

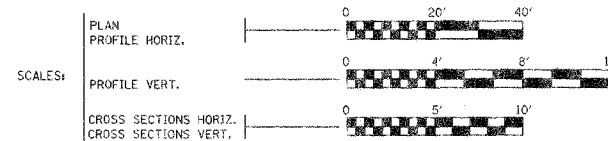
ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET NO.
TR 43	*	PIATT	11	1

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT: \*04-04124-00-BR

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PLANS FOR PROPOSED  
BRIDGE REPLACEMENT**

INDEX OF SHEETS

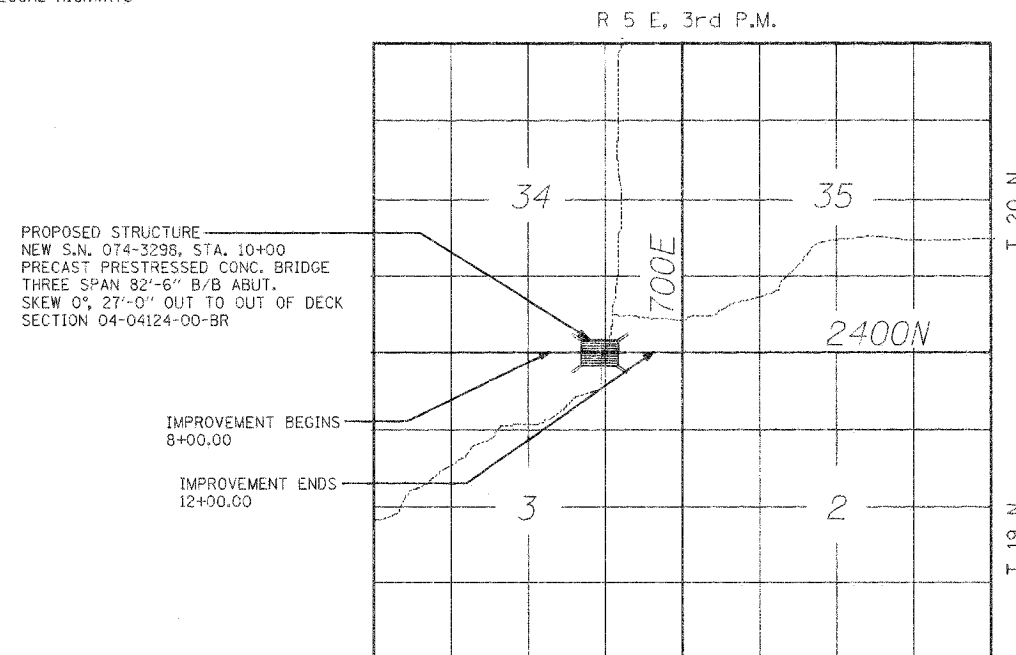
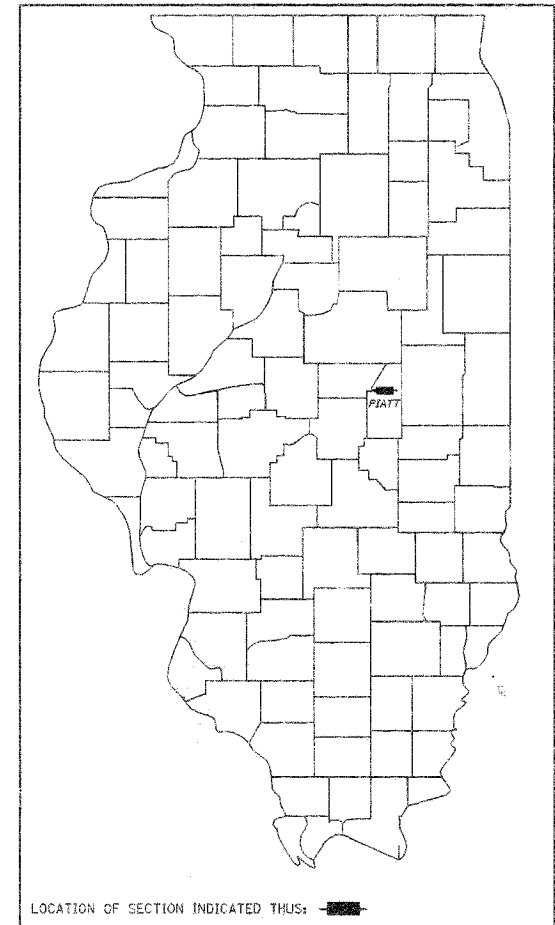
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES, TYPICAL CROSS SECTION, AND SCHEDULE OF QUANTITIES
3	PLAN AND PROFILE
4 - 9	BRIDGE PLANS
10	EROSION CONTROL PLAN
11	CROSS SECTIONS



PIATT COUNTY  
GOOSE CREEK ROAD DISTRICT  
SECTION 04-04124-00-BR  
OLD STRUCTURE NO. 074-3040  
NEW STRUCTURE NO. 074-3298  
TR 43  
BRIDGE REPLACEMENT AND  
REHABILITATION PROGRAM  
C-95-305-05  
PROJECT NO. BROS-147 (60)

ILLINOIS DEPT. OF TRANSPORTATION STANDARD DRAWINGS

STANDARD NO.	DESCRIPTION
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
515001-02	NAME PLATE FOR BRIDGES
701006-01	OFF-ROAD OPERATIONS 2L, 2W 4.5 M (15') TO PAVEMENT EDGE FOR SPEEDS ≥ 45 MPH.
702001-06	TRAFFIC CONTROL DEVICES
BLR 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



LOCATION MAP

FUNCTIONAL CLASSIFICATION - LOCAL ROAD  
CURRENT ADT < 150  
DESIGN YEAR ADT = 150

NET LENGTH OF SECTION = 400 FEET = 0.08 MILES

APPROVED Aug. 29 2005  
*James W. Schaaf*  
COUNTY ENGINEER

APPROVED Aug. 29 2005  
*David Busche*  
ROAD COMMISSIONER

PASSED 9/21 2005  
*Quill*  
DISTRICT FIVE ENGINEER OF  
LOCAL ROADS & STREETS

Releasing for  
Bid Based on  
Limited Review 9/22 2005  
*[Signature]*  
DEPT. DIRECTOR OF HIGHWAYS,  
REGION THREE ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



*Keith E. Brandau* 8/14/05  
KEITH E. BRANDAU  
Illinois Licensed Professional Engineer Number 44096  
License Expires 11/30/05

**FRAUENHOFER**

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, IL 61822 217-351-6268

CONTRACT # 91328

FOR JOINT UTILITY INFORMATION  
CALL TOLL FREE 1-800-892-0123

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
TR 43	#	PIATT	11	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

\*04-04124-00-BR

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	*EARTH EXCAVATION	CU. YD.	134
20400800	*FURNISHED EXCAVATION	CU. YD.	283
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.30
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
28000400	PERIMETER EROSION BARRIER	FOOT	640
28100105	STONE RIPRAP, CLASS A3	SQ. YD.	104
28500100	FABRIC FORMED CONCRETE REVETMENT MATS	SQ. YD.	234
40200800	*AGGREGATE SURFACE COURSE, TYPE B	TON	260
50100100	*REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	146
50300225	CONCRETE STRUCTURES	CU. YD.	57.9
50400305	PRECAST, PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ. FT.	2187
50800105	REINFORCEMENT BARS	POUND	7570
50900205	STEEL RAILING, TYPE S-1	FOOT	162
51201400	FURNISHING STEEL PILES, HP 10X42	FOOT	648
51202700	DRIVING STEEL PILES	FOOT	648
51203400	TEST PILE, STEEL HP 10X42	EACH	4
51204600	METAL SHOES	EACH	16
51500100	NAME PLATE	EACH	1
54200223	*PIPE CULVERTS, CLASS D, TYPE 1, 18" Ø	FOOT	32
67100100	MOBILIZATION	L. SUM	1

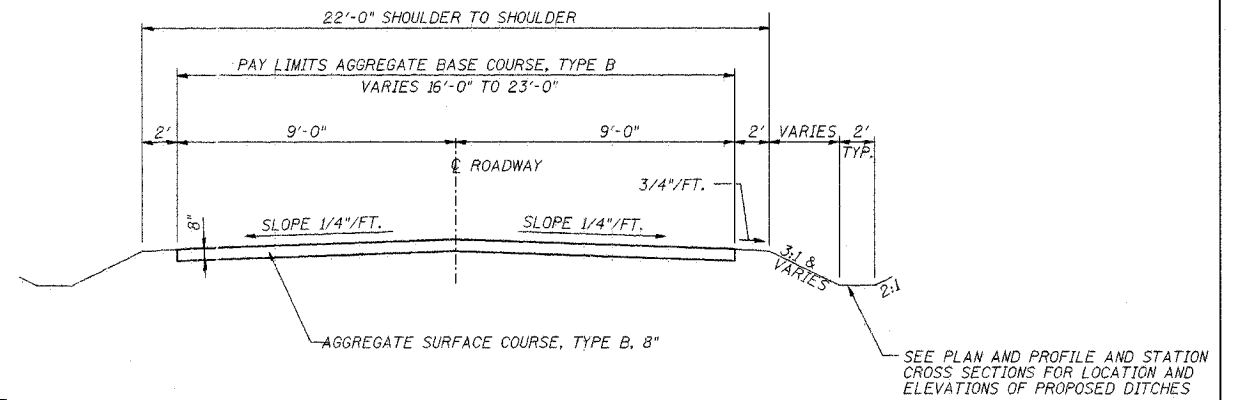
\* SEE SPECIAL PROVISIONS

x080-2A  
QUANTITY

SEEDING, CLASS 2 (SPECIAL)	
LOCATION	ACRE
STA 8+00 TO STA 9+59.42	0.15
STA 10+40.58 TO STA 12+00	0.15
<b>TOTAL</b>	<b>0.30</b>

PIPE CULVERTS, CLASS D, TYPE 1, 18" Ø	
LOCATION	FOOT
LT STA 9+00	32
<b>TOTAL</b>	<b>32</b>

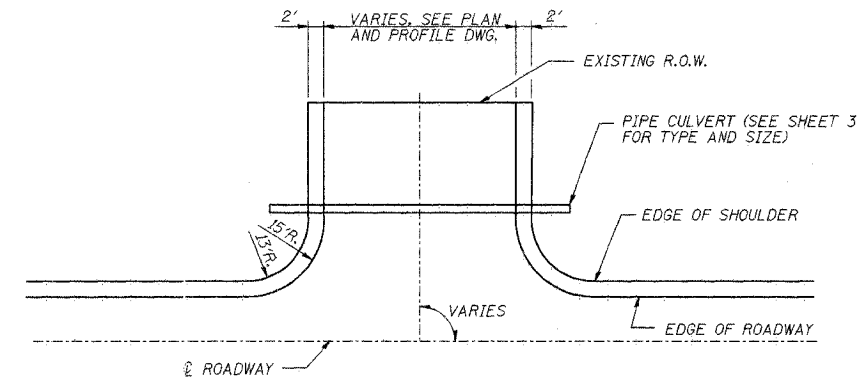
AGGREGATE SURFACE COURSE, TYPE B	
LOCATION	TON
STA 8+00 TO STA 9+59.42	120
STA 10+40.58 TO STA 12+00	120
LT STA 9+00	20
<b>TOTAL</b>	<b>260</b>



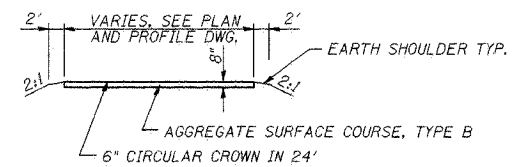
NOTES:  
FUNCTIONAL CLASS - LOCAL ROAD (0-250 ADT)  
CURRENT ADT = LESS THAN 150  
SEE PLAN AND PROFILE SHEET 3 FOR PAVEMENT AND SHOULDER TAPERS.

PROPOSED TYPICAL CROSS SECTION

STA. 8+00.00 TO STA. 9+59.42  
STA. 10+40.58 TO STA. 12+00



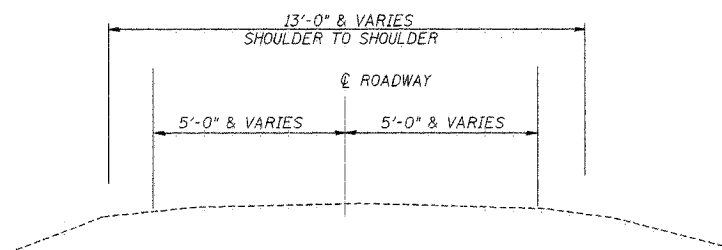
PLAN



SECTION

FIELD ENTRANCE DETAIL

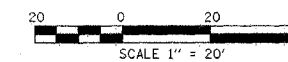
STA. 9+20 LT.



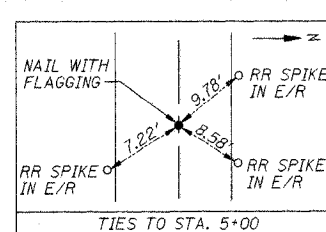
EXISTING TYPICAL CROSS SECTION

STA. 8+00 TO STA. 9+85  
STA. 10+15 TO STA. 12+00

ROUTE NO.	SECTION	COUNTY	TOWNSHIP	RANGE
TR 43	*	PIATT	11	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	*04-04124-00-BR	



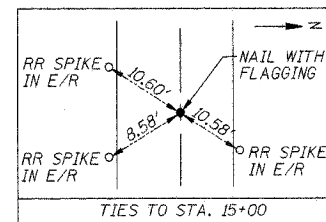
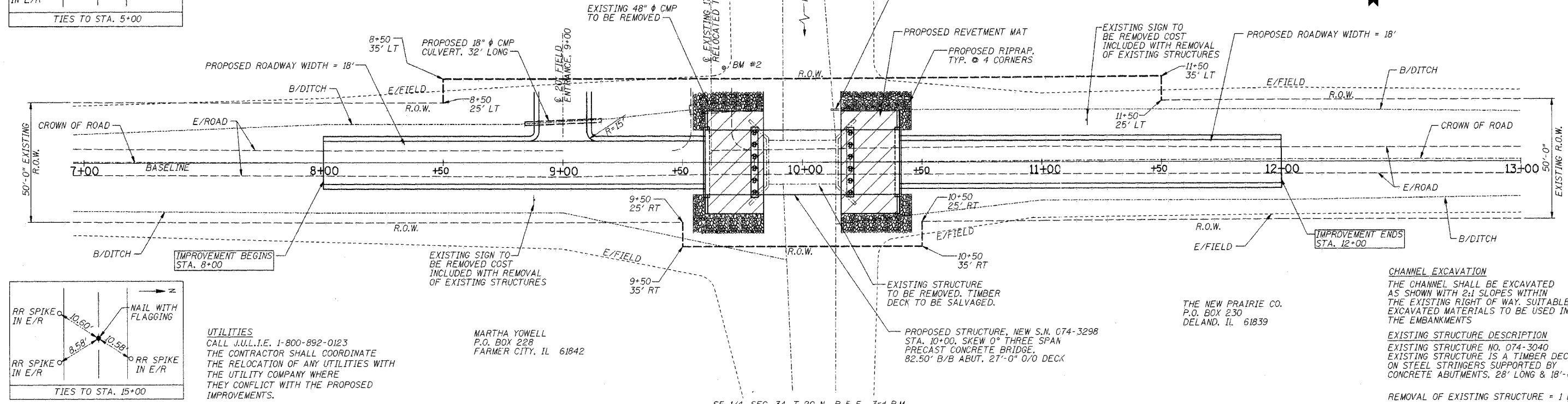
NOTE: EXISTING PIPE REMOVAL AND FIELD ENTRANCE REMOVAL COSTS TO BE INCLUDED IN EARTH EXCAVATION.



BM #1 - CHISELED "□" IN TOP OF WEST WINGWALL AT SW CORNER OF BRIDGE, ELEV. 100.00  
 BM #2 - RAILROAD SPIKE IN EDGE OF FIELD, STA. 9+68, 37.5' RT. ELEV. 99.41

MARTHA YOWELL  
 P.O. BOX 228  
 FARMER CITY, IL 61842

MARTHA YOWELL  
 P.O. BOX 228  
 FARMER CITY, IL 61842

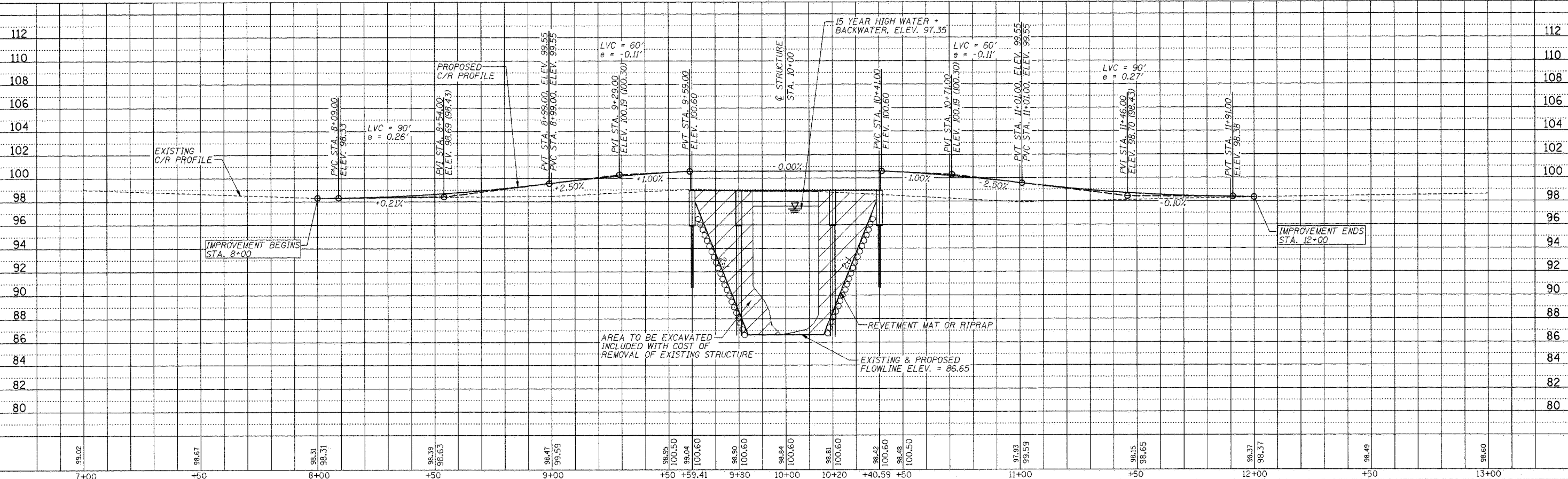


UTILITIES  
 CALL J.U.L.T.E. 1-800-892-0123  
 THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ANY UTILITIES WITH THE UTILITY COMPANY WHERE THEY CONFLICT WITH THE PROPOSED IMPROVEMENTS.

MARTHA YOWELL  
 P.O. BOX 228  
 FARMER CITY, IL 61842

THE NEW PRAIRIE CO.  
 P.O. BOX 230  
 DELAND, IL 61839

SE 1/4, SEC. 34, T 20 N., R 5 E., 3rd P.M.



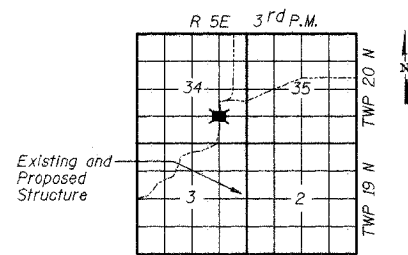
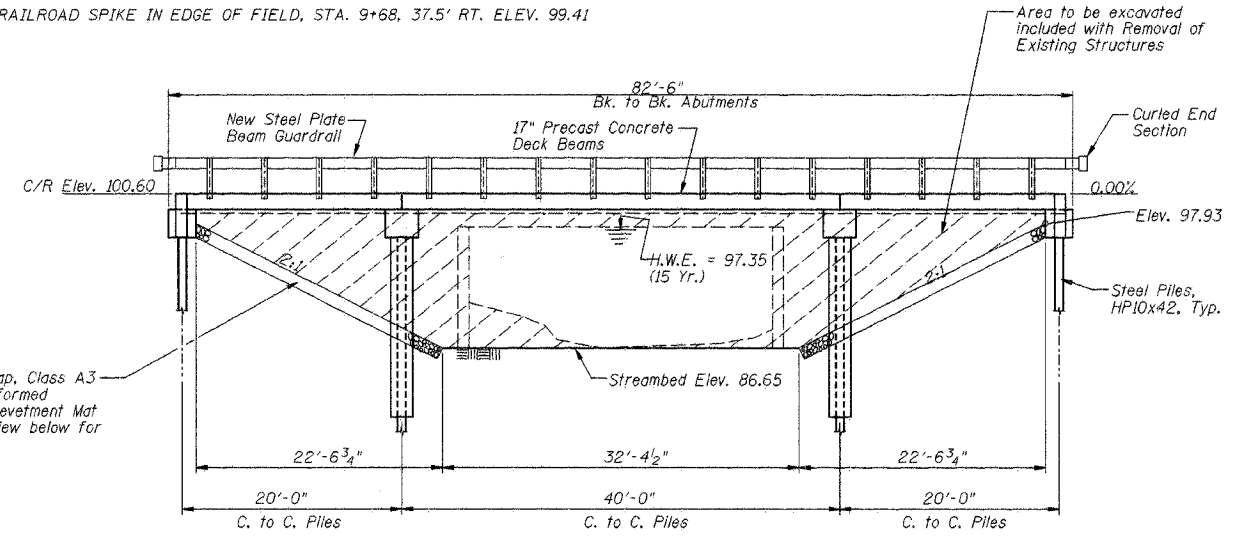
PLAN & PROFILE STA. 7+00 TO STA. 13+00

Existing Structure: EXISTING STRUCTURE NO. 074-3040, EXISTING STRUCTURE IS A  
TIMBER DECK ON STEEL STRINGERS SUPPORTED BY CONCRETE  
ABUTMENTS, 28' LONG & 18'-4" WIDE.  
BM #1 - CHISELED "□" IN TOP OF WINGWALL AT SW CORNER OF BRIDGE, ELEV. 100.00  
BM #2 - RAILROAD SPIKE IN EDGE OF FIELD, STA. 9+68, 37.5' RT. ELEV. 99.41

**BORING DATA**

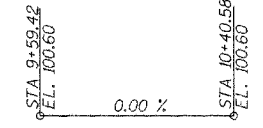
N - Standard Penetration Test - Blows per foot to drive 2" O.D. split spoon sampler 12" with 140 lb. hammer falling 30".  
Qu - Unconfined Compressive Strength - Tons/Sq. Ft.  
W - Water Content - Percentage of oven dry weight - %  
B - Bulge Failure, V - Shear Failure, E - Estimated Value  
S - Splitting Failure

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
TR 43	*	PIATT	11	4
PROJECT NO. 04-04124-00-BR				



STRUCTURE NO. 074-3298  
SEC. 04-04124-00-BR BUILT 200  
GOOSE CREEK ROAD DISTRICT  
PIATT COUNTY  
LOADING HS-20-44

**NAME PLATE**  
See Standard 515001



**DESIGN SPECIFICATIONS**

AASHTO (2002) and applicable Interims

**DESIGN LOADING**

HS 20-44  
25 P.S.F Future Wearing Surface

**DESIGN STRESSES**

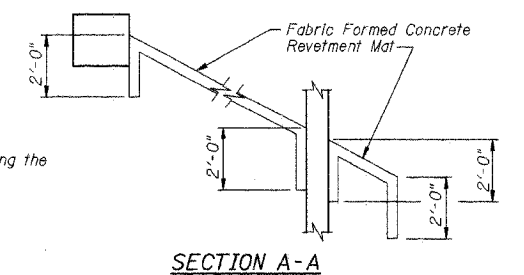
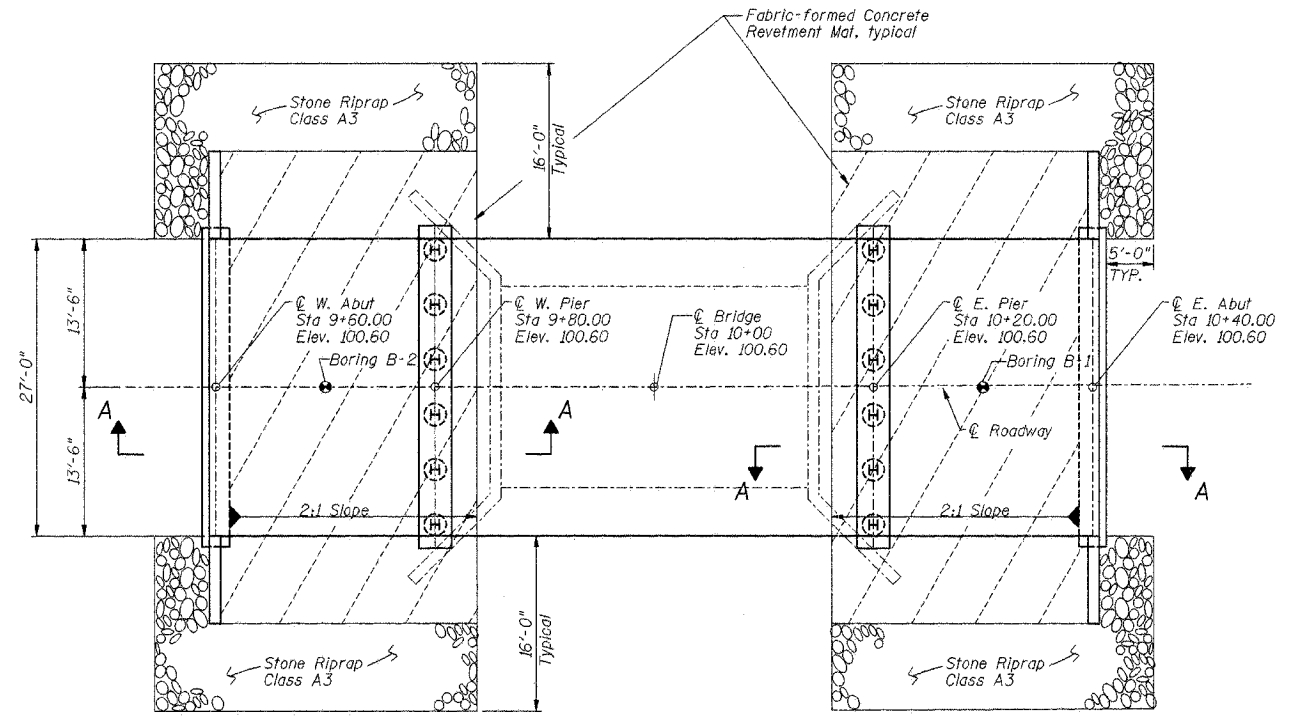
- $f'_c = 3,500$  psi (Cast in Place Concrete)
- $f'_c = 5,000$  psi (P.P.C. Units)
- $f'_{ci} = 4,000$  psi (P.P.C. Units)
- $f_y = 60,000$  psi (Reinforcement)
- $f'_s = 270,000$  psi ( $1/2"$   $\phi$  Strands)
- $f'_{si} = 201,960$  psi ( $1/2"$   $\phi$  Strands)

**WATERWAY DATA**

Drainage Area	16.56 Sq. Mi.
Existing Opening (15 Yr.)	264.4 Sq. Ft.
Required Opening (15 Yr.)	266.5 Sq. Ft.
Proposed Opening (15 Yr.)	533 Sq. Ft.
Design Discharge (15 Yr.)	902 C.F.S.
Computed Discharge (100 Yr.)	1407 C.F.S.
15 Yr. Head	0.01 Ft.
100 Yr. Head	0.19 Ft.

DEPTH (ft)	N	Qu	W	DESCRIPTION
0				Gravel/Dirt
10	6.30	23		Dk. Brown Silty CLAY, Dry Small Pebbles
7	2.81V	19		
3	0.30B	23		
8	2.16	13		Tan/Grey Mottled CLAY, Damp, Sticky, Soft, small-medium pebbles
12	5.10	11		
14	3.22	12		(3" SAND Seam @ 19')
11	3.00	14		Grey Silty CLAY, small-medium pebbles, dry
13	3.60	12		
39	5.86S	10		(3" SAND Seam @ 38.5') (6" SAND Seam @ 39.5')
16	2.47	13		Dk. Brown Silty CLAY, Some Sand, Dry
14	1.53	15		Dark Brown Sandy Silty CLAY, Small pebbles
11	5.4VS	13		(6" SAND Seam @ 48.5')
14	0.5IV	18		Stiff Grey CLAY, Pebbles

Stone Riprap, Class A3 or Fabric-formed Concrete Revetment Mat See Plan view below for locations



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 the requirements of the current "AASHTO Standard Specifications for Highway Bridges."

*Keith E. Brandau* 8/14/05  
KEITH E. BRANDAU  
Illinois Licensed Structural Engineer Number 4905  
License Expires 11/30/06

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
*Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (17" Deep)	Sq. Ft.	2187		2187
Steel Railing, Type S-1	Foot	162		162
Concrete Structures	Cu. Yds.		57.9	57.9
Furnishing Steel Piles, HP10x42	Foot		648	648
Driving Steel Piles	Foot		648	648
Test Piles, Steel HP10x42	Each		4	4
Metal Shoes	Each		16	16
Fabric Formed Concrete Revetment Mats	Sq. Yds.		234	234
Stone Riprap, Class A3	Sq. Yds.		104	104
Name Plate	Each		1	1
Reinforcement Bars	Pound		7570	7570
Structure Excavation	Cu. Yds.		146	146

\*See Special Provisions

DSGN	R.T. Mumm				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

**FRAUENHÖFFER**

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, Il. 61822 217-351-6268

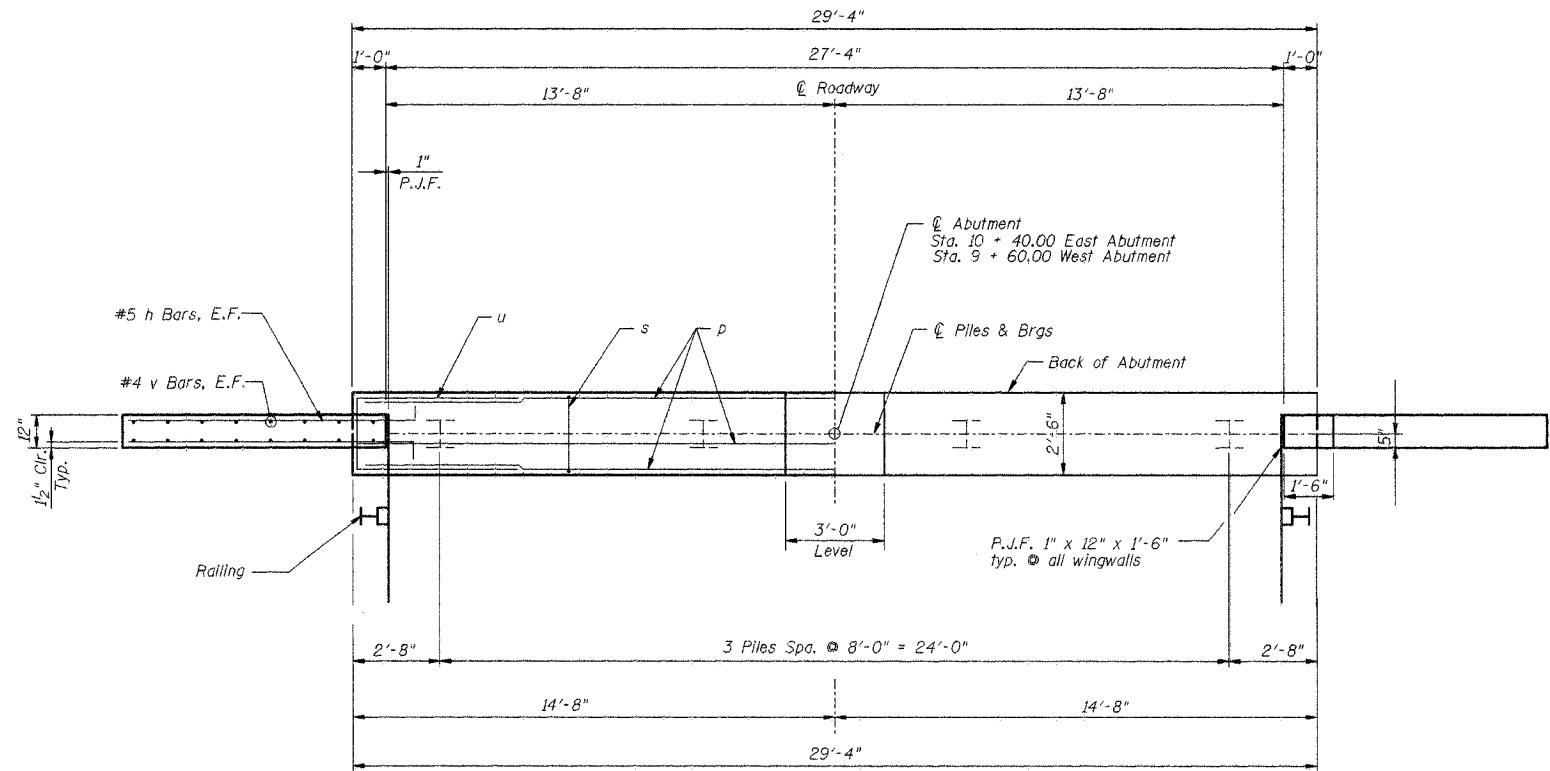
**GENERAL PLAN AND ELEVATION**

GOOSE CREEK ROAD DISTRICT  
SECTION 04-04124-00-BR  
PIATT COUNTY

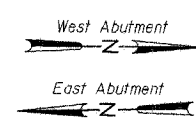
SHEET	4
DWG NO.	4067-gpe.dgn
DATE	DEC 2004
PROJ NO.	4067

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
TR 43	*	PIATT	11	5
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT	

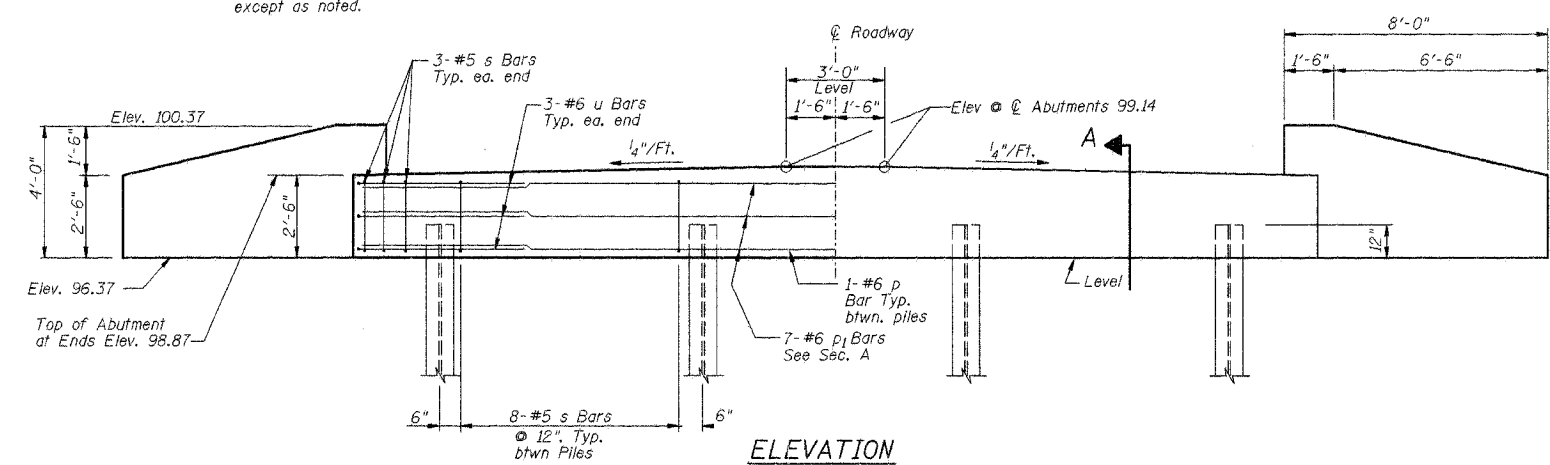
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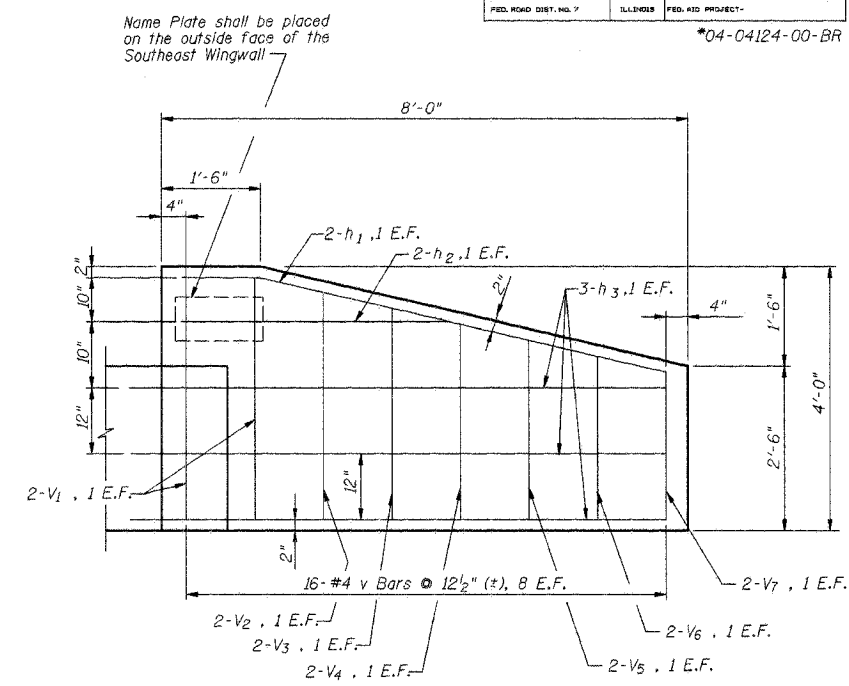
TOP PLAN



NOTE: All edges shall have Standard 3/4" Chamfer, except as noted.

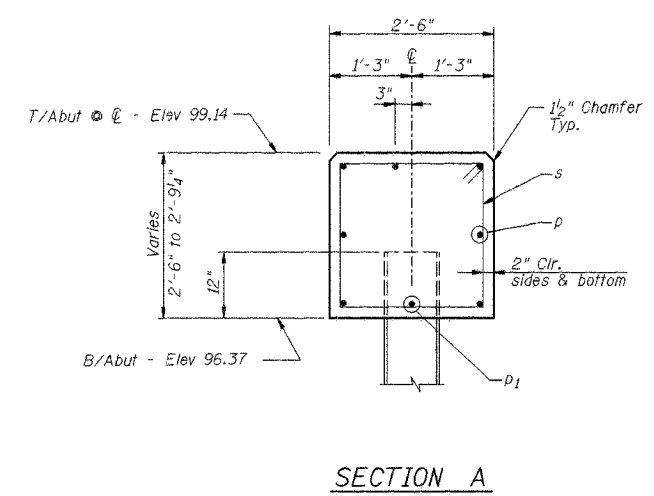


ELEVATION



WINGWALL ELEVATION

Wingwalls shall be poured after beams are in place.



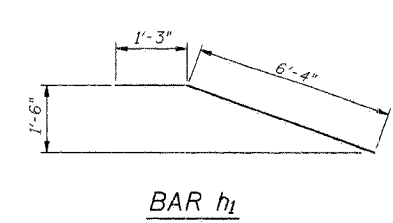
SECTION A

BILL OF MATERIAL - 2 ABUTS.

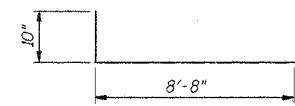
Bar	No.	Size	Length	Shape
h1	8	#5	7'-7"	—
h2	8	#5	5'-0"	—
h3	24	#5	9'-6"	—
p	14	#6	29'-0"	—
p1	6	#6	7'-6"	—
s	60	#5	9'-7"	□
u	12	#6	12'-0"	—
v1	16	#4	3'-8"	—
v2	8	#4	3'-5"	—
v3	8	#4	3'-2"	—
v4	8	#4	2'-11"	—
v5	8	#4	2'-8"	—
v6	8	#4	2'-5"	—
v7	8	#4	2'-3"	—
Concrete Structures	Cu. Yds.	18.1		
Reinforcement Bars	Lbs.	1970		
Test Pile, Steel HP10x42	Each	2		
Furnish Steel Piles, HP10x42	Foot	168		
Driving Steel Piles	Foot	168		
Metal Shoes	Each	6		
Name Plate	Each	1		
Structure Excavation	Cu. Yds.	46		

PILE DATA

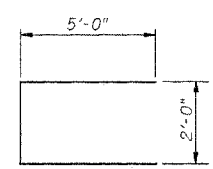
Type: Steel HP 10 x 42  
 No. Required: 3 West Abutment  
 3 East Abutment  
 Capacity: 22 T/Pile  
 Est. Length: 28 Ft. W. Abutment  
 28 Ft. E. Abutment  
 Test Piles: 1 East Abutment  
 1 West Abutment



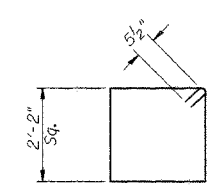
BAR h1



BAR h3



BAR u



BAR s

DSGN	R.T. Mumm				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

FRAUENHOFFER

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 3002 Crossing Court Champaign, Il. 61822 217-361-6268

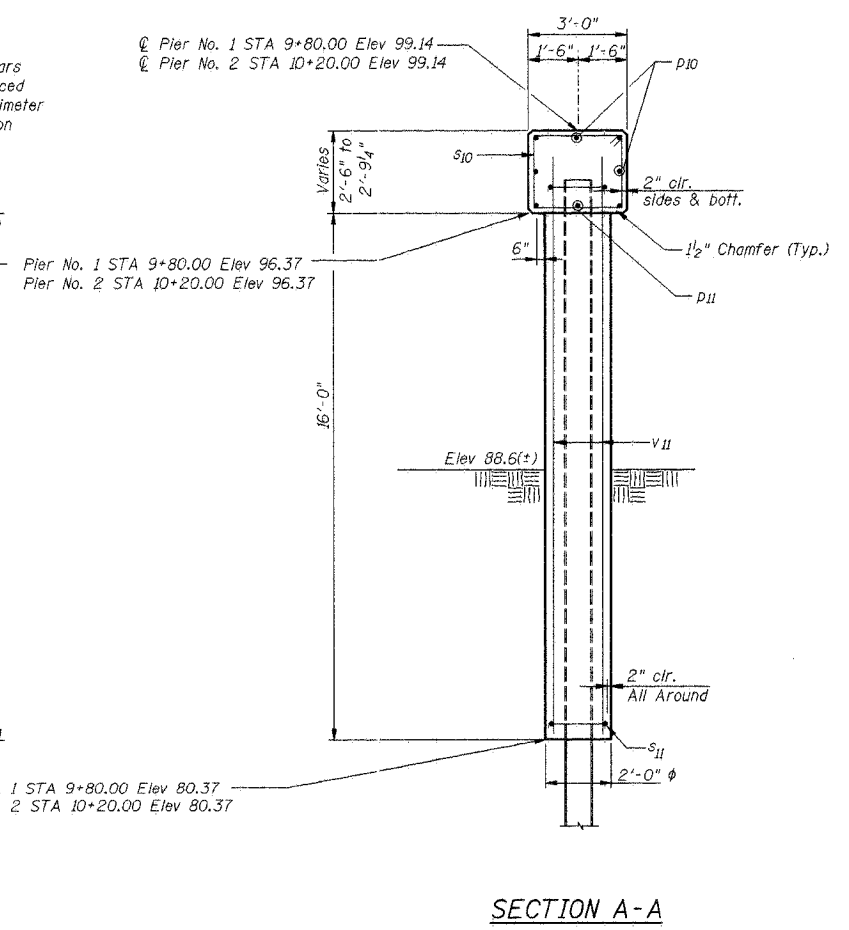
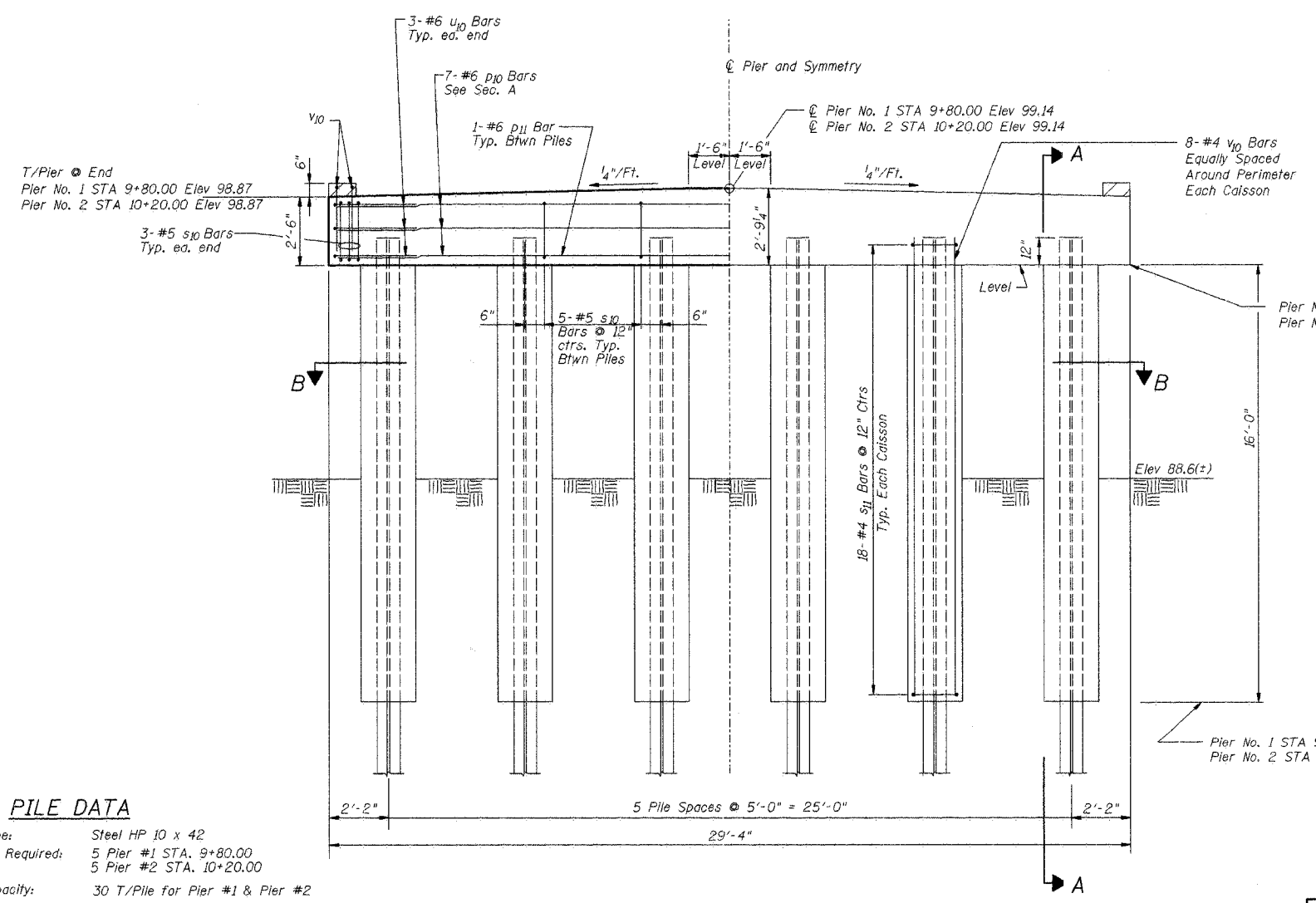
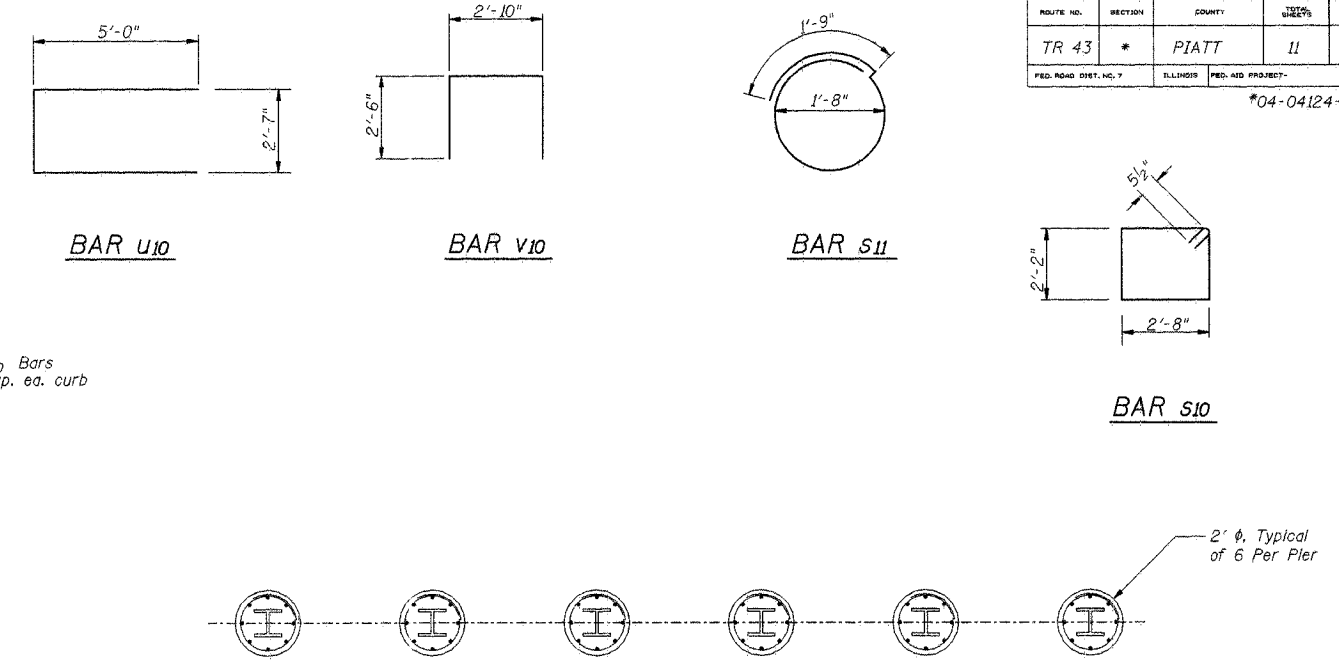
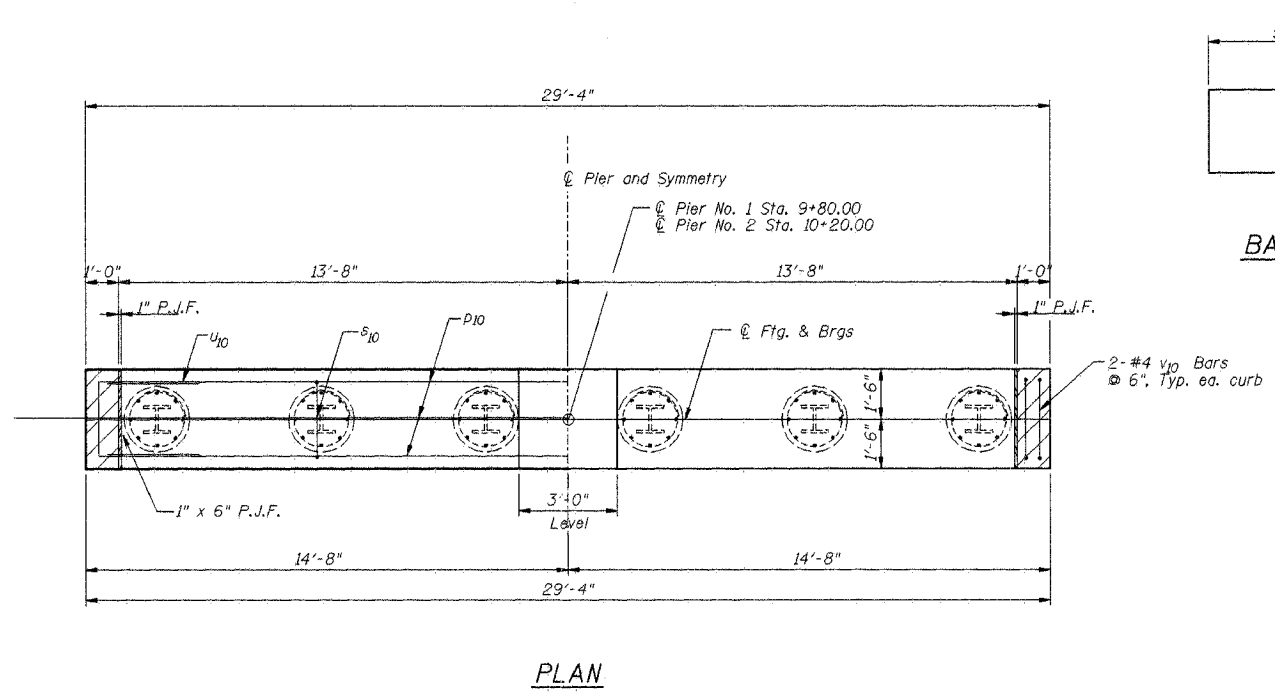
ABUTMENTS

GOOSE CREEK ROAD DISTRICT  
 SECTION 04-04124-00-BR  
 PIATT COUNTY

SHEET	5
DWG NO.	4067-abt.dgn
DATE	DEC 2004
PROJ NO.	4067

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
TR 43	*	PIATT	11	6
FED. ROAD DIST. NO. 7		ILL. HIGH. PROJ. NO. 7		FED. AID PROJECT

\*04-04124-00-BR



**PILE DATA**

Type: Steel HP 10 x 42

No. Required: 5 Pler #1 STA. 9+80.00  
5 Pler #2 STA. 10+20.00

Capacity: 30 T/Pile for Pler #1 & Pler #2

Est. Length: 48 Ft. Pier #1 & Pier #2

Test Piles: 1 @ Pier #1  
1 @ Pier #2

**BILL OF MATERIAL - 2 PIERS**

Bar	No.	Size	Length	Shape
U <sub>10</sub>	68	#5	26'-4"	—
P <sub>10</sub>	14	#6	29'-0"	—
P <sub>11</sub>	12	#6	3'-8"	—
S <sub>10</sub>	62	#5	10'-7"	□
S <sub>11</sub>	216	#4	7'-0"	○
U <sub>10</sub>	12	#6	12'-7"	—
V <sub>10</sub>	8	#4	7'-10"	□
V <sub>11</sub>	96	#4	17'-0"	—
Concrete Structures		Cu. Yds.	39.8	
Reinforcement Bars		Lbs.	5600	
Test Pile, Steel HP10x42		Each	2	
Furnish Steel Piles, HP10x42		Foot	480	
Driving Steel Piles		Foot	480	
Metal Shoes		Each	10	
Structure Excavation		Cu. Yds.	100	

**FRAUENHÖFFER**

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, IL 61822 217-351-6268

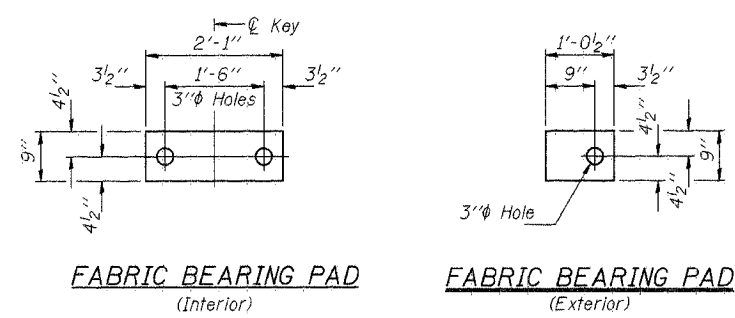
**PIERS**

GOOSE CREEK ROAD DISTRICT  
SECTION 04-04124-00-BR  
PIATT COUNTY

SHEET 6  
DWG NO. 4067-pr.dgn  
DATE DEC 2004  
PROJ NO. 4067

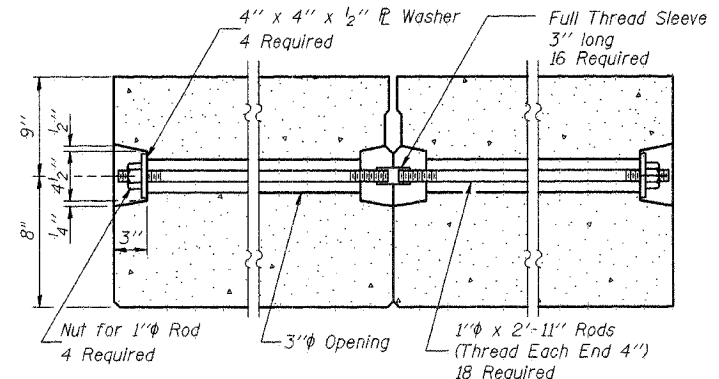
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
TR 43	*	PIATT	11	7
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT:

\*04-04124-00-BR

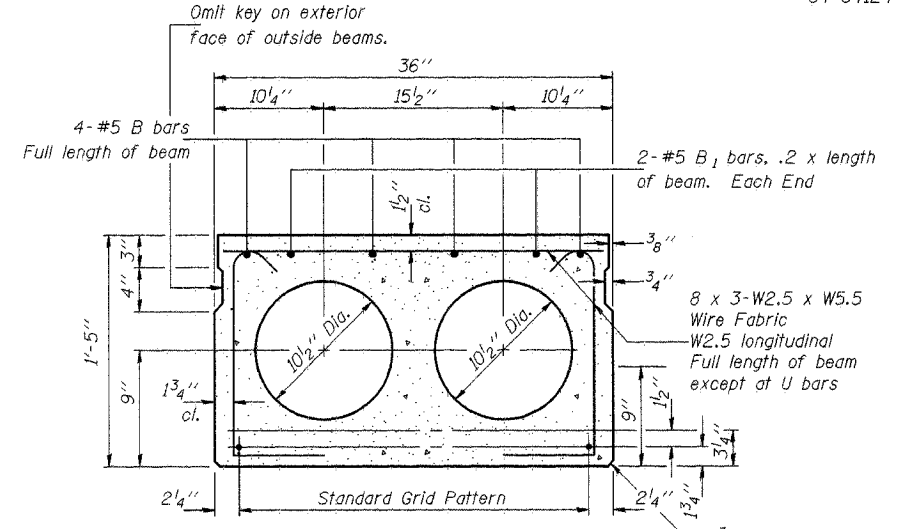


FABRIC BEARING PAD (Interior)

FABRIC BEARING PAD (Exterior)

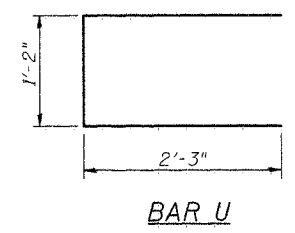


TYPICAL TRANSVERSE TIE ASSEMBLY

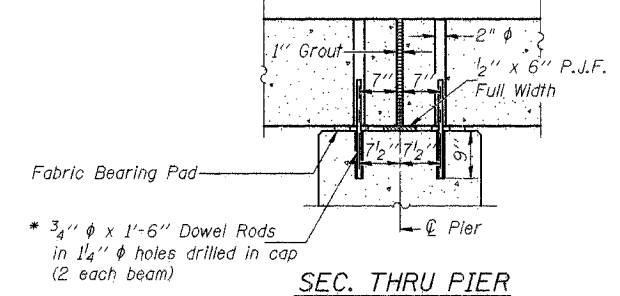


TYPICAL SECTION

Note: Place strands symmetrically about center of beam.



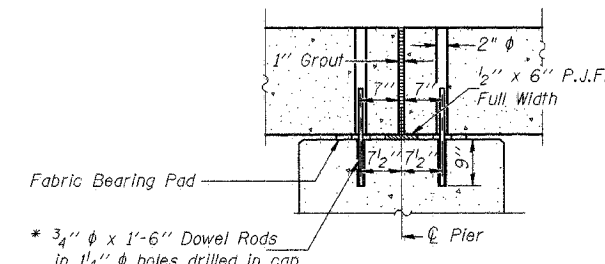
BAR U



SEC. THRU PIER

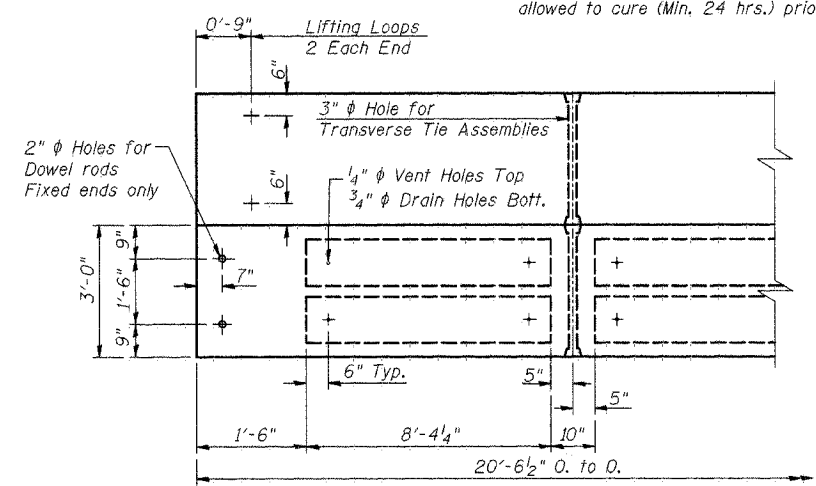
1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

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

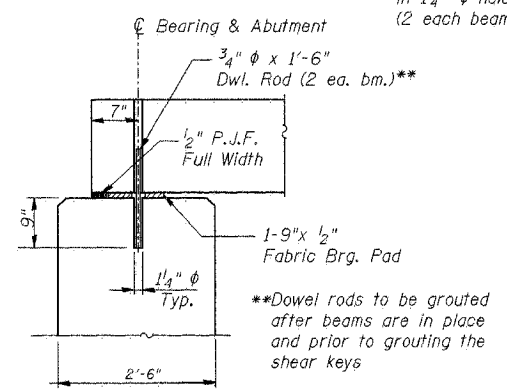


SEC. THRU PIER

1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

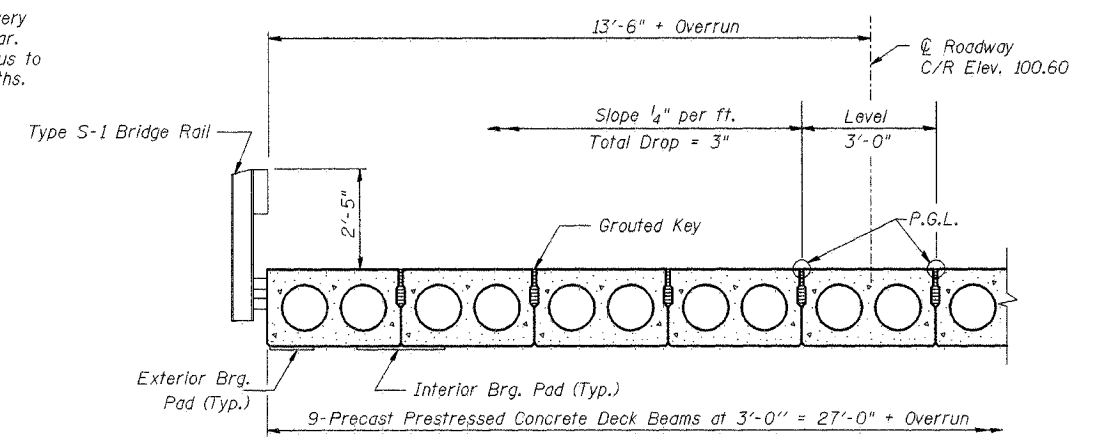


PLAN

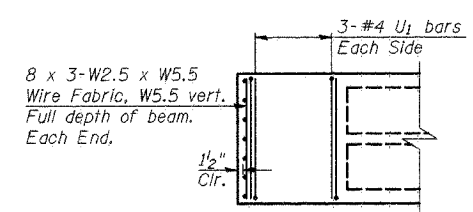


SECTION AT ABUTMENTS

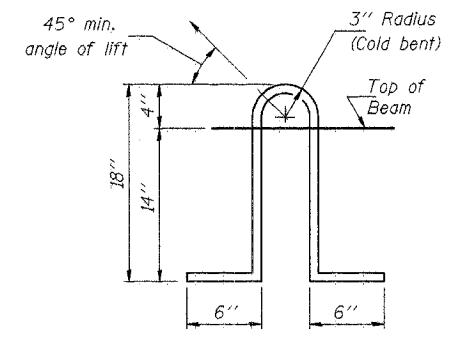
\*\*Dowel rods to be grouted after beams are in place and prior to grouting the shear keys



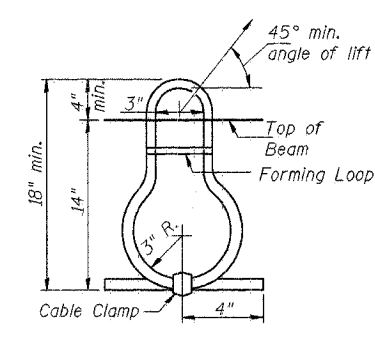
HALF CROSS SECTION



END PLAN



LIFTING LOOP DETAIL



LIFTING LOOP ALTERNATE

**NOTES**

Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 3/4" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 3-1/2" 270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'cl, shall be 4000 p.s.i. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

**BILL OF MATERIAL (One Beam)**

Bar	No.	Size	Length	Shape	
B	4	5	20'-1"	—	
B <sub>1</sub>	4	5	4'-2"	—	
U	12	4	5'-8"	□	
Precast Prestressed Conc. Deck Bms.				Sq. Ft.	1109*

\*Total Quantity of Beams

DSGN	R.T. Mumm				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

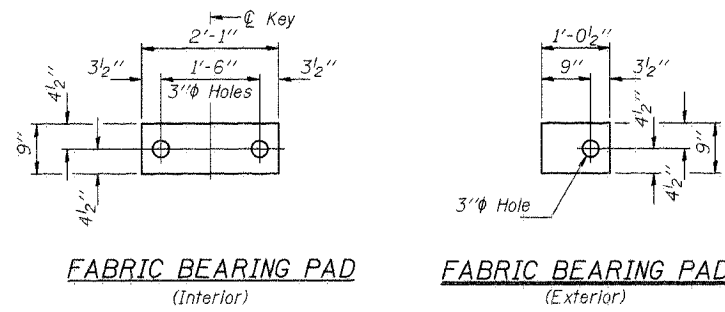
**FRAUENHÖFFER**  
 Frauenhoffer and Associates, P.C. Consulting Engineers  
 3002 Crossing Court Champaign, Il. 61822 217-351-6268

**SUPERSTRUCTURE-SPANS 1 & 3**  
 GOOSE CREEK ROAD DISTRICT  
 SECTION 04-04124-00-BR  
 PIATT COUNTY

SHEET 7  
 DWG NO. 4067-sup1.dgn  
 DATE DEC 2004  
 PROJ NO. 4067

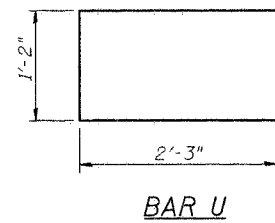
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
TR 43	*	PIATT	11	8

\*04-04124-00-BR

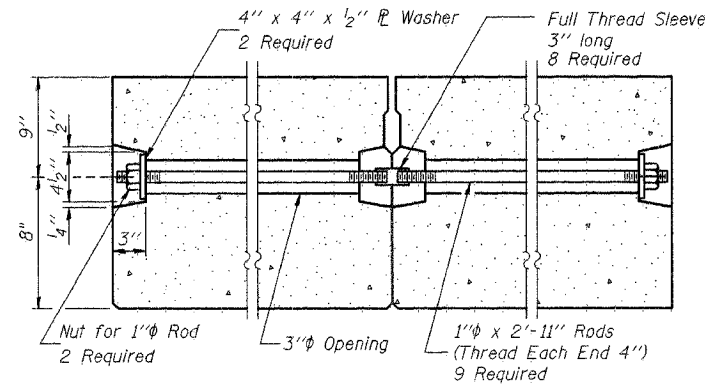


FABRIC BEARING PAD (Interior)

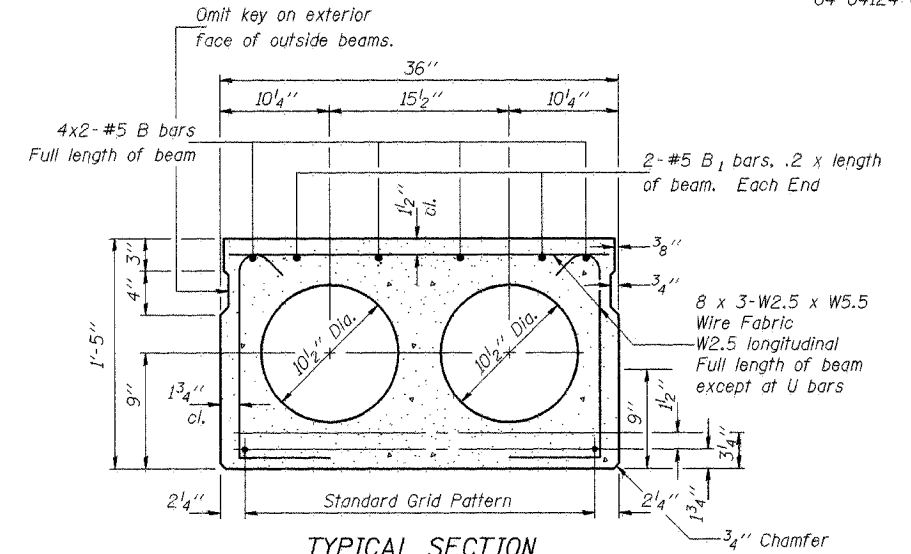
FABRIC BEARING PAD (Exterior)



BAR U



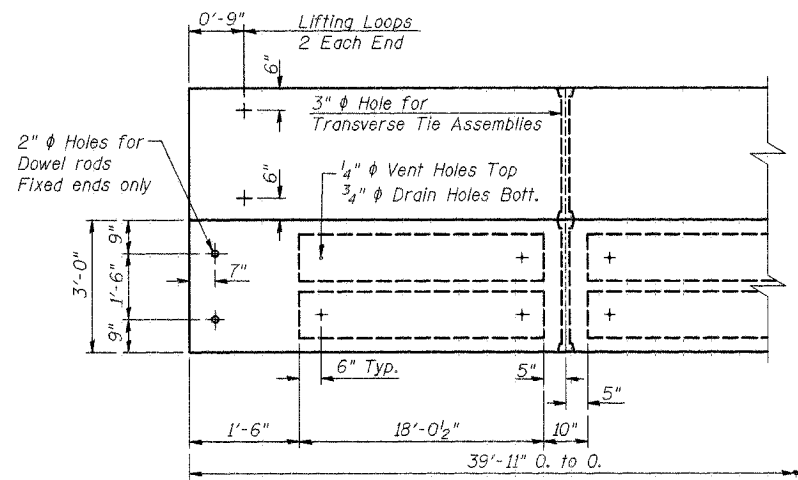
TYPICAL TRANSVERSE TIE ASSEMBLY



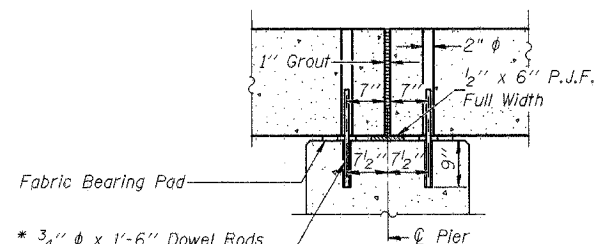
TYPICAL SECTION

14-1/2" Strands, Each Strand Stressed to 30,900 Lbs.  
10-Strands 1 3/4" up, 2-Strands 3/4" up, 2-Strands 1/2" up

Note: Place strands symmetrically about center of beam.



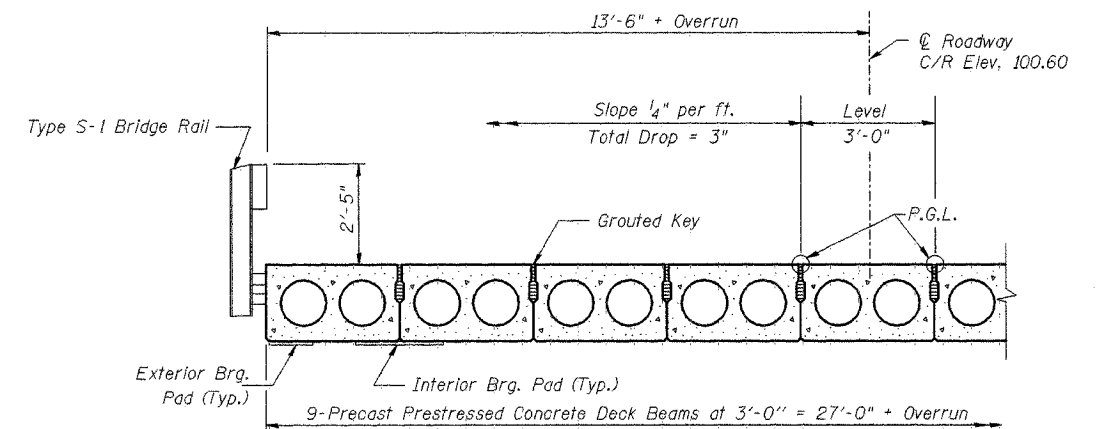
PLAN



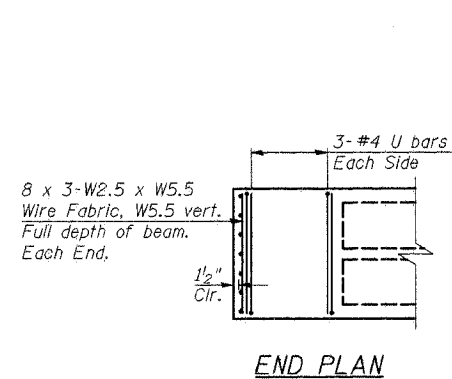
SEC. THRU PIER

1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

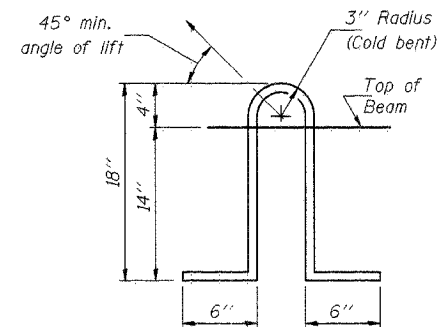
\* Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting the shear keys.



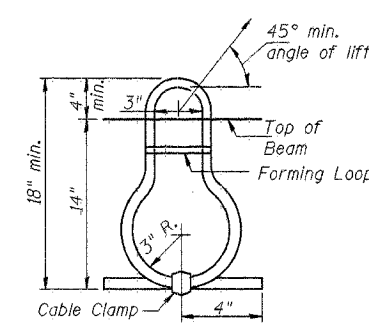
HALF CROSS SECTION



END PLAN



LIFTING LOOP DETAIL



LIFTING LOOP ALTERNATE

NOTES

Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 3/4" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 3-1/2"φ-270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'cl, shall be 4000 p.s.i. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

BILL OF MATERIAL (One Beam)

Bar	No.	Size	Length	Shape
B	8	5	21'-3"	—
B <sub>1</sub>	4	5	8'-0"	—
U	12	4	5'-8"	□
Precast Prestressed Conc. Deck Bms.				Sq. Ft. 1078*

\*Total Quantity of Beams

DSGN R.T. Mumm					
DR R.T. Mumm					
CHK K.E. Brandau					
APVD K.E. Brandau	NO.	DATE	REVISION	BY	APVD

FRAUENHÖFFER

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, IL 61822 217-351-6268

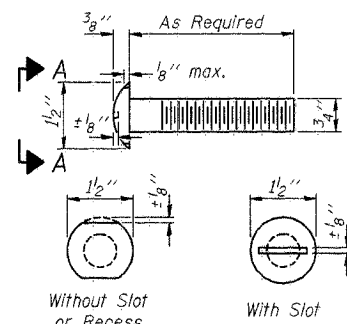
SUPERSTRUCTURE-SPAN 2  
GOOSE CREEK ROAD DISTRICT  
SECTION 04-04124-00-BR  
PIATT COUNTY

SHEET 8  
DWG NO. 4067-sup.dgn  
DATE DEC 2004  
PROJ NO. 4067

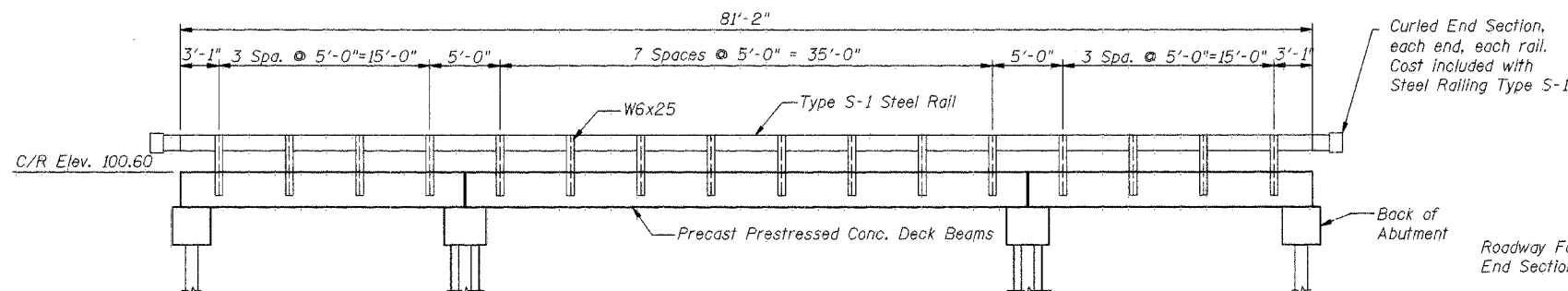


ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
TR 43	*	PIATT	11	9
FED. ROAD DIST. NO. 7		PLAN NO.		FED. AID PROJECT

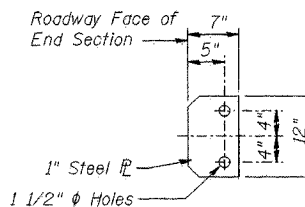
\*04-04124-00-BR



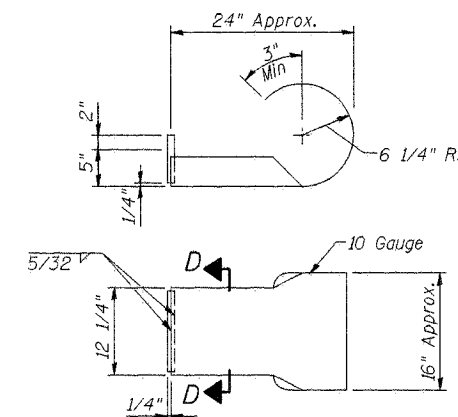
VIEW A-A  
ROUND HEAD BOLT



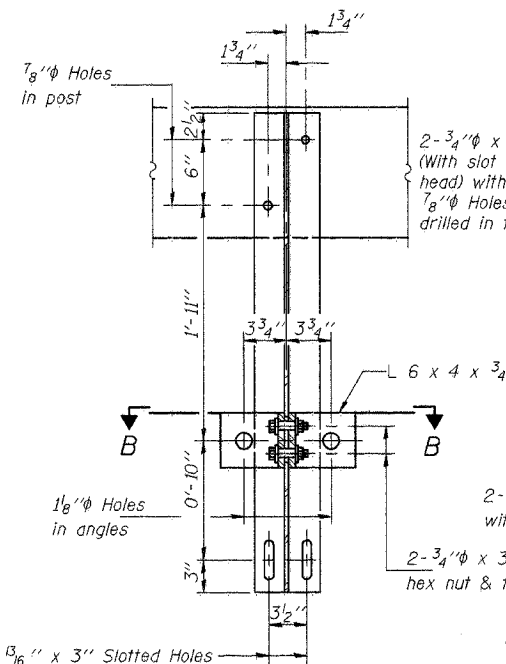
STEEL RAILING ELEVATION



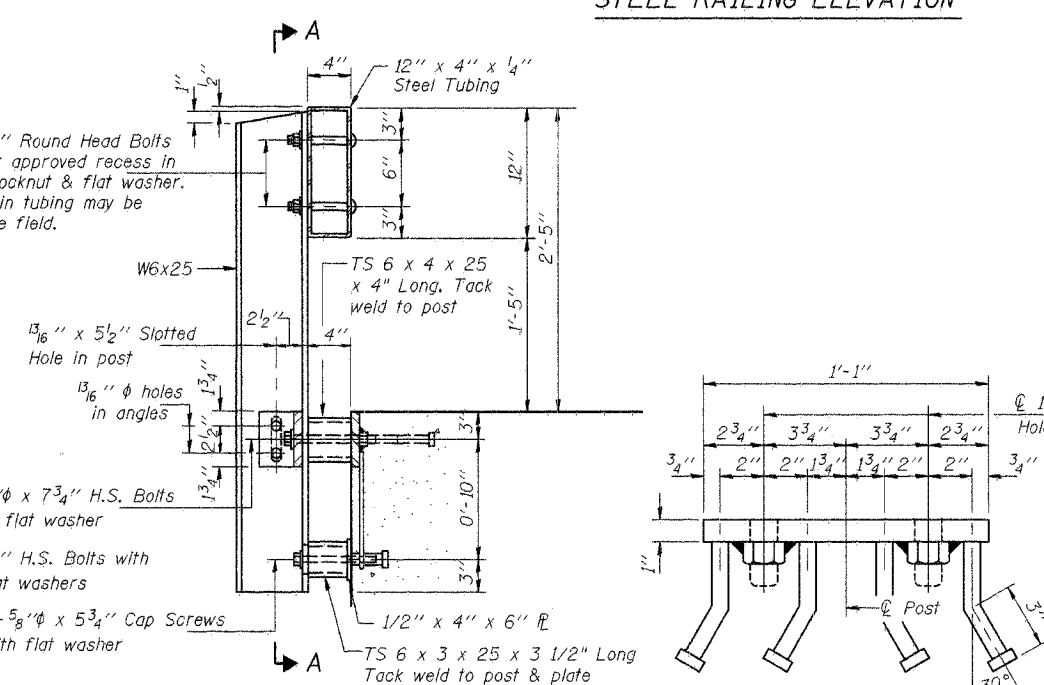
SECTION D-D



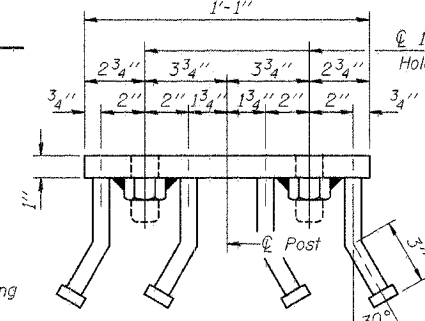
CURLLED END SECTION DETAIL



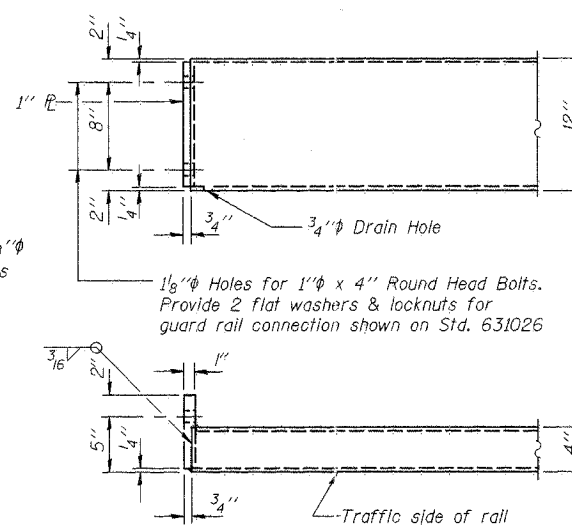
SECTION A-A



SECTION AT RAIL POST



VIEW C-C



END OF RAIL DETAILS

**NOTES**

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

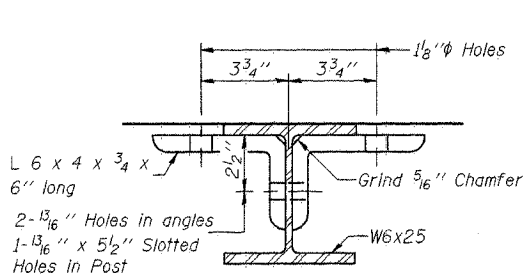
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

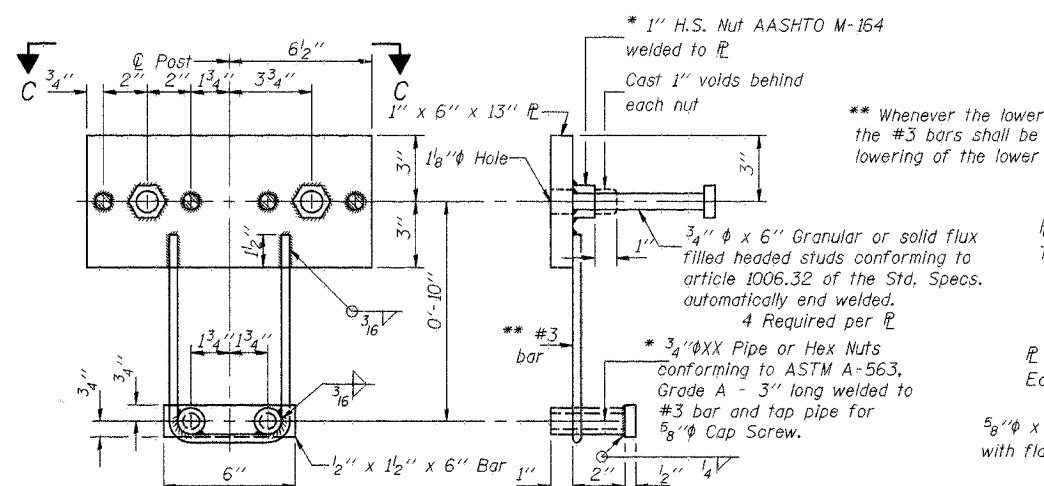
All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8 inch fabric bearing pad between the post and concrete.

The 3/4 inch high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(3) of the Standard Specifications. The 1 inch high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8 inch cap screws in bottom of posts shall be tightened to a snug fit only.



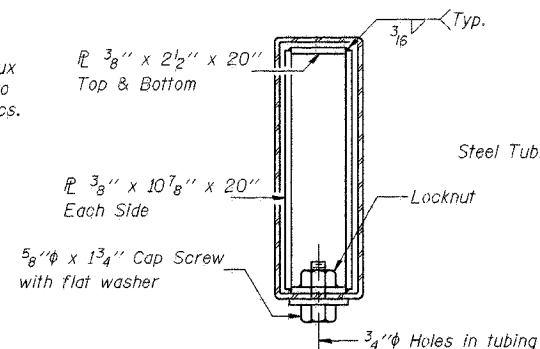
SECTION B-B



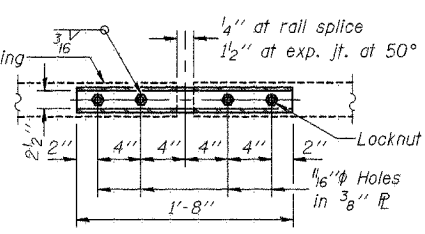
ANCHOR DEVICE

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

\*\* 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 inch.



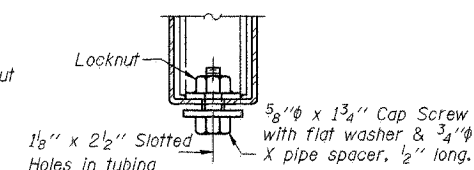
SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing Type S-1	Foot	162



RAIL SPLICE CONNECTION AT EXPANSION JT.

DSGN R.T. Mumm					
DR R.T. Mumm					
CHK K.E. Brandau					
APVD K.E. Brandau	NO.	DATE	REVISION	BY	APVD

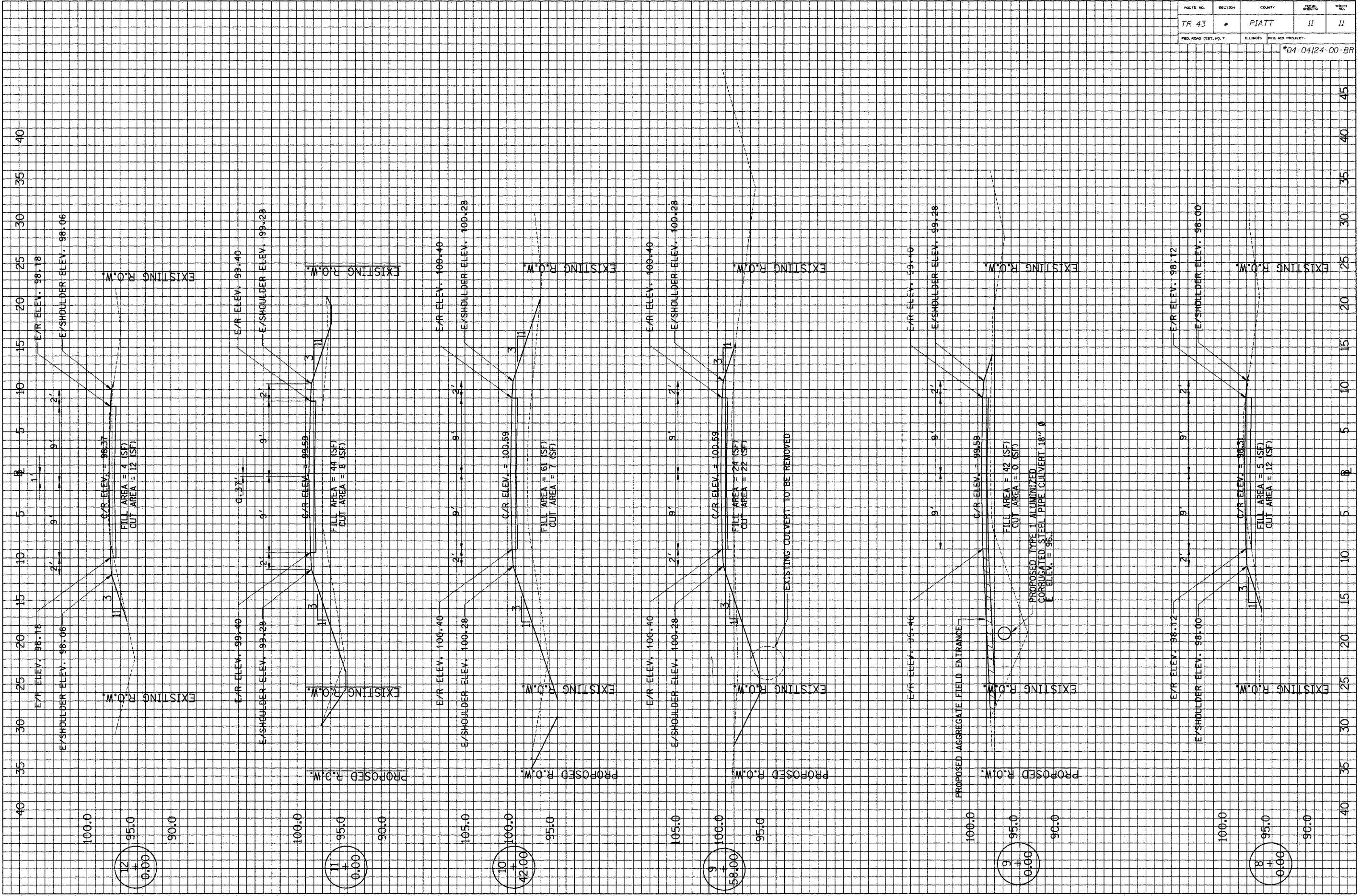
**FRAUENHÖFFER**

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, IL 61822 217-351-6268

STEEL RAILING TYPE S-1	SHEET 9
GOOSE CREEK ROAD DISTRICT	DWG NO. 4067-s1.dgn
SECTION 04-04124-00-BR	DATE DEC 2004
PIATT COUNTY	PROJ NO. 4067



ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
TR 43	*	PIATT	11	11
FED. AID DIST. NO. 7		FED. AID PROJECT		
*04-04124-00-BR				



40 35 30 25 20 15 10 5 0 12+00 11+00 10+00 9+00 8+00 18+00 45