3-9-07 Letting, Item 059

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*00-09115-00-BR

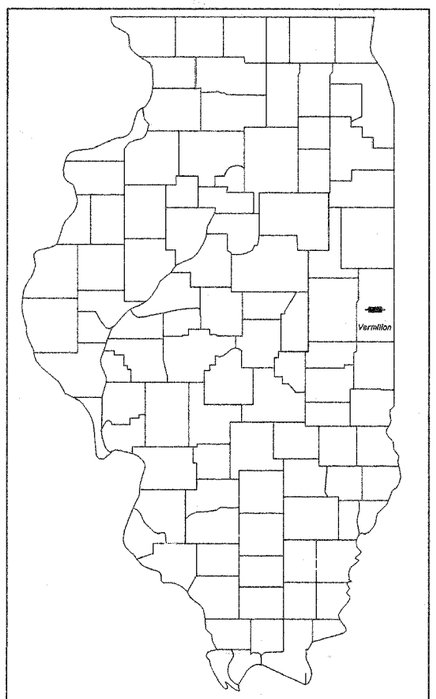
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED BRIDGE REPLACEMENT

INDEX OF SHEETS

SCALES:
PLAN, PROFILE HORIZ. 0, 20', 40'
PROFILE VERT. 0, 3', 6', 9'
CROSS SECTIONS HORIZ., CROSS SECTIONS VERT. 0, 5', 10'

VERMILION COUNTY
JAMAICA ROAD DISTRICT
SECTION 00-09115-00-BR
OLD STRUCTURE NO. 092-3211
NEW STRUCTURE NO. 092-3486
TR 397
BRIDGE REPLACEMENT AND REHABILITATION
PROJECT NO. BROS-183(94)

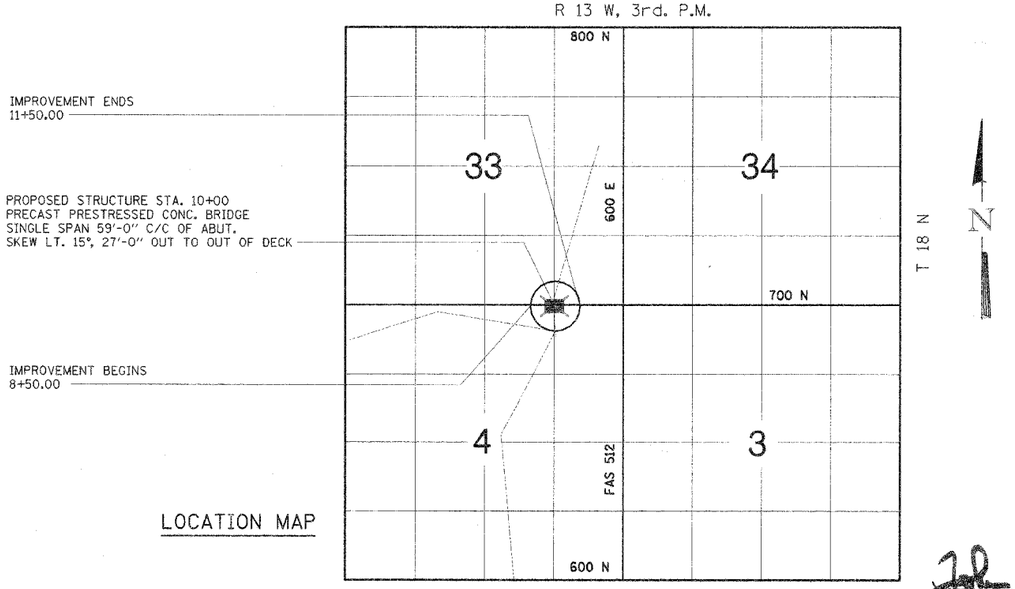


LOCATION OF SECTION INDICATED THUS: ■

ILLINOIS DEPT. OF TRANSPORTATION STANDARD DRAWINGS

STANDARD NO.	DESCRIPTION
515001-02	NAME PLATE FOR BRIDGES
702001-06	TRAFFIC CONTROL DEVICES
BLR 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL HIGHWAYS
701006-02	OFF ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE

R 13 W, 3rd. P.M.



LOCATION MAP

FUNCTIONAL CLASSIFICATION = LOCAL ROAD
NET LENGTH OF SECTION = 300 FEET = 0.057 MILES

APPROVED 12/6/06 20__
Robert D Sandrene
COUNTY ENGINEER

APPROVED William E. Knight 12/6/06 20 06
ROAD COMMISSIONER

PASSED 1 David A Gail 12/7/06 20__
DISTRICT FIVE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review DEC 7, 20 06
DEPUTY DIRECTOR OF HIGHWAYS, REGION FIVE ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOHN A. FRAUENHOFFER 062-36768 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

JOHN ANTON FRAUENHOFFER
Illinois Licensed Professional Engineer Number 36768
License Expires November 30, 2007

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

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

CONTRACT NO. 91371

CONTRACT # 91371

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	2
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT=	

*00-09115-00-BR

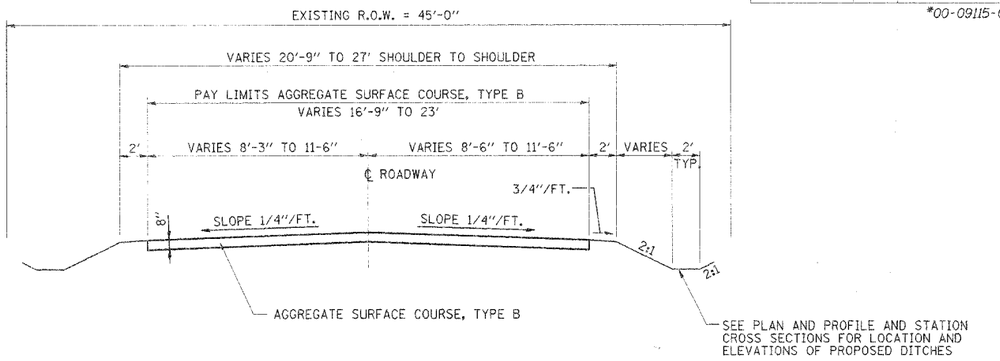
SUMMARY OF QUANTITIES

X08/-2A

ITEM		UNIT	QUANTITY
*20200100	EARTH EXCAVATION	CU. YD.	97
*20400800	FURNISHED EXCAVATION	CU. YD.	234
*40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	213
*50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	107
50300225	CONCRETE STRUCTURES	CU. YD.	19.0
50400505	PRECAST PRESTRESSED CONC. DECK BEAMS, 27" DEEP	SQ. FT.	1626
50900205	STEEL RAILING, TYPE S-1	FOOT	120
*50800105	REINFORCEMENT BARS	POUND	2020
51201400	FURNISHING STEEL PILES, HP10X42	FOOT	390
51202305	DRIVING PILES	FOOT	390
51203400	TEST PILES, STEEL HP10X42	EACH	2
51204650	PILE SHOES	EACH	12
51500100	NAME PLATE	EACH	1
*XX004565	GROUTED RIPRAP	SQ. YD.	190
*XX004566	CONCRETE CUT-OFF WALL	CU. YD.	5.6
*25000200	SEEDING, CLASS 2	ACRE	0.2
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	28
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	28
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	28
25100115	MULCH, METHOD 2	ACRE	0.2
XX004567	PIPE CULVERTS, TYPE 1 ALUMINIZED CORRUGATED STEEL PIPE, 18"	FOOT	168
*Z0013798	CONSTRUCTION LAYOUT	L. SUM	1.0
*67100100	MOBILIZATION	L. SUM	1.0

* SEE SPECIAL PROVISIONS

NOTE: THE CONTRACTOR SHALL INSTALL STRAW BALES FOR DITCH CHECKS AS TEMPORARY EROSION CONTROL PER STANDARD 280001, AT THE DIRECTION OF THE ENGINEER. TEMPORARY EROSION CONTROL SHALL NOT BE PAID FOR SEPARATELY, AND THE COST IS INCLUDED WITH EARTH EXCAVATION.

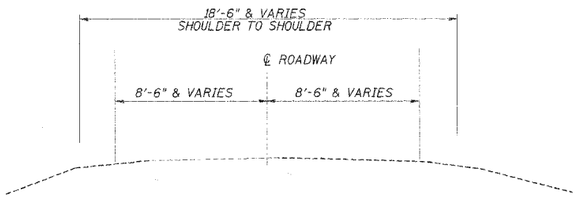


TYPICAL CROSS SECTION

STA. 8 + 50.00 TO STA. 9 + 69.90
STA. 10 + 31.11 TO STA. 11 + 50

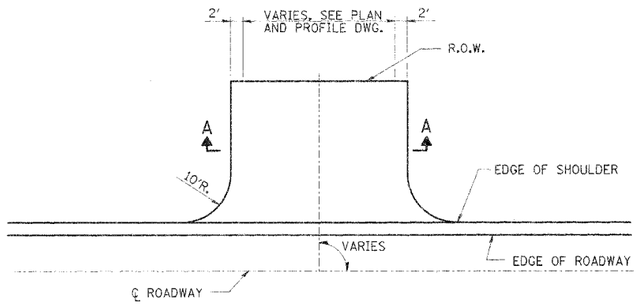
NOTES:
FUNCTIONAL CLASS - LOCAL ROAD (0-250 ADT)
CURRENT ADT = LESS THAN 150

SEE PLAN AND PROFILE SHEET 3 FOR PAVEMENT AND SHOULDER TAPERS.

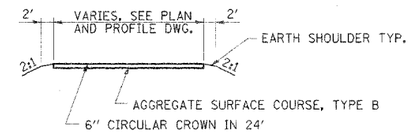


EXISTING TYPICAL CROSS SECTION

STA. 8 + 50.00 TO STA. 9 + 87.5
STA. 10 + 12.5 TO STA. 11 + 50



PLAN



SECTION A-A

FIELD ENTRANCE DETAIL

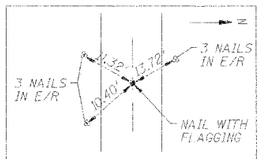
STA. 9+26 LT.
STA. 10+84 LT.
STA. 10+93 RT.

CONTRACT # 91371

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	3
REG. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*00-09115-00-BR

SCALE 1" = 20'



TIES TO P.O.L. STA. 15+00

BM #1 CHISELED "X" IN SW CORNER OF CURB OF EXISTING BRIDGE, ELEV. 100.00

BM #2 - RR SPIKE IN E/ROAD, STA. 10+66, 9' LT., ELEV. 98.93

SE 1/4, SEC. 33, T 18 N., R. 13 W., 3rd P.M.

WILLIAM FOUREZ
7052 N 680 EAST RD.
SIDELL, IL 61876

PROPOSED PIPE CULVERT, ALUMINIZED STEEL TYPE 1 CORRUGATED CULVERT PIPE, 18" ϕ, 26 FEET LONG.

PROPOSED PIPE CULVERT, ALUMINIZED STEEL TYPE 1 CORRUGATED CULVERT PIPE, 18" ϕ, 60 FEET LONG.

PROPOSED STRUCTURE, SN 092-3436 STA. 10+00, SKEW 15° LT. FWD. SINGLE SPAN PRECAST CONCRETE BRIDGE 61.59' B/B ABUT, 21'-0" O/O DECK

STEVEN FOUREZ
7326 N 600 EAST RD.
FAIRMOUNT, IL 61841

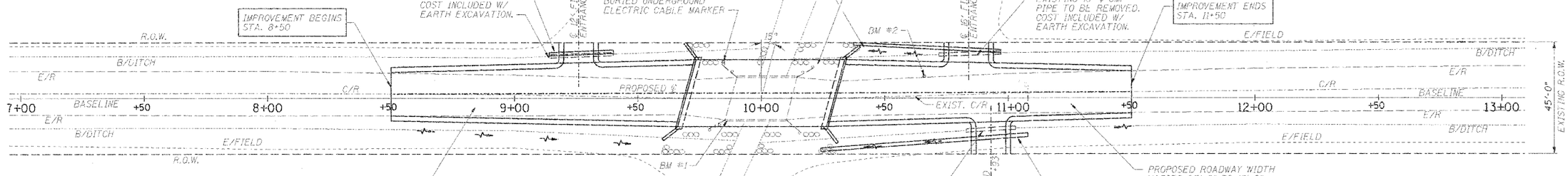
EXISTING 16" ϕ CMP PIPE TO BE REMOVED. COST INCLUDED W/ EARTH EXCAVATION.

BURIED UNDERGROUND ELECTRIC CABLE MARKER

IMPROVEMENT BEGINS STA. 8+50

IMPROVEMENT ENDS STA. 11+50

EXISTING 16" ϕ CMP PIPE TO BE REMOVED. COST INCLUDED W/ EARTH EXCAVATION.

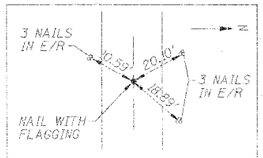


PROPOSED ROADWAY WIDTH VARIES 17' 6" TO 23' 0"

EXISTING 16" ϕ CONCRETE PIPE TO BE REMOVED. COST INCLUDED W/ EARTH EXCAVATION.

PROPOSED ROADWAY WIDTH VARIES 23'-0" TO 17'-0"

PROPOSED PIPE CULVERT, ALUMINIZED STEEL TYPE 1 CORRUGATED CULVERT PIPE, 18" ϕ, 82 FEET LONG.



TIES TO P.O.L. STA. 5+00

UTILITIES
CALL J.U.L.I.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.

TIMOTHY & MELONY PUZEY
7145 N 680 EAST RD.
SIDELL, IL 61876

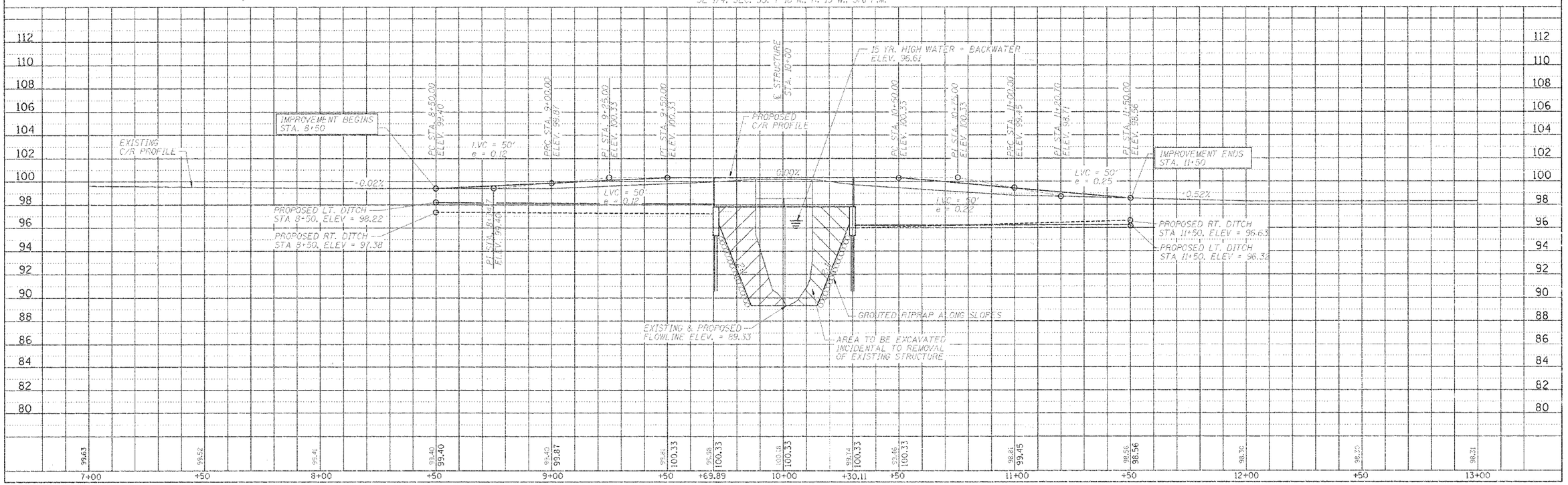
TIMOTHY & MELONY PUZEY
7145 N 680 EAST RD.
SIDELL, IL 61876

CHANNEL EXCAVATION
THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITH 2:1 SLOPES WITHIN THE EXISTING RIGHT OF WAY. SUITABLE EXCAVATED MATERIALS TO BE USED IN THE EMBANKMENTS

EXISTING STRUCTURE DESCRIPTION SN 092-3211

EXISTING STRUCTURE IS A CONCRETE SLAB ON STEEL BEAMS SUPPORTED BY TIMBER PILING AT EACH END AND A TIMBER PILE CENTER SUPPORT, 25' LONG & 18'-0" WIDE.

REMOVAL OF EXISTING STRUCTURE = 1 EACH



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

CONTRACT # 91371

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	4
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

*00-09115-00-BR

10 + 0.00

C/R ELEV. 100.33

2.12'

EXIST. R.O.W.

9 + 66.00

E/R ELEV. 100.09

E/SHOULDER ELEV. 99.96

2'

11.48'

3

1

97.36

EXIST. R.O.W.

C/R ELEV. 100.33

2.04'

11.38'

2'

3

1

FILL AREA = 17 (SF)
CUT AREA = 4 (SF)

98.19

EXIST. R.O.W.

9 + 26.00

E/R ELEV. 99.54

10.35'

1.94'

EXISTING 16" CMP
TO BE REMOVED

98.20

EXIST. R.O.W.

COARSE AGGREGATE, TYPE B, 6"

PROPOSED 18" Ø ALUMINIZED
CORRUGATED STEEL PIPE

9 + 0.00

E/R ELEV. 99.66

E/SHOULDER ELEV. 99.53

1.88'

9.93'

2'

9.72'

3

1

97.37

EXIST. R.O.W.

C/R ELEV. 99.87

FILL AREA = 14 (SF)
CUT AREA = 2 (SF)

98.21

EXIST. R.O.W.

E/R ELEV. 99.67

E/SHOULDER ELEV. 99.54

8 + 50.00

E/R ELEV. 98.96
(MATCH EXISTING)

E/SHOULDER ELEV. 98.72
(MATCH EXISTING)

1.75'

8.75'

2'

8.5'

1

3

97.38

EXIST. R.O.W.

E/R ELEV. 98.88
(MATCH EXISTING)

E/SHOULDER ELEV. 98.84
(MATCH EXISTING)

E/R ELEV. 99.40

FILL AREA = 0 (SF)
CUT AREA = 0 (SF)

98.22

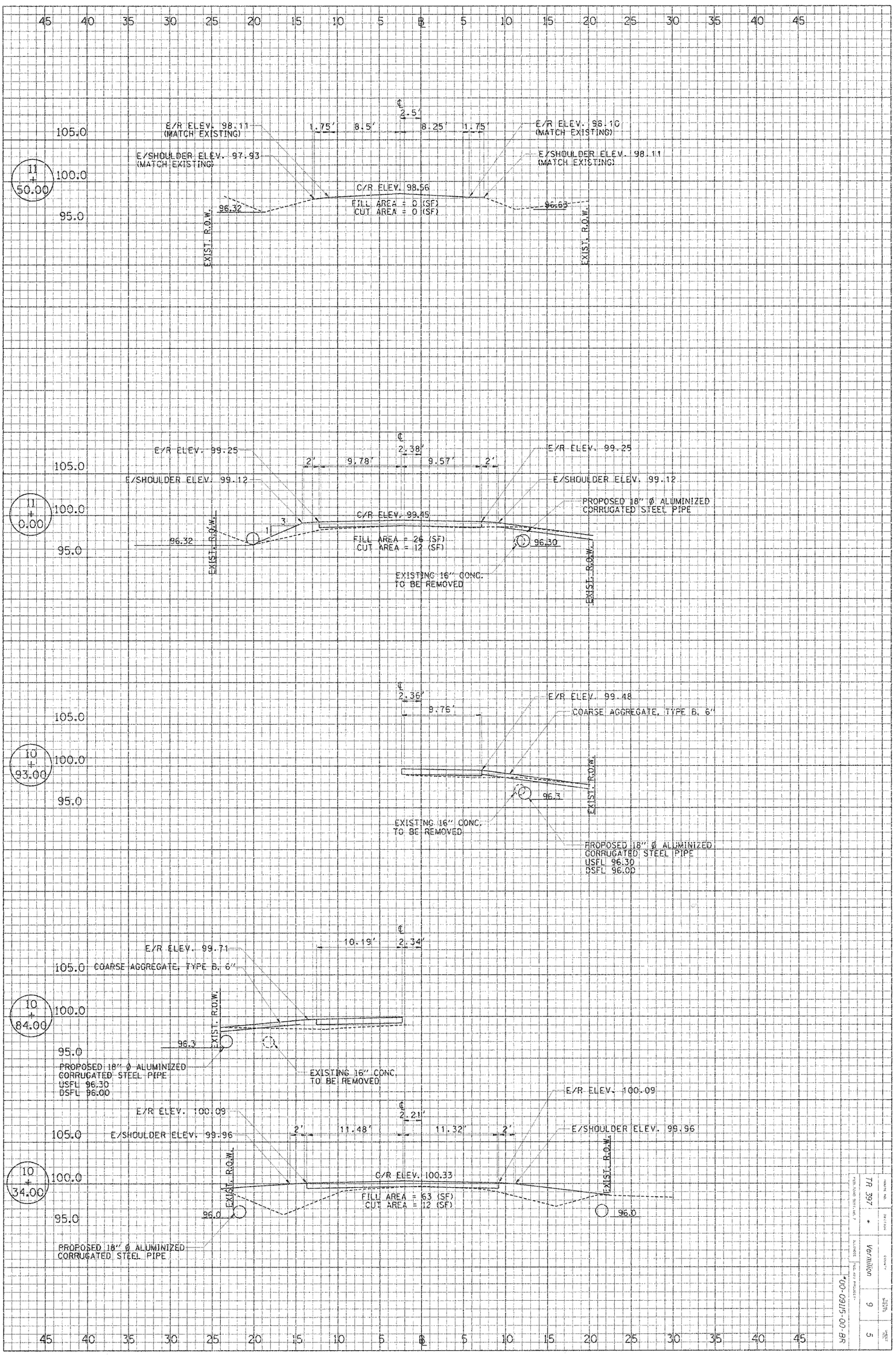
EXIST. R.O.W.

105.0

100.0

95.0

5 10 15 20 25 30 35 40 45



CONTRACT # 91371

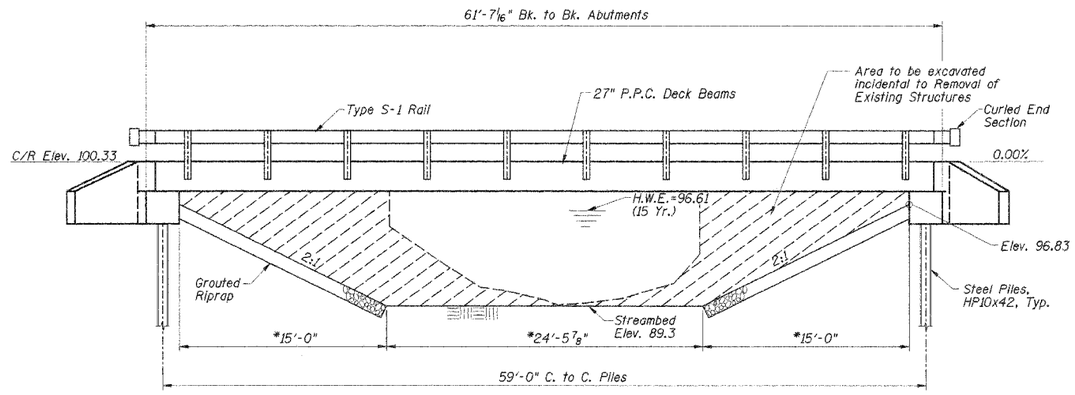
PROJECT NO.	TR 397		
DISTRICT	4		
COUNTY	Vermilion		
SECTION	9		
SHEET NO.	5		

*40-09115-00-BR

Existing Structure: Concrete Slab on Steel Beams supported by timber piling at each end and a timber pile center support. 25'-0" Long and 18'-0" Wide.

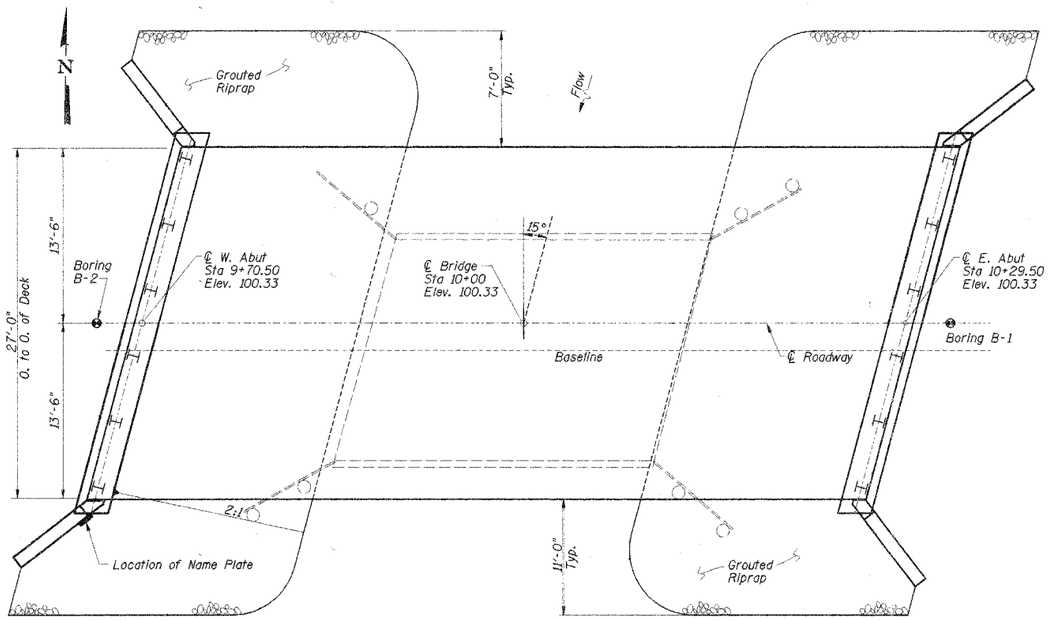
BM #1 - Chiseled "X" in SW corner of curb, Elev. 100.00

BM #2 - R.R. Spike in E/Road, Sta 10+66, 9' Left, Elev. 98.93



*Perpendicular to Skew

ELEVATION



GENERAL NOTES

1. The Contractor shall drive 1 steel test pile in a permanent location at each abutment as directed by the Engineer before ordering the remainder of piles. Test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.
2. Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.
3. Class SI or MS Concrete shall be used in the abutments.
4. Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
5. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

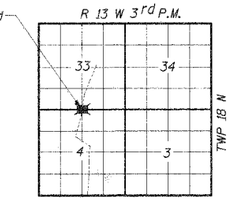
BORING DATA

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, S - Shear Failure, E - Estimated Value

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*00-09115-00-BR

Existing and Proposed Structure

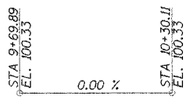


LOCATION SKETCH

STRUCTURE NO. 092-3486
SEC. 96-09115-00-BR BUILT 200
JAMAICA ROAD DISTRICT
VERMILION COUNTY
LOADING HS-20-44

NAME PLATE

See Standard 515001



PROFILE GRADE

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 ($\frac{1}{2}$" ϕ Strands)
f'_{si} = 201,960 psi ($\frac{1}{2}$" ϕ Strands)

Elev. 100.00	N	Qu	W	
0				
	4	--	28	Brown Gray Mottled Silty CLAY Loam
5	2	0.3B	27	
	5	--	--	Coarse Gray SAND
10	16	--	--	Medium Brown SAND
	18	2.9B	22	Gray Silty CLAY
15	7	0.8B	15	
	9	1.4B	14	Gray CLAY Loam Till
20	8	1.4B	12	
25	56	2.1S	11	Brown CLAY Loam Till
30	33	5.6B	11	
35	40	3.7S	10	Dark Gray CLAY Loam Till
40	52	5.0S	12	
45	70	--	--	End of Boring
50				

BORING B-1

STA 10+33, ℄

Elev. 99.80	N	Qu	W	
0				
	4	--	--	Dark Gray Silty CLAY Loam
5	3	0.4B	19	Mottled Brown Gray CLAY Loam
10	9	--	--	
	13	--	--	Medium Brown SAND
15	10	--	--	
	8	1.7B	12	
20	12	1.5B	12	Gray CLAY Loam Till
	10	1.8B	12	
25	29	3.7B	11	
30	51	3.5S	10	Brown CLAY Loam Till
35	34	4.4S	11	
40	43	4.3S	10	Gray CLAY Loam Till
45	29	4.0S	12	
50	38	5.6B	12	
55	34	5.0S	12	End of Boring

BORING B-2

STA 9+67, ℄

WATERWAY DATA

Drainage Area	3.63 Sq. Mi.
Existing Opening (15 Yr.)	128 Sq. Ft.
Required Opening (15 Yr.)	128 Sq. Ft.
Proposed Opening (15 Yr.)	198 Sq. Ft.
Design Discharge (15 Yr.)	250 C.F.S.
Computed Discharge (100 Yr.)	369 C.F.S.
15 Yr. Head	0.00 Ft.
100 Yr. Head	0.00 Ft.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (27" Deep)	Sq. Ft.	1626		1626
Steel Railing, Type S-1	Foot	120		120
Concrete Structures	Cu. Yds.		19.0	19.0
Furnishing Steel Pile, HP10x42	Foot		390	390
Driving Piles	Foot		390	390
Test Piles, Steel HP10x42	Each		2	2
Pile Shoes	Each		12	12
Concrete Cut-off Wall	Cu. Yds.		5.6	5.6
Grouted Riprap	Sq. Yds.		190	190
Name Plate	Each		1	1
Reinforcement Bars	Pound		2020	2020
Structure Excavation	Cu. Yds.		107	107

LICENSED STRUCTURAL ENGINEER — JOHN A. FRAUENHOFFER 81-4192 CHAMPAIGN — STATE OF ILLINOIS

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."

JOHN A. FRAUENHOFFER
Illinois Licensed Structural Engineer Number 4192
License Expires 11/30/08

NO.	DATE	REVISION	BY	APVD

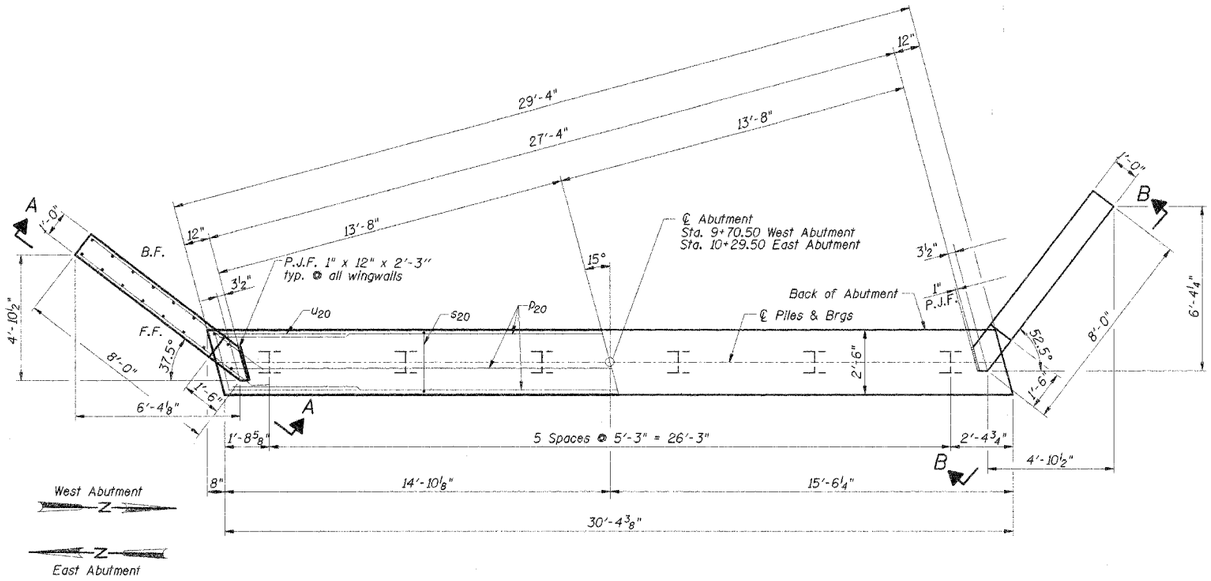
FRAUENHOFFER
Frauenhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, Il. 61822 217-351-6268

GENERAL PLAN AND ELEVATION
JAMAICA ROAD DISTRICT
SECTION 00-09115-00-BR
VERMILION COUNTY

SHEET 6
DWG NO. jam2-gpe.dgn
DATE OCT 2006
PROJ NO. 1077

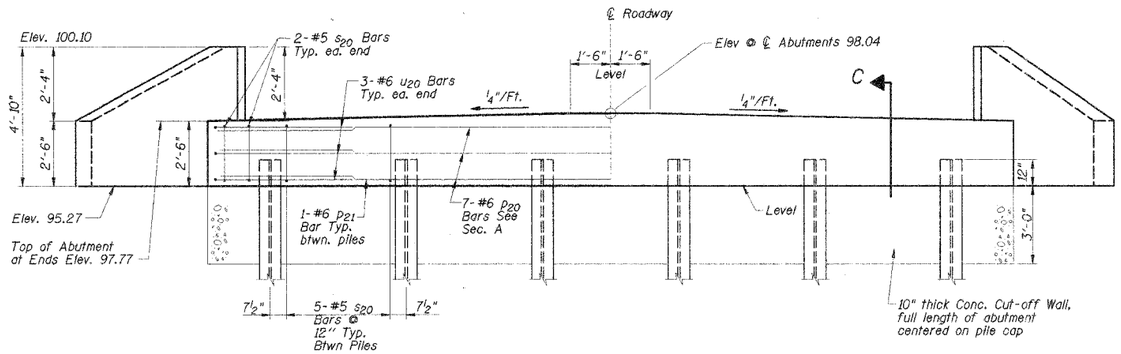
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	7
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

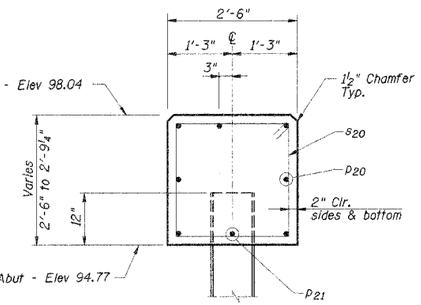
*00-09115-00-BR



NOTE: All edges shall have Standard ¾" Chamfer, except as noted.

TOP PLAN





PILE DATA

Type: Steel HP 10 x 42

Nominal Required Bearing: 174 kips

Allowable Resistance Available: 58 kips

Estimated Length: 39 ft.

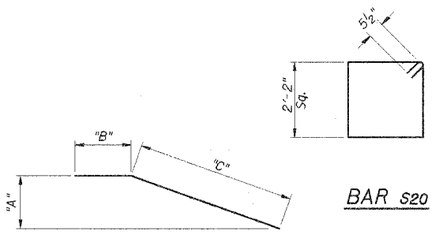
No. Required: 5 @ West Abutment
5 @ East Abutment

Test Piles: 1 @ West Abutment
1 @ East Abutment

SECTION C

(Perpendicular to ℄ of Abutment)

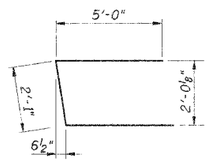
Note: The Steel H-piles shall be according to AASHTO M270 Grade 50.



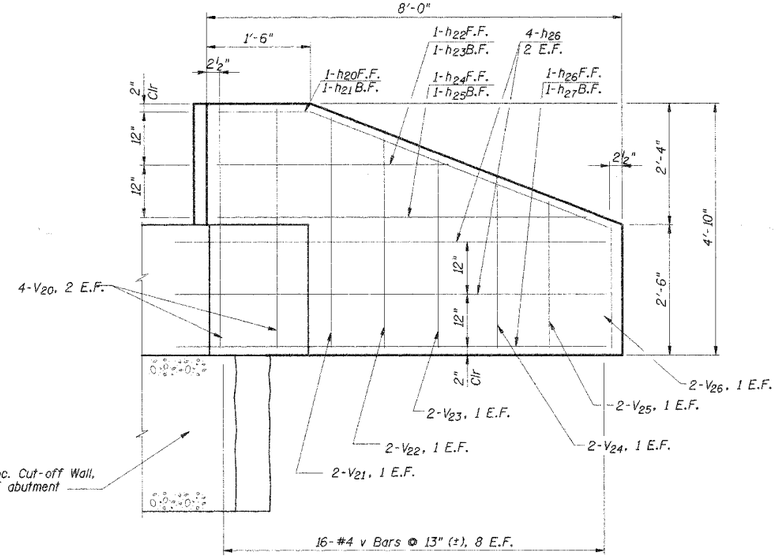
BAR	"A"	"B"	"C"
h20	2'-2"	1'-3"	6'-8"
h21	2'-2"	0'-9"	6'-8"
h26	6'-6"	1'-0"	8'-4"
h31	5'-0"	1'-0"	8'-4"

BAR h20, h21, h26, h31

BAR s20

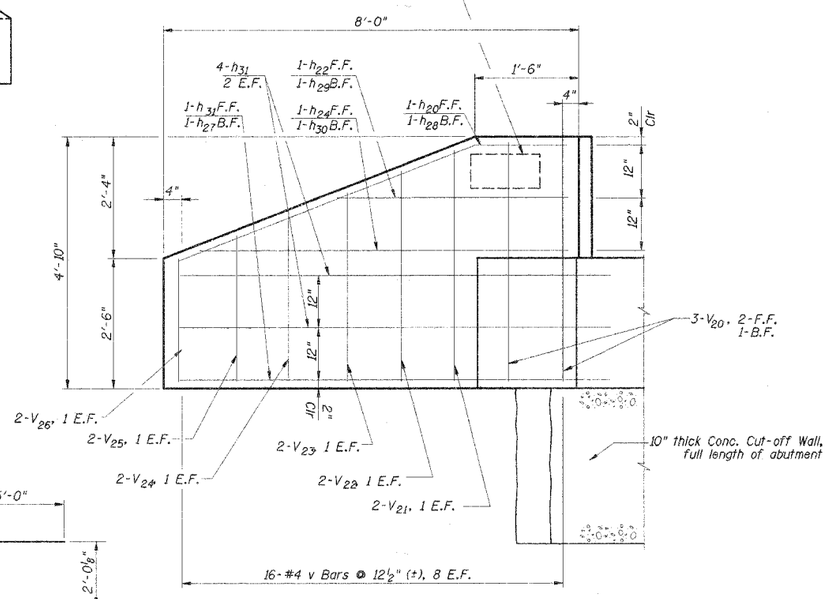


BAR u20



SECTION B-B

Name Plate shall be placed on the outside face of the Southeast Wingwall



SECTION A-A

BILL OF MATERIAL - 2 ABUTS.

Bar	No.	Size	Length	Shape
h20	4	#5	7'-11"	
h21	2	#5	7'-5"	
h22	4	#5	4'-3"	
h23	2	#5	3'-9"	
h24	4	#5	7'-0"	
h25	2	#5	6'-6"	
h26	10	#5	9'-4"	
h27	4	#5	8'-4"	
h28	2	#5	6'-8"	
h29	2	#5	3'-6"	
h30	2	#5	6'-3"	
h31	10	#5	9'-4"	
p20	14	#6	30'-0"	
p21	10	#6	4'-9"	
s20	58	#5	9'-7"	
u20	12	#6	12'-1"	
v20	14	#4	4'-6"	
v21	8	#4	4'-2"	
v22	8	#4	3'-9"	
v23	8	#4	3'-5"	
v24	8	#4	3'-0"	
v25	8	#4	2'-7"	
v26	8	#4	2'-3"	
Concrete Structures		Cu. Yds.	19.0	
Reinforcement Bars		Lbs.	2020	
Test Pile, Steel HP10x42		Each	2	
Furnishing Stl Pile, HP10x42		Foot	390	
Driving Piles		Foot	390	
Pile Shoes		Each	12	
Name Plate		Each	1	
Concrete Cut-off Wall		Cu. Yds.	5.6	
Structure Excavation		Cu. Yds.	107	

NO.	DATE	REVISION	BY	APVD

FRAUENHOFFER

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

ABUTMENTS

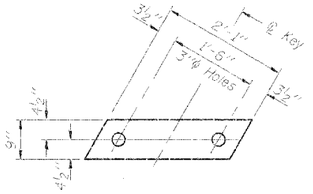
JAMAICA ROAD DISTRICT
SECTION 00-09115-00-BR
VERMILION COUNTY

SHEET 7
DWG NO. jam2-abt.dgn
DATE OCT 2006
PROJ NO. 1077

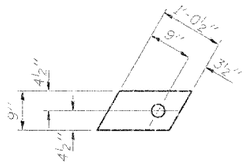
CONTRACT # 91371

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 397	*	Vermilion	9	8
FED. ROAD DIST. NO. 7		ALIGNER	FED. AID PROJECT	

*00-09115-00-BR



FABRIC BEARING PAD



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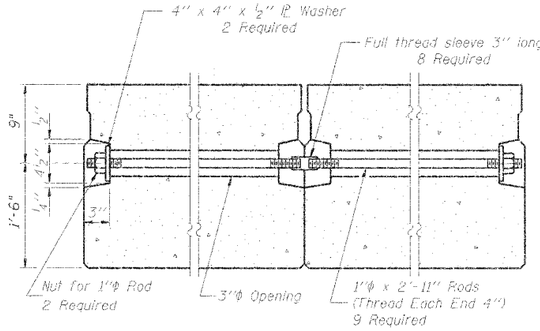
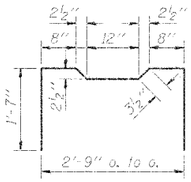
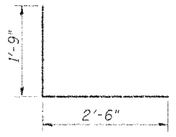


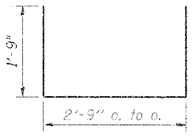
TYPICAL TRANSVERSE TIE ASSEMBLY



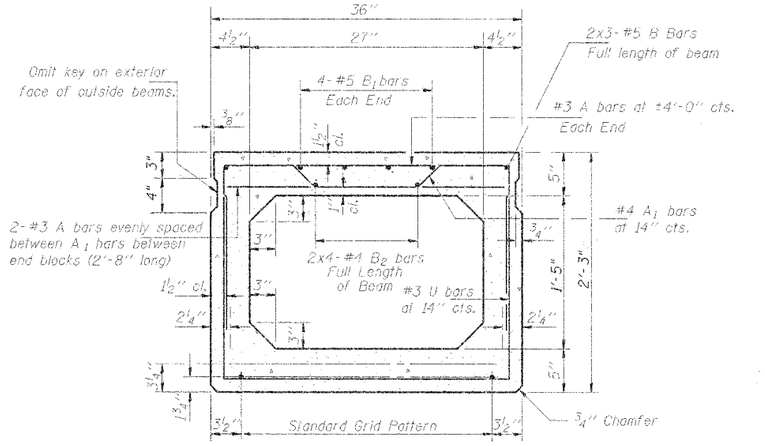
BAR A_1



BAR D



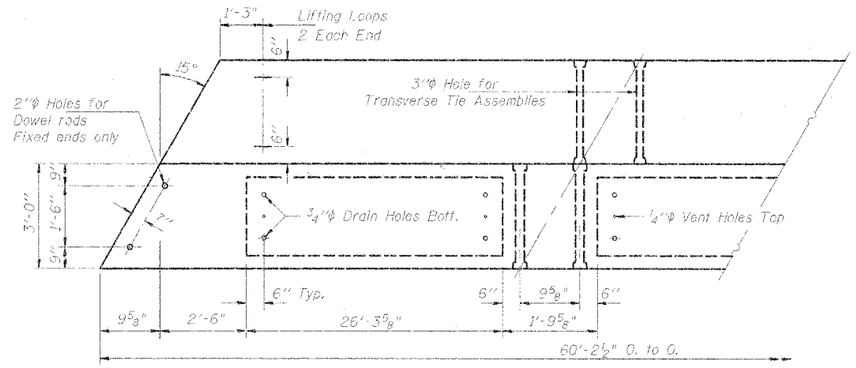
BARS U & U_1



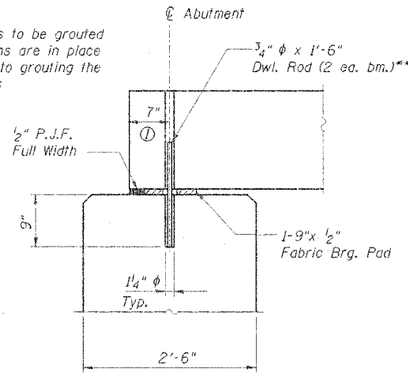
TYPICAL SECTION

13-½"ϕ Strands Each Strand Stressed to 28,900 Lbs.
9-Strands 1¾" up. 4-Strands 3¼" up.

Note: Place strands symmetrically about ℄ of beam.

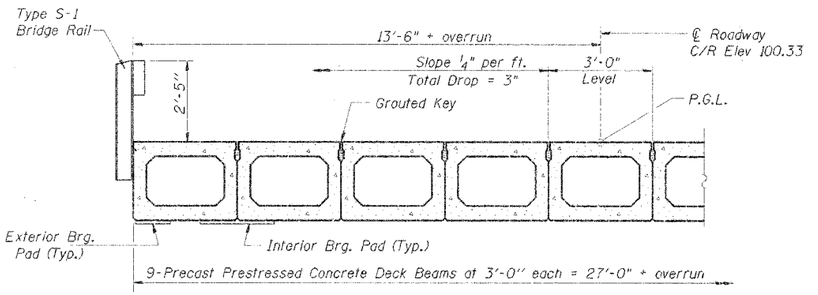


PLAN

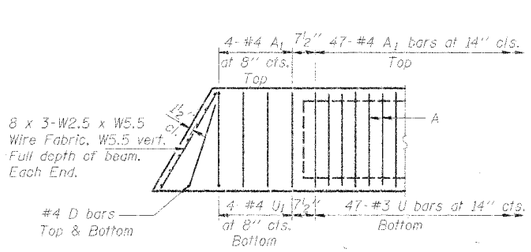


SECTION AT ABUTMENT

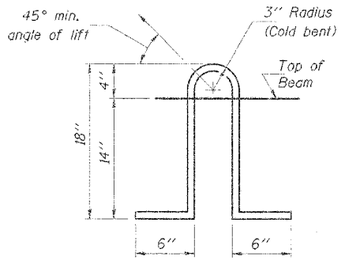
① Perpendicular to ℄ of abutment.



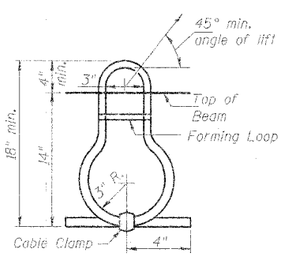
HALF CROSS SECTION



END PLAN



LIFTING LOOP DETAIL



LIFTING LOOP ALTERNATE

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be ¾" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 3-½"ϕ-270 ksi strands, as shown.

The 1"ϕ 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 ⅛" 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 Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'ci, shall be 4000 p.s.i.

BILL OF MATERIAL (One Beam)

Bar	No.	Size	Length	Shape
A	96	#3	2'-8"	—
A_1	55	#4	6'-1"	⌒
B	6	#5	21'-8"	—
B_1	8	#5	12'-1"	—
B_2	8	#4	16'-8"	—
D	4	#4	4'-3"	L
U	47	#3	6'-3"	⊔
U_1	8	#4	6'-3"	⊔
Precast Prestressed Conc. Deck Bms.			Sq. Ft.	1626*

*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

FRAUENHOFFER

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

SUPERSTRUCTURE

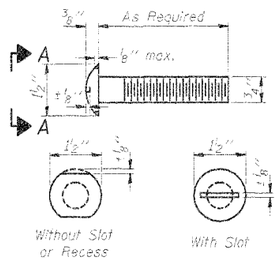
JAMAICA ROAD DISTRICT
SECTION 00-09115-00-BR
VERMILION COUNTY

SHEET 8
DWG NO. jam12-sup.dgn
DATE APR 2003
PROJ NO. 1077

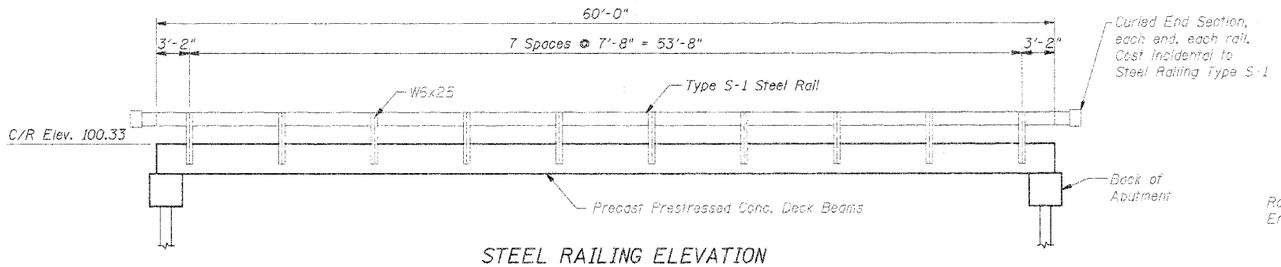
CONTRACT # 91371

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
TR 397	*	Vermilion	9	9
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

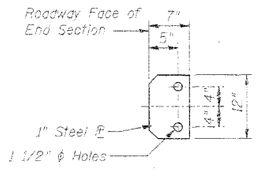
*00-09115-00-BR



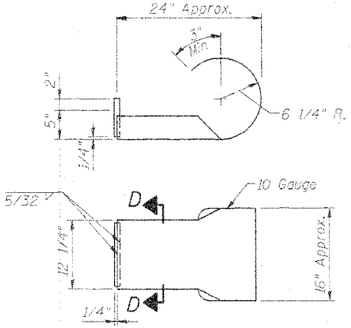
VIEW A-A
ROUND HEAD BOLT



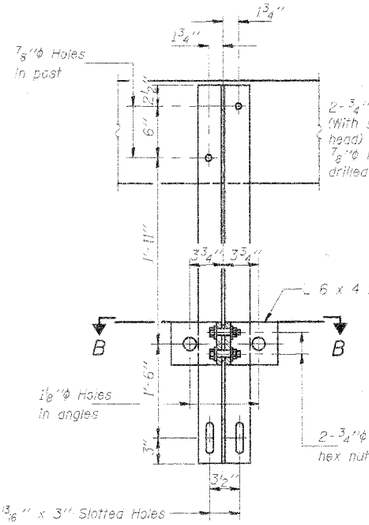
STEEL RAILING ELEVATION



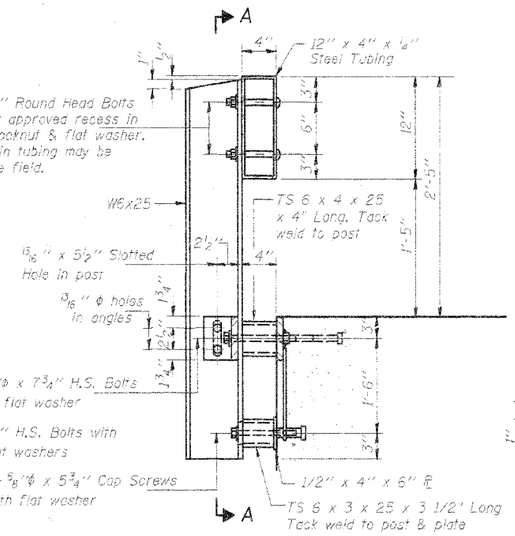
SECTION D-D



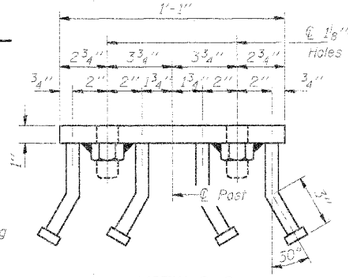
CURLED END SECTION DETAIL



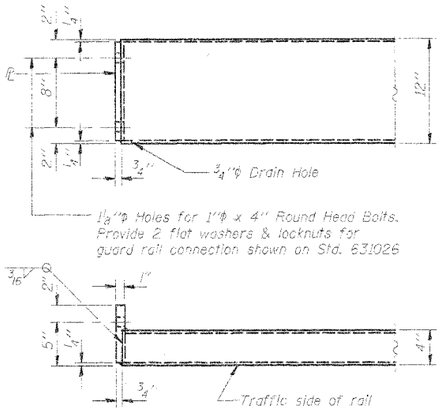
SECTION A-A



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.

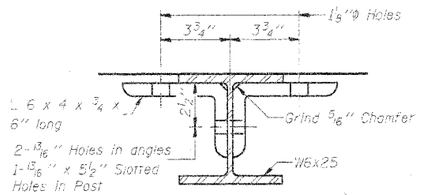
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

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.

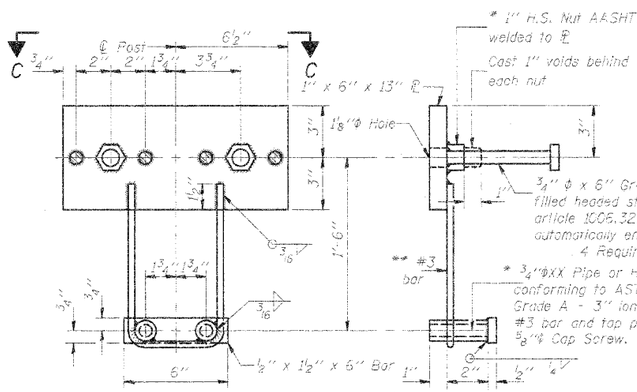
All field drilled holes shall be coated with an approved zinc rich paint before erection.

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" fabric bearing pad between the post and concrete.

The 3/4"ϕ 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"ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 5/8"ϕ cap screws in bottom of posts shall be tightened to a snug fit only.



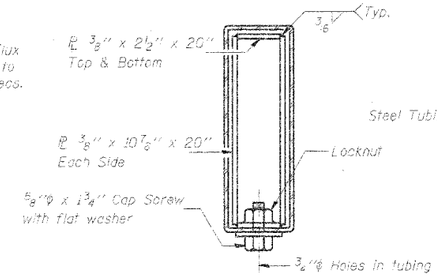
SECTION B-B



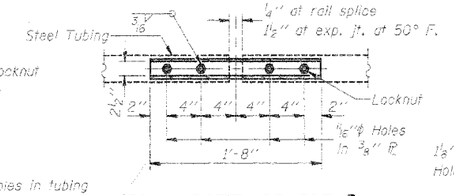
ANCHOR DEVICE

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

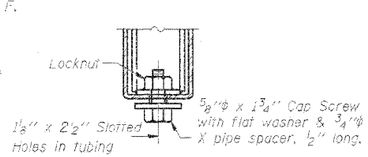
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE ℙ TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1	Foot	120

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

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

STEEL RAILING TYPE S-1
JAMAICA ROAD DISTRICT
SECTION 00-09115-00-BR
VERMILION COUNTY

SHEET 9
DWG NO. jam2-s1.dgn
DATE APR 2003
PROJ NO. 1077