

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 805 (IL 161)  
SECTION 7BR-2  
BRIDGE REPAIR  
CLINTON COUNTY  
C-98-025-11

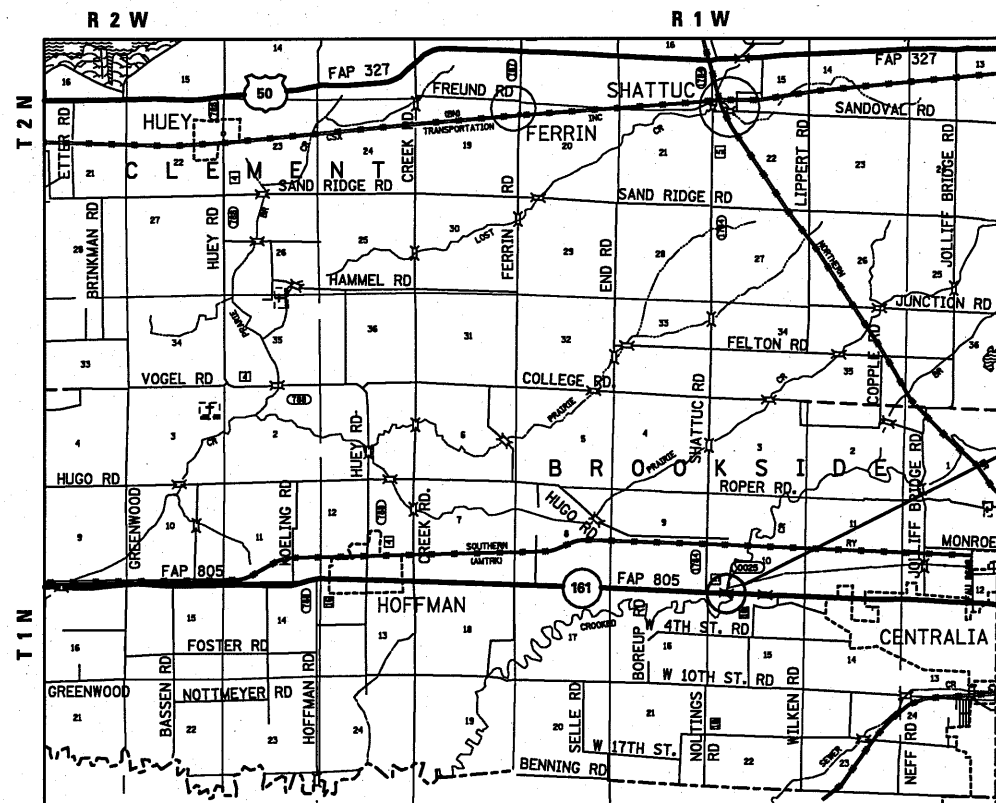
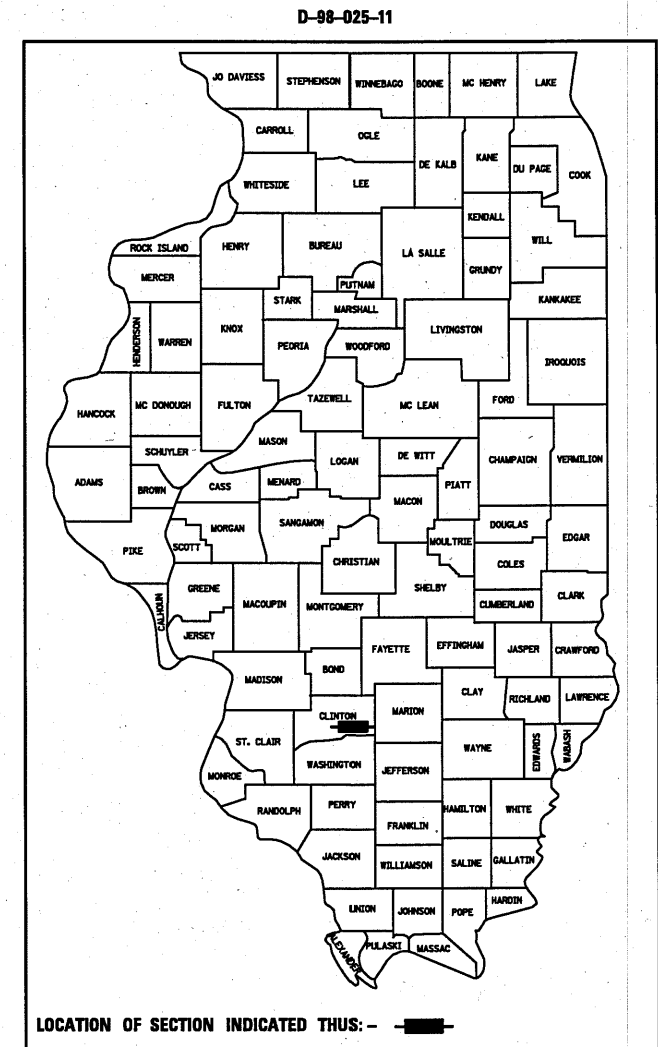
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	7BR-2	CLINTON	8	1
		ILLINOIS	CONTRACT NO. 76E66	

FOR INDEX OF SHEETS

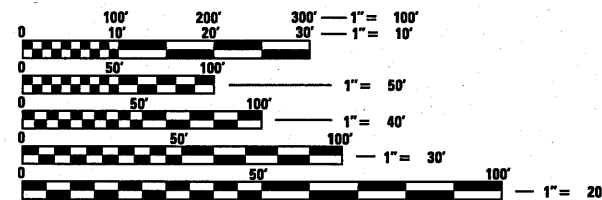
- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES, GENERAL NOTES & COMMITMENTS
- 3-8 REPAIR PLANS

HIGHWAY STANDARDS

000001-06  
701201-04  
701901-01



BRIDGE REPAIRS TO  
IL 161 OVER CROOKED CREEK  
SN 014-0025  
644' - 4" BK TO BK ABUTMENTS



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.

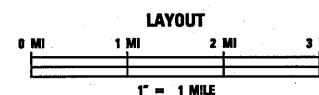
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER PATTI LeBEAU 618-346-3179  
PROJECT MANAGER BILLIE OWEN 618-346-3189

CONTRACT NO. 76E66

TRAFFIC DATA

ADT = 6500 (2007)  
ADT = 8300 (2031)  
SU = 3.8 %  
MU = 3.5 %



LATITUDE: 38.53489  
LONGITUDE: 89.19367

GROSS LENGTH = 0.122 MILE  
NET LENGTH = 0.122 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED October 26 20 10  
May C. Jamis  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

Dec 10 20 10  
Scott E. Stitt, P.E. I.R.  
acting ENGINEER OF DESIGN AND ENVIRONMENT

Dec 10 20 10  
Christine M. Reedler  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

SUMMARY OF QUANTITIES			100% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0014		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1.7	1.7		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	350	350		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4		
67100100	MOBILIZATION	L SUM	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
Z0001905	STRUCTURAL STEEL REPAIR	POUND	5930	5930		

**GENERAL NOTES:**

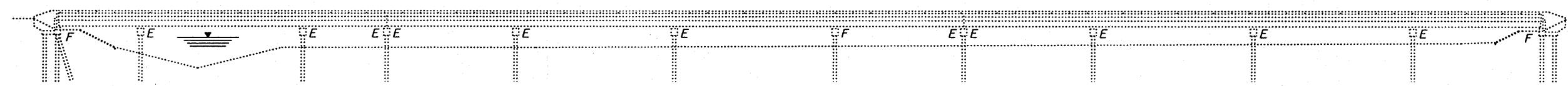
1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
  - AT&T ILLINOIS
  - CITY OF CENTRALIA (WATER & SANITARY SEWER)
  - CLINTON COUNTY ELECTRIC COOPERATIVE
  - HOFFMAN RURAL WATER DISTRICT
  - HOYLETON RURAL WATER COMPANY
  - PAETEC/MCLEOD USA TELECOMMUNICATIONS, INC.
 MEMBERS OF J.U.L.I.E. (800) 892-0123 OR 811 ARE INDICATED BY AN •. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
4. "ROAD CONSTRUCTION AHEAD" SIGNS SHALL BE PLACED AT EACH END OF THE PROJECT AND ALL INTERSECTING SIDE ROADS AND WILL BE INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS. ALL CONSTRUCTION SIGNS SHALL BE FLOURESCENT ORANGE, 48".
5. THE REMOVAL AND REPLACEMENT OF THE 1' x 1' POUR HOLE AS SHOWN IN THE DETAIL FOR PIER #3 SHALL BE INCLUDED IN THE COST OF "CONCRETE SUPERSTRUCTURE" AND NO OTHER COMPENSATION WILL BE PERMITTED.

**PERTINENT INFORMATION**

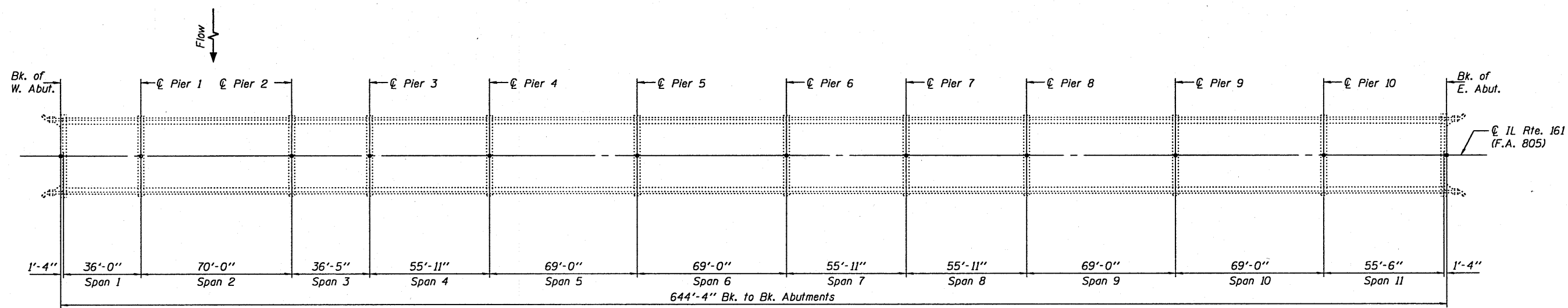
THE CONTRACTOR SHALL BE AWARE THAT THERE ARE WETLANDS LOCATED WITHIN THE RIGHT OF WAY ON THE NORTH SIDE OF THE STRUCTURE. IN ORDER TO ACCESS THE SITE, THE CONTRACTOR SHALL BE PERMITTED TO TRANSPORT HIS EQUIPMENT ALONG THE TOE OF SLOPE. HOWEVER, HE SHOULD TAKE CARE TO MINIMIZE DAMAGE TO THE WETLANDS.

**COMMITMENTS**

NONE



**ELEVATION**



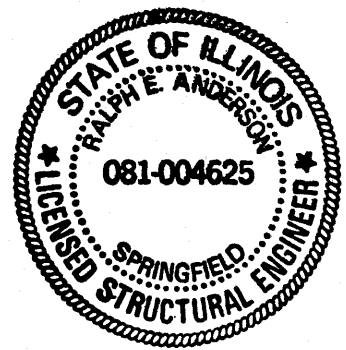
**PLAN**

**GENERAL NOTES**

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.  
 Fasteners shall be high strength bolts. Bolts  $\frac{7}{8}$ " $\phi$ , open holes  $\frac{15}{16}$ " $\phi$ , unless otherwise noted.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 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".  
 All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.  
 Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Structural Steel Repair.  
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 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 at the unit price bid for the work.  
 Materials used for epoxy injection shall be as specified in Article 1025 of the Standard Specifications.  
 If the work is not performed under stage construction, temporary traffic control shall be utilized such that traffic shall not be allowed at locations during steel diaphragm removal and replacement.

**TOTAL BILL OF MATERIAL**

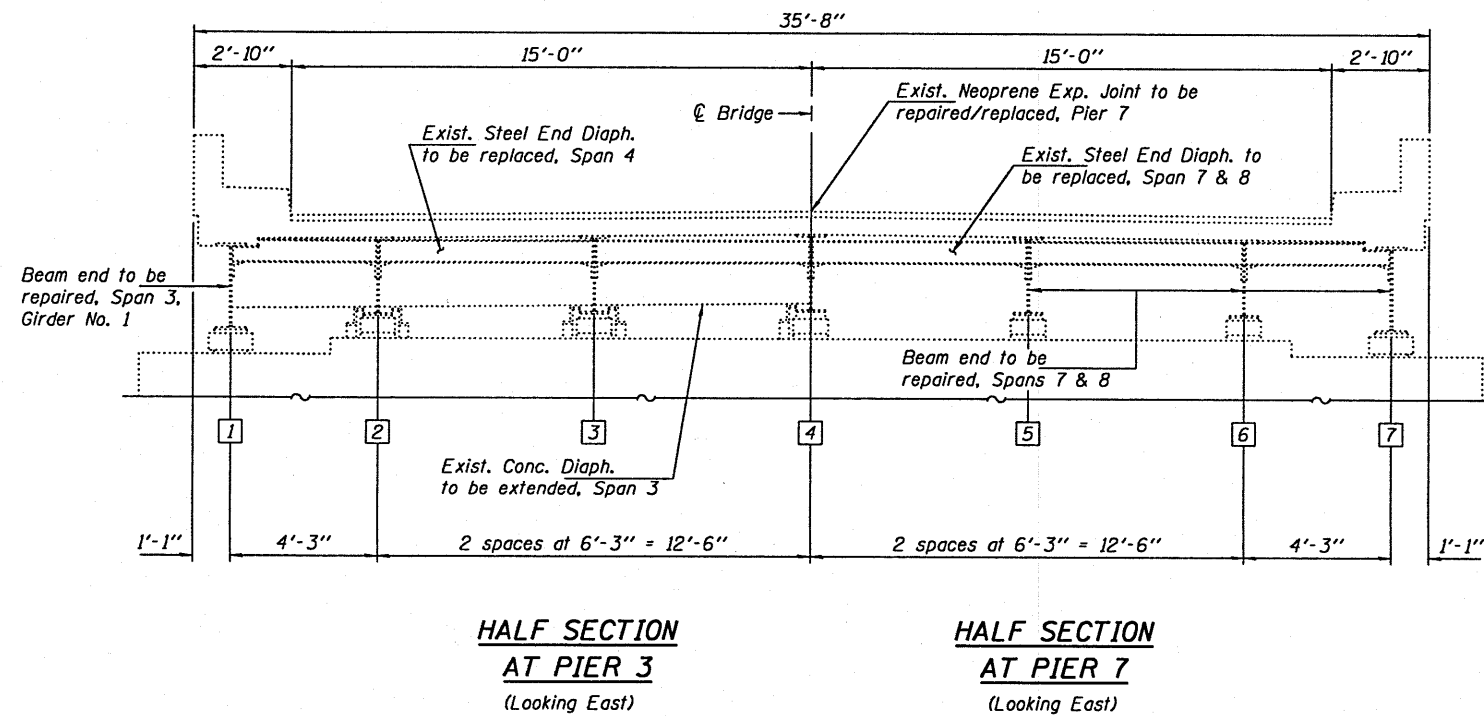
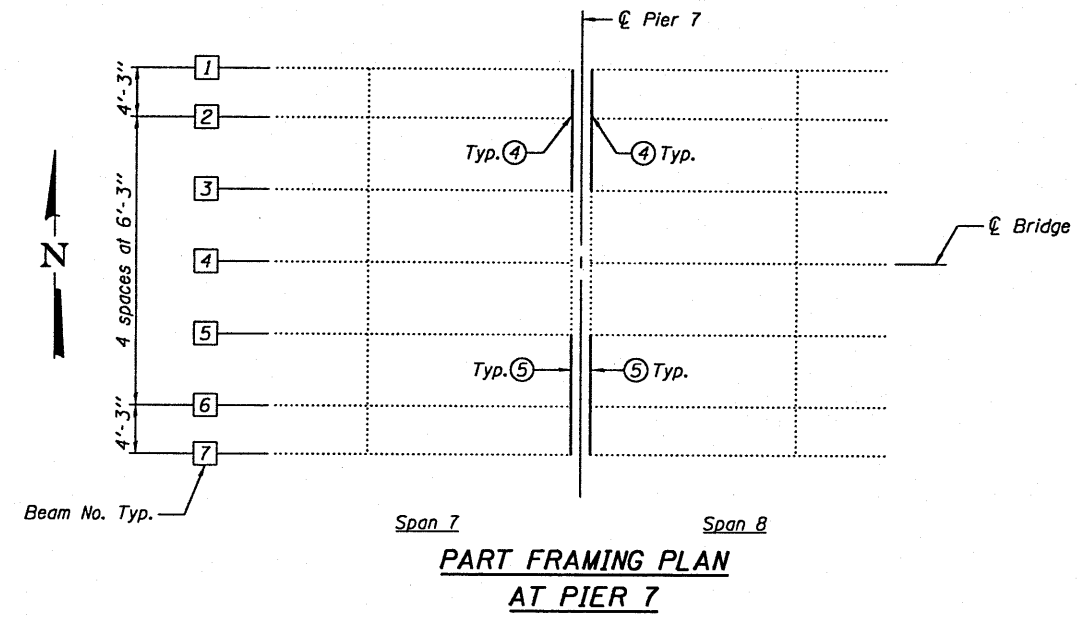
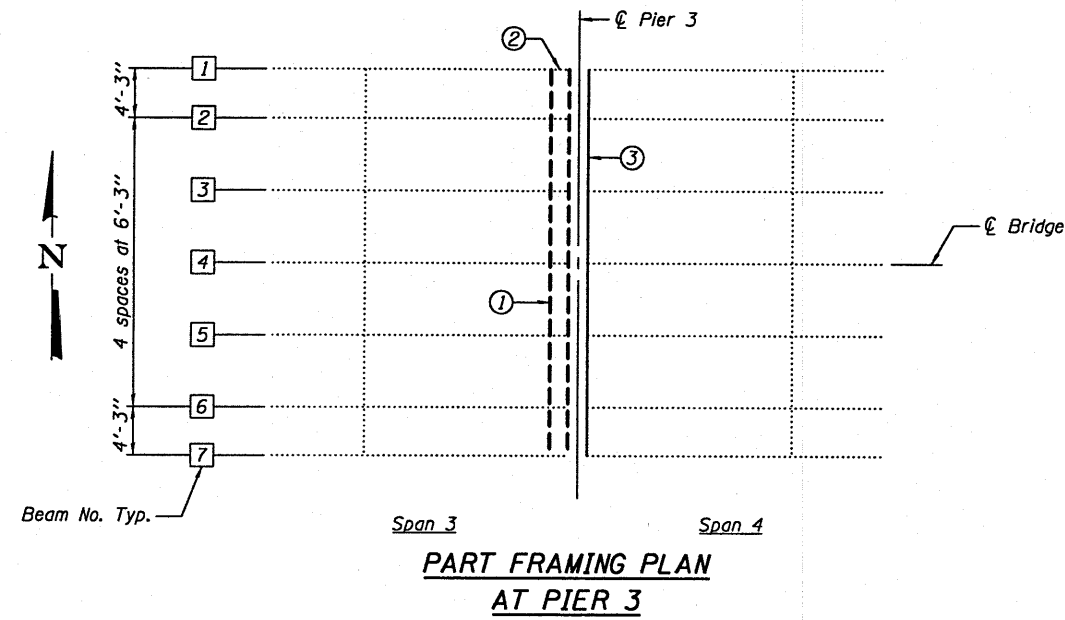
ITEM	UNIT	TOTAL
Concrete Superstructure	Cu. Yd.	1.7
Structural Steel Repair	Pound	5930
Reinforcement Bars, Epoxy Coated	Pound	350



EXPIRES 11-30-2012

DESIGNED <i>[Signature]</i>	EXAMINED <i>[Signature]</i>	DATE NOVEMBER 22, 2010	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION SN 014-0025	F.A. RTE. 805	SECTION 7BR-2	COUNTY CLINTON	TOTAL SHEETS 8	SHEET NO. 3	
CHECKED <i>[Signature]</i>	PASSED <i>[Signature]</i>				CONTRACT NO. 76E66			ILLINOIS FED. AID PROJECT		
DRAWN <i>[Signature]</i>					SHEET NO. 1 OF 6 SHEETS					
CHECKED <i>[Signature]</i>										

**IL 161 OVER CROOKED CREEK**



ID NO.	LOCATION	MEMBER	REPAIR/REPLACE
①	Pier 3, Span 3 All bays	Conc. Diaph.	Extend diaphragm to top of existing concrete cap, see detail sheet 3 of 6
②	Pier 3, Span 3 Beam No. 1	Steel Beam	Perform beam web end repair, see detail sheet 3 of 6
③	Pier 3, Span 4 All bays	Steel Diaph.	Replace end diaphragm and conn. angles, see detail sheet 5 of 6
④	Pier 7, Span 7-Beams 1, 2 & 5-7 Span 8-Beams 1-3 & 5-7	Steel Beam	Perform beam web end repair, see detail sheet 4 of 6
⑤	Pier 7, Span 7 & 8 Bays 1, 2, 5 & 6	Steel Diaph.	Replace end diaphragm and conn. angles, see detail sheet 6 of 6

IL 161 OVER CROOKED CREEK

DESIGNED GGE  
 CHECKED VHV  
 DRAWN balliva  
 CHECKED GGE VHV

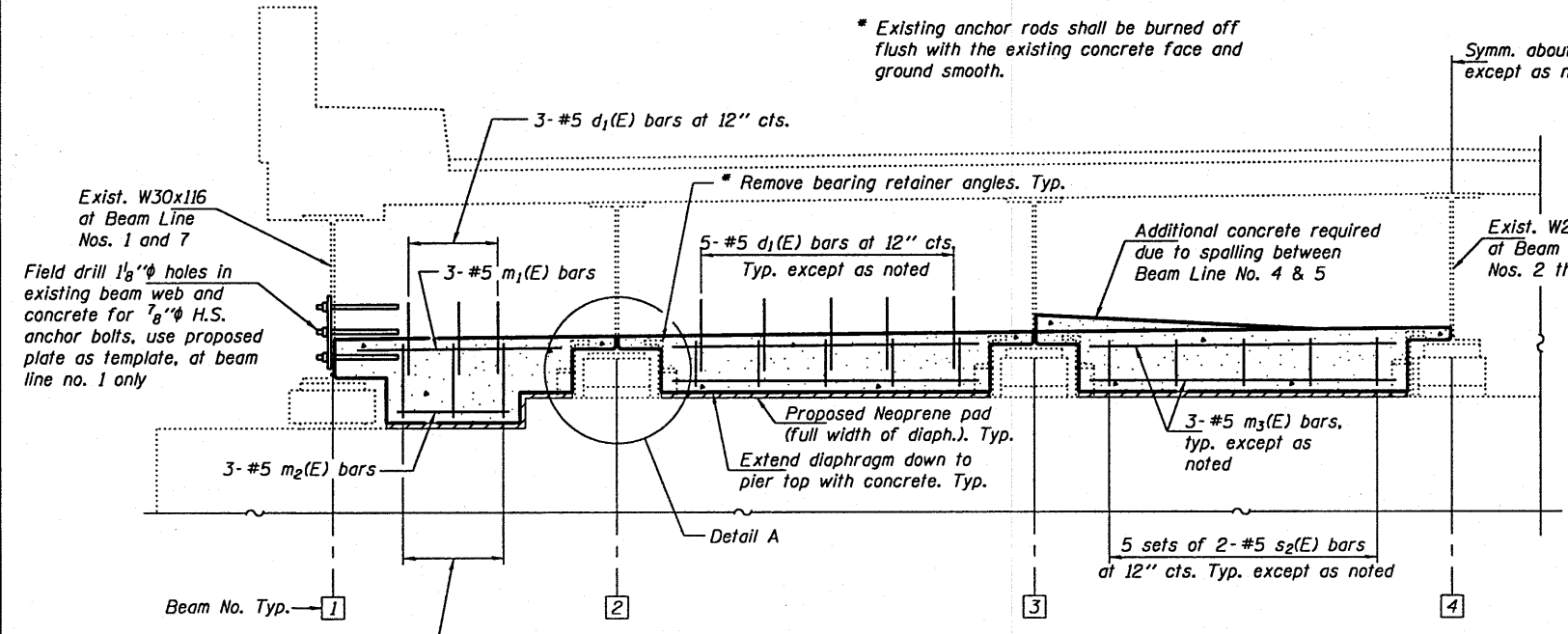
EXAMINED *Carl Perry*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 DATE NOVEMBER 22, 2010

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

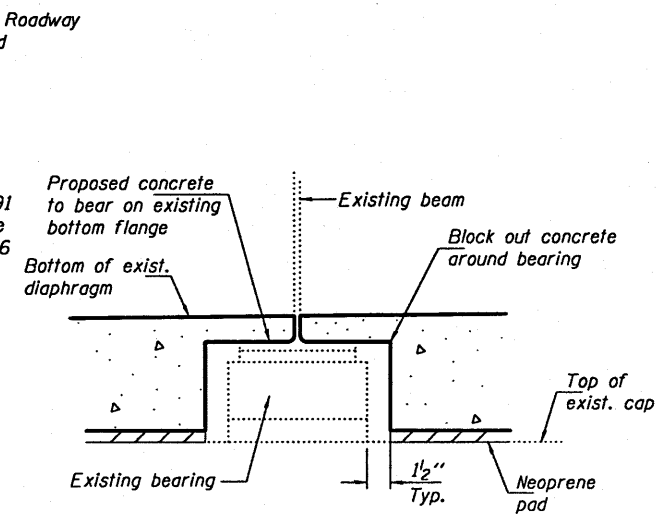
REPAIR/REPLACEMENT SCHEDULE  
 SN 014-0025

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	7BR-2	CLINTON	8	4
CONTRACT NO. 76E66			ILLINOIS FED. AID PROJECT	

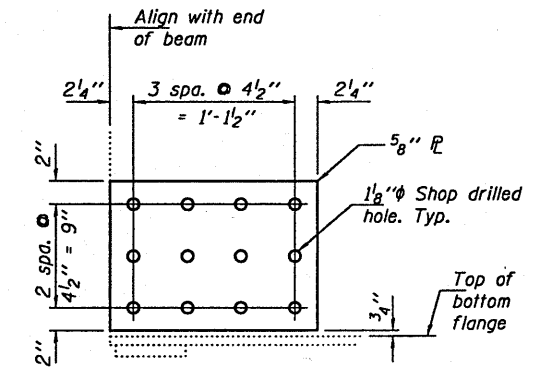
SHEET NO. 2 OF 6 SHEETS



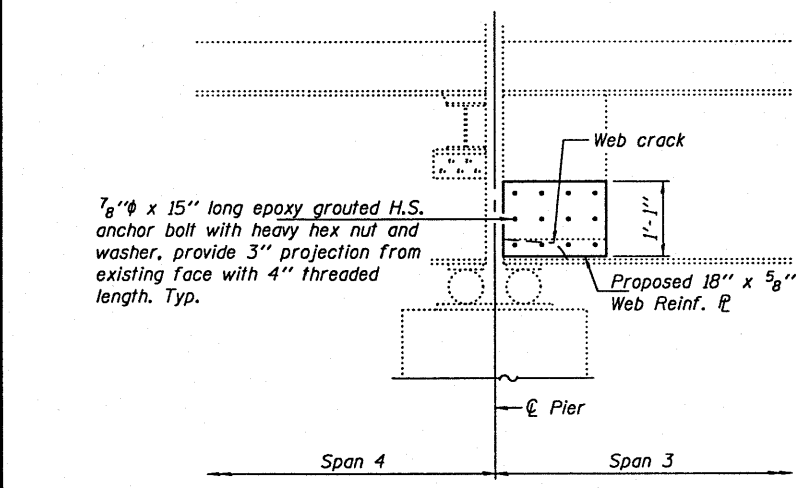
**HALF SECTION  
CONCRETE DIAPHRAGM REPAIR AT PIER 3**  
At Span 3 End  
(Looking East)



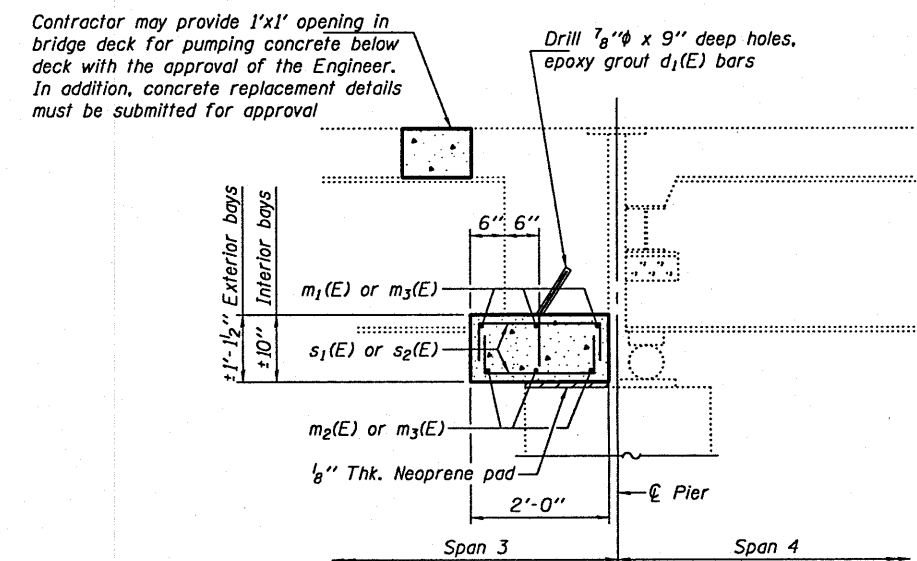
**DETAIL A**



**WEB REINFORCING PLATE  
BOLT HOLE LOCATIONS**

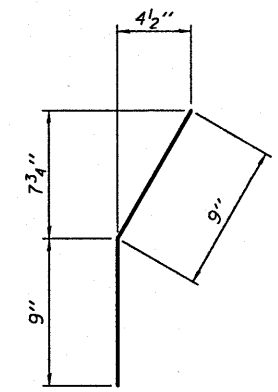


**REPAIR AT PIER 3  
ALONG BEAM LINE NO. 1**  
Looking South, Exterior Face

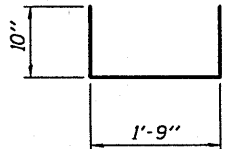


**SECTION THRU CONCRETE DIAPHRAGM  
AT PIER 3**  
Looking North

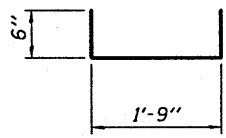
Note:  
Minimum clearance to reinforcing steel is 1 1/2 inch.



**BAR d1(E)**



**BAR s1(E)**



**BAR s2(E)**

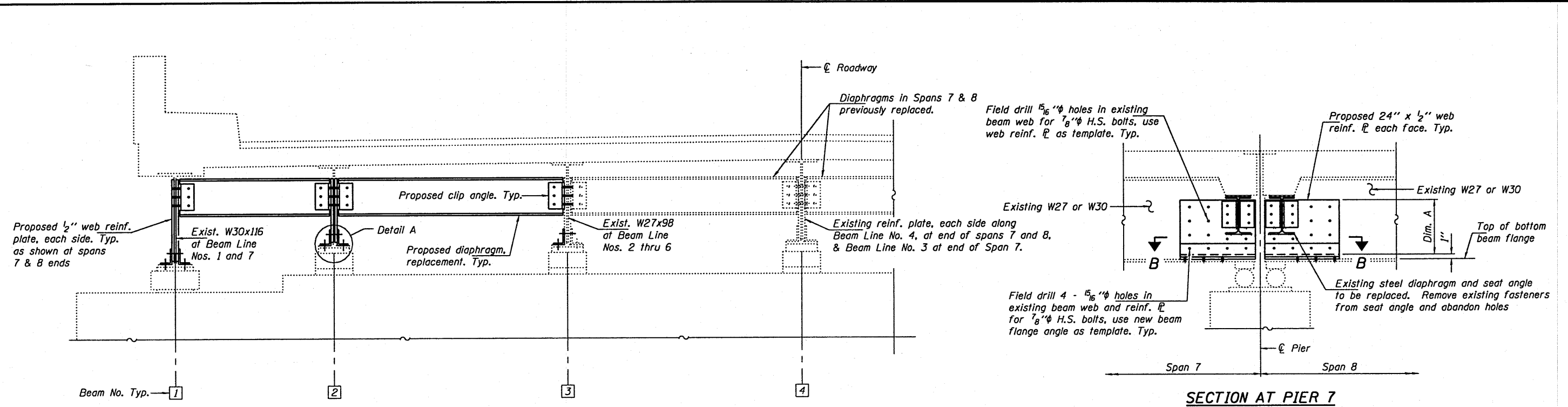
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
d <sub>1</sub> (E)	26	#5	1'-6"		
m <sub>1</sub> (E)	6	#5	3'-3"	—	
m <sub>2</sub> (E)	6	#5	1'-9"	—	
m <sub>3</sub> (E)	24	#5	4'-6"	—	
s <sub>1</sub> (E)	12	#5	3'-5"		
s <sub>2</sub> (E)	40	#5	2'-9"		
Reinforcement Bars, Epoxy Coated				Pound	350
Concrete Superstructure				Cu. Yds.	1.7

Notes:  
Neoprene pad and removal of bearing retainer angles shall be included with Concrete Superstructure.  
Epoxy grouting for anchor bolts shall be included with Structural Steel Repair.  
Epoxy grouting for reinforcement bars shall be included with Reinforcement Bars, Epoxy Coated.  
See Section 584 of the Standard Specifications for Epoxy Grouting of Anchor Rods and Bars.

**IL 161 OVER CROOKED CREEK**

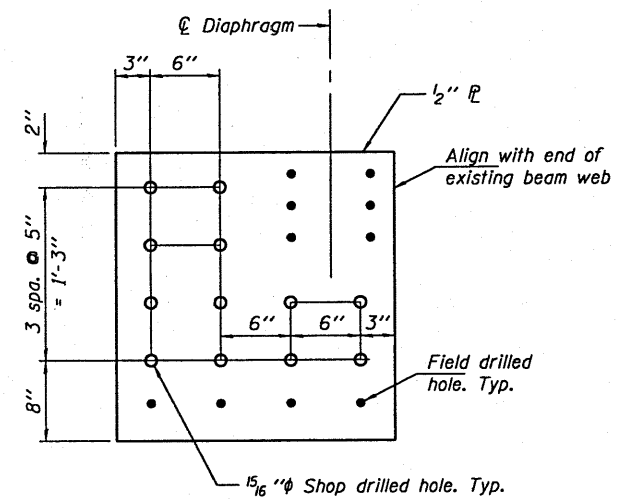
DESIGNED GGE	EXAMINED <i>Carl Perry</i>	DATE NOVEMBER 22, 2010	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS SN 014-0025	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
CHECKED VHV	PASSED <i>Ralph E. Anderson</i>				805	7BR-2	CLINTON	8	5	
DRAWN baliva					CONTRACT NO. 76E66					
CHECKED GGE VHV					ILLINOIS FED. AID PROJECT					



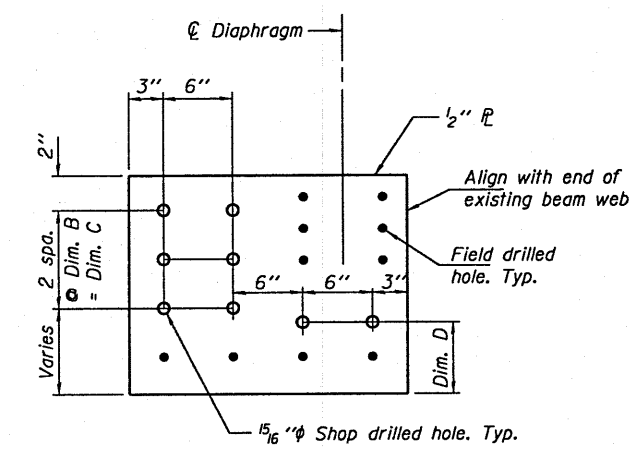
**HALF SECTION  
BEAM END REPAIRS AT PIER 7**  
Looking East, Ahead Station

**SECTION AT PIER 7**  
Looking North, Beam Line No. 1, 2, 3, 5 and 6 shown  
Beam Line No. 7 similar

Beam No.	Dim. A
1 & 6	1'-9"
2 & 3	1'-6"
5	1'-7 1/2"
7	2'-1"

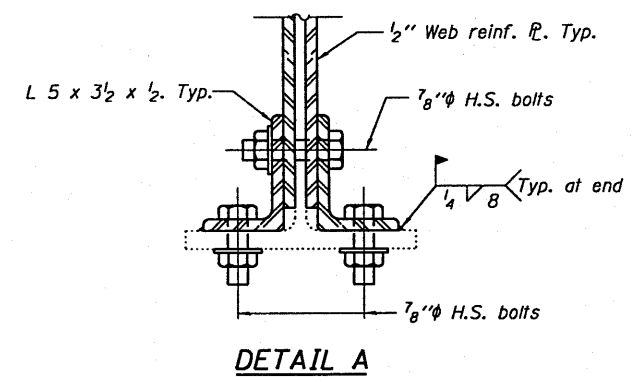


**WEB REINFORCING PLATE  
BOLT HOLE LOCATIONS**  
Beam Line No. 7  
Left R shown, Right R opposite hand  
2 Left required, 2 Right required

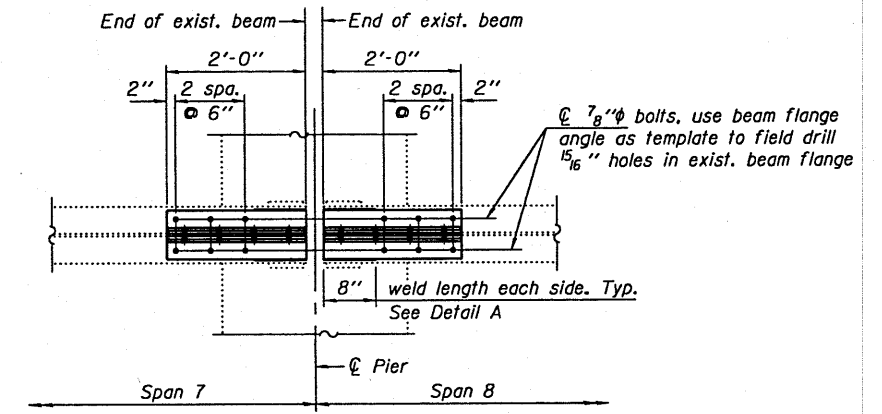


**WEB REINFORCING PLATE  
BOLT HOLE LOCATIONS**  
Beam Line No. 1, 2, 3, 5 & 6  
Left plate shown, Right plate opposite hand

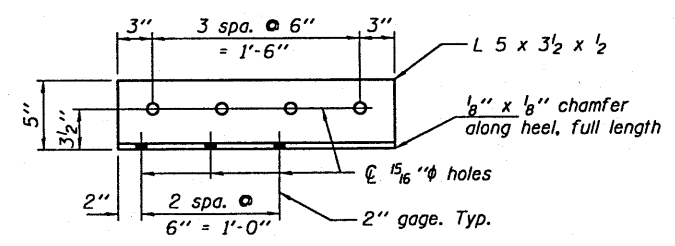
Beam No.	Dim. B	Dim. C	Dim. D	Required No.	
				Left R	Right R
1 & 6	5 1/2"	11"	8"	4	4
2 & 3	5"	10"	5 1/2"	3	3
5	5"	10"	6 1/4"	2	2



**DETAIL A**



**SECTION B-B**



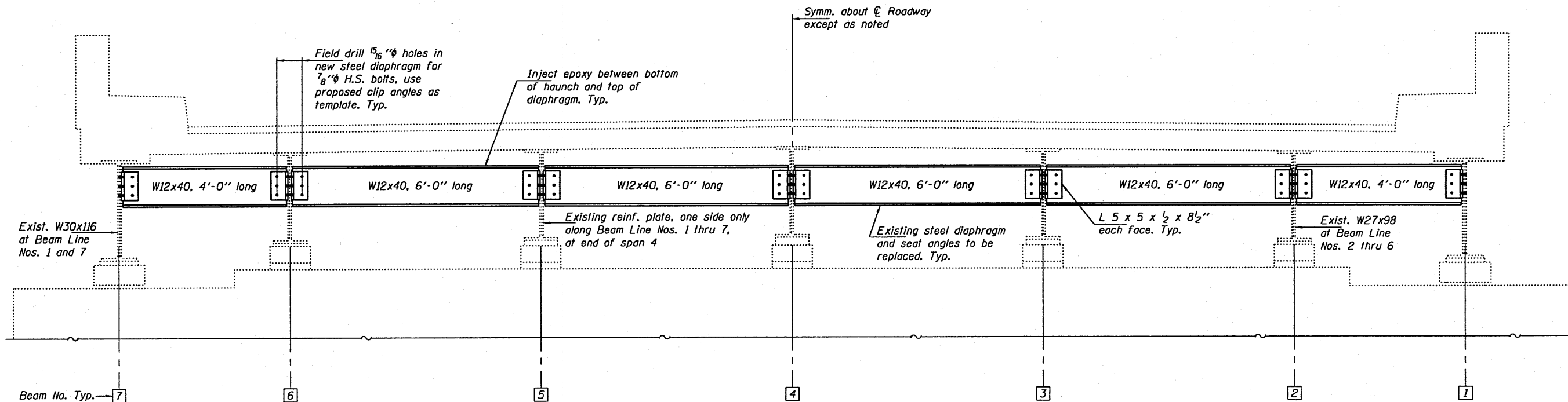
**BEAM FLANGE ANGLE  
BOLT HOLE LOCATIONS**

Left angle shown, Right angle opposite hand  
12 - required each, 24 total

Notes:  
See sheet 6 of 6 for details of Steel Diaphragm Replacement at Pier 7.

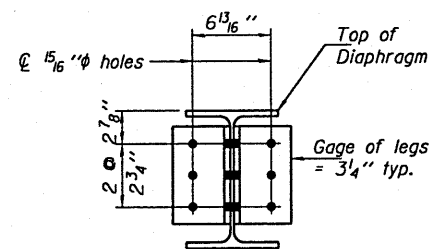
**IL 161 OVER CROOKED CREEK**

DESIGNED GGE	EXAMINED <i>Carl Pappas</i>	DATE NOVEMBER 22, 2010	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REPAIR DETAILS SN 014-0025</b>	F.A. RTE. 805	SECTION 7BR-2	COUNTY CLINTON	TOTAL SHEETS 8	SHEET NO. 6	
CHECKED VHV	PASSED <i>Ralph E. Anderson</i>				CONTRACT NO. 76E66			ILLINOIS FED. AID PROJECT		
DRAWN baliva					SHEET NO. 4 OF 6 SHEETS					
CHECKED GGE VHV										

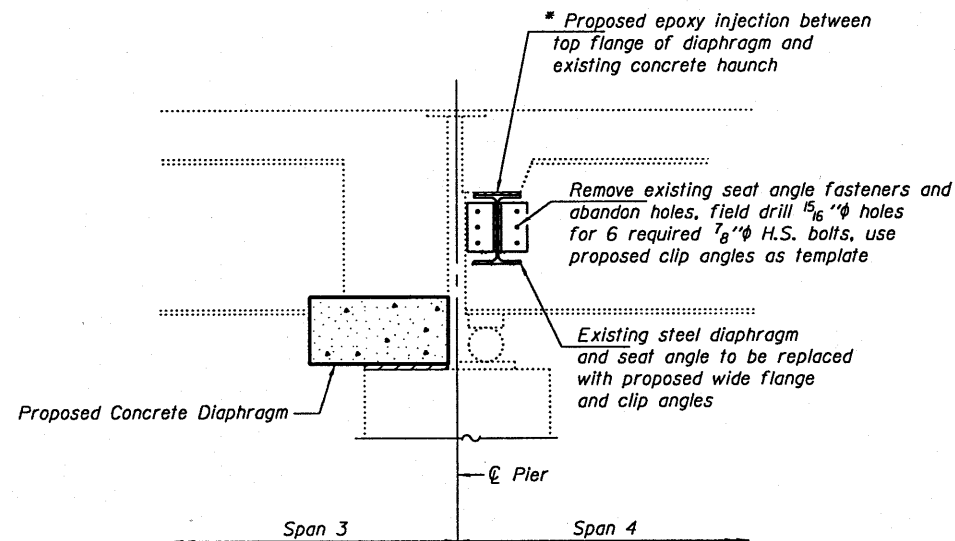


**STEEL DIAPHRAGM REPLACEMENT AT PIER 3**

At Span 4 End  
(Looking West)



**CLIP ANGLE  
BOLT HOLE LOCATIONS**



**SECTION AT PIER 3**

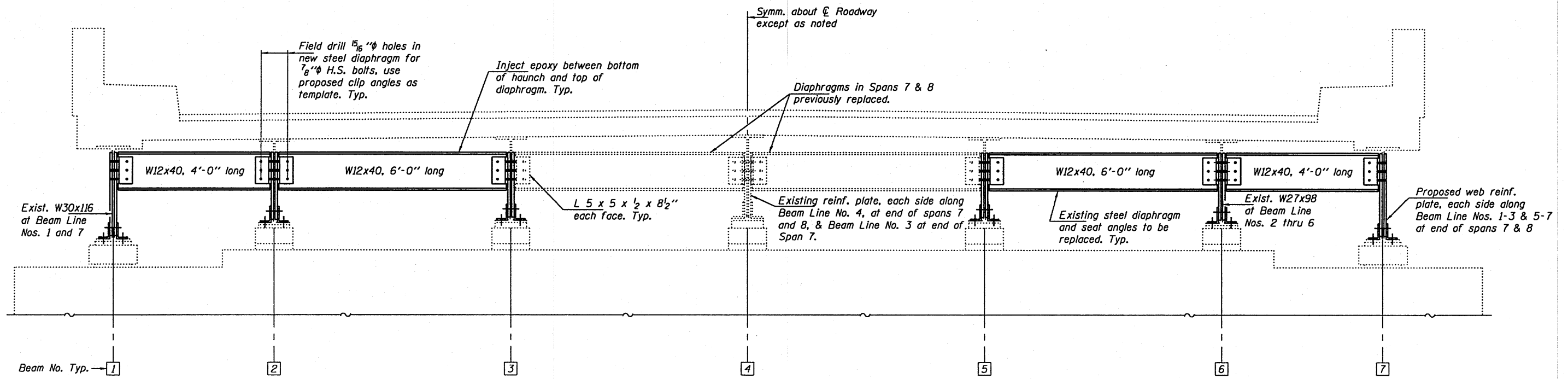
Looking North

\* Install proposed diaphragm up against existing concrete haunch

Note:  
Epoxy injection for steel diaphragm shall be included with Structural Steel Repair.

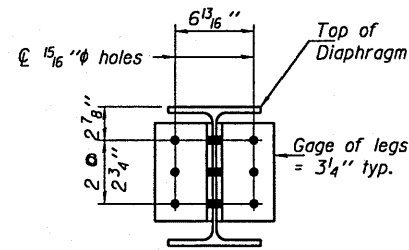
**IL 161 OVER CROOKED CREEK**

DESIGNED <i>GGE</i>	EXAMINED <i>R. Carl Papp</i>	DATE <b>NOVEMBER 22, 2010</b>	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REPAIR DETAILS SN 014-0025</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED <i>VHV</i>	PASSED <i>Ralph E. Anderson</i>				805	7BR-2	CLINTON	8	7
DRAWN <i>baliva</i>					CONTRACT NO. 76E66				
CHECKED <i>GGE VHV</i>					ILLINOIS FED. AID PROJECT				
			SHEET NO. 5 OF 6 SHEETS						



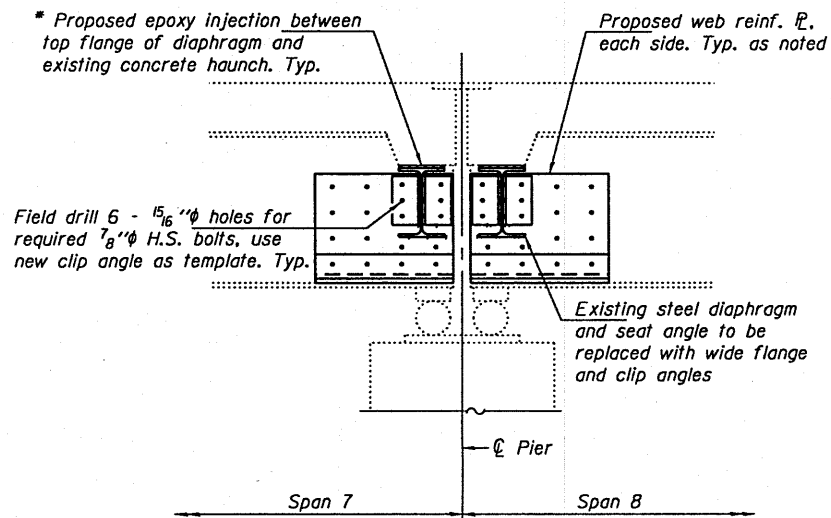
**STEEL DIAPHRAGM REPLACEMENT AT PIER 7**

At Spans 7 & 8 Ends  
(Looking East)



**CLIP ANGLE BOLT HOLE LOCATIONS**

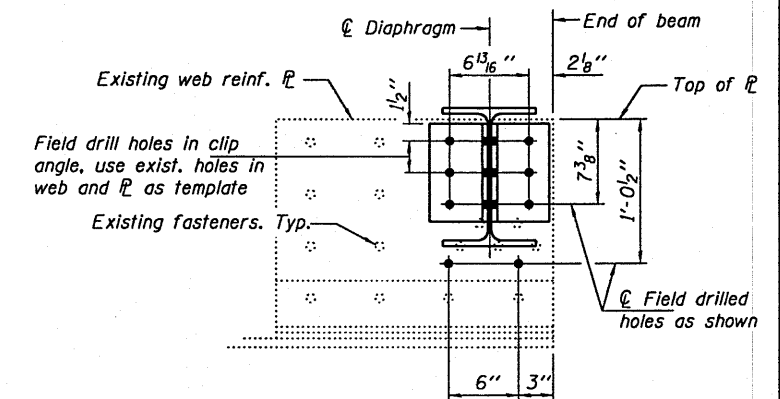
Beam Line Nos. 1-3 and 5-7



**SECTION AT PIER 7**

Looking North, Beam Line Nos. 1-3 and 5-7

\* Install proposed diaphragm up against existing concrete haunch



**PROPOSED FIELD BOLT HOLE LOCATIONS**

Beam Line No. 4

Notes:  
Epoxy injection for steel diaphragm shall be included with Structural Steel Repair.  
See sheet 4 of 6 for Beam End Repair Details at Pier 7.

**IL 161 OVER CROOKED CREEK**

DESIGNED GGE	EXAMINED
CHECKED VHV	PASSED
DRAWN baliva	
CHECKED GGE VHV	

<i>Carl Perry</i> ENGINEER OF STRUCTURAL SERVICES	DATE NOVEMBER 22, 2010
<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS  
SN 014-0025

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	7BR-2	CLINTON	6	6
CONTRACT NO. 76E66				
ILLINOIS FED. AID PROJECT				

SHEET NO. 6 OF 6 SHEETS