

# INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET, INDEX OF SHEETS AND STANDARDS
2	SUMMARY OF QUANTITIES AND GENERAL NOTES
3-10	EXPANSION JOINT DETAILS
11	TRAFFIC CONTROL

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

# PLANS FOR EXPANSION JOINT REPLACEMENT

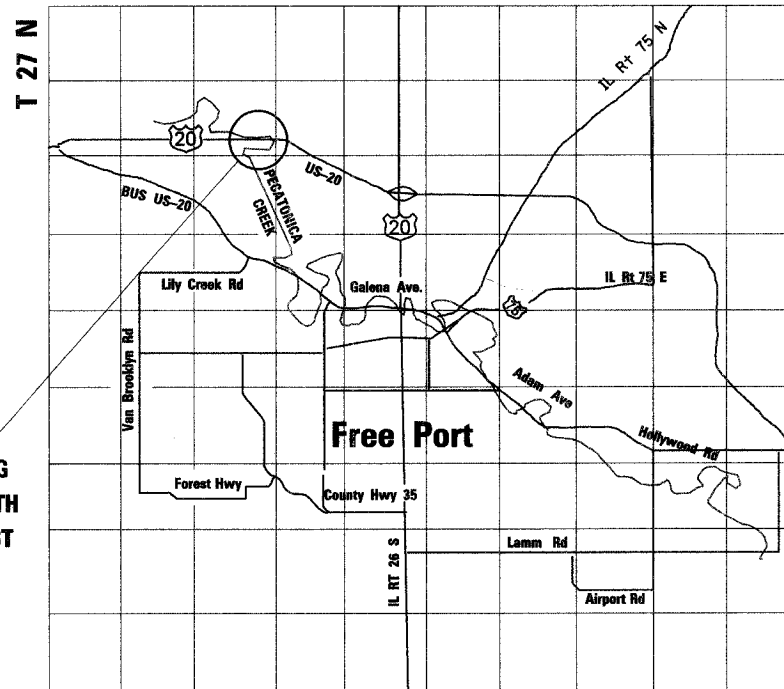
AT THE EAST ABUTMENT OF THE BRIDGE (SN 089-0045)  
CARRYING US 20 OVER THE PECATONICA RIVER  
FAP 301 (US 20), SECTION (177-2B)M  
STEPHENSON COUNTY

64D01

### STANDARDS

- 701006-02 OFF ROAD OPERATIONS, 2L 2W, 4.5M (15') TO 600 MM (24") AWAY, FOR SPEEDS > 45 MPH
- 701201-02 LANE CLOSURE, 2L 2W, DAY ONLY, ON ROAD TO 600 MM (24") OFF ROAD, FOR SPEEDS > 45 MPH
- 701301-02 LANE CLOSURE, 2L 2W, SHORT TIME OPERATIONS
- 701321-08 LANE CLOSURE, 2L 2W, BRIDGE REPAIR WITH BARRIER
- 702001-06 TRAFFIC CONTROL DEVICES
- 704001-03 TEMPORARY CONCRETE BARRIER
- 780001-01 TYPICAL PAVEMENT MARKING

R. 7 E, 4TH. PM



**PROJECT LOCATION**  
INCLUDES THE REMOVAL OF EXISTING  
DECK JOINT AND REPLACEMENT WITH  
NEW FINGER PLATE EXP. JT. AT EAST  
ABUTMENT ON STR. NO. 089-0045  
AT STA. 539+14

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S.20	(177-2B)M	STEPHENSON	11	1

64D01  
D-92-039-07  
C-92-038-07



LOCATION OF SECTION INDICATED THUS: - ■ -

**FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)**  
 DESIGN SPEED : 55 MPH  
 POSTED SPEED : 55 MPH  
 ADT : 5800 (2005)  
 PV : 84%  
 SU : 4%  
 MU : 12%

JULIE 1-800-892-0123

DISTRICT 2

TOWNSHIP: HARLEM

CONTRACT NO. 64D01

JOB NO. D-92-039-07 / C-92-038-07

PLANS PREPARED BY: SOODAN & ASSOCIATES, INC.  
100 NORTH LASALLE ST., SUITE 1800  
CHICAGO, ILLINOIS 60602



HAKIM H. TAIYEBI  
ILLINOIS LICENSED  
STRUCTURAL ENGINEER  
NO. 081-003266  
LICENSE EXP. 11-30-08

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

SUBMITTED Feb. 9 2007  
*Joseph E. Crook*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
 March 23, 2007  
*Eric E. Harrod*  
 INTERIM ENGINEER OF DESIGN AND ENVIRONMENT  
 March 23, 2007  
*Milton R. Sees, P.E.*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S. 20	177-2B1M	STEPHENSON COUNTY	11	2
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
CONTRACT # 64001				

GENERAL NOTES

This Structure will retain the same number 089-0045

Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

The roadway expansion plates shall be flame cut as provided in Article 505.04(K) of the Standard Specifications.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Plan dimensions and details relative to existing plans are subject to routine 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 upon the unit price bid for the work.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that cannot be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

All new structural steel shall conform to AASHTO Classification M-270 Gr. 50. Unless otherwise noted.

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts 3/4"  $\phi$ , open bolts 1/2"  $\phi$ , unless otherwise noted.

Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

All structural steel shall be shop painted with the Inorganic zinc rich primer per AASHTO M-300, Type 1. Cost shall be included in the cost of Finger Plate Expansion Joint, 3".

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. When the deck is poured at an ambient temperature other than 50° F.

Calculated weight of new structural steel = 20,570 Lbs.

Reinforcement bars designated (E) shall be epoxy coated.

SUMMARY OF QUANTITY

CODE NO.	ITEM	UNIT	100% STATE
			SFTY-2A QUANTITY
42001300	PROTECTIVE COAT	SQ YD	58
50102400	CONCRETE REMOVAL	CU YD	27.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	27.6
52000212	FINGER PLATE EXPANSION JOINT, 4"	FOOT	50
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,940
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	1,270
70300570	PAVEMENT MARKING TAPE, TYPE III 24"	FOOT	24
* 78001110	PAINT PAVEMENT MARKING LINE 4"	FOOT	160
* 78300105	PAVEMENT MARKING REMOVAL	FOOT	160
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300
70400300	TEMPORARY CONCRETE BARRIER TERMINAL SECTION	EACH	2
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	314
50800515	BAR SPLICERS	EACH	31
X0321781	MECHANICAL SPLICE	EACH	50
X7010800	TRAFFIC CONTROL AND PROTECTION, STANDARD 702001 (SPECIAL)	L SUM	1
52000600	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	56
Z0030330	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 3	EACH	24
Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	24

\* Specialty ITEM

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

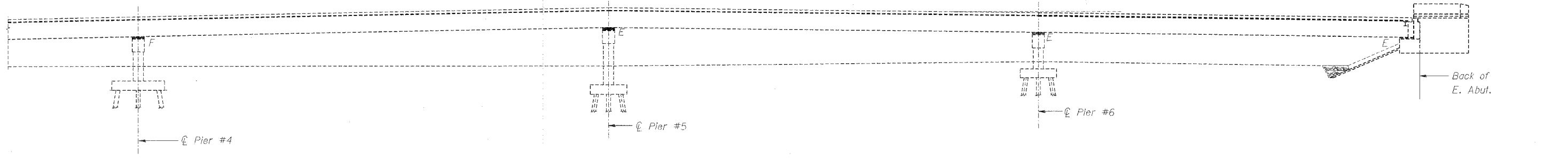
SUMMARY OF QUANTITIES  
AND GENERAL NOTES  
US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (177-2B1M)  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

SCALE: NONE DATE: JANUARY, 2007  
Soodan  
Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602

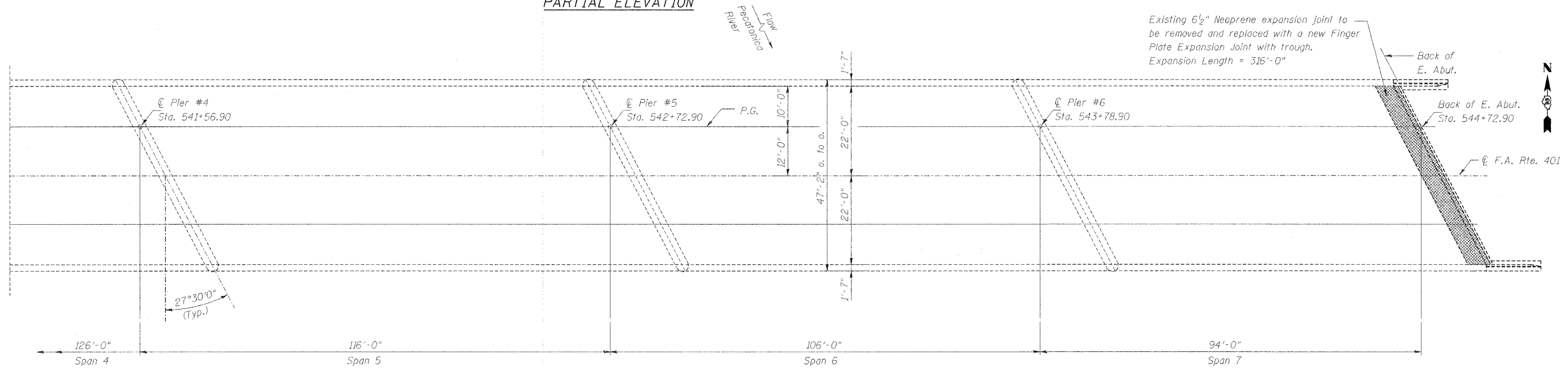
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 8 SHEETS
U.S. 20	177-2B1M	STEPHENSON COUNTY	11	3	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

CONTRACT # 64001



PARTIAL ELEVATION



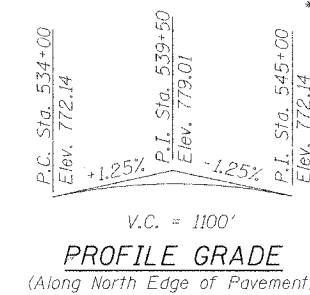
PARTIAL PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	27.1
Concrete Superstructure	Cu. Yd.	27.6
* Reinforcement Bars, Epoxy Coated	Pound	2940
Finger Plate Expansion Joint, 4"	Foot	50
* Mechanical Splice	Each	50
Fabric reinforced Elastomeric Trough	Foot	56
Bar Splicers	Each	31
Protective Coat	Sq. Yd.	58

\* See Special Provisions

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.



PLAN & ELEVATION

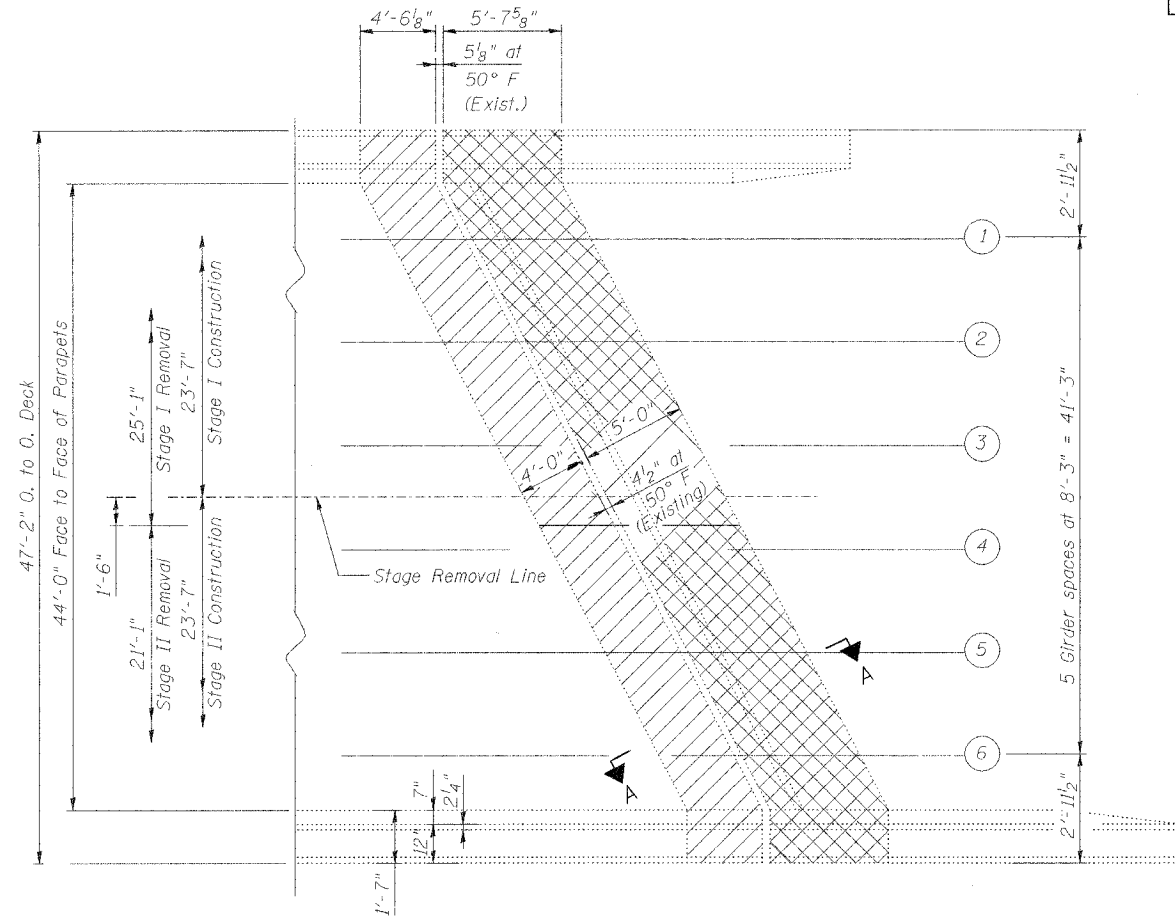
US 20 OVER PECATONICA RIVER  
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STEPHENSON COUNTY  
STATION 539+14.00  
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Chicago, Illinois 60602

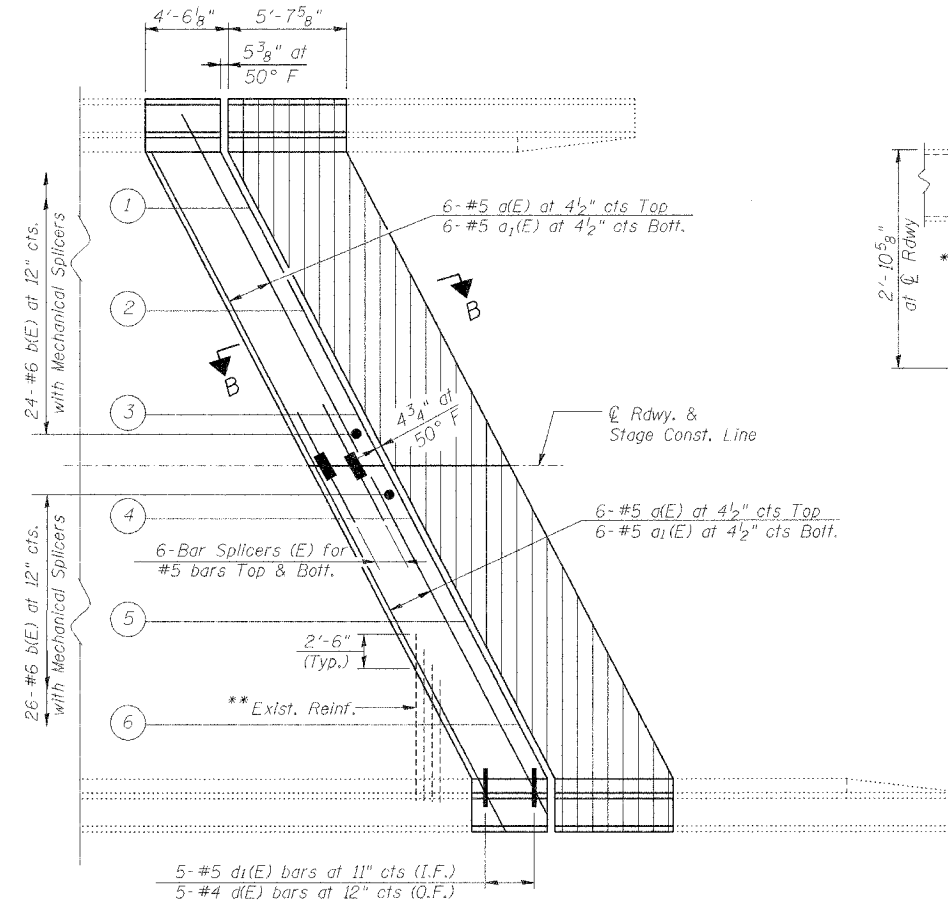
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 8 SHEETS
U.S. 20	(177-2B)	STEPHENSON COUNTY	11	4	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	CONTRACT # 64001		



PARTIAL PLAN SHOWING  
CONCRETE REMOVAL

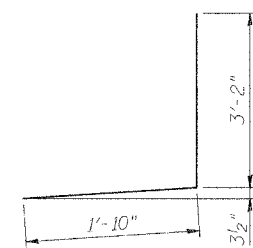
See Sht. 6 of 8 for Removal Details and Sht. 7 of 8 for quantities.



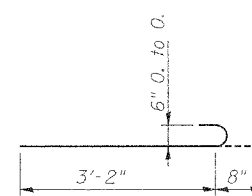
PARTIAL PLAN SHOWING  
CONCRETE REPLACEMENT

See Sht. 7 of 8 for Replacement details and quantities.

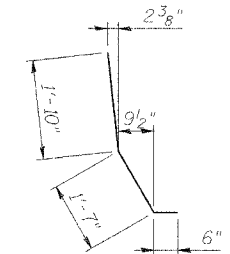
\*\* Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal



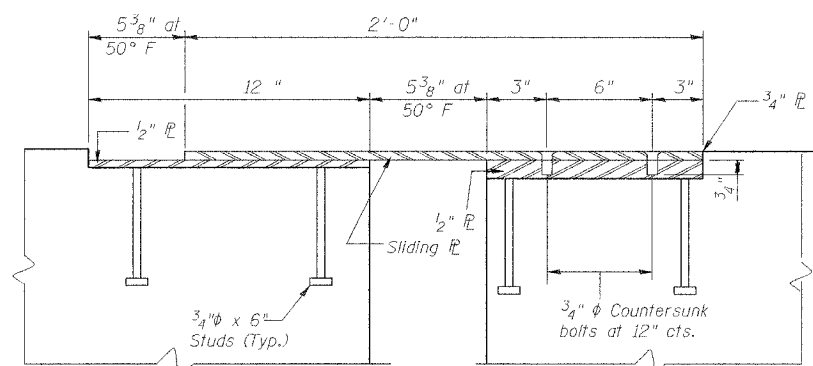
BAR d (E)



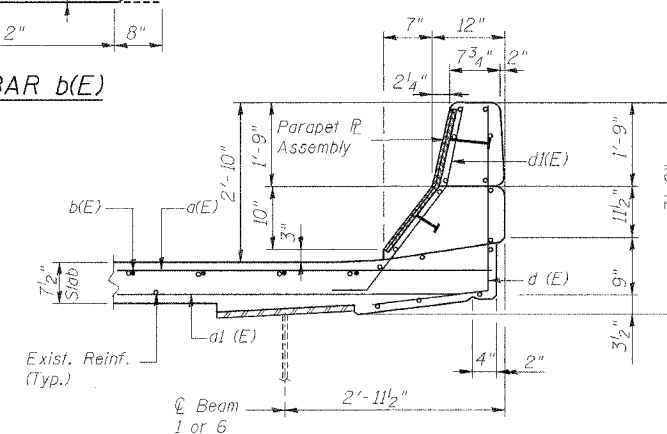
BAR b (E)



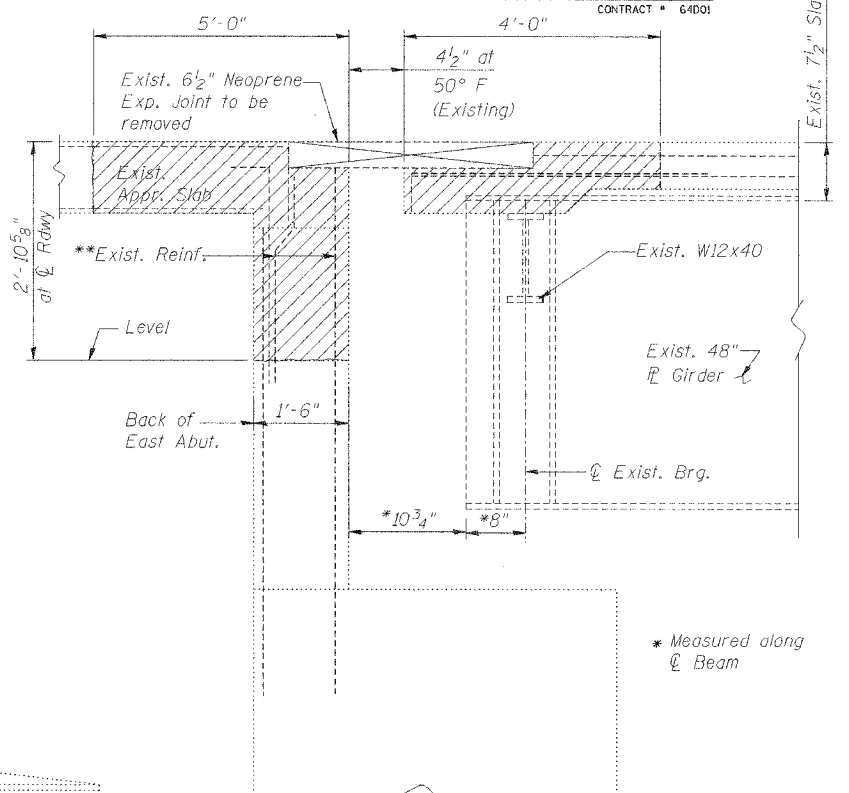
BAR d1 (E)



PARAPET PLATE ASSEMBLY DETAIL



SECTION THRU CURB



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	12	#5	26'-1"	—
a1(E)	12	#5	25'-1"	—
b(E)	50	#6	3'-10"	U
d(E)	10	#4	5'-0"	L
d1(E)	10	#5	3'-11"	—
Concrete Removal			Cu. Yd.	8.8
Concrete Superstructure			Cu. Yd.	8.8
Reinforcement Bars Epoxy Coated			Lbs.	1000

1. Reinforcement Bars designated (E) shall be epoxy coated.
2. For Section B-B. See Sheet 3 of 8.
3. For concrete removal details at the abutment, see sheet 6 of 8.
4. For concrete replacement and reinforcement details at the abutment, see sheet 7 of 8.
5. For bar splicer details, see sheet 8 of 8.
6. Hatched areas indicate concrete removal.

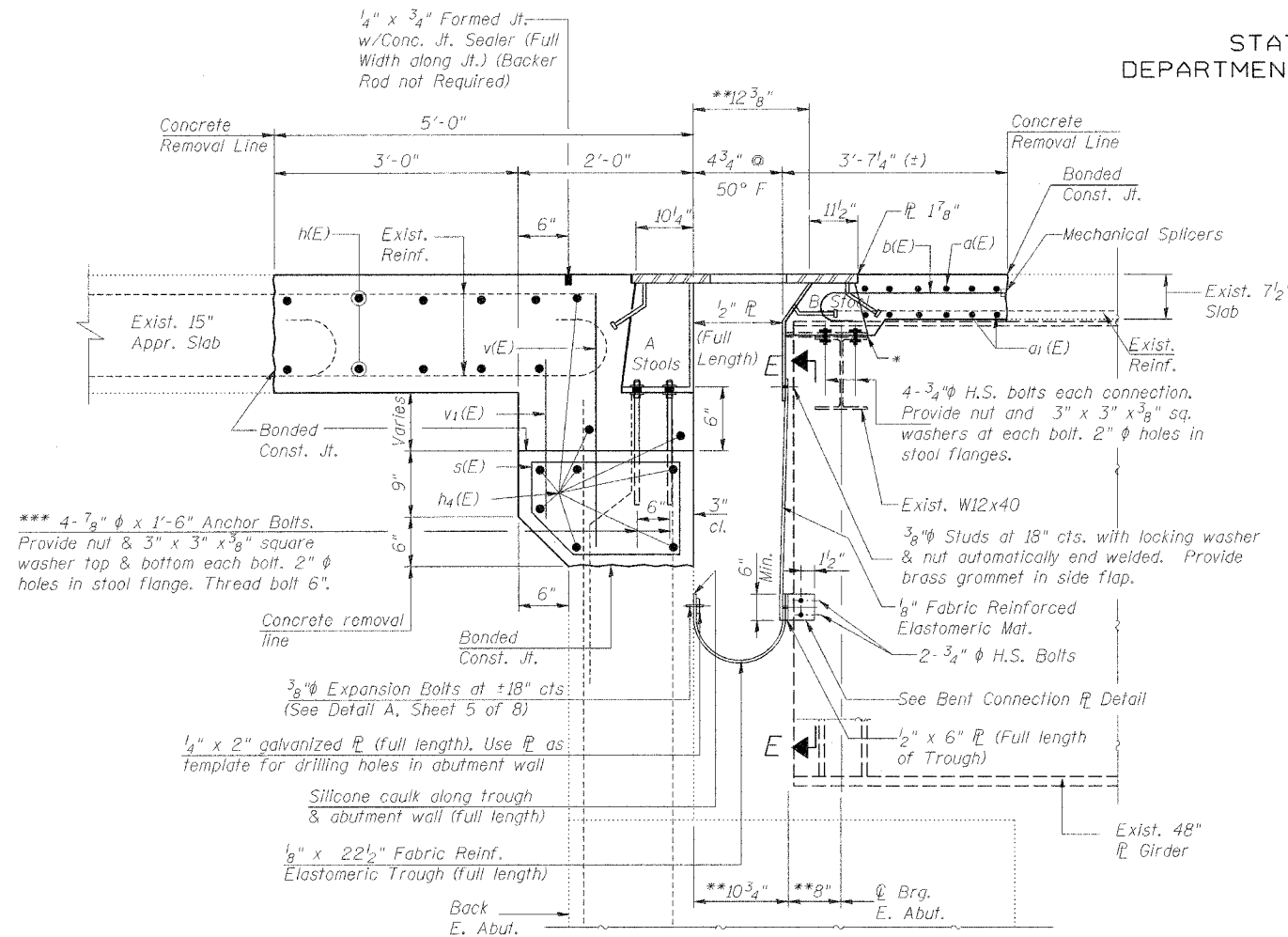
DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

SUPERSTRUCTURE DETAILS

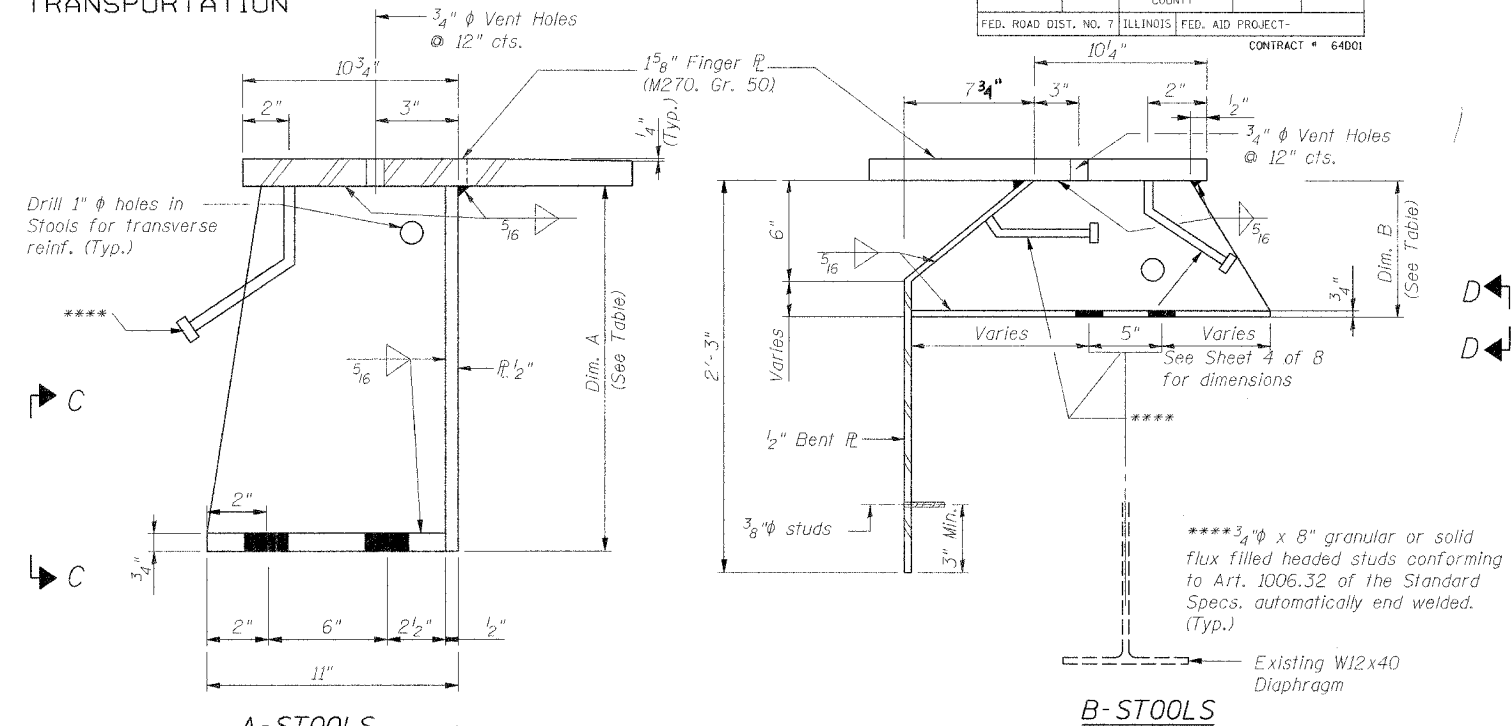
US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (177-2BIM)  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 8 SHEETS
U.S. 20	(177-2BIM)	STEPHENSON COUNTY	11	5	
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT-		CONTRACT # 64001	

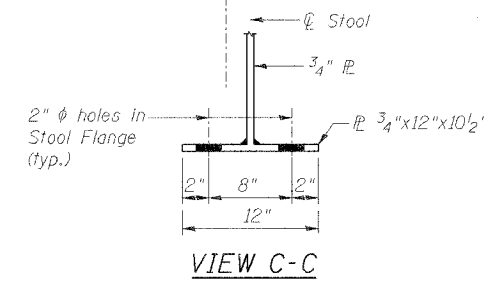


SECTION B-B

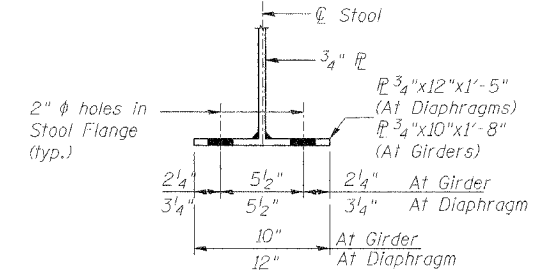


A-STOOLS

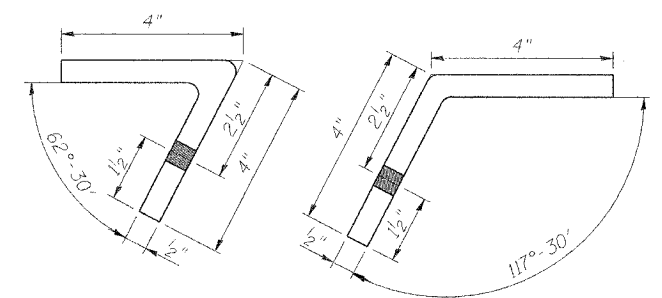
B-STOOLS



VIEW C-C



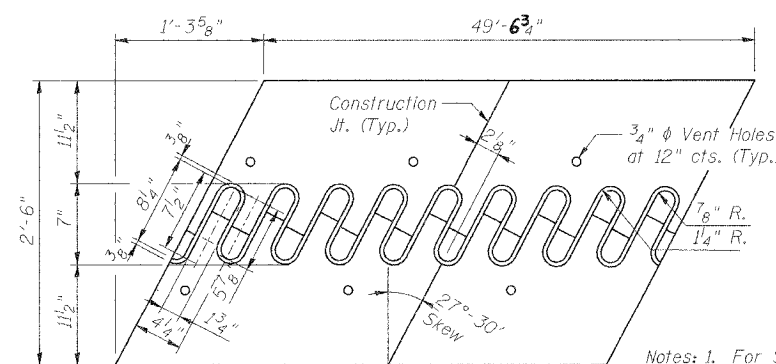
VIEW D-D



BENT CONNECTION PLATE DETAILS

TABLE FOR DIMENSION A & B

Stool No.	Dim. A (in)	Stool No.	Dim. B (in)
A1	12 1/4"	B1	6 1/4"
A2	12 1/2"	B2	10 3/4"
A3	12 3/8"	B3	11"
A4	13 1/4"	B4	11 1/4"
A5	13 1/2"	B5	11 5/8"
A6	13 3/4"	B6	6 1/4"
A7	14"	B7	10 5/8"
A8	14 1/4"	B8	10 3/8"
A9	14 3/8"	B9	11"
A10	14 1/2"	B10	11 1/4"
A11	14 3/4"	B11	6 1/4"
A12	14 7/8"	B12	11 1/4"
A13	15 1/8"	B13	11 1/2"
A14	15 1/4"	B14	11 1/4"
A15	14 7/8"	B15	10 7/8"
A16	14 3/8"	B16	6 1/4"
A17	14"	B17	12 1/4"
A18	13 5/8"	B18	11 7/8"
A19	13 1/2"	B19	11 1/2"
A20	12 3/4"	B20	11"
A21	12 1/4"	B21	6 3/8"
A22	11 3/4"	B22	12 5/8"
A23	11 1/4"	B23	12 1/8"
A24	10 3/4"	B24	11 5/8"
A25	10 1/4"	B25	11"
A26	9 5/8"	B26	6 3/8"
A27	9 1/8"		



FLAME CUTTING DIAGRAM

Cut from  
1 5/8" x 2'-6" x 50'-10 3/8" (M270-Gr. 50)

Notes: 1. For Stool Locations, See Sheet 4 of 8

2. For View E-E, See Sheet 5 of 8

3. Existing shear studs that interfere with the finger plate stools shall be removed using the air-arc method and grind smooth all weld material remaining on the top flange. Cost included with Finger Plate Expansion Joint, 3".

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

JOINT DETAILS - 1 OF 2

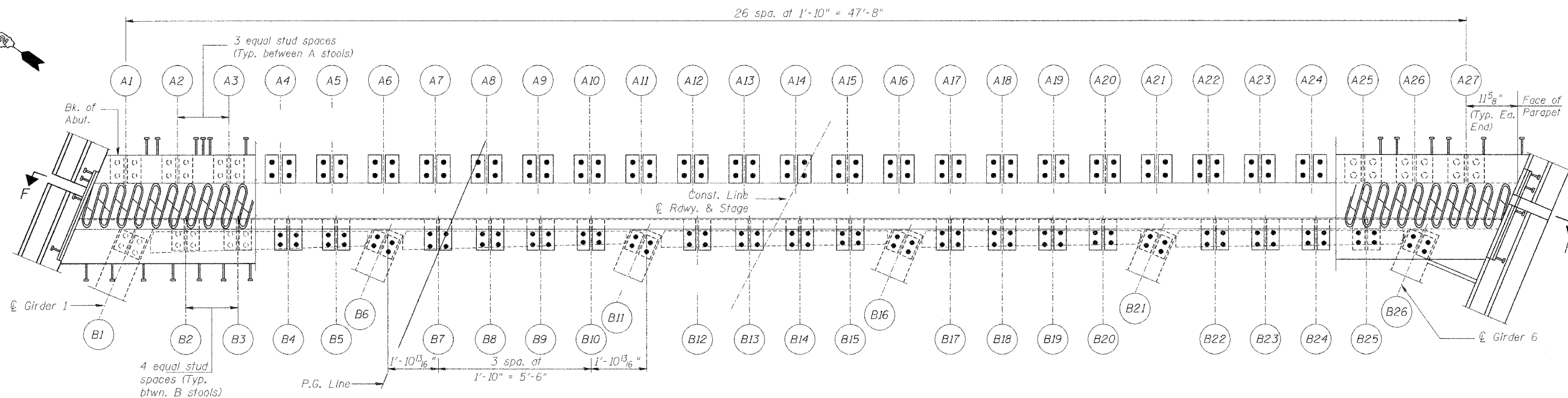
US 20 OVER PECATONICA RIVER  
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STEPHENSON COUNTY  
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SCALE: NONE DATE: JANUARY, 2007  
Soodan & Associates, Inc.  
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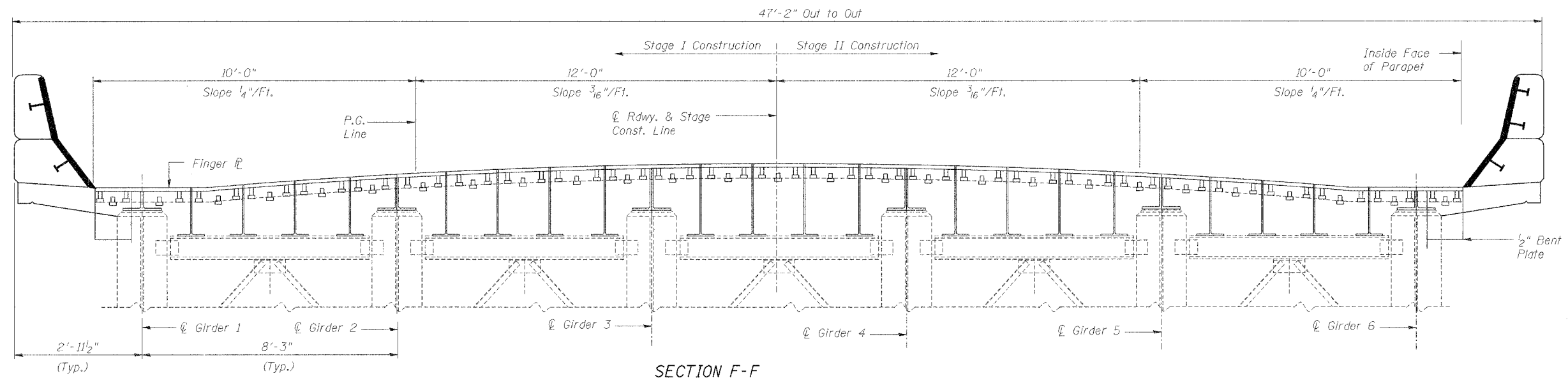
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 8 SHEETS
U.S. 20	(177-2B)M	STEPHENSON COUNTY	11	6	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

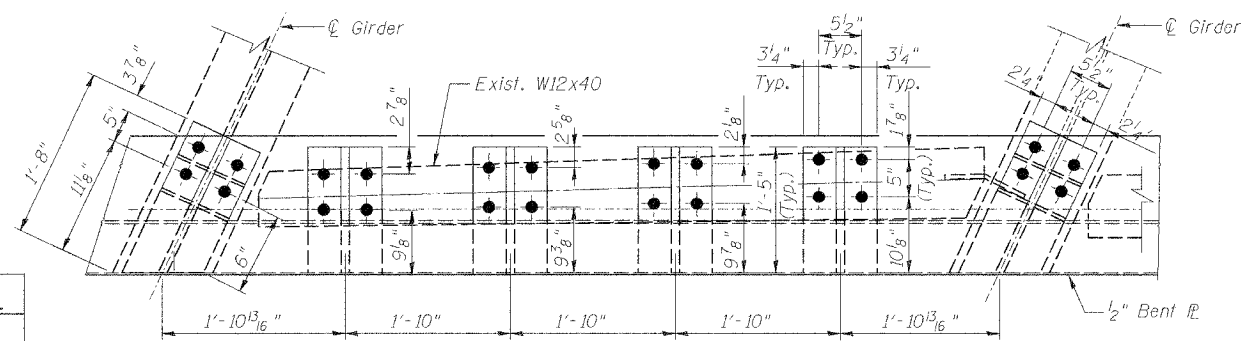
CONTRACT # 64001



PLAN



SECTION F-F



PLAN

(Showing Stool Layout Span Side)

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

JOINT DETAILS - 2 OF 2

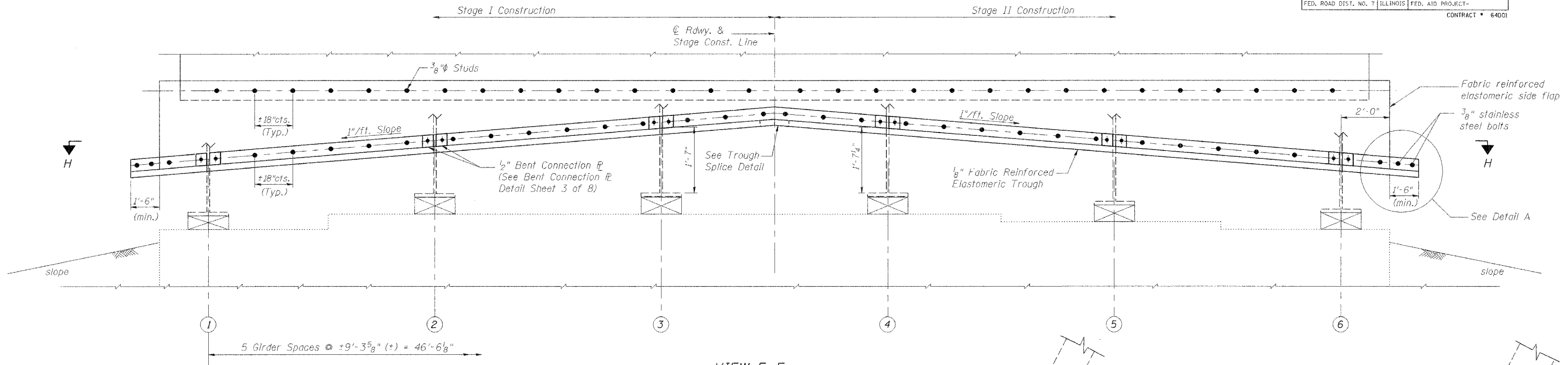
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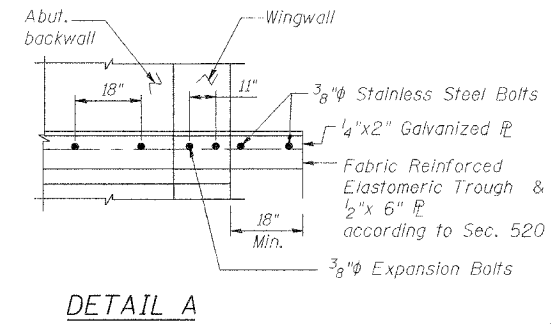
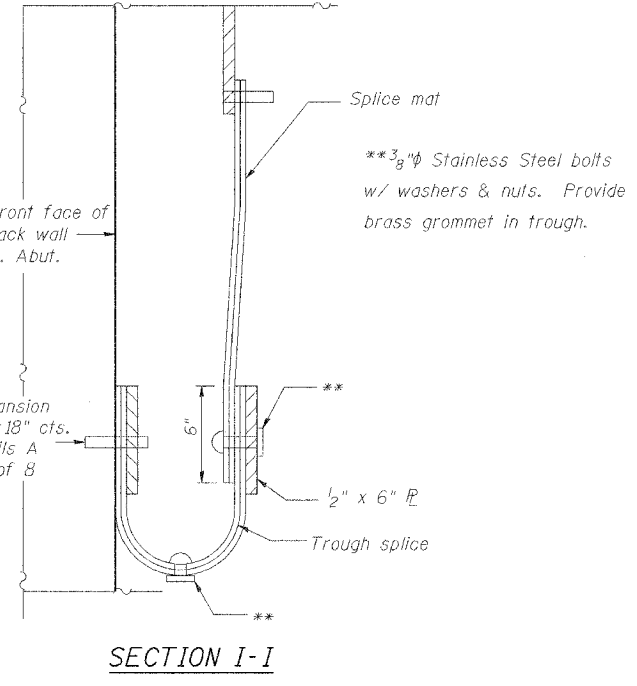
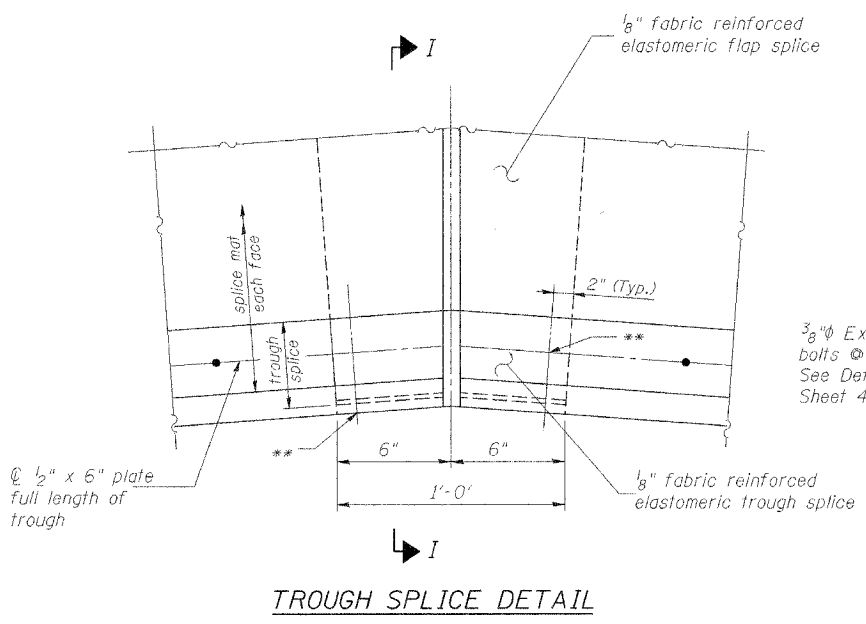
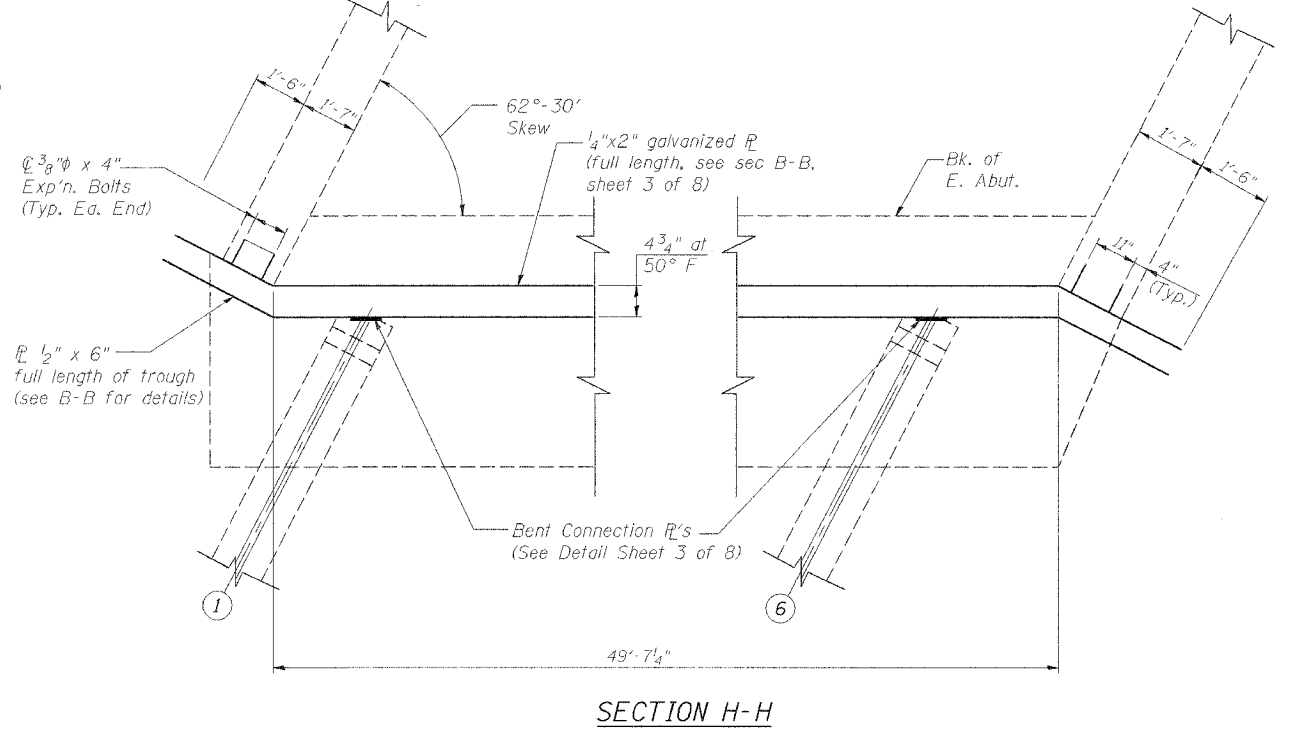
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S. 20	1177-2B1M	STEPHENSON COUNTY	11	7
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
CONTRACT # 64001				

SHEET NO. 5  
8 SHEETS



**VIEW E-E**  
(Horizontal dimensions are measured along skew.)  
(Looking East)



**TROUGH DETAILS**

US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (1177-2B1M)  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

SCALE: NONE

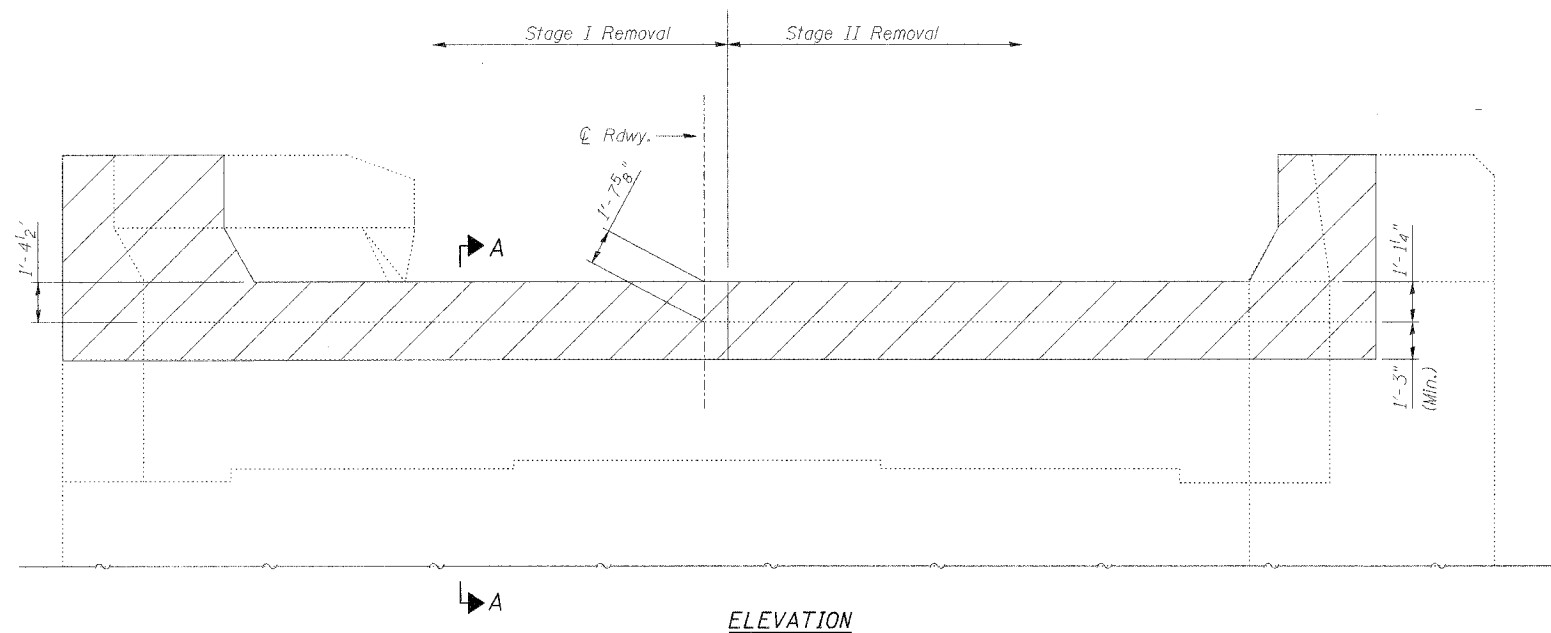
DATE: JANUARY, 2007

Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602

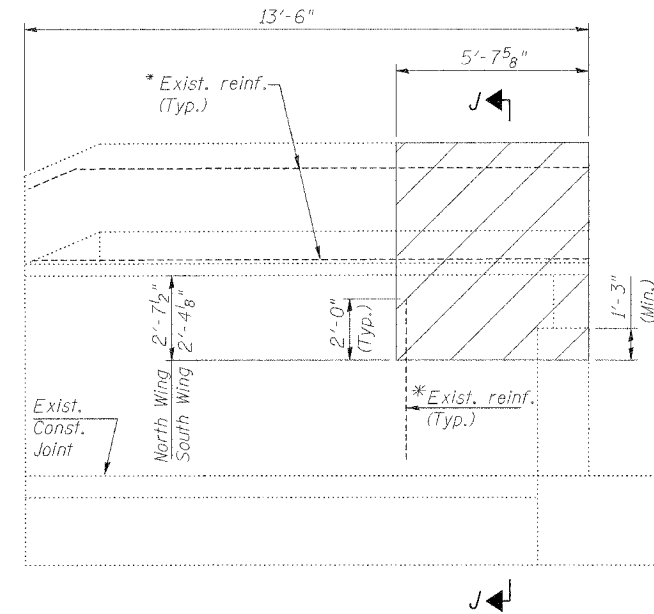
DESIGNED	M.R./R.A.
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

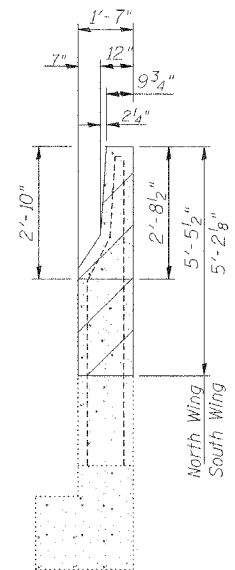
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 8 SHEETS
U.S. 20	(177-2B)	STEPHENSON COUNTY	11	8	
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT	CONTRACT # 64001		



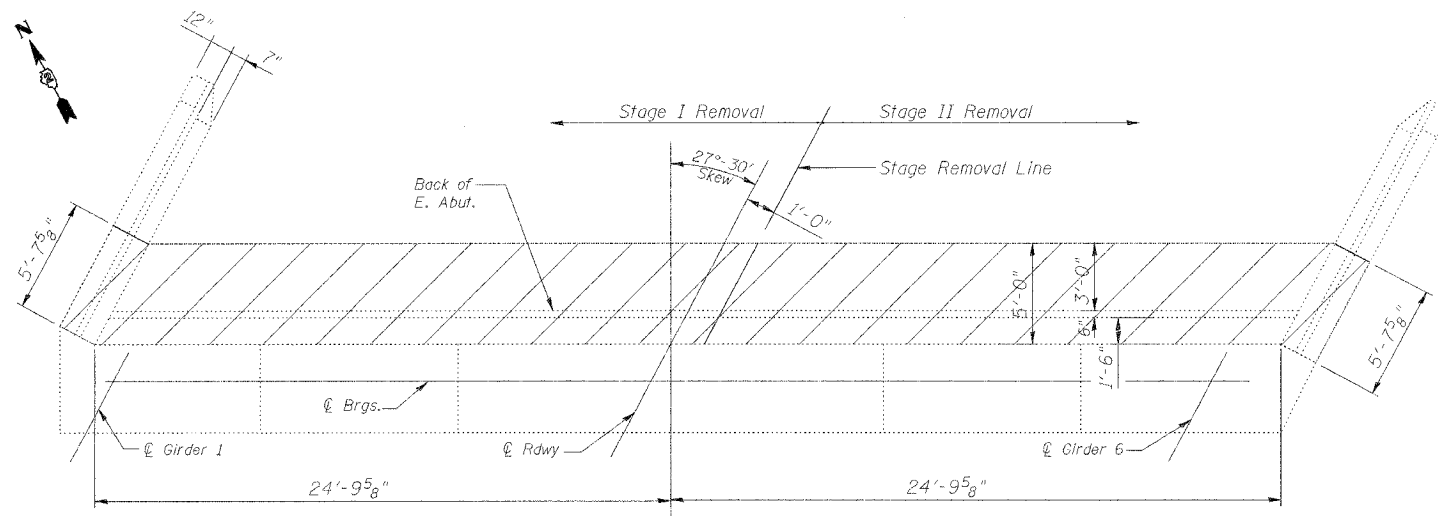
ELEVATION



INSIDE ELEVATION WING WALL



SECTION J-J



PLAN

\* Existing reinforcement extending into the removal area shall be cleaned, straightened Incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with concrete removal.

NOTES:

For Section A-A, See sheet 2 of 8.

Hatched areas indicate Concrete Removal

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

CONCRETE REMOVAL DETAILS

US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (177-2B)  
STEPHENSON COUNTY  
STATION 539+14.00  
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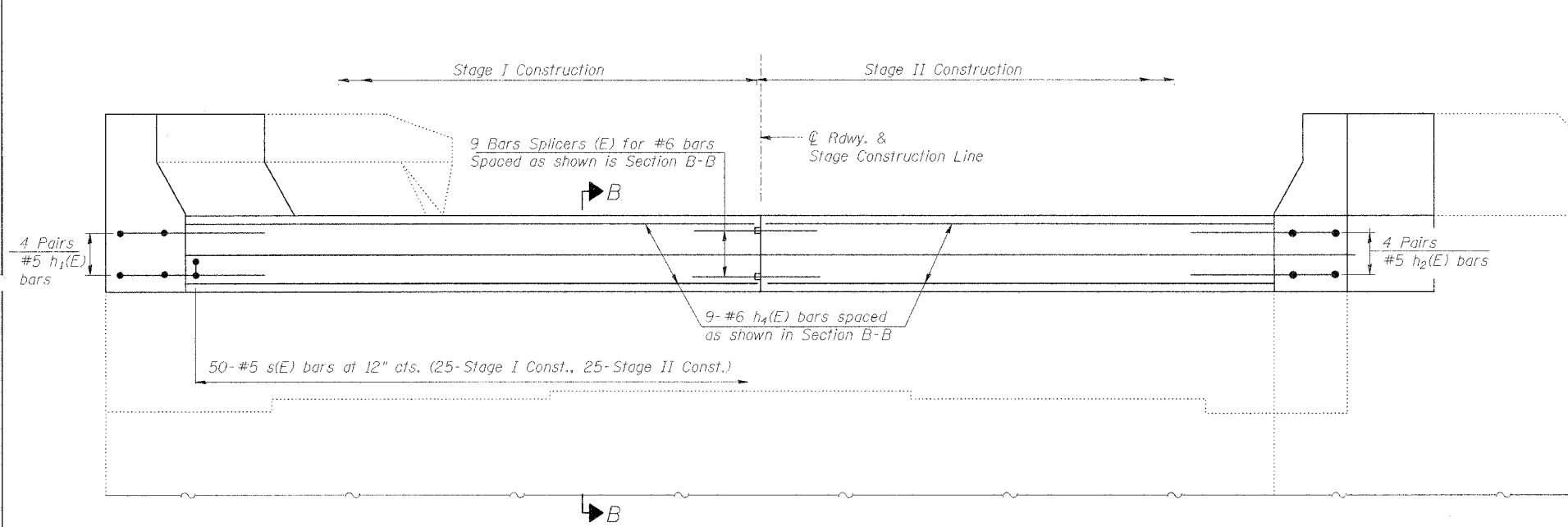
Soodan  
Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602



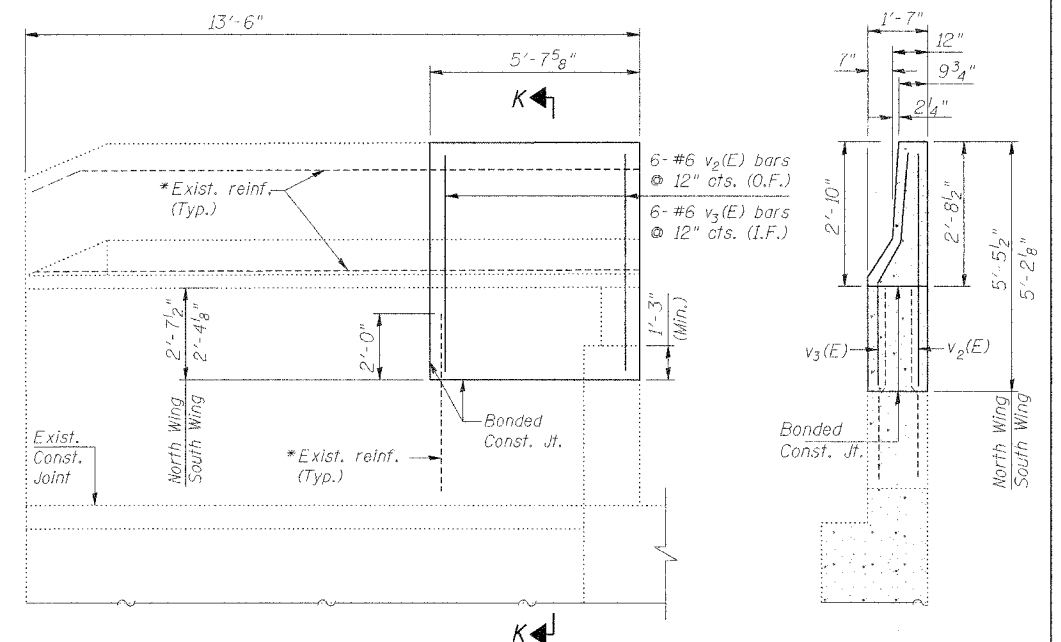
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Abbreviations:  
I.F. - Inner Face  
O.F. - Outer Face

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7
U.S. 20	1177-2B1M	STEPHENSON COUNTY	11	9	8 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-					
CONTRACT # 64001					



ELEVATION



INSIDE ELEVATION WING WALL

SECTION K-K

\* Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with concrete removal.

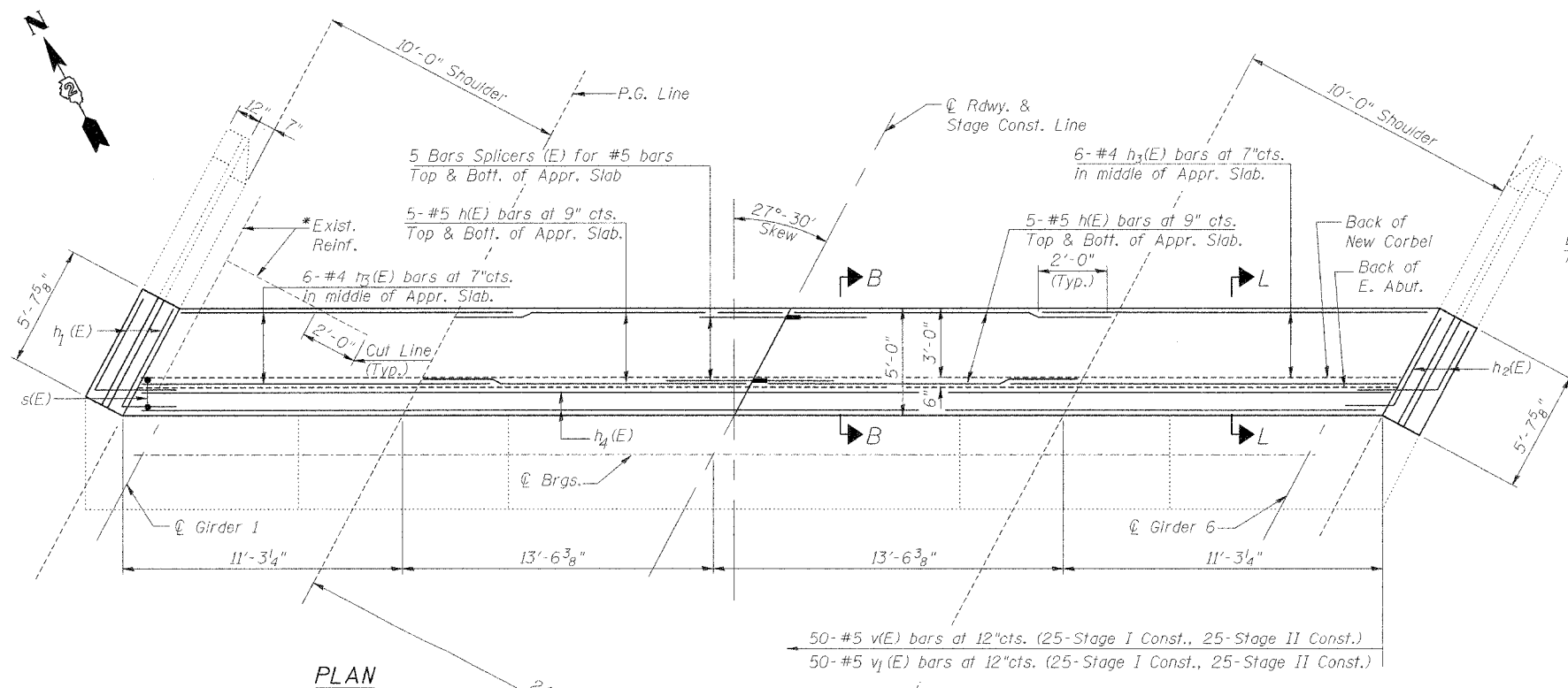
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	20	#5	13'-4"	—
h1(E)	8	#5	9'-4"	↘
h2(E)	8	#5	7'-8"	↘
h3(E)	12	#4	13'-3"	—
h4(E)	18	#6	24'-9"	—
s(E)	50	#5	6'-2"	□
v(E)	50	#5	2'-5"	—
v1(E)	50	#5	2'-0"	—
v2(E)	12	#6	5'-2"	—
v3(E)	12	#6	5'-4"	—
Concrete Removal		Cu.Yd.	18.3	
Concrete Superstructure		Cu.Yd.	18.8	
Reinforcement Bars Epoxy Coated		Pound	1940	

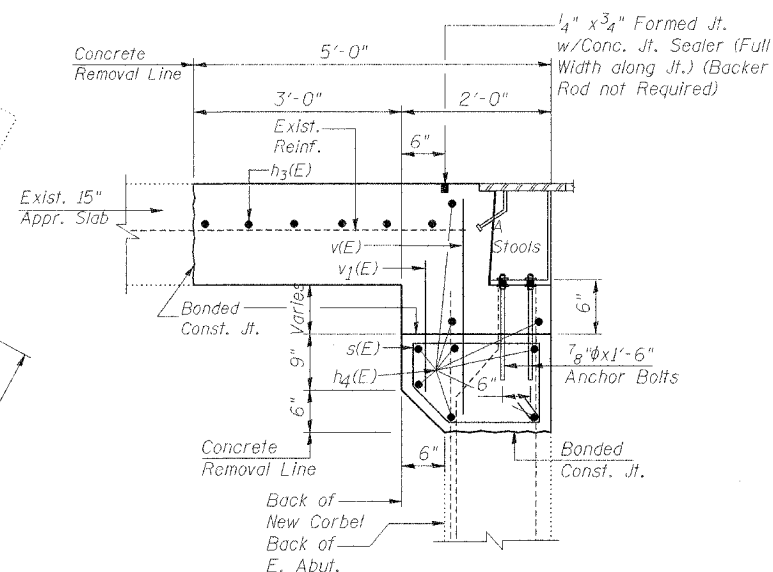
Reinforcement bars designated (E) shall be epoxy coated

For Bar Splicer Details, See Sheet 8 of 8

For Section B-B, See sheet 3 of 8

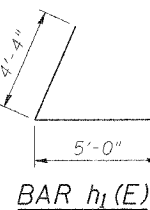


PLAN

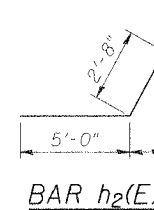


SECTION L-L

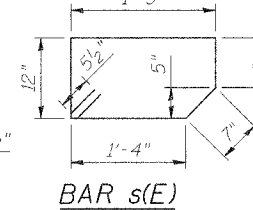
DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.



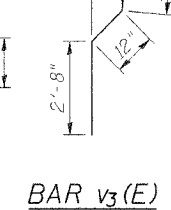
BAR h1(E)



BAR h2(E)



BAR s(E)



BAR v3(E)

CONCRETE PLACEMENT DETAILS

US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION 1177-2B1M  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

SCALE: NONE DATE: JANUARY, 2007  
Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 8 SHEETS
U.S. 20	(177-2B)M	STEPHENSON COUNTY	11	10	
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-					
CONTRACT # 64001					

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_1$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_1$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_1$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

The diameter of this part is the same as the diameter of the bar spliced.

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR

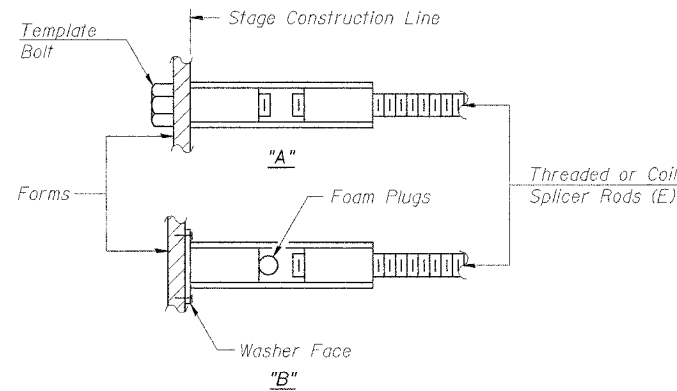


\*\* ONE PIECE

Wire Connector



WELDED SECTIONS

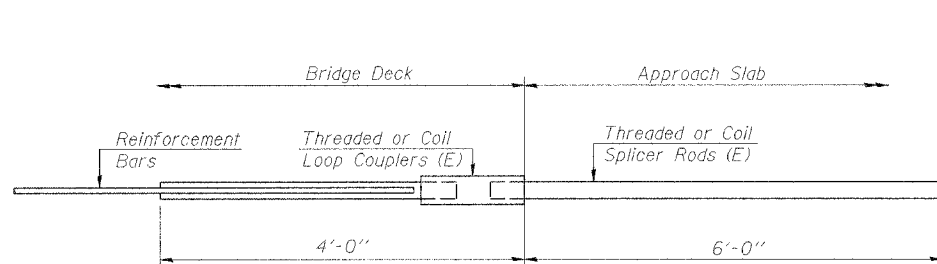


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

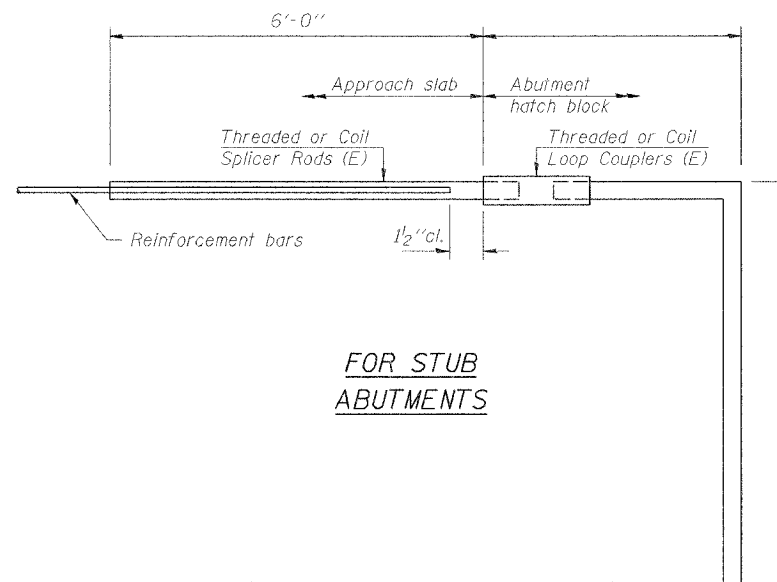
BAR SPLICER ASSEMBLY ALTERNATIVES

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



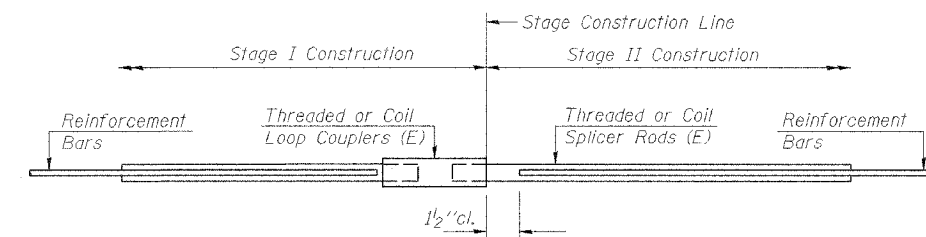
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	10	Approach Slab
#6	9	Abutment
#5	12	Deck

BAR SPLICER ASSEMBLY DETAILS

US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (177-2B)M  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

SCALE: NONE DATE: JANUARY, 2007  
Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

BSD-1 11-01-06

RELOCATE TEMPORARY CONCRETE BARRIER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

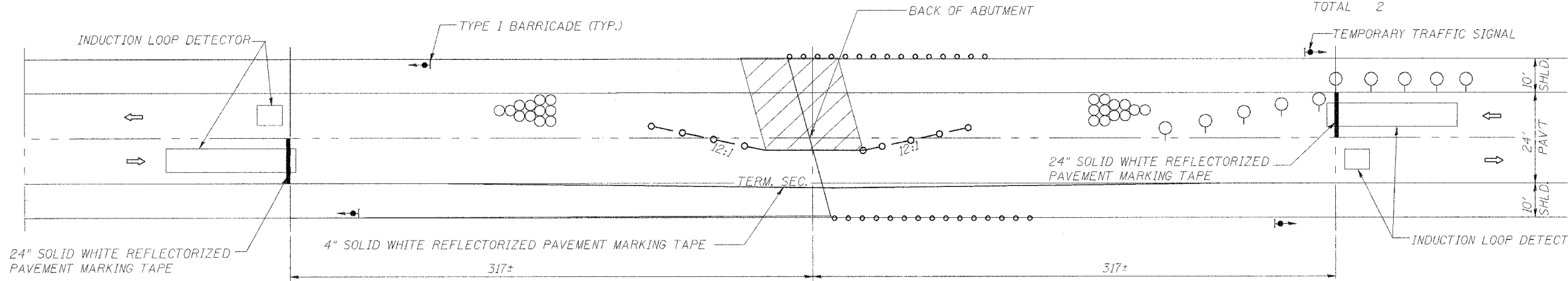
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S. 20	(177-2B)M	STEPHENSON COUNTY	11	11
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
CONTRACT # 64001				

TEMPORARY CONCRETE BARRIER TERMINAL SECTION

SN 089-0045 (STAGE 1)	300
TOTAL	300

TRAFFIC CONTROL STAGE 1 CONSTRUCTION

SN 089-0045 (STAGE 1)	EACH	2
TOTAL	TOTAL	2



PAVEMENT MARKING REMOVAL

CENTER LINE	160
TOTAL	160
PAVEMENT MARKING TAPE, TYPE III 24"	24
TOTAL	24

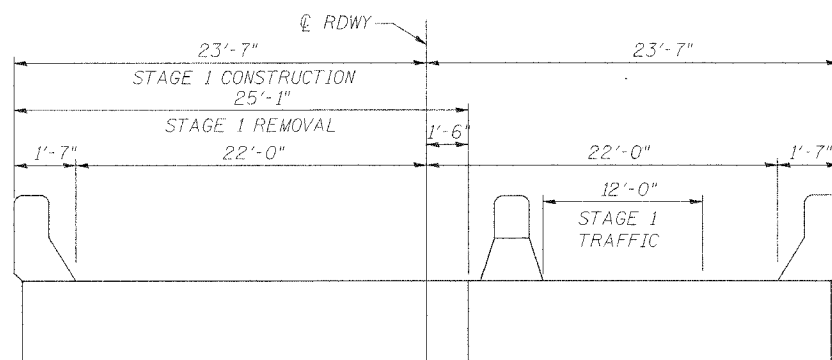
STAGE I CONSTRUCTION SEQUENCE

1. Install Standard 701321 using Standard 701201 and 701301.
2. Construct north section of east abutment expansion joint.
3. Relocate Standard 701321 to Stage II using Standard 701201 and 701301.
4. Switch traffic to Stage II.

VERTICAL PANELS AT 50' CENTERS  
CRYSTAL BIDIRECTIONAL REFLECTORS AT 50' CENTERS

SAND MODULE IMPACT ATTENUATOR (TEMPORARY.)

SN 089-0045 (STAGE 1)	EACH	24
TOTAL	TOTAL	24



TYP. SEC. THRU DECK

PAVEMENT MARKING TAPE, TYPE III 4"

STAGE 1 (EB) EDGE LINE	635
STAGE 2 (WB) EDGE LINE	635
TOTAL	1270

BARRIER WALL REFLECTORS, CRYSTAL BIDIRECTIONAL TEMPORARY PAVEMENT MARKERS, TRAFFIC CONTROL SIGNS AND DEVICES SHALL USE THE DISTANCE AND LAYOUT SET FORTH IN STANDARD 701321

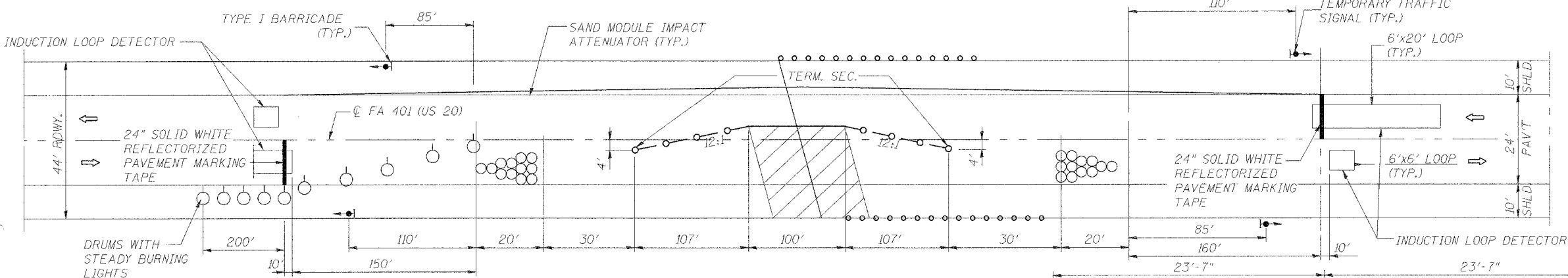
PAINT PAVEMENT MARKING-LINE 4"

CENTER LINE STRIPPING	160
TOTAL	160

TRAFFIC CONTROL STAGE 2 CONSTRUCTION

RELOCATE TEMPORARY CONCRETE BARRIER

SN 085-0045 (STAGE)	314
TOTAL	314

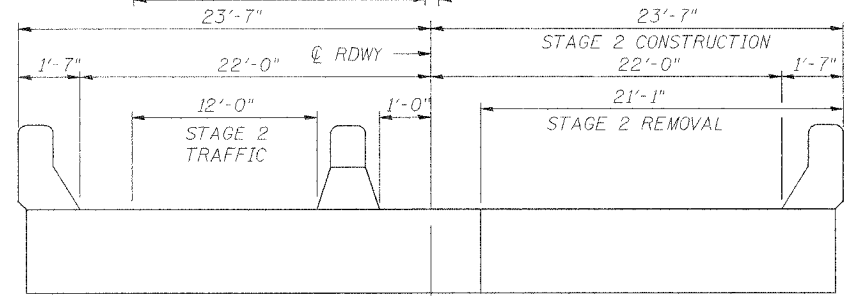


STAGE II CONSTRUCTION SEQUENCE

1. Construct south section of east abutment expansion joint.
2. Remove Standard 701321 using Standard 701201 and 701301.
3. Repair bituminous shoulder (if required) using Standard 701201 and 701301.
4. Place temporary pavement marking using Standard 701311.

SAND MODULE IMPACT ATTENUATOR (RELOCATE)

SN 089-0045 (STAGE 2)	EACH	24
TOTAL	TOTAL	24



TYP. SEC. THRU DECK

DESIGNED	M.R./R.A.
CHECKED	H.T.
DRAWN	J.S.P.
CHECKED	H.T./M.R.

**TRAFFIC CONTROL PLAN**  
US 20 OVER PECATONICA RIVER  
FAP ROUTE 301 (US20), SECTION (177-2B)M  
STEPHENSON COUNTY  
STATION 539+14.00  
STRUCTURE NO. 089-0045

SCALE: NONE DATE: JANUARY, 2007  
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