

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
TR-126	06-01188-00BR	UNION	17	1
JOB. NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
BRIDGE REPLACEMENT & REHABILITATION PROGRAM  
SECTION 06-01188-00-BR UNION COUNTY  
TOWNSHIP ROAD 126B - SPANISH BLUFF ROAD  
JOB NO. C-99-506-08  
PROJECT NO. BROS-181 (042)  
CONTRACT NO. 99337  
TRIBUTARY TO CACHE RIVER

**INDEX OF SHEETS**

SHEET NO	DESCRIPTION
1	TITLE AND COVER SHEET INDEX OF SHEETS SUMMARY OF QUANTITIES
2	PLAN AND PROFILE TYPICAL SECTION
3	GRADING AND TREE REMOVAL PLAN
4-7	CROSS SECTIONS
8	STORM WATER POLLUTION PREVENTION PLAN
9	GENERAL PLAN AND ELEVATION
10	27" X 36" PPC DECK BEAM
11	27" X 36" PPC DECK BEAM DETAILS
12	27" X 48" PPC DECK BEAM
13	27" X 48" PPC DECK BEAM DETAILS
14	PPC DECK BEAM - PILE BENT ABUTMENT
15	STEEL RAILING, TYPE S1 AND CURLED END SECTION DETAILS
16	HP PILE DETAILS
17	NAME PLATE AND SOIL BORING LOGS

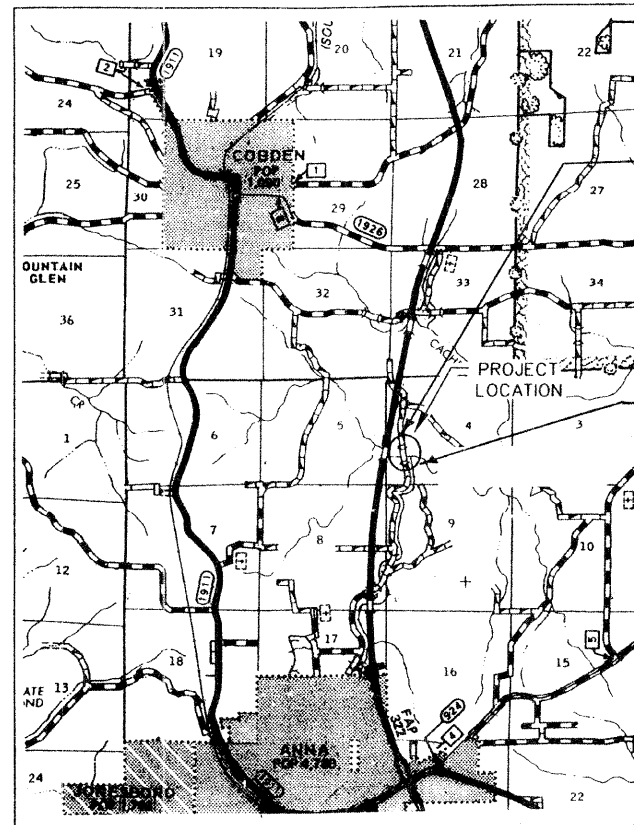
**LIST OF STANDARDS**

STD. NO.	DESCRIPTION
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901	TRAFFIC CONTROL DEVICES
B.L.R. 21-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

**SUMMARY OF QUANTITIES**

CODE NO.	ITEM	UNIT	0011 AWARDED QUANTITY	AS-BUILT QUANTITY
20100210	TREE REMOVAL (COVER 15 UNITS DIAMETER)	UNIT	136	
20100500	TREE REMOVAL, ACRES	ACRE	0.3	
X2020410	EARTH EXCAVATION (SPECIAL)	CU YD	3,100	
20400800	FURNISHED EXCAVATION	CU YD	1,990	
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.1	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	110	
28000305	TEMPORARY DITCH CHECKS	FOOT	55	
28000400	PERIMETER EROSION BARRIER	FOOT	550	
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	1,450	
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	525	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	
50105220	PIPE CULVERT REMOVAL	FOOT	40	
50300225	CONCRETE STRUCTURES	CU YD	18.2	
50300280	CONCRETE ENCASEMENT	CU YD	2.1	
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,440	
50800105	REINFORCEMENT BARS	POUND	2,300	
* 50900205	STEEL RAILING, TYPE S1	FOOT	120	
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	154	
51202305	DRIVING PILES	FOOT	154	
51203400	TEST PILE STEEL HP 10X42	EACH	1	
51500100	NAME PLATES	EACH	1	
67100100	MOBILIZATION	L SUM	1	
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	
* 78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4	

\* SPECIALTY ITEMS



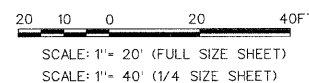
PROPOSED IMPROVEMENTS BEGINS @ STA. 6+00

PROPOSED IMPROVEMENTS ENDS @ STA. 11+85

PROPOSED IMPROVEMENTS ENDS @ STA. 11+85



LAYOUT  
APPROXIMATE SCALE: 1 INCH = 4,000 FT.  
NET LENGTH OF PROJECT = 585 FT. - 0.110 MI.



DESIGN SPEED - 30 M.P.H.  
CLASSIFICATION - LOCAL ROAD  
A.D.T. - 75  
J.U.L.I.E - 1-800-892-0123

SCALE AS SHOWN	PLANS PREPARED BY J. T. BLANKINSHIP, INC. CONSULTING ENGINEERS MURPHYSBORO, ILLINOIS	FILE NO. E*9051 SHEET NO.
DATE APR. 2009	401 S. 17TH STREET	



TED R. BEGGS, P.E.  
REG. NO. 062-053736  
DATE 9/12/11  
EXPIRES 11-30-11

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPROVED September 13, 2011  
Kevin Grammer, P.E.  
KEVIN GRAMMER - UNION COUNTY ENGINEER

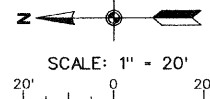
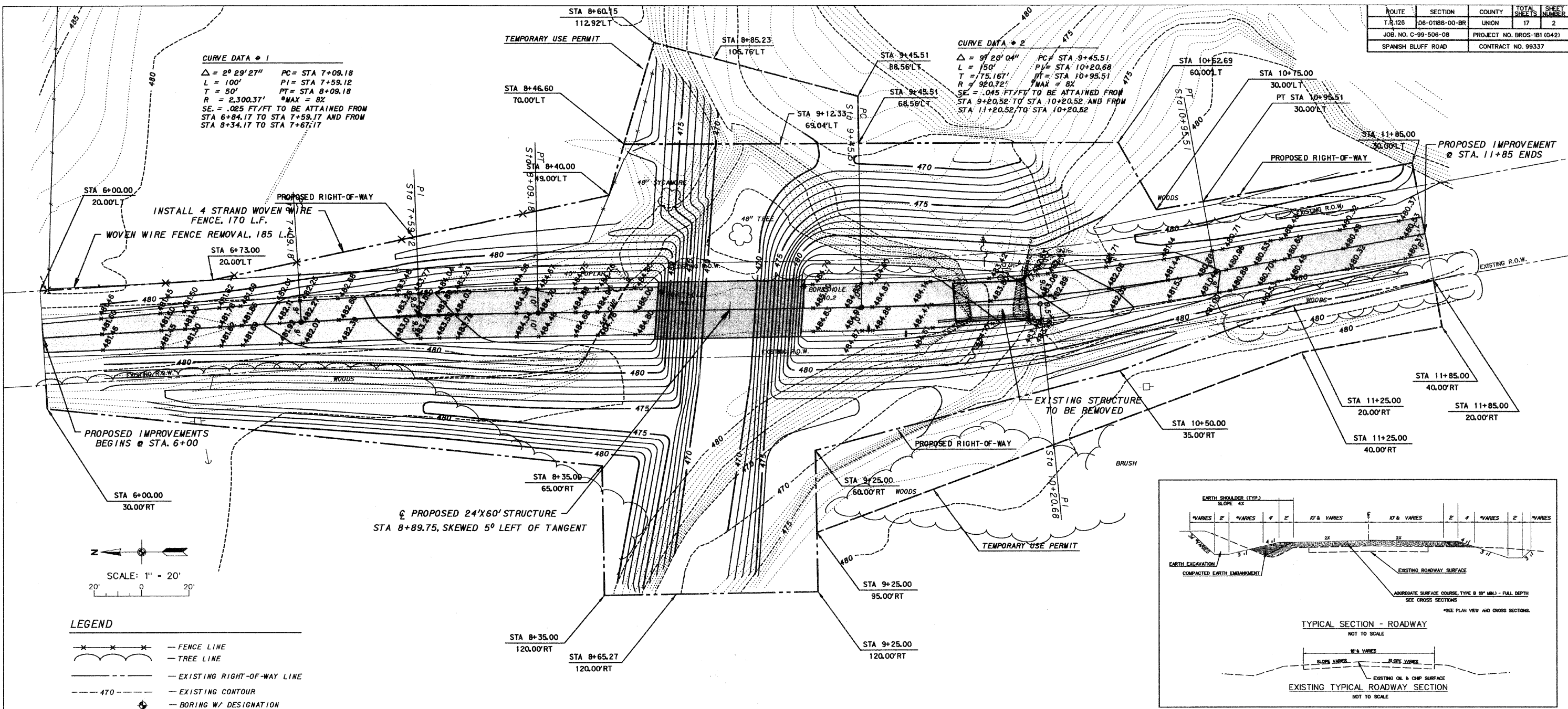
PASSED SEPT. 16, 2011  
Dennis W. Hillebrenner  
DENNIS HILLEBRENNER - DISTRICT 9 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID Sept 19, 2011  
BASED ON LIMITED REVIEW  
Omer M. Osman  
OMER M. OSMAN, P.E. - ACTING DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

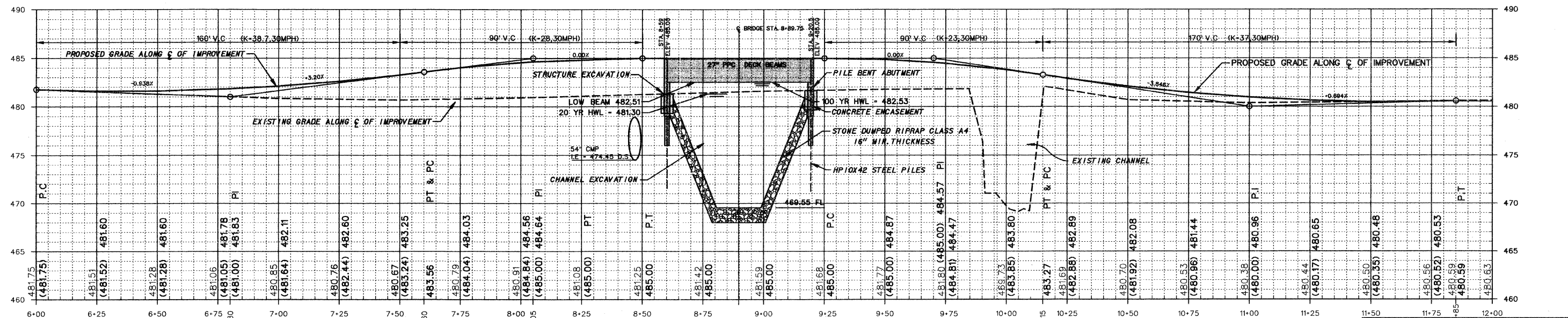
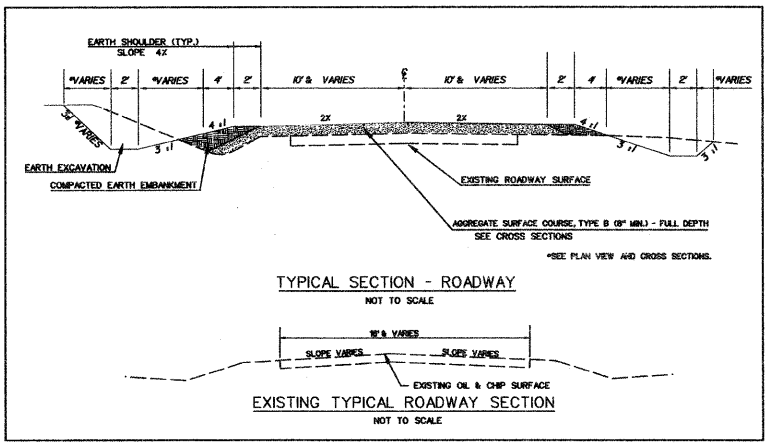
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-01188-00-BR	UNION	17	2
JOB NO. C-99-506-08		PROJECT NO. BR08-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 98337		

**CURVE DATA # 1**  
 $\Delta = 2^\circ 29' 27''$  PC = STA 7+09.18  
 L = 100' PI = STA 7+59.12  
 T = 50' PT = STA 8+09.18  
 R = 2,300.37' \*MAX = 8%  
 SE = .025 FT/FT TO BE ATTAINED FROM STA 6+84.17 TO STA 7+59.17 AND FROM STA 8+34.17 TO STA 7+67.17

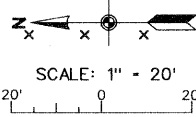
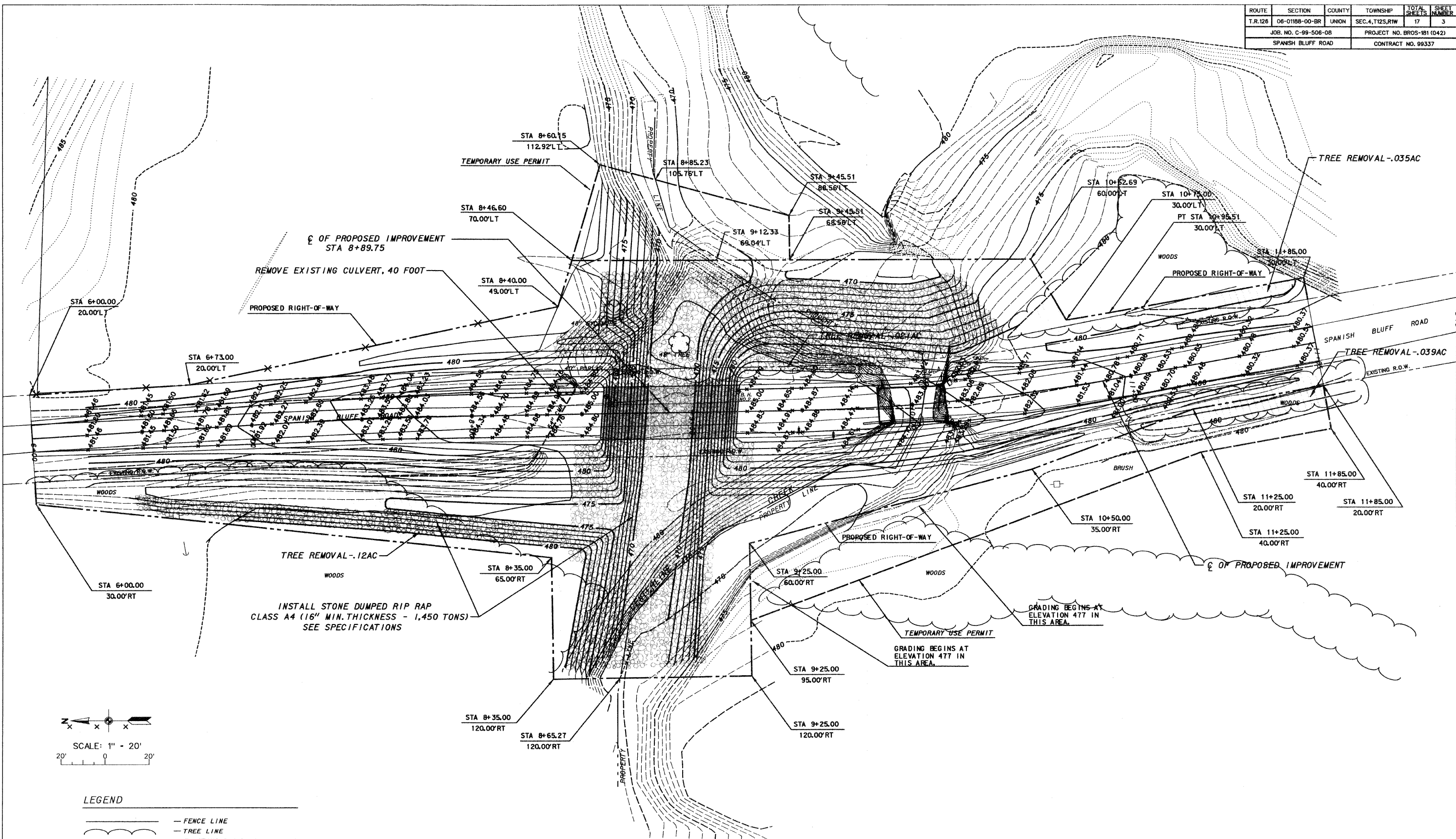
**CURVE DATA # 2**  
 $\Delta = 9^\circ 20' 04''$  PC = STA 9+45.51  
 L = 150' PI = STA 10+20.68  
 T = 75.167' PT = STA 10+95.51  
 R = 920.72' \*MAX = 8%  
 SE = .045 FT/FT TO BE ATTAINED FROM STA 9+20.52 TO STA 10+20.52 AND FROM STA 11+20.52 TO STA 10+20.52



- LEGEND**
- x — x — x — FENCE LINE
  - ( ) — ( ) — ( ) — TREE LINE
  - — — — — EXISTING RIGHT-OF-WAY LINE
  - - - - - 470 - - - - - EXISTING CONTOUR
  - ⊕ - - - - - BORING W/ DESIGNATION



ROUTE	SECTION	COUNTY	TOWNSHIP	TOTAL SHEETS	SHEET NUMBER
T.R.126	06-01188-00-BR	UNION	SEC.4,T12S,R1W	17	3
JOB NO. C-99-506-08			PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD			CONTRACT NO. 99337		

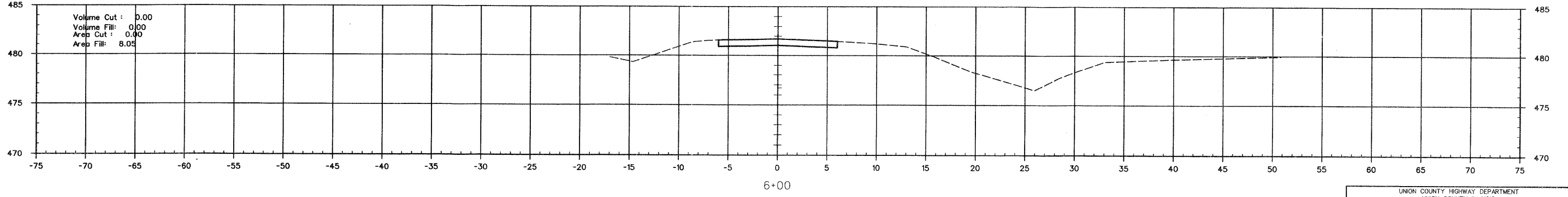
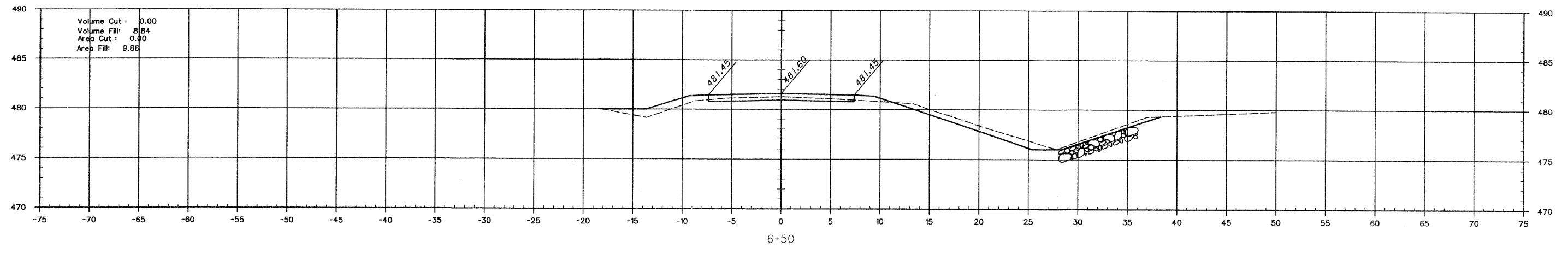
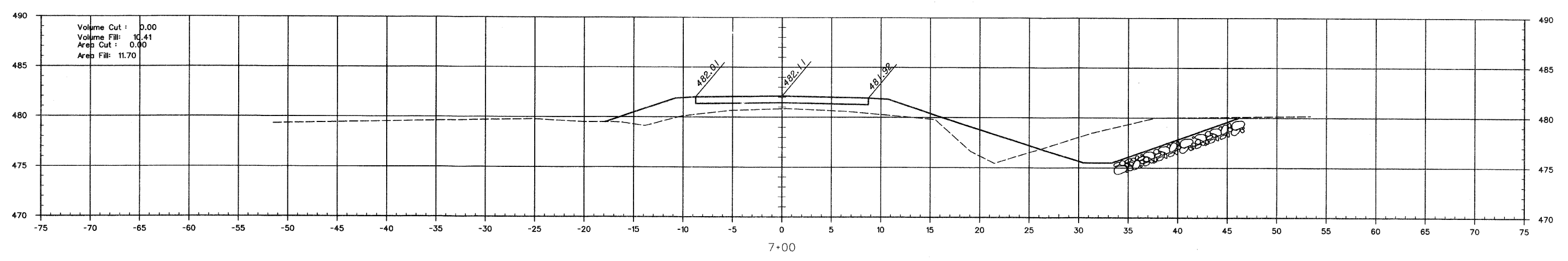
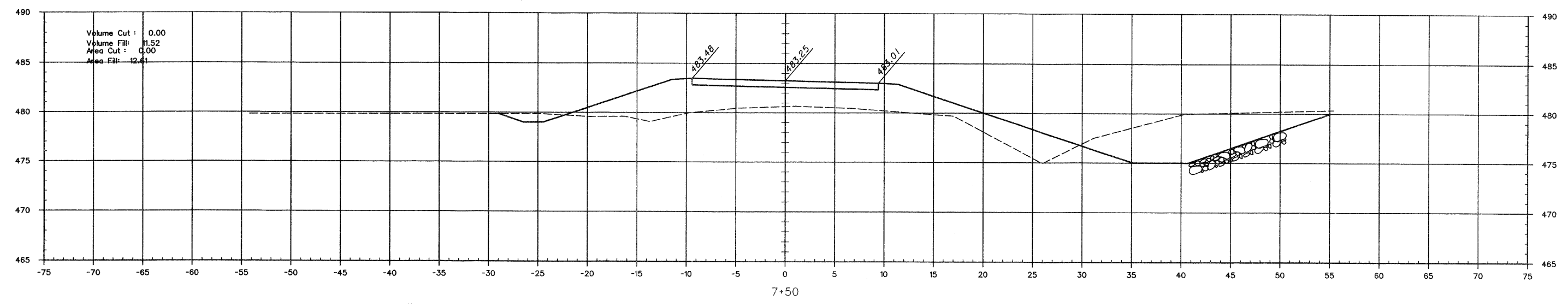


**LEGEND**

- FENCE LINE
- TREE LINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED FINISH GRADE
- BORING W/ DESIGNATION
- TREE REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE
- TREE REMOVAL LIMITS
- PROPOSED STONE DUMPED RIP RAP

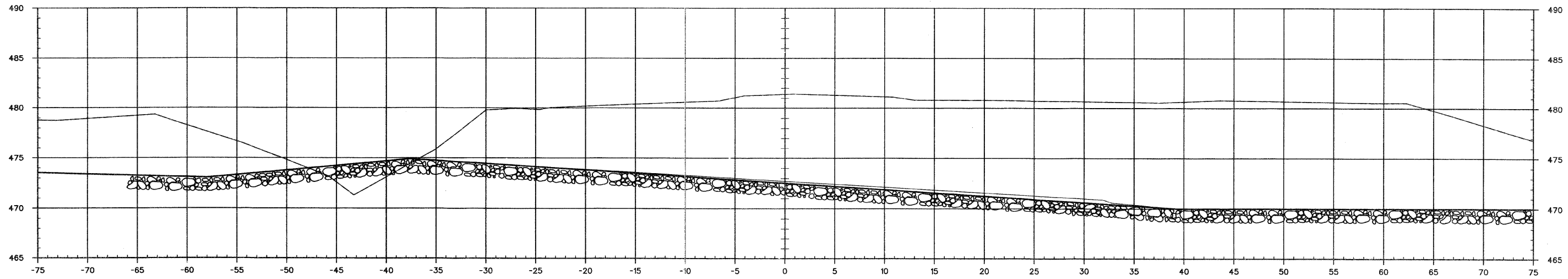
UNION COUNTY HIGHWAY DEPARTMENT UNION COUNTY, ILLINOIS
SPANISH BLUFF ROAD
GRADING AND TREE REMOVAL PLAN

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
TR-126	06-0188-00BR	UNION	17	4
JOB. NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

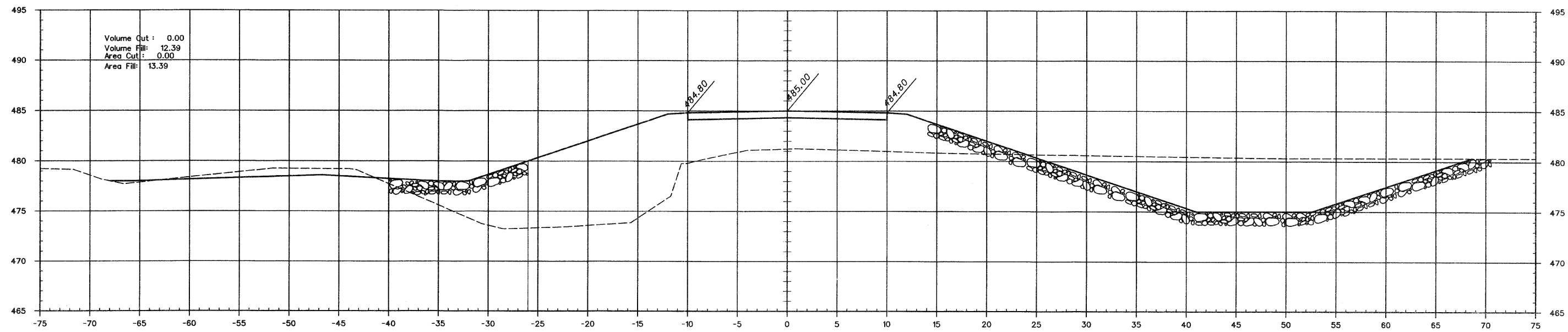


UNION COUNTY HIGHWAY DEPARTMENT  
 UNION COUNTY, ILLINOIS  
 SPANISH BLUFF ROAD BRIDGE REPLACEMENT  
 CROSS SECTION

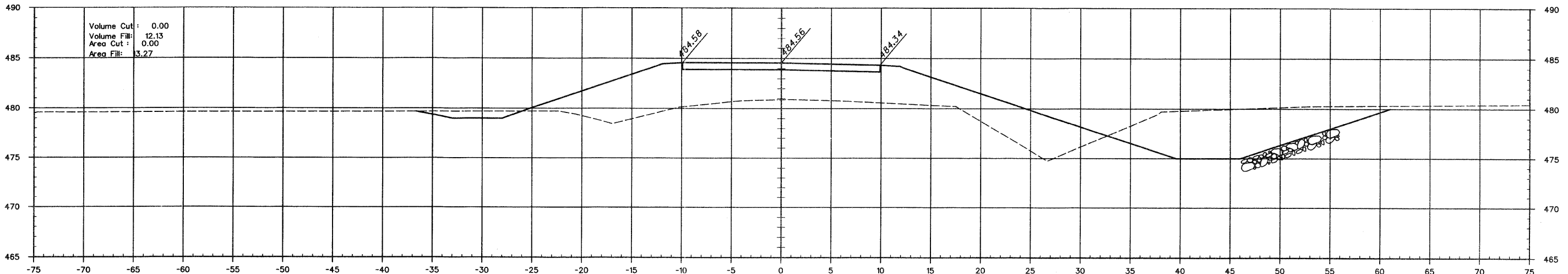
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
TR-126	06-01188-00BR	UNION	17	5
JOB. NO. C-99-506-08		PROJECT NO. BR05-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		



8+75

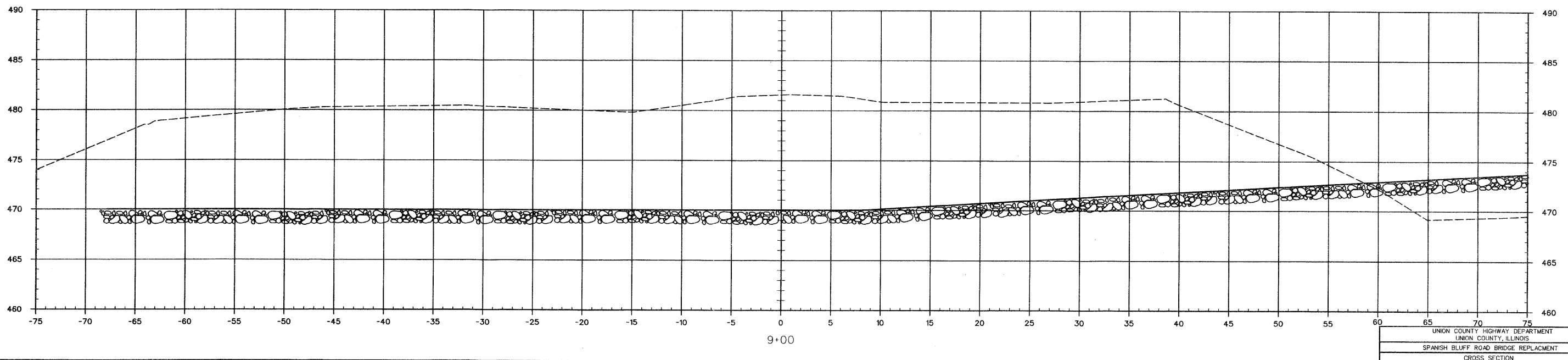
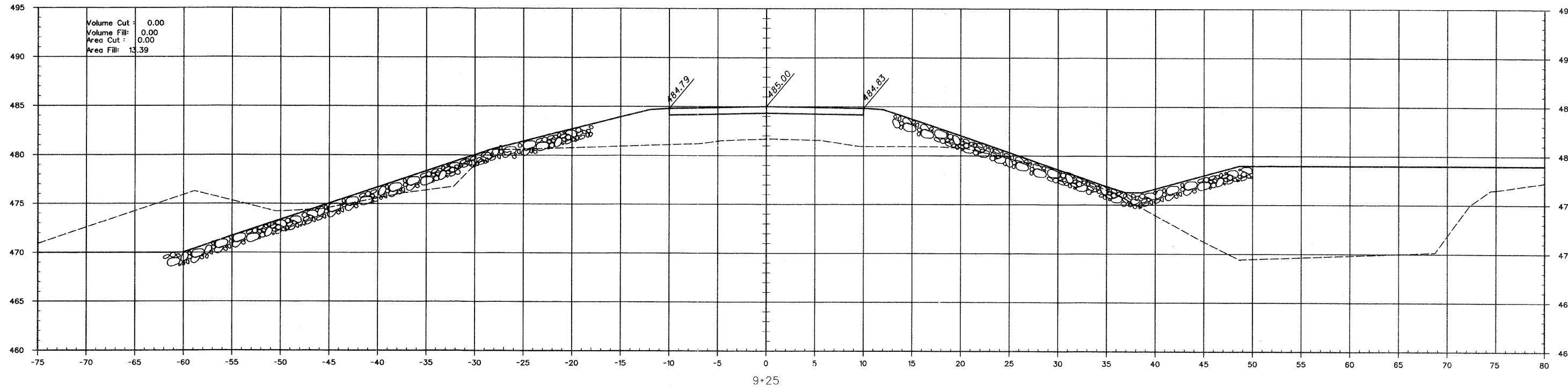
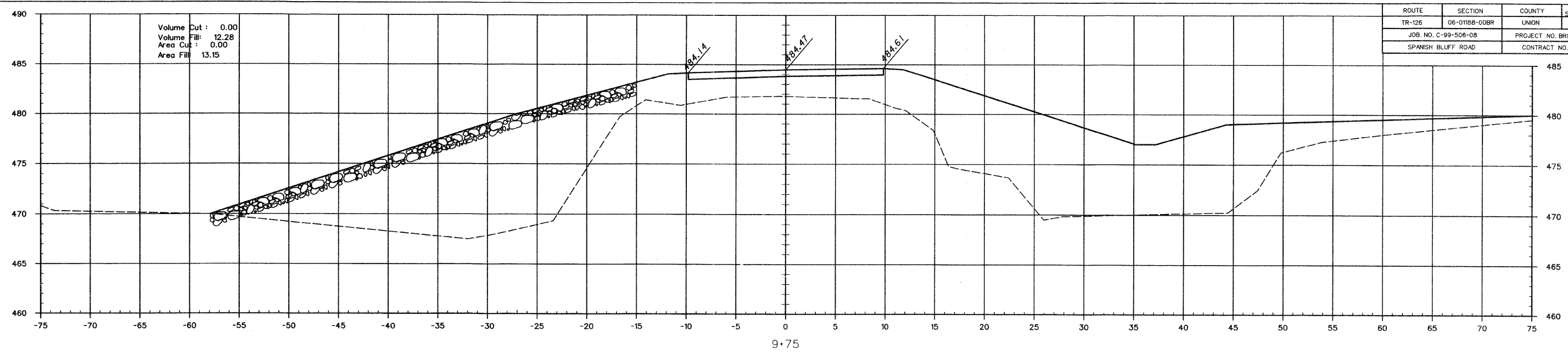


8+50

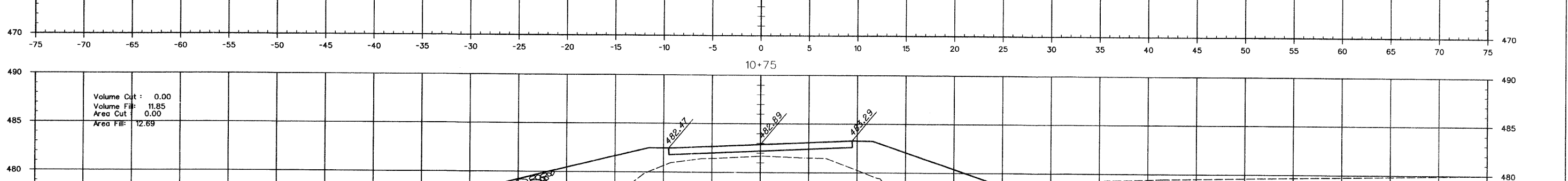
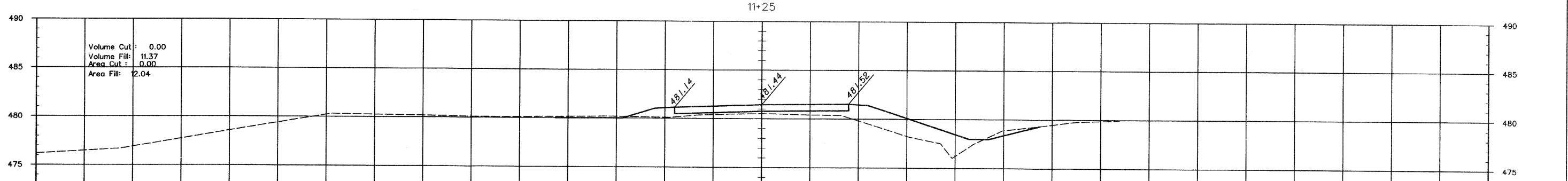
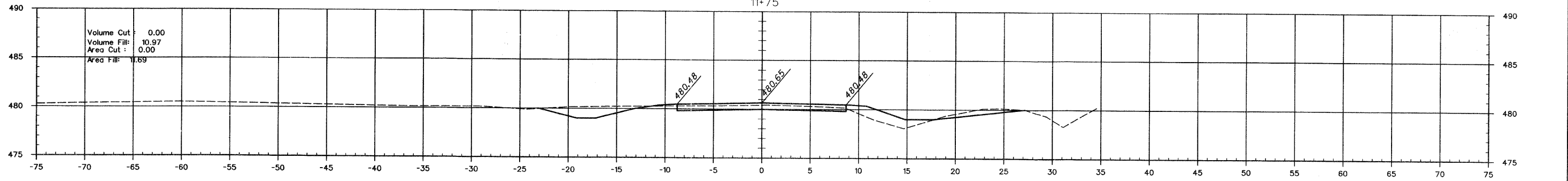
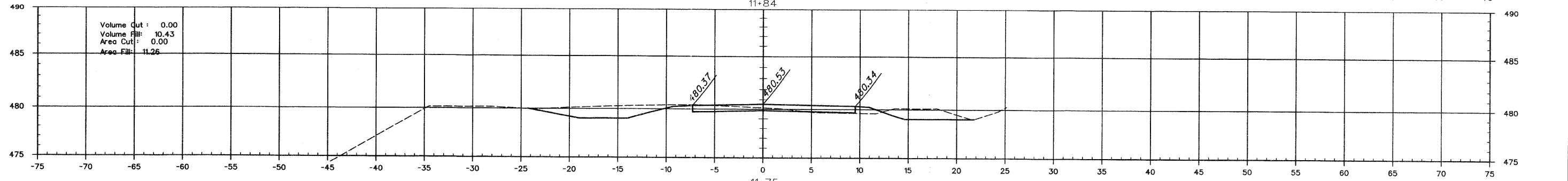
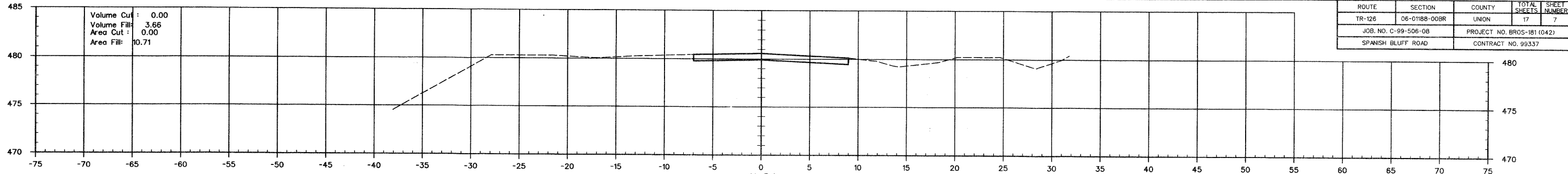


8+00

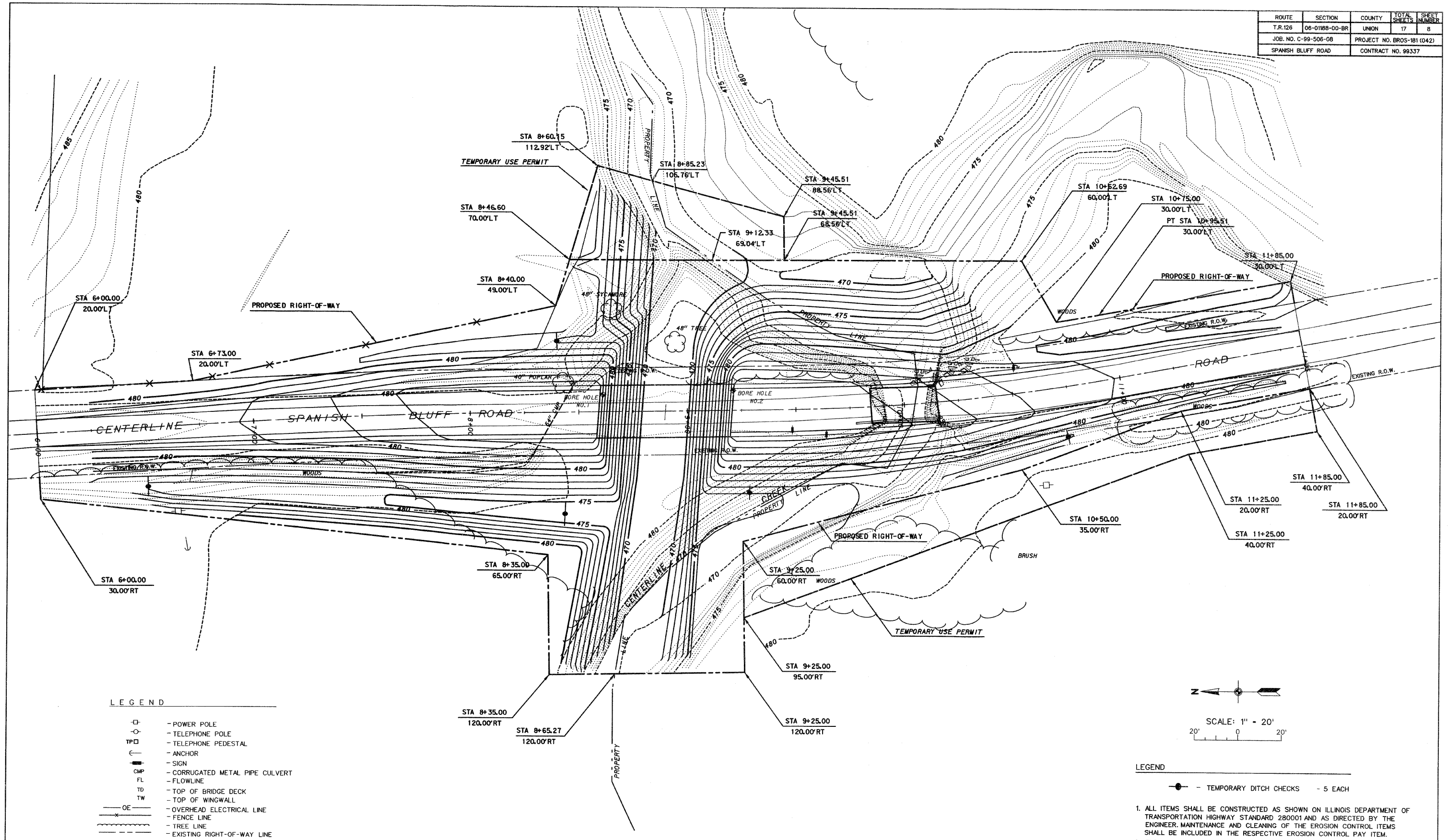
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TR-126	06-0188-00BR	UNION	17	6
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
TR-126	06-0188-00BR	UNION	17	7
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

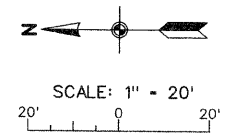


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R.126	06-01188-00-BR	UNION	17	8
JOB. NO. C-99-508-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		



**LEGEND**

□	- POWER POLE
○	- TELEPHONE POLE
TP□	- TELEPHONE PEDESTAL
⊖	- ANCHOR
■	- SIGN
CMP	- CORRUGATED METAL PIPE CULVERT
FL	- FLOWLINE
TD	- TOP OF BRIDGE DECK
TW	- TOP OF WINGWALL
— OE —	- OVERHEAD ELECTRICAL LINE
— X —	- FENCE LINE
—	- TREE LINE
---	- EXISTING RIGHT-OF-WAY LINE
- - -	- PROPOSED RIGHT-OF-WAY LINE
.....	- EXISTING CONTOUR
..... 570	- PROPOSED FINISH GRADE
..... 570	- PROPOSED CONTOUR
⊙ B1-S	- BORING W/ DESIGNATION



- LEGEND**
- - TEMPORARY DITCH CHECKS - 5 EACH
1. ALL ITEMS SHALL BE CONSTRUCTED AS SHOWN ON ILLINOIS DEPARTMENT OF TRANSPORTATION HIGHWAY STANDARD 280001 AND AS DIRECTED BY THE ENGINEER. MAINTENANCE AND CLEANING OF THE EROSION CONTROL ITEMS SHALL BE INCLUDED IN THE RESPECTIVE EROSION CONTROL PAY ITEM.
  2. THE LOCATIONS FOR ADDITIONAL TEMPORARY DITCH CHECKS AND PERIMETER EROSION BARRIER WILL BE DETERMINED IN THE FIELD BY THE ENGINEER DURING CONSTRUCTION.
  3. SEE STORM WATER PREVENTION PLAN (SWPPP) BDE 2342 INCLUDED IN SPECIAL PROVISIONS.

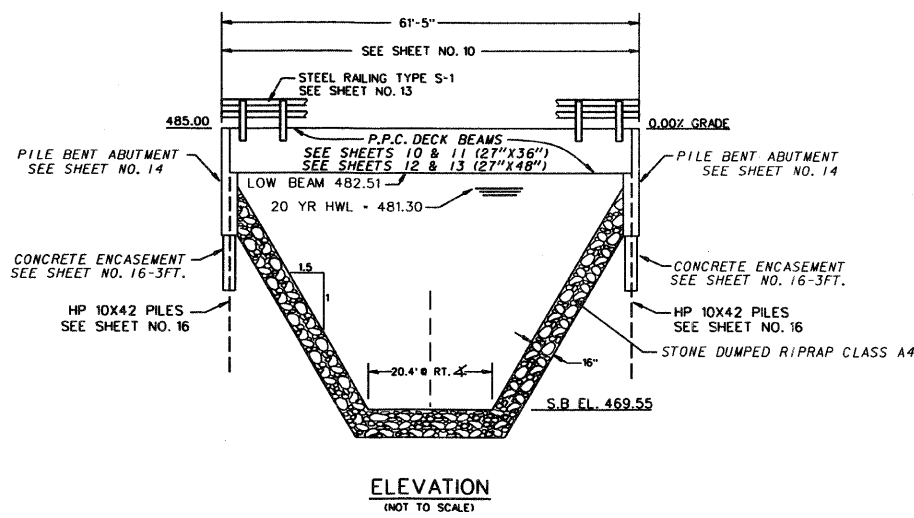


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-01188-00-BR	UNION	17	9
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

B.M - 2-60d NAILS SET IN WEST SIDE FENCE CORNER POST ± 110' SOUTHEAST OF MAILBOX #1340 EAST SIDE OF ROAD & ± 350' NORTH OF BRIDGE & ± 15' SOUTH OF C OF SOUTH MOST ASPHALT DRIVE.

EXISTING STRUCTURE — STA. 9+84.50 TO 10+15.5, 31' SPAN, 16' WIDTH. STEEL BEAMS WITH TIMBER DECK. TIMBER PILING WITH ONE TIMBER ABUTMENT AND ONE STONE ABUTMENT.

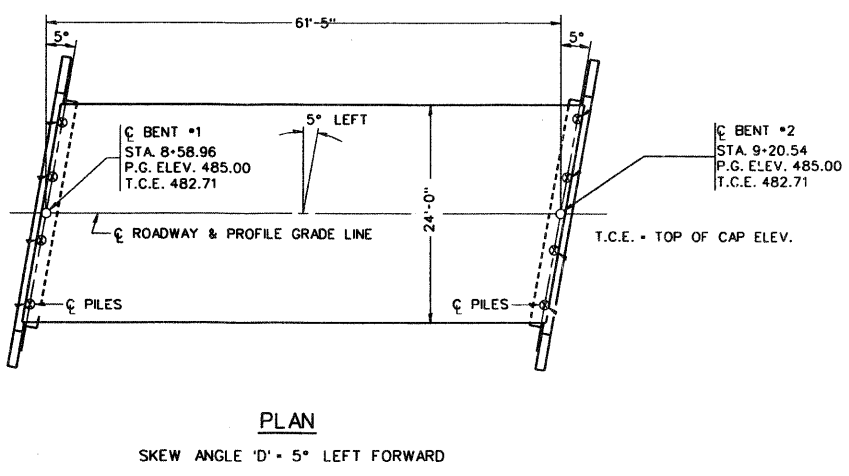
SALVAGE — STEEL I BEAMS TO BECOME PROPERTY OF UNION COUNTY HIGHWAY DEPARTMENT.



- GENERAL NOTES**
1. THE CONTRACTOR SHALL DRIVE 1 TEST PILES, AS SPECIFIED, IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINING PILES.
  2. SEE SHEET 17 FOR BORING LOGS.
  3. AFTER DECK BEAMS HAVE BEEN SET, THE DECK SURFACE SHALL BE INSPECTED. A WATERPROOFING MEMBRANE SYSTEM AND A BITUMINOUS CONCRETE WEARING SURFACE MAY BE REQUIRED TO PROVIDE A SMOOTH UNIFORM RIDING SURFACE. PAYMENT FOR THIS WORK, IF REQUIRED, WILL BE MADE BY A CHANGE ORDER TO THE CONTRACT.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB.		TOTAL
			PIERS	ABUTS	
REMOVAL OF EXISTING STRUCTURES	EACH				1
STONE DUMPED RIP-RAP, CLASS A-4	TON				1,350
CONCRETE STRUCTURES	CU. YD.			18.2	18.2
PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ. FT.	1440			1440
STEEL RAILING, TYPE S-1	FOOT	120			120
REINFORCEMENT BARS	POUND			2,300	2,300
FURNISHING STEEL PILES HP10X42	FOOT			154	154
DRIVING STEEL PILES	FOOT			154	154
TEST PILE HP10X42	EACH			1	1
NAME PLATES	EACH	1			1
CONCRETE ENCASUREMENT	CU. YD.			2.1	2.1



- INDEX OF SHEETS**
- 9 GENERAL PLAN AND ELEVATION
  - 10 27" X 36" PPC DECK BEAM
  - 11 27" X 36" PPC DECK BEAM DETAILS
  - 12 27" X 48" PPC DECK BEAM
  - 13 27" X 48" PPC DECK BEAM DETAILS
  - 14 PPC DECK BEAM - PILE BENT ABUTMENT
  - 15 STEEL RAILING, TYPE S1 AND CURLED END SECTION DETAILS
  - 16 HP PILE DETAILS
  - 17 NAME PLATE AND SOIL BORING LOGS

- PILE NOTES**
1. THE STEEL H-PILES SHALL BE ACCORDING TO AASHTO M 270 GRADE 50.
  2. THE TEST PILES SHALL BE DRIVEN TO 10 PERCENT OF THE NOMINAL REQUIRED BEARING INDICATED IN THE PILE DATA INFORMATION.
- PILE DATA (2-ABUTS.)**
- TYPE: STEEL HP 10X42  
 NOMINAL REQUIRED BEARING: 333 KIPS  
 ALLOWABLE RESISTANCE AVAILABLE: 111 KIPS.  
 ESTIMATED LENGTH: 22 FEET EACH.  
 NUMBER REQUIRED: 8 (INCLUDES 1 TEST PILE IN ABUTMENT\*1)

**SEISMIC DATA**

SEISMIC PERFORMANCE ZONE (SPZ) - 4  
 DESIGN SPECTRAL ACCELERATION AT 1.0 SEC (S<sub>01</sub>) - 0.60  
 DESIGN SPECTRAL ACCELERATION AT 0.2 SEC (S<sub>05</sub>) - 2.14  
 SITE SOIL CLASS - C

**LOADING HL93**

ALLOW 50\*/SQ. FT. FOR FUTURE WEARING SURFACE.

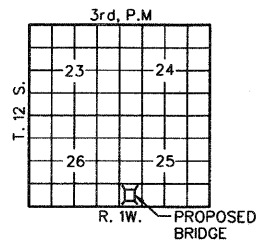
**DESIGN SPECIFICATIONS**

LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION, 2010

UNNAMED TRIBUTARY TO CACHE RIVER  
 SEC.06-01188-00-BR BUILT 20\_\_  
 TR-126-SPANISH BLUFF ROAD  
 UNION COUNTY  
 LOADING HL93  
 STR. NO. 091-3231

**LETTERING FOR NAME PLATE**

LOCATE NAME PLATE AT NORTHEAST CORNER OF BRIDGE (SEE SHEET NO. 15)



**LOCATION SKETCH**

**WATERWAY INFORMATION**

DRAINAGE AREA - 3.76 SQ. MI. LOW GRADE ELEV. - 480.48 @ STA. 11+50

FLOOD	FREQ.	Q	OPENING	SQ. FT.	NAT.	HEAD - FT.	HEADWATER EL.
	YR.	C.F.S.	EXIST.	PROP.	H.W.E	EXIST	PROP
DESIGN	20	1602	291	424	481.05	0.26	0.25 481.31 481.30
BASE	100	2346	291	516	482.29	0.60	0.24 482.89 482.53
OVERTOPPING							
MAX. CALC.	500	3052					

**STRUCTURAL CERTIFICATION**

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE REVISED STANDARD DETAIL SHEETS AND/OR SPECIAL COMPONENT SHEETS INCLUDED WITH THE STANDARD BRIDGE DETAIL SHEETS ARE STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS AND COMPLY WITH THE REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

9/1/11  
 DATE  
 ZEVN UZMAN  
 S.E. #81-4749  
 EXPIRES NOV. 30, 2016  
 (SEAL)

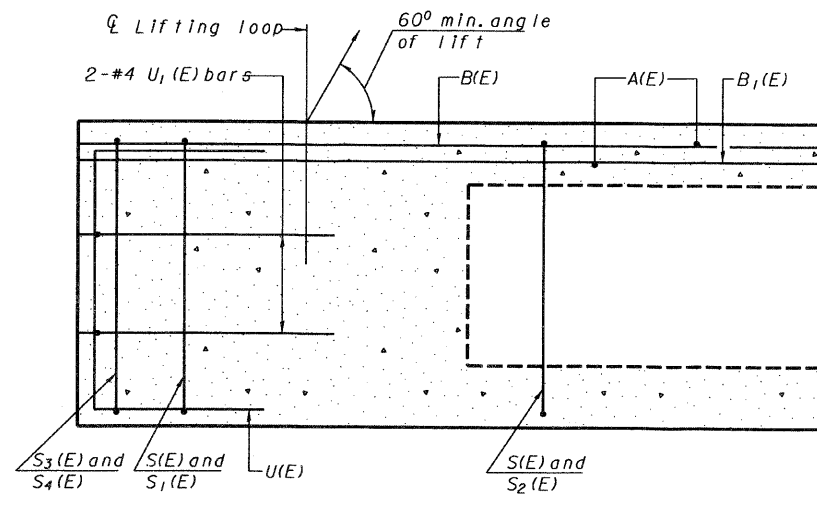
**GENERAL PLAN & ELEVATION**

TR 126-SPANISH BLUFF ROAD  
 OVER TRIBUTARY TO CACHE RIVER

SECTION 06-01188-00-BR

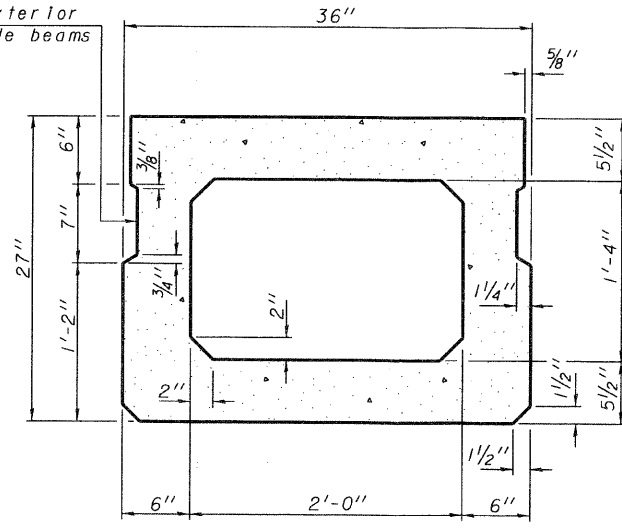
STATION UNION COUNTY  
 8+89.75

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-0188-00-BR	UNION	17	10
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

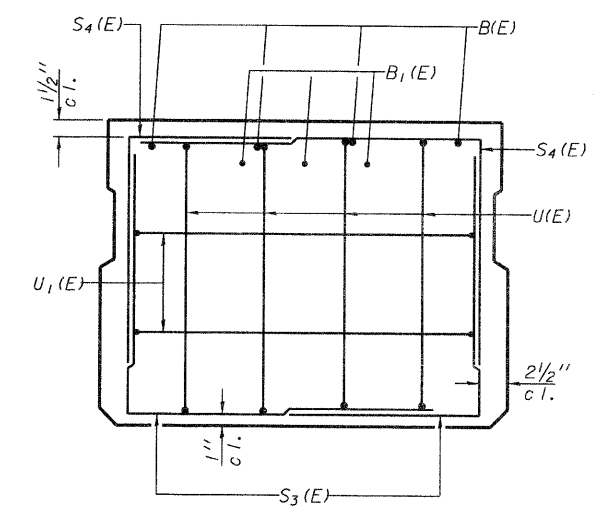


**SECTION C-C**

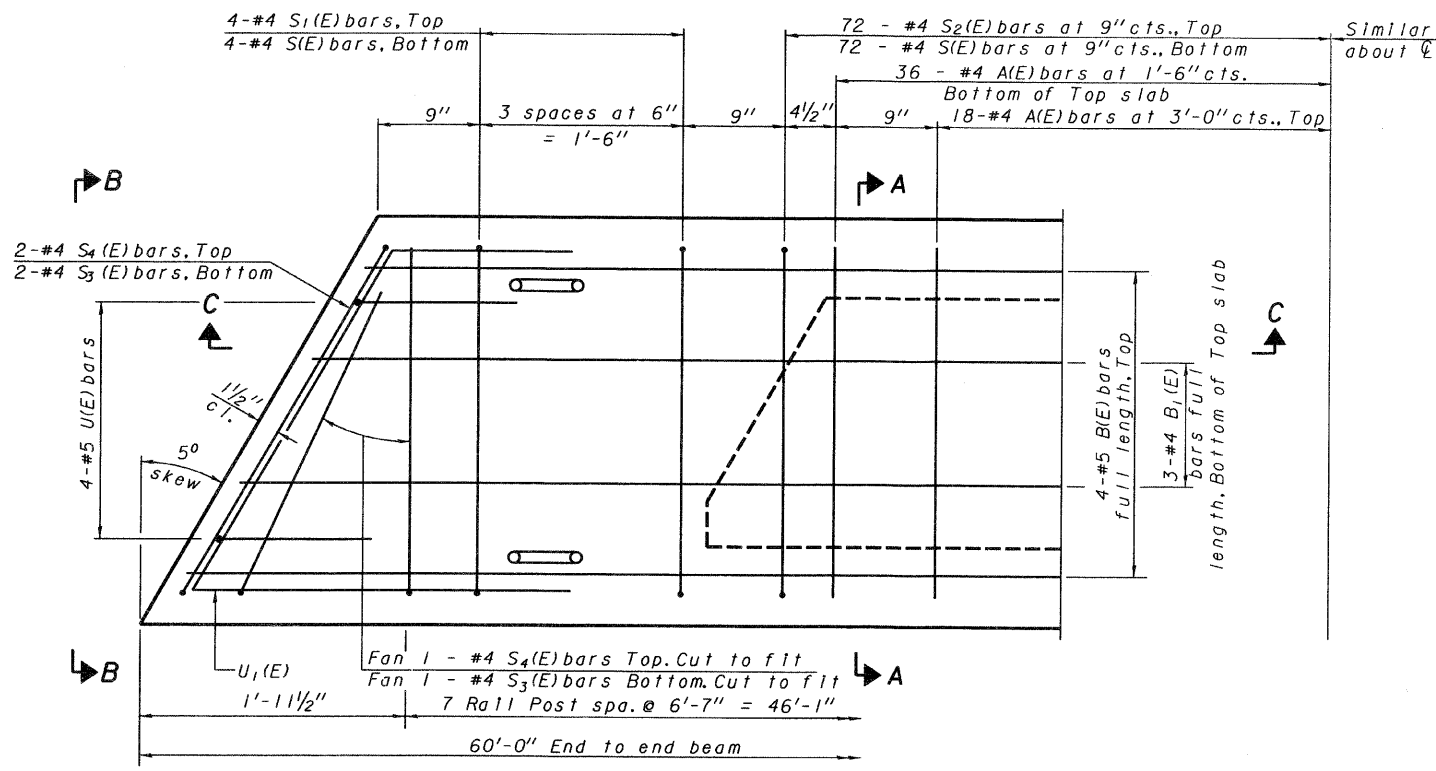
Omit key on exterior face of outside beams



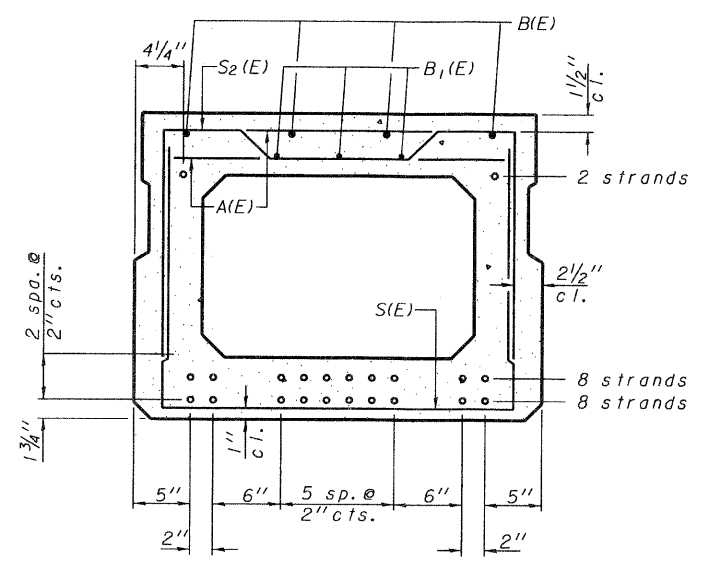
**SECTION A-A**  
(Showing dimensions)



**VIEW B-B**



**PLAN VIEW**



**SECTION A-A**  
(Showing reinforcement and permissible strand locations)  
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**BAR LIST**  
**ONE BEAM ONLY**

(For information only)

Bar	No.	Size	Length	Shape
A(E)	18	#4	2'-7"	—
B(E)	12	#5	21'-8"	—
B1(E)	9	#4	21'-8"	—
S(E)	80	#4	6'-5"	U
S1(E)	8	#4	5'-11"	U
S2(E)	72	#4	6'-2"	U
S3(E)	2	#4	4'-7"	U
S4(E)	2	#4	4'-4"	U
U(E)	8	#5	4'-6"	U
U1(E)	4	#4	5'-0"	U

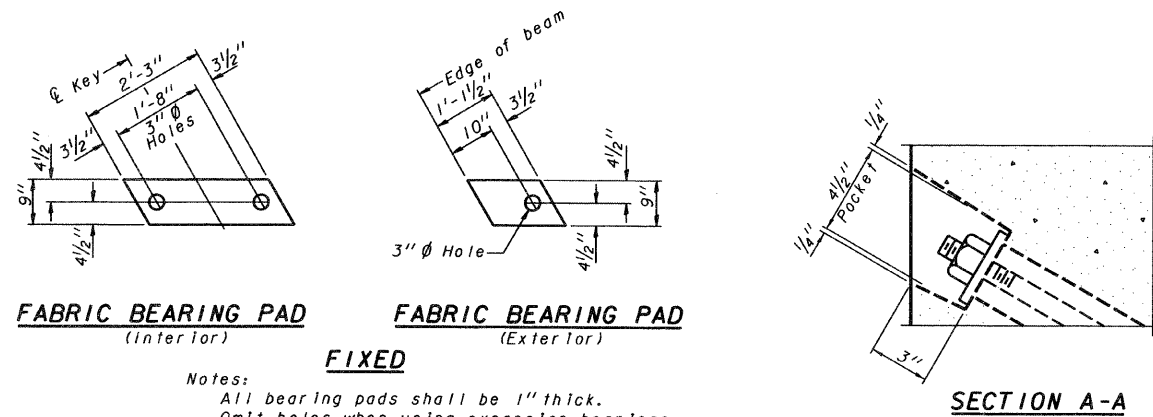
Note: See sheet 13 of 19 for additional details and Bill of Material.

**MINIMUM BAR LAP**

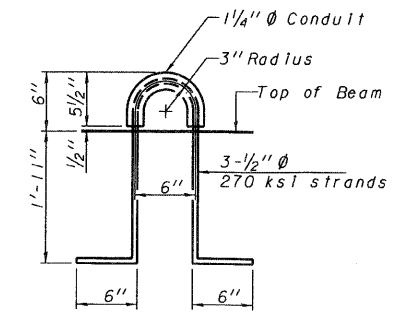
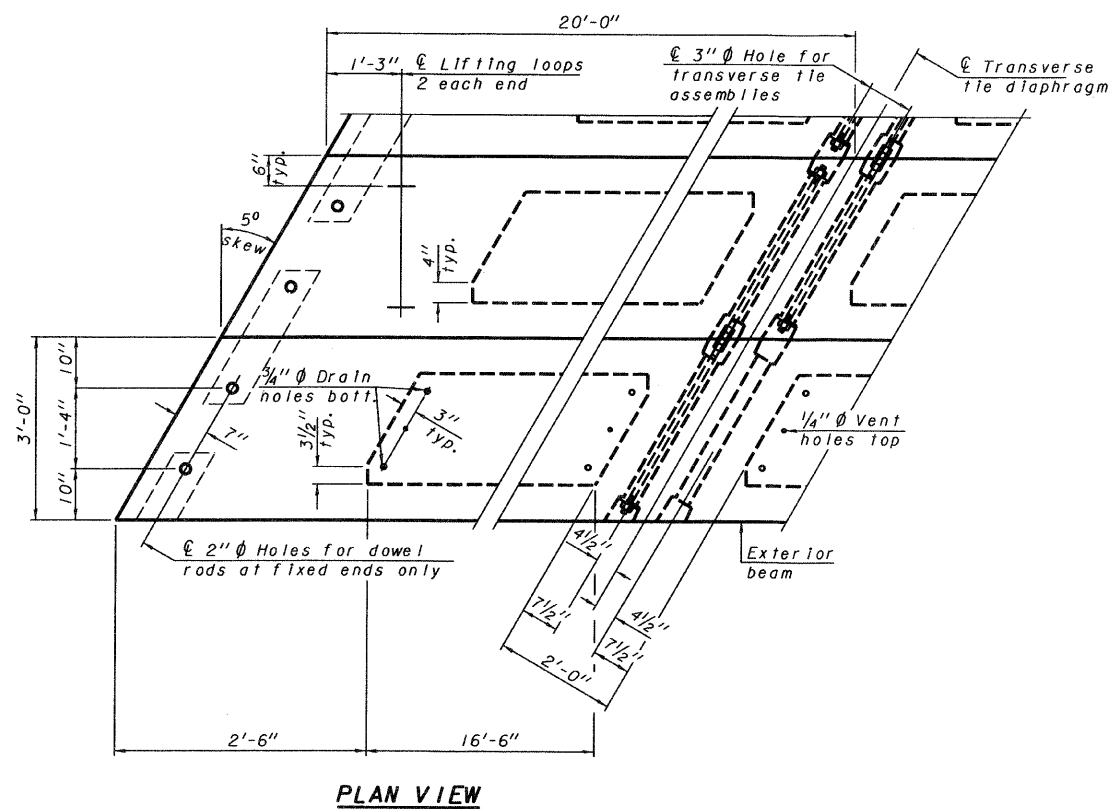
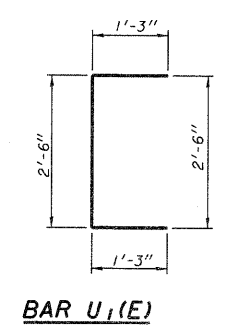
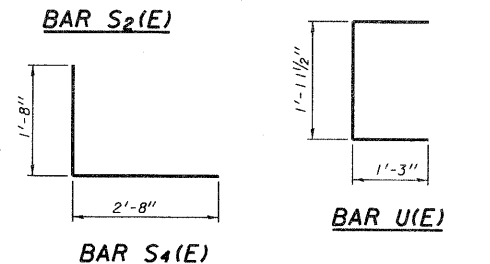
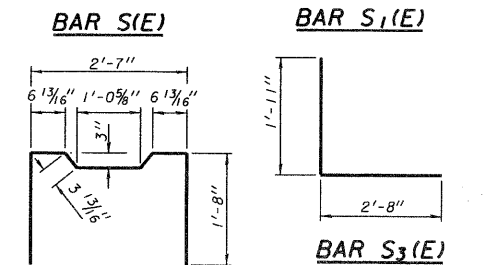
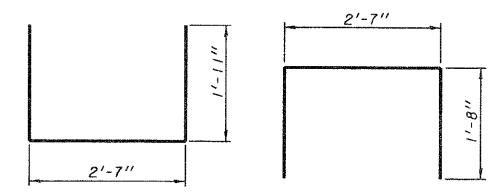
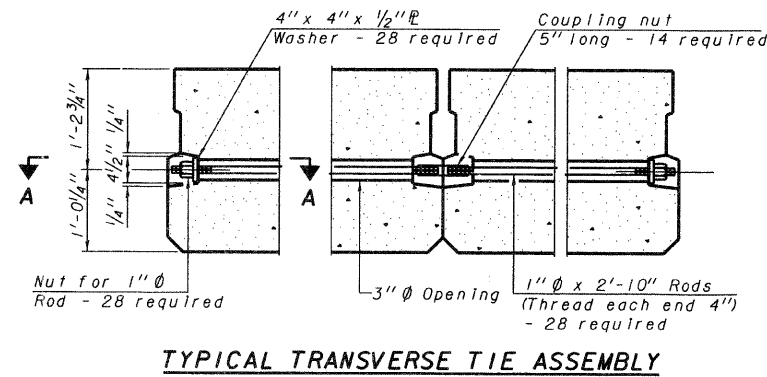
#4 bar = 2'-0"  
#5 bar = 2'-6"

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.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-0188-00-BR	UNION	17	11
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		



**Notes:**  
 All bearing pads shall be 1" thick.  
 Omit holes when using expansion bearings.  
 Expansion bearing pad shall be bonded to the substructure.



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

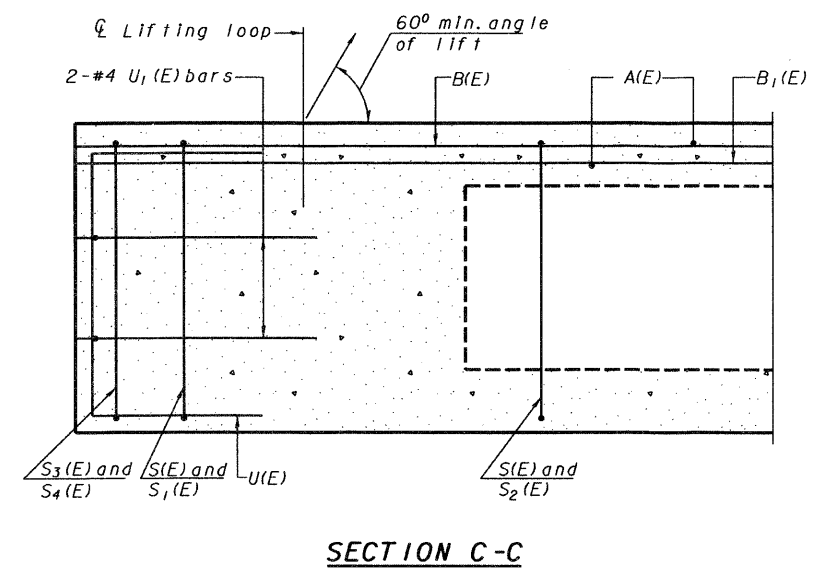
**NOTES**

- 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" 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. (See Special Provisions).
- 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)(12) and 1021.06 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'cl, shall be 5000 psi.

**BILL OF MATERIAL**

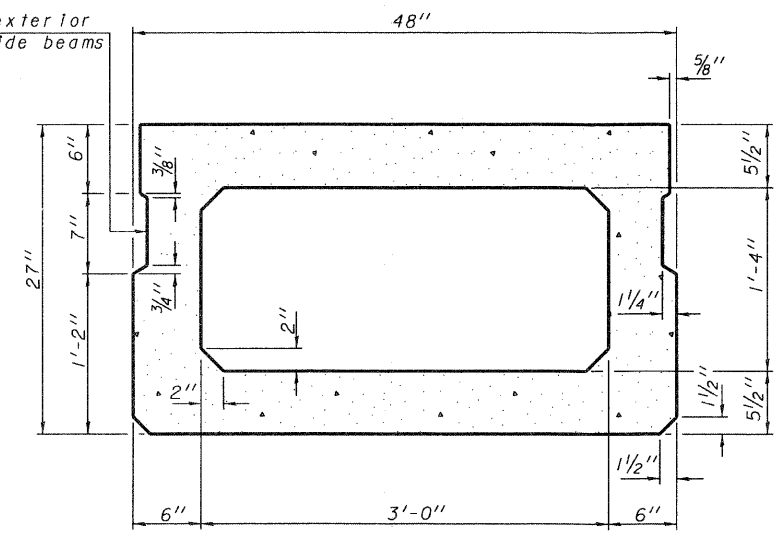
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1440
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UNION COUNTY HIGHWAY DEPARTMENT UNION COUNTY, ILLINOIS
SPANISH BLUFF ROAD
27" X 36" PCC DECK BEAM DETAILS

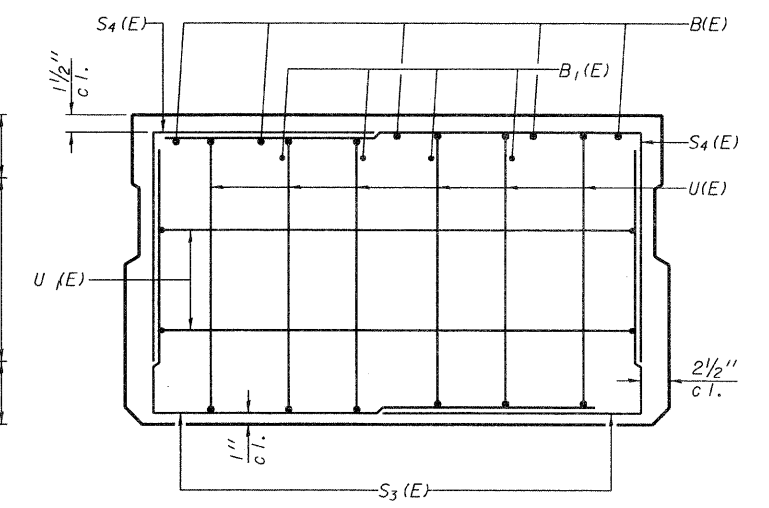


**SECTION C-C**

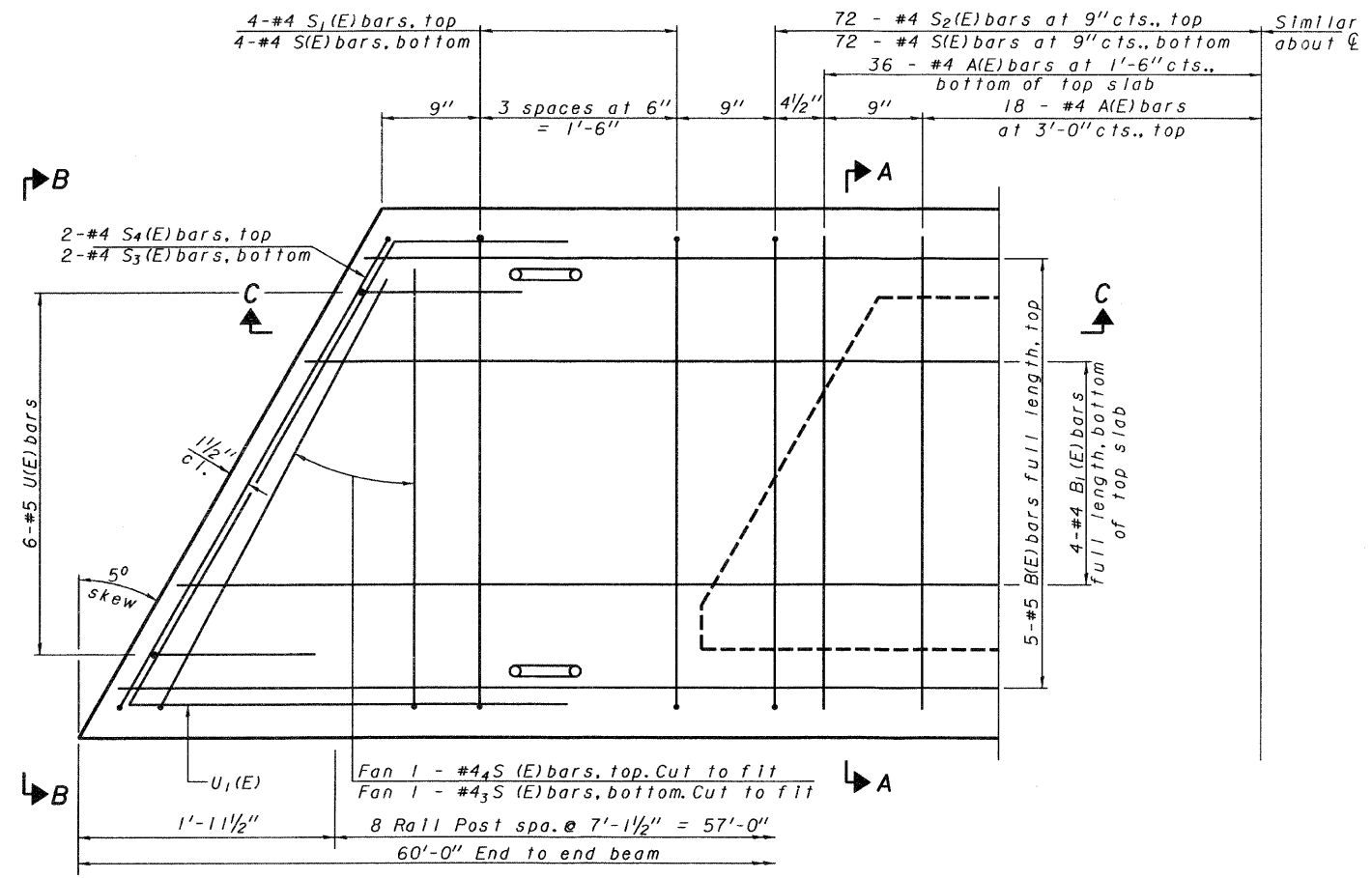
Omit key on exterior face of outside beams



**SECTION A-A**  
(Showing dimensions)

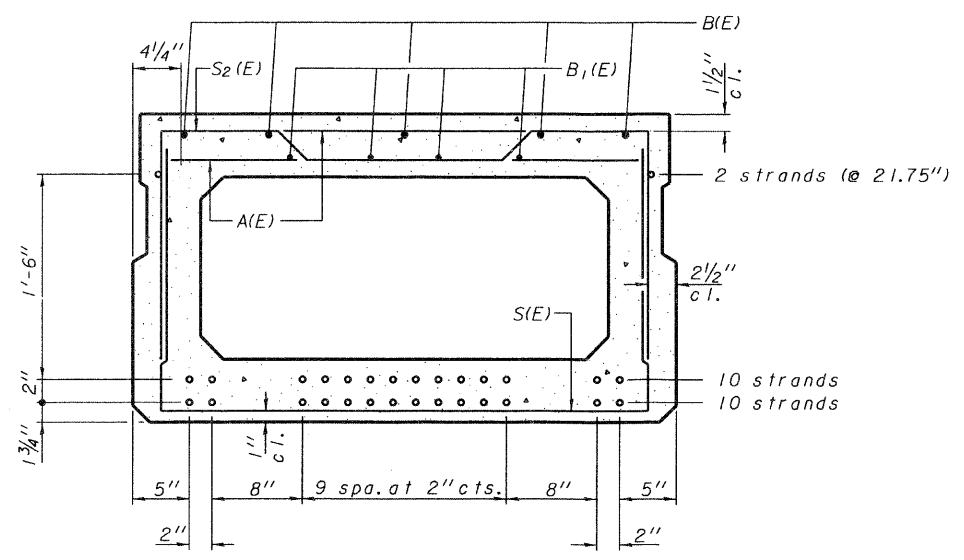


**VIEW B-B**



**PLAN VIEW**

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.



**SECTION A-A**

(Showing reinforcement and permissible strand locations)  
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**BAR LIST**  
**ONE BEAM ONLY**

(For information only)

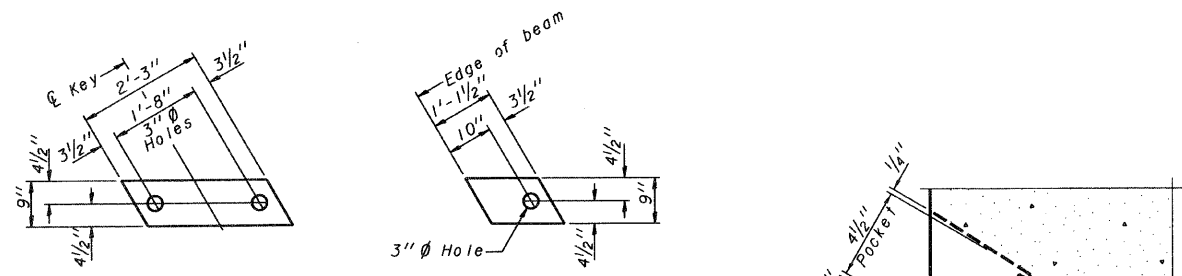
Bar	No.	Size	Length	Shape
A(E)	43	#4	3'-7"	—
B(E)	20	#5	26'-3"	—
B1(E)	12	#4	18'-0"	—
S(E)	66	#4	7'-5"	┌
S1(E)	8	#4	6'-11"	┌
S2(E)	58	#4	7'-2"	┌
S3(E)	2	#4	5'-6"	┌
S4(E)	2	#4	5'-3"	┌
U(E)	12	#5	4'-6"	┌
U1(E)	4	#4	6'-9"	┌

Note: See sheet 15 of 19 for additional details and Bill of Material.

**MINIMUM BAR LAP**

#4 bar = 2'-0"  
#5 bar = 2'-6"

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-0188-00-BR	UNION	17	13
JOB NO. C-99-506-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

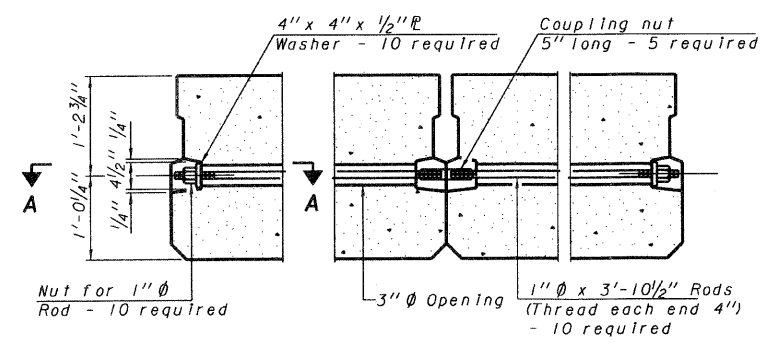


**FABRIC BEARING PAD**  
(Interior)

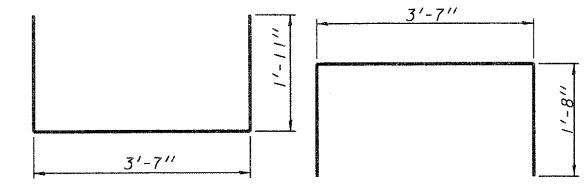
**FABRIC BEARING PAD**  
**FIXED**  
(Exterior)

Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.

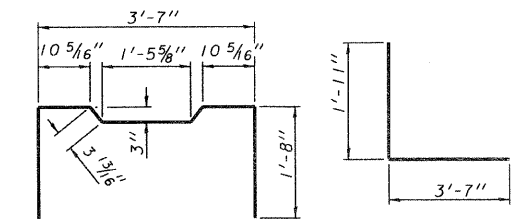
**SECTION A-A**



**TYPICAL TRANSVERSE TIE ASSEMBLY**

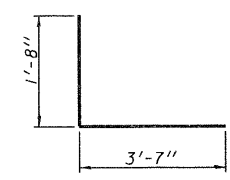


**BAR S1(E)**

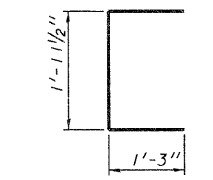


**BAR S2(E)**

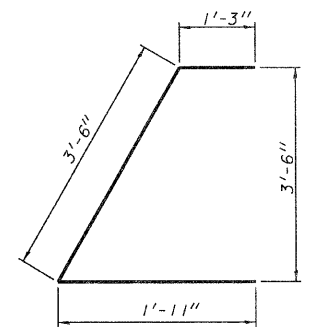
**BAR S3(E)**



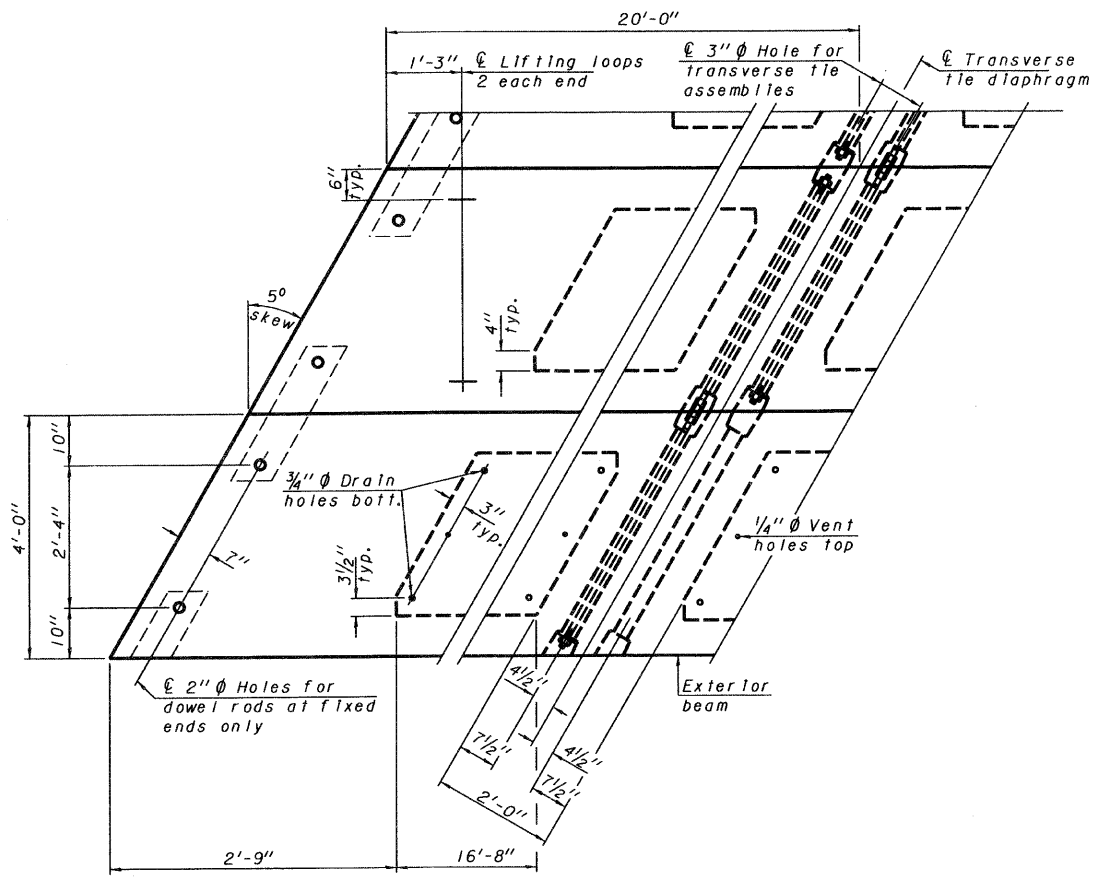
**BAR S4(E)**



**BAR U1(E)**

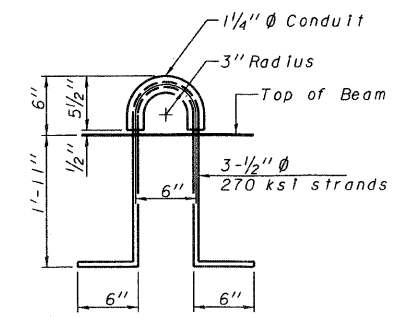


**BAR U1(E)**



**PLAN VIEW**

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



**LIFTING LOOP DETAIL**

**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" 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. (See Special Provisions).

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)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

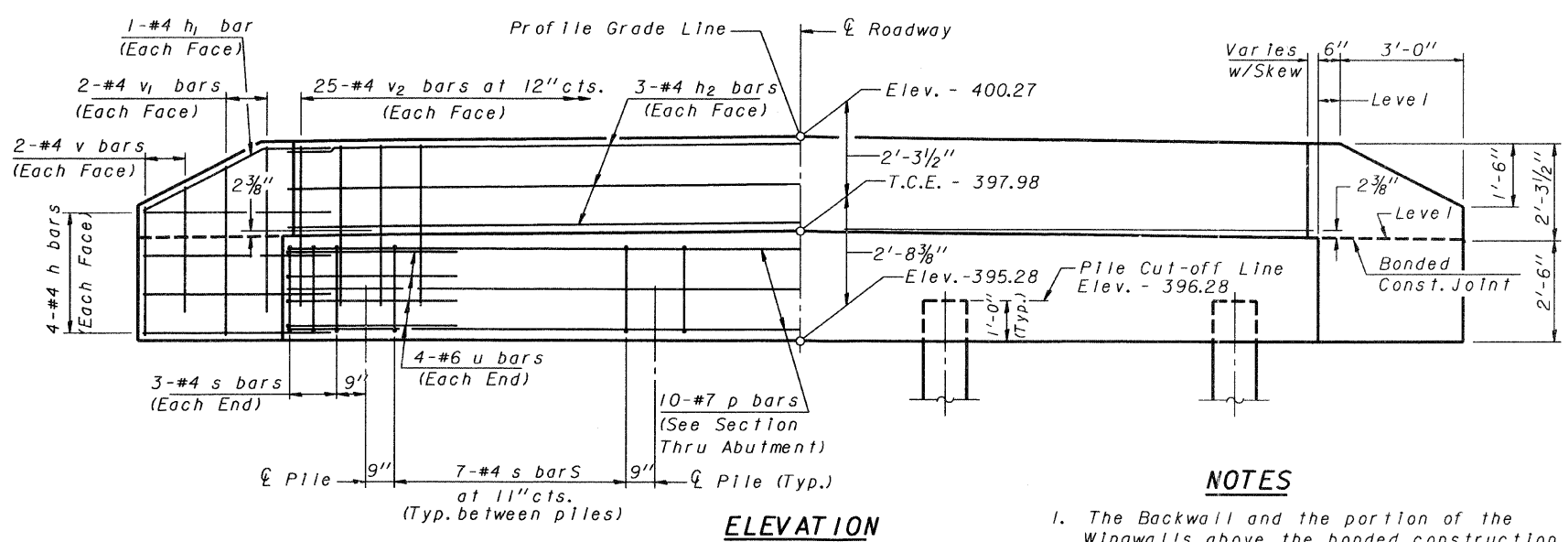
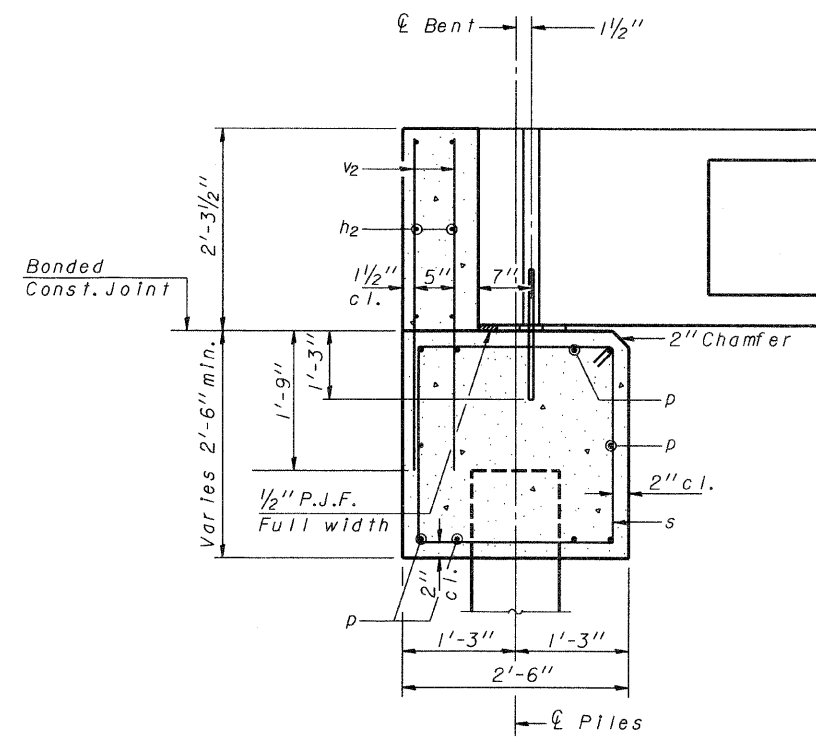
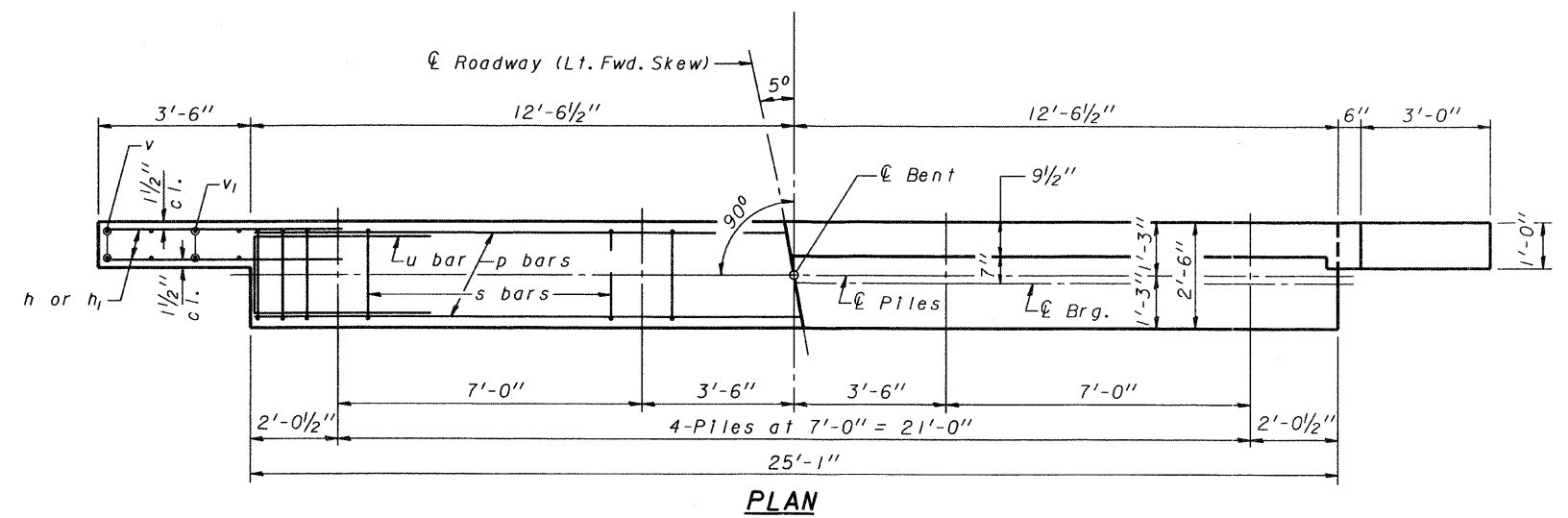
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1440
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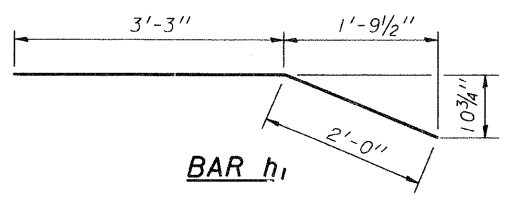
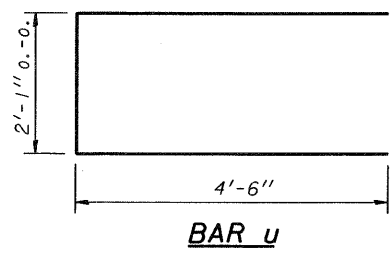
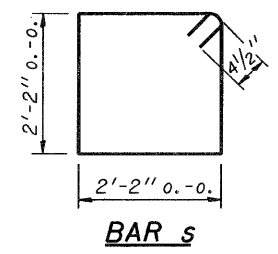
UNION COUNTY HIGHWAY DEPARTMENT UNION COUNTY, ILLINOIS
SPANISH BLUFF ROAD
27" X 48" PCC DECK BEAM DETAILS



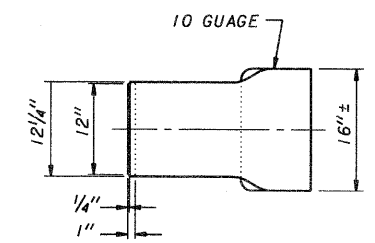
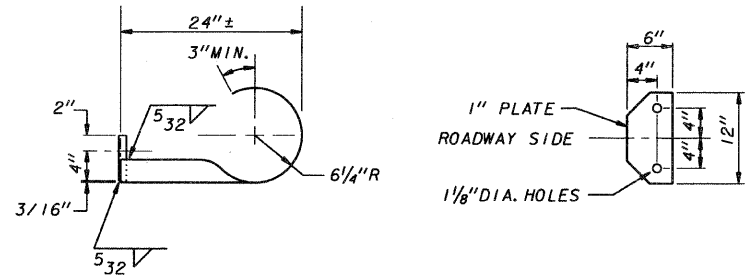
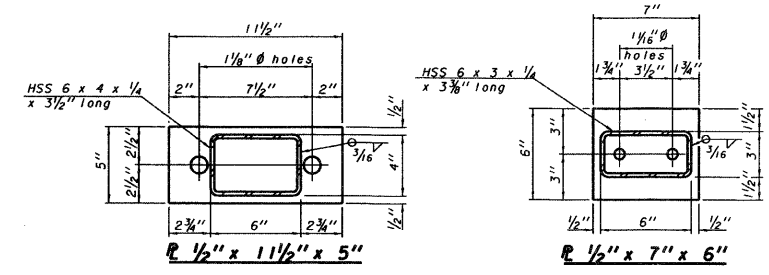
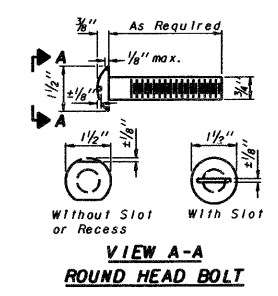
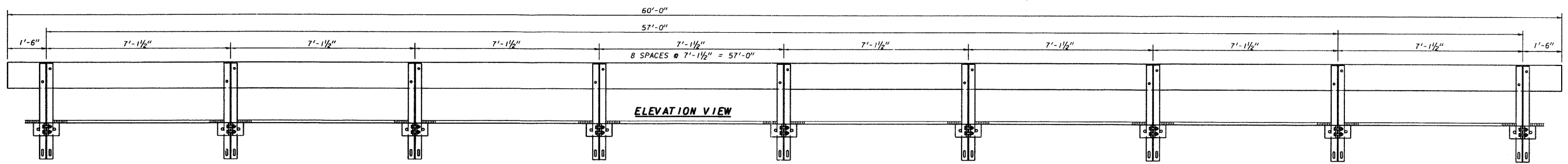
- NOTES**
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
  2. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
  3. Space reinforcement in cap to miss anchor bolts.

**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	3'-2"	—
v1	8	#4	4'-2"	—
v2	50	#4	3'-11"	—
Concrete Structures			9.1 Cu. Yds.	
Reinforcement Bars			1150 Lb.	

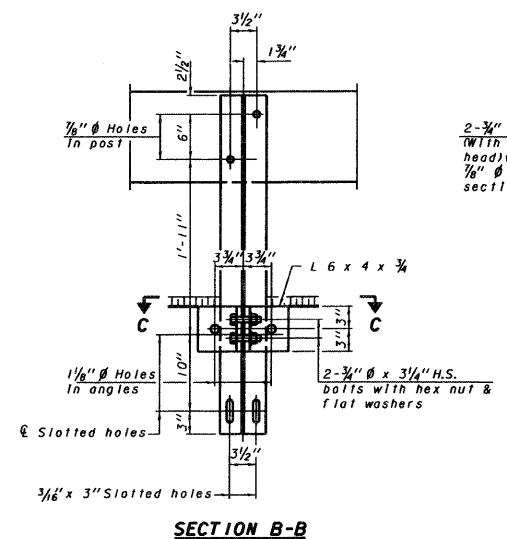


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
T.R. 126	06-0188-00-BR	UNION	17	15
JOB NO. C-99-508-08		PROJECT NO. BROS-181 (042)		
SPANISH BLUFF ROAD		CONTRACT NO. 99337		

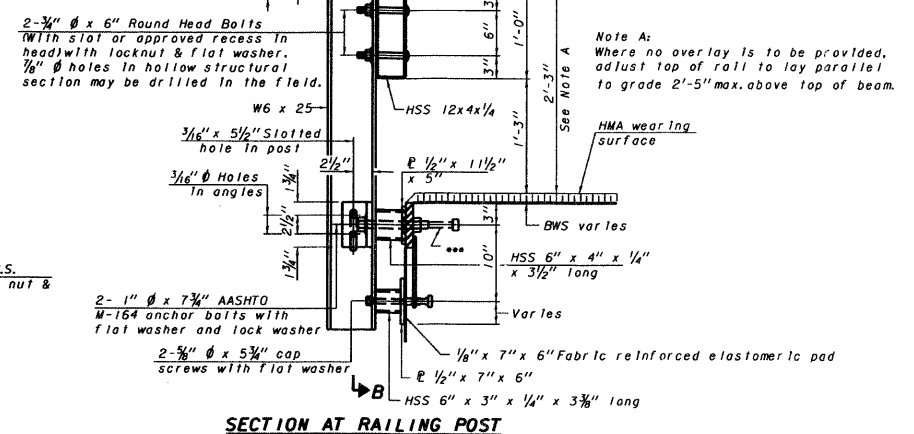


NOTE: CURLED END SECTION INCIDENTAL TO STEEL RAILING. (4) REQUIRED

CURLED END SECTION DETAILS

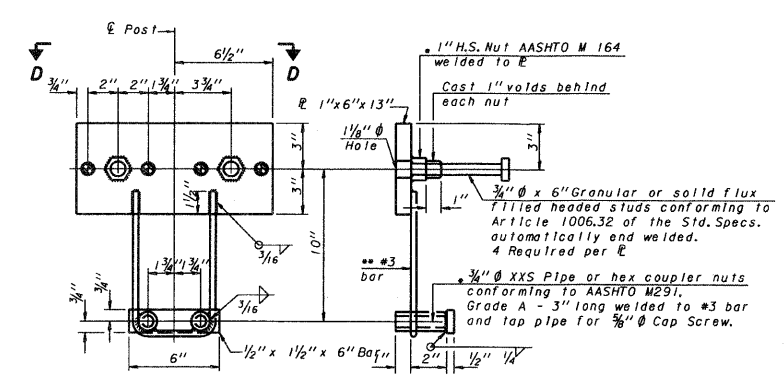


SECTION B-B



SECTION AT RAILING POST

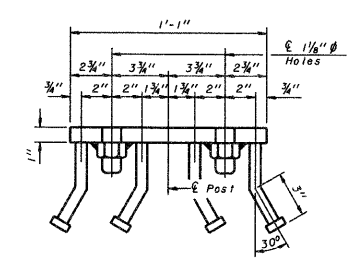
• Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



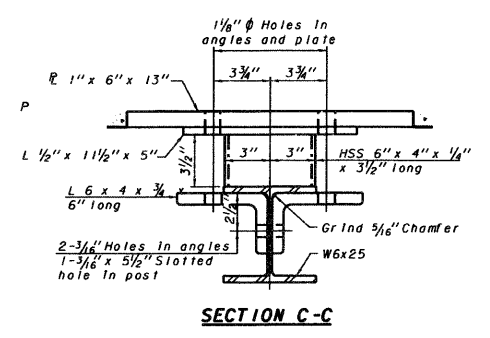
ANCHOR DEVICE

• Threaded areas shall be plugged or blocked off during casting of beam.

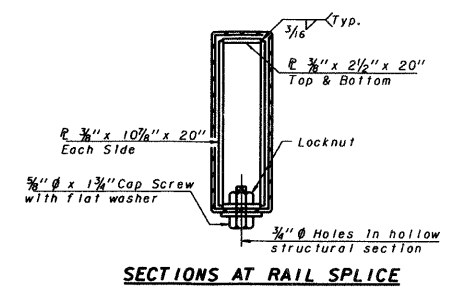
Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
All steel rail elements 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.



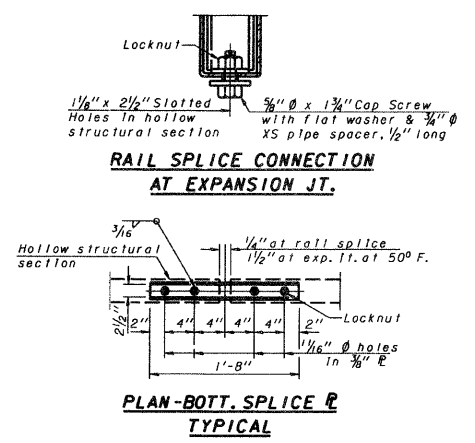
VIEW D-D



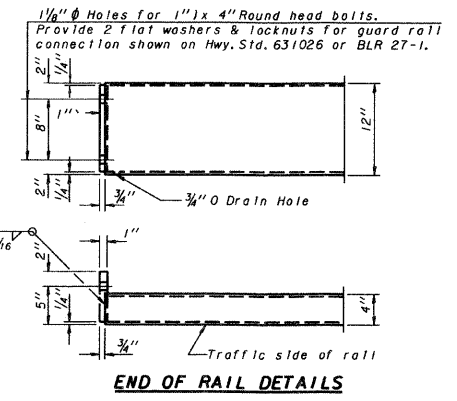
SECTION C-C



SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT. TYPICAL

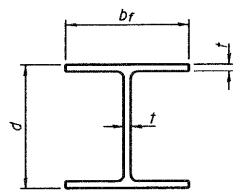


END OF RAIL DETAILS

BILL OF MATERIAL

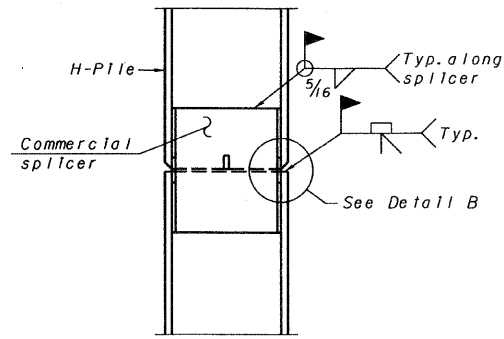
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	

UNION COUNTY HIGHWAY DEPARTMENT  
UNION COUNTY, ILLINOIS  
SPANISH BLUFF ROAD  
STEEL RAILING, TYPE S-1

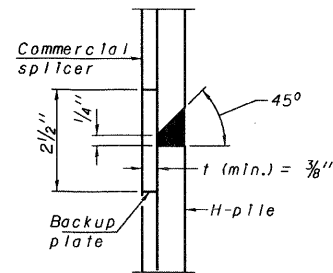


**STEEL PILE TABLE**

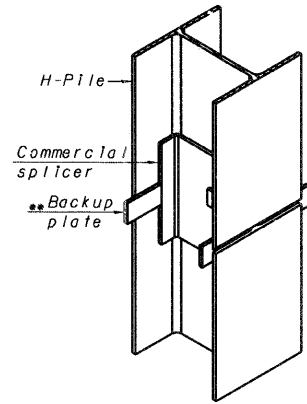
Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	3 1/6"	30"
x102	14"	14 3/4"	1 1/6"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/6"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

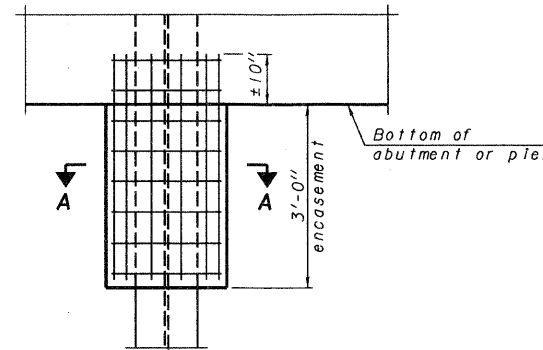


**DETAIL "B"**



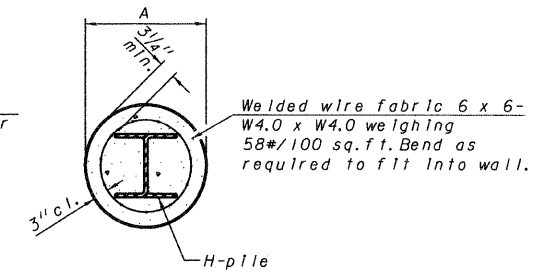
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**



**ELEVATION**

**PILE ENCASEMENT**



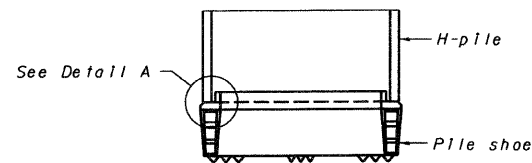
**SECTION A-A**

Note: Forms for encasement may be omitted when soil conditions permit.

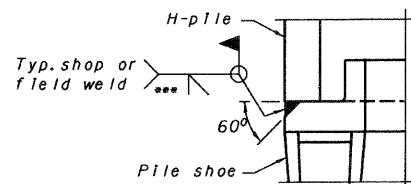
**QUANTITIES/FT. OF ENCASEMENT (STEEL PILES)**

Pile Size	Item	Quantity
HP8	Concrete Encasement	0.063 C.Y.
HP10	Concrete Encasement	0.086 C.Y.
HP12	Concrete Encasement	0.112 C.Y.

Pile Size	'A'
HP8	1'-6"
HP10	1'-9"
HP12	2'-0"

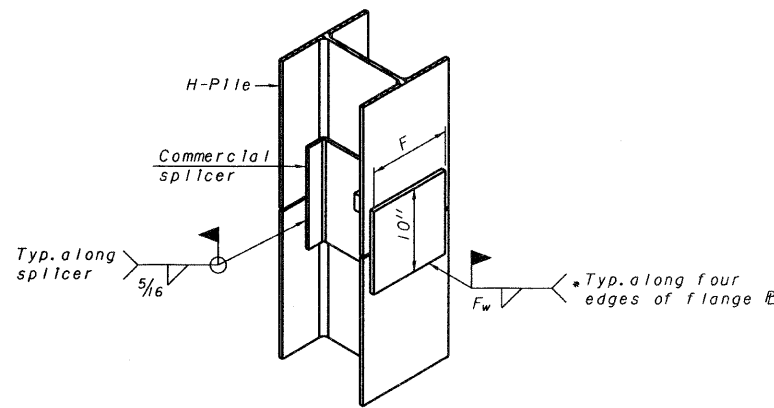


**ELEVATION**



**DETAIL A**

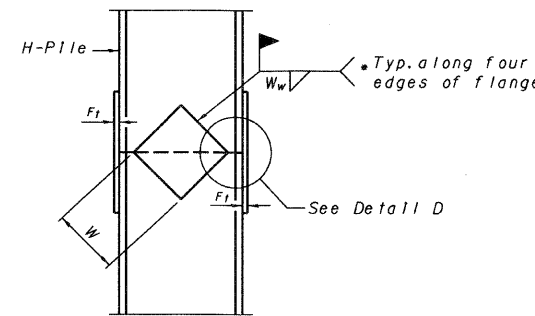
**H-PILE SHOE ATTACHMENT**



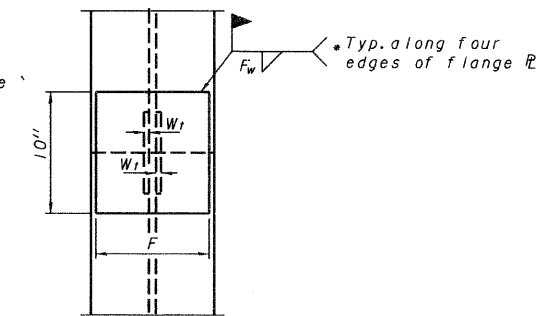
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

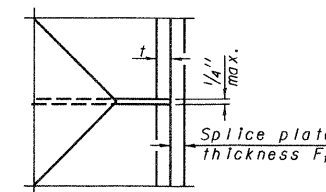
- Interrupt welds 1/4" from end of web and/or each flange.
- Remove portions of backup plates that extend outside the flanges.
- Weld size per pile shoe manufacturer (5/16" min.).



**ELEVATION**



**END VIEW**



**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/8"	1/2"
x89	12 1/2"	3/4"	1 1/6"	7 3/4"	5 1/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/8"	1/2"
HP 12x84	10"	7/8"	1 1/6"	6 1/2"	5 1/8"	1/2"
x74	10"	7/8"	1 1/6"	6 1/2"	5 1/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note: The steel H-piles shall be according to AASHTO M270 Grade 50.



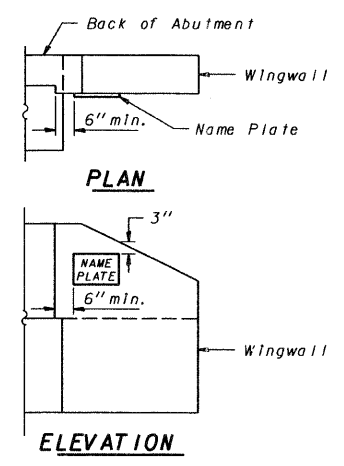
HOLCOMB FOUNDATION ENGINEERING INC.  
P.O. Box 88 618-529-5262  
Carbondale, IL 62903 618-457-8991 fax Page 1 of 1

Bridge Foundation Boring Log

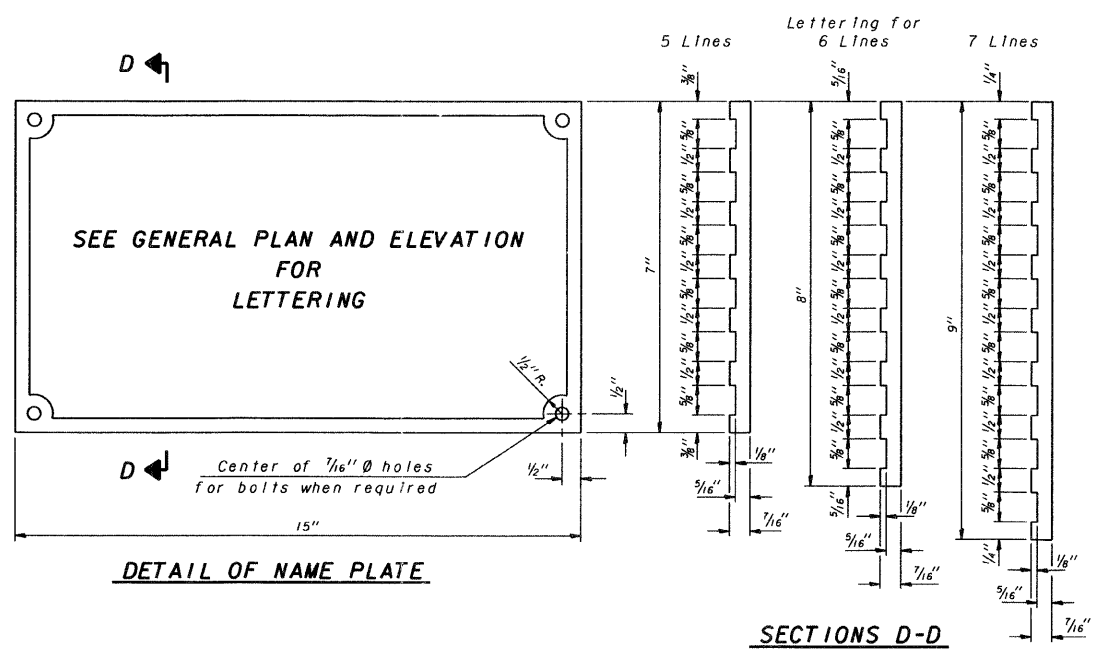
Project: H-08008 Bridge \_\_\_\_\_ Date: 1/25/08  
Section: 06-01188-00-BR Station \_\_\_\_\_ Bored by: D. Russell  
Route: Spanish Bluff Rd Checked By: J. Holcomb  
County: Union

Boring No:	Station:	Offset:	Elevation	N	Qu tsf	Ground Water Elev. During Drilling	Surface Water Elev. Upon Completion	Elevation	N	Qu tsf
1			481.45	0						
				4	0.75	25		456.45	100/6	2.55
				5	1.15	29				
				2	0.65	19				
			472.45							
				10	wh	0.38	27			
			469.45		100/6	--	20			
			467.45							
				15	28	--	16			
			464.45		137	3.85	11			
				20	100/6	4.55	10			
					100/5	--	9			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"  
Qu = Unconfined Compressive Strength in tons/sq.ft.  
w = Water Content - percentage of oven dry weight-%  
B = Bulge Failure  
S = Shear Failure  
E = Estimated Value  
P = Penetrometer



LOCATION OF NAME PLATE



Material: Best quality brass or bronze.  
Border & Lettering: Raised 1/16 inch. Square cut and not tapered. Top surface polished.  
Fastenings: Four lugs at least three inches long, cast on back of plate.

HOLCOMB FOUNDATION ENGINEERING INC.  
P.O. Box 88 618-529-5262  
Carbondale, IL 62903 618-457-8991 fax Page 1 of 1

Bridge Foundation Boring Log

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Section: 06-01188-00-BR Station \_\_\_\_\_ Bored by: D. Russell  
Route: Spanish Bluff Rd Checked By: J. Holcomb  
County: Union

Boring No:	Station:	Offset:	Elevation	N	Qu tsf	Ground Water Elev. During Drilling	Surface Water Elev. Upon Completion	Elevation	N	Qu tsf
2			481.55	0						
				3	0.65	25		457.05	100/6	5.25
				2	0.55	27				
				1	0.65	28				
			475.05							
				10	wh	--	27			
			470.55							
				5	0.75	5				
			467.55		31	2.55	44			
				78	--	10				
			464.55		100/6	4.55	10			
					100/5	--	11			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"  
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