

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED  
SURFACE TRANSPORTATION PROGRAM-BRIDGE  
BUREAU COUNTY  
SECTION 09-00218-00-BR  
F.A.S. 1220 (CH 12) OVER  
BRANCH OF WEST BUREAU CREEK  
PROJECT NO. BRS-1220(105)  
JOB NUMBER C-93-041-16**

F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 87640	

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, DETAILS
3.	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4.	TRAFFIC CONTROL PLAN
5.	EROSION CONTROL PLAN
6.	PLAN AND PROFILE
7.-18.	STRUCTURE PLANS
19.-25.	CROSS SECTIONS

**REQUIRED HIGHWAY STANDARDS**

- 000001-06
- 280001-07
- 515001-03
- 542401-02
- 630301-07
- 701901-06
- 725001-01
- BLR 21-9
- BLR 23-4
- BLR 26-3
- BLR 27-1

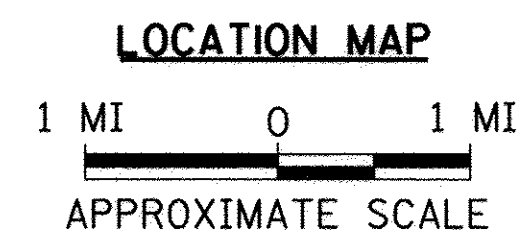
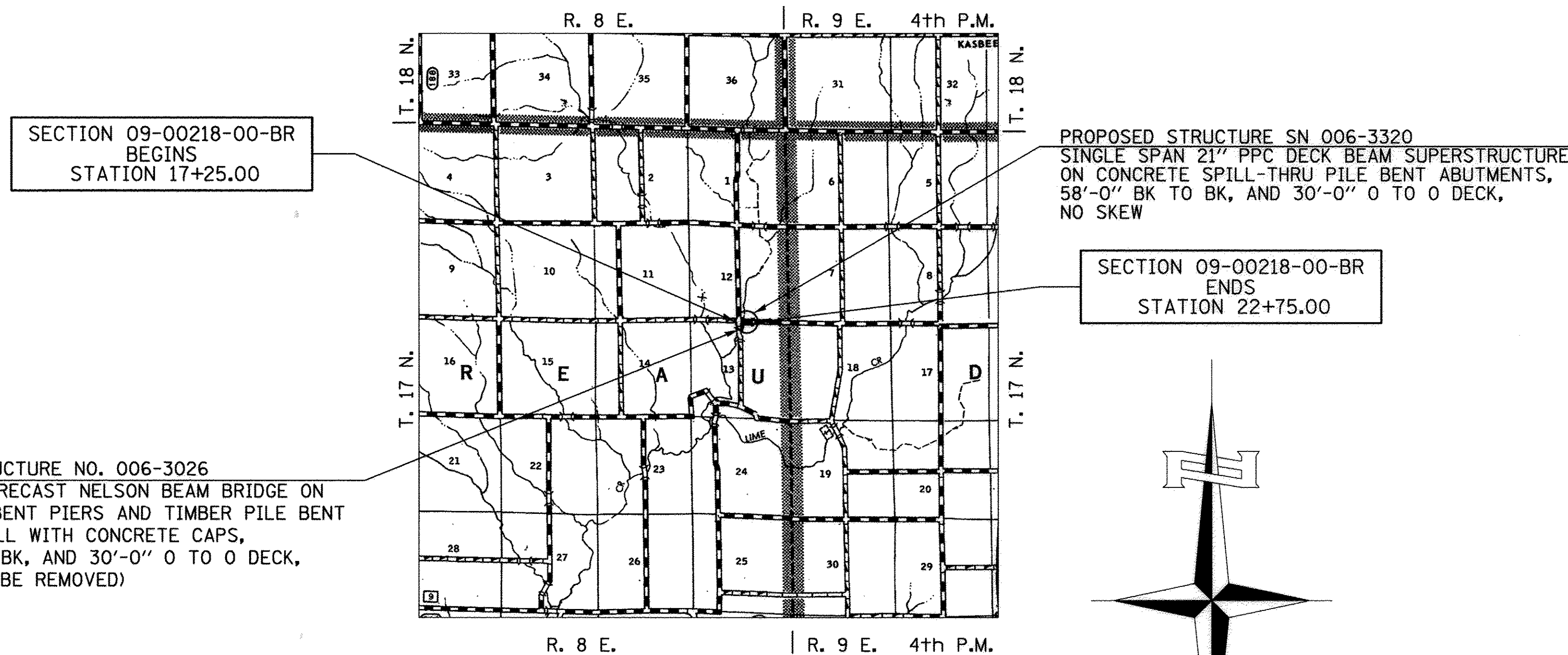
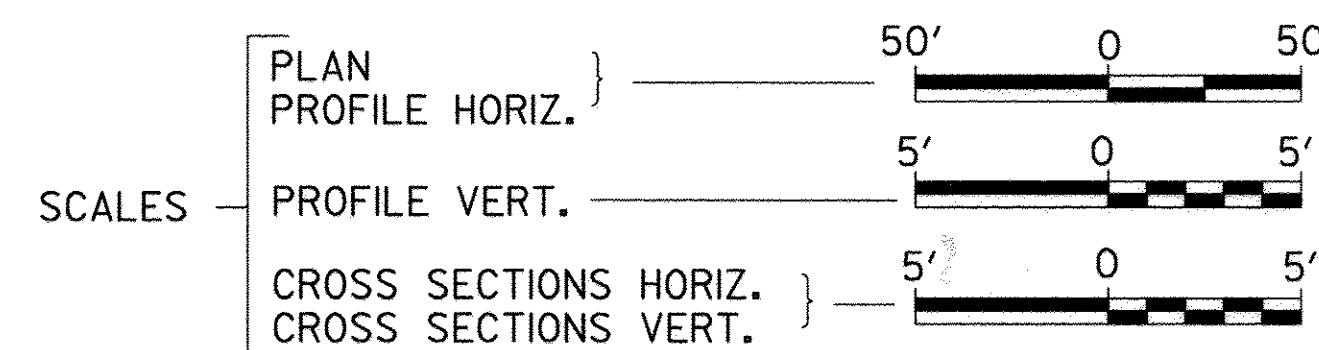
**UTILITY COMPANIES**

AMEREN ILLINOIS  
LASALLE, ILLINOIS

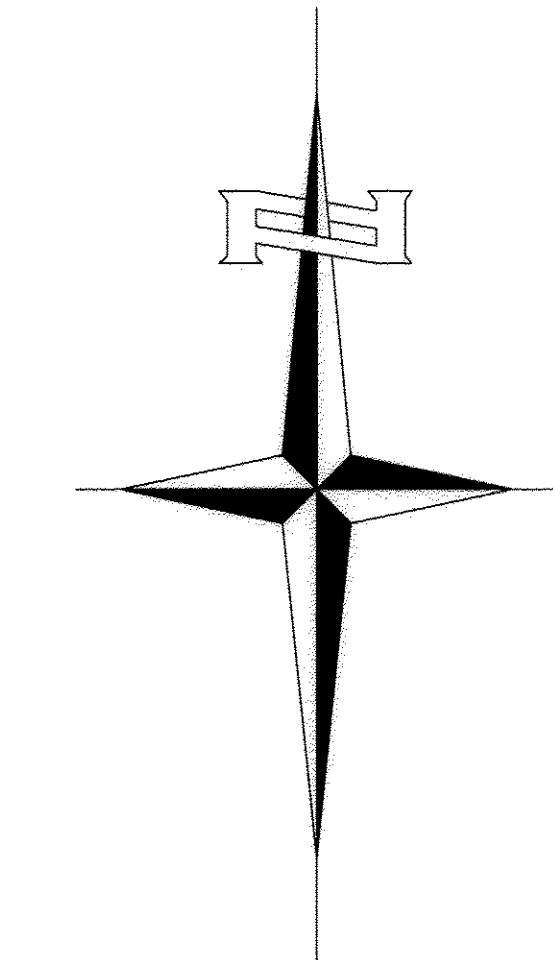
FRONTIER COMMUNICATIONS  
ROSEVILLE, ILLINOIS

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

**CONTRACT NO. 87640**



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NET LENGTH OF PROJECT = 550.00 FEET = 0.104 MILES  
DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)  
DESIGN ADT: 170 (16)  
DESIGN SPEED: 40 MPH

**Hutchison Engineering, Inc.**  
JACKSONVILLE-SHOREWOOD-PEORIA  
2017 JOB#3516

*Joseph E. Wilkerson*  
58535  
REGISTERED PROFESSIONAL ENGINEER  
OF ILLINOIS  
2/13/2017  
SIGNATURE  
ENGINEER'S SEAL

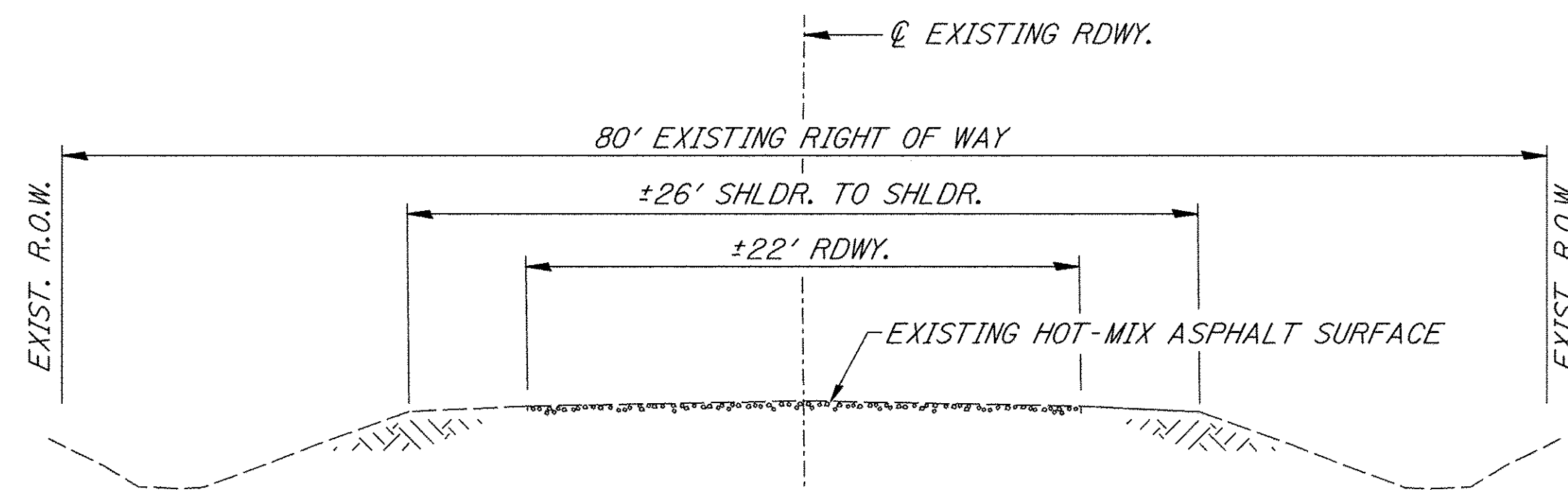
PLANS DESIGNED IN ACCORDANCE WITH BUREAU OF LOCAL ROADS AND STREETS MANUAL GUIDELINES FOR TWO LANE RURAL COLLECTORS - RECONSTRUCTION

APPROVED	<u>02-15</u>	2017
	<i>John E. Jones</i> BUREAU COUNTY ENGINEER	
PASSED	<u>2/16</u>	2017
	<i>Donald R. E.</i> DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS	
Released For Bid Based on Limited Review	<u>2/16</u>	2017
	<i>Kevin Harolde</i> REGION TWO ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

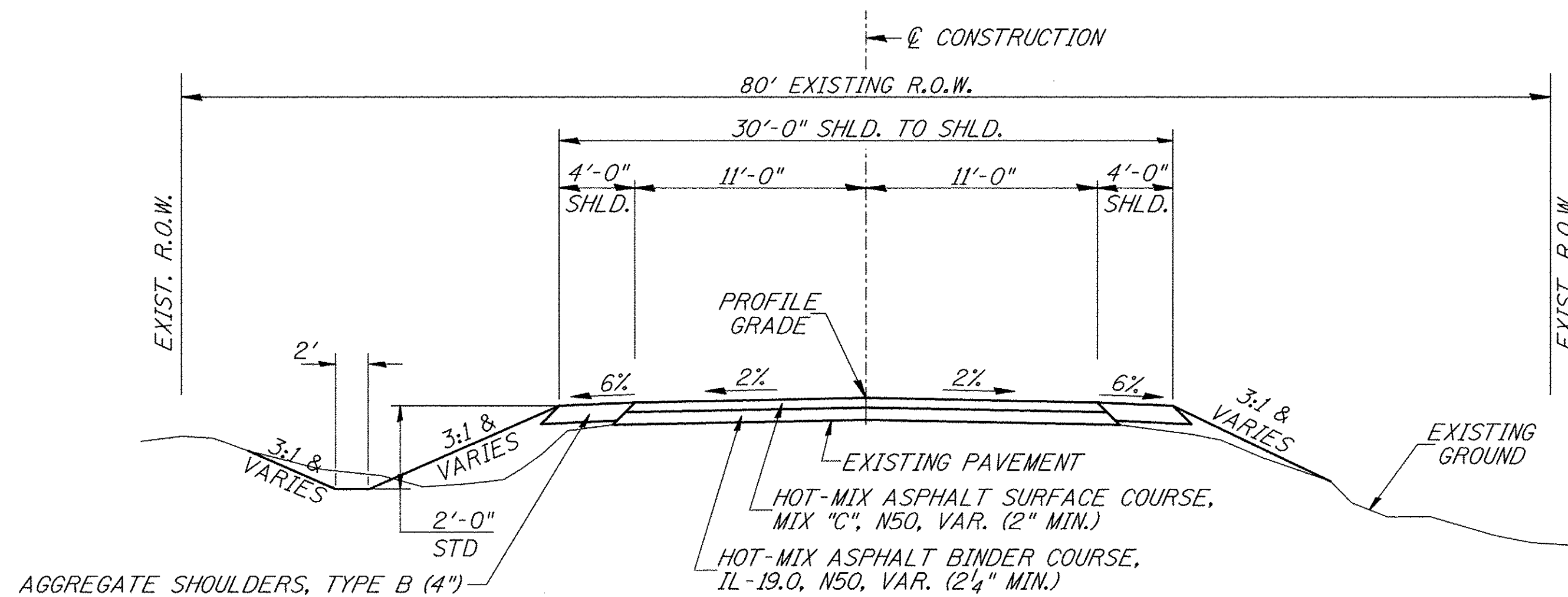
**HOT-MIX ASPHALT MIXTURE REQUIREMENTS**

	HMA BINDER	HMA SURFACE
PG GRADE	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION	IL-19.0	IL-9.5
FRICTION AGGREGATE		MIXTURE C
DENSITY TEST METHOD	CORES	CORES
MIXTURE WEIGHT	112#/SQ. YD./IN.	112#/SQ. YD./IN.
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA
SUBLOT SIZE	N/A	N/A
LOCATIONS	ENTIRE PROJECT	ENTIRE PROJECT

If RAP option is selected, the asphalt cement grade may need to be adjusted. This will be determined by the Engineer.



**EXISTING TYPICAL SECTION**

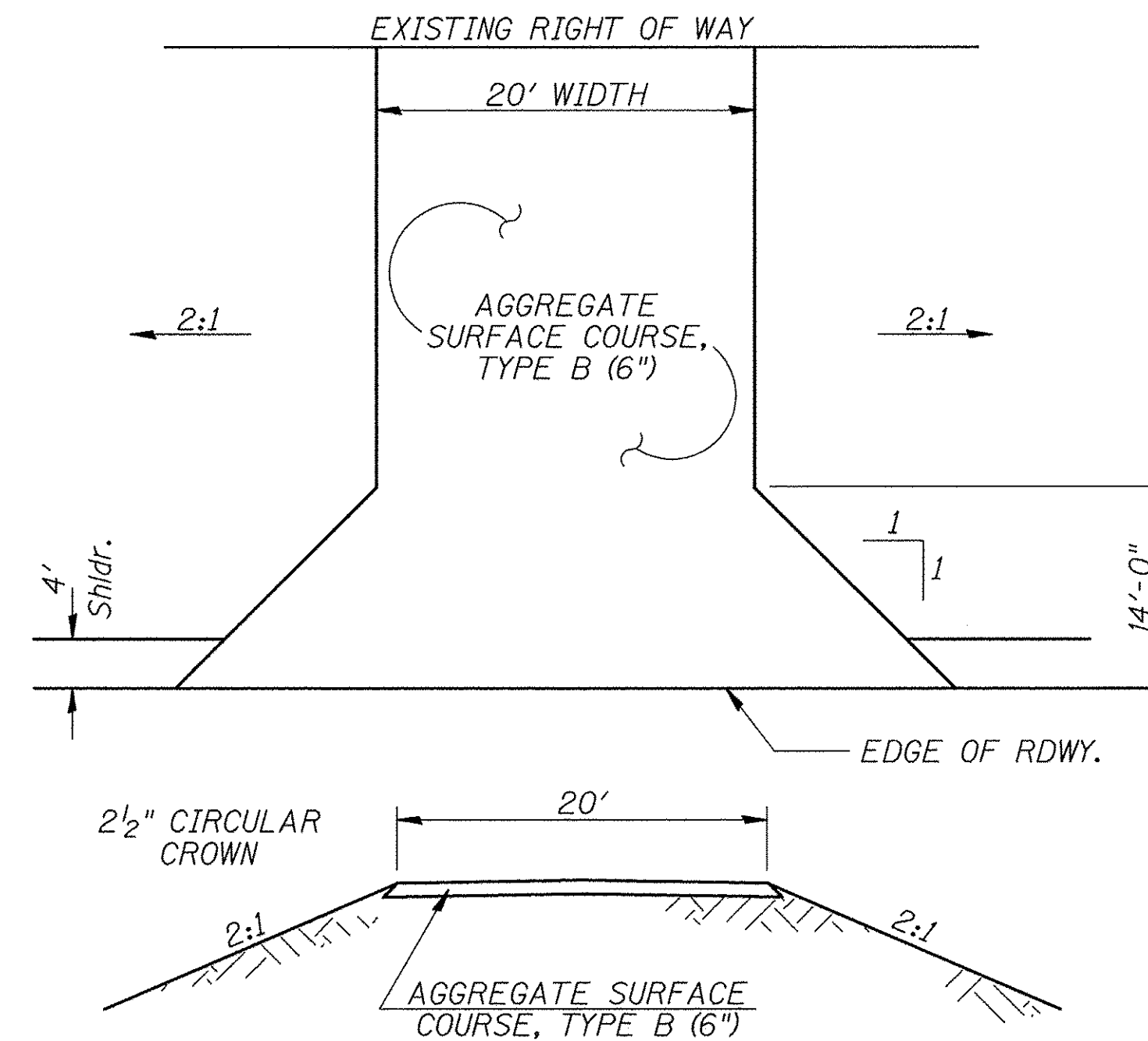


**PROPOSED TYPICAL SECTION**

CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301 OR STD BLR 23 AS APPLICABLE

STA. 17+25.00 TO STA. 19+71.00  
STA. 20+29.00 TO STA. 22+75.00  
EXCEPT TRANSITIONS

BRIDGE OMISSION  
STA. 19+71.00 TO STA. 20+29.00

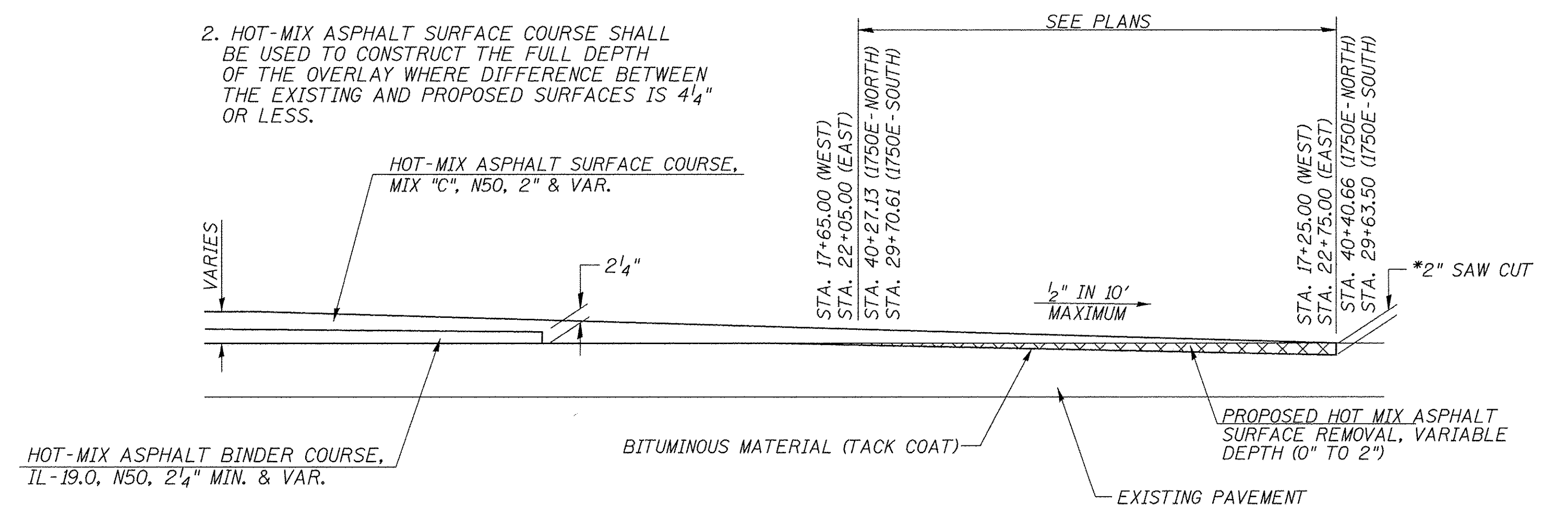


**PROPOSED FIELD ENTRANCE**

STA 18+00 RT

**NOTES:**

- HOT MIX ASPHALT SURFACE REMOVAL LIMITS/DEPTHS DETERMINED BY PROVIDING 2" BELOW PROPOSED PROFILE GRADE ON THE MAINLINE AND 2" BELOW THE STRAIGHT LINE GRADE BETWEEN THE MAINLINE EDGE OF SHOULDER ELEVATION AND RETURN TERMINI ELEVATION ON THE SIDEROAD.
- HOT-MIX ASPHALT SURFACE COURSE SHALL BE USED TO CONSTRUCT THE FULL DEPTH OF THE OVERLAY WHERE DIFFERENCE BETWEEN THE EXISTING AND PROPOSED SURFACES IS 4" OR LESS.



**PAVEMENT REMOVAL DETAIL**

\*COST INCLUDED IN SURFACE REMOVAL.

**GENERAL NOTES**

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE FINAL SURFACE OF ALL DISTURBED/EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE COHESIVE VEGETATION SUSTAINING SOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING VEGETATION SUSTAINING SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. TOPSOIL MAY BE STRIPPED AND STOCKPILED FROM THE SITE OR HAULED IN FROM AN ALTERNATE LOCATION AS APPROVED BY THE ENGINEER.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

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		DRAWN -	REVISED -
	PLOT SCALE = 1,0000' / 1in.	CHECKED -	REVISED -
	PLOT DATE = 2/9/2017	DATE -	REVISED -

**BUREAU COUNTY  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

<b>GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, DETAILS</b>	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS
STA. 17+25.00 TO STA. 22+75.00	

F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 2
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. BRS-1220(05)		
CONTRACT NO. 87640				



**SUMMARY OF QUANTITIES**

CODE NO.	ITEM	UNIT	QUANTITY
① 20200100	EARTH EXCAVATION	CU YD	25
20300100	CHANNEL EXCAVATION	CU YD	110
① 20400800	FURNISHED EXCAVATION	CU YD	295
① 20700220	POROUS GRANULAR EMBANKMENT	CU YD	29.6
25100630	EROSION CONTROL BLANKET	SQ YD	2,564
28000305	TEMPORARY DITCH CHECKS	FOOT	36
28000400	PERIMETER EROSION BARRIER	FOOT	850
28000500	INLET AND PIPE PROTECTION	EACH	2
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	17
① 40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	677
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	271
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	210
48101200	AGGREGATE SHOULDERS, TYPE B	TON	73
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	30
50300225	CONCRETE STRUCTURES	CU YD	24.3
50300280	CONCRETE ENCASEMENT	CU YD	2.6
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,685
50800105	REINFORCEMENT BARS	POUND	2,760
51200957	FURNISHING METAL SHELL PILES 12"X0.250"	FOOT	288
51202305	DRIVING PILES	FOOT	288
51203200	TEST PILE METAL SHELLS	EACH	2
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	34
54215550	METAL END SECTIONS 15"	EACH	2
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	193
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	150
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
* ① 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
67100100	MOBILIZATION	L SUM	1
* LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	1
① X2501100	SEEDING, CLASS 3 (SPECIAL)	ACRE	0.5
① X2810208	STONE RIPRAP, CLASS A4 (SPECIAL)	TON	415
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	329
① X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
* XX006199	STEEL BRIDGE RAIL, TYPE SM (SPECIAL)	FOOT	116
① Z0013798	CONSTRUCTION LAYOUT	L SUM	1

① SEE SPECIAL PROVISIONS \* SPECIALTY ITEMS  
NOTE: PAVEMENT MARKING DONE BY OTHERS

CONSTRUCTION CODE TYPE: 0011

**AGGREGATE SURFACE COURSE, TYPE B**

STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON
ENTRANCE - 18+00 RT	0.50'	VARIES	14.00'	17
TOTAL				17

**HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH**

STATION TO STATION	WIDTH	LENGTH	SQ YD
17+25.00 - 17+65.00	22.00'	40.00'	98
22+05.00 - 22+75.00	22.00'	70.00'	171
1750E - 18+79.02 RT	VARIES	7.11'	17
1750E - 18+97.24 LT	VARIES	13.48'	43
TOTAL			329

**PIPE CULVERTS, CLASS D, TYPE 1 15"**

STATION	SIDE	FOOT
18+00	RIGHT	34
TOTAL		34

**EARTHWORK SUMMARY**

STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
	CU YD	CU YD	CU YD	CU YD	CU YD
RDWY 17+25.00 - 19+71.00	11			169	(161)
RDWY 20+29.00 + 22+75.00	14			144	(134)
CHANNEL		110			
STRUCTURE			95		
TOTAL	25	110	95	313	(295)
USE	25	110	*95	-	(295)

(@ 25% SHRINKAGE)

\*STRUCTURE EXCAVATION SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 502 OF THE STANDARD SPECIFICATIONS. INDIVIDUAL PAYMENT FOR STRUCTURE EXCAVATION WILL NOT BE MADE, BUT SHALL BE IN ACCORDANCE WITH SECTION 502.13.

**EROSION CONTROL BLANKET**

STATION TO STATION	SIDE	WIDTH	LENGTH	AREA (SQ YD)
17+25 - 18+84	LEFT	VARIES	159'	432
17+25 - 18+72	RIGHT	VARIES	147'	383
18+91 - 19+71	RIGHT	VARIES	80'	219
19+06 - 19+71	LEFT	VARIES	65'	152
20+29 - 22+75	LEFT	VARIES	246'	689
20+29 - 22+75	RIGHT	VARIES	246'	689
TOTAL				2,564

**PERIMETER EROSION BARRIER**

STATION TO STATION	SIDE	FOOT
17+25 - 18+84	LEFT	165
17+25 - 18+17	RIGHT	95
18+50 - 18+72	RIGHT	25
18+91 - 19+71	RIGHT	100
19+06 - 19+34	LEFT	30
20+29 - 20+50	LEFT	40
20+29 - 22+75	RIGHT	270
21+50 - 22+75	LEFT	125
TOTAL		850

**TEMPORARY DITCH CHECKS**

STATION	SIDE	FOOT
18+50	RIGHT	12
19+82	LEFT	12
20+50	LEFT	12
TOTAL		36

**INLET AND PIPE PROTECTION**

STATION	SIDE	EACH
17+83	RIGHT	1
18+63	LEFT	1
TOTAL		2

**PIPE CULVERT REMOVAL**

STATION	SIZE	SIDE	FOOT
18+00	15"	RIGHT	30
TOTAL			30

**AGGREGATE SHOULDERS, TYPE B**

STATION TO STATION	SIDE	WIDTH	LENGTH	TON
17+25.00 - 17+75.00	LEFT	3.00' AVG.	50.00'	4
17+25.00 - 17+75.00	RIGHT	3.00' AVG.	50.00'	4
17+75.00 - 18+63.59	LEFT	4.00'	88.59'	8
17+75.00 - 17+78.00	RIGHT	4.00'	3.00'	1
18+22.00 - 18+50.04	RIGHT	4.00'	28.04'	3
19+10.93 - 19+71.00	RIGHT	4.00'	60.07'	6
19+35.18 - 19+71.00	LEFT	4.00'	35.82'	3
20+29.00 - 22+25.00	LEFT	4.00'	196.00'	18
20+29.00 - 22+25.00	RIGHT	4.00'	196.00'	18
22+25.00 - 22+75.00	LEFT	3.00' AVG.	50.00'	4
22+25.00 - 22+75.00	RIGHT	3.00' AVG.	50.00'	4
TOTAL				73

**TRAFFIC BARRIER TERMINAL, TYPE 5A**

SIDE	STATION TO STATION	EACH
RIGHT	19+57.75 - 19+71.00	1
LEFT	20+29.00 - 20+42.25	1
TOTAL		2

**TRAFFIC BARRIER TERMINAL, TYPE 1**

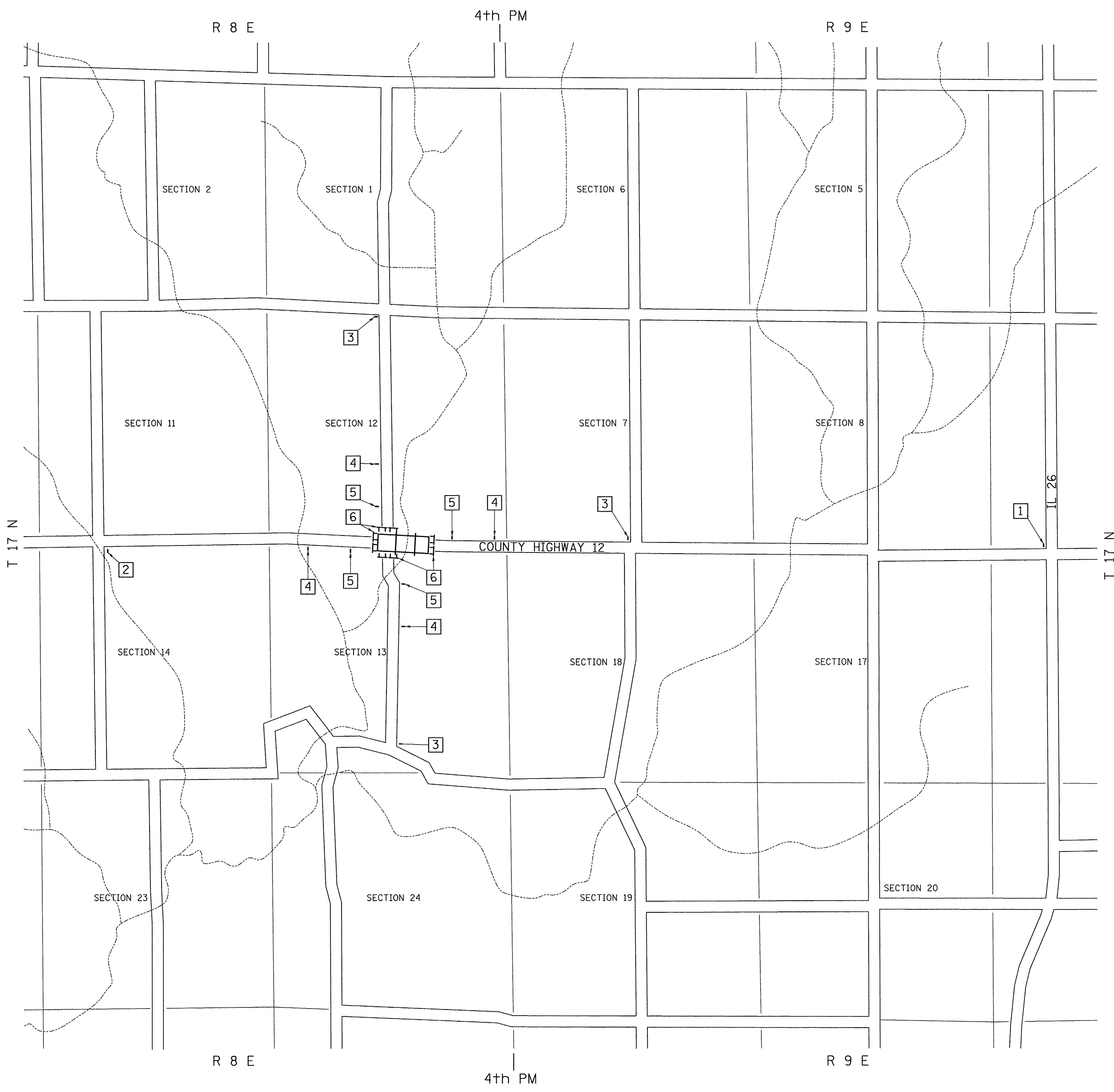
SIDE	STATION TO STATION	EACH
RIGHT	19+32.75 - 19+57.75	1
TOTAL		1

**TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT**

SIDE	STATION TO STATION	EACH
LEFT	20+42.25 - 20+92.25	1
TOTAL		1

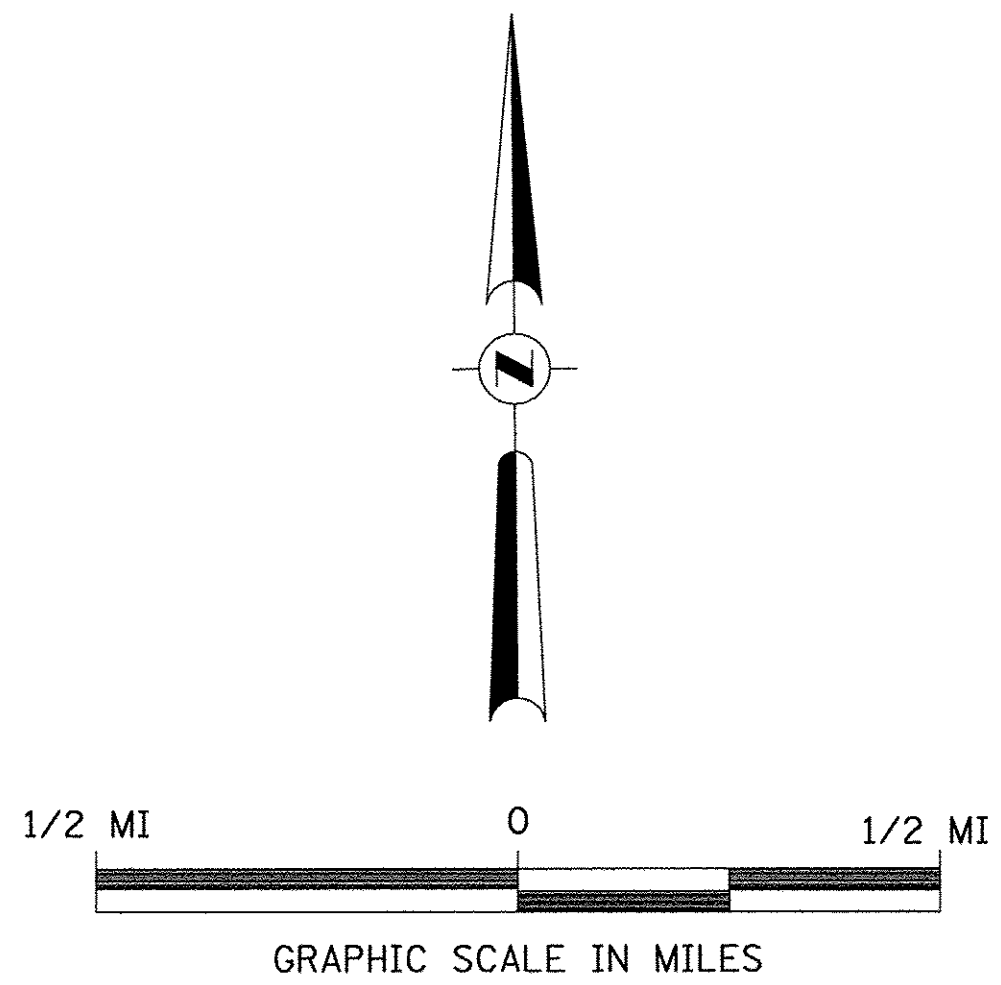
**PAVEMENT SCHEDULE**

STATION TO STATION	WIDTH	THICKNESS	LENGTH	TACK COAT POUND 0.05 LBS/SQ FT	HOT-MIX ASPHALT BINDER CSE, IL-19.0, N50 TON	HOT-MIX ASPHALT SURF CSE, MIX "C", N50 TON
17+25.00 - 17+65.00	22.33'	—	40.00'	45		
17+65.00 - 18+20.00	22.52' AVG.	—	55.00'	62		
18+20.00 - 19+71.00	23.37' AVG.	—	151.00'	176		
20+29.00 - 21+65.00	23.17' AVG.	—	136.00'	158		
21+65.00 - 22+05.00	22.52' AVG.	—	40.00'	45		
22+05.00 - 22+75.00	22.33'	—	70.00'	78		
1750E - 18+79.02 RT	VARIES	—	27.00'	49		
1750E - 18+97.24 LT	VARIES	—	29.70'	64		
18+20.00 - 19+71.00	22.85' AVG.	0.52' AVG.	151.00'		135	
20+29.00 - 21+65.00	22.75' AVG.	0.42' AVG.	136.00'		97	
1750E - 18+79.02 RT	VARIES	0.40' AVG.	11.10'		17	
1750E - 18+97.24 LT	VARIES	0.37' AVG.	13.50'		22	
17+25.00 - 17+65.00	22.17'	0.17'	40.00'			11
17+65.00 - 18+20.00	22.26' AVG.	0.26' AVG.	55.00'			24
18+20.00 - 19+71.00	22.17'	0.17'	151.00'			42
BRIDGE DECK	30.00'	0.18' AVG.	58.00'			24
20+29.00 - 21+65.00	22.17'	0.17'	136.00'			38
21+65.00 - 22+05.00	22.26' AVG.	0.26' AVG.	40.00'			17
22+05.00 - 22+75.00	22.17'	0.17'	70.00'			20
1750E - 18+79.02 RT	VARIES	0.22' AVG.	27.00'			15
1750E - 18+97.24 LT	VARIES	0.22' AVG.	29.70'			19
TOTAL				677	271	210



- ROAD CLOSED  
3 MILES AHEAD  
LOCAL TRAFFIC ONLY  
R11-3
- ROAD CLOSED  
1 1/4 MILES AHEAD  
LOCAL TRAFFIC ONLY  
R11-3
- ROAD CLOSED  
1 MILE AHEAD  
LOCAL TRAFFIC ONLY  
R11-3
- ROAD CLOSED  
AHEAD  
W20-3
- ROAD CLOSED  
500 FT  
W20-3
- TYPE III BARRICADES

SEE STANDARD BLR 21  
AND SPECIAL PROVISIONS

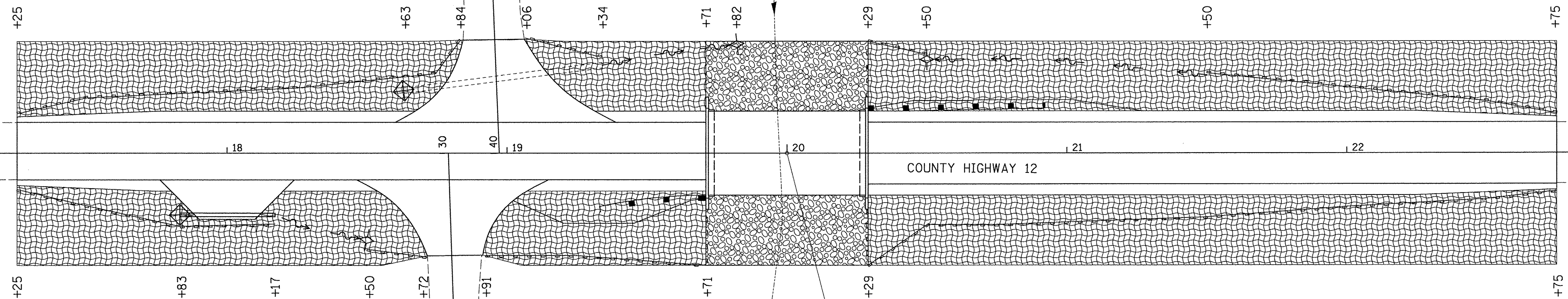


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	PLOT SCALE = 1.0000' / 1in.	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. 17+25.00	TO STA. 22+75.00	CONTRACT NO. 87640			
	PLOT DATE = 2/9/2017	CHECKED -	REVISED -		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-1220(105)							
		DATE -	REVISED -									

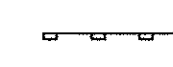
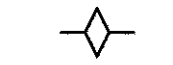


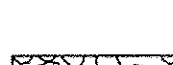
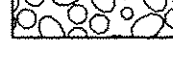


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SECTION 12

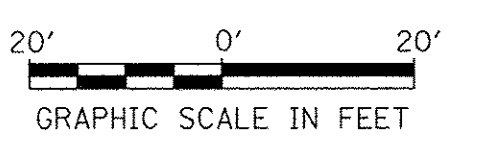
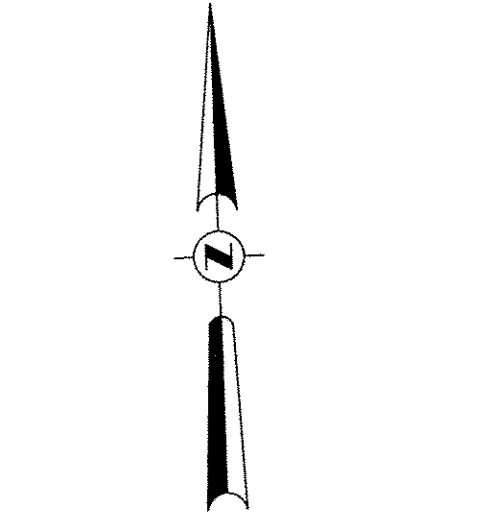
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SECTION 13



**LEGEND**

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK
-  INLET & PIPE PROTECTION
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  PROPOSED RIPRAP PLACEMENT
-  EROSION CONTROL BLANKET

PROPOSED STRUCTURE  
S.N. 006-3320



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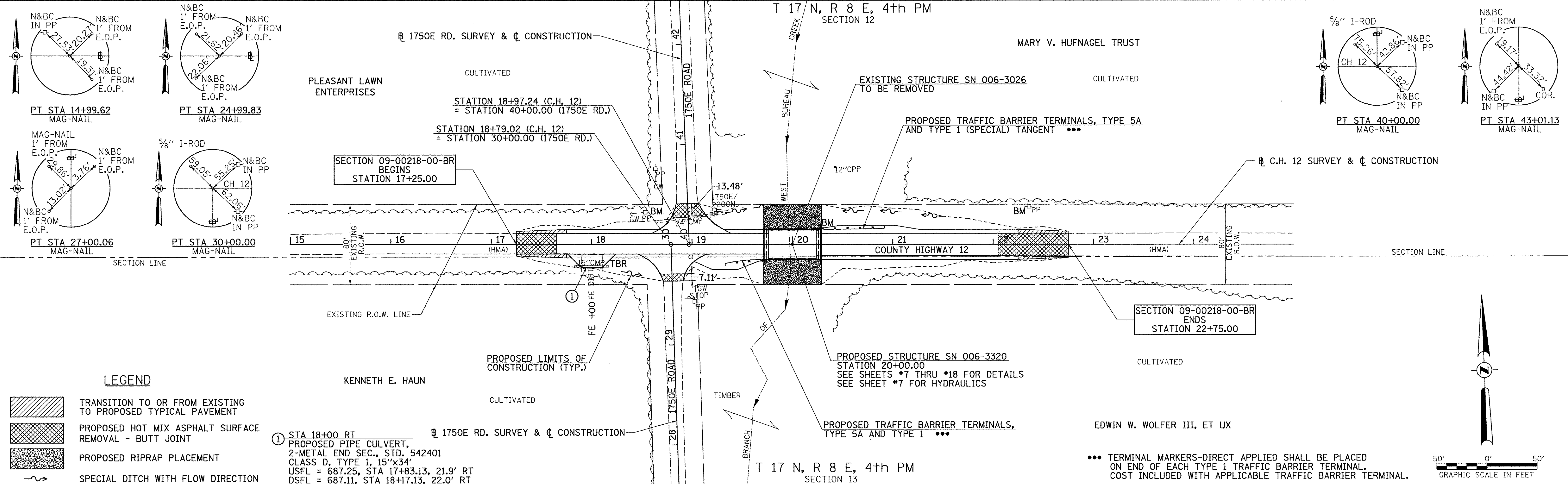
**BUREAU COUNTY  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

**EROSION CONTROL PLAN**

SCALE: 1" = 20' SHEET NO. 1 OF 1 SHEETS STA. 17+25.00 TO STA. 22+75.00

F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 5
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-1220(05)	
CONTRACT NO. 87640				





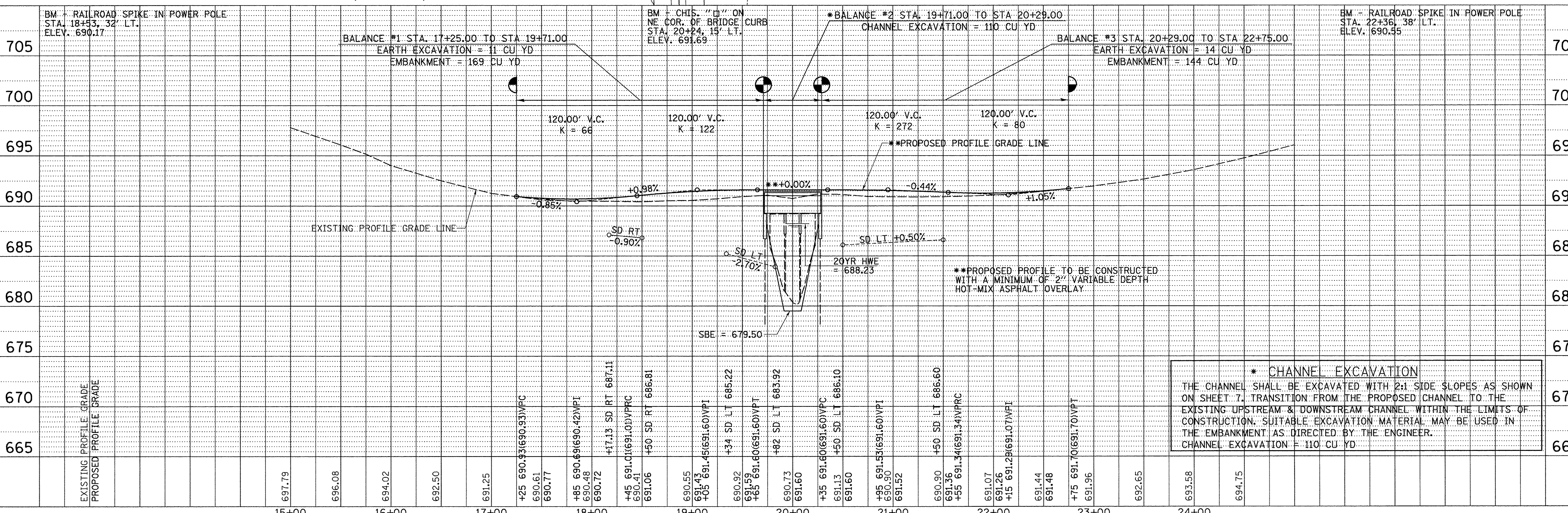
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NO.	

**LEGEND**

- TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
- PROPOSED HOT MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
- PROPOSED RIPRAP PLACEMENT
- SPECIAL DITCH WITH FLOW DIRECTION

① STA 18+00 RT  
 PROPOSED PIPE CULVERT,  
 2'-METAL END SEC., STD. 542401  
 CLASS D, TYPE 1, 15'x34'  
 USFL = 687.25, STA 17+83.13, 21.9' RT  
 DSFL = 687.11, STA 18+17.13, 22.0' RT

DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	



**\* CHANNEL EXCAVATION**  
 THE CHANNEL SHALL BE EXCAVATED WITH 2:1 SIDE SLOPES AS SHOWN ON SHEET 7. TRANSITION FROM THE PROPOSED CHANNEL TO THE EXISTING UPSTREAM & DOWNSTREAM CHANNEL WITHIN THE LIMITS OF CONSTRUCTION. SUITABLE EXCAVATION MATERIAL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.  
 CHANNEL EXCAVATION = 110 CU YD

FILE NAME = V:\Bridges\3516-Bureau\3516p001.dgn	USER NAME = JHutchison	DESIGNED -	REVISED -	<b>BUREAU COUNTY COUNTY HIGHWAY 12 OVER BRANCH OF WEST BUREAU CREEK</b>				<b>PLAN AND PROFILE</b>				F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
Default	PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED -									1220	09-00218-00-BR	BUREAU	25	6					
	PLOT DATE = 2/9/2017	CHECKED -	REVISED -									SCALE: 1"=50'				SHEET 1 OF 1 SHEETS STA. 17+25.00 TO STA. 22+75.00				CONTRACT NO. 87640	
		DATE -	REVISED -									FED. ROAD DIST. NO. 7 ILLINOIS				FED. AID PROJ. ECT BRS-1220105J					



B.M.: RR Spike in Power Pole  
Sta. 18+53, 32' Lt.  
Elev. 690.17

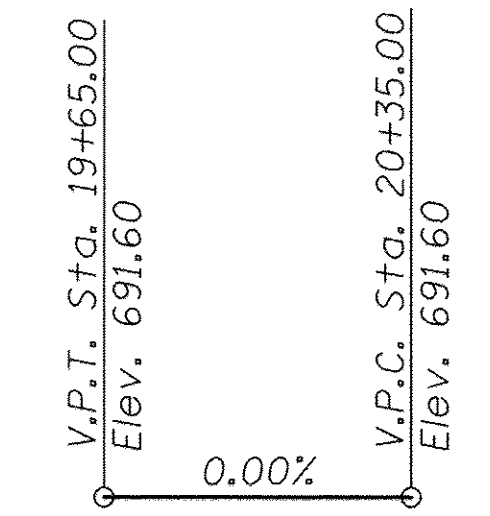
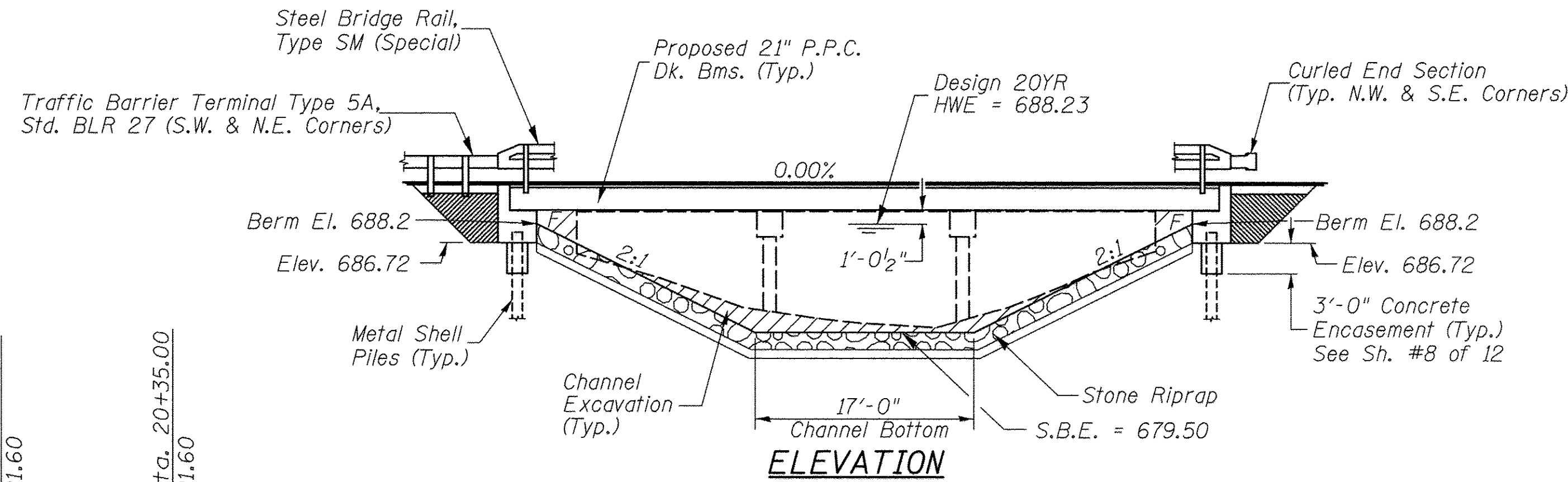
RR Spike in Power Pole  
Sta. 22+36, 38' Lt.  
Elev. 690.55

**Existing Structure:**

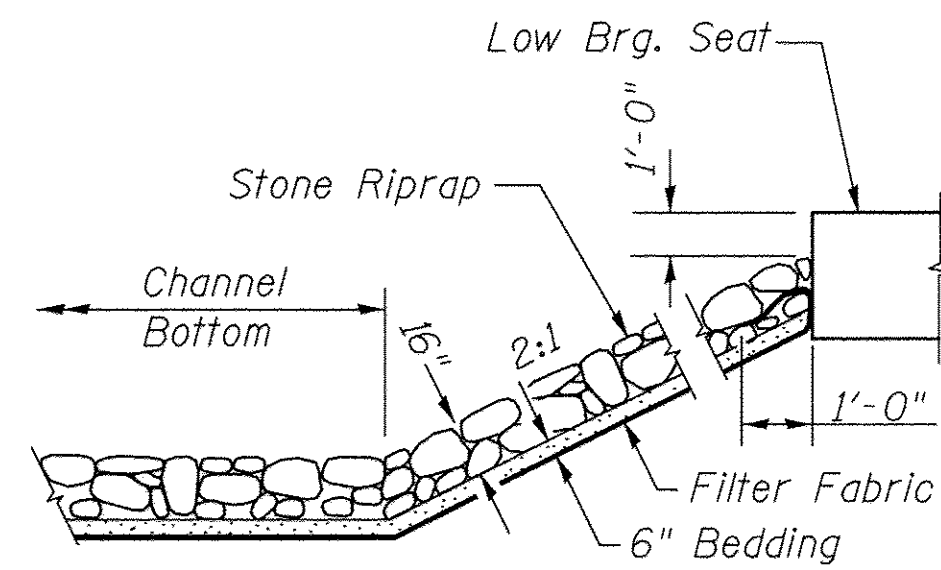
Three span precast Nelson beam bridge on timber pile bent piers with concrete caps and timber pile bent abutments with concrete caps. The structure is 49'-0" back to back of abutments, 30'-0" out to out deck, and is not skewed. Str. No. 006-3026

Salvage: None

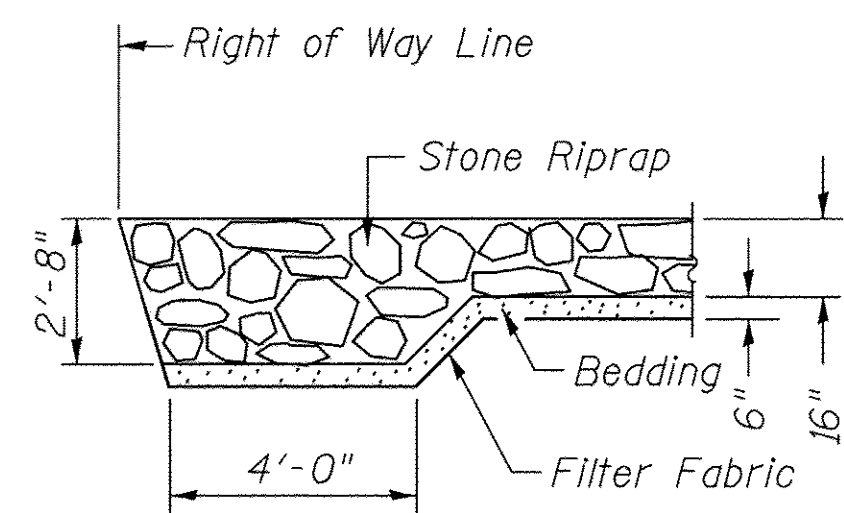
Road to be closed to traffic during construction.



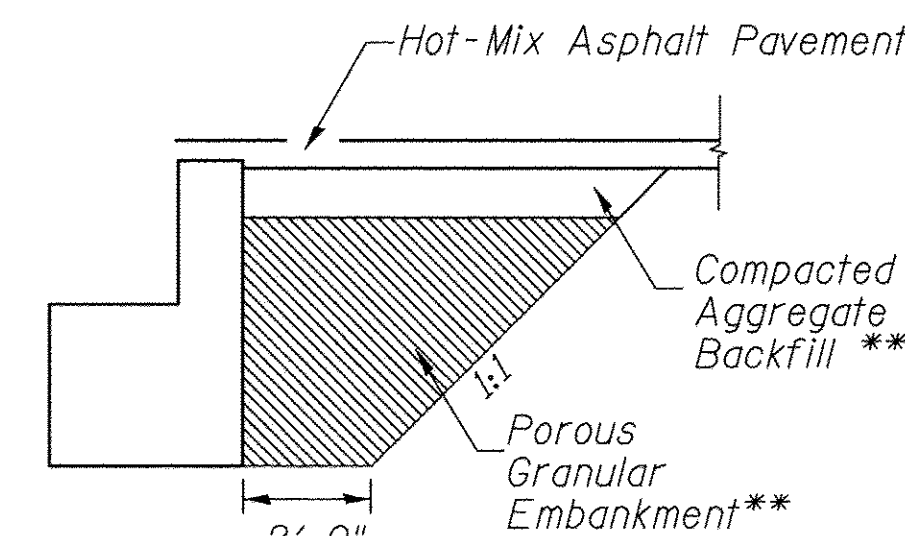
**PROFILE GRADE**



**STONE RIPRAP DETAIL**



**SECTION A-A**



**SECTION B-B**

\*\*See Special Provisions

**DESIGN SCOUR TABLE**

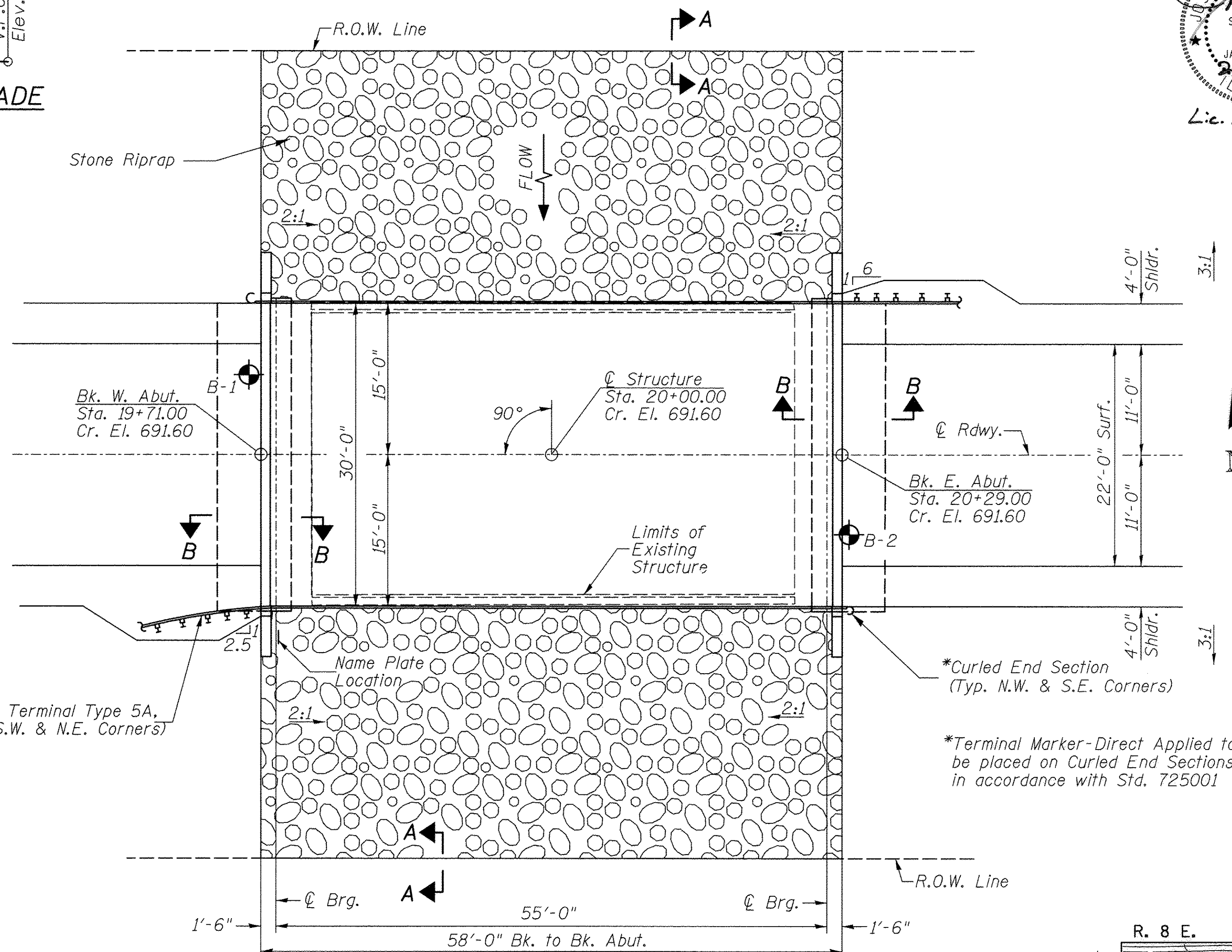
Location	W. Abut.	E. Abut.
Design Scour Elevation	686.72	686.72

**WATERWAY INFORMATION**

Flood		Freq. Yr.	Q C.F.S.	Opening Exist. Prop.	Sq. Ft. Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	20	1,864	241	301	688.23	1.33	0.60
Base	100	2,800	269	336	688.84	3.18	1.37

Drainage Area = 8.01 Sq. Mi. Low Grade Elev. = 690.69 @ Sta. 17+80.64

DESIGNED	S.T.M.
CHECKED	C.T.M./J.E.H.
DRAWN	S.T.M.
CHECKED	C.T.M./J.E.H.



**PLAN**

**DESIGN SPECIFICATIONS**

2014 AASHTO LFRD Bridge Design Specifications, 7th Edition with 2015 Interims

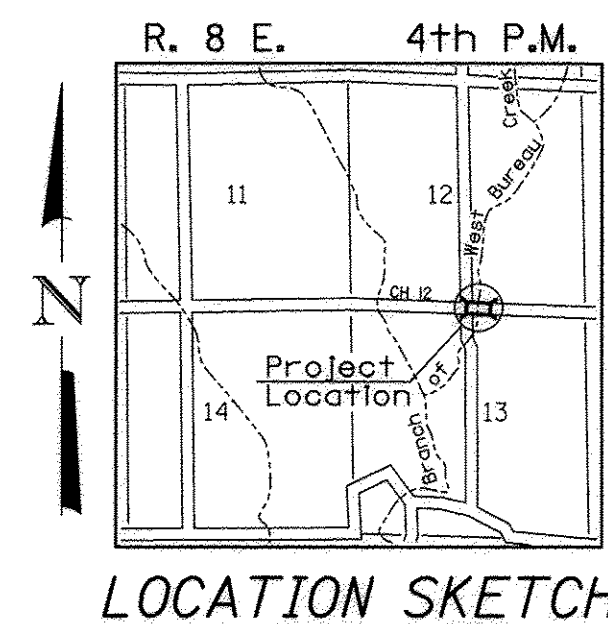
**DESIGN STRESSES**

(FIELD UNITS)  $f'_c = 3,500$  p.s.i.  $f_y = 60,000$  p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS)  $f'_c = 6,000$  p.s.i.  $f'_{ci} = 5,000$  p.s.i.  $f'_s = 270,000$  p.s.i. ( $1/2$ " Strands)  $f'_{si} = 201,960$  p.s.i. ( $1/2$ " Strands)

**LOADING HL-93**

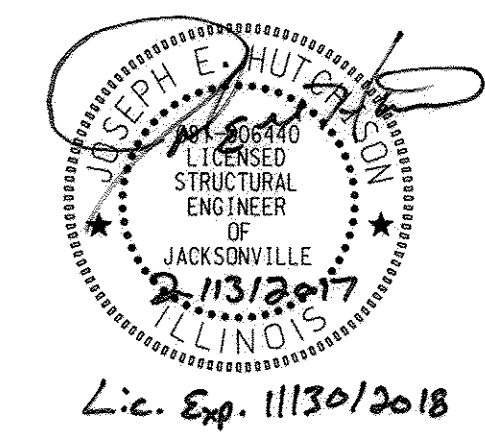
Allow 50#/sq. ft. for future wearing surface.



**LOCATION SKETCH**

**GENERAL NOTES**

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles. For Soil Boring Logs, See Sheets 9-12 of 12. A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(10) of the Standard Specifications. Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60. Reinforcement Bars designated (E) shall be epoxy coated. Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.



Lic. Exp. 11/30/2018

**BRANCH OF WEST BUREAU CREEK  
BUILT 201 BY  
BUREAU COUNTY  
SEC. 09-00218-00-BR  
C.H. 12 STATION 20+00.00  
F.A. PROJ. BRS-1220(105)  
STR. NO. 006-3320 LOADING HL-93**

**NAME PLATE**

Locate Name Plate at S.W. Wingwall  
Corner of Bridge (See Std. 515001)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	110	110
① Stone Riprap, Class A4 (Special)	TON	—	415	415
① Removal of Existing Structures	EACH	—	—	1
Concrete Structures	CU YD	—	24.3	24.3
Precast Prestressed Concrete Deck Beams (21" Depth)	SQ FT	1,685	—	1,685
Reinforcement Bars	POUND	—	2,760	2,760
Steel Bridge Rail, Type SM (Special)	FOOT	—	116	116
Furnishing Metal Shell Piles 12"x0.250"	FOOT	—	288	288
Driving Piles	FOOT	—	288	288
Test Pile Metal Shells	EACH	—	2	2
Concrete Encasement	CU YD	—	2.6	2.6
Name Plates	EACH	—	1	1
Waterproofing Membrane System	SQ YD	193	—	193
Portland Cement Mortar Fairing Course	FOOT	—	150	150
Hot-Mix Asphalt Surface Course, Mix "C", N50	TON	—	24	24
① Porous Granular Embankment	CU YD	—	29.6	29.6

① See Special Provisions

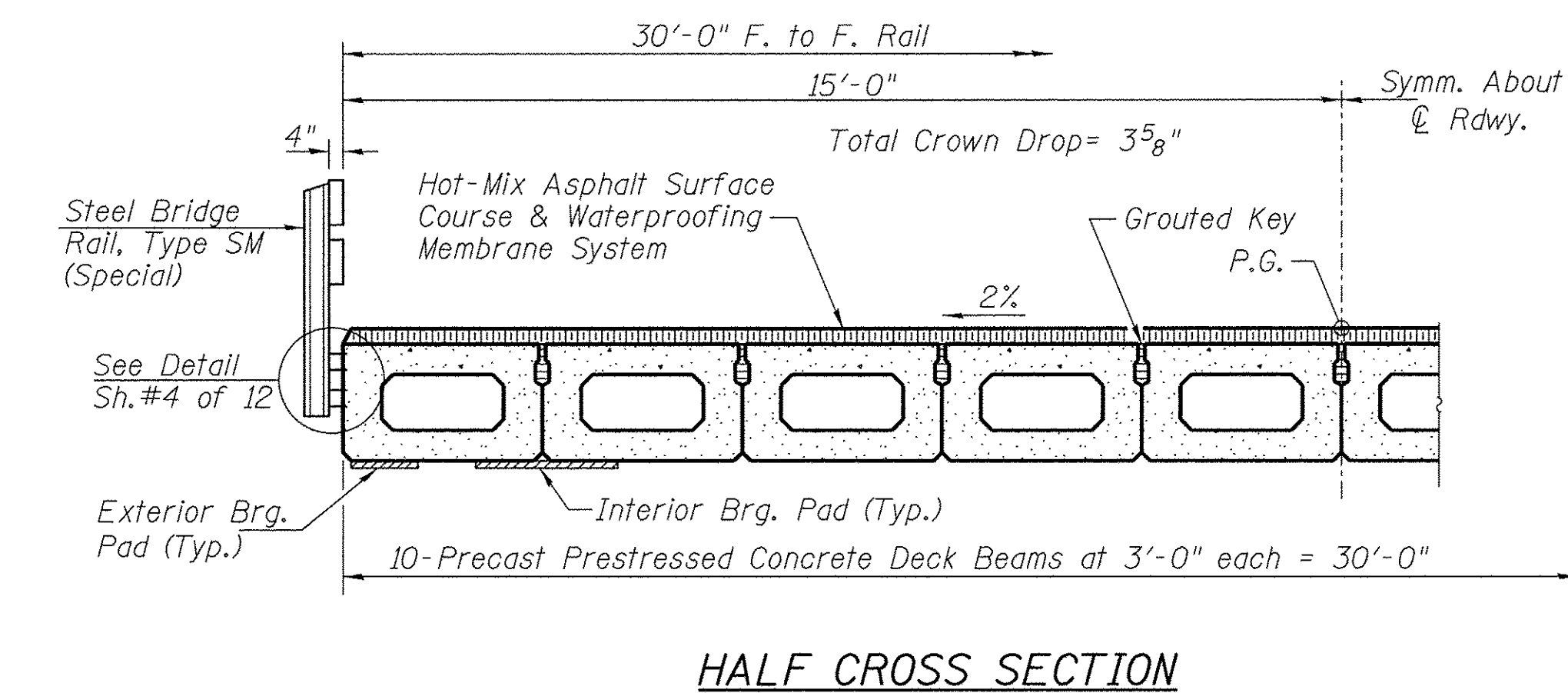
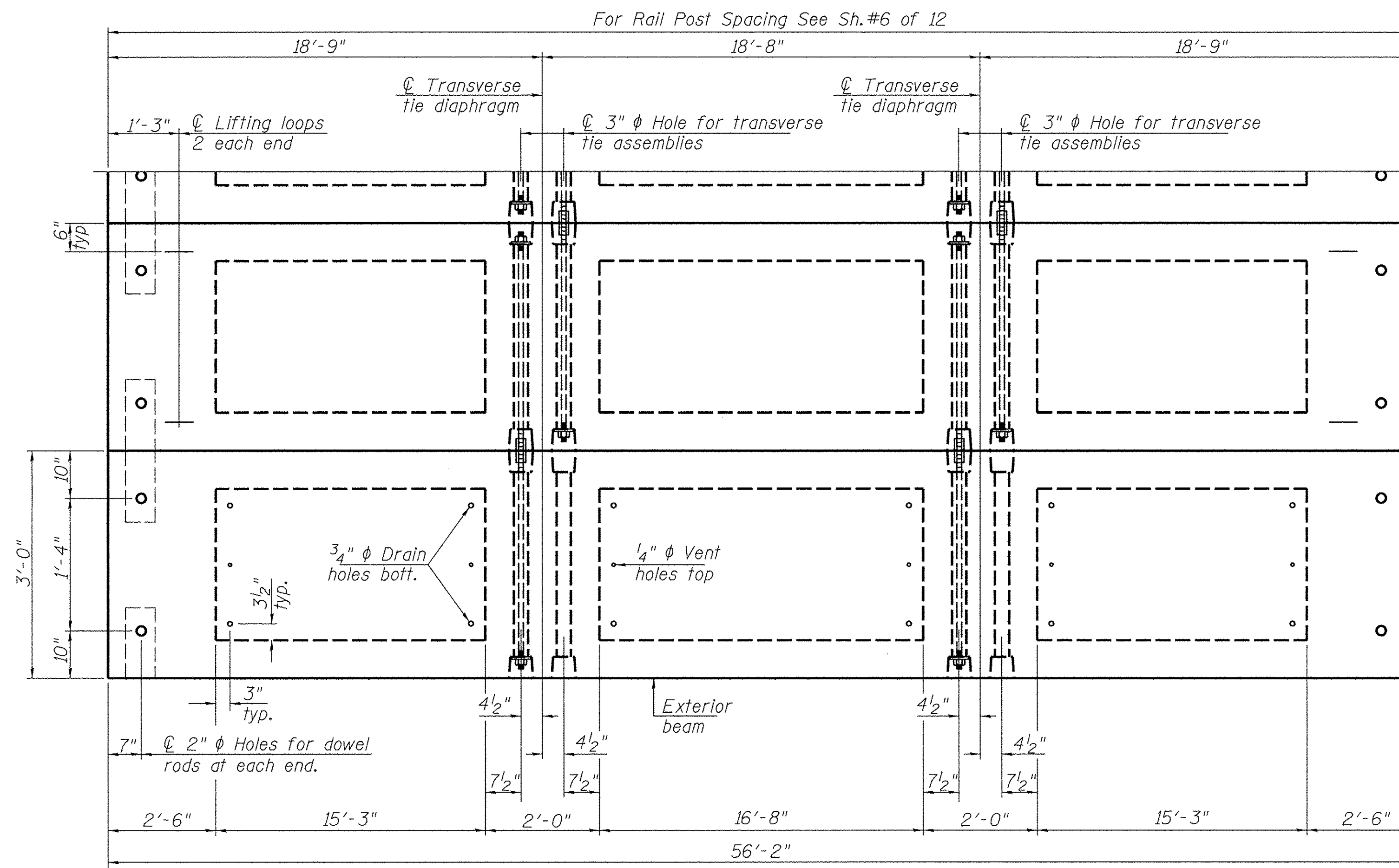
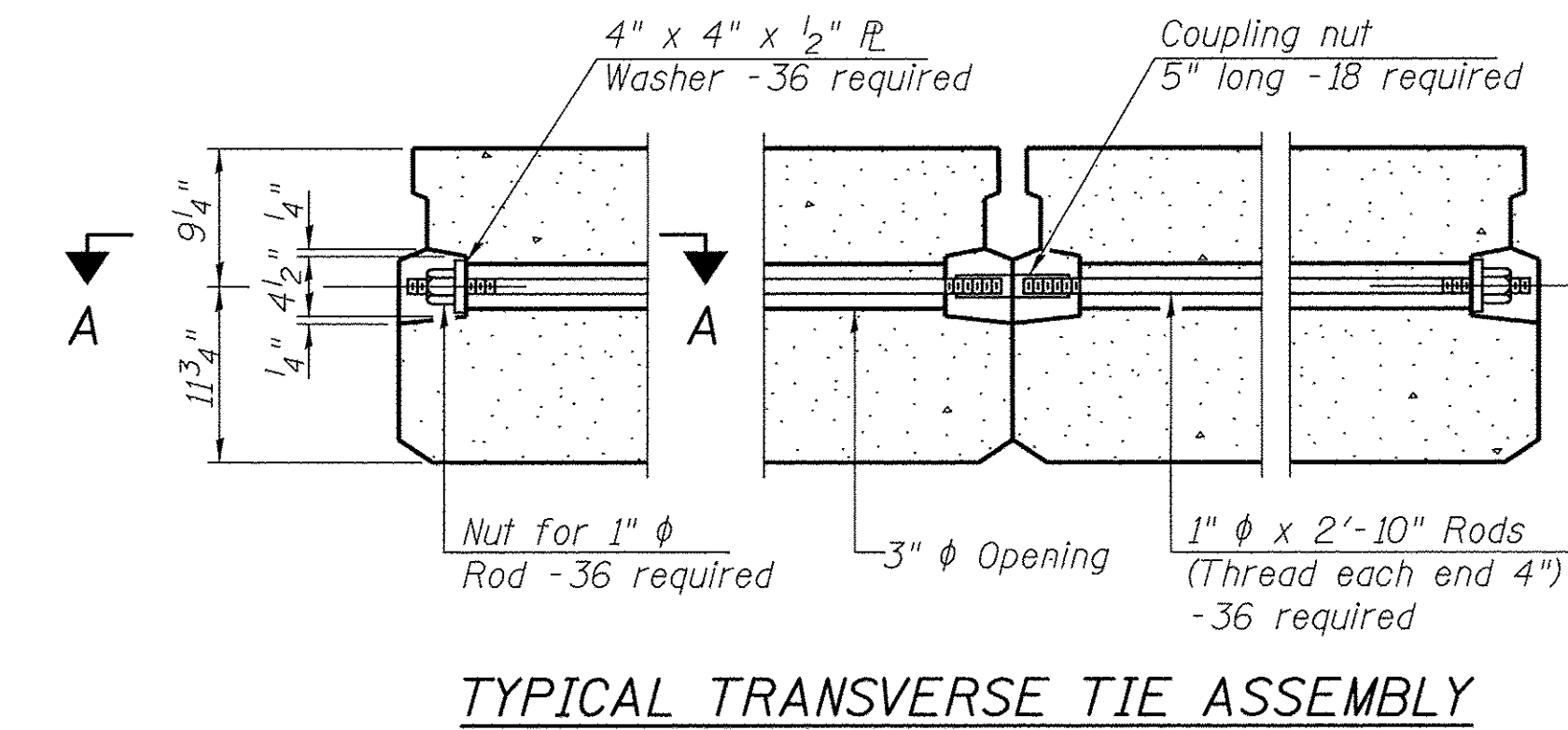
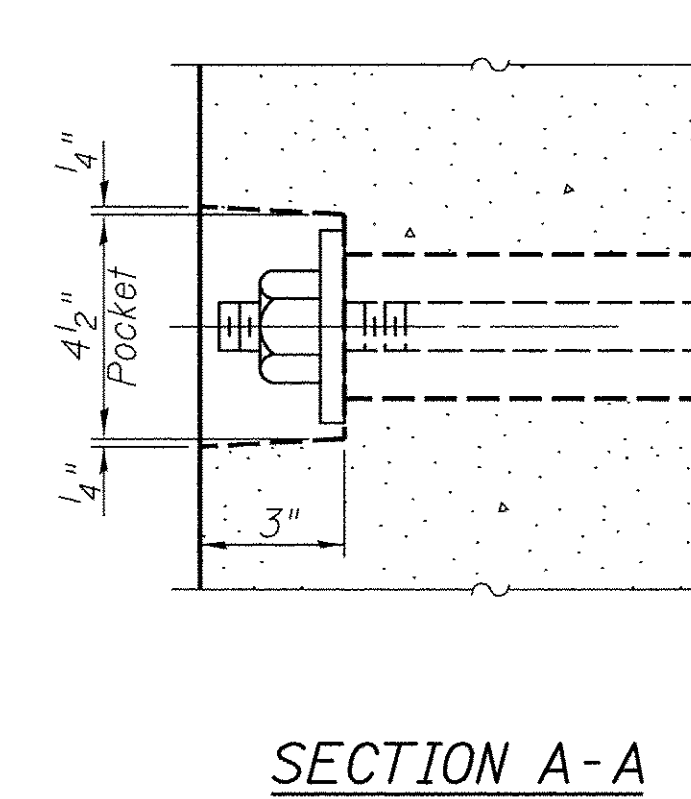
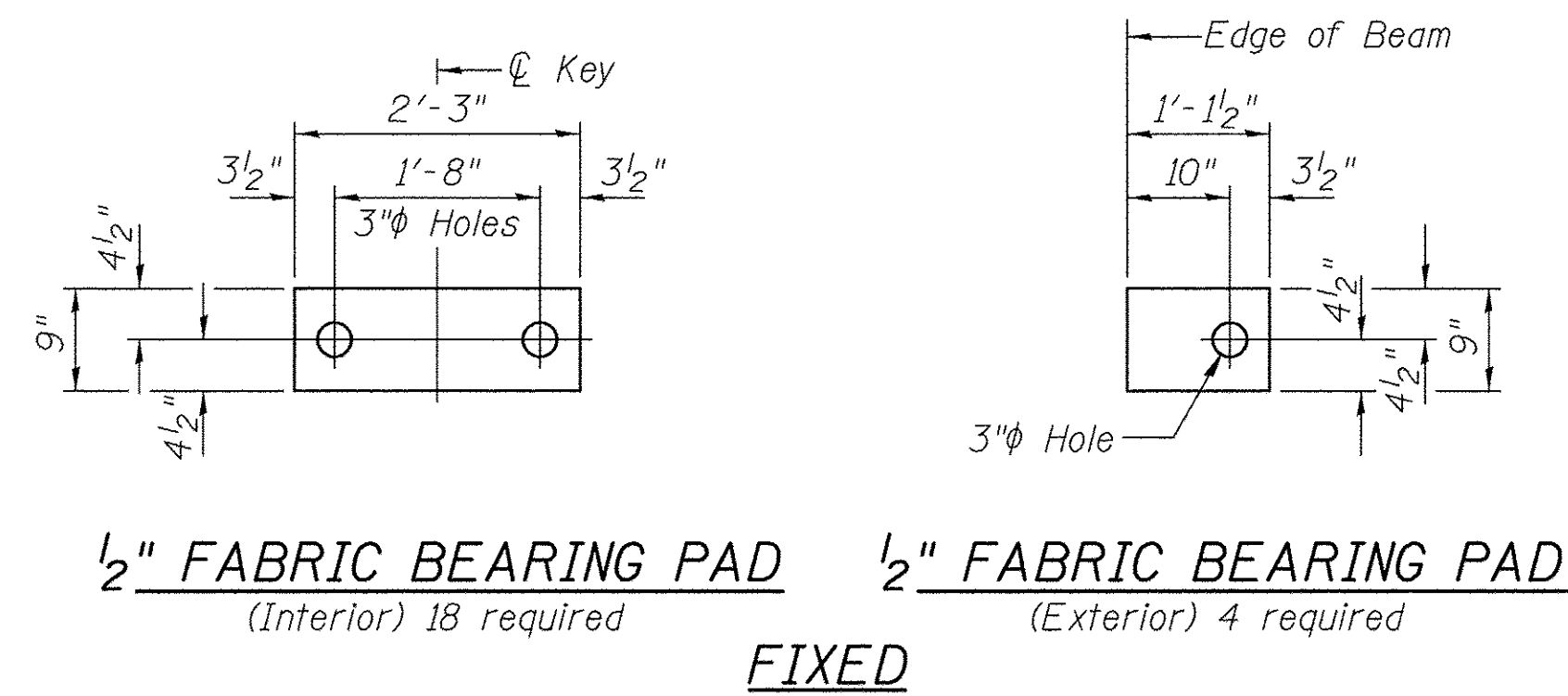
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

*Joseph E. Hult* 2/13/2017  
Illinois Structural No. 6440  
Expires 11/30/2018

**GENERAL PLAN & ELEVATION**

**BUREAU COUNTY  
SECTION 09-00218-00-BR  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12 SHEETS	1220	09-00218-00-BR	BUREAU	25	7
S.N. 006-3320			CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-1220(105)		



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	SQ FT	1,685

Note: Connect beams in pairs with the transverse tie configuration shown.

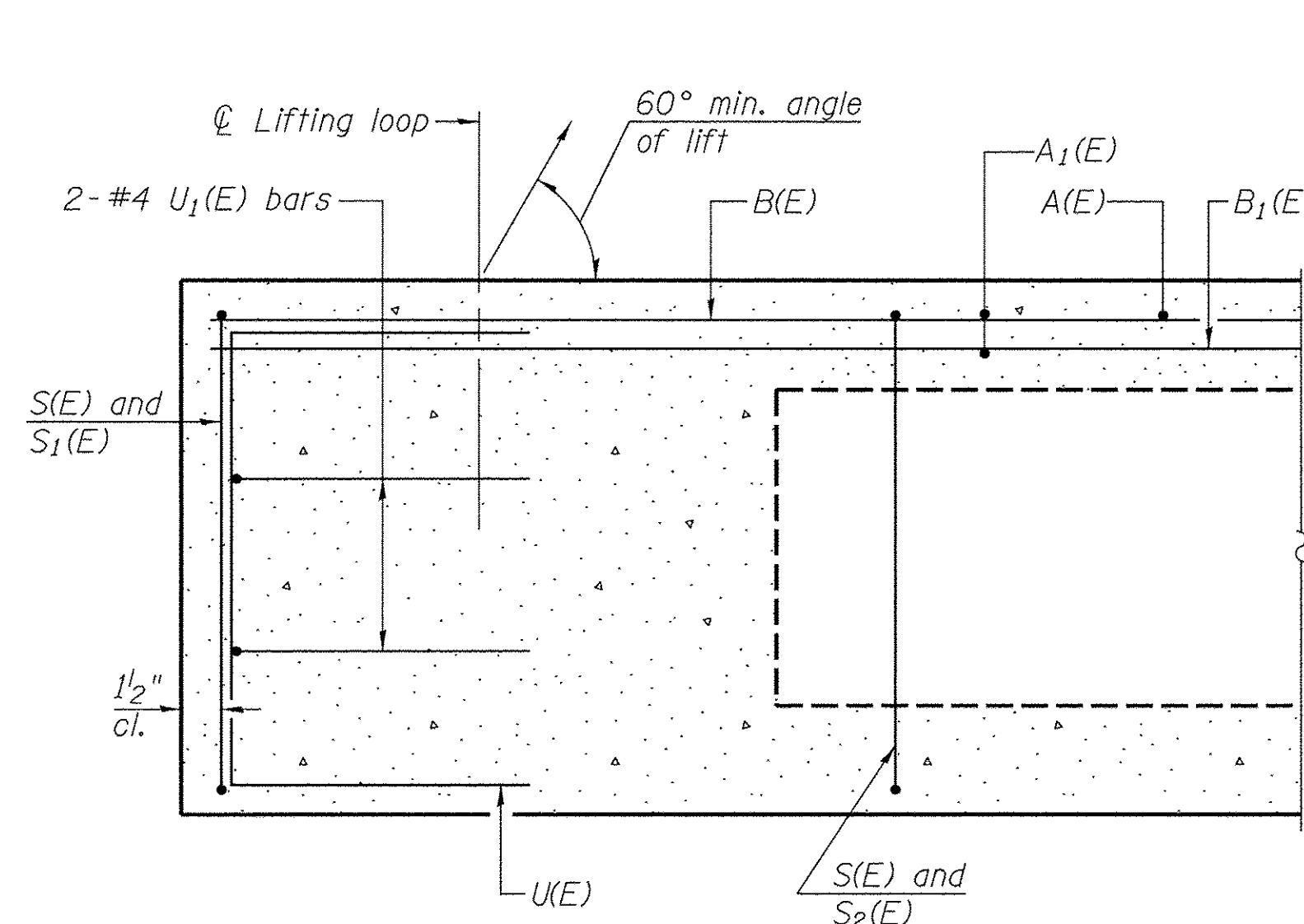
**NOTES**

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

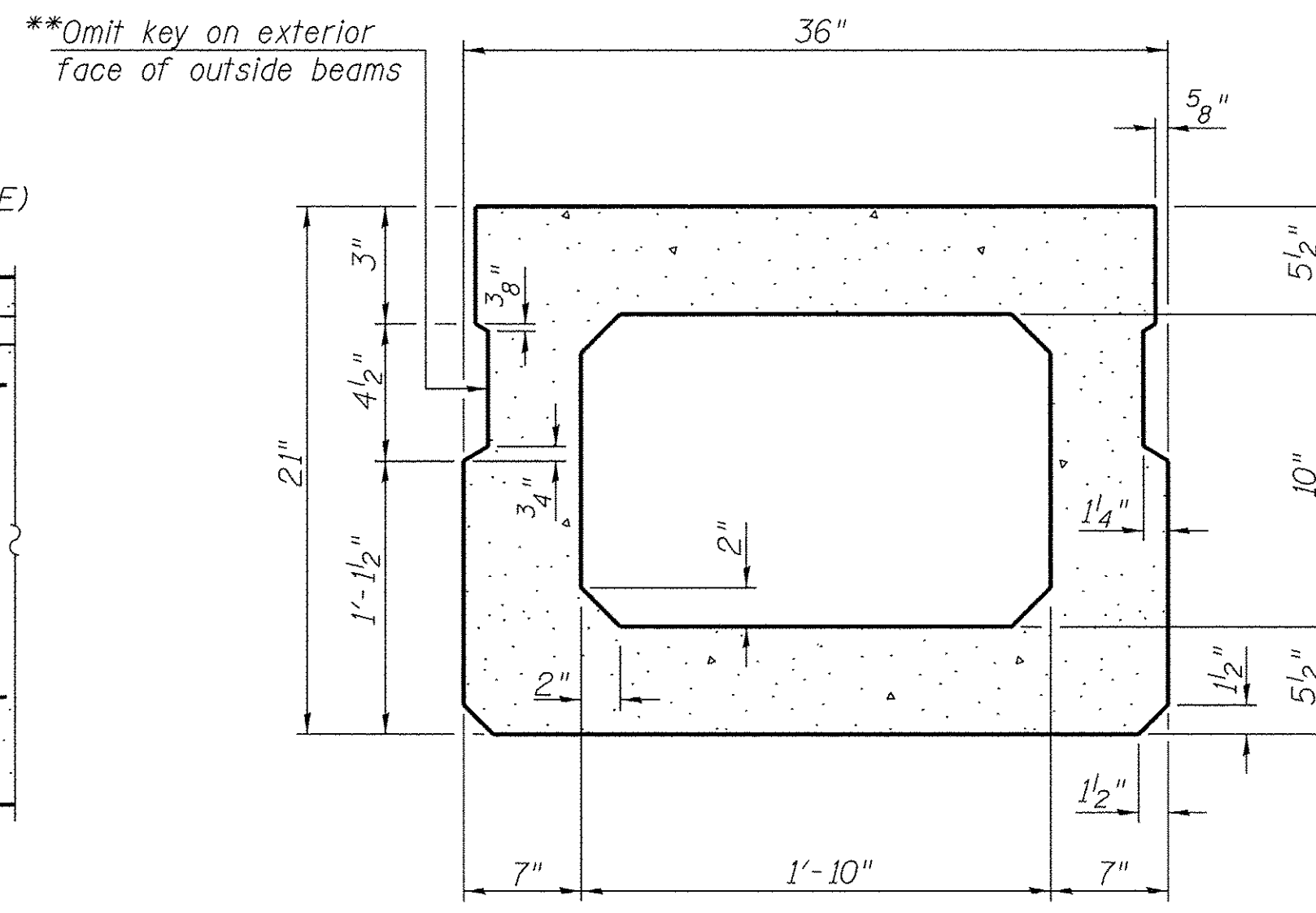
**SUPERSTRUCTURE**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12 SHEETS	1220	09-00218-00-BR	BUREAU	25	8
S.N. 006-3320			CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)			

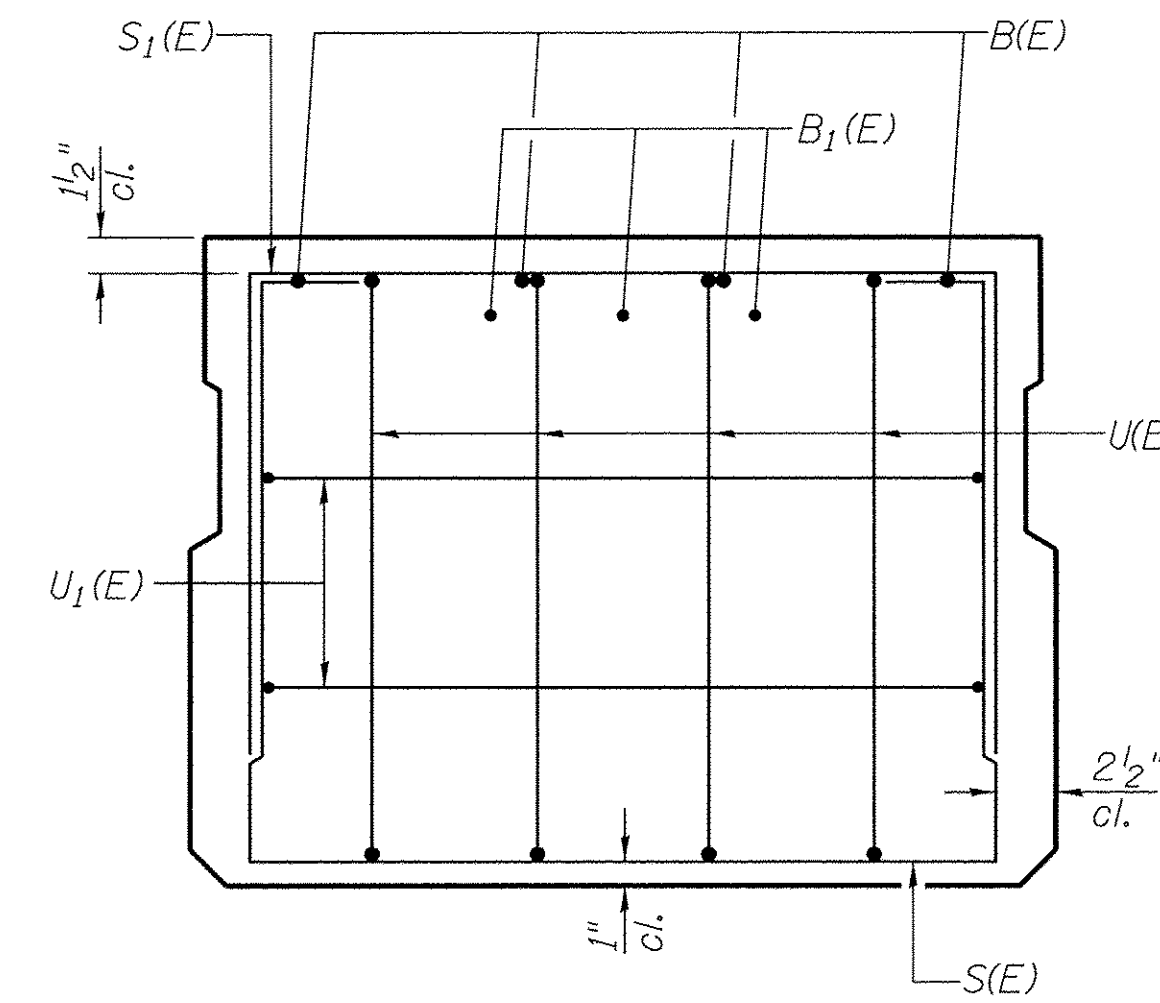




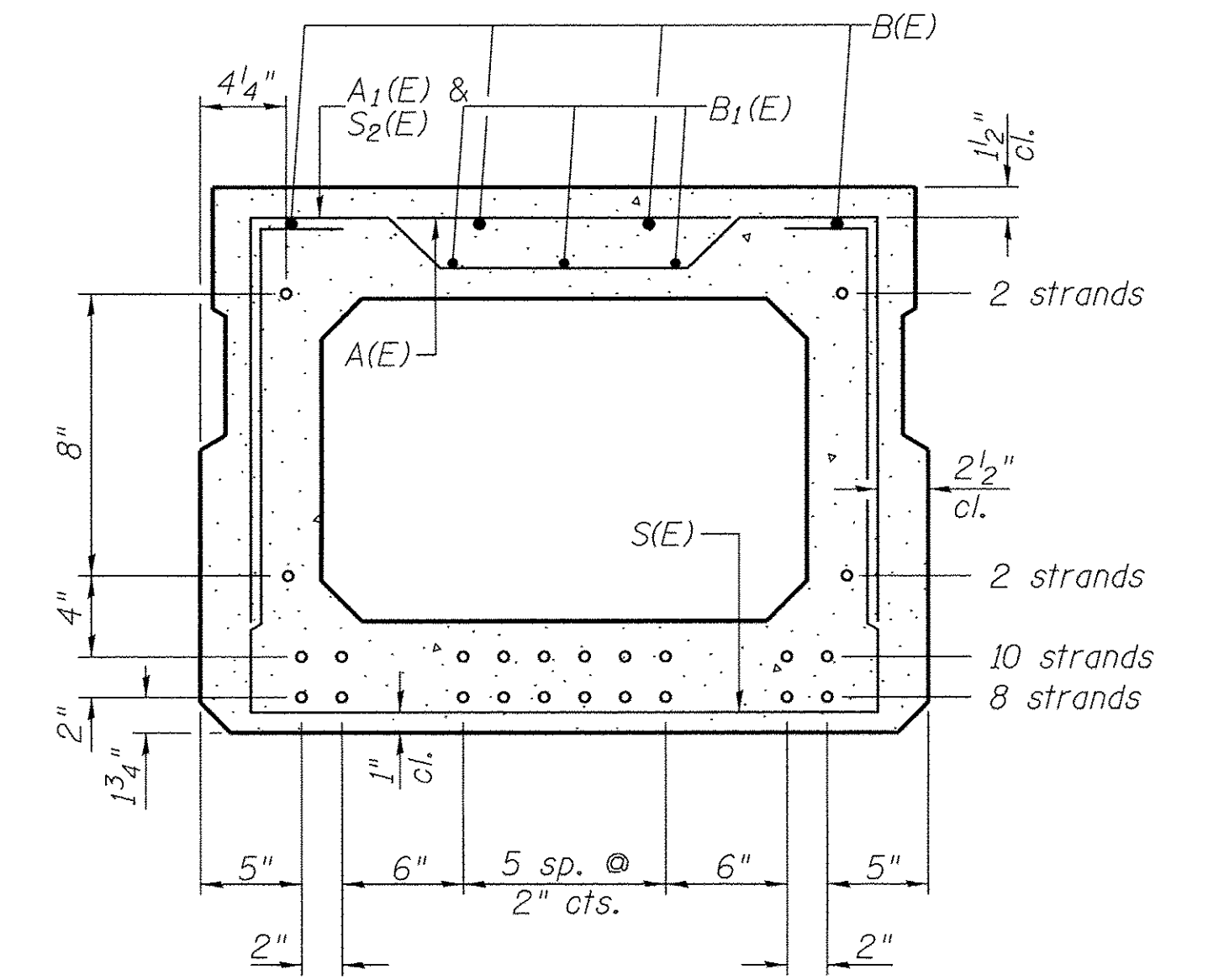
**SECTION C-C**



**SECTION A-A**  
(Showing Dimensions)



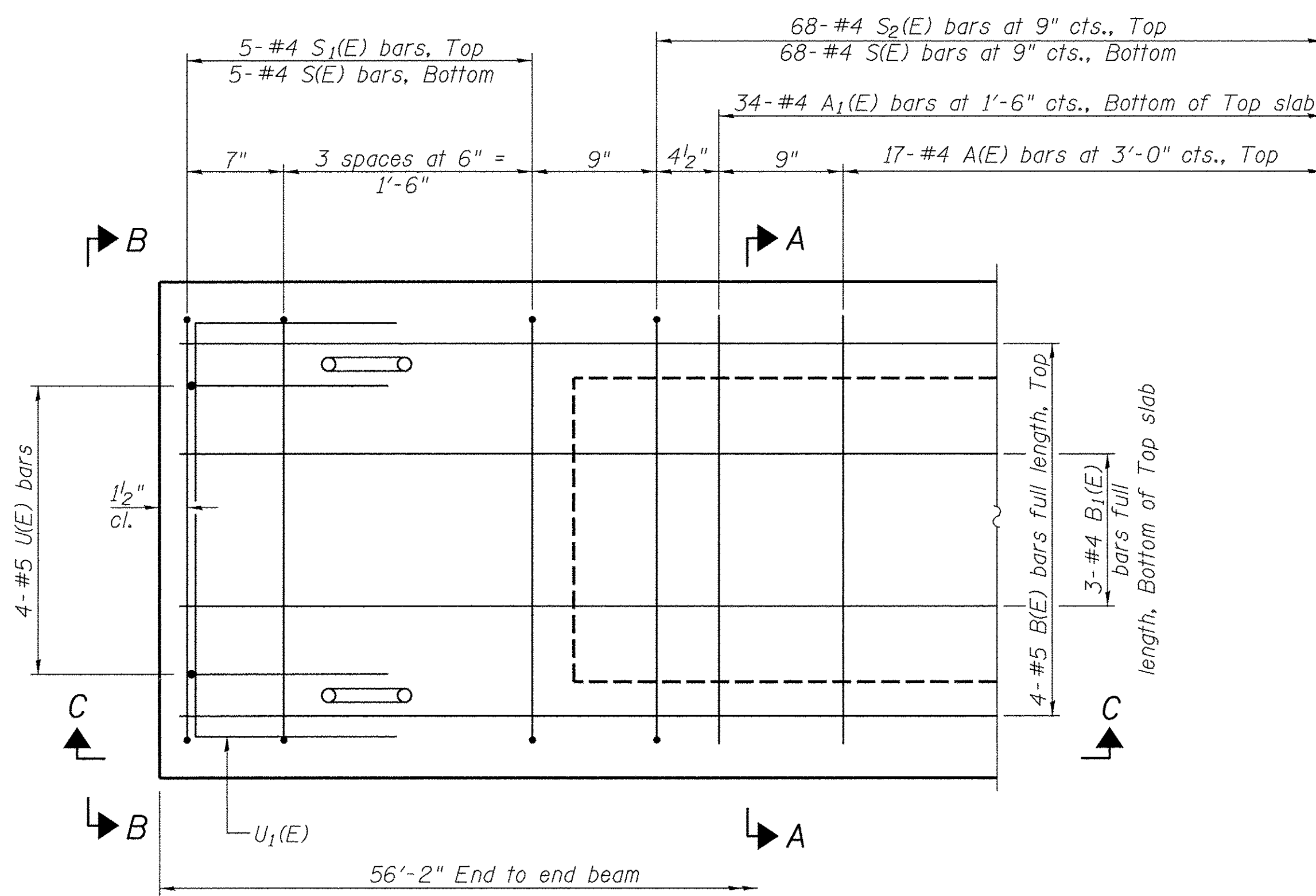
**VIEW B-B**



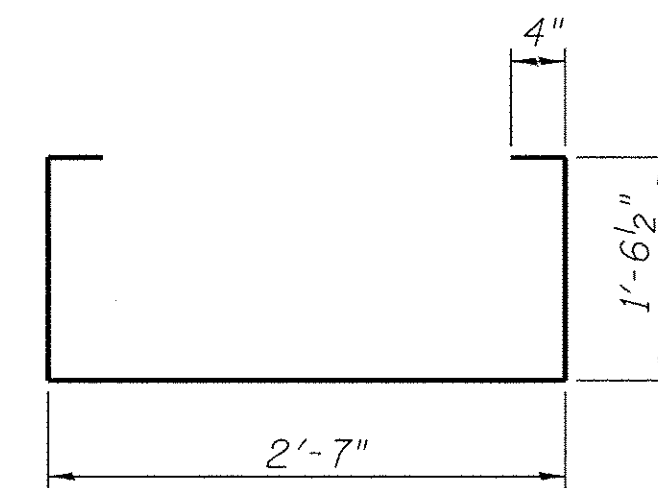
**SECTION A-A**

22-1/2 $\phi$  Strands Each Strand Stressed to 30,900 Lbs.  
 8-Strands 1 3/4" up, 10-Strands 3 3/4" up,  
 2-Strands 7 3/4" up, 2-Strands 1'-3 3/4" up  
 Note: Place the number of strands specified in each row  
 symmetrically about the centerline of beam in the  
 permissible strand locations shown.

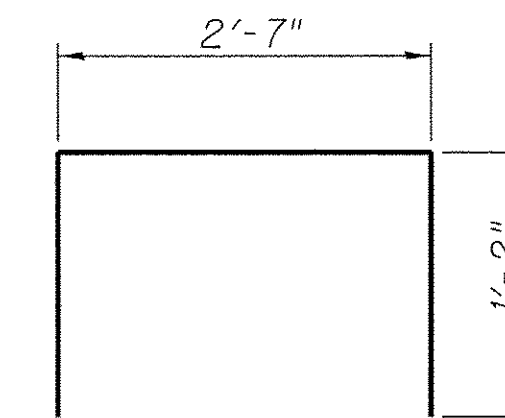
\*\*Rail post anchor devices (Sheet 4 of 12)  
 to be cast into exterior face of outside beams.



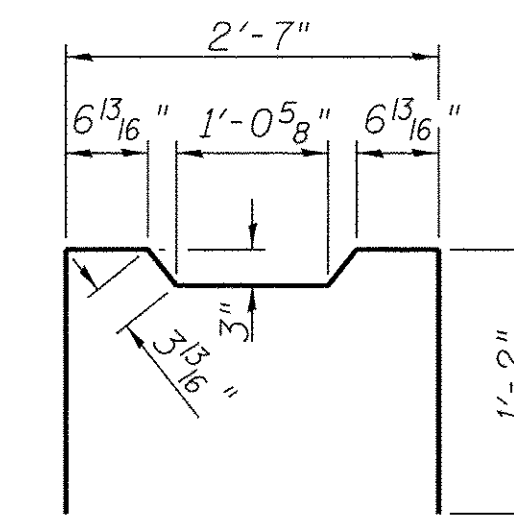
**PLAN VIEW**



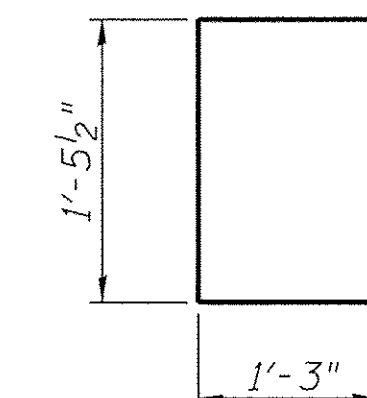
**BAR S(E)**



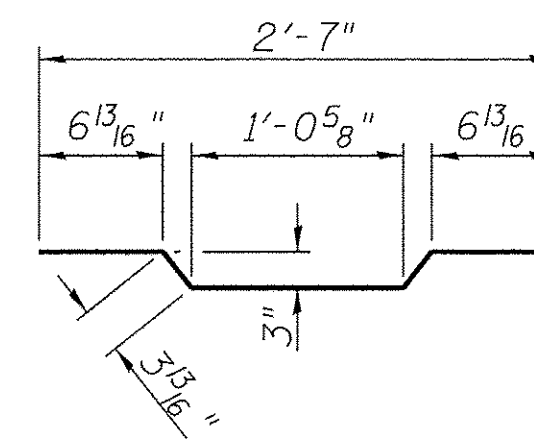
**BAR S1(E)**



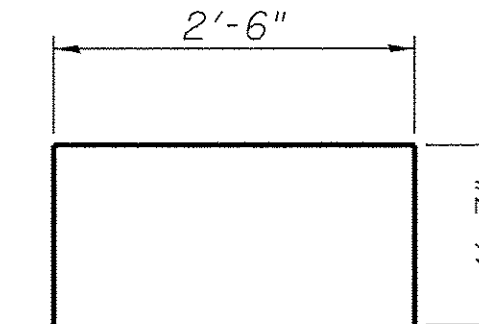
**BAR S2(E)**



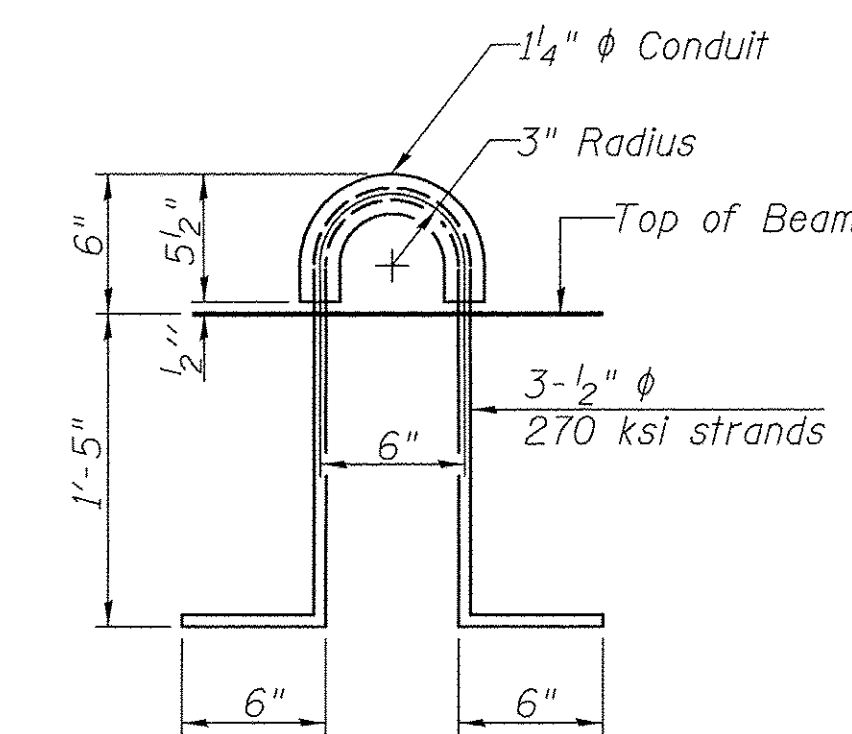
**BAR U(E)**



**BAR A1(E)**



**BAR U1(E)**



**LIFTING LOOP DETAIL**

**BAR LIST-ONE BEAM ONLY**  
(For information only)

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	17	#4	2'-7"	—
A1(E)	34	#4	2'-10"	~
B(E)	4	#5	*55'-11"	—
B1(E)	3	#4	*55'-11"	—
S(E)	78	#4	6'-4"	□
S1(E)	10	#4	4'-11"	□
S2(E)	68	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

\* Total Length, Lap as necessary

Note: See Sheet 2 of 12 for additional details and Bill of Material.

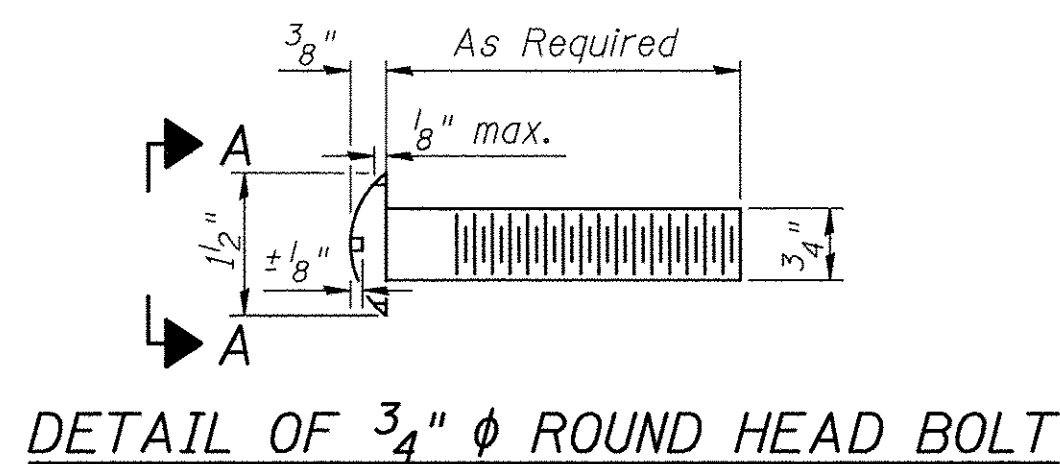
**MINIMUM BAR LAP**  
 #4 bar = 1'-11"  
 #5 bar = 2'-6"

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

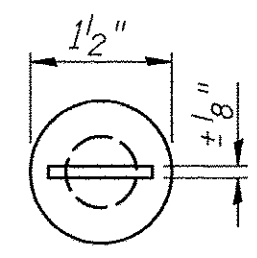
**SUPERSTRUCTURE DETAILS**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 3 12 SHEETS	F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 9
	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)			

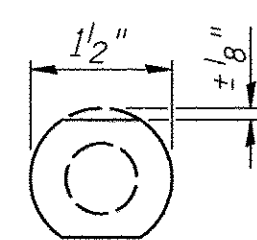
FOR RAIL POST SPACING SEE SH.#6 OF 12



DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT

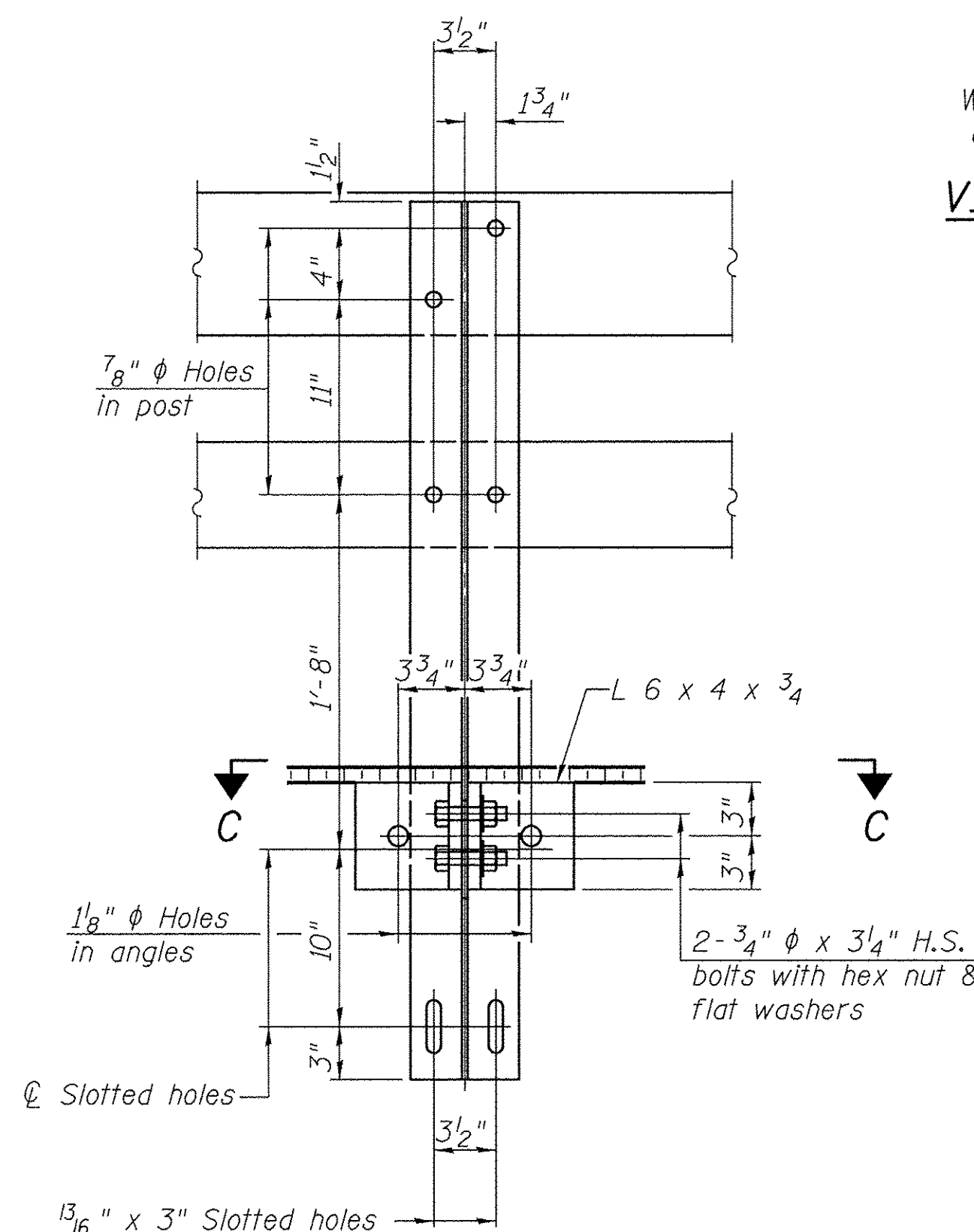


With Slot

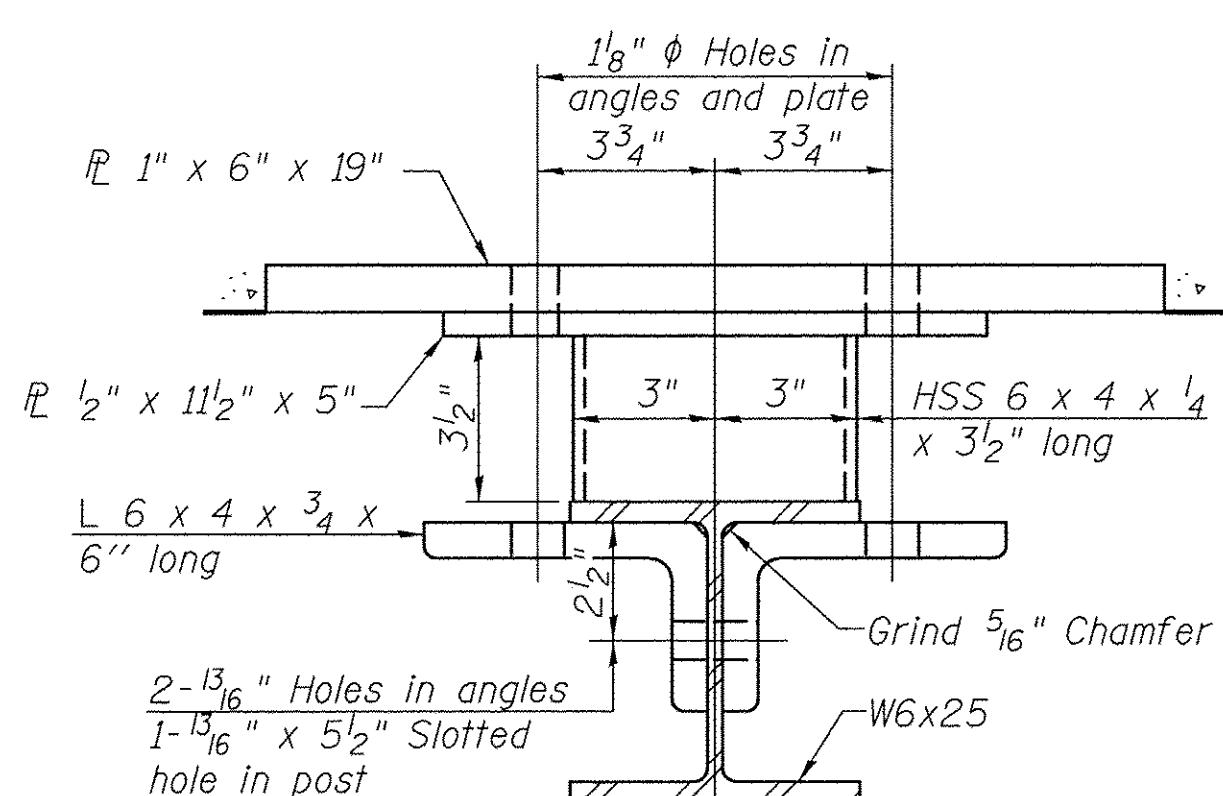


Without Slot or Recess

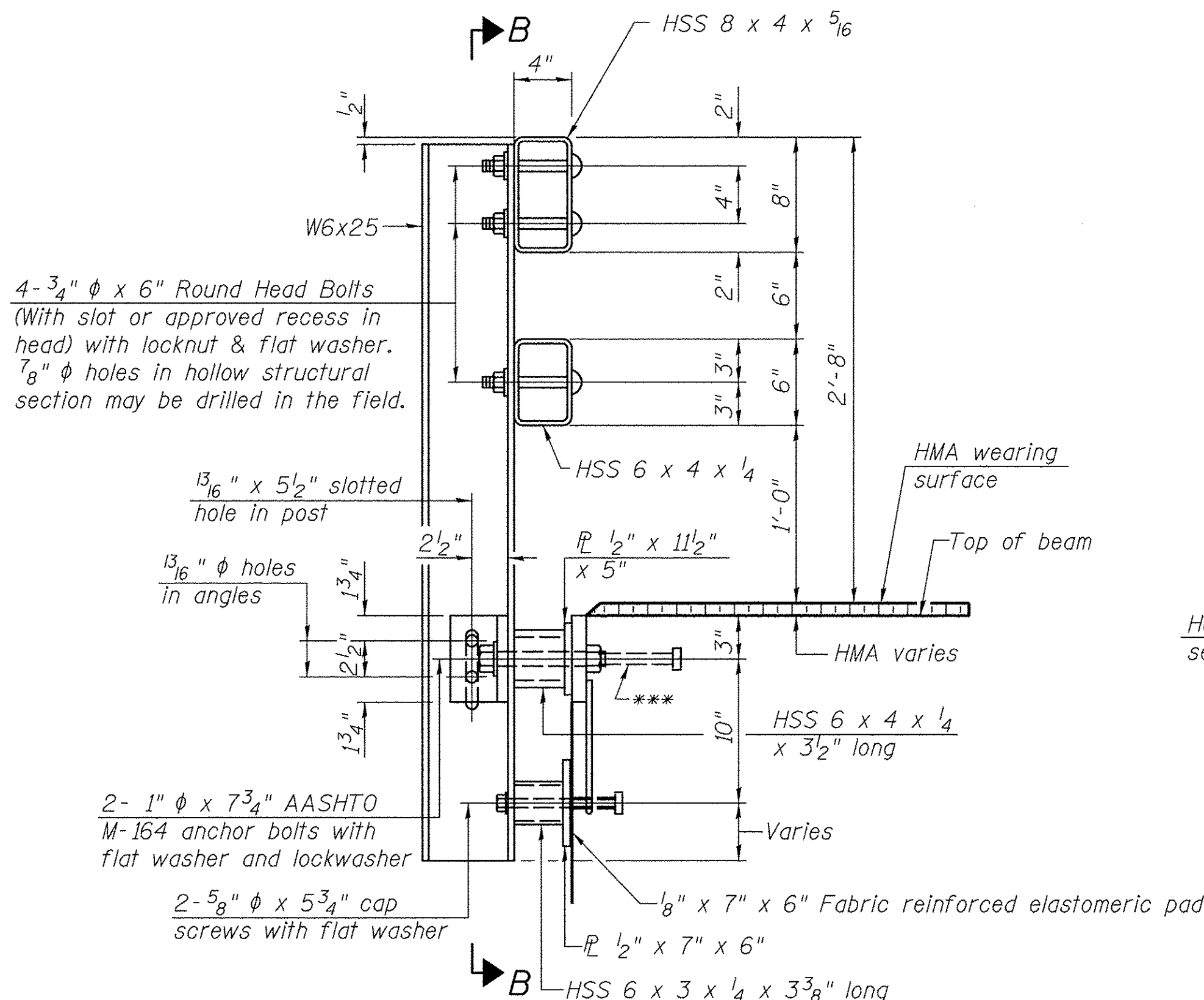
VIEW A-A



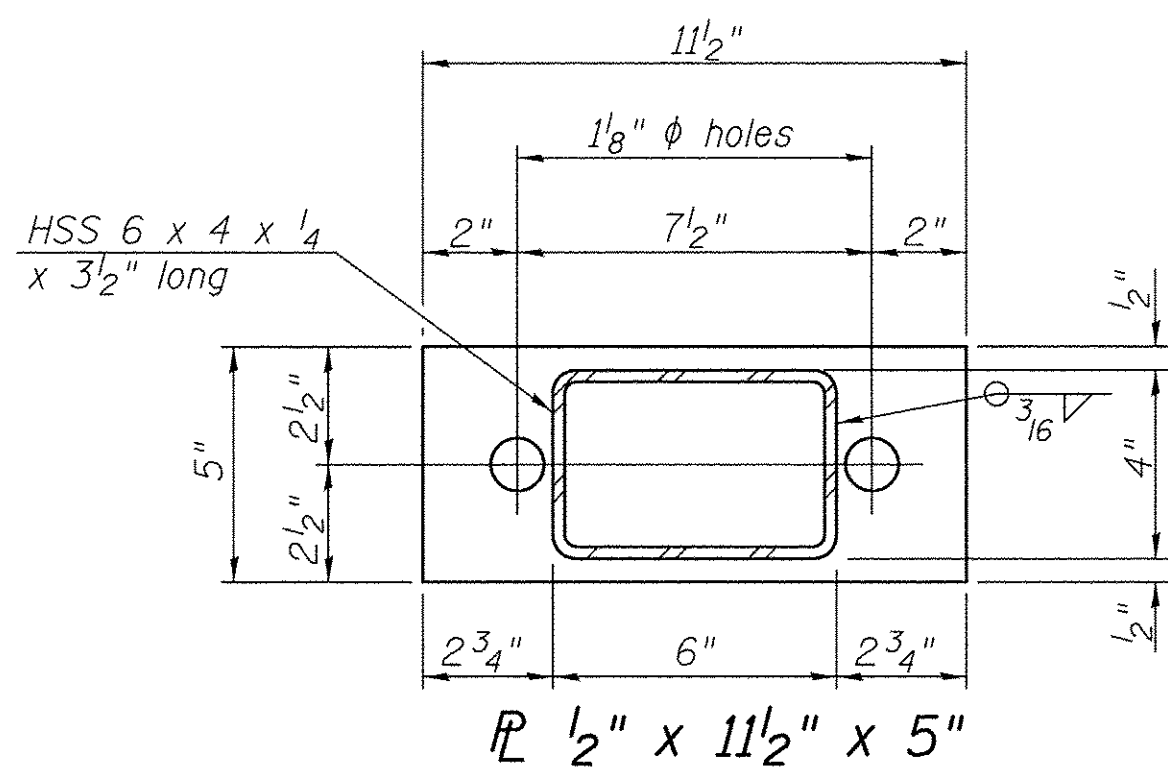
SECTION B-B



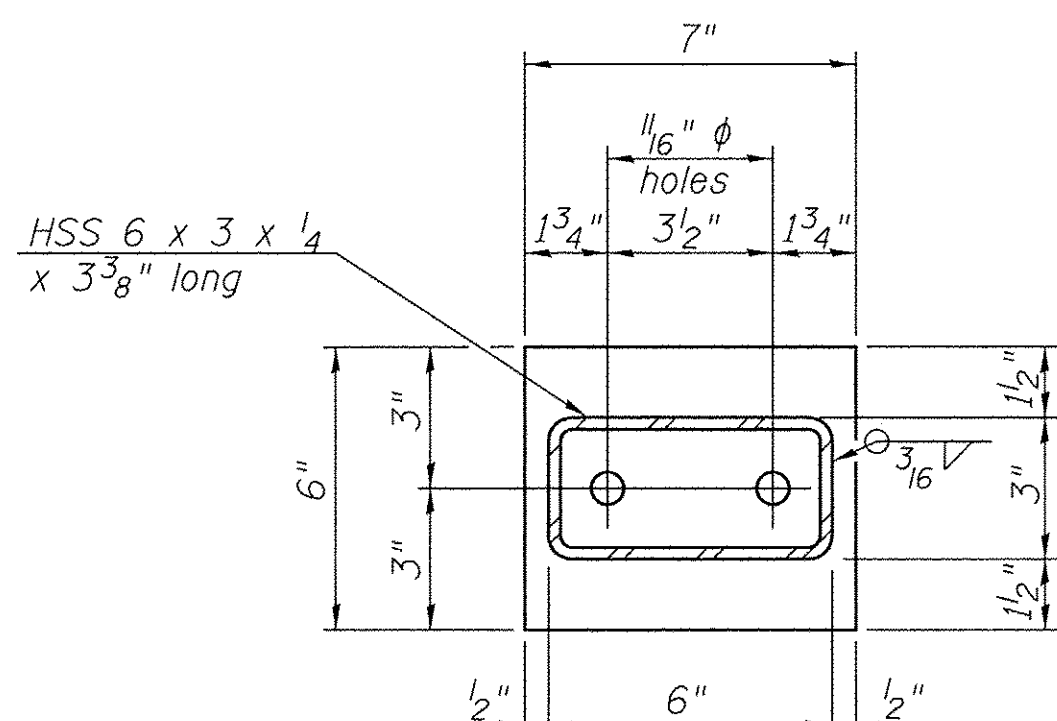
SECTION C-C



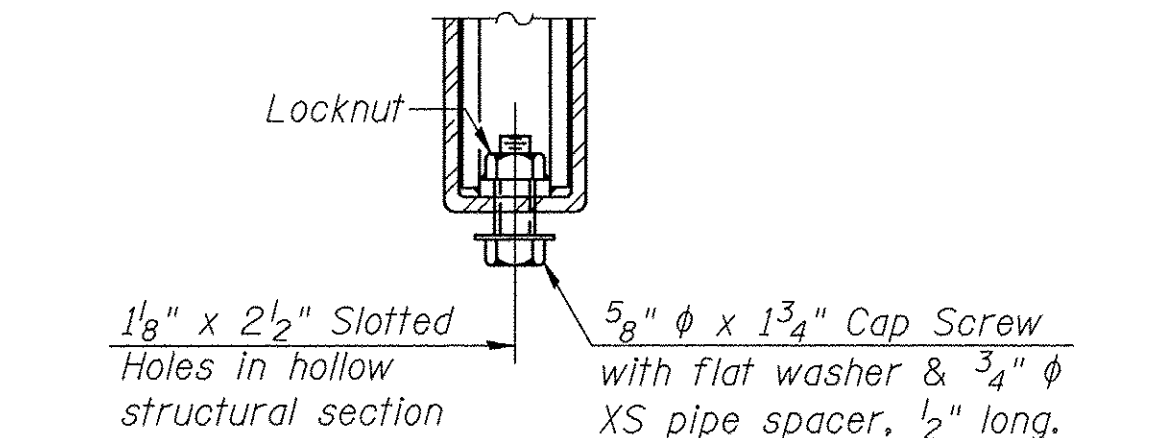
SECTION AT RAIL POST



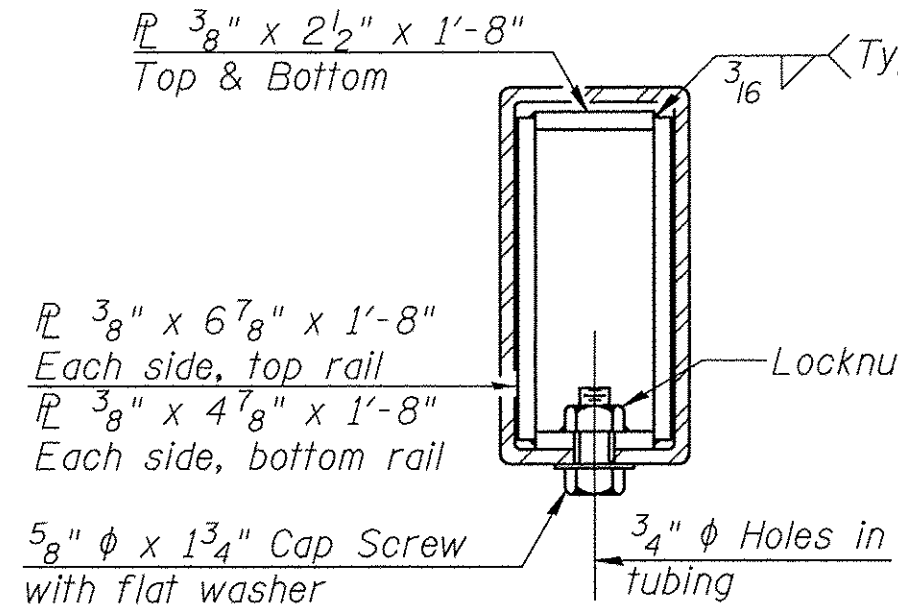
$\phi$  1/2" x 11 1/2" x 5"



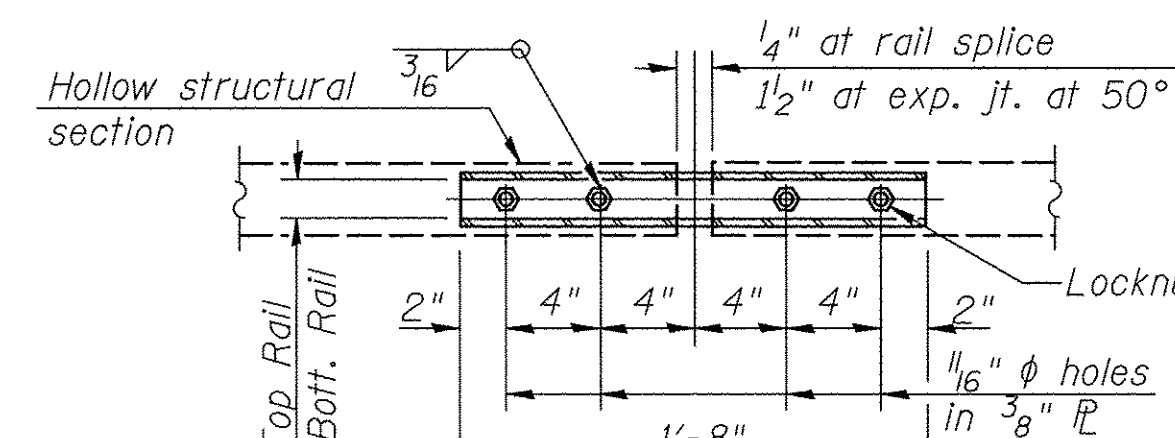
$\phi$  1/2" x 7" x 6"



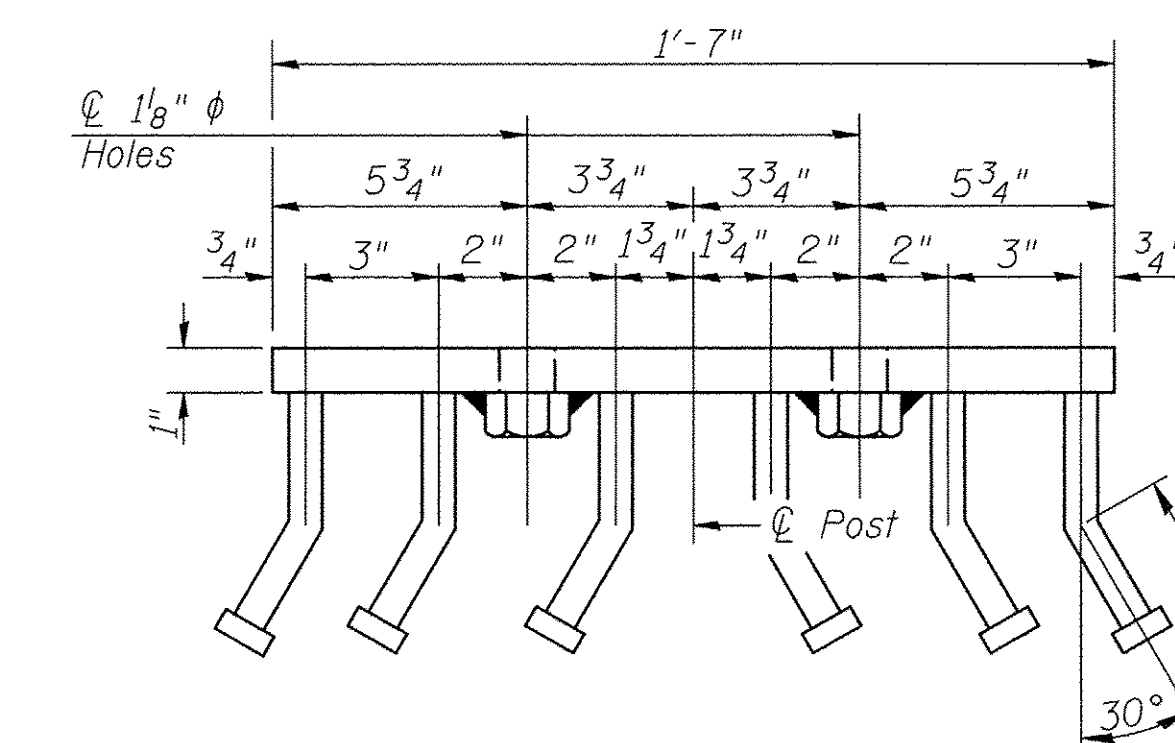
RAIL SPLICE CONNECTION AT EXPANSION JT.



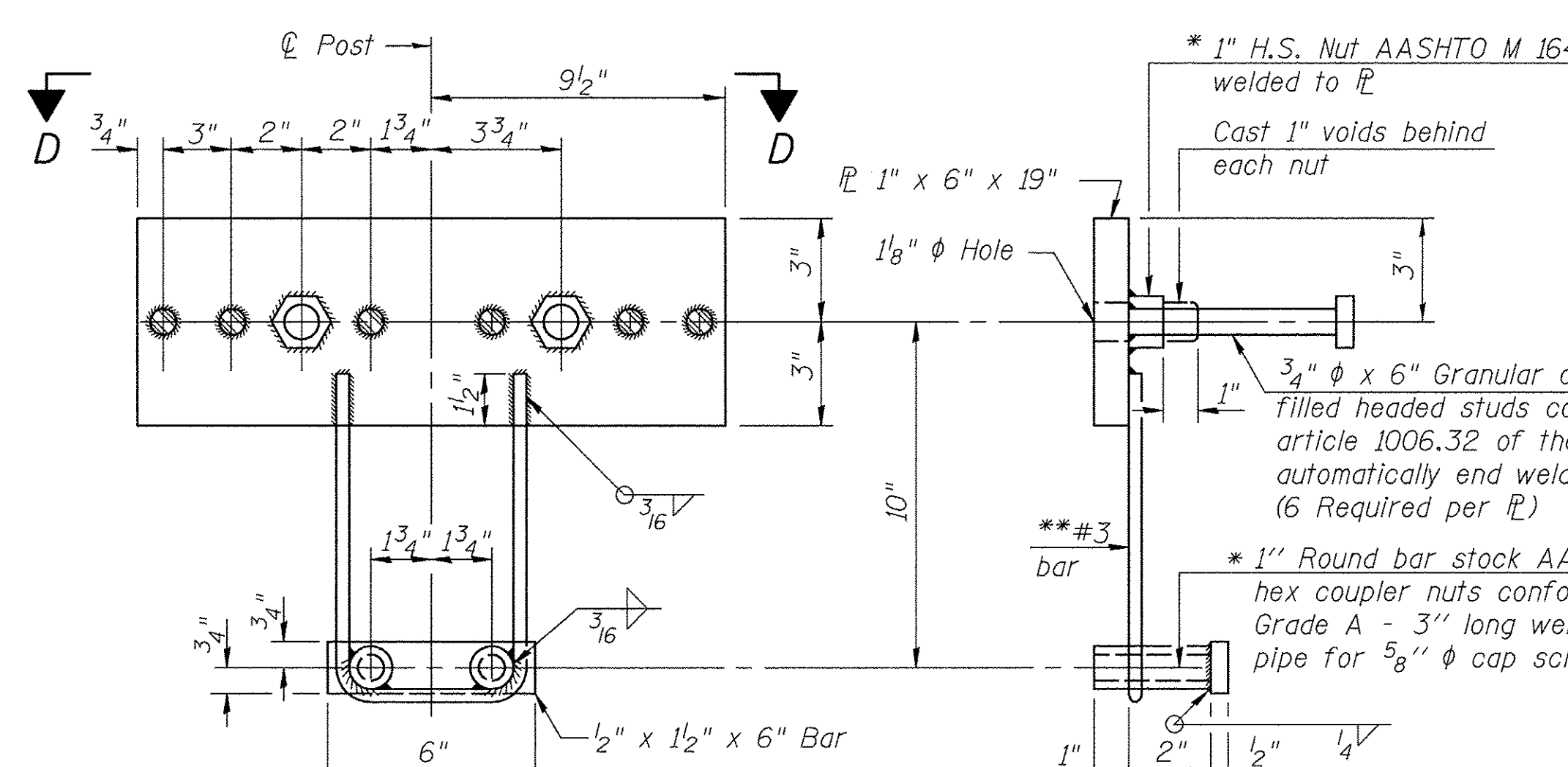
SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE P TYPICAL



VIEW D-D



ANCHOR DEVICE

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

\*\*Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM (Special).  
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Steel Bridge Rail, Type SM (Special)	FOOT	116

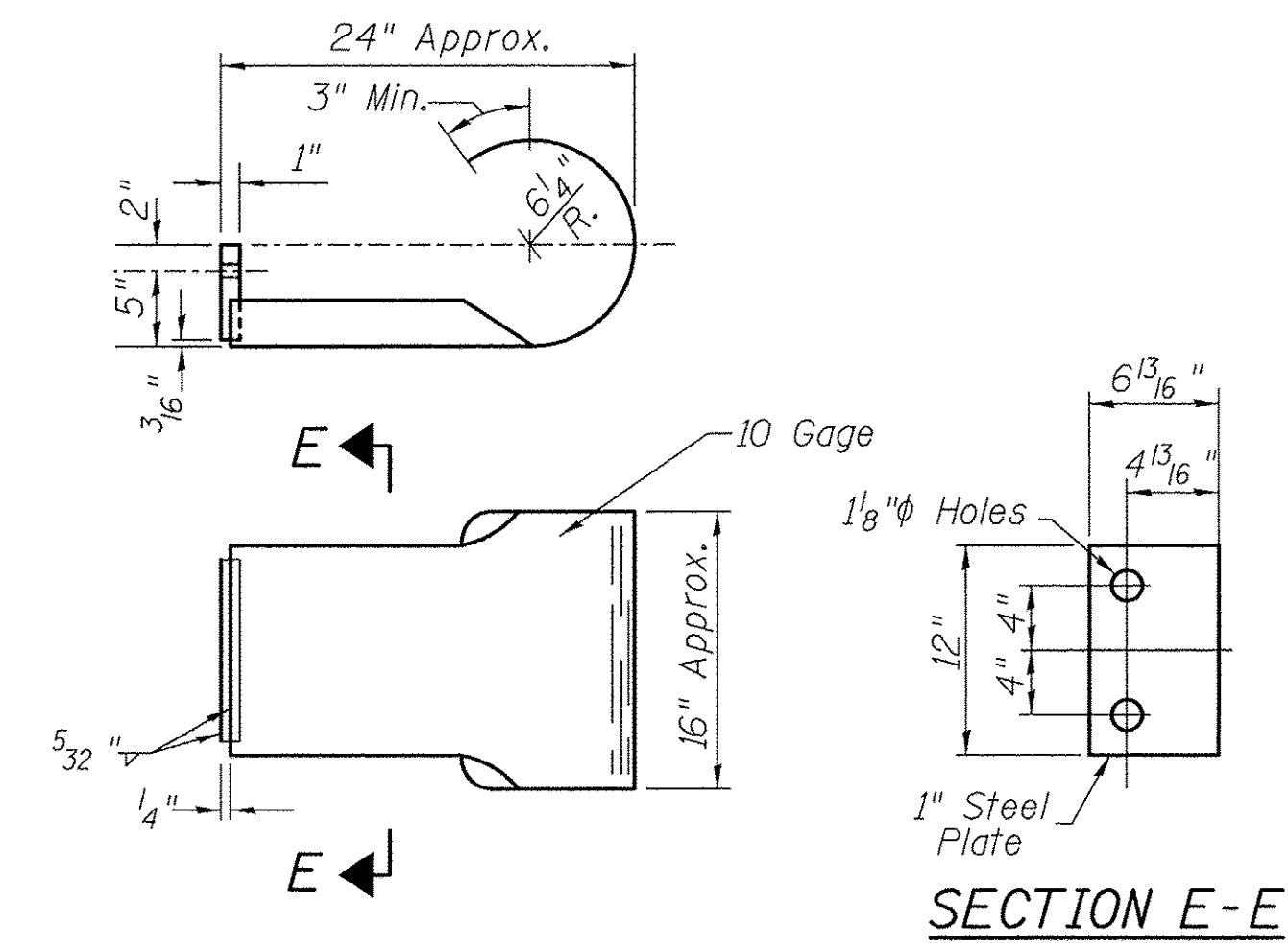
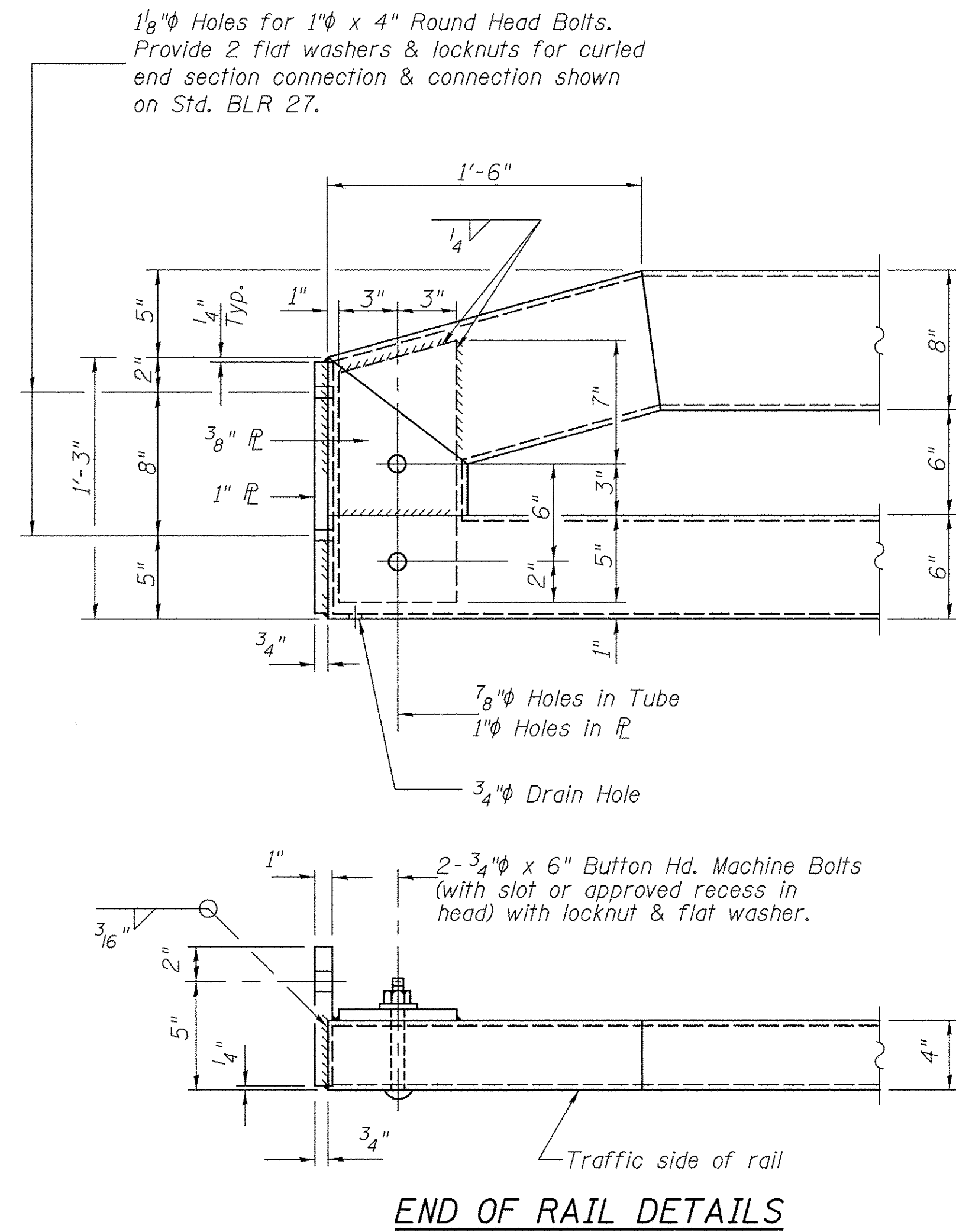
STEEL BRIDGE RAIL, TYPE SM (SPECIAL)  
 BUREAU COUNTY  
 SECTION 09-00218-00-BR  
 COUNTY HIGHWAY 12 OVER  
 BRANCH OF WEST BUREAU CREEK

SHEET NO. 4 12 SHEETS	F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 10
	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)			

(Sheet 1 of 2)



FOR RAIL POST SPACING SEE SH.#6 OF 12



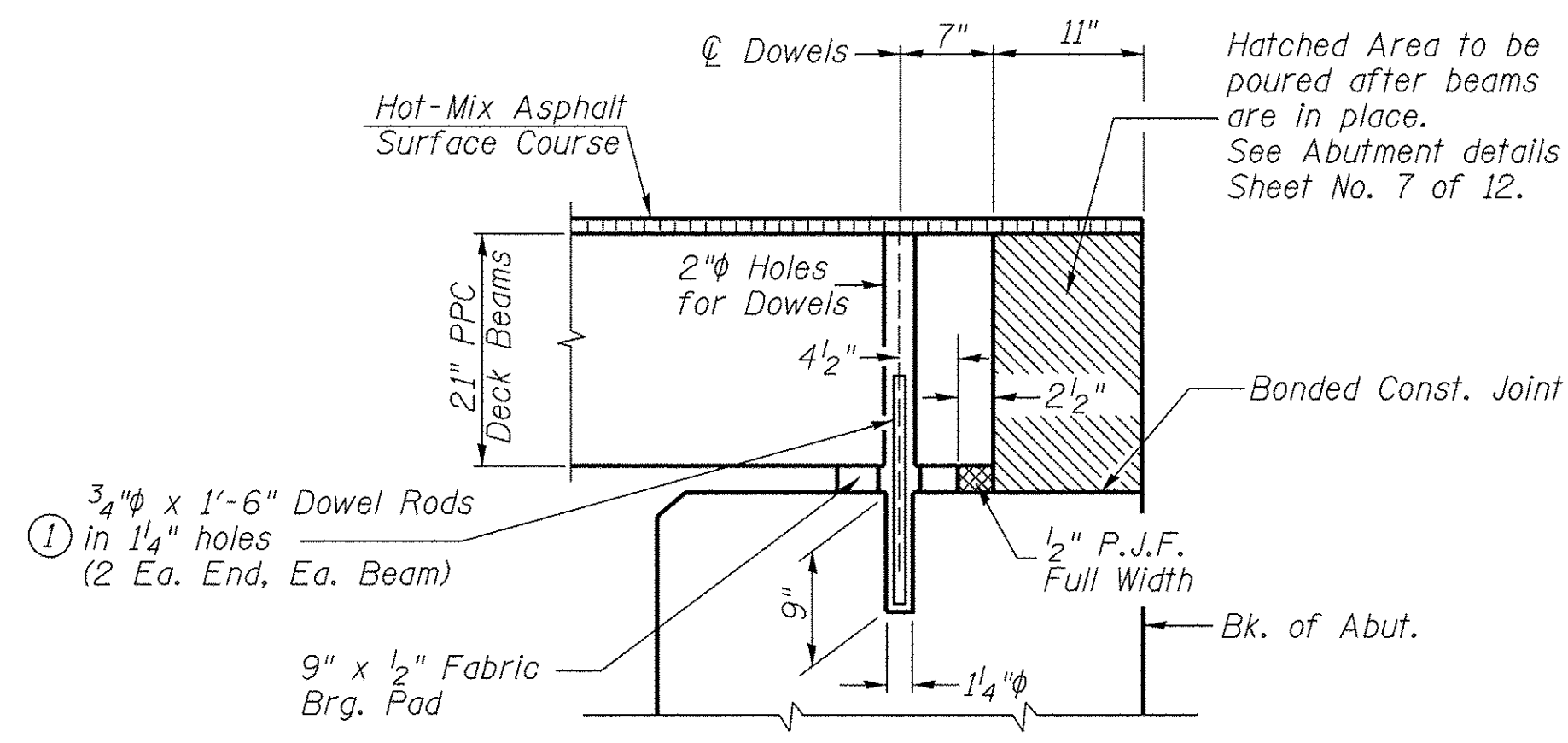
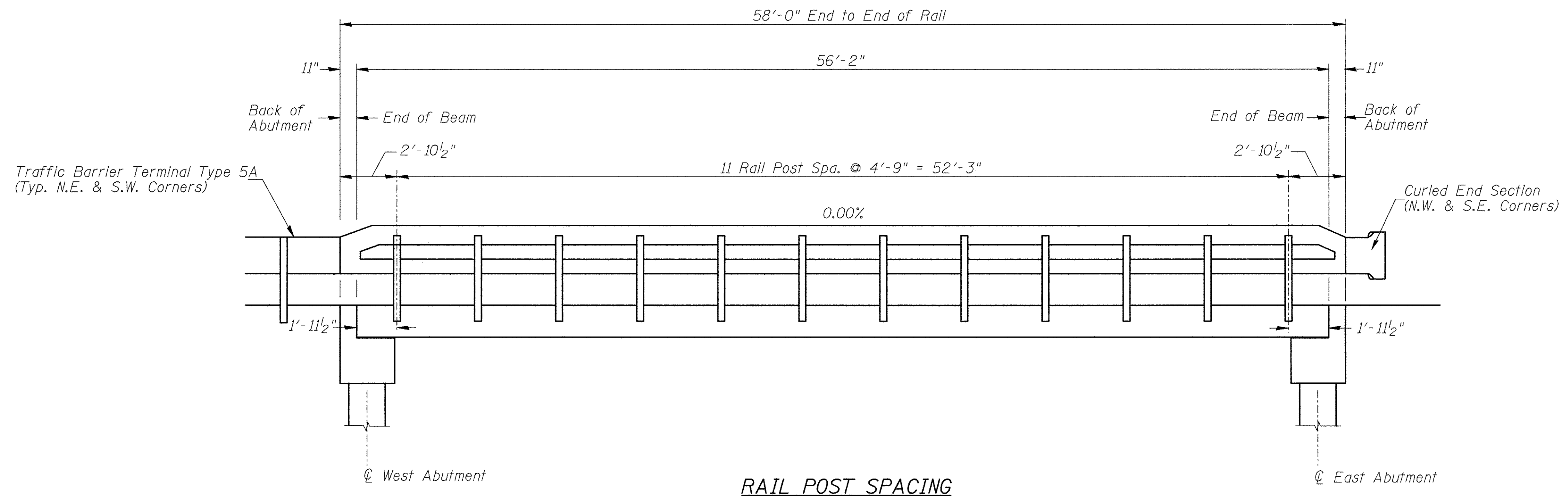
**CURLED END SECTION**

(2 Req'd) Terminal Markers-Direct Applied shall be placed on end of each Curled End Section. Cost of Curled End Sections and Terminal Markers-Direct Applied included with Steel Bridge Rail, Type SM (Special). (N.W. & S.E. Corners)

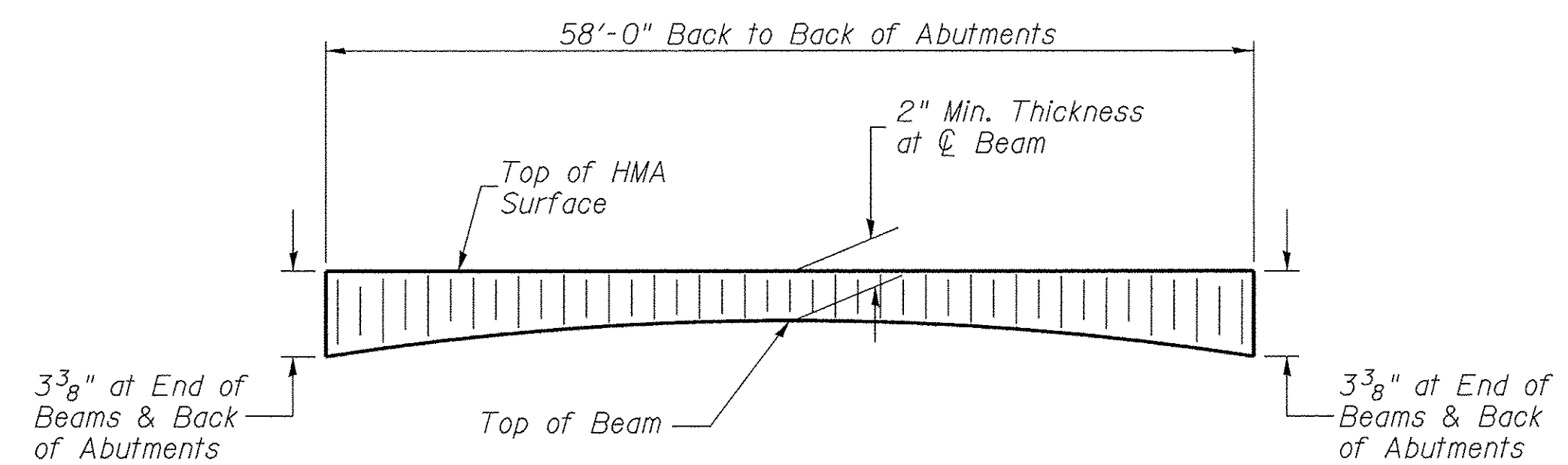
**STEEL BRIDGE RAIL,  
TYPE SM (SPECIAL)  
BUREAU COUNTY  
SECTION 09-00218-00-BR  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

(Sheet 2 of 2)

SHEET NO. 5	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	11
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-1220(105)		



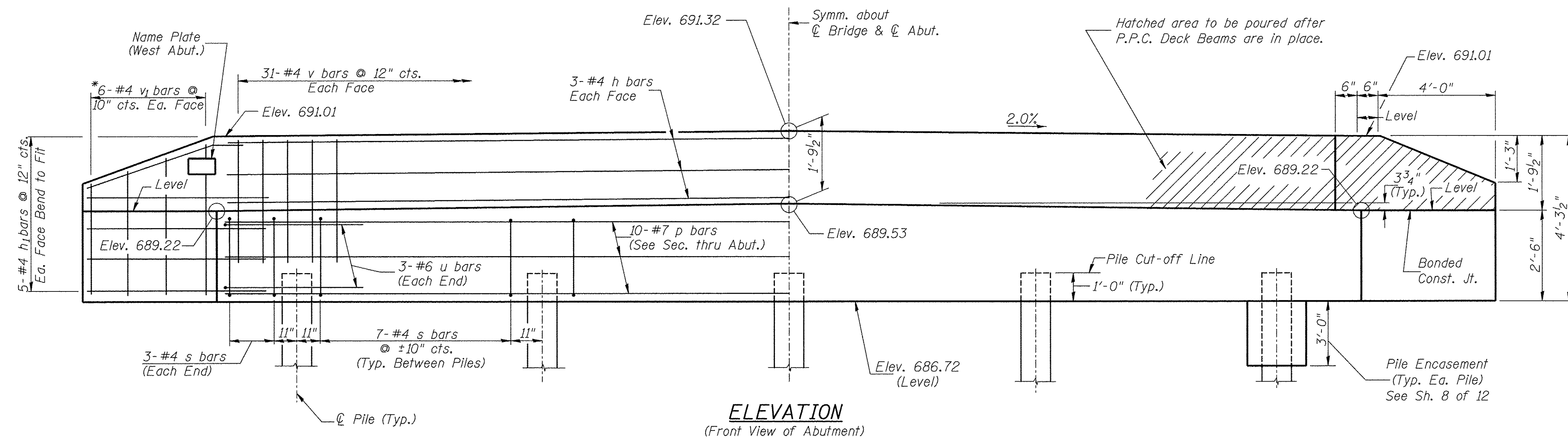
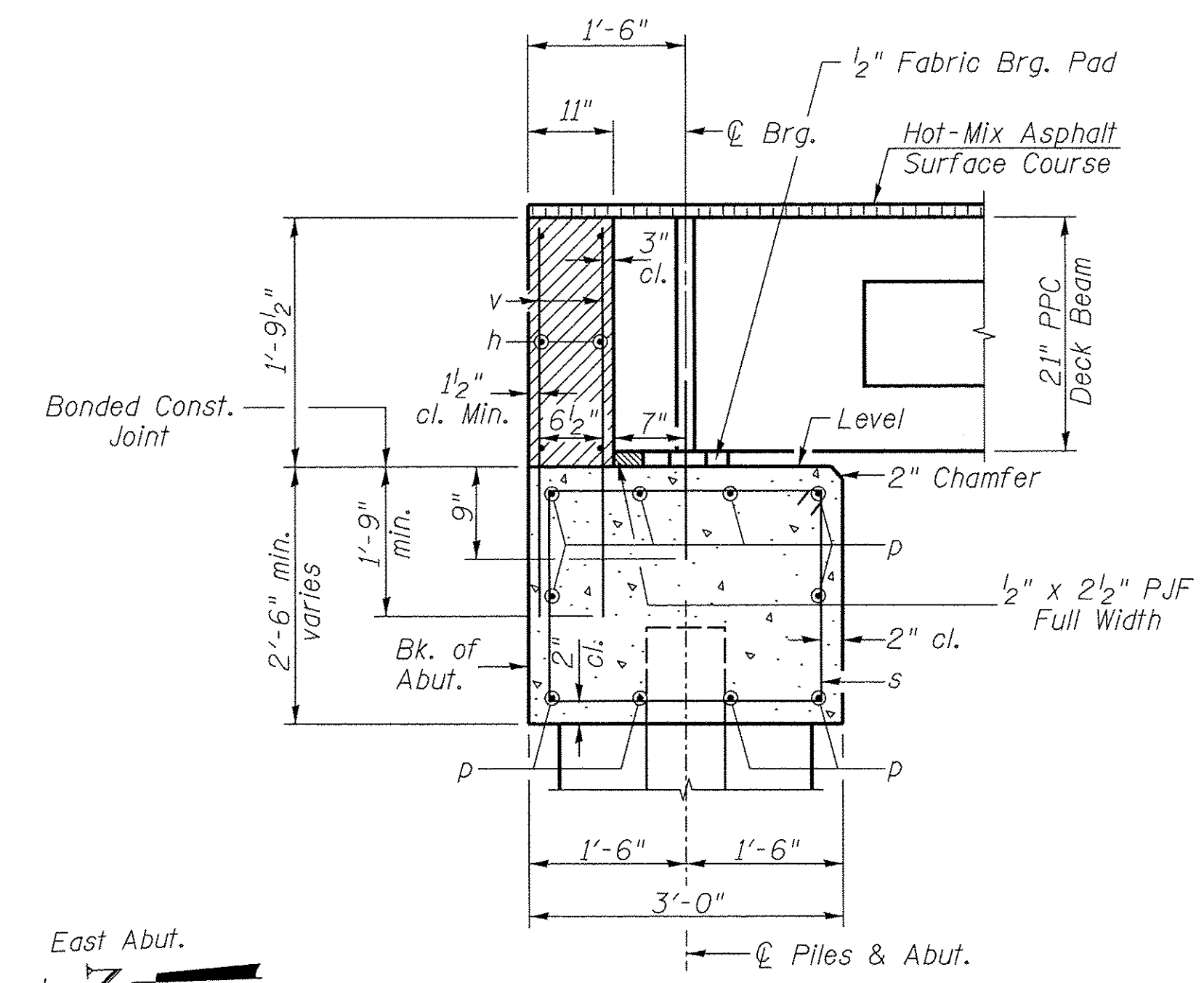
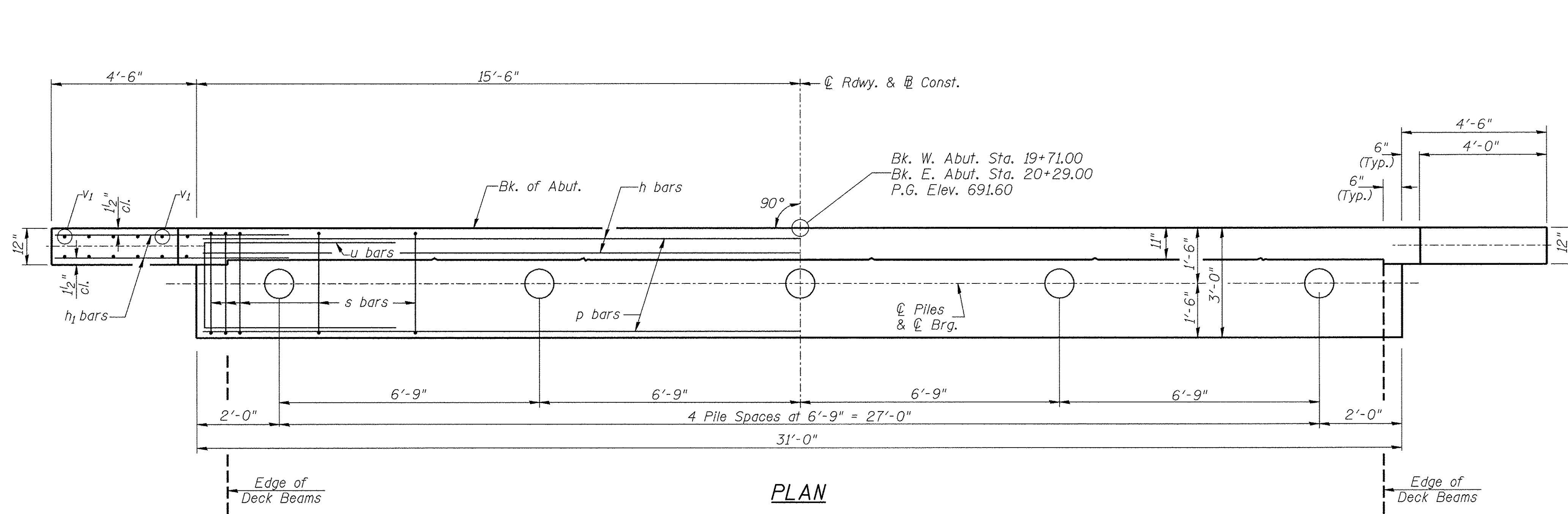
① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.



**RAIL POST SPACING AND  
SUPERSTRUCTURE DETAILS  
BUREAU COUNTY  
SECTION 09-00218-00-BR  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

SHEET NO. 6	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	12
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-1220(105)		





**TWO ABUTMENTS  
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h	12	#4	30'-9"	—
h <sub>1</sub>	40	#4	6'-6"	—
p	20	#7	30'-9"	—
s	68	#4	10'-5"	□
u	12	#6	11'-7"	□
v	124	#4	3'-6"	—
v <sub>1</sub>	24	#4	6'-9"	—
Concrete Structures			CU YD	24.3
Reinforcement Bars			POUND	2,760
Name Plates			EACH	1
Furnishing Metal Shell Piles 12"x0.250"			FOOT	288
Driving Piles			FOOT	288
Test Pile Metal Shells			EACH	2
Concrete Encasement			CU YD	2.6

**DESIGN STRESSES**

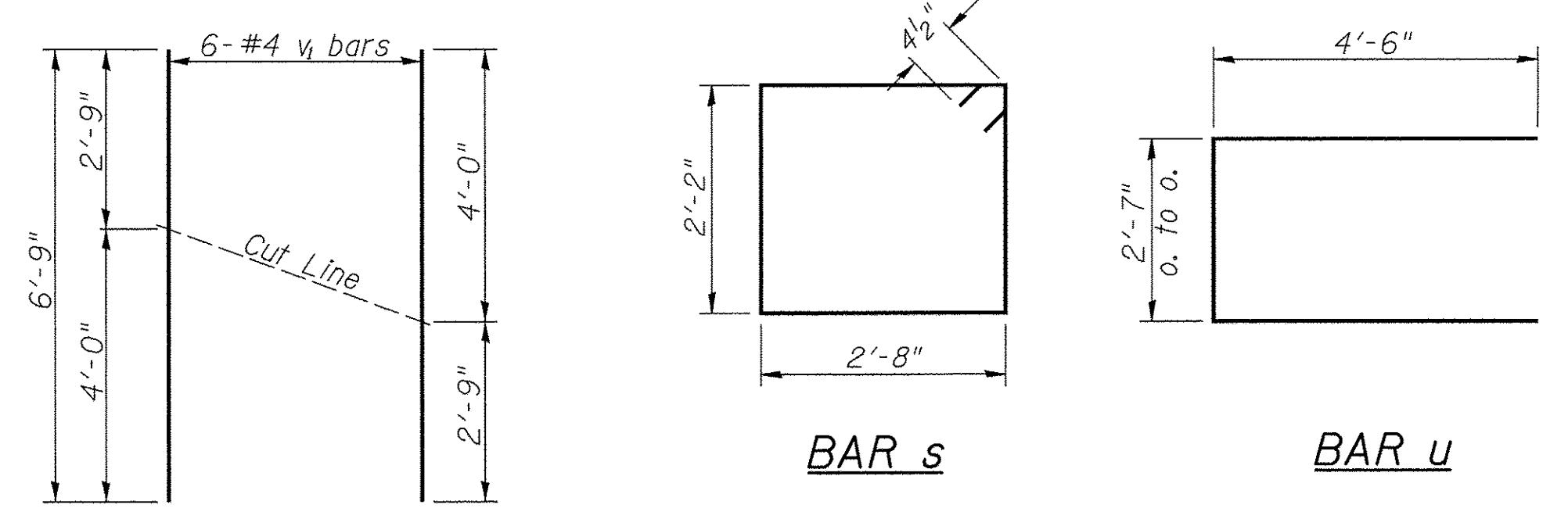
$f'_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i.

**NOTES**

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to ASTM A706 Grade 60.

**PILE DATA**

Type & Size: Metal Shell 12"x0.250" walls  
Nominal Required Bearing: 240 kips  
Factored Resistance Available: 132 kips  
Est. Length: 35' West Abutment  
37' East Abutment  
No. Req'd.: 10 (Includes 1 Test Pile at Each Abut.)



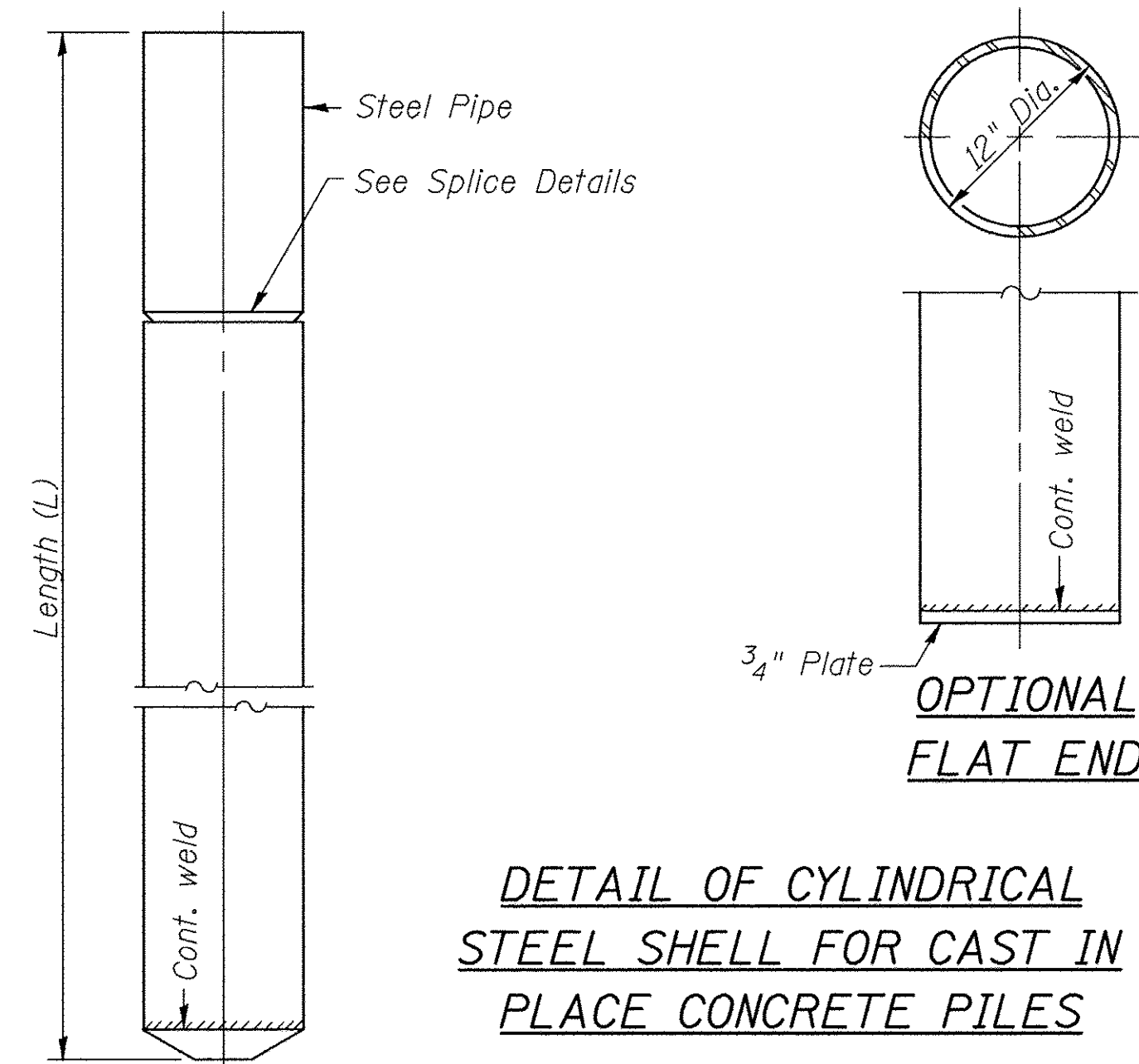
**BAR CUTTING DIAGRAM**

\*Order v<sub>1</sub> bars full length. Cut as shown and use remainder of bars in opposite face.

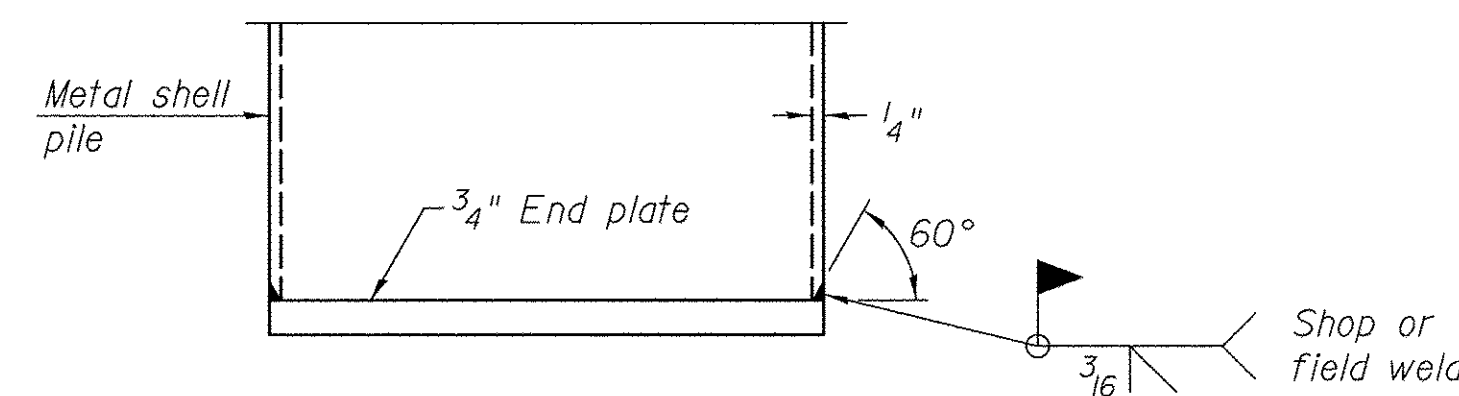
**ABUTMENTS  
BUREAU COUNTY  
SECTION 09-00218-00-BR  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

SHEET NO. 7  12 SHEETS	F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 13
	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-1220(105)		

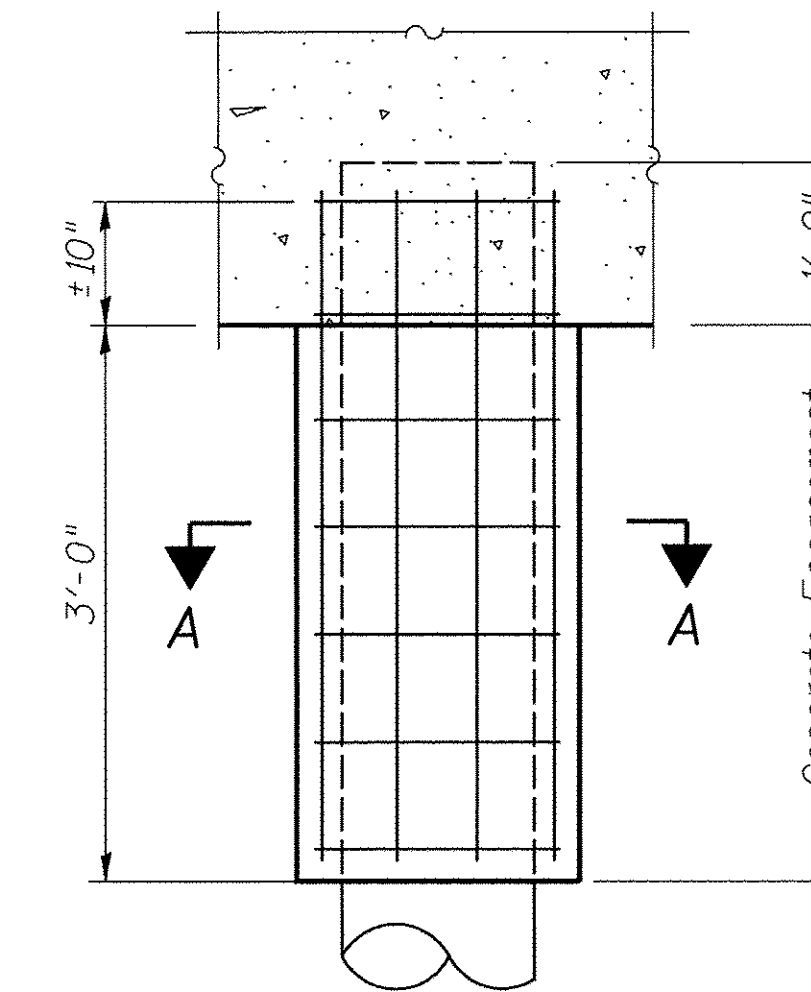
Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.25 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications, and shall be ASTM A252 Grade 3.



**DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES**

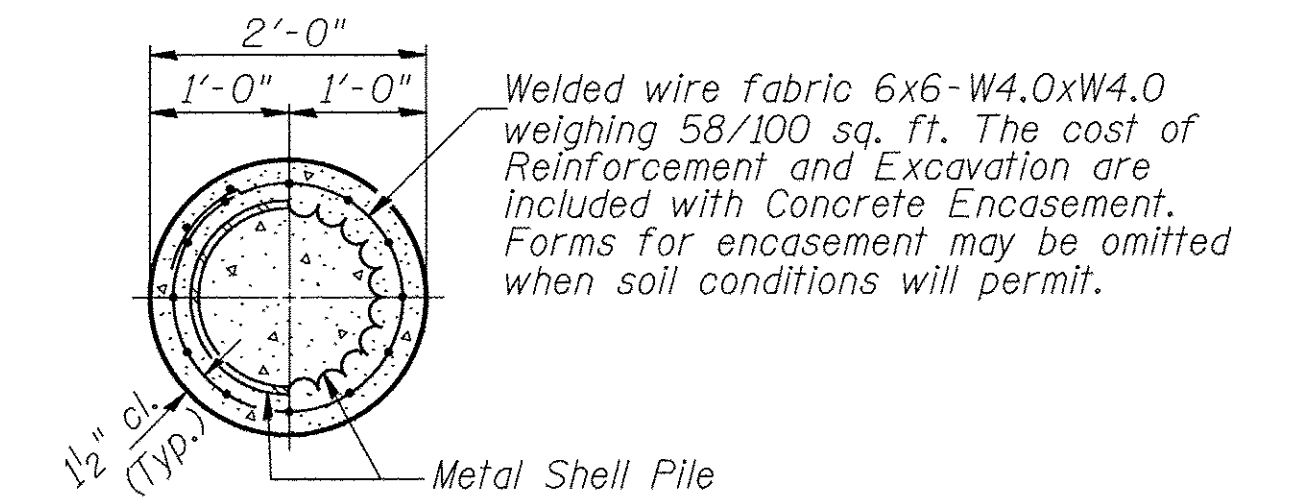


**END PLATE ATTACHMENT**

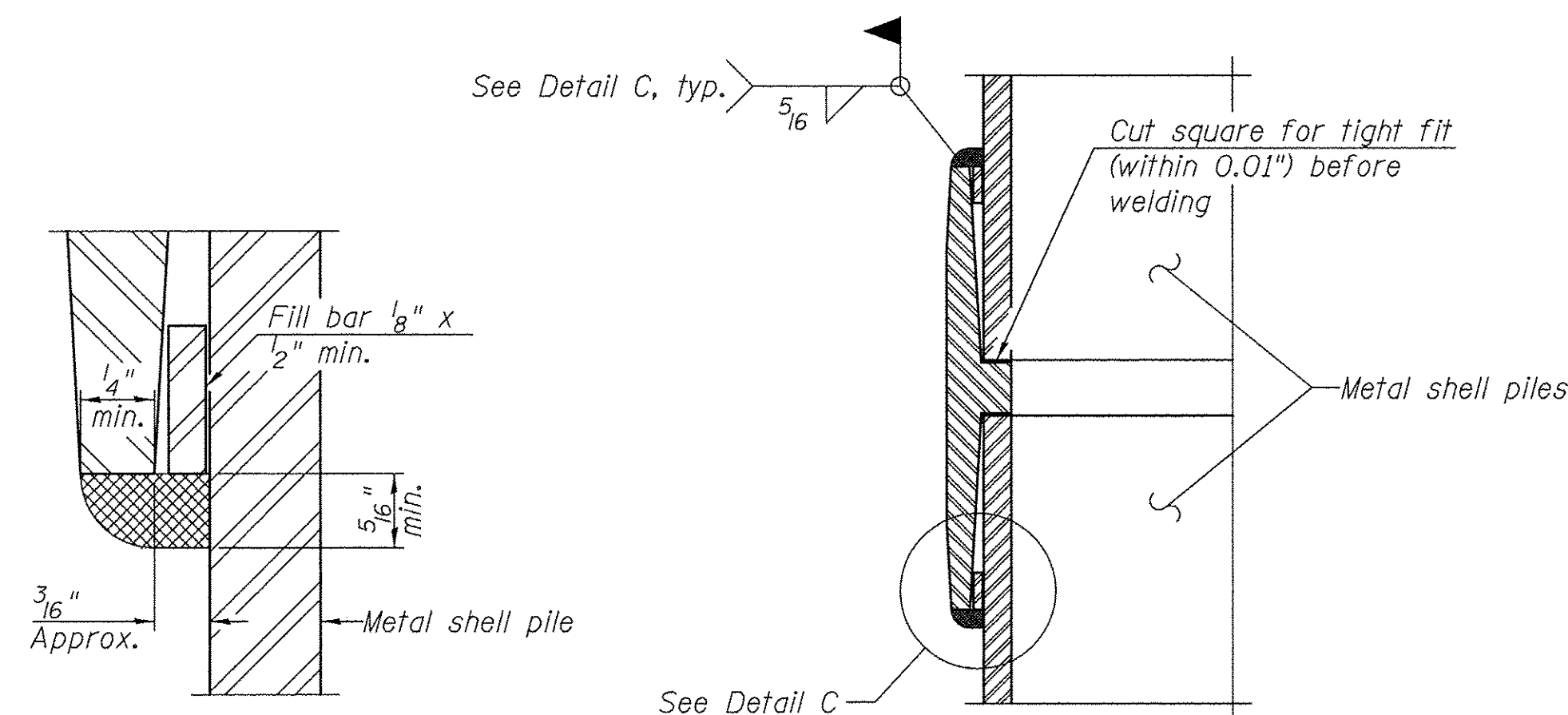


**ELEVATION**

**DETAIL OF METAL SHELL PILE ENCASEMENT AT ABUTMENTS**



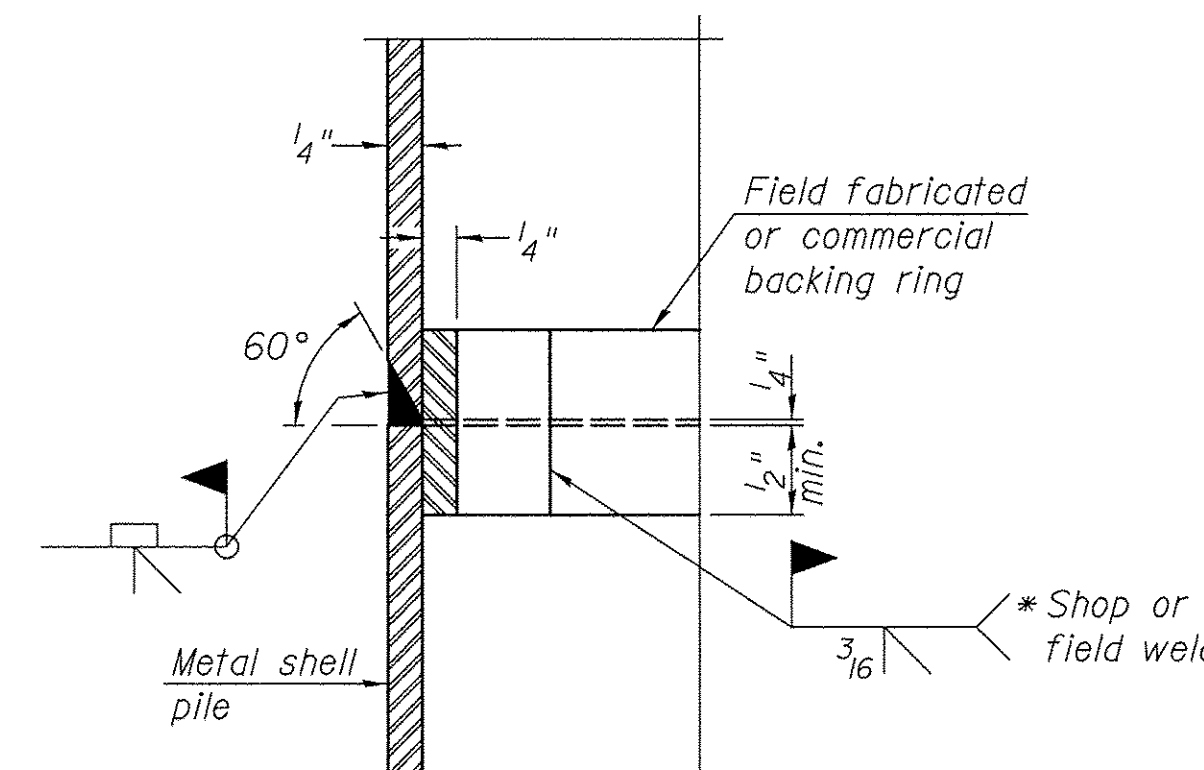
**SECTION A-A**



**DETAIL C**

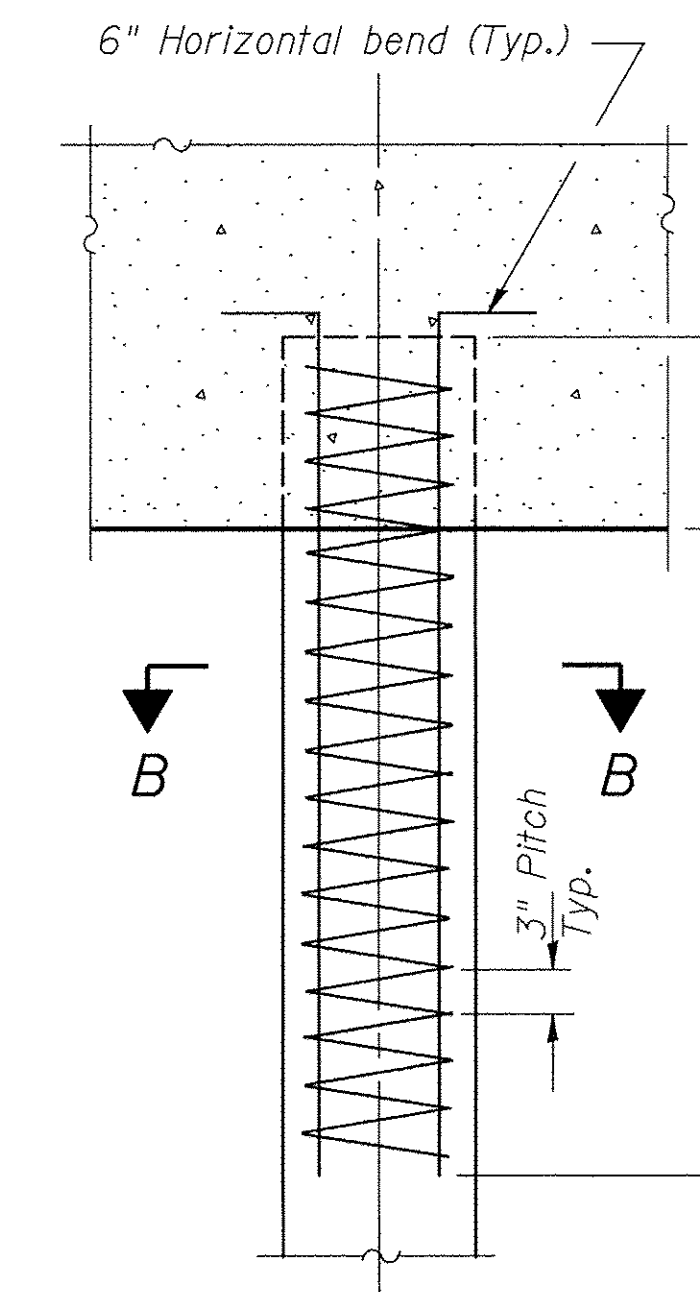
**WELDED COMMERCIAL SPLICE**

Notes:  
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.  
Pile segments shall be driven to solid contact with splicer before welding.



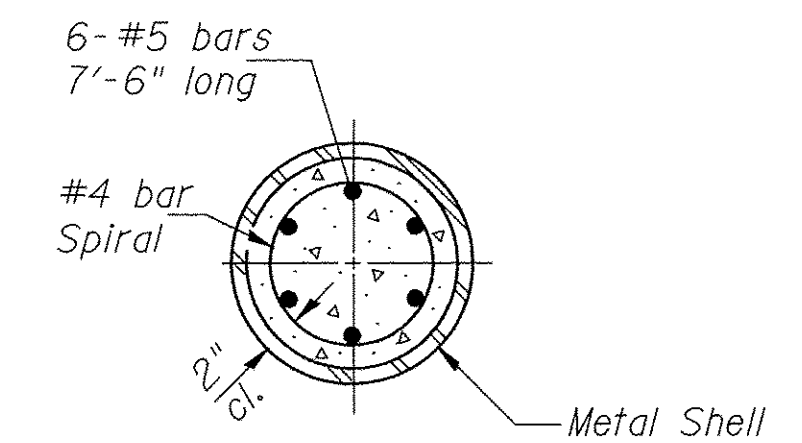
**COMPLETE PENETRATION WELD SPLICE**

\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



**ELEVATION**

**DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS**



**SECTION B-B**

The cost of Reinforcement is included with Furnishing Metal Shell Piles 12"x0.250"

**METAL SHELL PILE DETAILS**

**BUREAU COUNTY  
SECTION 09-00218-00-BR  
COUNTY HIGHWAY 12 OVER  
BRANCH OF WEST BUREAU CREEK**

SHEET NO. 8 12 SHEETS	F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 14
	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-1220(105)		



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354  
Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

**BORING LOG**  
Sheet 1 of 4

Client: Hutchison Engineering, Inc.  
Project Name: CH 12 Section 09-00218-00-BR  
Project Site: Bureau County, IL.

Boring No. B-1  
Surface Elev. 690.90  
Auger Depth 76' Rotary Depth NA  
Start Date 11/28/15 Finish Date 11/28/15

Location: 8' Lt. Station 19+70

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
690.90											
689.90			1								
688.90			2								
687.90			3	1	SS	---	19	---	10		
686.90	Medium Brown Fine To Coarse Gravel (Fill)		4								
685.90			5	2	SS	---	23	---	12		
684.90			6								
683.90			7								
682.90			8	3	SS	---	20	---	10		
681.90			9								
680.90	Stiff Brownish Black Silty Clay		10	4	SS	1.2	7	B	24		
679.90			11								
678.90			12								
677.90			13	5	SS	1.5	8	B	22		
676.90			14								
675.90			15	6	SS	2.3	12	B	15		
674.90			16								
673.90	Very Stiff Brown Clay Till		17								
672.90			18	7	SS	2.4	12	B	15		
671.90			19								
670.90			20	8	SS	2.4	13	B	14		

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
Comments:

**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354  
Phone: 815-223-6696  
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e-mail: mts37@comcast.net

**BORING LOG**  
Sheet 2 of 4

Client: Hutchison Engineering, Inc.  
Project Name: CH 12 Section 09-00218-00-BR  
Project Site: Bureau County, IL.

Boring No. B-1  
Surface Elev. 690.90  
Auger Depth 76' Rotary Depth NA  
Start Date 11/28/15 Finish Date 11/28/15

Location: 8' Lt. Station 19+70

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
690.90											
689.90			22								
688.90			23	9	SS	2.6	12	B	14		
687.90			24								
686.90			25								
685.90			26	10	SS	2.9	17	B	12		
684.90			27								
683.90			28	11	SS	2.8	17	B	12		
682.90			29								
681.90	Very Stiff Brownish Gray Clay Till		30								
680.90			31	12	SS	3.6	21	S	11		
679.90			32								
678.90			33	13	SS	3.3	18	S	11		
677.90			34								
676.90			35	14	SS	3.7	21	S	11		
675.90			36								
674.90			37								
673.90			38								
672.90	Hard Brownish Gray Clay Till		39								
671.90			40	15	SS	4.1	21	S	11		
670.90			41								

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
Comments:

**SOIL BORING LOGS**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 9	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	15
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)			

**Midwest Testing Services, Inc.**  
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 Peru, IL 61354  
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 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

**BORING LOG**  
 Sheet 3 of 4  
 Boring No. B-1  
 Surface Elev. 690.90  
 Auger Depth 76' Rotary Depth NA  
 Start Date 11/28/15 Finish Date 11/28/15

Client: Hutchison Engineering, Inc.  
 Project Name: CH 12 Section 09-00218-00-BR  
 Project Site: Bureau County, IL

Location: 8' Lt. Station 19+70

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
648.90											
647.90			43								
646.90			44								
645.90			45	16	SS	4.5	24	S	11		
644.90			46								
643.90			47								
642.90			48								
641.90			49								
640.90			50								
639.90	Hard Brownish Gray Clay Till		51	17	SS	4.7	22	S	11		
638.90			52								
637.90			53								
636.90			54								
635.90			55								
634.90			56	18	SS	4.7	26	S	10		
633.90			57								
632.90			58								
631.90			59								
630.90	Medium Gray Fine Sand With Clay Seams		60	19	SS	---	21	---	---		
629.90			61								
628.90			62								

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
 Comments:

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 e-mail: mts37@comcast.net

**BORING LOG**  
 Sheet 4 of 4  
 Boring No. B-1  
 Surface Elev. 690.90  
 Auger Depth 76' Rotary Depth NA  
 Start Date 11/28/15 Finish Date 11/28/15

Client: Hutchison Engineering, Inc.  
 Project Name: CH 12 Section 09-00218-00-BR  
 Project Site: Bureau County, IL

Location: 8' Lt. Station 19+70

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
627.90											
626.90			64								
625.90			65	20	SS	---	24	---	---		
624.90			66								
623.90			67								
622.90			68								
621.90			69								
620.90	Medium Gray Fine Sand With Clay Seams		70	21	SS	---	21	---	---		
619.90			71								
618.90			72								
617.90			73								
616.90			74								
615.90			75	22	SS	---	21	---	---		
614.90	Boring Terminated		76								
613.90			77								
612.90			78								
611.90			79								
610.90			80								
609.90			81								
608.90			82								
607.90			83								

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
 Comments:

**SOIL BORING LOGS**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 10	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	16
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)			



**Midwest Testing Services, Inc.**  
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e-mail: mts37@comcast.net

**BORING LOG**  
Sheet 1 of 4  
Boring No. B-2  
Surface Elev. 691.00  
Auger Depth 76' Rotary Depth NA  
Start Date 11/28/15 Finish Date 11/28/15

Client: Hutchison Engineering, Inc.  
Project Name: CH 12 Section 09-00218-00-BR  
Project Site: Bureau County, IL.

Location: 9' Rt. Station 20+30

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
691.00									Randy Safranski Diedrich D-120	
690.00	Medium Brown Fine To Coarse Gravel (Fill)		1							
689.00			2							
688.00			3	1	SS	---	16	---	11	
687.00	Stiff Black And Brown Clay (Fill)		4							
686.00			5							
685.00			6	2	SS	---	20	---	10	
684.00	Stiff Black Silty Clay		7							
683.00			8							
682.00			9							
681.00	Very Stiff Brown Clay Till		10							
680.00			11							
679.00			12	4	SS	1.0	6	B	25	
678.00			13							
677.00			14							
676.00			15							
675.00			16							
674.00			17							
673.00			18							
672.00			19							
671.00			20							
				21						
			22							
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			74							
			75							
			76							

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
Comments:

**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354  
Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

**BORING LOG**  
Sheet 2 of 4  
Boring No. B-2  
Surface Elev. 691.00  
Auger Depth 76' Rotary Depth NA  
Start Date 11/28/15 Finish Date 11/28/15

Client: Hutchison Engineering, Inc.  
Project Name: CH 12 Section 09-00218-00-BR  
Project Site: Bureau County, IL.

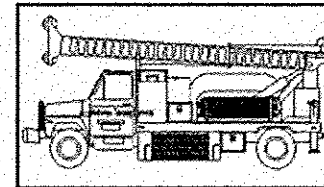
Location: 9' Rt. Station 20+30

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear		
670.00									Randy Safranski Diedrich D-120	
669.00	Very Stiff Brownish Gray Clay Till		22							
668.00			23	9	SS	2.4	12	B	15	
667.00			24							
666.00			25							
665.00			26							
664.00			27							
663.00			28							
662.00			29							
661.00			30							
660.00			31							
659.00			32							
658.00			33							
657.00			34							
656.00			35							
655.00			36							
654.00			37							
653.00			38							
652.00			39							
651.00	Hard Brownish Gray Clay Till		40							
650.00			41							
			42							
			43							
			44							
			45							
			46							
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			75							
			76							

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
Comments:

**SOIL BORING LOGS**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 11	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	17
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-1220(105)		

 <b>Midwest Testing Services, Inc.</b> 3705 Progress Blvd. Peru, IL 61354	<b>BORING LOG</b>		Phone: 815-223-6696
	Sheet <u>3</u> of <u>4</u>		Fax: 815-223-6659
			e-mail: mts37@comcast.net

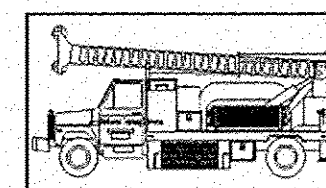
Client: Hutchison Engineering, Inc.  
 Project Name: CH 12 Section 09-00218-00-BR  
 Project Site: Bureau County, IL.

Boring No. B-2  
 Surface Elev. 691.00  
 Auger Depth 76' Rotary Depth NA  
 Start Date 11/28/15 Finish Date 11/28/15

Location: 9' Rt. Station 20+30

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
649.00											
648.00	Hard Brownish Gray Clay Till		43								
647.00			44								
646.00			45	16	SS	4.6	23	S	11		
645.00			46								
644.00			47								
643.00			48								
642.00			49								
641.00			50	17	SS	4.2	20	B	13		
640.00			51								
639.00			52								
638.00		53									
637.00		54									
636.00		55									
635.00		56	18	SS	4.4	24	S	11			
634.00		57									
633.00		58									
632.00		59									
631.00		60									
630.00	Medium Fine Sand With Clay Seams		61	19	SS	---	23	---	---		
629.00			62								

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
 Comments:

 <b>Midwest Testing Services, Inc.</b> 3705 Progress Blvd. Peru, IL 61354	<b>BORING LOG</b>		Phone: 815-223-6696
	Sheet <u>4</u> of <u>4</u>		Fax: 815-223-6659
			e-mail: mts37@comcast.net

Client: Hutchison Engineering, Inc.  
 Project Name: CH 12 Section 09-00218-00-BR  
 Project Site: Bureau County, IL.

Boring No. B-2  
 Surface Elev. 691.00  
 Auger Depth 76' Rotary Depth NA  
 Start Date 11/28/15 Finish Date 11/28/15

Location: 9' Rt. Station 20+30

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
628.00											
627.00	Medium Gray Fine Sand With Clay Seams		64								
626.00			65	20	SS	---	22	---	---		
625.00			66								
624.00			67								
623.00			68								
622.00			69								
621.00			70	21	SS	---	26	---	---		
620.00			71								
619.00			72								
618.00			73								
617.00		74									
616.00		75									
615.00		76	22	SS	---	20	---	---			
614.00	Boring Terminated		77								
613.00			78								
612.00			79								
611.00			80								
610.00			81								
609.00			82								
608.00			83								

Groundwater Data: Static Water level after auger removal - Elevation 681.0.  
 Comments:

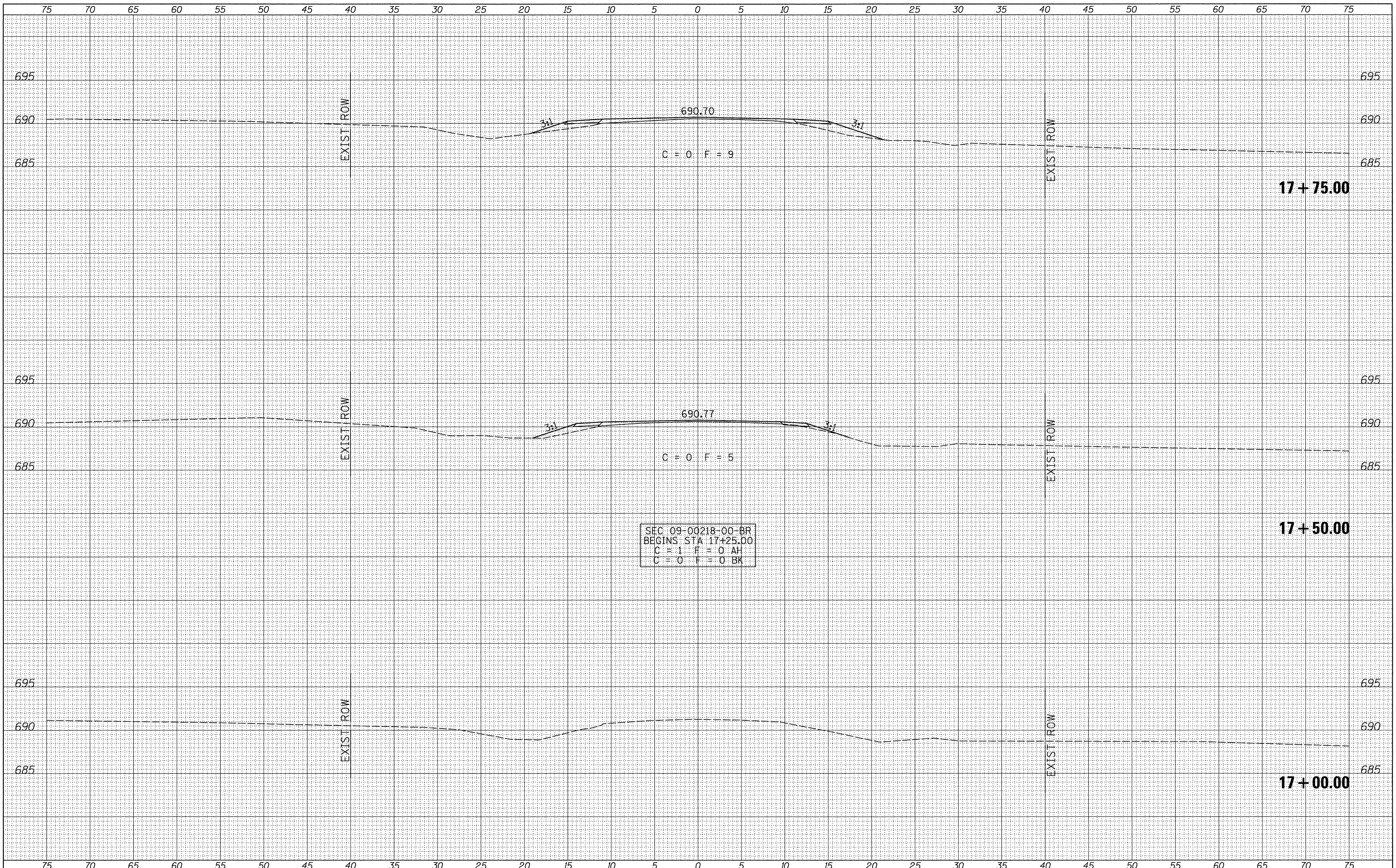
**SOIL BORING LOGS**  
**BUREAU COUNTY**  
**SECTION 09-00218-00-BR**  
**COUNTY HIGHWAY 12 OVER**  
**BRANCH OF WEST BUREAU CREEK**

SHEET NO. 12	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1220	09-00218-00-BR	BUREAU	25	18
12 SHEETS	S.N. 006-3320		CONTRACT NO. 87640		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-1220(105)		



FINAL SURVEY	DESIGNED	DATE
NOTE BOOK	PLOTTED	BY
NO.	TEMPLATE	
	AREAS	
	CHECKED	

ORIGINAL SURVEY	DESIGNED	DATE
NOTE BOOK	PLOTTED	BY
NO.	TEMPLATE	
	AREAS	
	CHECKED	



FILE NAME =  
 Y:\Bridg\3516-Bureau\3516xshsta.dgn

USER NAME = JHutchison  
 PLOT SCALE = 5.0000' / in.  
 PLOT DATE = 2/9/2017

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**BUREAU COUNTY  
 COUNTY HIGHWAY 12 OVER  
 BRANCH OF WEST BUREAU CREEK**

**CROSS SECTIONS**  
 SCALE: 1"=50' SHEET 1 OF 7 SHEETS STA. 17+00.00 TO STA.17+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1220	09-00218-00-BR	BUREAU	25	19
CONTRACT NO. 87640			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-1220(05)	













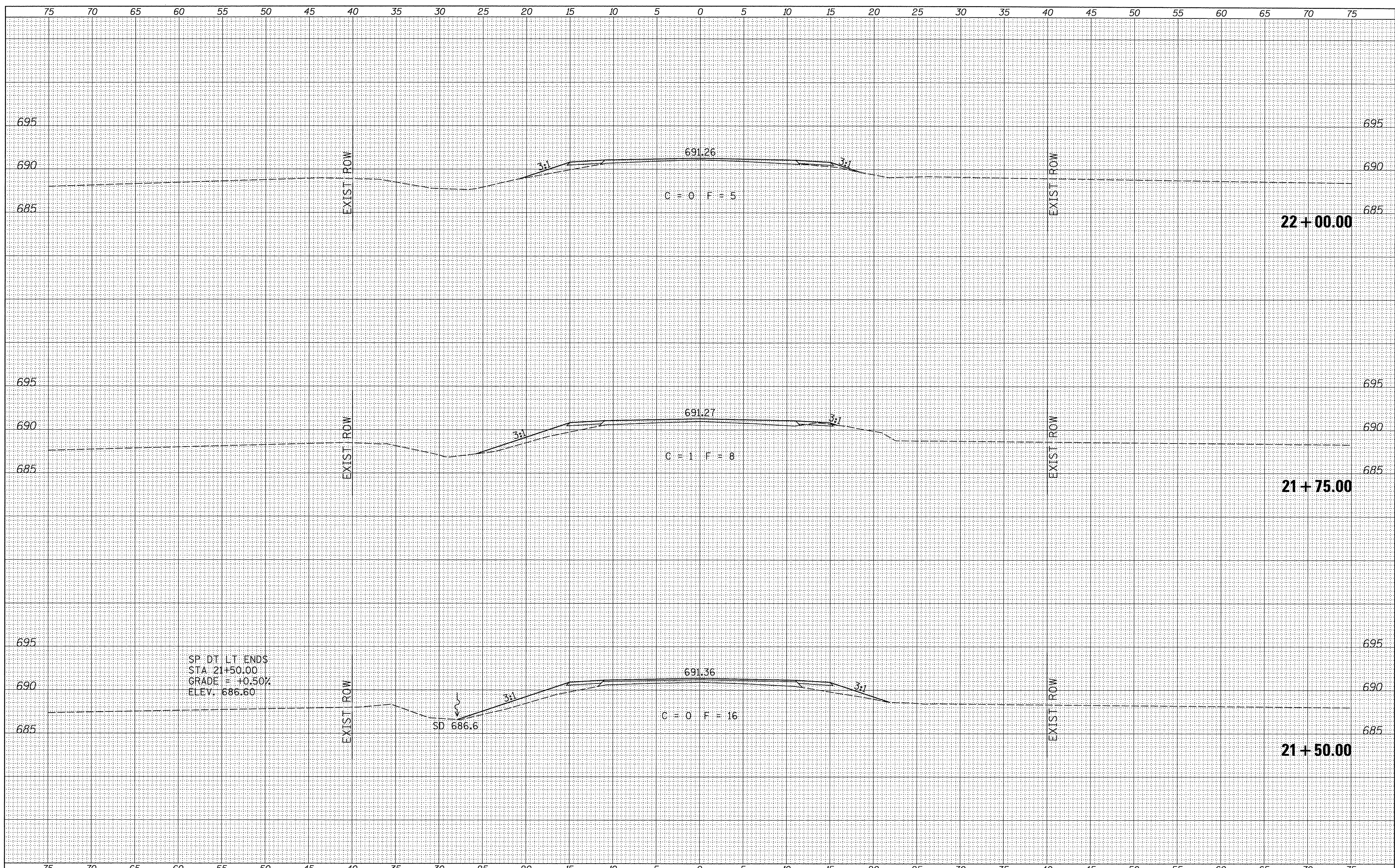






FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		



SP DT LT ENDS  
 STA 21+50.00  
 GRADE = +0.50%  
 ELEV. 686.60

SD 686.6

FILE NAME = V:\Bridges\3516-Bureau\3516xshs.dgn  
 #MODELNAME#

USER NAME = JHutchison	DESIGNED -	REVISED -
PLOT SCALE = 5.0000' / 1in.	DRAWN -	REVISED -
PLOT DATE = 2/9/2017	CHECKED -	REVISED -
	DATE -	REVISED -

**BUREAU COUNTY  
 COUNTY HIGHWAY 12 OVER  
 BRANCH OF WEST BUREAU CREEK**

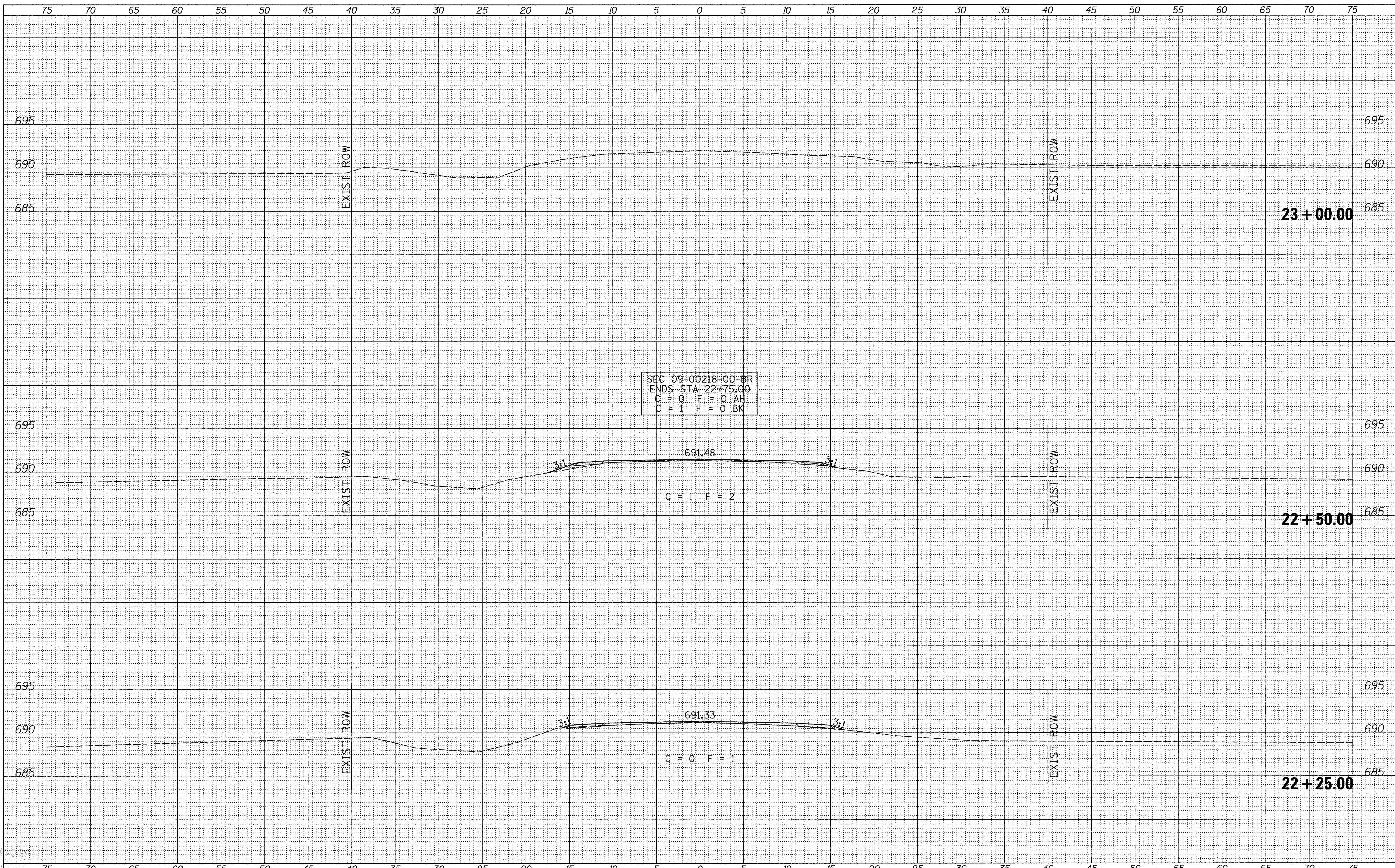
**CROSS SECTIONS**  
 SCALE: 1"=50' SHEET 6 OF 7 SHEETS STA. 21+50.00 TO STA. 22+00.00

F.A.S. RTE. 1220	SECTION 09-00218-00-BR	COUNTY BUREAU	TOTAL SHEETS 25	SHEET NO. 24
FED. ROAD DIST. NO. 7 ILLINOIS		CONTRACT NO. 87640		
FED. AID PROJECT BR5-1220(105)				



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
AREAS CHECKED		
NO.		



SEC: 09-00218-00-BR  
 ENDS STA: 22+75.00  
 C = 0 F = 0 AH  
 C = 1 F = 0 BK

C = 1 F = 2

C = 0 F = 1

FILE NAME =  
 Y:\Bridges\3516-Bureau\3516xshsta.dgn

USER NAME = JHutchison  
 DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**BUREAU COUNTY  
 COUNTY HIGHWAY 12 OVER  
 BRANCH OF WEST BUREAU CREEK**

**CROSS SECTIONS**  
 SCALE: 1"=50' SHEET 7 OF 7 SHEETS STA. 22+25.00 TO STA. 23+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1220	09-00218-00-BR	BUREAU	25	25
CONTRACT NO. 87640				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-1220(05)				