

06-17-2022 LETTING ITEM 111  
 FOR INDEX OF SHEETS, SEE SHEET NO. 2  
 FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	1
		ILLINOIS	CONTRACT NO. 62P55	

FUNCTIONAL CLASSIFICATION: INTERSTATE  
 POSTED SPEED: 55 MPH  
 ADT: 132,100 (2020)

PROPOSED  
 HIGHWAY PLANS

F.A.I. ROUTE 94 (I-94)(BISHOP FORD FREEWAY)  
 AT VARIOUS LOCATIONS  
 SECTION 2021-137-BR  
 BRIDGE REPAIR  
 COOK COUNTY



APPLIES TO SHEETS 1-3

*Art Patel*

ART J. PATEL  
 DEC 08/971  
 OF ILLINOIS

LICENSED CIVIL ENGINEER, STATE OF ILLINOIS  
 EXPIRES 11/30/2023

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APPLIES TO SHEETS 4-12

*Maen Farhat*

MAEN A. FARHAT  
 081.008545  
 OF ILLINOIS

LICENSED STRUCTURAL ENGINEER, STATE OF ILLINOIS  
 EXPIRES 11/30/2022

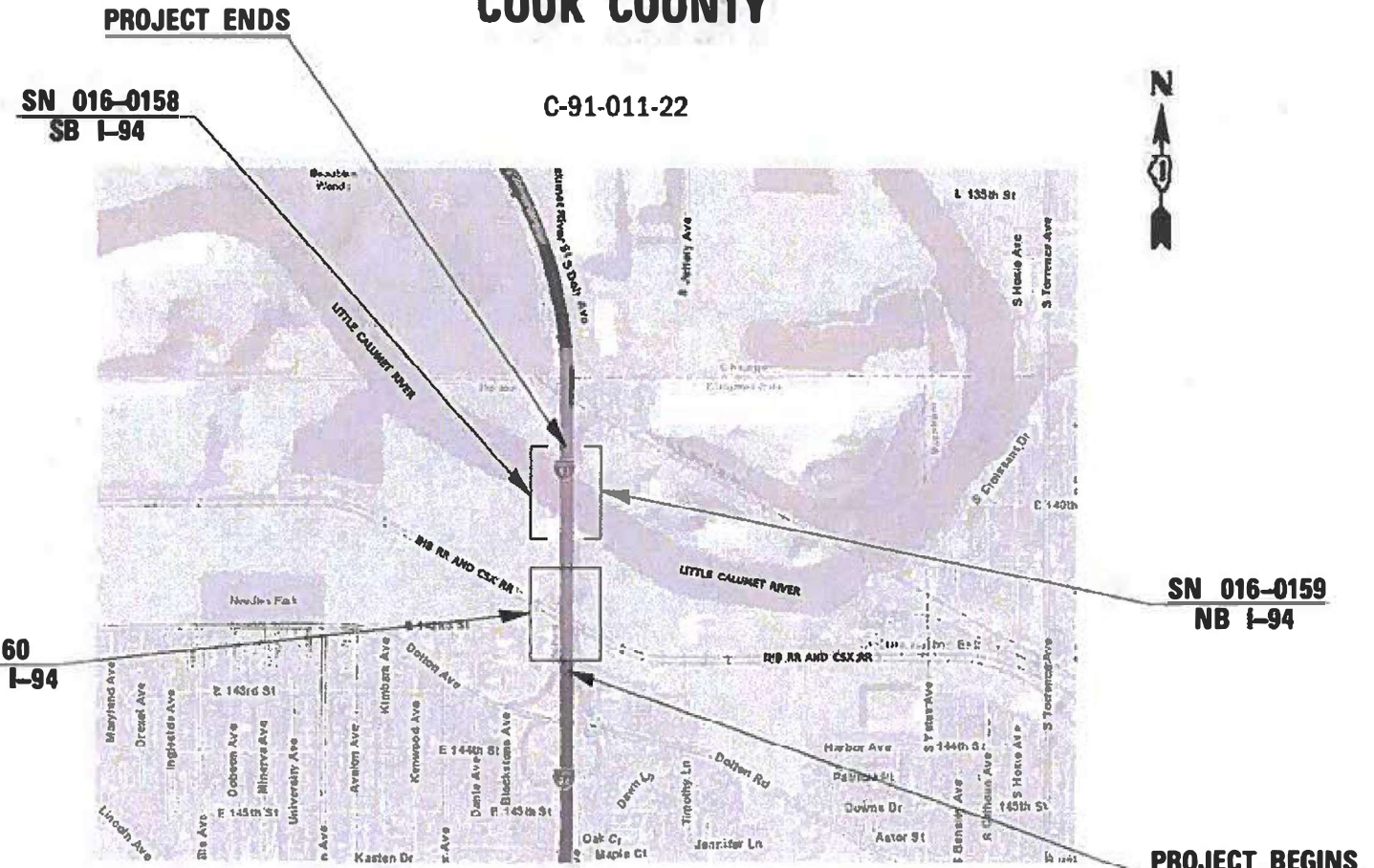
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APPLIES TO SHEETS 13-32

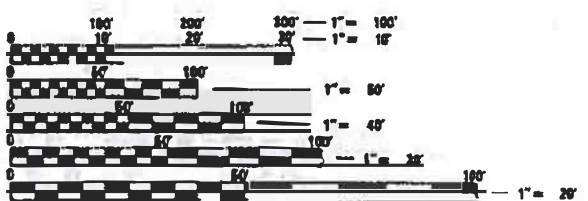
*Arthe Nourk*

01-5894  
 OF ILLINOIS

LICENSED STRUCTURAL ENGINEER, STATE OF ILLINOIS  
 EXPIRES 11/30/2022



MUNICIPALITIES:  
 CITY OF DOLTON



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123  
 OR 811

PROJECT ENGINEER: PRAVEEN KAINI, PE (847)-705-4237  
 PROJECT MANAGER: J. ALAIN MIDY, PE (847)-221-3056

SN 016-0158 GROSS LENGTH = 796.0 FT. = 0.151 MILE  
 SN 016-0159 GROSS LENGTH = 795.0 FT. = 0.145 MILE  
 SN 016-0160 GROSS LENGTH = 416.6 FT. = 0.079 MILE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED *December 20 21*

*Jose River*  
 REGISTERED PROFESSIONAL ENGINEER

May 13, 2022

*Scott A. Etk*  
 ENGINEER OF DESIGN AND ENVIRONMENT

May 13, 2022

*Stephen M. Smith*  
 DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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 OF THE STATE OF ILLINOIS

**Bowman**

311 S. Wacker Drive, Suite 1900  
 Chicago, Illinois 60606  
 312-614-0280  
 www.bowman.com

### GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE CITY OF DOLTON.
3. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
5. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
6. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
7. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS CONTRACT.
9. EXISTING UNDERGROUND AND ABOVE-GROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED ON THESE CONTRACT DOCUMENTS BASED UPON THE INFORMATION AND SURVEYS AVAILABLE AT THE TIME OF DRAWING PREPARATION. THE LOCATION OF THESE FEATURES MUST, THEREFORE, BE CONSIDERED APPROXIMATE ONLY. IN ADDITION, THERE MAY BE OTHER FACILITIES, STRUCTURES, AND UTILITIES WHICH DID NOT EXIST OR THE EXISTENCE OF WHICH WAS NOT KNOWN AT THE TIME OF DRAWING PREPARATION. IT IS THE SOLE RESPONSIBILITY OF CONTRACTOR(S) TO HAVE ALL EXISTING FACILITIES, STRUCTURES, AND UTILITIES LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY AND TO PROTECT ALL SUCH EXISTING FEATURES DURING CONSTRUCTION.
10. ANY REFERENCE TO STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE LATEST EDITION.
11. THE CONTRACTOR SHALL OBTAIN COAST GUARD APPROVAL FOR ANY WORK THAT MAY INTERFERE WITH NAVIGATIONAL OPERATIONS OF THE NAVIGABLE WATERS. A WORK PLAN SHALL BE PREPARED BY THE CONTRACTOR, REVIEWED AND APPROVED BY THE ENGINEER, AND BE SUBMITTED BY THE ENGINEER TO THE COAST GUARD AT THE ADDRESS LISTED BELOW FOR APPROVAL.

BRIDGE ADMINISTRATOR  
 US COAST GUARD  
 NINTH COAST GUARD DISTRICT  
 1240 E. NINTH ST  
 CLEVELAND, OH 44199-2060

### INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES, INDEX OF SHEETS, AND HIGHWAY STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4-12 BRIDGE REPAIRS (SN 016-0158)
- 13-18 BRIDGE REPAIRS (SN 016-0159)
- 19-32 BRIDGE REPAIRS (SN 016-0160)
- 33 TC-17 TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

### IDOT HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701428-01 TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
- 701901-08 TRAFFIC CONTROL DEVICES

### COMMITMENTS

NONE

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311 S. Wacker Drive, Suite 1950  
 Chicago, Illinois 60606  
 312-454-0500  
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PLOT DATE = 09/07/2021	DATE - 09/07/2021	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

GENERAL NOTES, INDEX OF SHEETS, AND STATE STANDARDS			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	DUPAGE	33	2
			CONTRACT NO. 62P55	
		ILLINOIS	FED. AID PROJECT	





Benchmark Chiseled Square cut in Northwest Wingwall (Northwest corner of deck) ELEV 627.29.

Existing Structure The existing structure No. 016-0158, SB I-94 over Little Calumet River was built in 1949 and reconstructed in 1994. The superstructure consists of three approach spans (57'-4"; 68'-10"; 57'-4") on each side and a steel truss main span that is 420'-0" long. The out-to-out deck width is 55'-7". The substructure consists of reinforced concrete abutments and six concrete piers supported on steel piles.

No Salvage

**DESIGN SPECIFICATION**

2002 AASHTO Standard Specification for Highway Bridges

**LOADING**

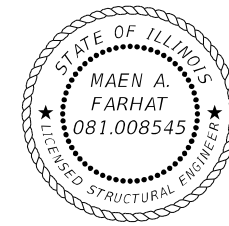
HS 20-44 & ALT.  
Allow for 25psf for Future Wearing Surface

**DESIGN STRESSES**

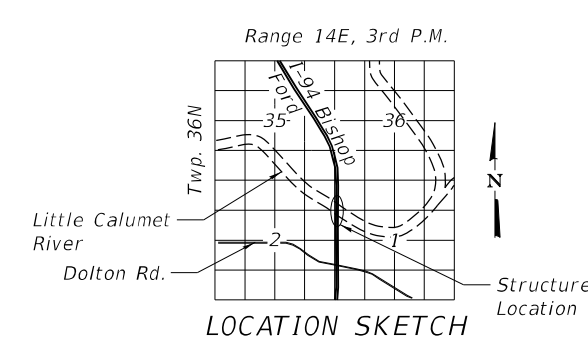
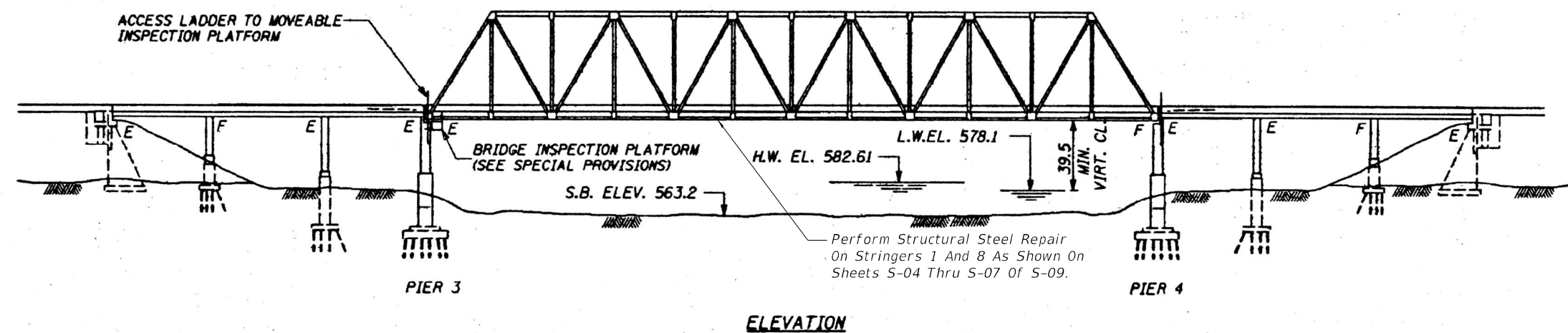
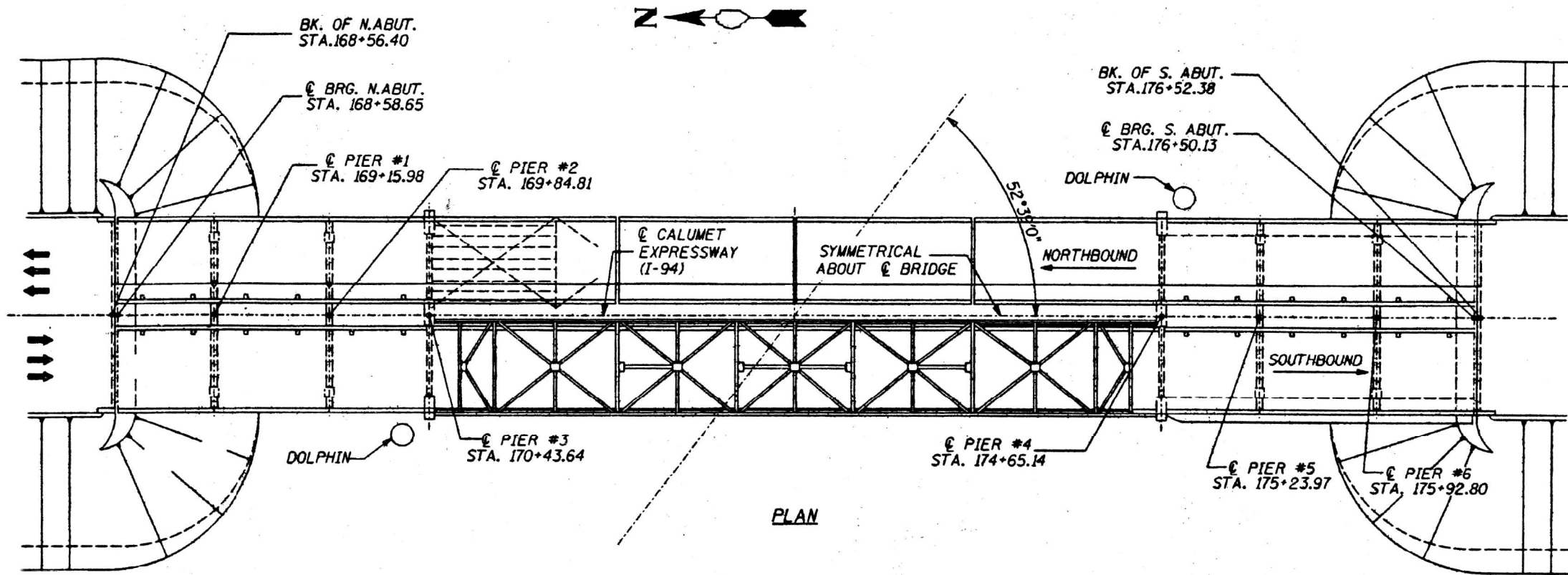
**1994 RECONSTRUCTION**  
f'c = 3,500 psi  
fy = 60,000 psi  
fs = 20,000 psi (AASHTO M183)  
fs = 27,000 psi (AASHTO M223, Gr.50)

**SCOPE OF WORK**

1. Perform Structural Steel Repairs as shown on sheets S-04 Thru S-07 of S-09.



Signed: *Maen Farhat*  
MAEN A. FARHAT, SE  
IL Lic. No.: 081-008545  
Expires: 11/30/2022



**GENERAL PLAN AND ELEVATION**  
**SB I-94 BISHOP FORD OVER LITTLE CALUMET RIVER**  
F.A.I. 94 SEC 42-B-11-I-3  
COOK COUNTY  
STATION 172+54.39  
STRUCTURE NO. 016-0158

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

S.N. 016.0158 - I94 over Little Cal. River

SHEET S-01 OF S-09 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	4
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				



**GENERAL NOTES**

1. The existing structural steel coating may contain lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
2. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
3. All new structural steel and bearing assembly shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel". Cost included with Structural Steel Repair.
4. All new fasteners shall be ASTM A325, Type I hot-dipped galvanized bolts. Holes shall be  $\frac{13}{16}$ " dia. for  $\frac{3}{4}$ " dia. bolts, unless otherwise noted.
5. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based at the unit price bid for the work.
6. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specific in the Special Provision shall be included with Structural Steel Repairs.


**INDEX OF SHEETS**

- S-01 General Plan and Elevation
- S-02 General Notes, Index of Sheets & Total Bill of Material
- S-03 Framing Plan
- S-04 Structural Steel Repair and Details I
- S-05 Structural Steel Repair and Details II
- S-06 Structural Steel Repair and Details III
- S-07 Structural Steel Repair and Details IV
- S-08 Existing Condition Photos I
- S-09 Existing Condition Photos II

**TOTAL BILL OF MATERIALS**

ITEM	UNIT	TOTAL QUANTITY
Furnishing and Erecting Structural Steel	POUND	530
Structural Steel Removal	POUND	500
Structural Steel Repair	POUND	2800

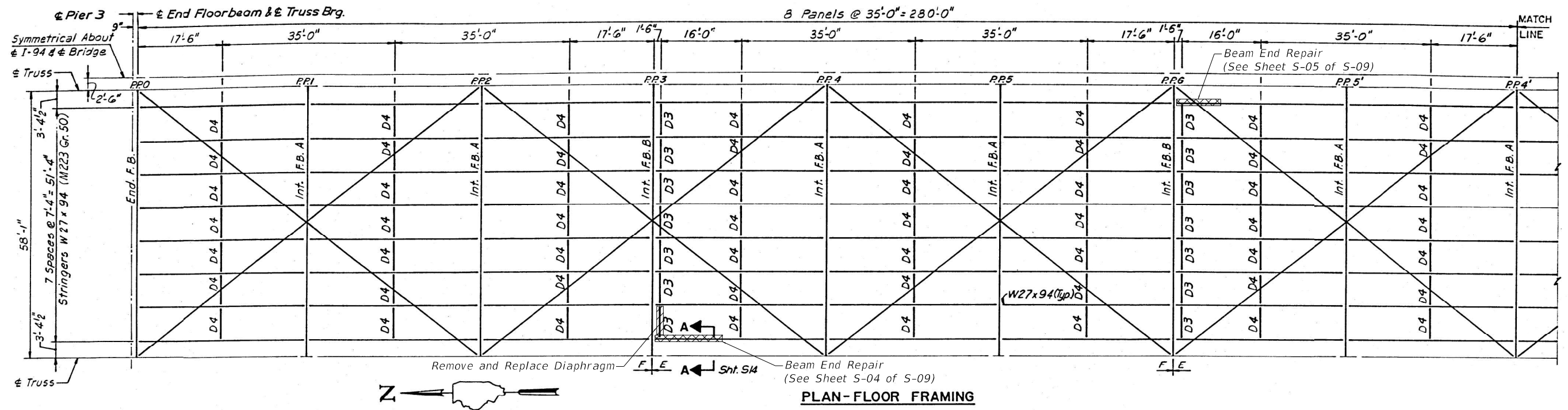
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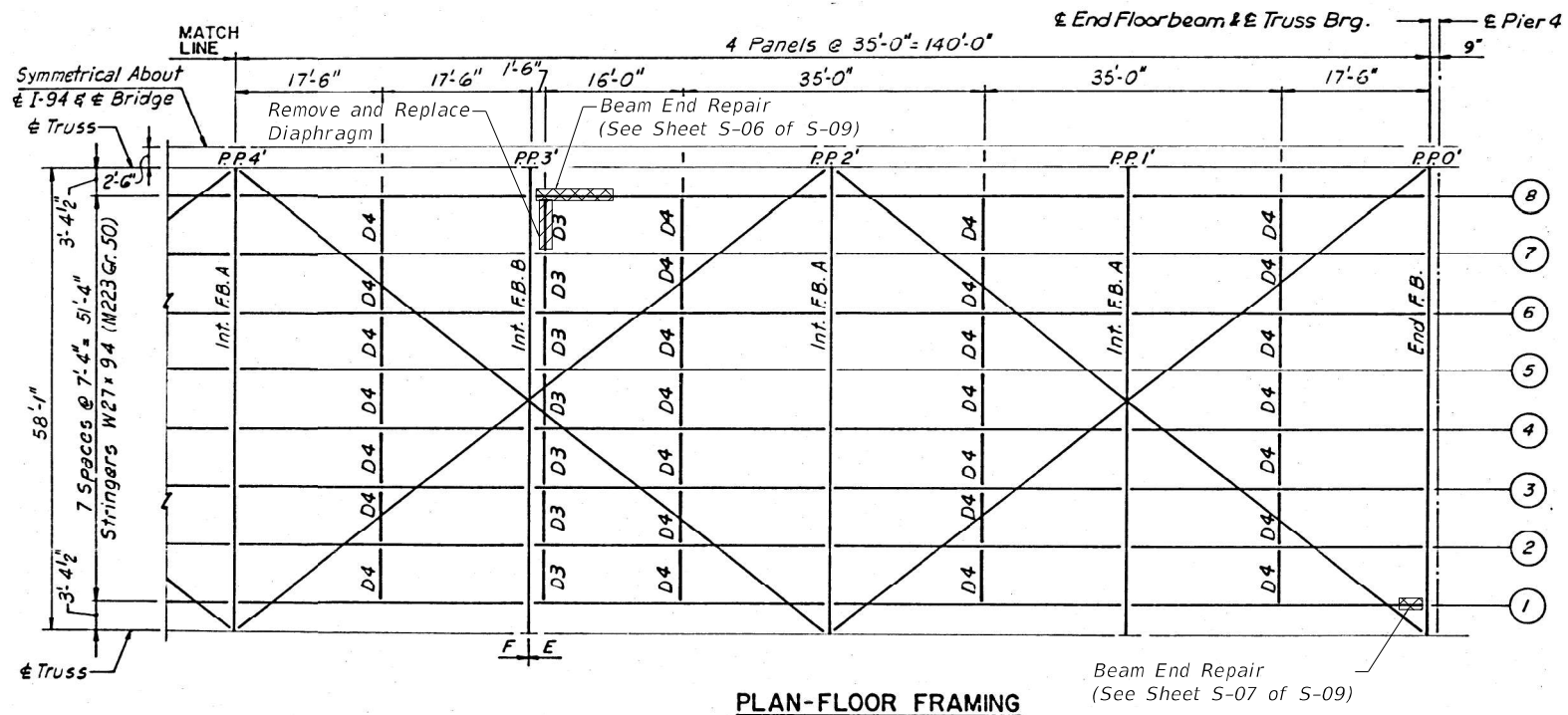
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**Gen. Notes, Index of sheets and Tot. BOM**  
**S.N. 016.0158 - I94 over Little Cal. River**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	5
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		



**PLAN-FLOOR FRAMING**



**PLAN-FLOOR FRAMING**

**LEGEND**

- Steel Diaphragm Repair
- Beam End Repair

**NOTE:**

1. For Beam end repairs and Diaphragm removal and replacement details see Sheets S-04 Thru S-07 of S-09.

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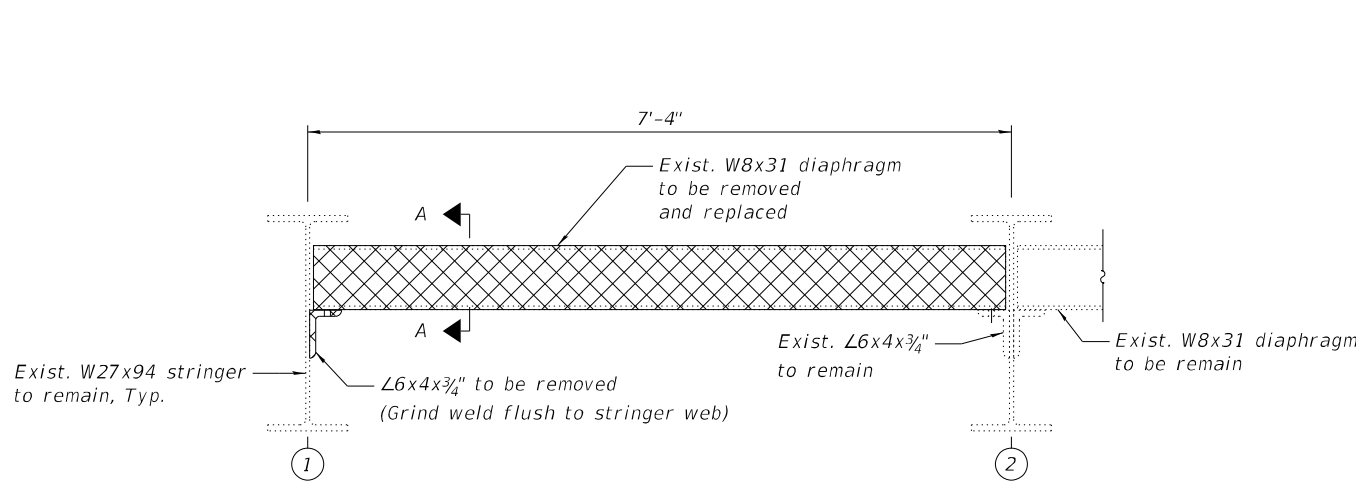
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**Framing Plan  
S.N. 016.0158 - 194 over Little Cal. River**

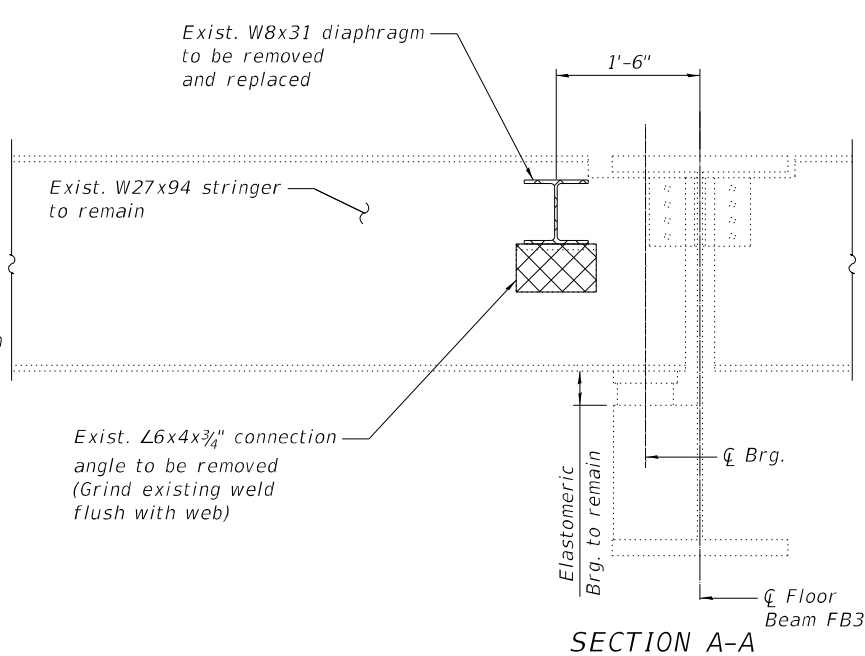
SHEET S-03 OF S-09 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

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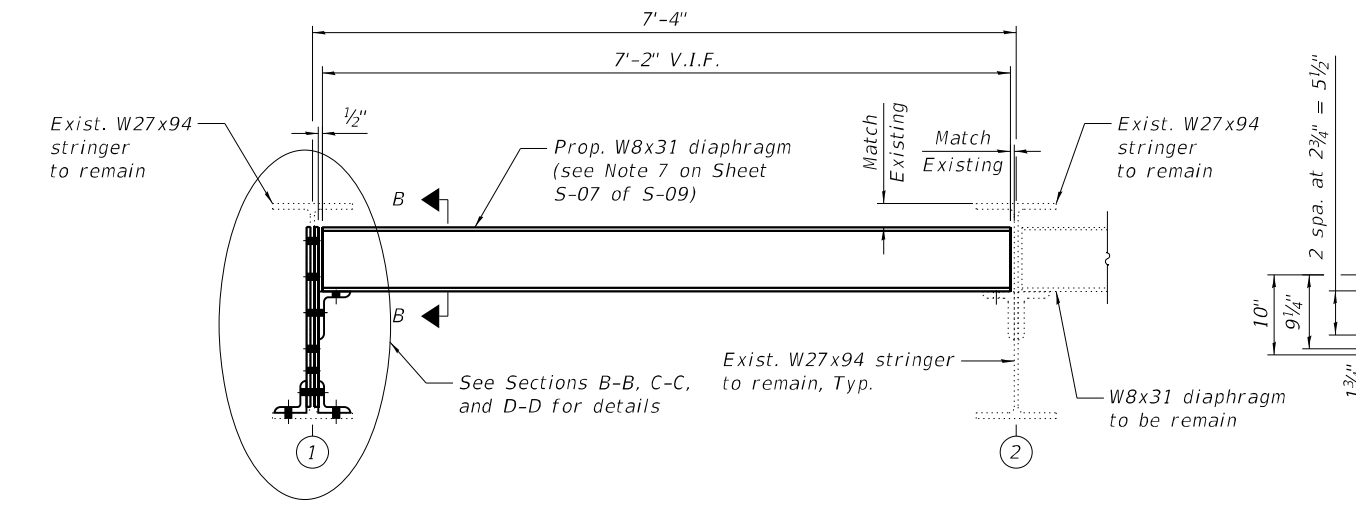
**DIAPHRAGM REMOVAL ELEVATION**



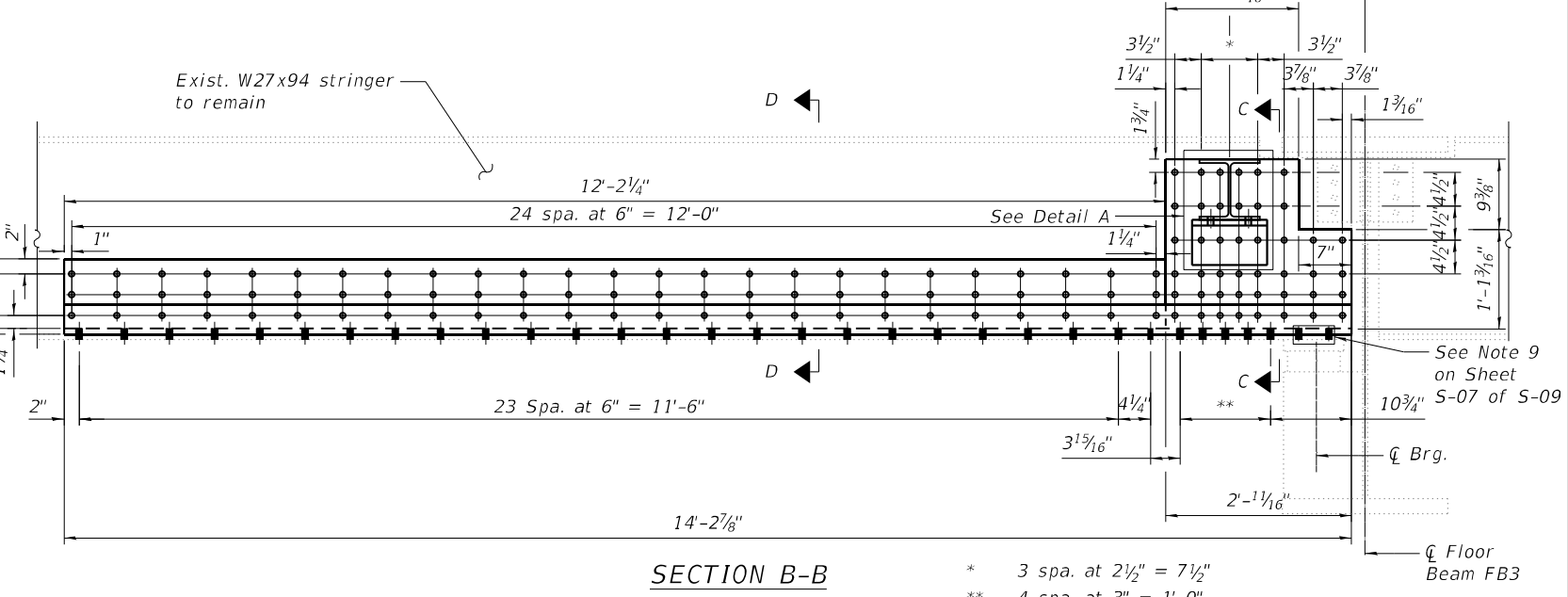
**SECTION A-A**

**BILL OF MATERIAL**

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Furnishing and Erecting Structural Steel	POUND	280
Structural Steel Removal	POUND	250
Structural Steel Repair	POUND	1160

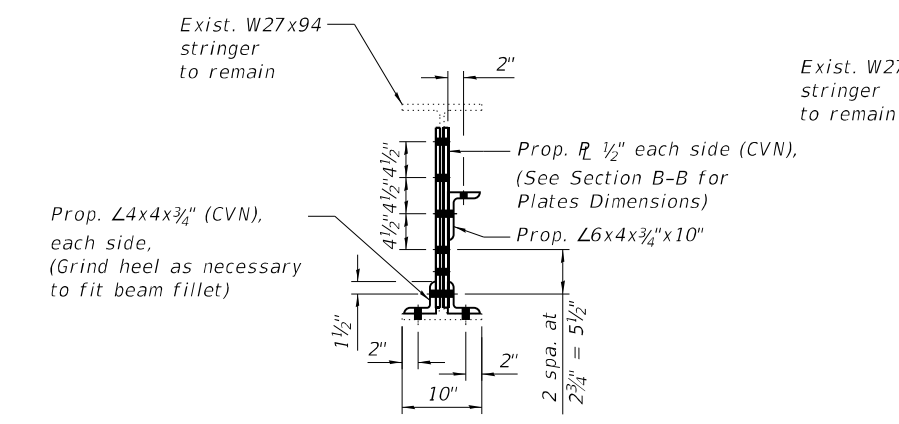


**PROPOSED DIAPHRAGM ELEVATION**

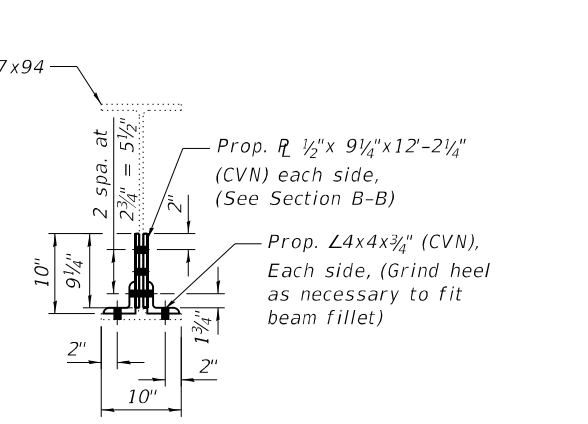


**SECTION B-B**

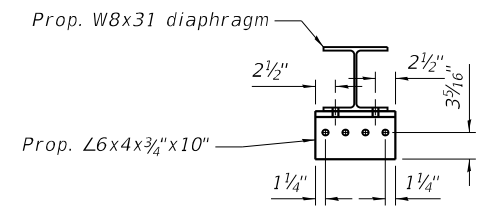
\* 3 spa. at 2 1/2" = 7 1/2"  
 \*\* 4 spa. at 3" = 1'-0"



**SECTION C-C**



**SECTION D-D**



**DETAIL A**

**LEGEND**  
 Structural Steel removal

**NOTES:**  
 1. See Sheet S-07 of S-09 for Notes.



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PLOT DATE =	CHECKED - MAF	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**Structural Steel Repair and Details I  
 S.N. 016.0158 - 194 over Little Cal. River**

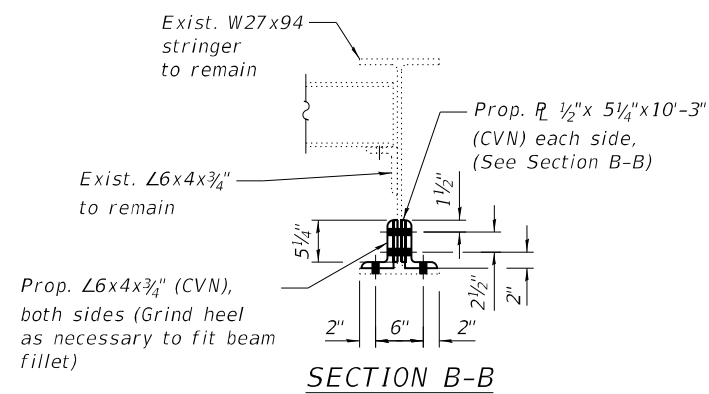
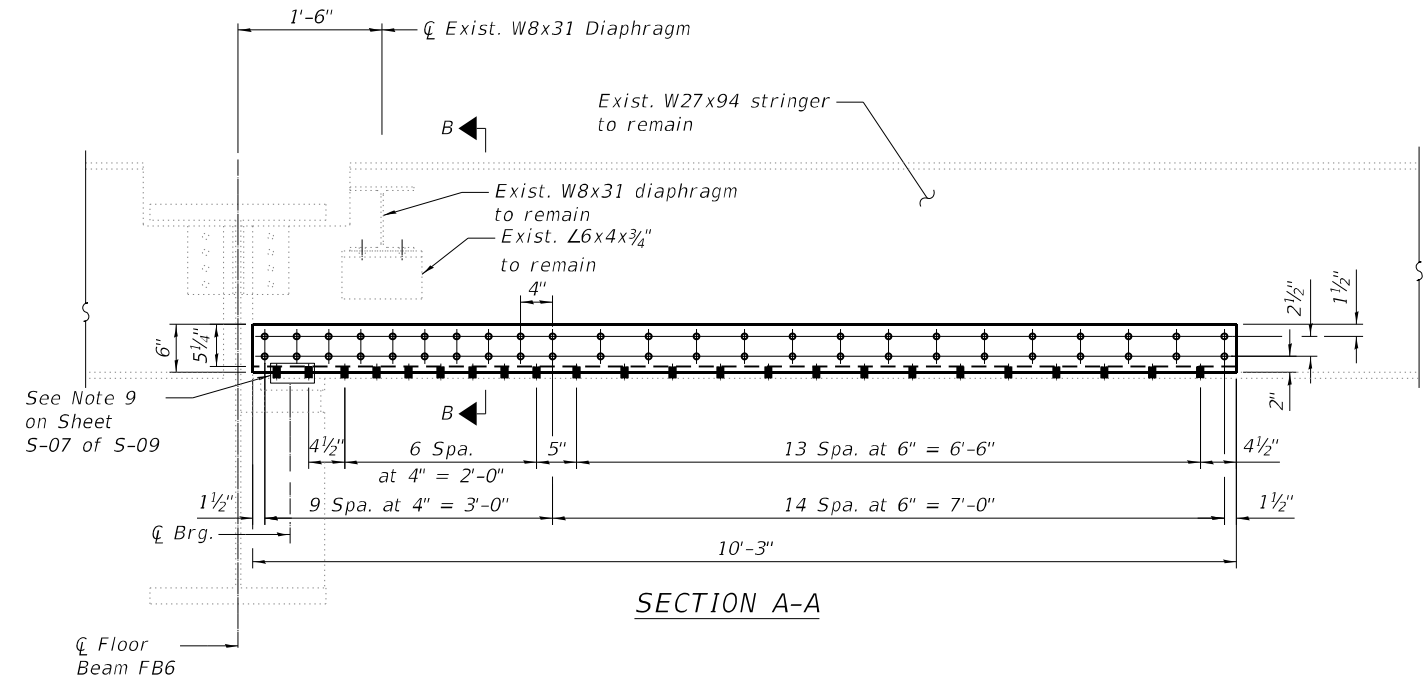
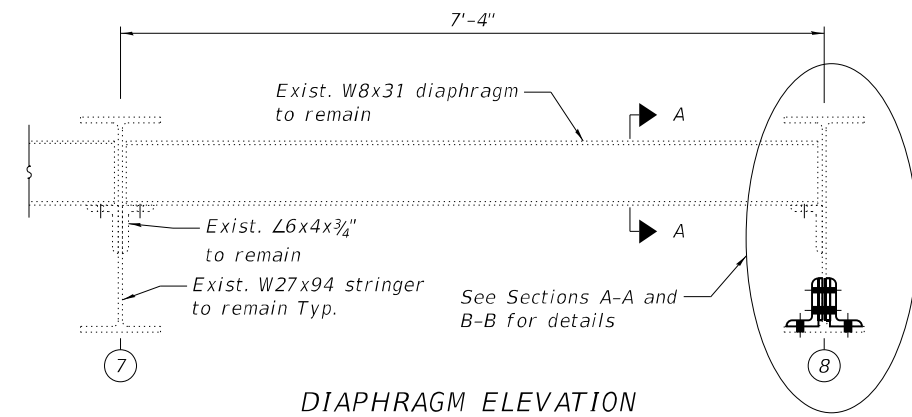
SHEET S-04 OF S-09 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	7
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	POUND	740



NOTES:

- See Sheet S-07 of S-09 for Notes.

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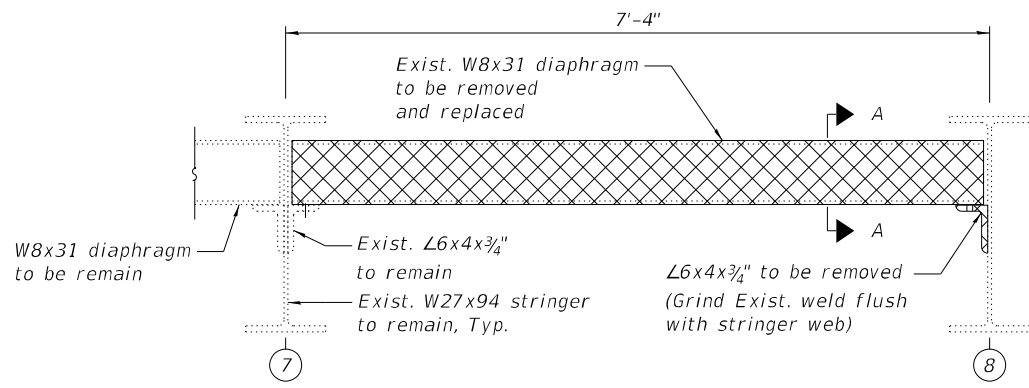
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

Structural Steel Repair and Details II  
 S.N. 016.0158 - 194 over Little Cal. River

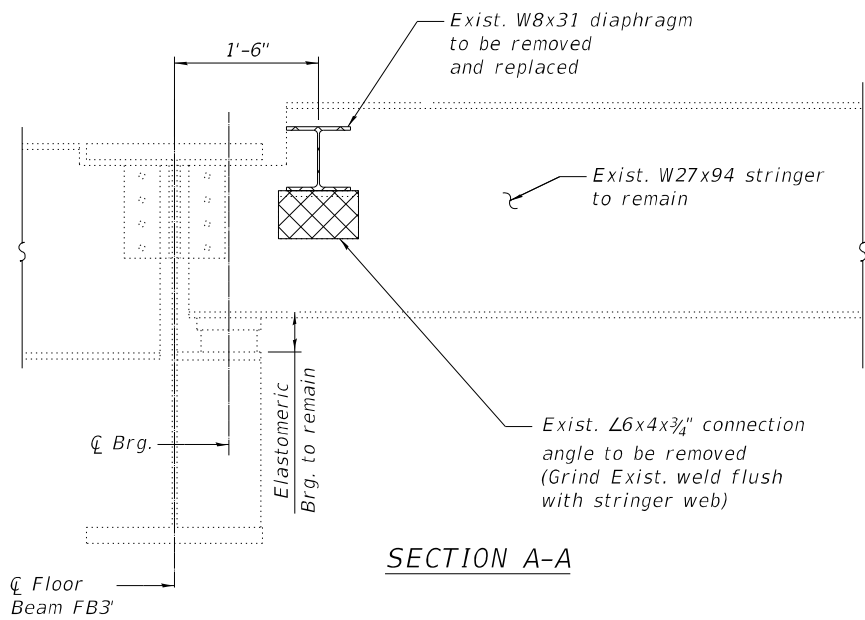
SHEET S-05 OF S-09 SHEETS

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ILLINOIS		FED. AID PROJECT		

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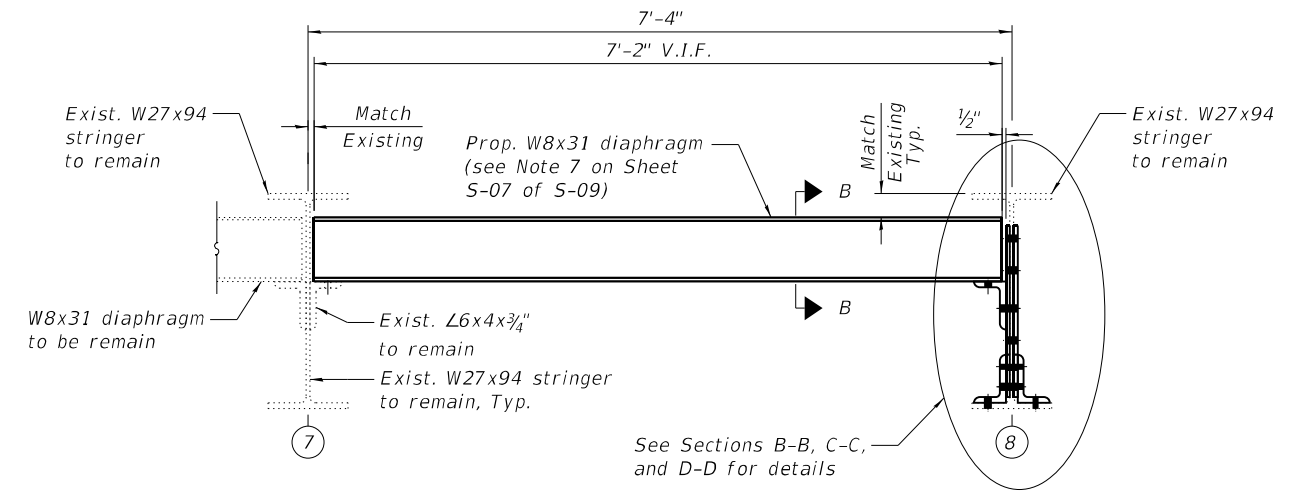
DIAPHRAGM REMOVAL ELEVATION



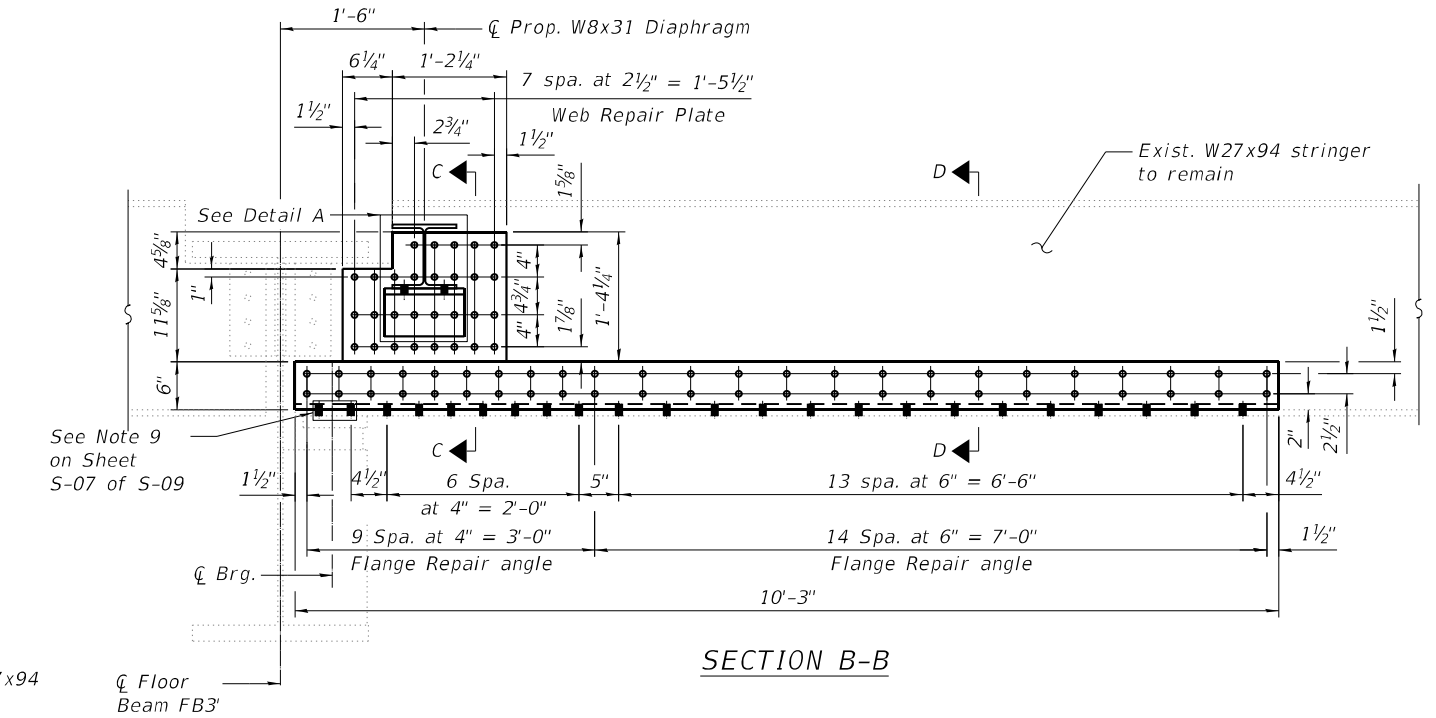
SECTION A-A

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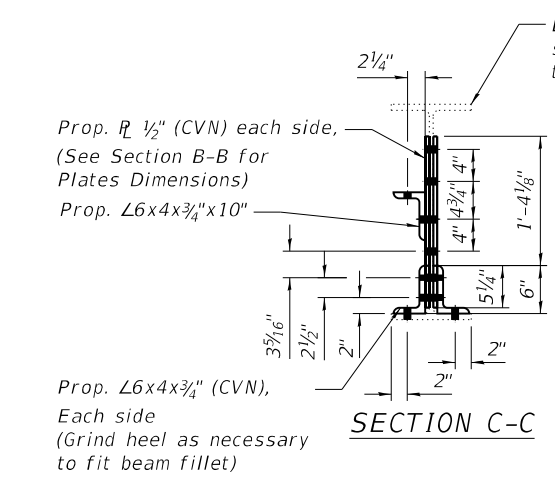
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Furnishing and Erecting Structural Steel	POUND	250
Structural Steel Removal	POUND	250
Structural Steel Repair	POUND	860



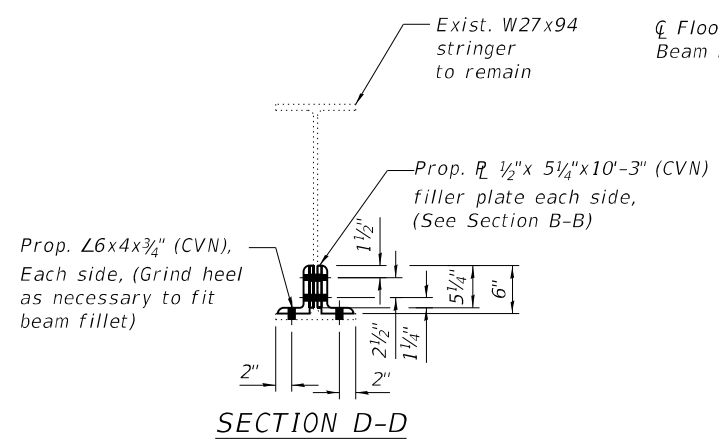
PROP. DIAPHRAGM ELEVATION



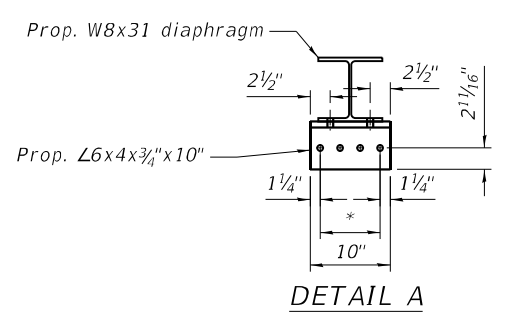
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL A

**LEGEND**  
 Structural Steel removal

**NOTES:**  
 1. See Sheet S-07 of S-09 for Notes.



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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

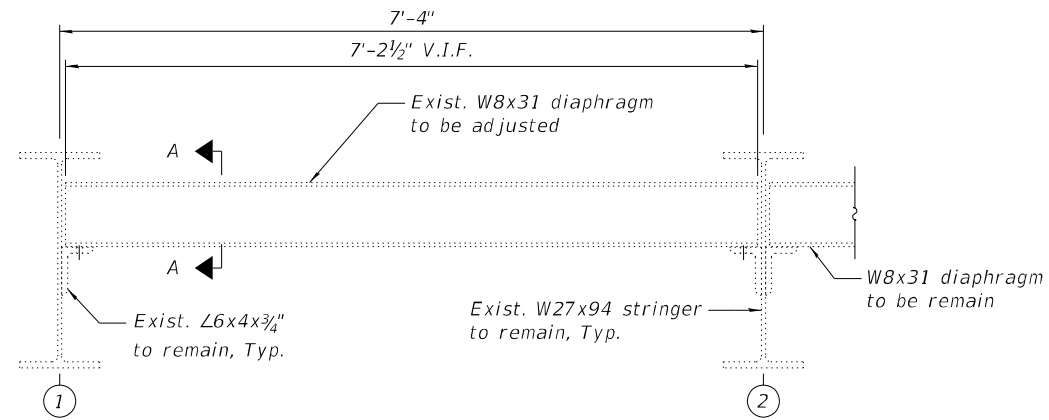
**Structural Steel Repair and Details III  
 S.N. 016.0158 - 194 over Little Cal. River**

SHEET S-06 OF S-09 SHEETS

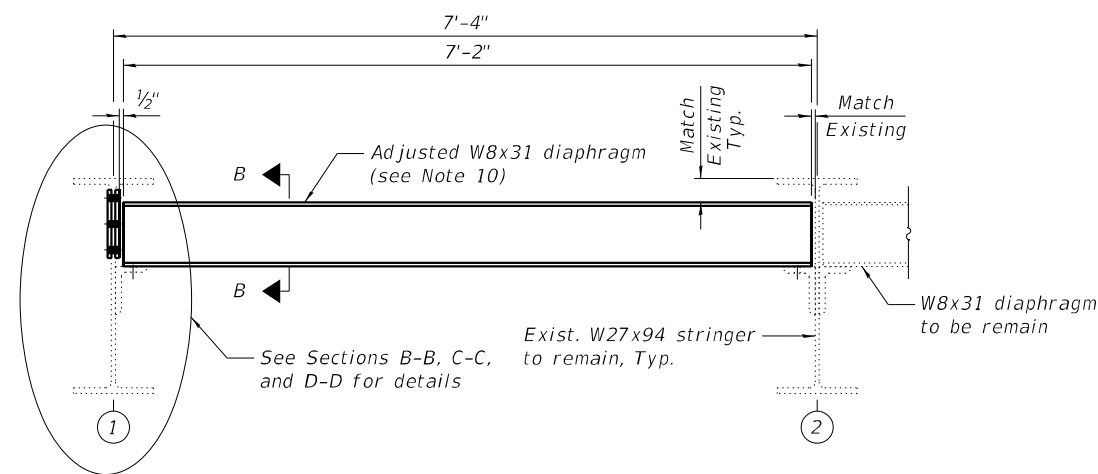
F.A.I. RTE. 94	SECTION 42-B-11-I-3	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 9
CONTRACT NO. ILLINOIS FED. AID PROJECT				62P55

**BILL OF MATERIAL**

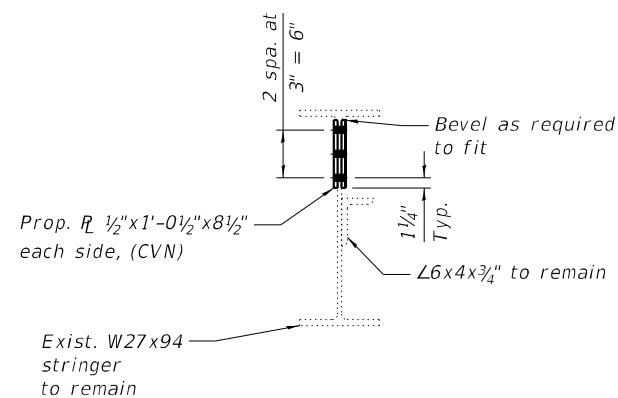
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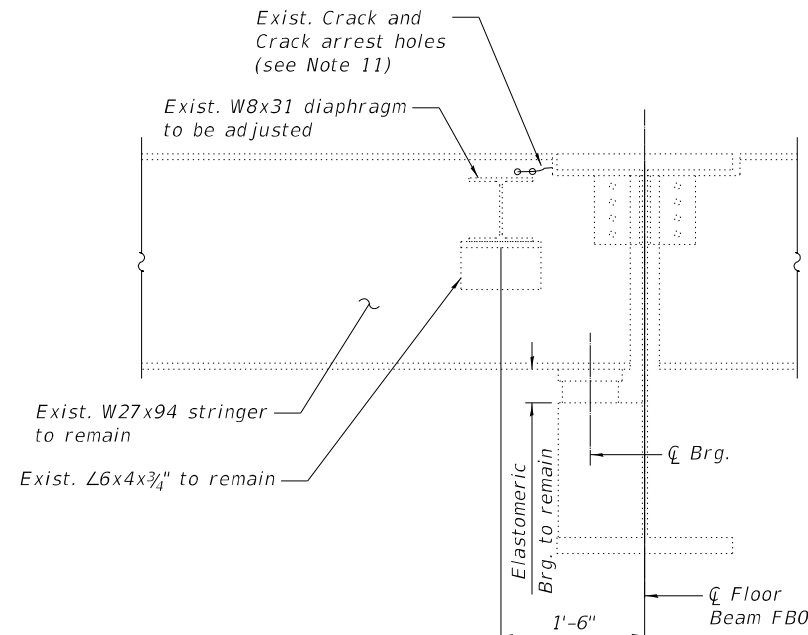
**DIAPHRAGM REMOVAL ELEVATION**



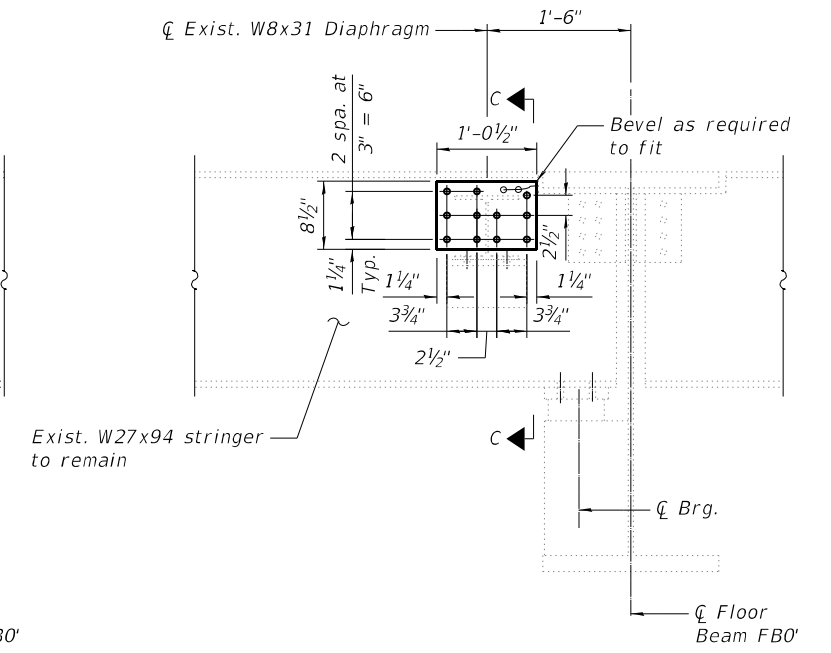
**PROP. DIAPHRAGM ELEVATION**



**SECTION C-C**



**SECTION A-A**



**SECTION B-B**

**NOTES:**

- For locations of Beam End Repairs and Diaphragm Removal/Replacement, see Framing Plan on Sheet S-03 of S-09.
- All Prop. beam end repair plates and bottom flange repair angles shall conform to the requirements of AASHTO M270 Grade 50. All Prop. diaphragms and their connection angles shall conform to the requirements of AASHTO M270 Grade 36.
- Diaphragm connection holes shall be  $1\frac{3}{16}$ "  $\circ$  for  $\frac{3}{4}$ "  $\circ$  bolts. Two hardened washers shall be required at diaphragm connections.
- Existing diaphragm and clip angle removal shall be paid for as Structural Steel Removal.
- All Prop. beam end repair plates, bottom flange repair angles, and associated bolts and fasteners shall be paid for as Structural Steel Repair. All Prop. diaphragms, connection angles and associated bolts, plate washers and fasteners shall be paid for as Furnishing and Erecting Structural Steel.
- Load carrying components designated "CVN" shall conform to the Impact Testing Requirement, Zone 2.
- Field drill bolt holes in proposed diaphragm using clip angle as template.
- Field drill bolt holes in beam web using repair plates and repair angles as template.
- Field drill bolt holes in repair angles using existing bearing bolts as template.
- Existing Diaphragm length shall be adjusted to fit and clear the repair plates. Cost included in Structural Steel Repair.
- Contractor shall verify the location of the existing crack arrest holes in the field. The Proposed bolt holes can be slightly shifted to clear the crack arrest holes.

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	CHECKED - MAF	REVISED -
PLOT SCALE =	DRAWN - IH	REVISED -
PLOT DATE =	CHECKED - MAF	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**Structural Steel Repair and Details IV  
S.N. 016.0158 - 194 over Little Cal. River**

SHEET S-07 OF S-09 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	10
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				





East Face of Stringer 1 at Floor Beam FB3 South Looking South



Bottom of Stringer 1 between Floor Beams FB3 and FB4 Looking South



West Face of Stringer 1 at South Face of Floor Beam FB3



East Face of Stringer 1 at South Face of Floor Beam FB3



West Face of Stringer 8 at South Face of Floor Beam FB6

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**Existing Condition Photos I  
 S.N. 016.0158 - 194 over Little Cal. River**

SHEET S-08 OF S-09 SHEETS

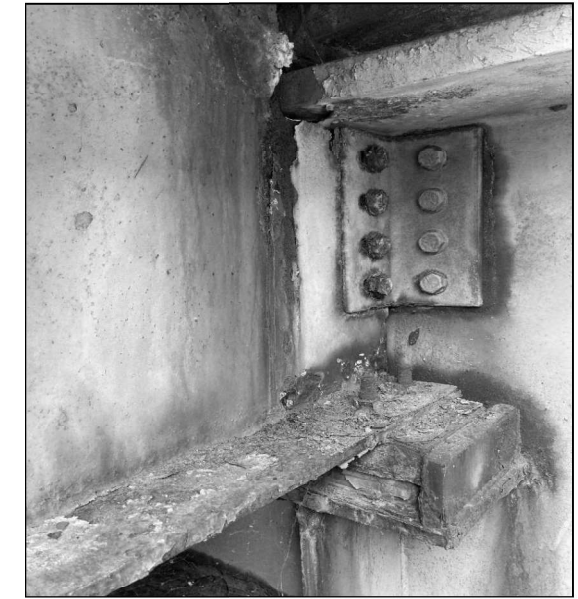
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	11
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		



East Face of Stringer 8 at South Face of Floor Beam FB6



West Face of Stringer 8 at South Face of Floor Beam FB3



East Face of Stringer 8 at South Face of Floor Beam FB3



Stringer 1 at Floor Beam FB0' upper web crack



Stringer 1 at Floor Beam FB0' upper web crack that was arrested, no further propagation

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

Existing Condition Photos II  
 S.N. 016.0158 - I94 over Little Cal. River

SHEET S-09 OF S-09 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	42-B-11-I-3	COOK	33	12
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

Existing Structure: Existing SN 016-0159 carries mainline Northbound I-94 over Little Calumet River. The Existing Structure was built with stub abutments and multi-column piers. The bridge has 7 total spans and an overall length of 795'-0" with an overall length of 118'-8".

**DESIGN STRESSES**

**FIELD UNITS (EXIST. CONST.)**

f'c = 3,500 psi  
 fy = 60,000 psi  
 fy = 50,000 psi M223 Gr.50 & M222  
 fy = 36,000 psi M183

**FIELD UNITS (NEW CONST.)**

fy = 36,000 psi (Structural Steel)

**DESIGN SPECIFICATIONS (EXIST.)**

AASHTO 1989 Standard Specifications for Highway Bridges & Interims

**LOADING HS-20 & ALT. (EXIST.)**

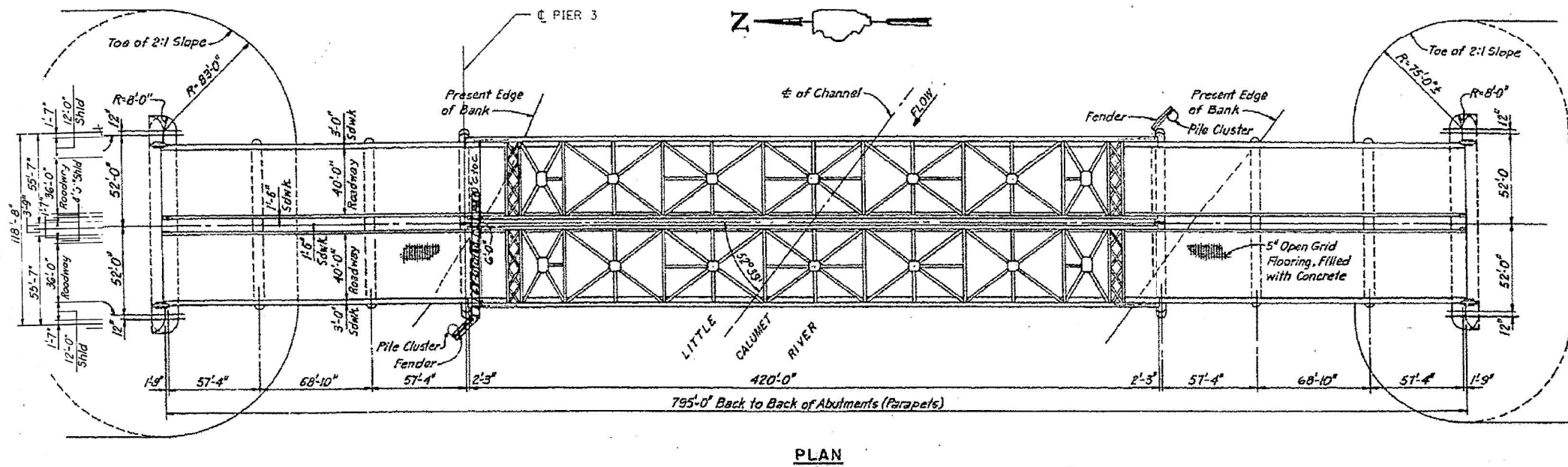
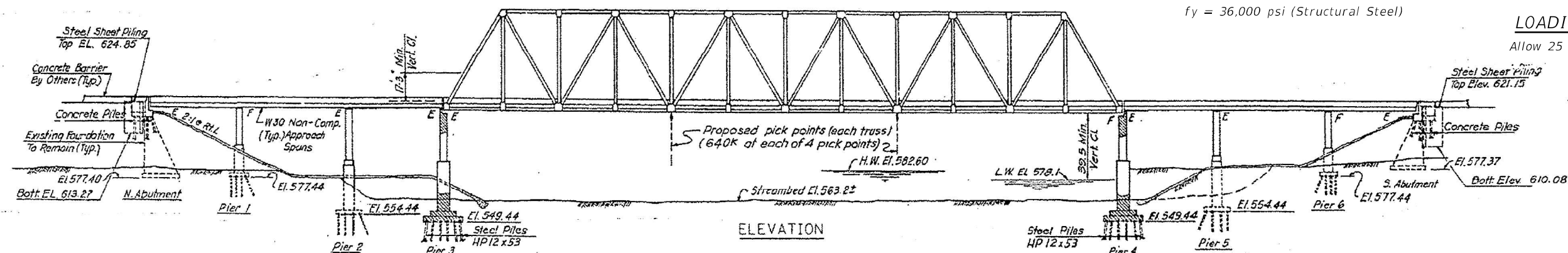
Allow 25 #/sq. ft. for Future Wearing Surface

**SCOPE OF WORK**

1. Steel Beam Repair

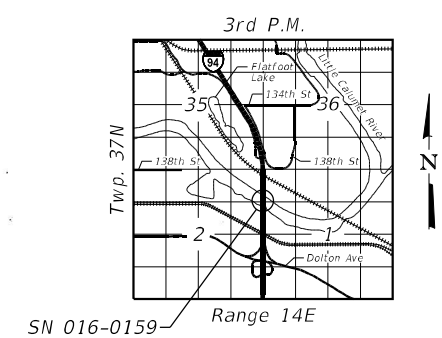
**INDEX OF SHEETS**

- SB-01 General Plan and Elevation
- SB-02 General Notes and Bill of Material
- SB-03 Steel Repair Locations
- SB-04 To SB-05 Steel Repair Details
- SB-06 Repair Photos



(NB) S.N. 016-0159  
 Plans pertain to this bridge only

(SB) S.N. 016-0158



Arthur Nowak

**GENERAL PLAN AND ELEVATION**  
**NB I-94 OVER LITTLE CALUMET RIVER**  
**F.A.I. ROUTE 94**  
**COOK COUNTY**  
**STRUCTURE NO. 016-0159**

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<b>Bowman</b> 311 S. Wacker Drive, Suite 1950 Chicago, Illinois 60606 312-414-0800 www.bowman.com	USER NAME = atiemann	DESIGNED - AT, JK	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL PLAN AND ELEVATION</b> <b>NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159</b>	F.A.I. RTE. 94	SECTION 2021-137-BR	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 13
	PLOT SCALE = 2.0000' / in.	DRAWN - AT, JK	REVISED -			CONTRACT NO. 62P55		ILLINOIS FED. AID PROJECT		
	PLOT DATE = 09/07/2021	CHECKED - AJN	REVISED -	SHEET SB-01 OF SB-06 SHEETS		SB-01				




**GENERAL NOTES**

1. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustment prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. All new fasteners shall be ASTM A325, Type I hot-dipped galvanized bolts. Holes shall be  $\frac{13}{16}$ " diameter for  $\frac{3}{4}$ " diameter bolts unless otherwise noted.
3. All Structural Steel shall conform to AASHTO M270 Grade 36 Unless otherwise noted.
4. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in "Structural Steel Repair".
6. Cost of field welding is included with the cost of Structural Steel Repair.
7. All repair materials including structural steel plates, bolts, nuts, and washers shall be galvanized per the special provision "Hot Dip Galvanizing for Structural Steel". Cost included in "Structural Steel Repair".
8. During repair operations, the Contractor shall locate and protect all utilities or facilities in the vicinity of the work including, but not limited to, fiber optic and/or electrical conduits attached to the structure. This work shall be performed to the satisfaction of the Engineer and will not be paid for separately, but shall be included with Structural Steel Repair. It shall be the Contractor's responsibility to restore and replace any damaged utilities or facilities to the satisfaction of the Engineer at no cost to the Department.
9. Use holes in new steel as template to field drill holes in existing steel.
10. All repair plates are non Fracture Critical Members.
11. All connection bolts and fasteners shall be paid for as Structural Steel Repair.
12. No field welding is permitted except as shown or specified in the contract documents.
13. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.

**BILL OF MATERIAL**

PAY ITEM	DESCRIPTION	UNIT	SUPER	SUB	TOTAL
Z0001905	Structural Steel Repair	Pound	1,550	-	1,550

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

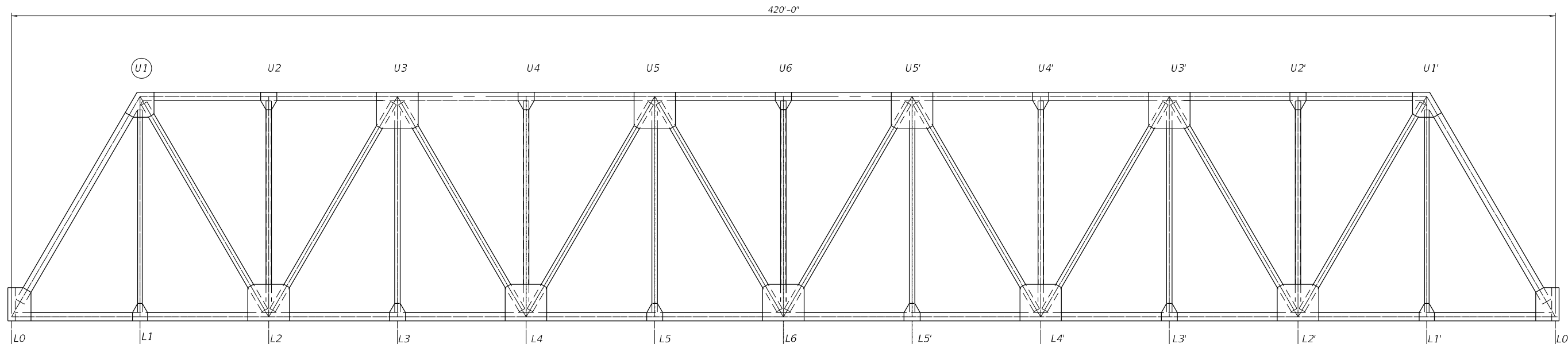
**GENERAL NOTES, WELDING NOTES, AND BILL OF MATERIAL**  
**NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159**

SHEET SB-02 OF SB-06 SHEETS

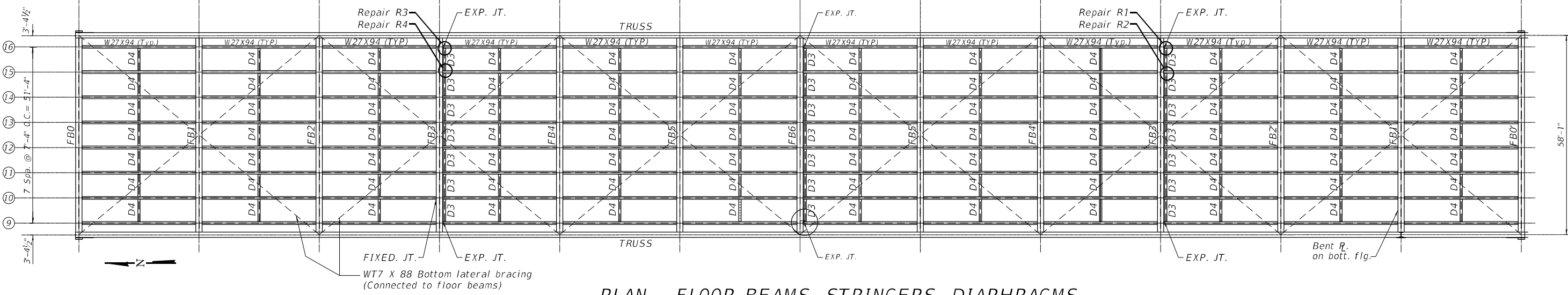
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SB-02

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**ELEVATION - TRUSS**



**PLAN - FLOOR BEAMS, STRINGERS, DIAPHRAGMS**

(Flanges 2"X22", Web 5/8"X46")  
 Diaphragm D3 = W8X31  
 Diaphragm D4 = W10X26



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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

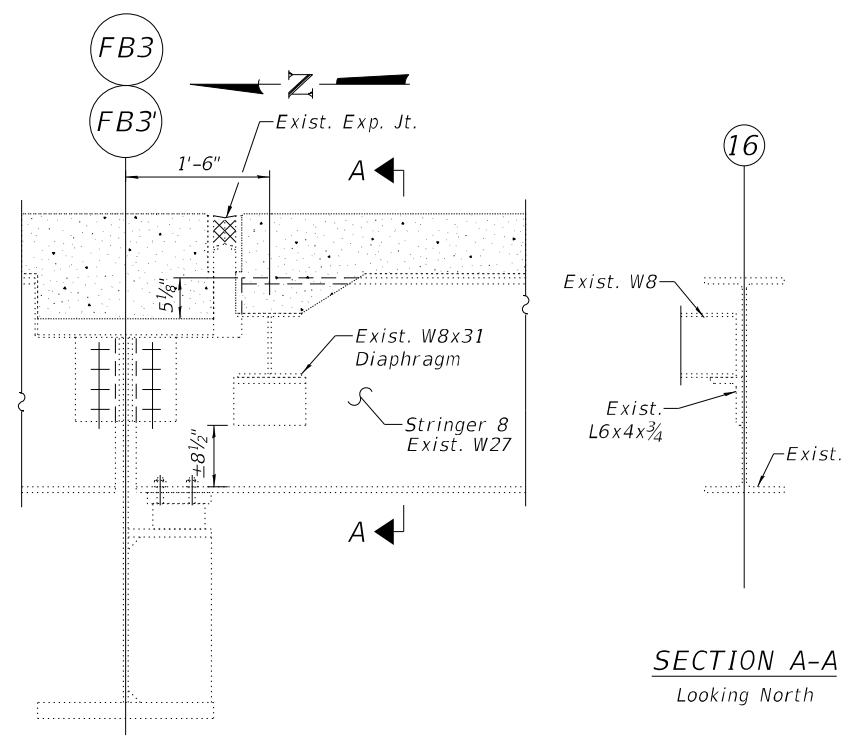
**EXISTING FRAMING PLAN**  
**NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159**

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CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

SB-03

SHEET SB-03 OF SB-06 SHEETS

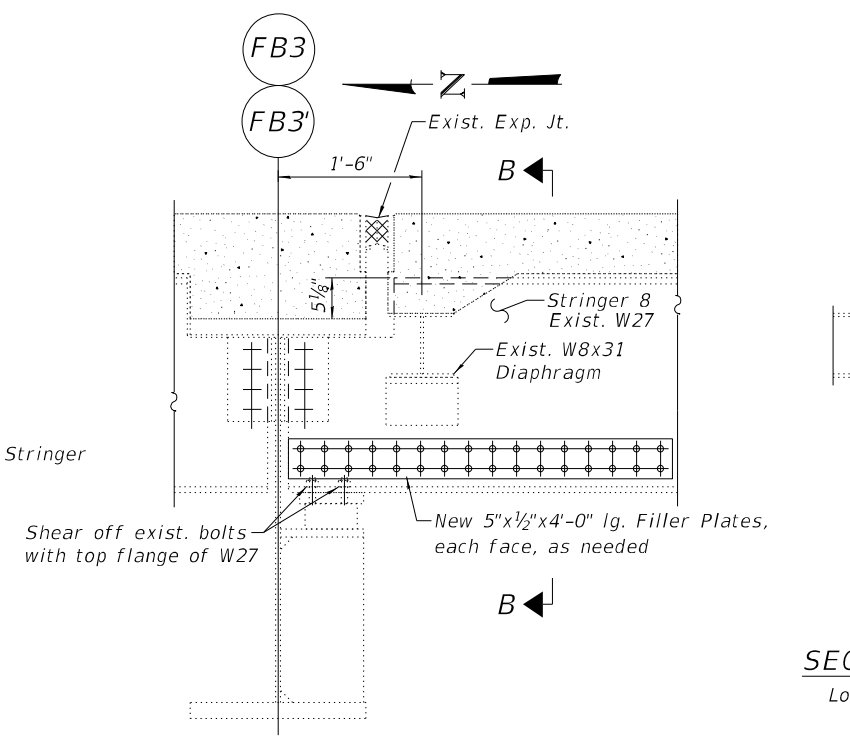
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**SECTION A-A**  
Looking North

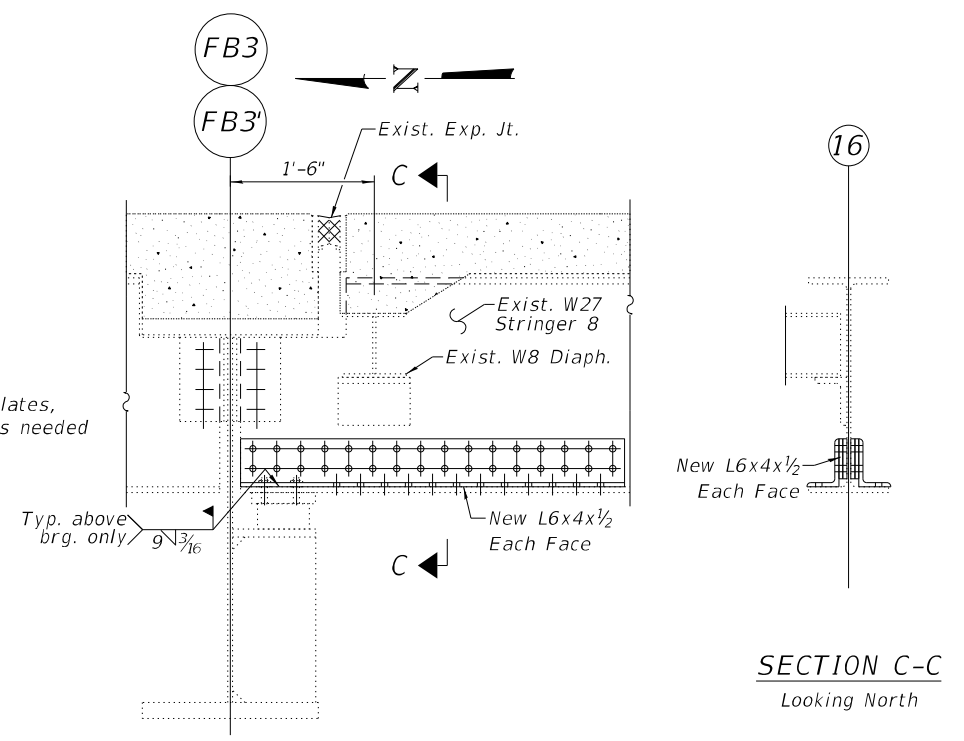
**REPAIRS 1 & 3 - EXISTING STRINGER 16**

R1 - FB3' South Beam-West Face - Photo 4  
 R3 - FB3 South Beam-West Face - Photo 6



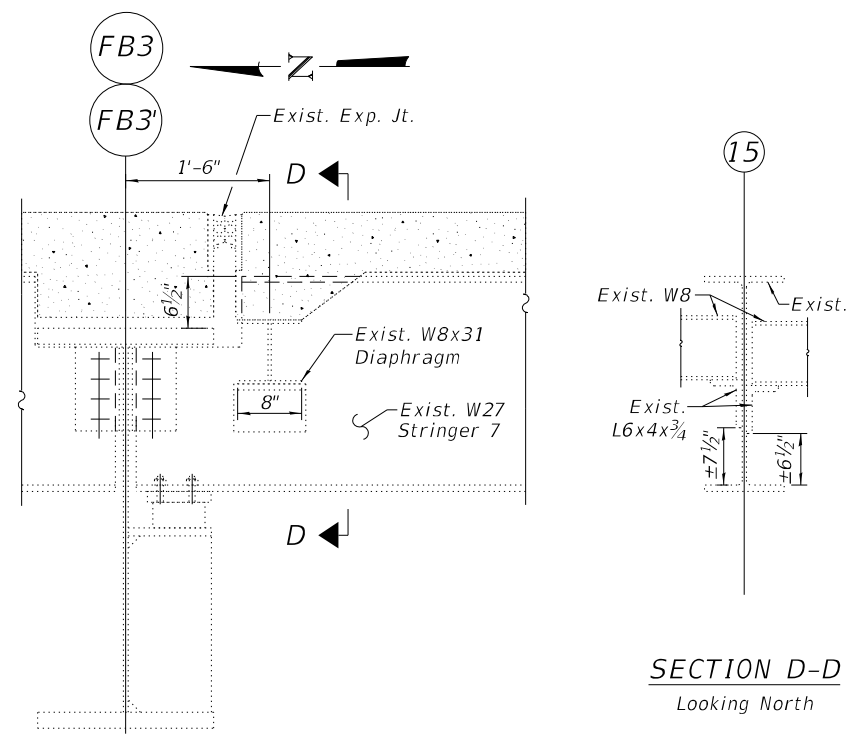
**SECTION B-B**  
Looking North

**REPAIRS 1 & 3 - SHOWING FILL PLATES**



**SECTION C-C**  
Looking North

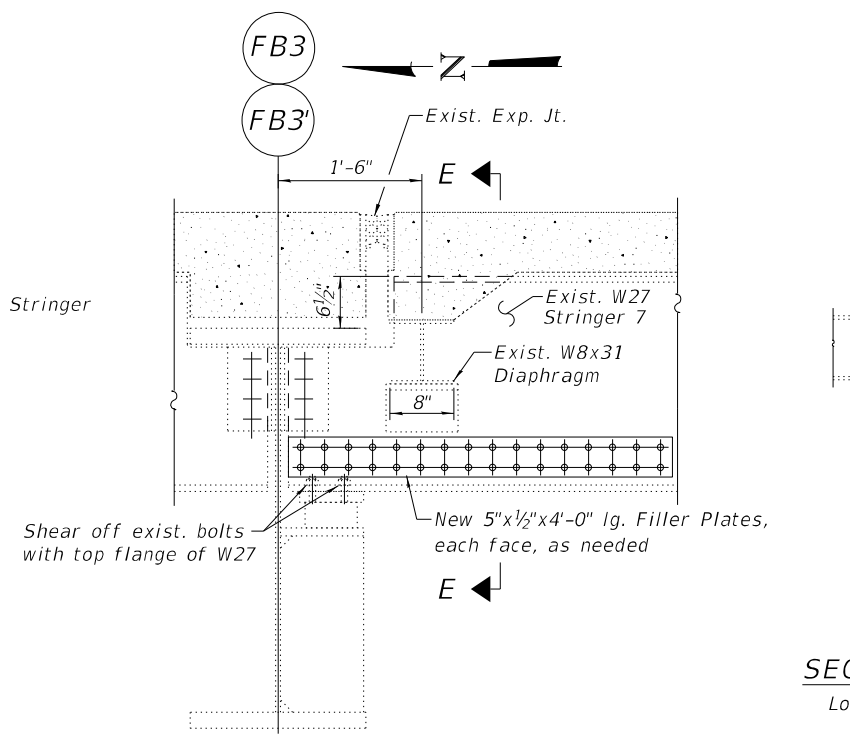
**REPAIRS 1 & 3 - SHOWING L6x4**



**SECTION D-D**  
Looking North

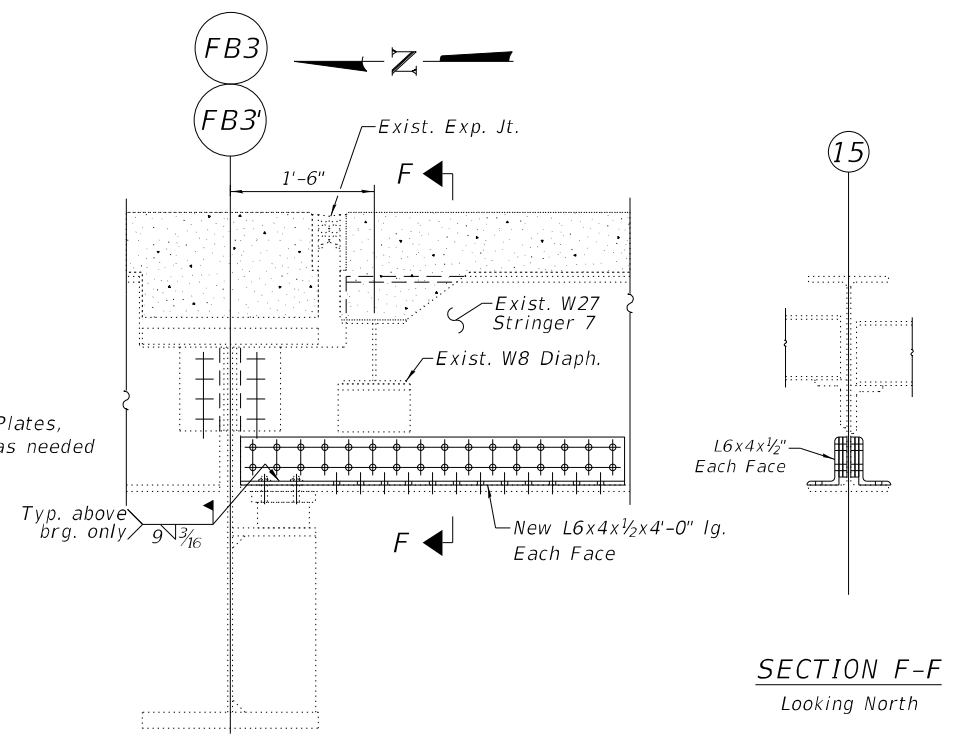
**REPAIRS 2 & 4 - EXISTING STRINGER 15**

R2 - FB3' South Beam-West Face - Photo 5  
 R4 - FB3 South Beam-East Face - Photo 7



**SECTION E-E**  
Looking North

**REPAIRS 2 & 4 - SHOWING FILL PLATES**



**SECTION F-F**  
Looking North

**REPAIRS 2 & 4 - SHOWING L6x4**



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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STEEL REPAIR DETAILS**  
**NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159**

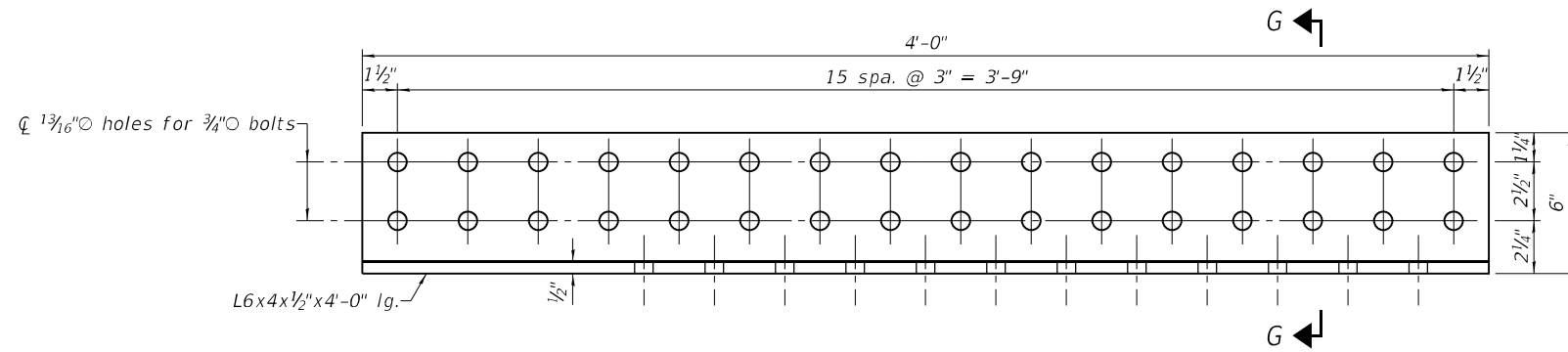
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CONTRACT NO.			62P55	

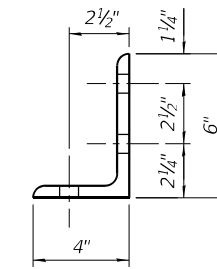
ILLINOIS FED. AID PROJECT

SB-04

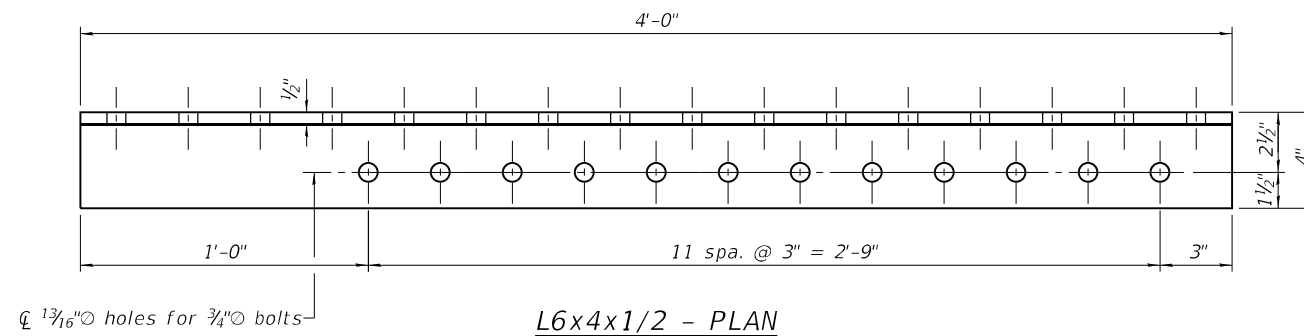




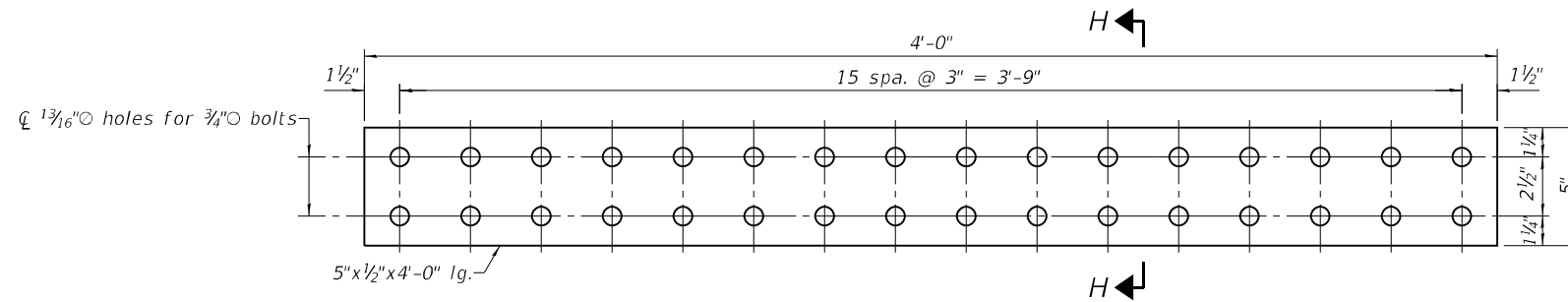
**L6x4x1/2 - ELEVATION**  
(8 Required - 4 As Shown, 4 Opposite Hand)



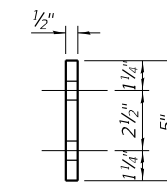
**SECTION G-G**



**L6x4x1/2 - PLAN**



**5"x1/2" FILL PLATE - ELEVATION**  
(As Needed)



**SECTION H-H**

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STEEL REPAIR DETAILS**  
**NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159**

SHEET SB-05 OF SB-06 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	17
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SB-05

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**PHOTO 4**

REPAIR 1 - LOOKING NORTHWEST



**PHOTO 5**

REPAIR 2 - LOOKING NORTHWEST



**PHOTO 6**

REPAIR 3 - LOOKING NORTHWEST



**PHOTO 7**

REPAIR 4 - LOOKING NORTHEAST

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 Chicago, Illinois 60606  
 312-464-0800  
 www.bowman.com

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PLOT DATE =	09/07/2021	CHECKED -	AJN	REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**REPAIR PHOTOS  
 NB I-94 OVER LITTLE CALUMET RIVER - SN 016-0159**

SHEET SB-06 OF SB-06 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	18
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SB-06

Existing Structure: Existing SN 016-0160 carrying mainline I-94 over IHB and CSX Railroads was reconstructed in 1991. The Existing Structure was built with stub abutments and multi-column piers. The bridge has 6 total spans with an overall length of 416'-7 7/8" and an out to out width of 123'-2".

**DESIGN STRESSES**

**FIELD UNITS (EXIST. CONST.)**

f'c = 3,500 psi  
 fy = 60,000 psi  
 fy = 50,000 psi M223 Gr.50 & M222  
 fy = 36,000 psi M183

**FIELD UNITS (NEW CONST.)**

fy = 36,000 psi (Structural Steel)

**DESIGN SPECIFICATIONS (EXIST.)**

ASHTO 1983 Standard Specifications for Highway Bridges & Interims

**LOADING HS 20-44 & ALT. (EXIST.)**

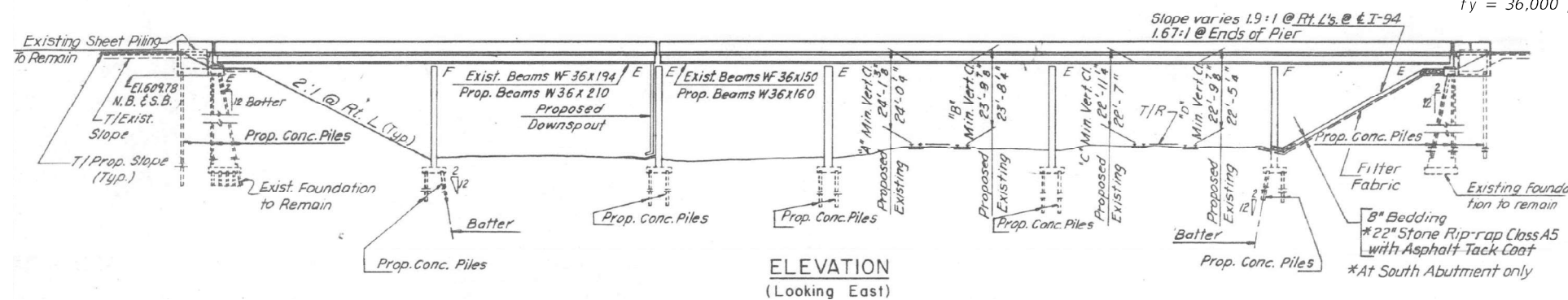
Allow 25 #/sq. ft. for Future Wearing Surface

**SCOPE OF WORK**

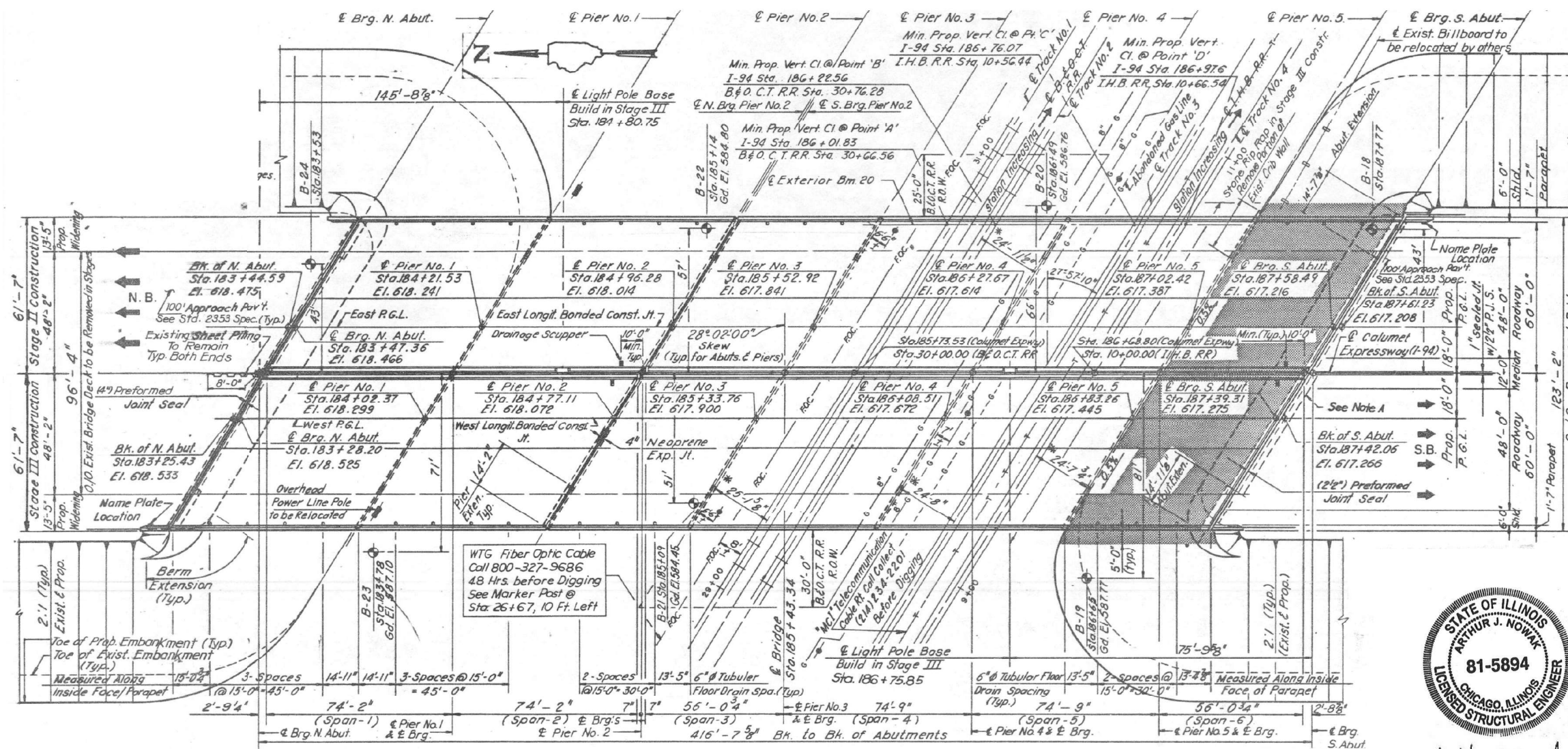
1. Steel Beam Repair
2. Clean bridge seat and apply Concrete Sealer to pier cap of pier 2

**INDEX OF SHEETS**

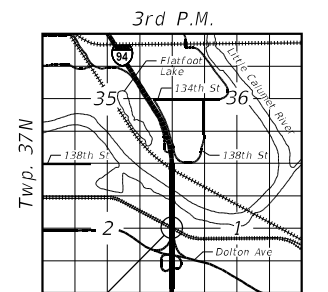
- SC-01 General Plan and Elevation
- SC-02 General Notes and Bill of Material
- SC-03 Steel Repair Locations
- SC-04 Repair Summary
- SC-05 To SC-12 Steel Repair Details
- SC-13 To SC-14 Repair Photos



**ELEVATION**  
(Looking East)



**PLAN**



SN 016-0160 Range 14E

**LOCATION SKETCH**

**GENERAL PLAN AND ELEVATION**  
**I-94 OVER IHB & CSX RAILROADS**  
**F.A.I. ROUTE 94**  
**COOK COUNTY**  
**STRUCTURE NO. 016-0160**



*Arthur Nowak*

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PLOT DATE =	09/07/2021	CHECKED -	AJN	REVISOR -	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-01 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

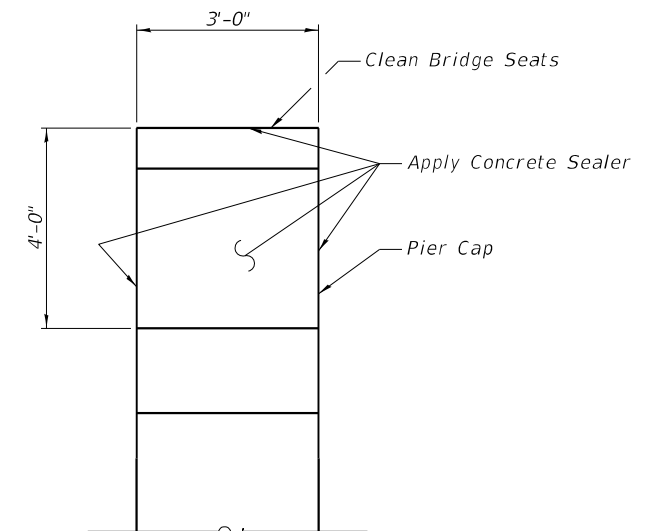
SC-01

**GENERAL NOTES**

1. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustment prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. All new fasteners shall be ASTM A325, Type 1 hot-dipped galvanized bolts. Holes shall be  $\frac{13}{16}$ " diameter for  $\frac{3}{4}$ " diameter bolts unless otherwise noted.
3. All Structural Steel shall conform to AASHTO M270 Grade 36 Unless otherwise noted.
4. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in "Structural Steel Repair".
6. Cost of field welding is included with the cost of Structural Steel Repair.
7. All repair materials including structural steel plates, bolts, nuts, and washers shall be galvanized per the special provision "Hot Dip Galvanizing for Structural Steel". Cost included in "Structural Steel Repair".
8. During repair operations, the Contractor shall locate and protect all utilities or facilities in the vicinity of the work including, but not limited to, fiber optic and/or electrical conduits attached to the structure. This work shall be performed to the satisfaction of the Engineer and will not be paid for separately, but shall be included with Structural Steel Repair. It shall be the Contractor's responsibility to restore and replace any damaged utilities or facilities to the satisfaction of the Engineer at no cost to the Department.
9. Use holes in new steel as template to field drill holes in existing steel.
10. All repair plates are non Fracture Critical Members.
11. All connection bolts and fasteners shall be paid for as Structural Steel Repair.
12. No field welding is permitted except as shown or specified in the contract documents.
13. Top surface of the pier cap at Pier 2 shall be cleaned of all debris prior to installation of concrete sealer.
14. Concrete Sealer shall be applied to the top face and sides of the pier cap at Pier 2.
15. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.

**BILL OF MATERIAL**

PAY ITEM	DESCRIPTION	UNIT	SUPER	SUB	TOTAL
58700300	Concrete Sealer	SQ FT	-	1,522	1,522
Z0001905	Structural Steel Repair	POUND	7,470	-	7,470
Z0010400	Cleaning Bridge Seats	SQ FT	-	409	409



**END OF PIER 2**

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<b>Bowman</b> 311 S. Wacker Drive, Suite 1950 Chicago, Illinois 60606 312-464-0800 www.bowman.com	USER NAME = atiemann	DESIGNED - AT, JK	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

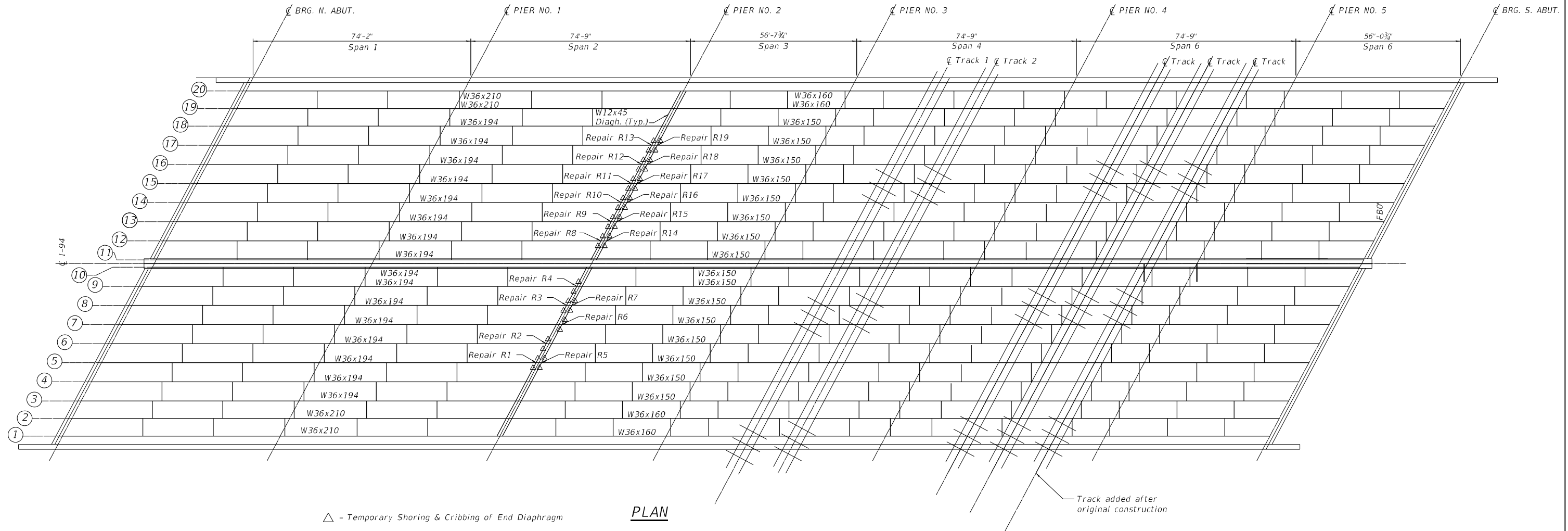
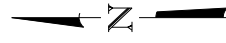
**GENERAL NOTES, WELDING NOTES, AND BILL OF MATERIAL  
I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-02 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	20
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

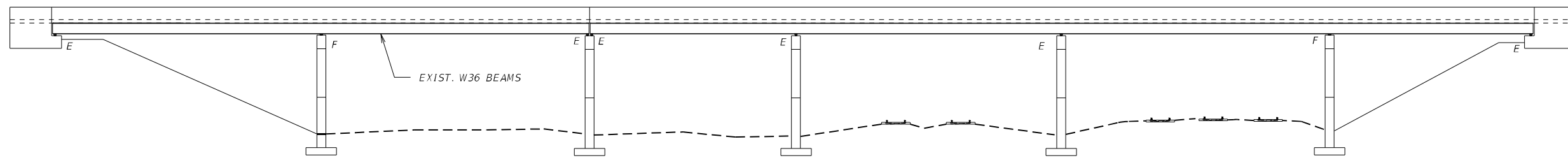
SC-02





△ - Temporary Shoring & Cribbing of End Diaphragm

Track added after original construction



MODEL: Model  
 FILE NAME: P:\040058 - IDOT\040058-01-002 (ENG) - PTB\_195-016 Phase II Var VanEngineering\WO\_13 - 94 over IHB & CSX Railroads - SN 016-0160 Framing Plan.dgn  
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		CHECKED -	AJN	REVISED -	

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**DEPARTMENT OF TRANSPORTATION**

**EXISTING FRAMING PLAN**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	21
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

SC-03

SHEET SC-03 OF SC-14 SHEETS

MODEL: Default  
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NO	PIER	SPAN	DIRECTION	BEAM	PHOTOS*	EXISTING BEAM	NEW STEEL
						WSHAPE	
R1	2	2	SB	5	1 & 2	W36 X 194	**WP1(2), WP2(2), A1(2), CA1(2)
R2	2	2	SB	6	3, 4 & 5	W36 X 194	WP3(2), WP4(2), A2(2), CA1(2)
R3	2	2	SB	8	8 & 9	W36 X 194	WP5(2), A3(2), CA1(2)
R4	2	2	SB	9	10 & 11	W36 X 194	WP5(2), A3(2), CA1(2)
R5	2	3	SB	5	1 & 2	W36 X 150	WP6(2), WP7(2), A4(2), CA1(2)
R6	2	3	SB	7	6 & 7	W36 X 150	WP6(2), WP8(2), A5(2), CA1(2)
R7	2	3	SB	8	8 & 9	W36 X 150	WP3(2), WP2(2), A1(2), CA1(2)
R8	2	2	NB	12	12 & 13	W36 X 194	WP6(2), WP4(2), A2(2), CA1(2)
R9	2	2	NB	13	14 & 15	W36 X 194	WP6(2), WP4(2), A2(2), CA1(2)
R10	2	2	NB	14	16 & 17	W36 X 194	WP1(2), WP4(2), A2(2), CA1(2)
R11	2	2	NB	15	18 & 19	W36 X 194	WP1(2), WP4(2), A2(2), CA1(2)
R12	2	2	NB	16	20 & 21	W36 X 194	WP1(2), WP4(2), A2(2), CA1(2)
R13	2	2	NB	17	22 & 23	W36 X 194	WP1(2), WP4(2), A2(2), CA1(2)
R14	2	3	NB	12	12 & 13	W36 X 150	WP1(2), WP7(2), A4(2), CA1(2)
R15	2	3	NB	13	14 & 15	W36 X 150	WP3(2), WP2(2), A1(2), CA1(2)
R16	2	3	NB	14	16 & 17	W36 X 150	WP1(2), WP8(2), A5(2), CA1(2)
R17	2	3	NB	15	18 & 19	W36 X 150	WP1(2), WP2(2), A1(2), CA1(2)
R18	2	3	NB	16	20 & 21	W36 X 150	WP1(2), WP4(2), A2(2), CA1(2)
R19	2	3	NB	17	22 & 23	W36 X 150	WP1(2), WP4(2), A2(2), CA1(2)

\* SEE REPAIR PHOTOS SHEETS

\*\*WP1(2) = 2 Web Plate 1's Required  
 A1(2) = 2 Angle 1's Required  
 CA1(2) = 2 Clip Angle 1's Required



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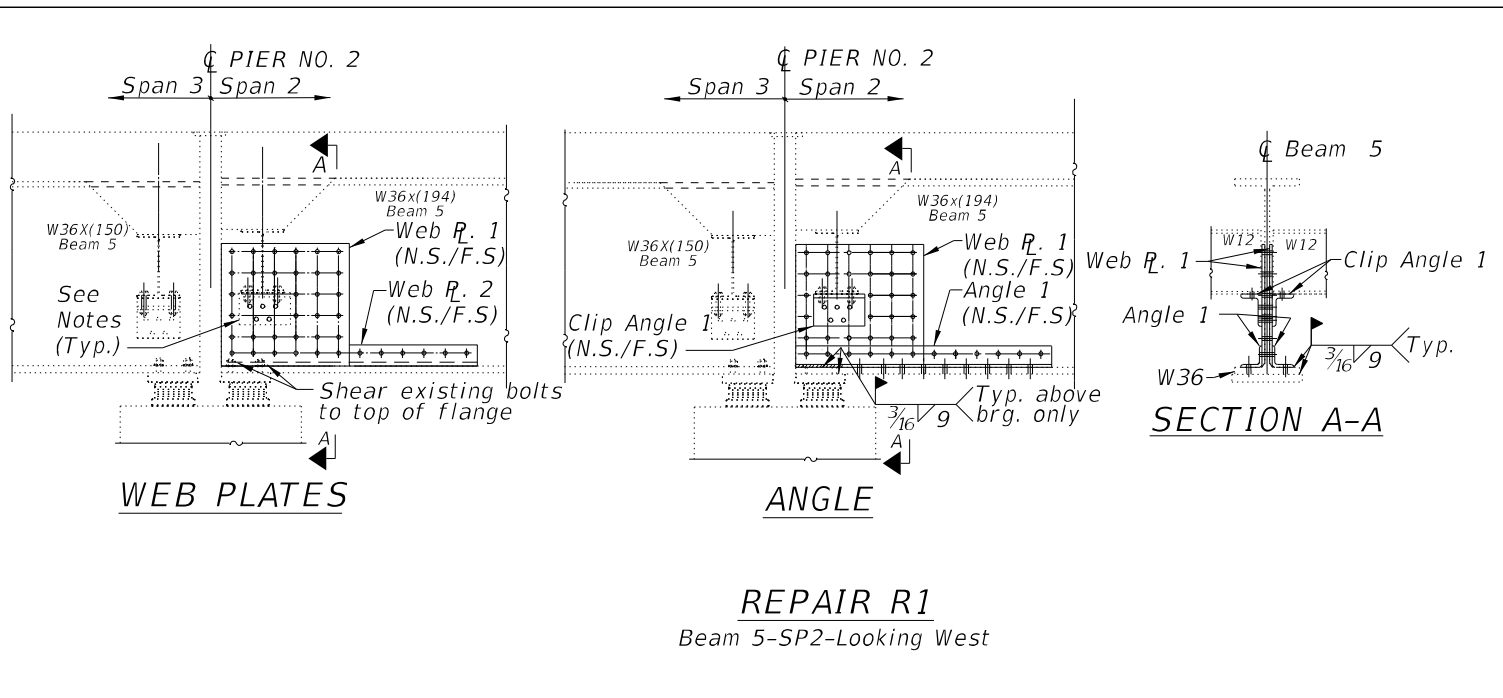
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

REPAIR SUMMARY	
I-94 OVER IHB & CSX RAILROADS - SN 016-0160	
SHEET SC-04 OF SC-14 SHEETS	

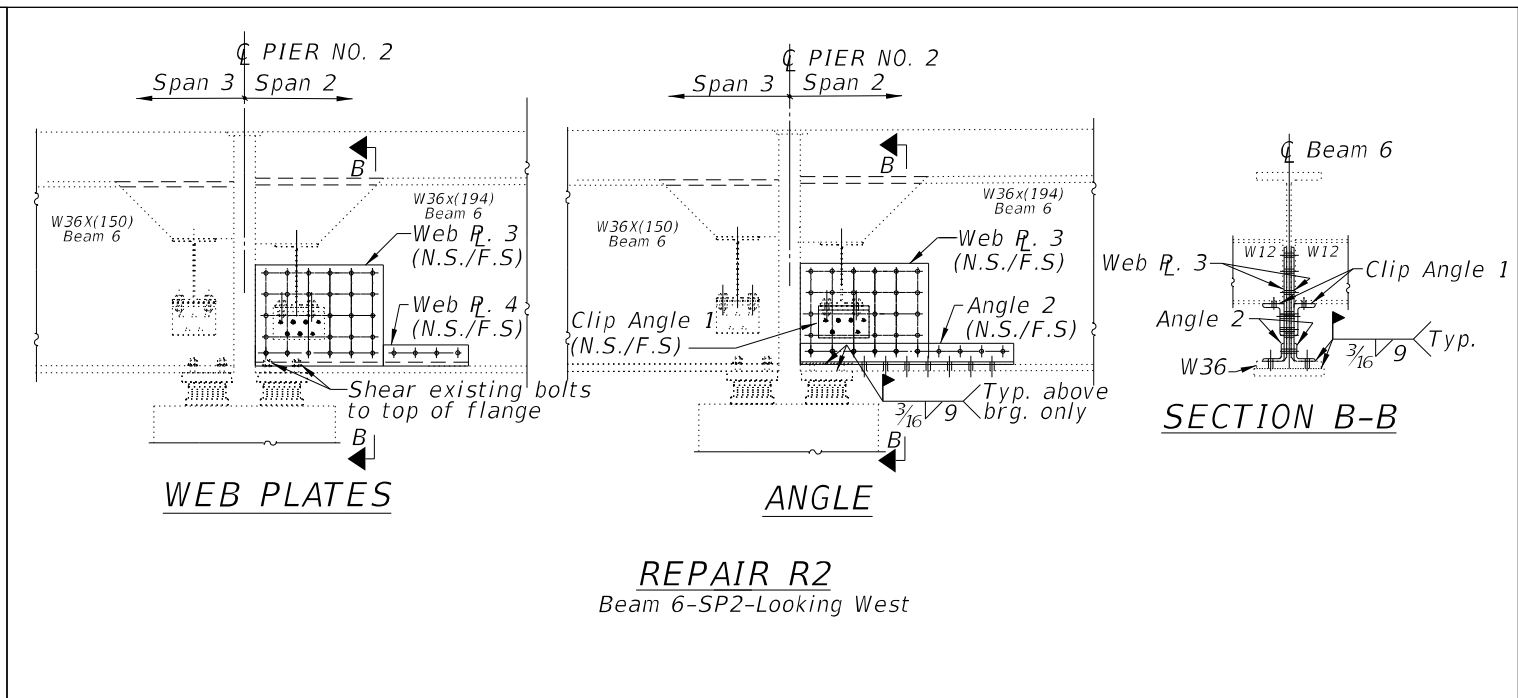
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94	2021-137-BR	COOK	33	22
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62P55	

SC-04

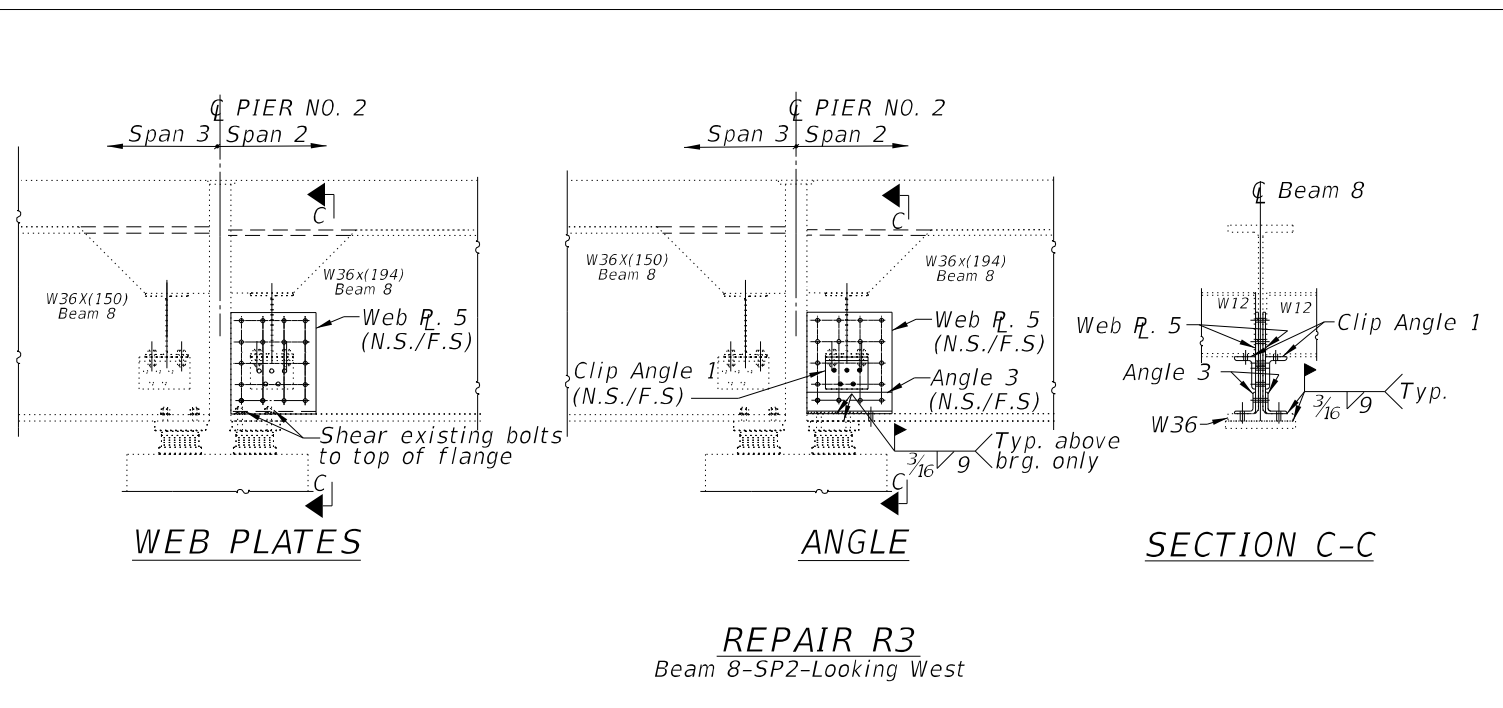
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 312-414-0580  
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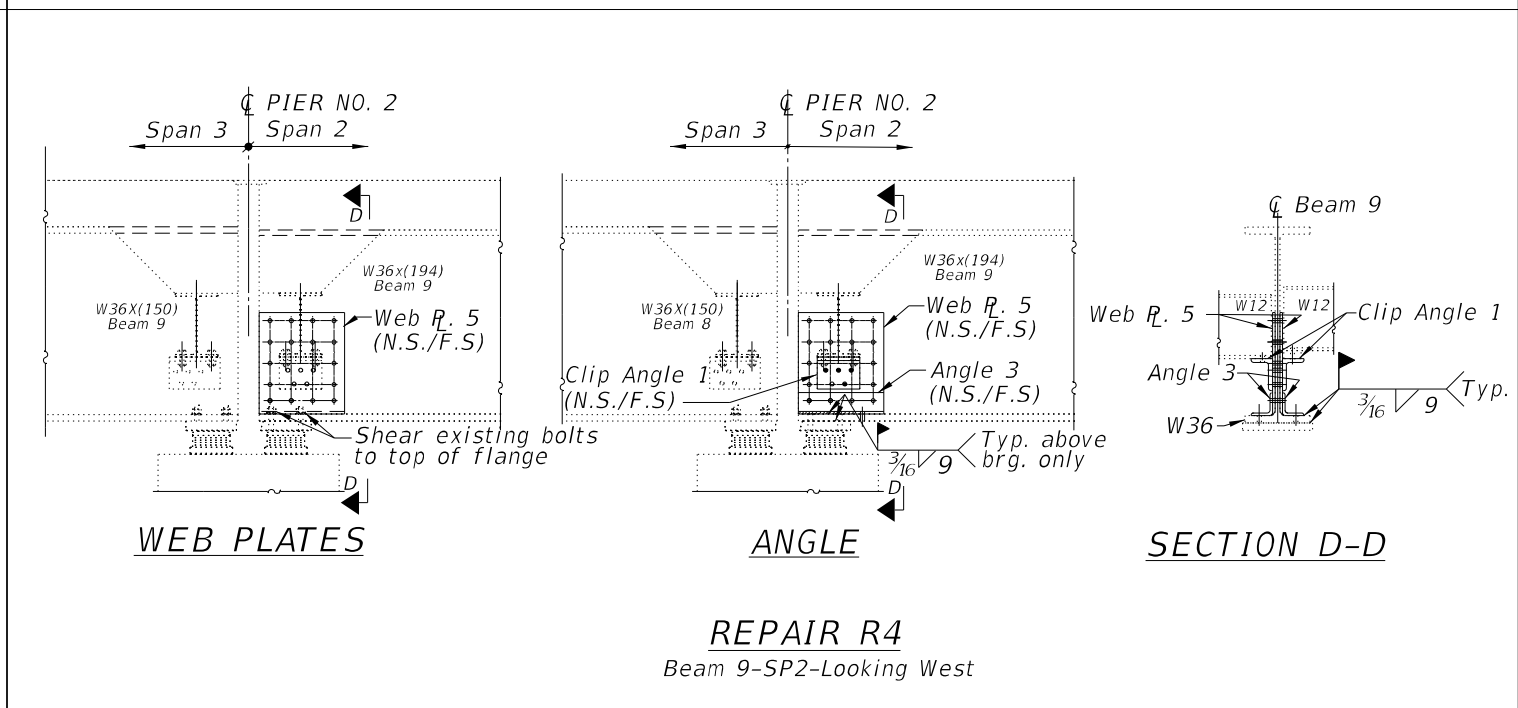
**REPAIR R1**  
Beam 5-SP2-Looking West



**REPAIR R2**  
Beam 6-SP2-Looking West



**REPAIR R3**  
Beam 8-SP2-Looking West



**REPAIR R4**  
Beam 9-SP2-Looking West

**Notes:**

1. Field verify all dimensions prior to fabrication.
2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.



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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

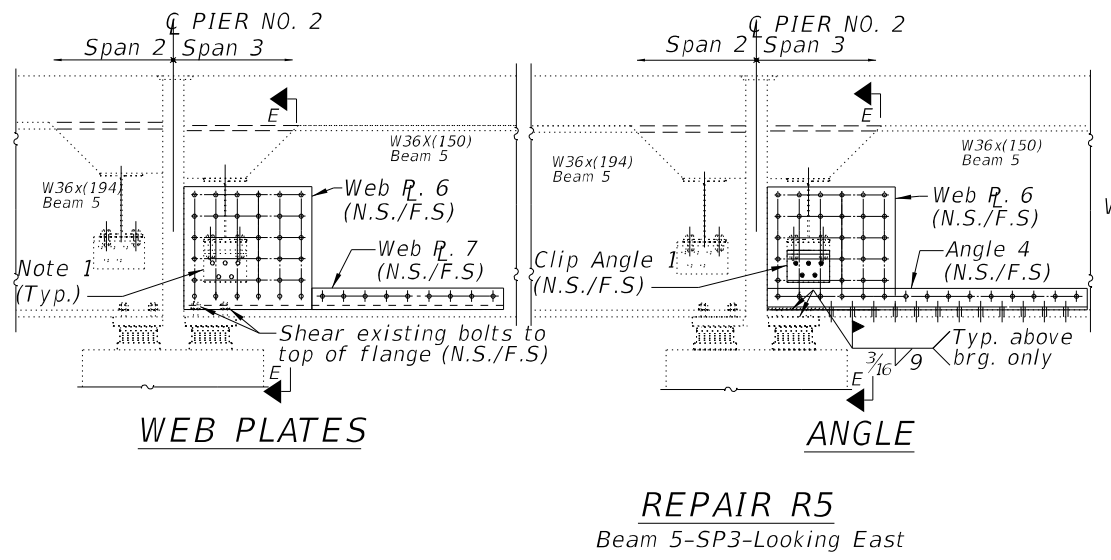
**STEEL REPAIRS - SPAN 2-SB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-05 OF SC-14 SHEETS

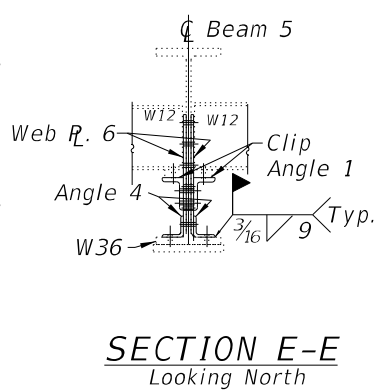
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CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

SC-05

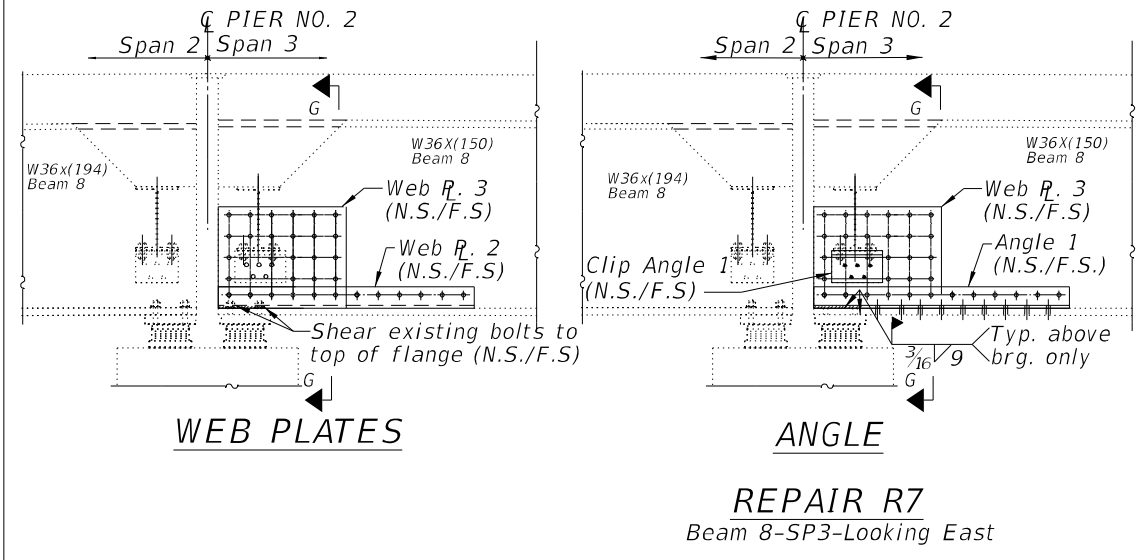
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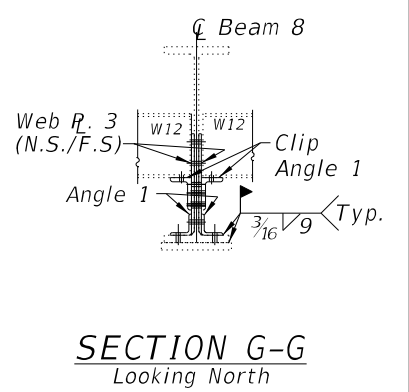
**REPAIR R5**  
Beam 5-SP3-Looking East



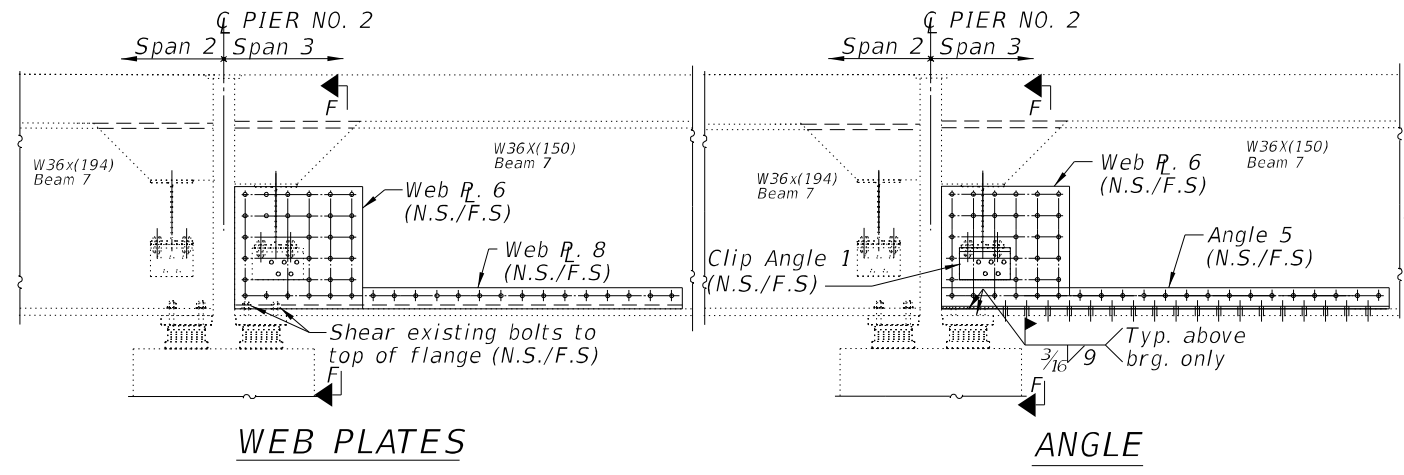
**SECTION E-E**  
Looking North



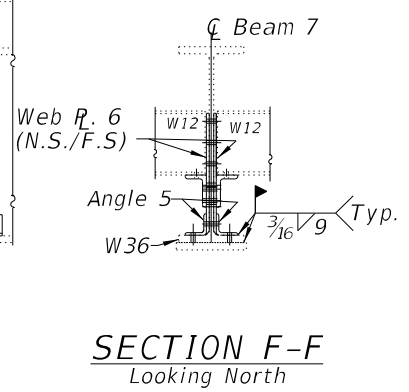
**REPAIR R7**  
Beam 8-SP3-Looking East



**SECTION G-G**  
Looking North



**REPAIR R6**  
Beam 7-SP3-Looking East



**SECTION F-F**  
Looking North

**Notes:**

1. Field verify all dimensions prior to fabrication.
2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.



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**DEPARTMENT OF TRANSPORTATION**

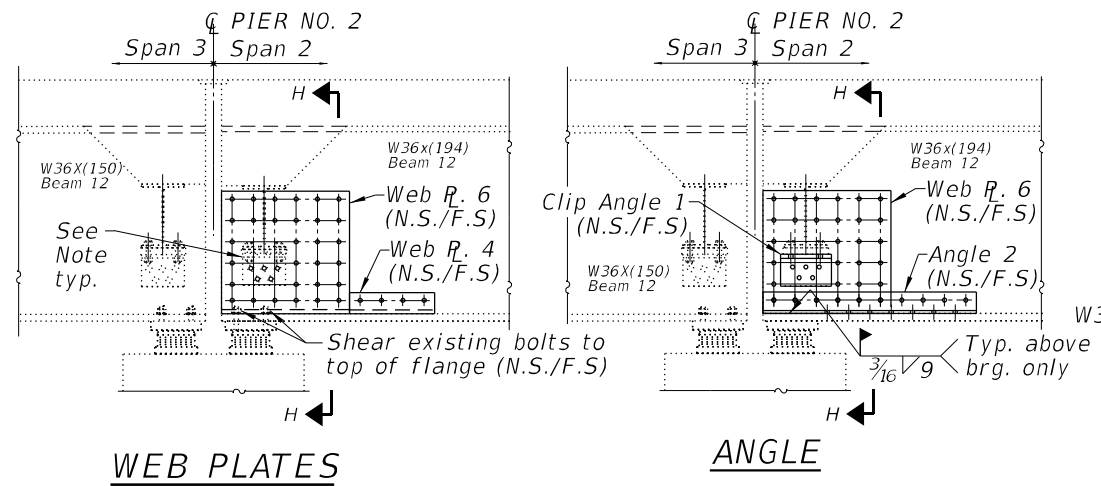
**STEEL REPAIRS - SPAN 3-SB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-06 OF SC-14 SHEETS

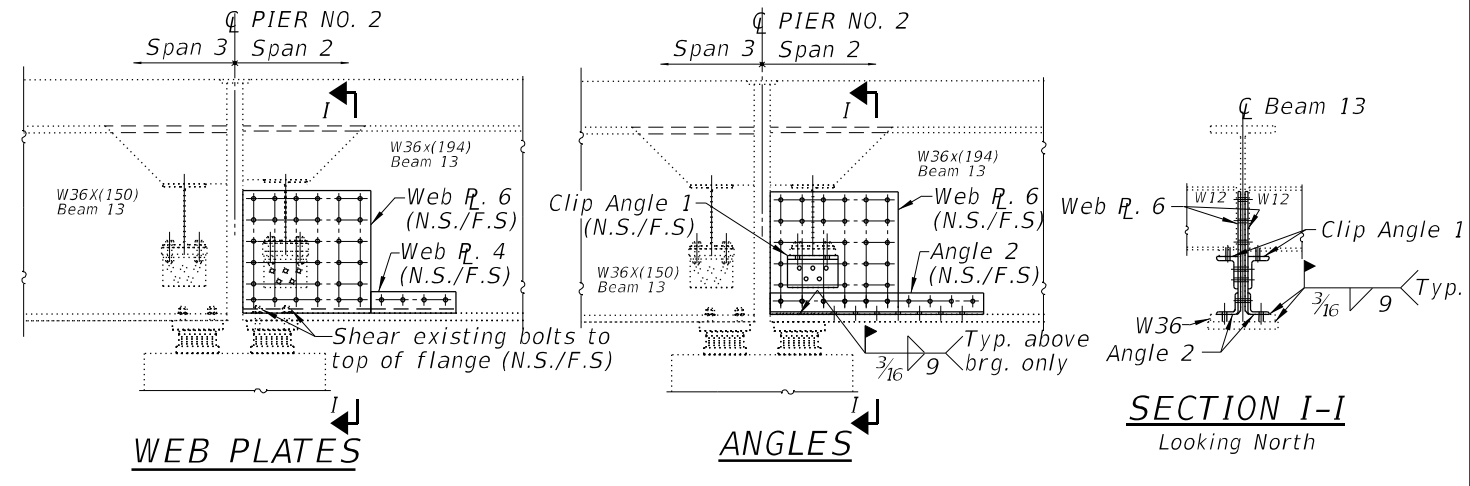
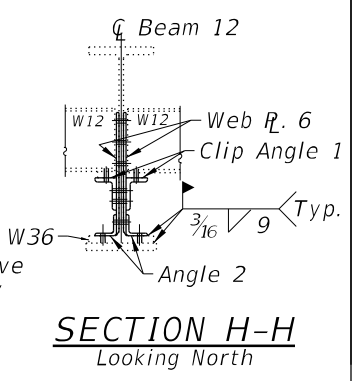
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-06

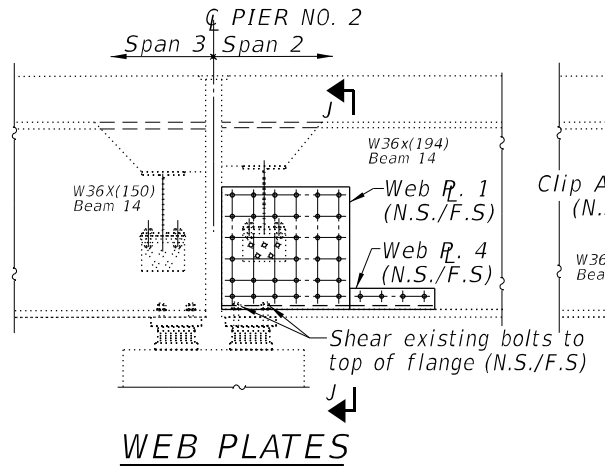
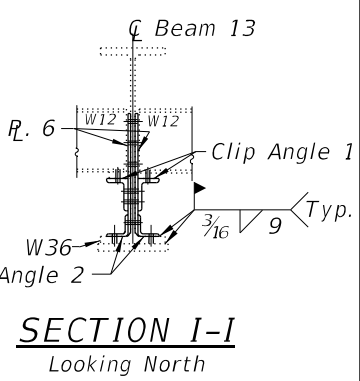
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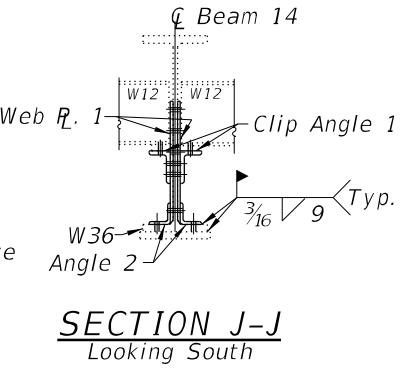
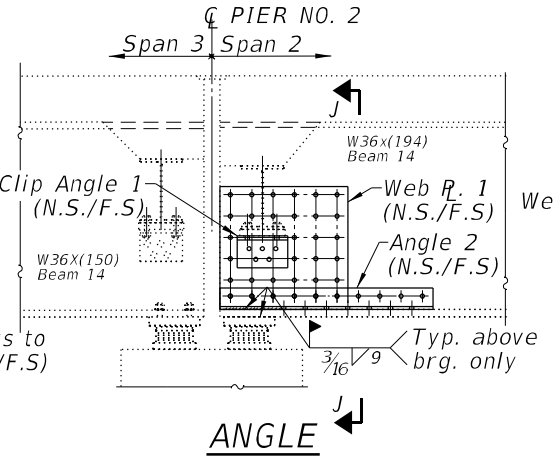
**REPAIR R8**  
Beam 12-SP2-Looking West



**REPAIR R9**  
Beam 13-SP2-Looking West



**REPAIR R10**  
Beam 14-SP2-Looking West



- Notes:**
1. Field verify all dimensions prior to fabrication.
  2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
  3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.



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**DEPARTMENT OF TRANSPORTATION**

**STEEL REPAIRS - SPAN 2-NB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

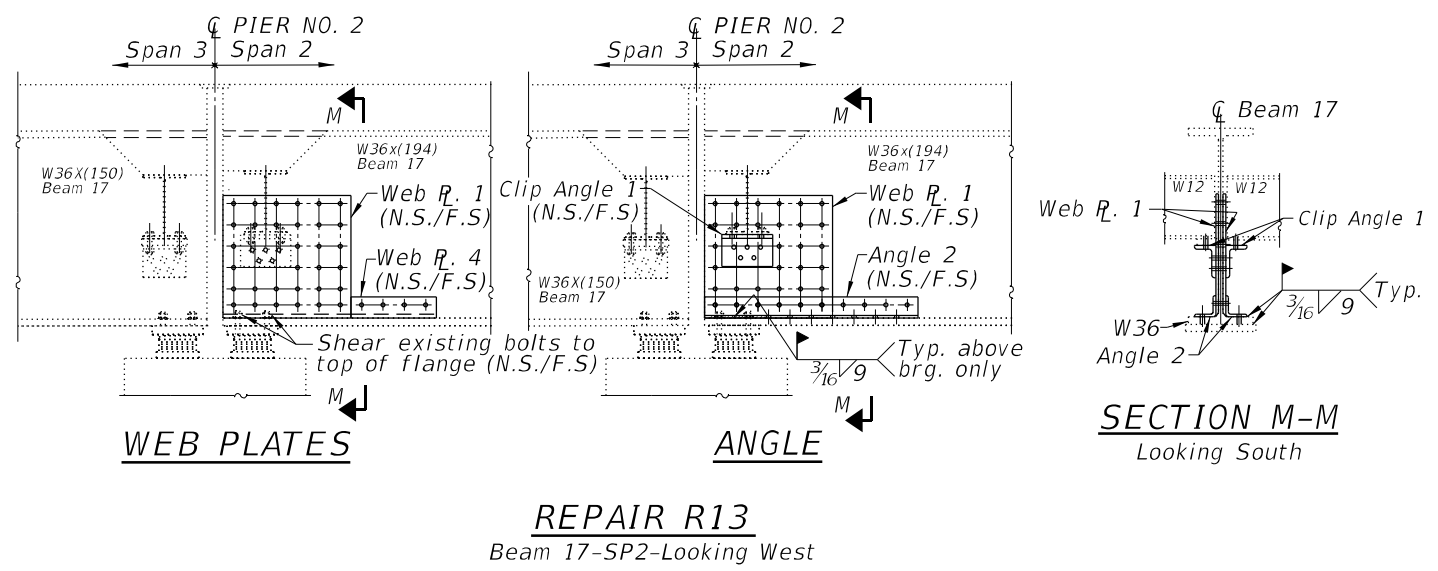
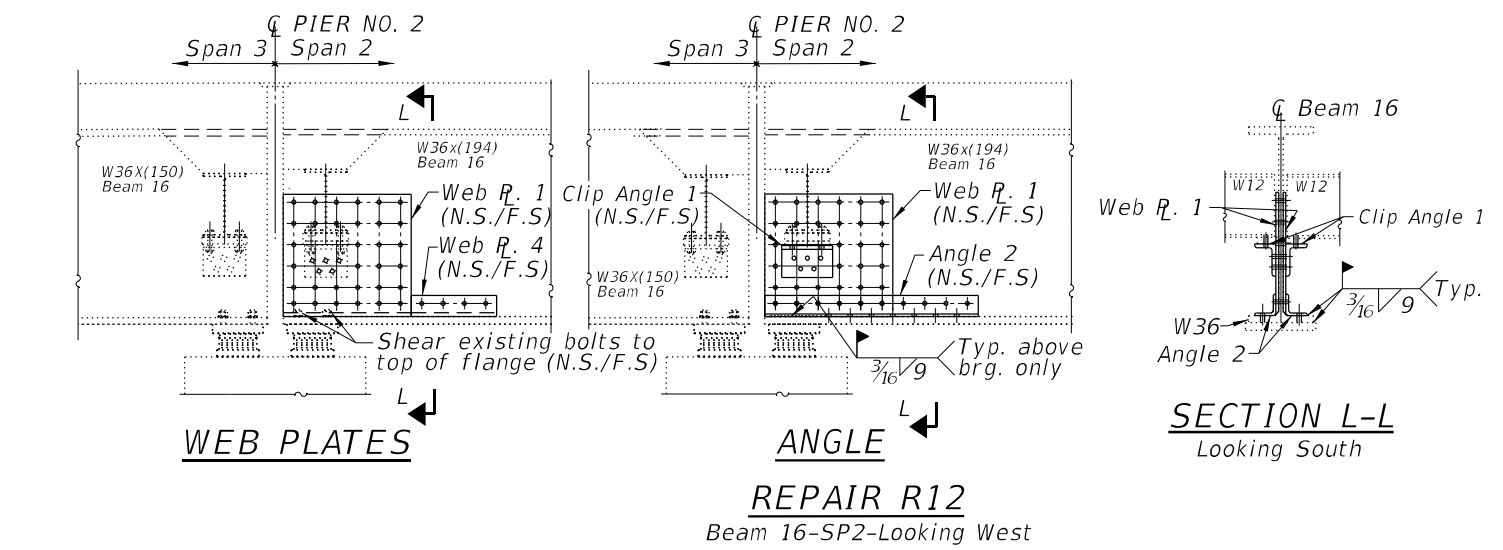
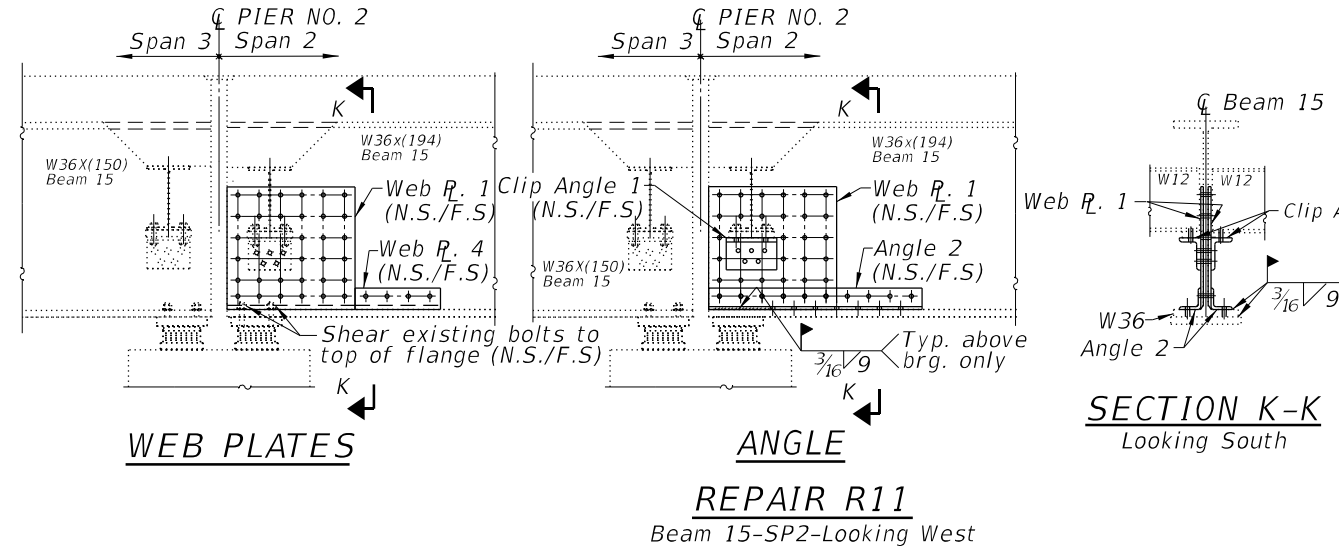
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-07



MODEL: D162P55-0160160 R2  
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**Notes:**

1. Field verify all dimensions prior to fabrication.
2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.



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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

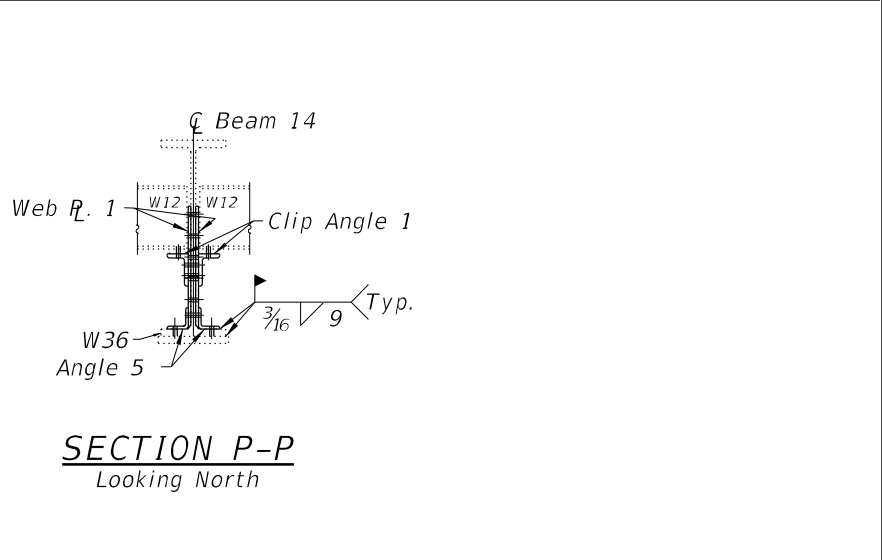
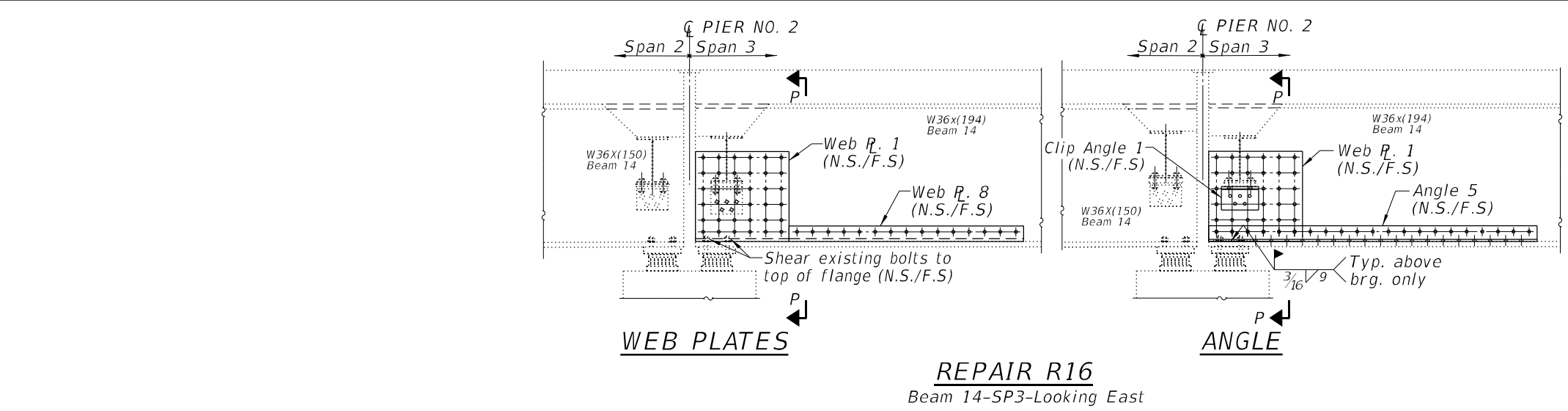
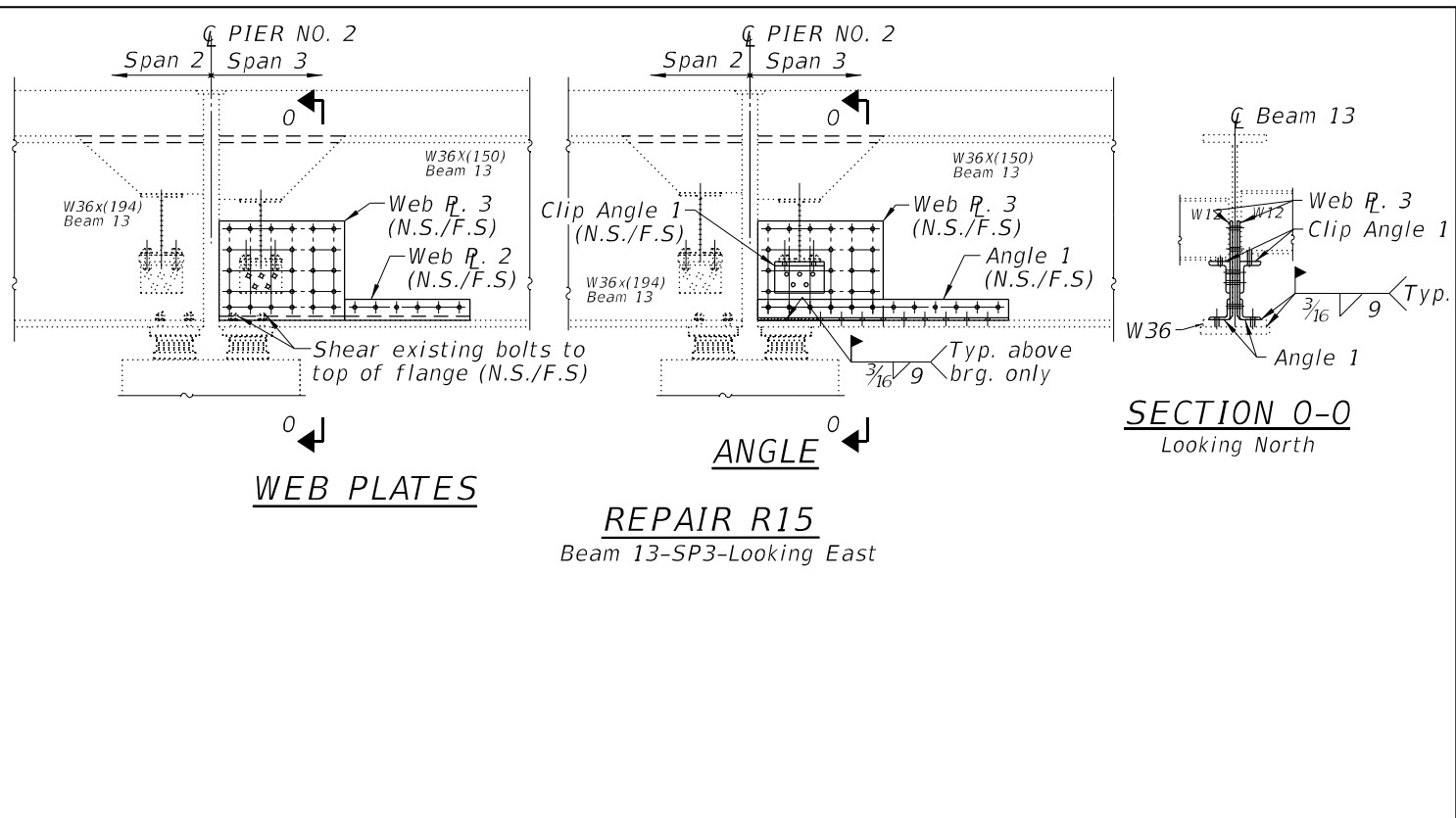
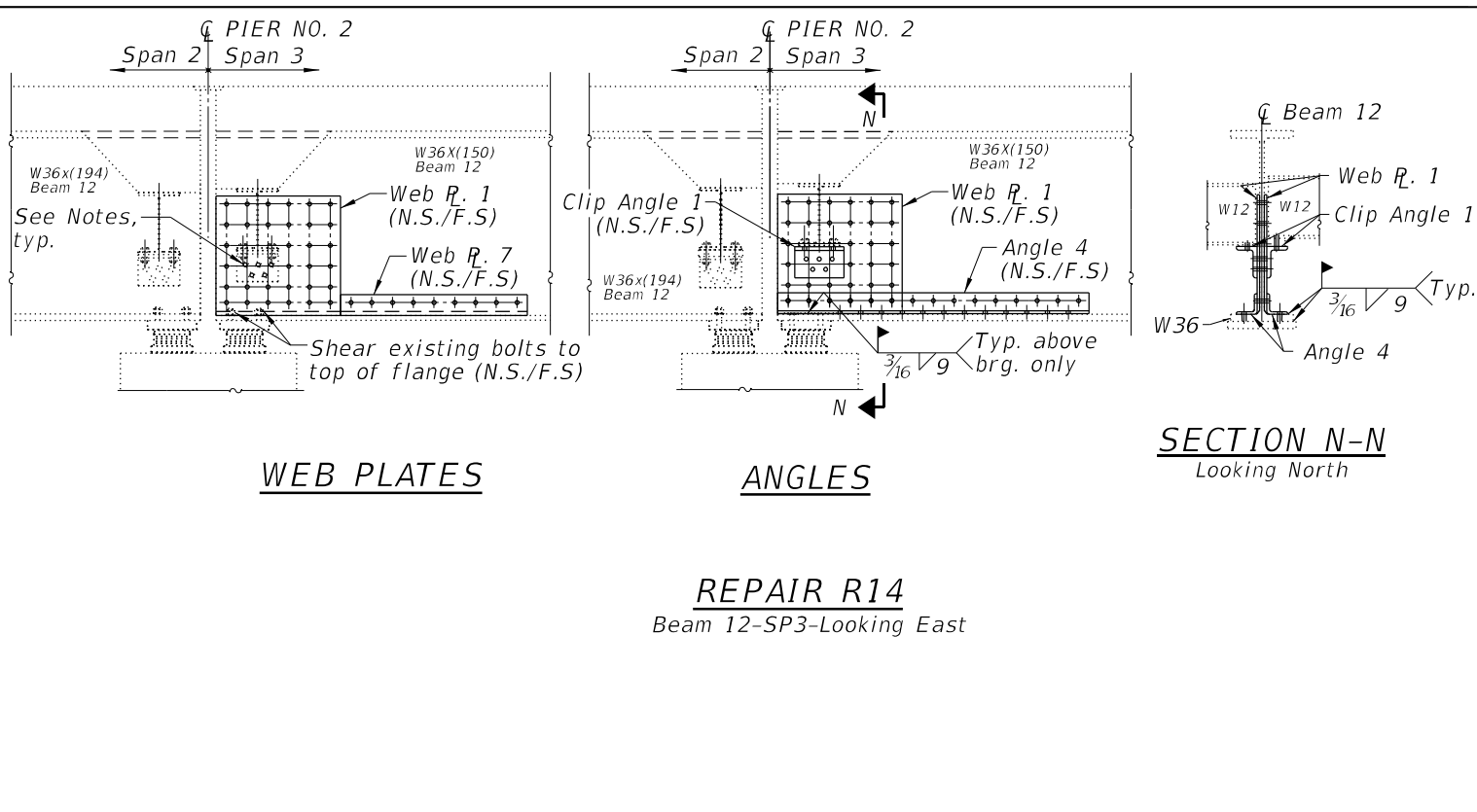
**STEEL REPAIRS - SPAN 2-NB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-08 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	26
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

SC-08

MODEL: D162P55-0160160 R1  
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**Notes:**

1. Field verify all dimensions prior to fabrication.
2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

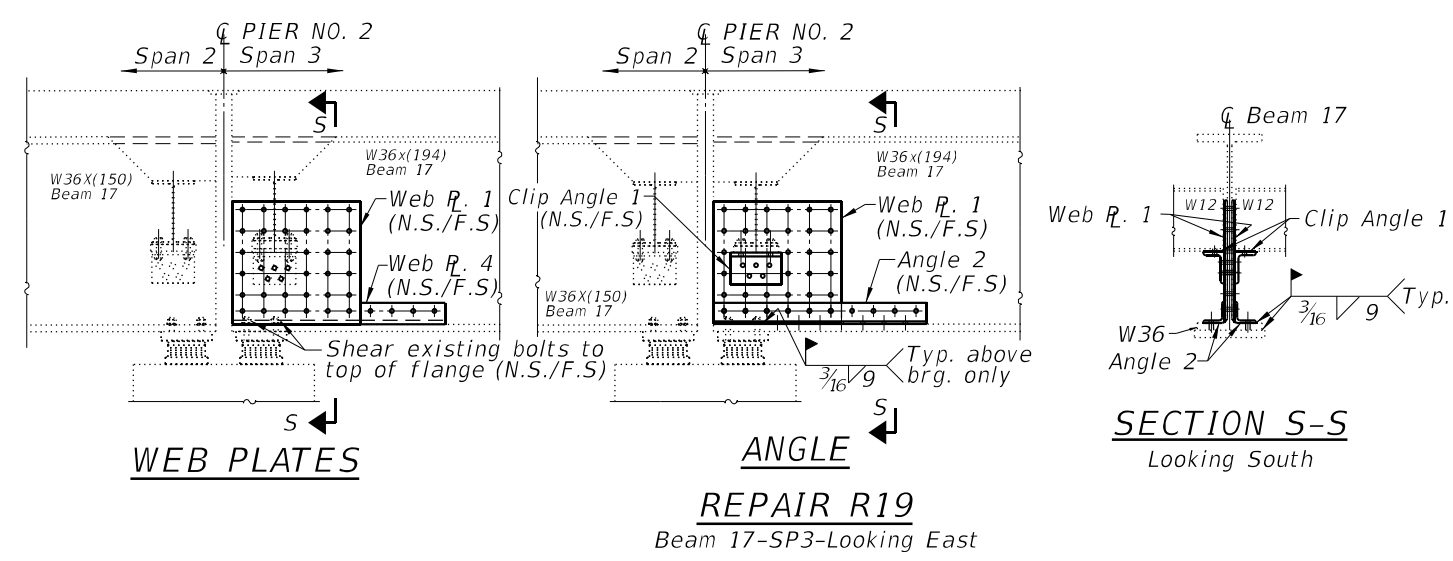
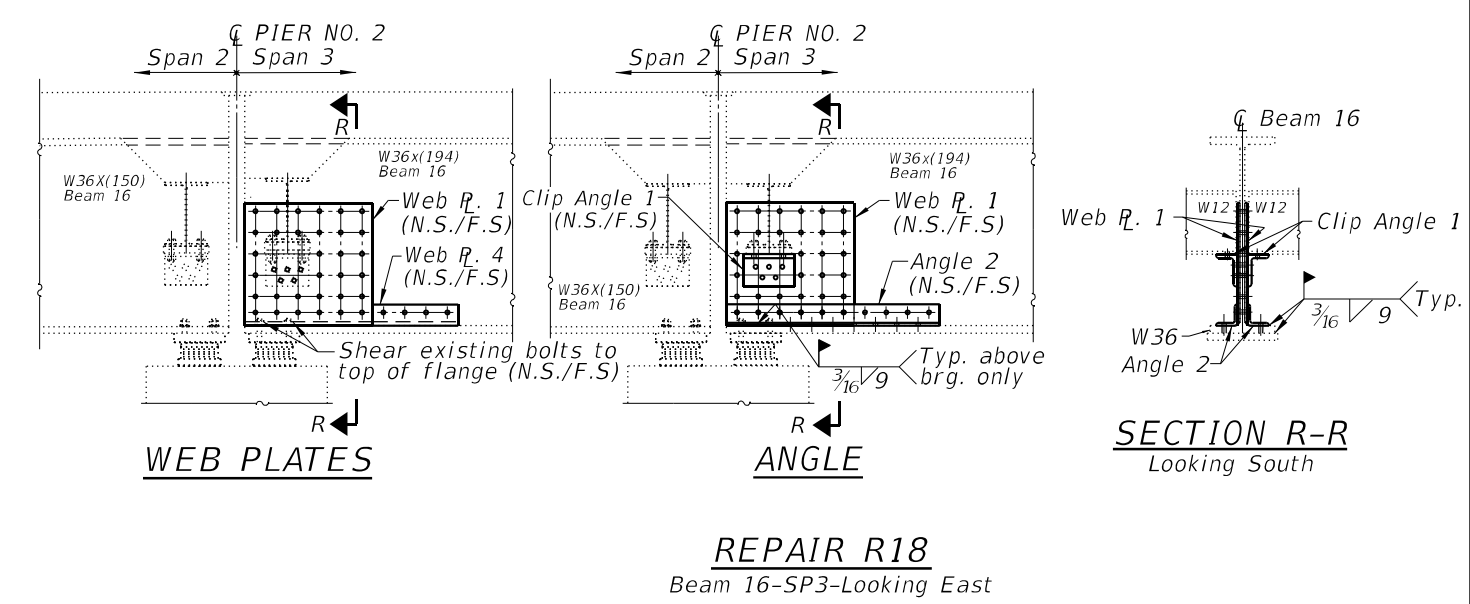
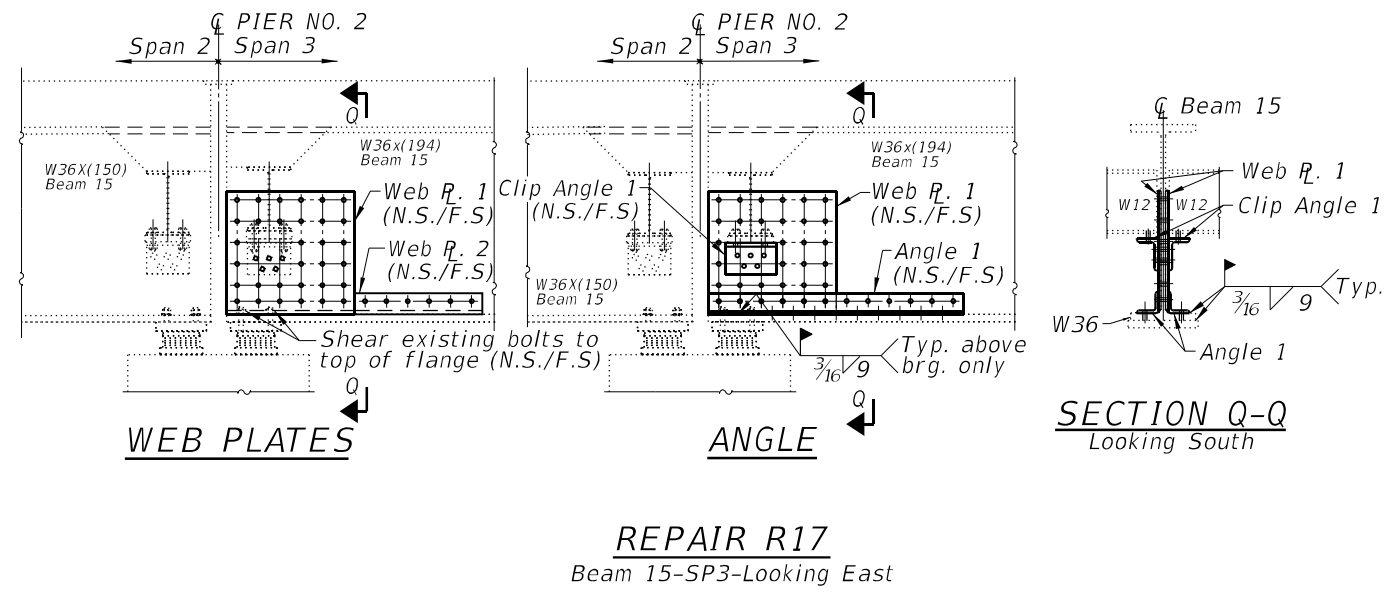
**STEEL REPAIRS - SPAN 3-NB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-09 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	27
CONTRACT NO.			62P55	
ILLINOIS FED. AID PROJECT				

SC-09

MODEL: D:162P55-0160160 R2  
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**Notes:**

1. Field verify all dimensions prior to fabrication.
2. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans specified in the Special Provision shall be included with Structural Steel Repair.
3. The cribbing installation under the end diaphragms must be able to support 400# of weight under the diaphragm.



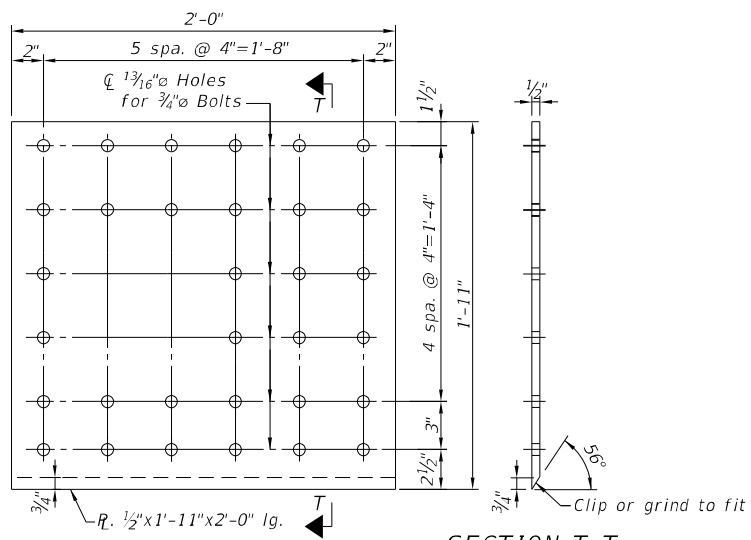
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

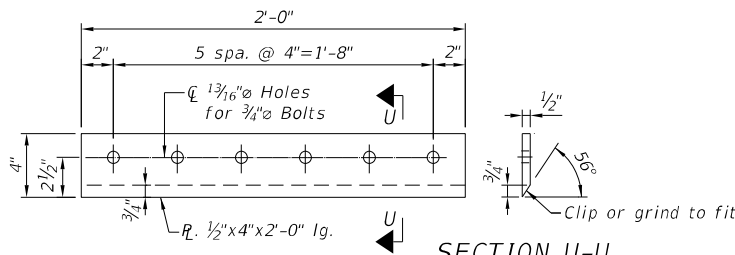
**STEEL REPAIRS - SPAN 3-NB**  
**I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

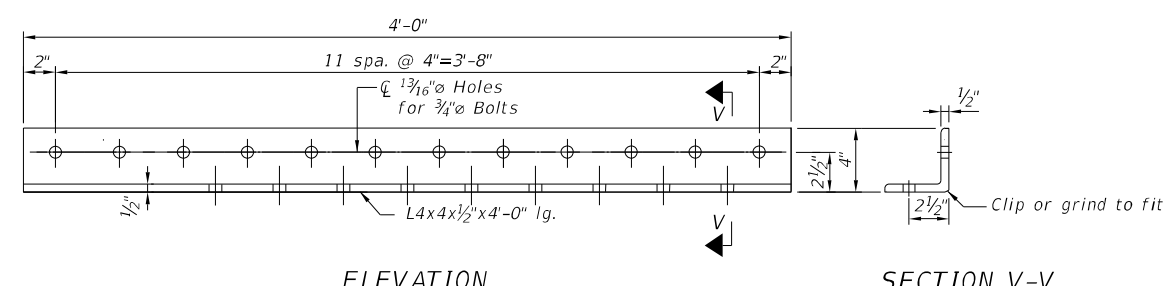
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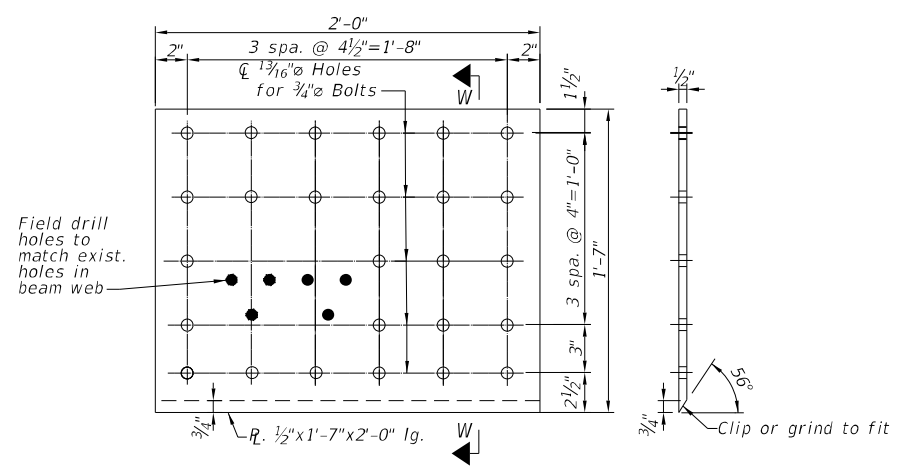
**WEB PLATE 1**  
 Repairs R1, R10, R11, R12, R13, R14, R16, R17, R18, R19  
 (2 required each)



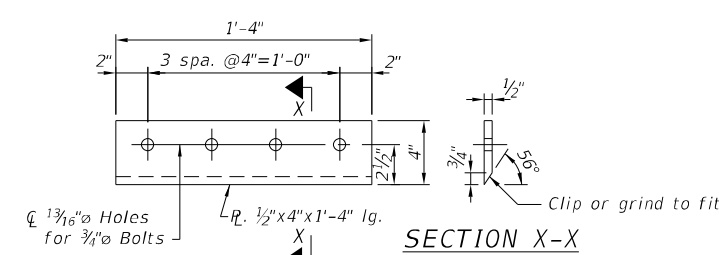
**WEB PLATE 2**  
 Repair R1 (2 required)  
 Repair R7 (2 required)  
 Repair R15 (2 required)  
 Repair R17 (2 required)



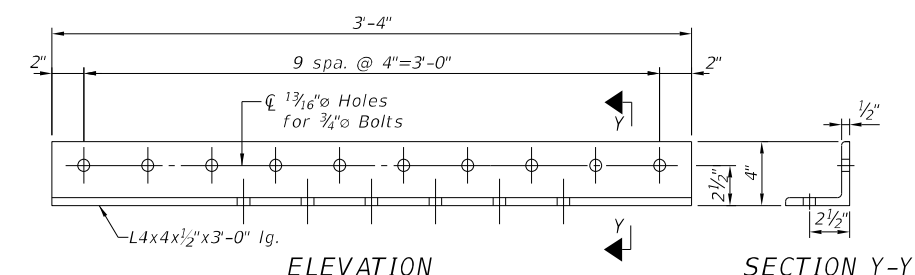
**ANGLE 1**  
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 Repair R7 (2 required)  
 Repair R15 (2 required)  
 Repair R17 (2 required)



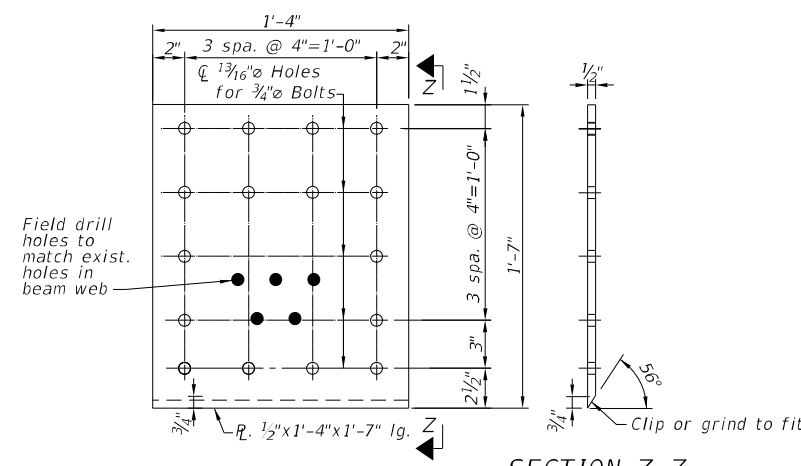
**WEB PLATE 3**  
 Repair R2 (2 required)  
 Repair R7 (2 required)  
 Repair R15 (2 required)



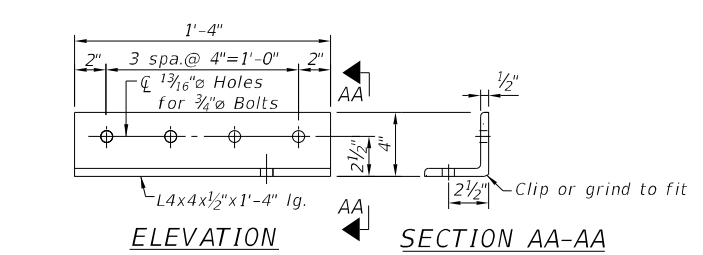
**WEB PLATE 4**  
 Repairs R2, R8, R9, R10, R11, R12, R13, R18, R19  
 (2 required, each)



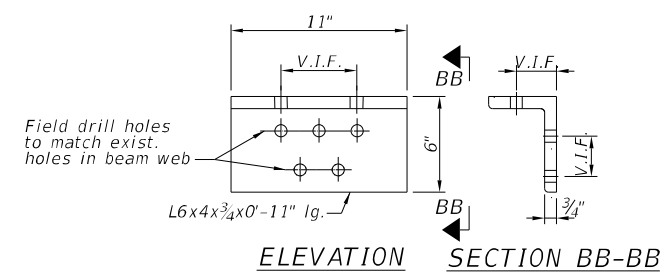
**ANGLE 2**  
 Repairs R2, R8, R9, R10, R11, R12, R13, R18, R19  
 (2 required, each)



**WEB PLATE 5**  
 Repair R3 (2 required)  
 Repair R4 (2 required)



**ANGLE 3**  
 Repair R3 (2 required)  
 Repair R4 (2 required)



**CLIP ANGLE 1**  
 Repairs R1 through R19  
 (2 required each)



USER NAME =	atiemann	DESIGNED -	AT, JK	REVISED -	
PLOT SCALE =	2:0.0000 " = 1/8" / in.	CHECKED -	KH	REVISED -	
PLOT DATE =	09/07/2021	DRAWN -	AT, JK	REVISED -	
		CHECKED -	AJN	REVISED -	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

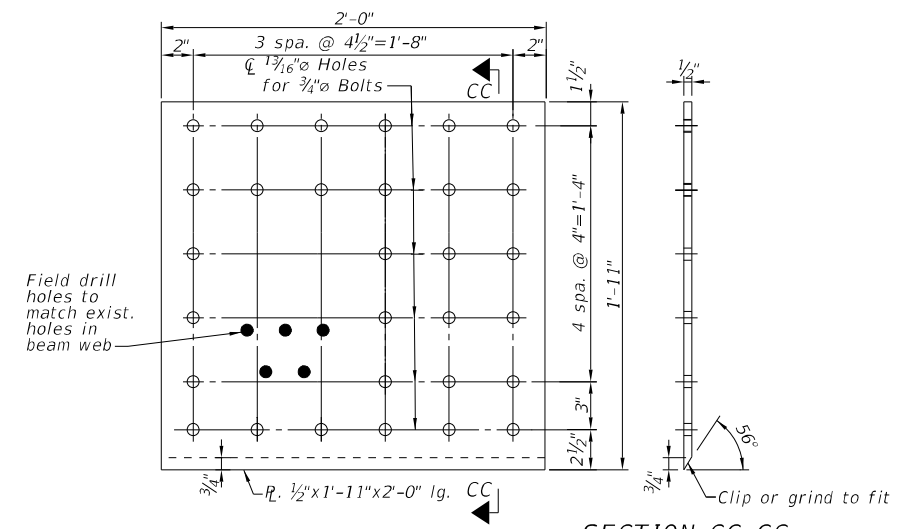
STEEL REPAIR DETAILS - SPAN 3-SB  
 I-94 OVER IHB & CSX RAILROADS - SN 016-0160

SHEET SC-11 OF SC-14 SHEETS

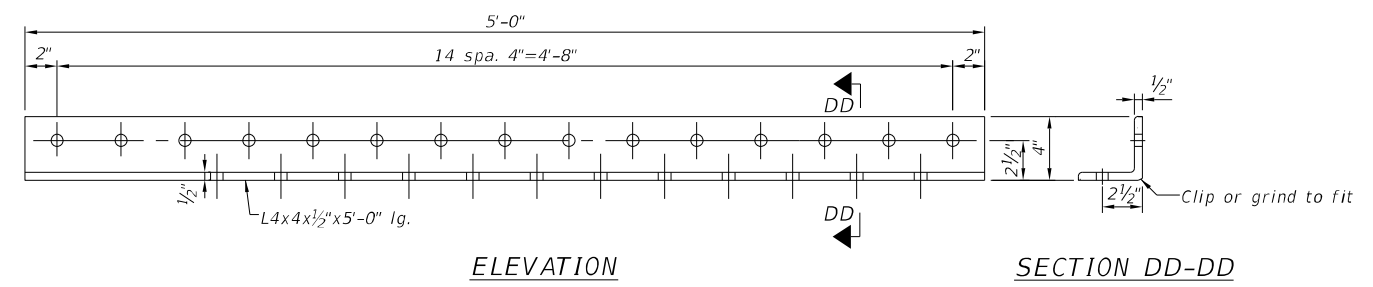
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	29
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-11

MODEL: D162P55-0160160 D2  
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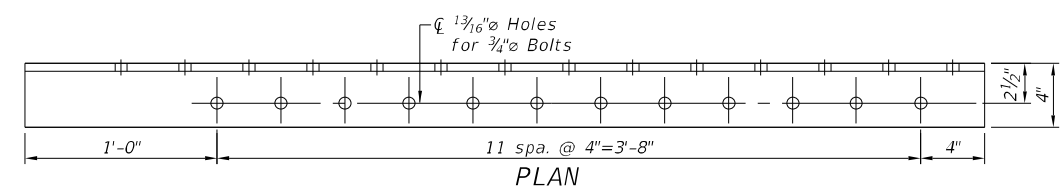


**WEB PLATE 6**  
 Repair R5 (2 required)  
 Repair R6 (2 required)  
 Repair R8 (2 required)  
 Repair R9 (2 required)



**ELEVATION**

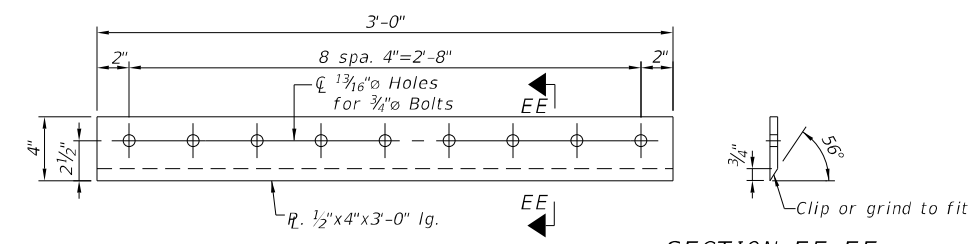
**SECTION DD-DD**



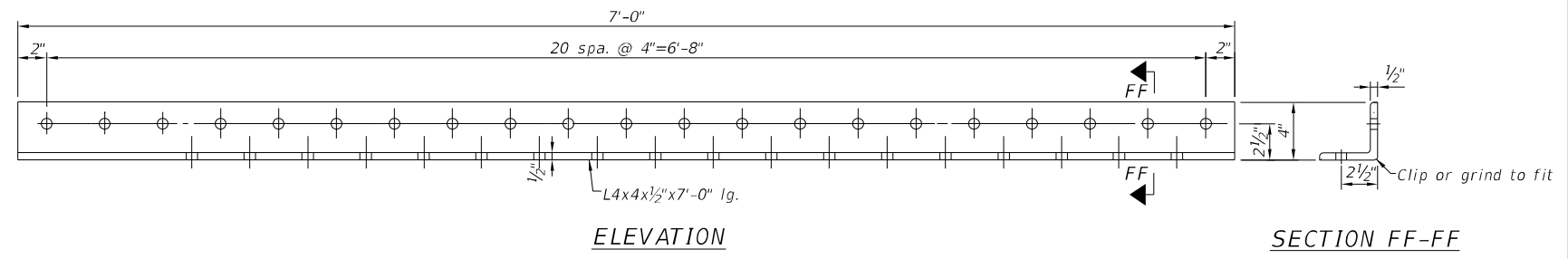
**PLAN**

**ANGLE 4**

Repair R5 (2 required)  
 Repair R14 (2 required)

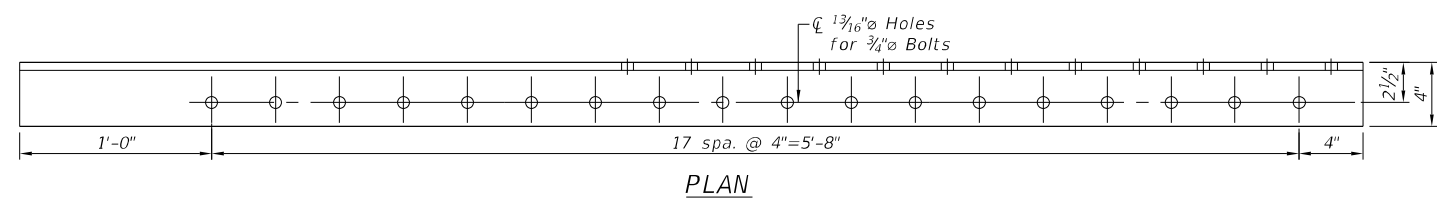


**WEB PLATE 7**  
 Repair R5 (2 required)  
 Repair R14 (2 required)



**ELEVATION**

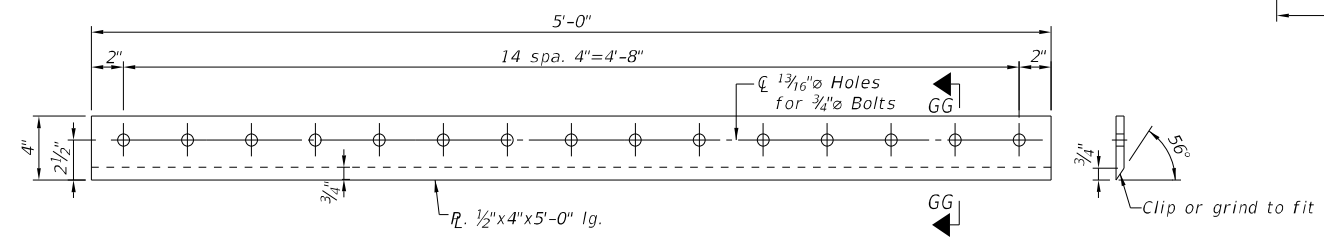
**SECTION FF-FF**



**PLAN**

**ANGLE 5**

Repair R6 (2 required)  
 Repair R16 (2 required)



**WEB PLATE 8**  
 Repair R6 (2 required)  
 Repair R16 (2 required)

**SECTION GG-GG**



USER NAME = atiemann	DESIGNED - AT, JK	REVISED -
PLOT SCALE = 1:4,0000 "/ in.	CHECKED - KH	REVISED -
PLOT DATE = 09/07/2021	DRAWN - AT, JK	REVISED -
	CHECKED - AJN	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STEEL REPAIR DETAILS - SPAN 3-SB  
 I-94 OVER IHB & CSX RAILROADS - SN 016-0160

SHEET SC-12 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-12

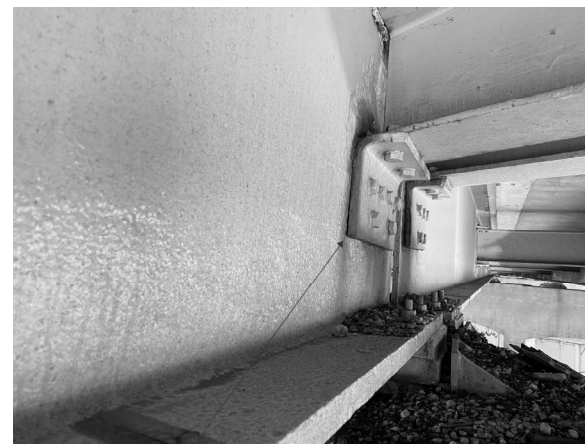
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R5 Picture 1: P2; Beam 5 Looking W R1



Picture 3: P2; Beam 6 Looking W R2



R2 Picture 5: P2; Beam 6 Looking E



Picture 7: P2; Beam 7 Looking E R6



R1 Picture 2: P2; Beam 5 Looking E R5



R2 Picture 4: P2; Beam 6 West Face



R6 Picture 6: P2; Beam 7 Looking W



R7 Picture 8: P2; Beam 8 Looking W R3



R3 Picture 9: P2; Beam 8 Looking E R7



R4 Picture 11: P2; Beam 9 Looking E



R14 Picture 13: P2; Beam 12 Looking W R8



R15 Picture 15: P2; Beam 13 Looking W R9



Picture 10: P2; Beam 9 Looking W R4



R8 Picture 12: P2; Beam 12 Looking E R14



R9 Picture 14: P2; Beam 13 Looking E R15



R10 Picture 16: P2; Beam 14 Looking E R16

**Bowman**  
 311 S. Wacker Drive, Suite 1950  
 Chicago, Illinois 60606  
 312-464-0360  
 www.bowman.com

USER NAME = atiemann  
 PLOT SCALE = 0,2000 ' / in.  
 PLOT DATE = 09/07/2021

DESIGNED - AT, JK  
 CHECKED - KH  
 DRAWN - AT, JK  
 CHECKED - AJN

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**REPAIR PHOTOS  
 I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-13 OF SC-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	31
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-13



MODEL: Default-2  
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R16 Picture 17: P2; Beam 14 Looking W R10



R17 Picture 19: P2; Beam 15 Looking W R11



R18 Picture 21: P2; Beam 16 Looking W R12



R13 Picture 23: P2; Beam 17 Looking E R19



R11 Picture 18: P2; Beam 15 Looking E R17



R12 Picture 20: P2; Beam 16 Looking E R18



R19 Picture 22: P2; Beam 17 Looking W R13

**Bowman**  
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USER NAME =	atiemann	DESIGNED -	AT, JK	REVISED -	
		CHECKED -	KH	REVISED -	
PLOT SCALE =	0,2000' / in.	DRAWN -	AT, JK	REVISED -	
PLOT DATE =	09/07/2021	CHECKED -	AJN	REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

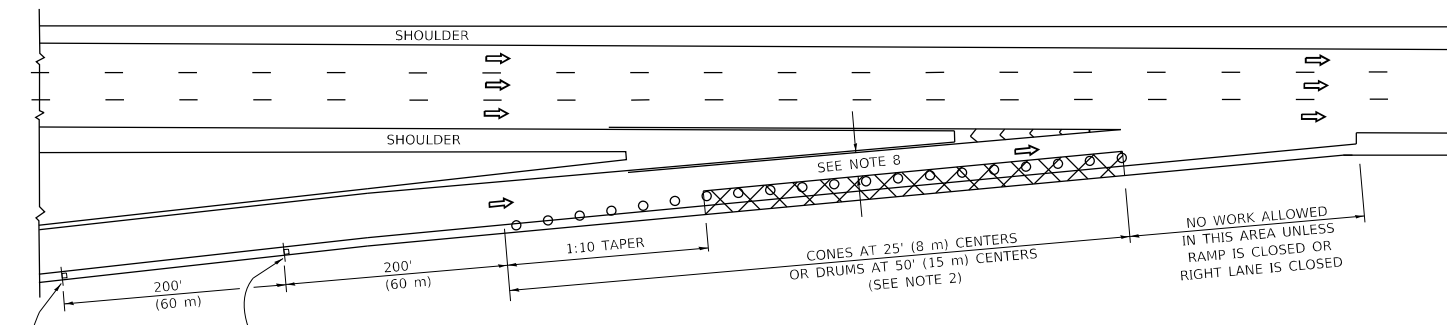
**REPAIR PHOTOS  
 I-94 OVER IHB & CSX RAILROADS - SN 016-0160**

SHEET SC-14 OF SC-14 SHEETS

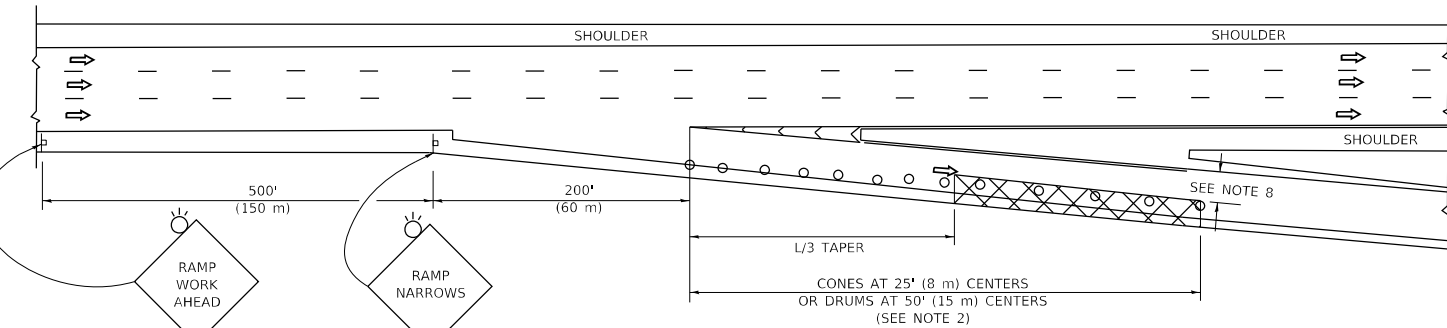
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	32
CONTRACT NO.			62P55	
ILLINOIS		FED. AID PROJECT		

SC-14

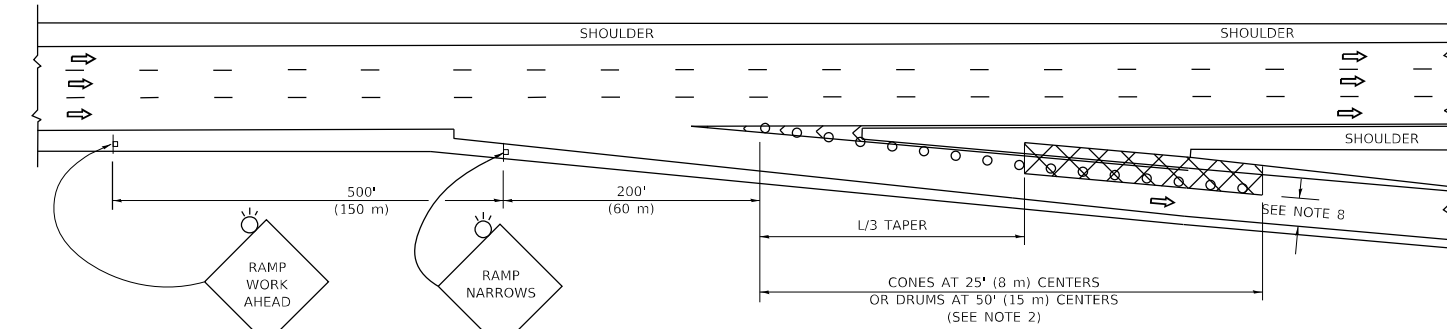
**PARTIAL RAMP CLOSURE DETAILS**



**TYPICAL ENTRANCE RAMP**



**TYPICAL EXIT RAMP**



**TYPICAL EXIT RAMP**

**SYMBOLS**

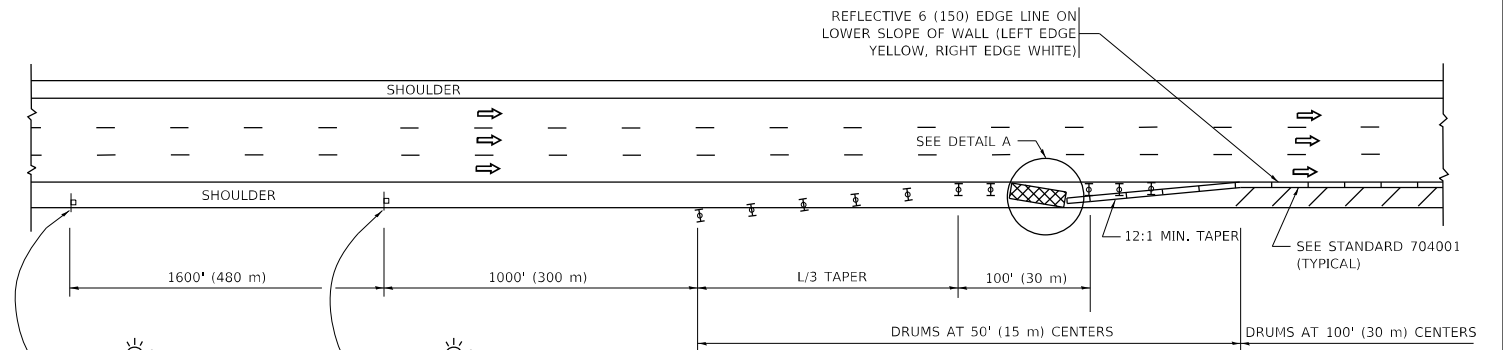
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

**GENERAL NOTES:**

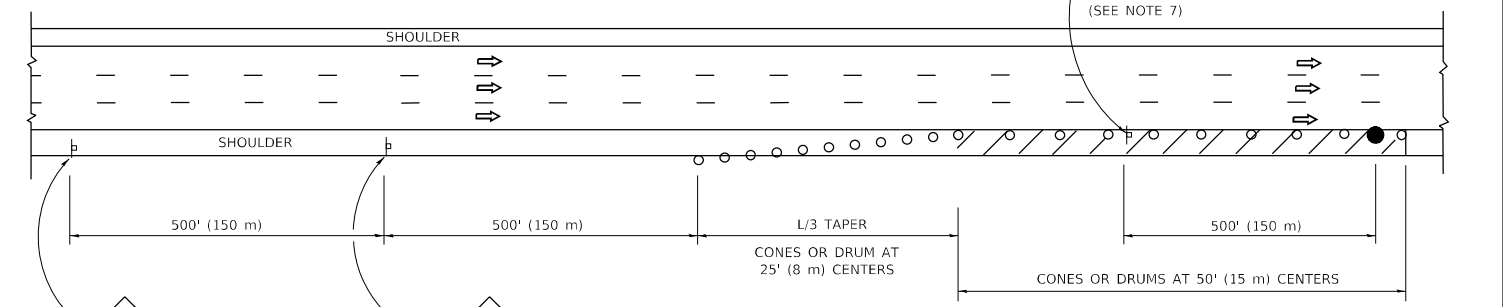
1. THE "L" DISTANCE EQUALS:
 

SPEED LIMIT	FORMULAS
45 mph (80 km/h)	METRIC ENGLISH
OR GREATER:	L=0.65(WXS) L=(W)XS
W = WIDTH OF OFFSET IN FEET (METERS)	
S = NORMAL POSTED SPEED MPH (KM/H)	
2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

**SHOULDER CLOSURE DETAILS**



**PERMANENT SHOULDER CLOSURE**



**DAYTIME SHOULDER CLOSURE**

- THIS DETAIL IS USED WHERE:
1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



**DETAIL "A" IMPACT ATTENUATOR, TEMPORARY (SEE NOTE 5)**

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
  - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
  - b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION  
16' MIN. WIDTH CURVE SECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: D:\draft... FILE NAME: ... PROJECT: ...

USER NAME = footemj	DESIGNED -	REVISED - S.P.B. 01-07
	DRAWN - D.W.S.	REVISED - S.P.B. 12-09
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - M.D. 06-13
PLOT DATE = 3/4/2019	DATE - 11-96	REVISED - M.D. 01-18

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2021-137-BR	COOK	33	33
<b>TC-17</b>		CONTRACT NO. 62P55		
ILLINOIS FED. AID PROJECT				