R	200' R	300' R	400' R	500' R
170.04	169.40	168.76	168.12	167.47	166.84	166.22	165.61	164.95	164.31	163.68





LOCATION PLAN



PROPOSED PROFILE

INDEX OF SHEETS

CURVE DATA

P.I. Sta. 9+52.00
△ = 21° 01'
D = 3° 40'
T = 291.26'
E = 20.91'
L = 575.91'
R = 1,562.88'
S.E. = 0.051'/'
S_A = 5+60.74 - 7+10.74
11+86.65 - 13+36.65

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Class A Excavation for Structures	Cu. Yd.		2,420	2,420
Protective Coat	Sq. Yd.	10,160	17	10,177
Class X Concrete	Cu. Yd.	2,467.8	1,480.5	3,948.3
Structural Steel	Lump Sum			1
Aluminum Railing	Lin. Ft.	2,788		2,788
Reinforcement Bars	Lb.	594,140	223,490	817,630
Creosoted Piles	Lin. Ft.		3,350	3,350
Concrete Piles	Lin. Ft.		756	756
Test Pile Timber	Each		2	2
Test Pile Concrete	Each		2	2
Nome Plates	Each			1
Preformed Joint Sealer	Lin. Ft.	62		62
Neoprene Expansion Joint (2")	Lin. Ft.	62		62
Neoprene Expansion Joint (6"2")	Lin. Ft.	189		189
Nome Plates, Special	Each			1
Metal Shoes	Each		178	178

DESIGN STRESSES

f_c = 1,200 p.s.i. (deck) - 1,400 p.s.i. (Sub, curb & parapets)
f_s = 27,000 (Struct.) - 20,000 p.s.i. (Reinf)
v = 75 p.s.i. (Ftg)
n = 10
Allowable ℄ Deflection L/1000
25 #/l.f. included in ℄ for future wearing surface
Design Specifications AASHO 1969

LOADING H S 20-44

Fred J. Stone Jr.
Illinois Structural No. 2934

GENERAL PLAN AND ELEVATION

KIRK ROAD OVER C.& N.W. R.R. & REED ROAD
F.A.S. RT. 1100 SEC. 192-3VB
KANE COUNTY
STATION 13+50.11

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S. CHECKED R.E.G.
DRAWN A.D. DATE 6-15-71 NO. 213

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
1100	192-3VB	KANE	53	14
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	SU-3VB-1100(101)	

F.A.S.

222 - #7 bars d @ 12" cts. Outside Face East Parapet
230 - #4 bars a @ 12" cts. Outside Face West Parapet
222 - #5 bars d_1 @ 12" cts. Inside Face East Parapet
230 - #5 bars d_1 @ 12" cts. Inside Face West Parapet

See Corner Detail

2 x 2 - #8 bars b_1 Top of Curb (Span 1)

2 - #8 bars b_2 Top of Curb @ Piers

2 x 2 - #8 bars b_3 Top of Curb (Span 2)

3 - #6 d_2

See Detail A Sheet # 19.

2 - #8 bars b_2 Top of Curb @ Piers

2 - #6 d_3

2 x 2 - #8 bars b_1 Top of Curb (Span 3)

2 x 2 - #5 bars b_4 Bott. of Curb (Span 1)

2 - #5 bars b_6 Bott. of Curb @ Piers

2 x 2 - #5 bars b_5 Bott. of Curb (Span 2)

2 - #5 bars b_6 Bott. of Curb @ Piers

2 x 2 - #5 bars b_4 Bott. of Curb (Span 3)

160 - #6 bars a_1 @ 17" cts. (Top & Bottom) alternate with 159 - #6 bars a @ 17" cts.

13/4" @ 30° F

226 - #5 bars c @ 12" cts. Top of Median Spc. to miss joints in median

4 - #5 bars b_6 Top of Median @ Piers

4 x 2 - #5 bars b_5 Top of Median (Span 2)

4 - #5 bars b_6 Top of Median @ Piers

4 x 2 - #5 bars b_4 Top of Median (Span #3)

4 x 2 - #5 bars b_4 Top of Median (Span 1)

58 x 8 - #5 bars b @ 12" cts. Top of Slab

72 x 8 - #5 bars b spaced as shown in Cross Section (Bott. of Slab)

57 - #5 bars b_7 @ 12" cts. Top of Slab over Piers between b bars

12'-0" Typ. @ Piers

℄ Pier 3

℄ Roadway

2 1/2" @ 50° F

B — B

A — A

Bk. of N. Abut.

Front Face of Abut.

P.C. Sta. 6 + 60.74

160 - #6 bars a_3 @ 17" cts. (Top & Bottom) alternate with 159 - #6 bars a_2 @ 17" cts.

℄ Pier 1

℄ Pier 2

3 x 8 - #5b Top of Slab

2 - #6 b_7 Top of Slab

Construction joints in curb to top of slab. (Aluminum Sheets)

℄ No. Brg. Pier 3

℄ No. Brg. No. Abut.

Radial Dimensions

62'-0" o. to o. deck

27'-0"

3'-0"

1'-0"

1'-1"

8 1/4"

21'-9 3/8"

46'-6"
48'-3 7/8"

12'-0" 12'-0"
15'-0" 15'-0"

85'-9 3/8"
89'-2 1/8"

12'-0" 12'-0"
15'-0" 15'-0"

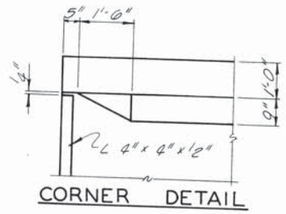
67'-10 3/8"
70'-6 1/8"

221'-11 1/2" East Fascia (Measured along inside face of parapet)
229'-9 1/2" West Fascia (Measured along inside face of parapet)

Note:
Space a, a_1, a_2, a_3 & c bars along ℄ Roadway and perpendicular to beams.

PLAN - UNIT I

Note:
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 24 dia.



CORNER DETAIL

BILL OF MATERIAL - UNIT I

BAR	NO.	SIZE	LENGTH	SHAPE
a	159	#6	34'-2"	
a_1	320	#6	32'-9"	
a_2	159	#6	32'-0"	
a_3	320	#6	30'-7"	
b	1120	#5	29'-11"	
b_1	16	#8	30'-1"	
b_2	16	#8	11'-9"	
b_3	8	#8	33'-6"	
b_4	32	#5	29'-9"	
b_5	16	#5	29'-7"	
b_6	32	#5	11'-9"	
b_7	122	#6	30'-0"	
c	226	#5	6'-6"	
d	452	#4	3'-8"	
d_1	452	#5	3'-3"	
d_2	3	#6	3'-10"	
d_3	2	#6	9'-3"	
Class X Concrete			Cu. Yd.	305.1
Reinforcement Bars			Lb.	95,290

For Sections A-A & B-B see sheet # 20. Parapet Reinforcement and Class X Concrete are billed on sheet # 19. For placement and details of bars d_2 & d_3 see sheet # 19. For details of bars a, a_2, c, a_1 & a_3 see sheet # 15. Work this sheet with sheets #15 to 20.

Radial Dimensions
1'-0"
9"
3'-3"
27'-9"
26'-0"
62'-0" o. to o. deck
60'-0" face to face parapet & rail
3'-0" Median
1'-0"
9"
3'-3"
Longitudinal Bonded Const. Jt. - Do not edge
Slope .05'/1
For light pedestal details see sheet # 19.
Profile Grade
2" cl.
7 1/2" Slab
1" cl.
1 1/4"
1 1/4"
3" typ.
2'-1"
7 1/2" 8 - #5b @ 9" cts. typ. btwn. bms.
7 1/2"
b_4, b_5 or b_6
b_7, a, b, a_1, c, a_2, a_3, b_1 or b_3, b_4 or b_5, d, d_1, 2 - #4 d_4 at eo. rail post
NEAR PIER
NEAR MIDSPAN
9 Spaces @ 6'-6" = 58'-6"

CROSS SECTION
(Looking South)

SUPERSTRUCTURE - UNIT I

F.A.S. RT. 1100 SEC. 192-3VB
KANE COUNTY
STATION 13+50.11

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.G. CHECKED R.E.G.
DRAWN A.D. DATE 6-15-71 NO. 613