

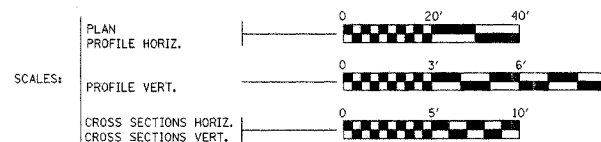
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
TR 38	*	Vermilion	18	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

*00-19134-00-BR

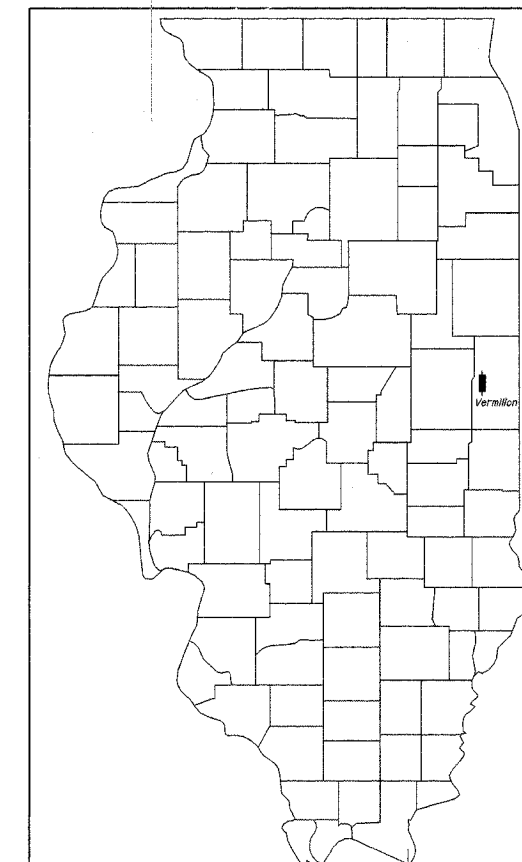
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
BRIDGE REPLACEMENT**

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES AND TYPICAL CROSS SECTIONS
3	SCHEDULE OF QUANTITIES
4	PLAN AND PROFILE
5	TIES, ALIGNMENTS, & BENCHMARKS
6 - 12	BRIDGE PLANS
13	TEMPORARY EROSION CONTROL
14 - 18	CROSS SECTIONS



VERMILION COUNTY
VANCE ROAD DISTRICT
SECTION 00-19134-00-BR
NEW STRUCTURE NO. 092-3481
TR 38
**BRIDGE REPLACEMENT AND REHABILITATION
& TOWNSHIP BRIDGE PROGRAM**
PROJECT NO. BROS-183(84)
JOB NO. C-95-302-04



LOCATION OF SECTION INDICATED THUS: [Symbol]

ILLINOIS DEPT. OF TRANSPORTATION STANDARD DRAWINGS

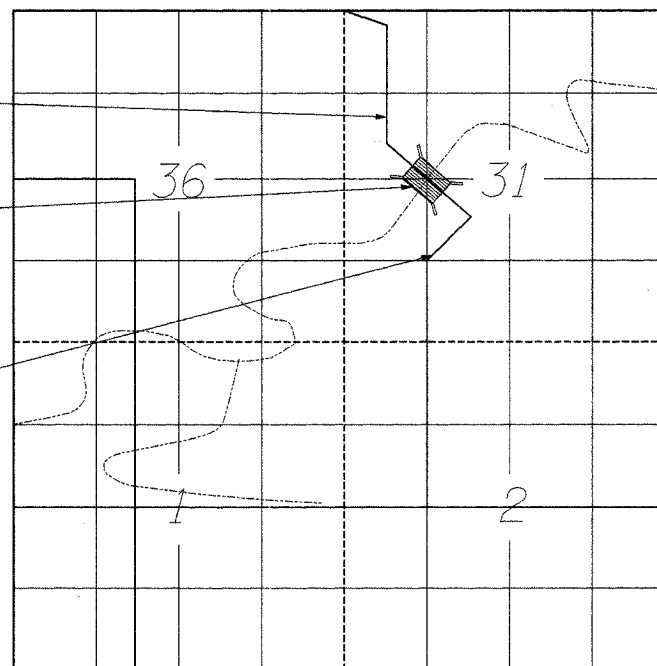
STANDARD NO.	DESCRIPTION
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
515001-02	NAME PLATE
701006-02	TRAFFIC CONTROL
702001-05	TRAFFIC CONTROL DEVICES
BLR 21-6	TRAFFIC CONTROL APPLICATION

R 13 W, 2nd P.M.

IMPROVEMENT ENDS
127+00.00

PROPOSED STRUCTURE
NEW S.N. 092-3481, STA. 120+35.33
PRECAST PRESTRESSED CONC. BRIDGE
SINGLE SPAN 307.38' B/B ABUT.
SKEW 25°, 27'-0" OUT TO OUT OF DECK
SECTION 00-19134-00-BR

IMPROVEMENT BEGINS
113+00.00



LOCATION MAP

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

NET LENGTH OF SECTION = 1400 FEET = 0.265 MILES

CONTRACT #91306

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



Keith E. Brandau 3/1/05
KEITH E. BRANDAU
Illinois Licensed Professional Engineer Number 44096
License Expires 11/30/05

APPROVED *3-7-05 Charles C. Krueger*
ROAD DISTRICT COMMISSIONER

APPROVED *3/7/05 Robert B. Andrews*
COUNTY ENGINEER

PASSED *4/11-20-05 David H. ...*
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED *APR 11 2005*
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAUENHÖFFER

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

Contract 91306

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
TR 38	*	Vermillion	18	2
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
*00-19134-00-BR				

SUMMARY OF QUANTITIES

HRRP FUNDING
 STA 113+96 TO STA. 126+60
 80% FED, 20% LOCAL QUANTITIES

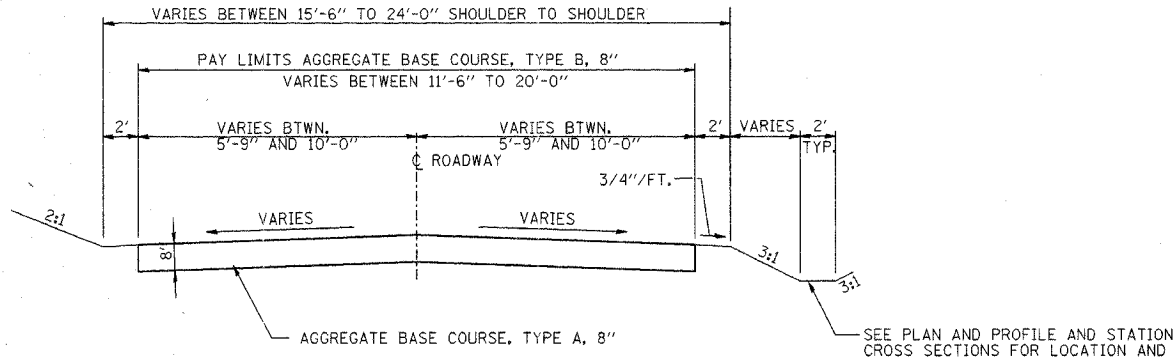
STA 113+00 TO STA. 113+96 & STA 126+60 TO STA. 127+00
 100% LOCAL QUANTITIES

TOTAL QUANTITIES

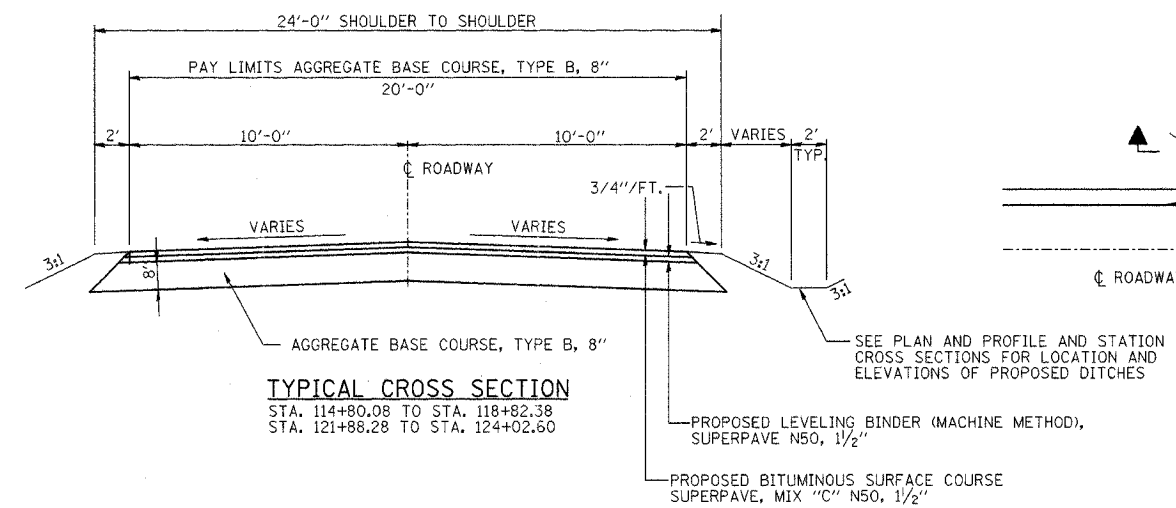
CODE NO.	ITEM	UNIT	80% FED, 20% LOCAL QUANTITIES	100% LOCAL QUANTITIES	TOTAL QUANTITIES
20100500	TREE REMOVAL, ACRES	ACRE	0.7	0	0.7
*20200100	EARTH EXCAVATION	CU. YD.	217	152	369
*20400800	FURNISHED EXCAVATION	CU. YD.	9892	0	9892
25000200	SEEDING, CLASS 2	ACRE	1.46	0.13	1.59
25100115	MULCH, METHOD 2	ACRE	1.46	0.13	1.59
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	775	75	850
28000300	TEMPORARY DITCH CHECKS	EACH	17	0	17
28000400	PERIMETER EROSION BARRIER	FOOT	1080	0	1080
35100700	AGGREGATE BASE COURSE, TYPE B, 8"	SQ. YD.	1370	0	1370
*40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	300	116	416
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	548	0	548
40600300	AGGREGATE (PRIME COAT)	TON	3.5	0	3.5
*50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	0	1
50105220	PIPE CULVERT REMOVAL	FOOT	28	0	28
50200100	STRUCTURE EXCAVATION	CU. YD.	9	0	9
50200300	COFFERDAM EXCAVATION	CU. YD.	436	0	436
50200400	ROCK EXCAVATION FOR STRUCTURES	CU. YD.	37	0	37
50200500	COFFERDAMS	EACH	3	0	3
50300225	CONCRETE STRUCTURES	CU. YD.	268.0	0	268.0
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ. FT.	8252	0	8252
50800105	REINFORCEMENT BARS	POUND	21,140	0	21,140
*50900205	STEEL RAILING, TYPE S-1	FOOT	612	0	612
51201400	FURNISHING STEEL PILES, HP 10 X 42	FOOT	266	0	266
51202700	DRIVING STEEL PILES	FOOT	266	0	266
51203400	TEST PILE, STEEL HP 10 X 42	EACH	2	0	2
51204600	METAL SHOES	EACH	14	0	14
51500100	NAME PLATE	EACH	1	0	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	917	0	917
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	225	0	225
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4	0	4
LR 631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	4	0	4
*66503400	BARBED WIRE FENCE REMOVAL	FOOT	1164	136	1300
*X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE MIX "C", N50	TON	226	0	226
*X4066765	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N50	TON	116	0	116
*XX004565	GROUTED RIPRAP	SQ. YD.	456	0	456
*XX004566	CONCRETE CUT-OFF WALL	CU. YD.	6.0	0	6.0
*XX004567	PIPE CULVERTS, TYPE 1 ALUMINIZED CORRUGATED STEEL PIPE, 18" DIA.	FOOT	150	0	150
Z0013798	CONSTRUCTION LAYOUT	L. SUM	0.9	0.1	1

*SEE SPECIAL PROVISIONS

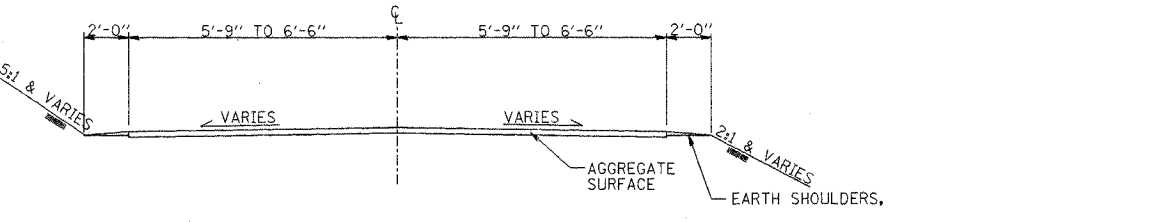
NOTES:
 SEE PLAN AND PROFILE SHEET 4 FOR PAVEMENT AND SHOULDER TAPERS.



TYPICAL CROSS SECTION
 STA. 113+00.00 TO STA. 114+80.08
 STA. 124+02.60 TO STA. 127+00.00



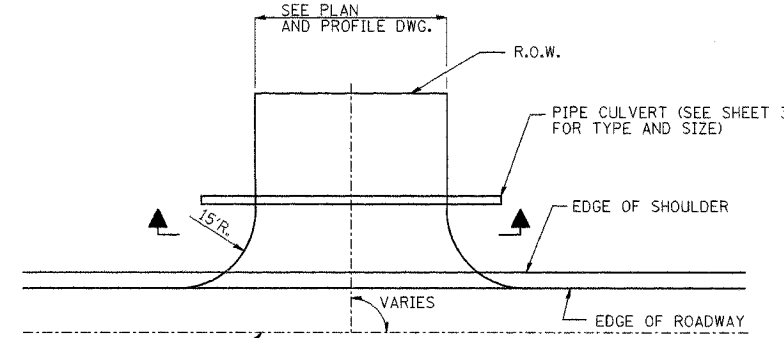
TYPICAL CROSS SECTION
 STA. 114+80.08 TO STA. 118+82.38
 STA. 121+88.28 TO STA. 124+02.60



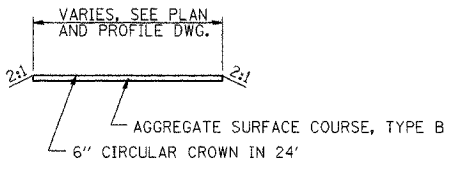
EXISTING TYPICAL CROSS SECTION
 STA 113+00 TO STA. 127+00

GENERAL NOTES

- The locations of Existing utilities as shown on the plan are for information only, and are not guaranteed. It shall be the Contractor's responsibility to ascertain their exact location from the utility companies and by field inspection.



PLAN
FIELD ENTRANCE DETAIL
 RT STA 116+50
 LT STA 124+26



SECTION

DSGN	J.R. Wolf				
DR	J.R. Wolf				
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

SUM. OF QUANTITIES AND TYP. SECTIONS		SHEET 2
VANCE ROAD DISTRICT SECTION 00-19134-00-BR VERMILION COUNTY		DWG. NO. var-sum.dgn DATE JUN 2004 PROJ. NO. 2088

91306

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET
TR 38	*	Vermilion	18	3
FED. ROAD DIST. NO. 7		FED. AID PROJECT		

*00-19134-00-BR

SEEDING, CLASS 2	
LOCATION	ACRE
STA 113+00 TO STA 118+82.38	0.57
STA 121+88.28 TO STA 127+00	1.02
TOTAL	1.59

TRAFFIC BARRIER TERMINAL, TYPE 5A	
LOCATION	EACH
LT STA 118+62.79 TO STA 118+76.04	1
RT STA 118+75.38 TO STA 118+88.63	1
LT STA 121+82.04 TO STA 121+95.29	1
RT STA 121+94.63 TO STA 122+07.88	1
TOTAL	4

PIPE CULVERTS, TYPE 1 ALUMINIZED CORRUGATED STEEL PIPE, 18" DIA	
LOCATION	FOOT
RT STA 116+30 TO STA 116+70	40
STA 117+45	70
LT STA 124+06 TO STA 124+46	40
TOTAL	150

MULCH, METHOD 2	
LOCATION	ACRE
STA 113+00 TO STA 118+82.38	0.57
STA 121+88.28 TO STA 127+00	1.02
TOTAL	1.59

BARBED WIRE FENCE REMOVAL	
LOCATION	FOOT
LT STA 113+00 TO STA 119+00	600
RT STA 113+00 TO STA 115+00	200
LT STA 122+00 TO RT STA 127+00	500
TOTAL	1300

AGGREGATE BASE COURSE, TYPE B, 8"		
LOCATION	WIDTH (FT)	SQ. YD.
STA 114+80.08 TO STA 118+82.38	20	894
STA 121+88.28 TO STA 124+02.60	20	476
TOTAL		1370

TREE REMOVAL	
LOCATION	ACRE
STA. 117+00 TO STA. 119+00	0.10
STA. 120+80 TO STA. 125+00	0.60
TOTAL	0.70

CONSTRUCTION LAYOUT	
LOCATION	L SUM
SEC. 00-19134-00-BR	1
TOTAL	1

AGGREGATE SURFACE COURSE, TYPE B	
LOCATION	TON
STA 113+00.00 TO STA 114+80.08	118.2
STA 124+02.60 TO STA 127+00.00	204.5
RT STA 116+50	68.3
LT STA 124+25	25.0
TOTAL	416.0

STEEL PLATE BEAM GUARDRAIL, TYPE A	
LOCATION	FOOT
LT STA 117+87.79 TO STA 118+62.79	75
RT STA 117+87.88 TO STA 118+75.38	87.5
LT STA 121+95.29 TO STA 122+32.79	37.5
RT STA 122+07.88 TO STA 122+32.88	25
TOTAL	225

TRAFFIC BARRIER TERMINAL, TYPE 1	
LOCATION	EACH
LT STA 117+62.79 TO STA 117+87.79	1
RT STA 117+62.88 TO STA 117+87.88	1
LT STA 122+32.79 TO STA 122+57.79	1
RT STA 122+32.88 TO STA 122+57.88	1
TOTAL	4

PIPE CULVERT REMOVAL	
LOCATION	FOOT
STA 117+45	28
TOTAL	28

BITUMINOUS RESURFACING SCHEDULE									
STATION TO STATION	LENGTH (FT)	BIT. CONC. SURF. CSE. SUPERPAVE MIX "C," N50 (TON)			BIT. CONC. BINDER CSE. SUPERPAVE MIX C, IL-19.0, N50 (TON)			BITUMINOUS MATERIALS PRIME COAT (GALLON)	AGGREGATE PRIME COAT (TON)
		WIDTH (FT)	AREA (SQ. FT)	QUANTITY (TON)	WIDTH (FT)	AREA (SQ. FT)	QUANTITY (TON)		
STA 114+80.08 TO STA 118+82.38	402.30	20.0	8,046	76	20.0	8,046	76	358	2.3
STA 118+82.38 TO STA 121+88.28	305.90	27.0	8,259	110					
STA 121+88.28 TO STA 124+02.60	214.32	20.0	4,286	40	20.0	4,286	40	190	1.2
TOTAL				226			116	548	3.5

MIXTURE REQUIREMENTS

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

LOCATIONS:	TR 38	TR 38
MIXTURE USE(S):	SURFACE	LEVELING BINDER
AC/PG:	PG 64-22	PG 64-22
RAP %:	15%	25%
DESIGN AIR VOIDS:	4.0% @ N _{des} =50	4.0% @ N _{des} =50
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5	IL 9.5
FRICTION AGGREGATE:	MIX C	MIX C

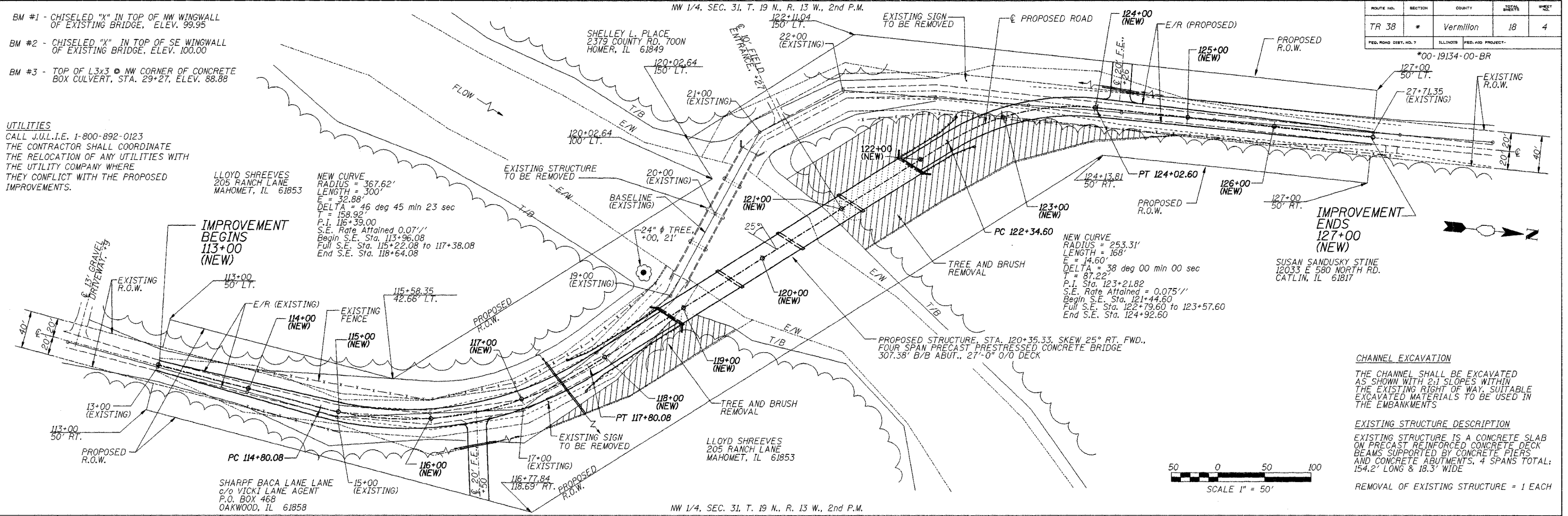
DSGN	K.E. Brandau				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

FRAUENHÖFFER

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

SCHEDULE OF QUANTITIES		SHEET 3
VANCE ROAD DISTRICT SECTION 00-19134-00-BR VERMILION COUNTY		DWG NO. schdl.dgn DATE AUG2004 PROJ NO. 2088

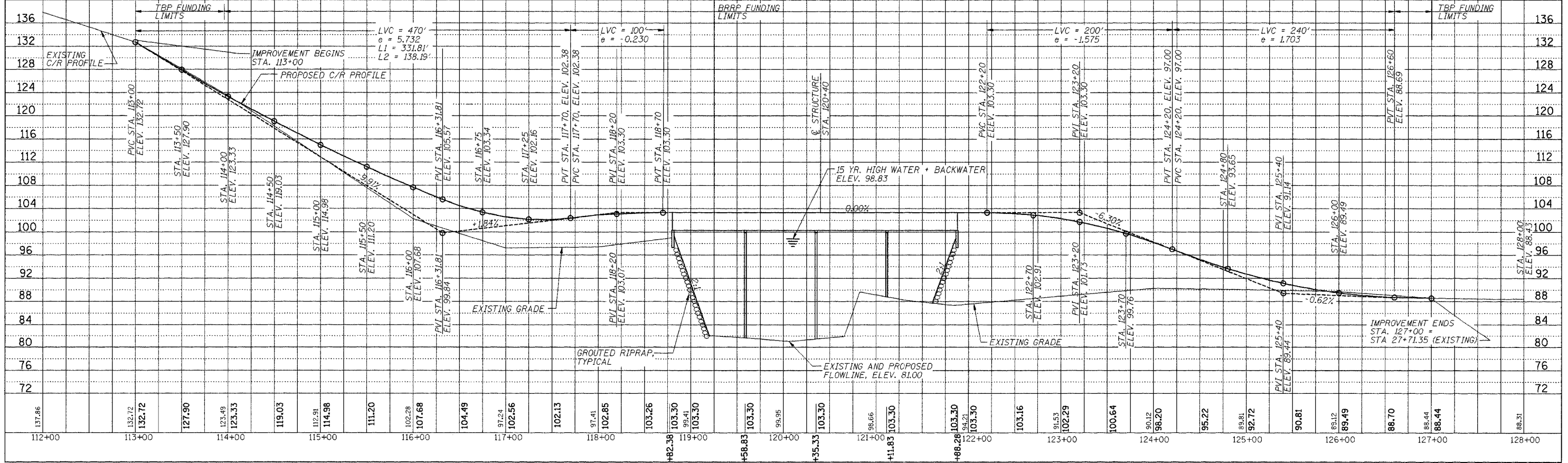
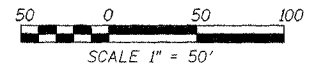
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
TR 38	*	Vermilion	18	4



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
 EXISTING STRUCTURE IS A CONCRETE SLAB ON PRECAST REINFORCED CONCRETE DECK BEAMS SUPPORTED BY CONCRETE PIERS AND CONCRETE ABUTMENTS, 4 SPANS TOTAL, 154.2' LONG & 18.3' WIDE

REMOVAL OF EXISTING STRUCTURE = 1 EACH

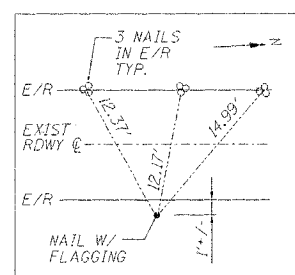
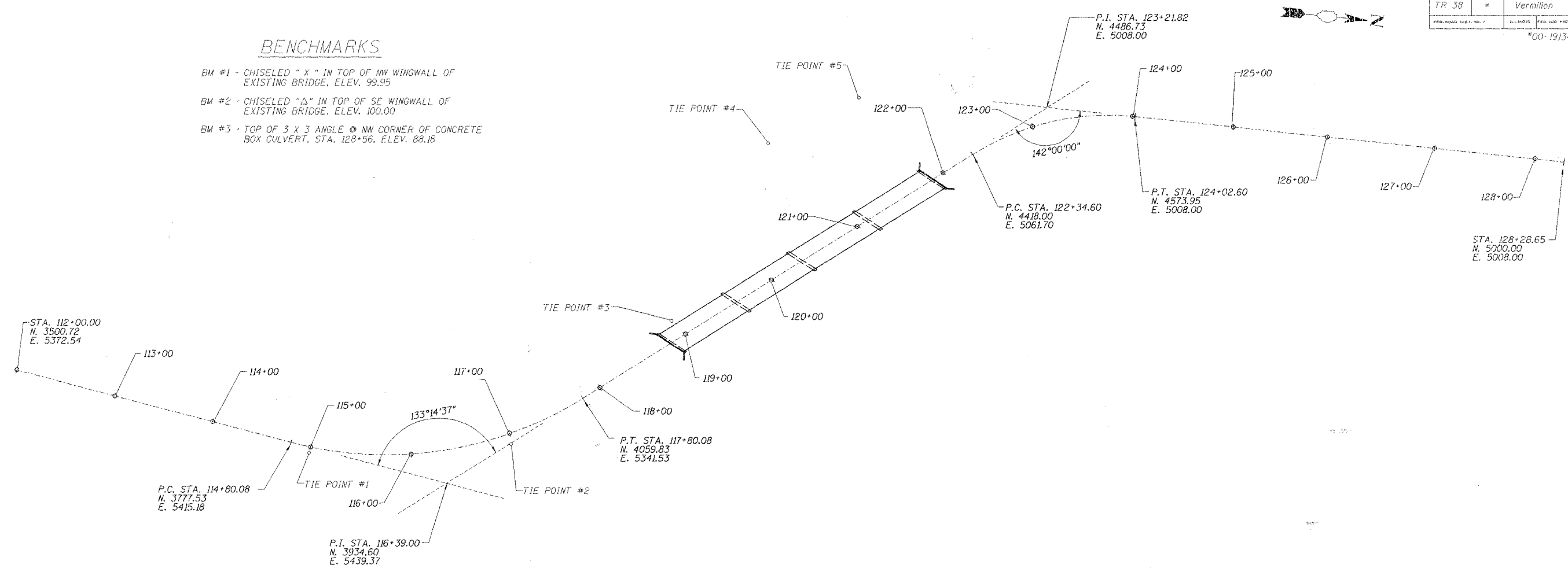


PLAN & PROFILE STA. 112+00 TO STA. 128+00

PROJECT NO.	SECTION	COUNTY	SHEET
TR 38	*	Vermilion	18
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO.
		*00-19134-00-BR	

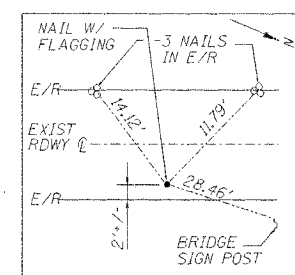
BENCHMARKS

- BM #1 - CHISELED "X" IN TOP OF NW WINGWALL OF EXISTING BRIDGE, ELEV. 99.95
- BM #2 - CHISELED "Δ" IN TOP OF SE WINGWALL OF EXISTING BRIDGE, ELEV. 100.00
- BM #3 - TOP OF 3 X 3 ANGLE @ NW CORNER OF CONCRETE BOX CULVERT, STA. 128+56, ELEV. 88.18



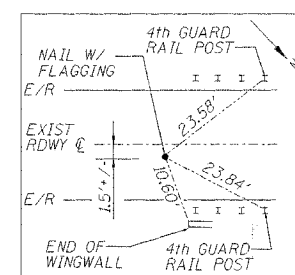
© STA. 114+99.64, 6.03' RT.
 @ STA. 15+00
 N. 3796.34
 E. 5423.64

TIE POINT #1



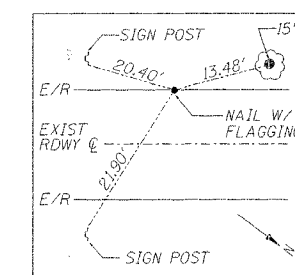
© STA. 116+97.58, 10.51' RT.
 @ STA. 17+00
 N. 3994.15
 E. 5394.14

TIE POINT #2



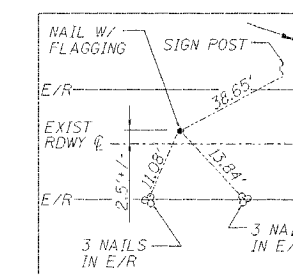
© STA. 118+95.02, 18.07' LT.
 @ STA. 19+00
 N. 4139.27
 E. 5256.53

TIE POINT #3



© STA. 120+69.12, 116.50' LT.
 @ STA. 21+00
 N. 4215.88
 E. 5071.78

TIE POINT #4



© STA. 121+68.66, 106.38' LT.
 @ STA. 22+00
 N. 4300.23
 E. 5018.08

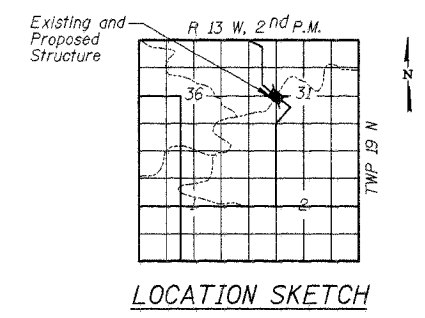
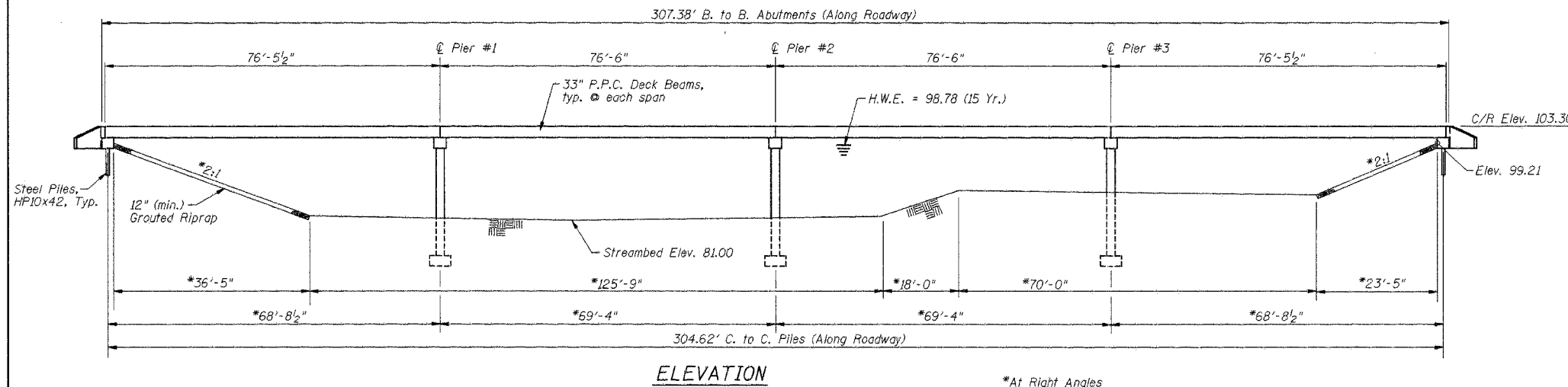
TIE POINT #5

Existing Structure: Four span structure w/ Reinforced Concrete Tee Beams on Concrete Piers, 152' Long and 18.3' Wide

BM #1 - Chiseled "X" in top of NW wingwall of existing bridge, Elev. 99.95
 BM #2 - Chiseled "X" in top of SE wingwall of existing bridge, Elev. 100.00
 BM #3 - Top of L3x3 @ NW corner of concrete box culvert, Sta. 29+27, Elev. 88.88

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 38	*	Vermilion	18	6
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

91306 *00-19134-00-BR



DESIGN SPECIFICATIONS

AASHTO (2002) and applicable Interims (2003-2004)

DESIGN LOADING

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

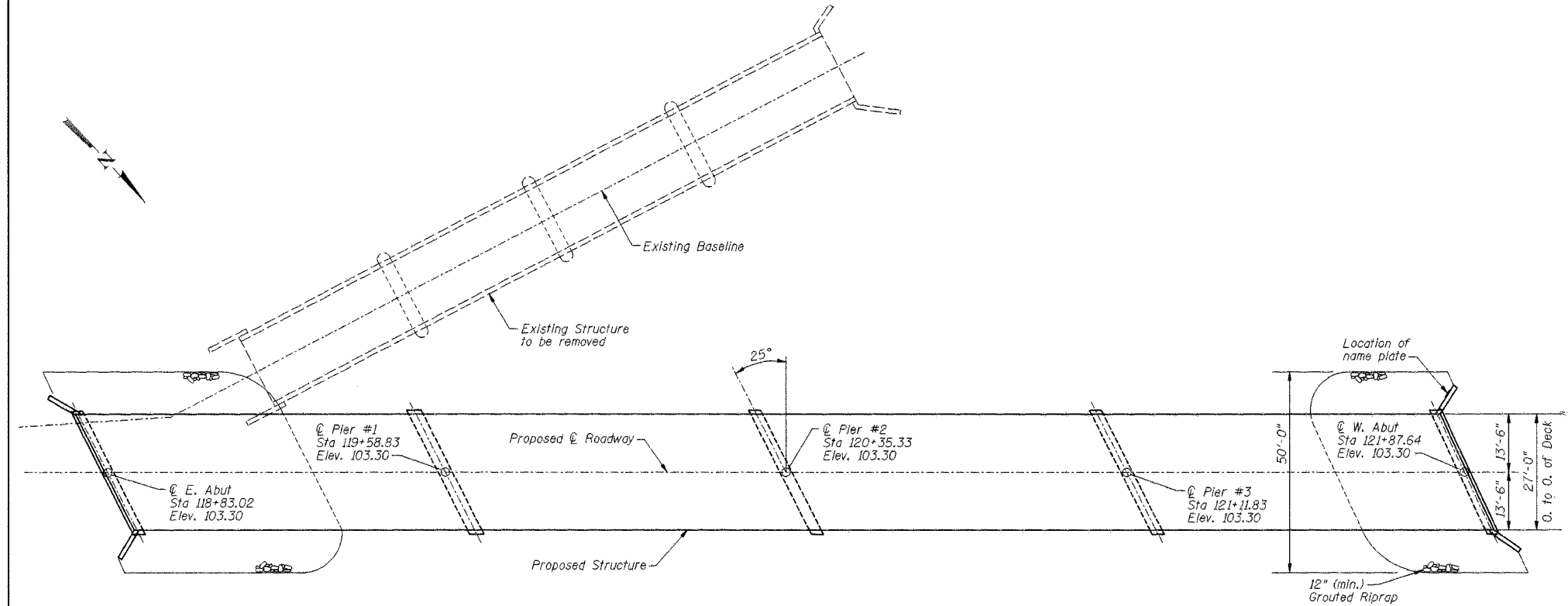
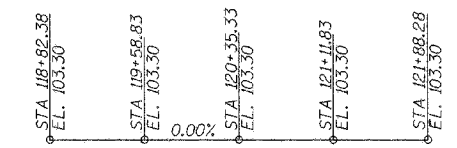
DESIGN STRESSES

$f'_c = 3,500$ psi (Cast in Place Concrete)
 $f'_c = 5,000$ psi (P.P.C. Units)
 $f'_{ci} = 4,100$ psi (P.P.C. Units)
 $f_y = 60,000$ psi (Reinforcement)
 $f'_s = 270,000$ psi (1/2" ϕ Strands)
 $f'_{sj} = 189,000$ psi (1/2" ϕ Strands)

STRUCTURE NO. 092-3481
 SEC. 00-19134-00-BR BUILT 200
 VANCE ROAD DISTRICT
 VERMILION COUNTY
 LOADING HS-20-44

NAME PLATE

See Standard 515001

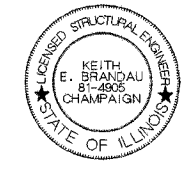


TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (33" Deep)	Sq. Ft.	8252		8252
Steel Railing, Type S-1	Foot	612		612
Furnishing Steel Piles, HP10x42	Foot		266	266
Driving Steel Piles	Foot		266	266
Test Piles, Steel HP10x42	Each		2	2
Metal Shoes	Each		14	14
Conc. Cut-off Wall	Cu. Yds.		6.0	6.0
Concrete Structures	Cu. Yds.		268.0	268.0
Name Plate	Each		1	1
Reinforcement Bars	Pound		21,140	21,140
Structure Excavation	Cu. Yds.		9	9
Cofferdam Excavation	Cu. Yds.		436	436
Rock Excavation for Structures	Cu. Yds.		37	37
Cofferdams	Each		3	3
Grouted Riprap	Sq. Yds.		456	456

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 3/1/05



KEITH E. BRANDAU
 Illinois Licensed Structural Engineer Number 4905
 License Expires 11/30/06

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

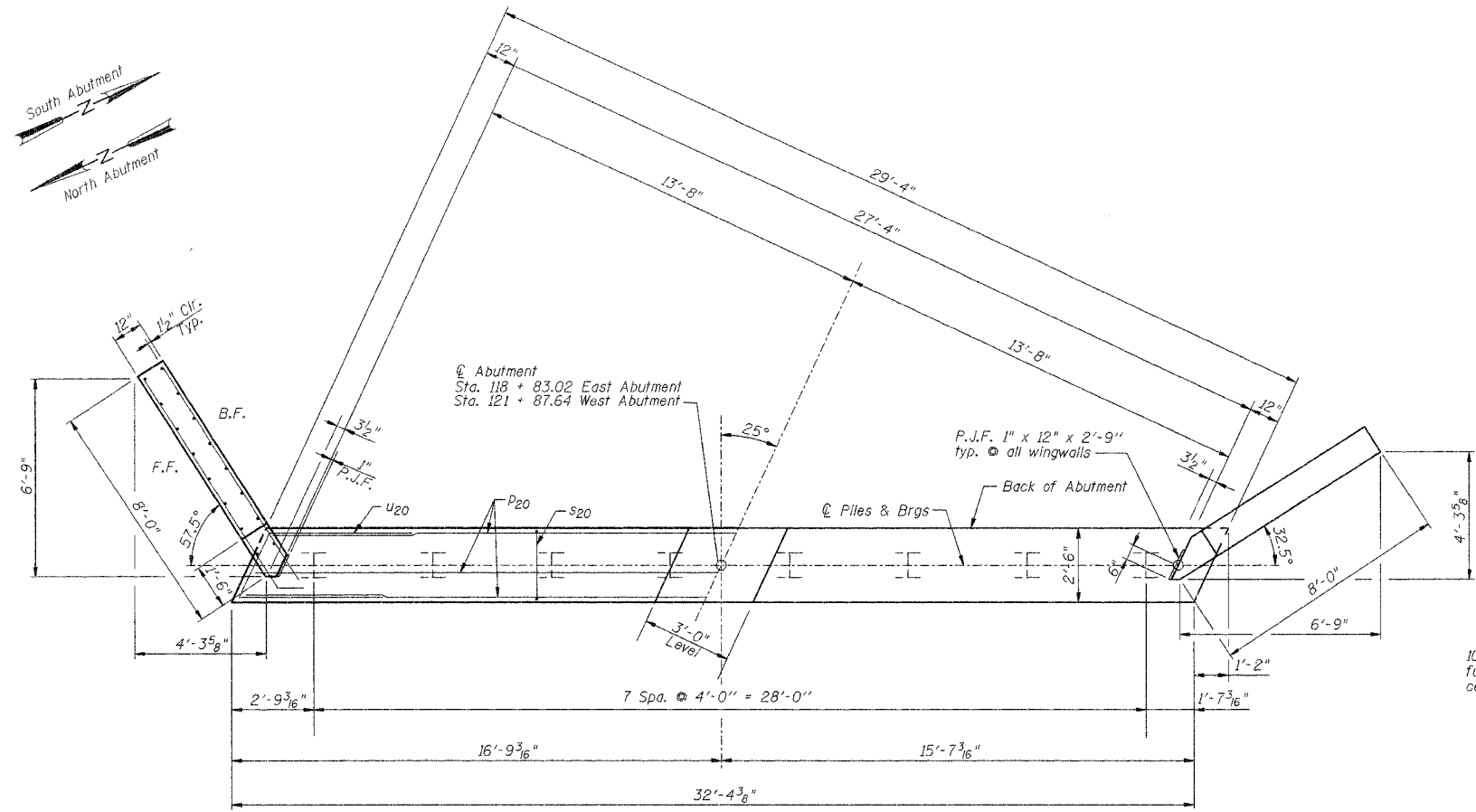
GENERAL PLAN AND ELEVATION
 VANCE ROAD DISTRICT
 SECTION 00-19134-00-BR
 VERMILION COUNTY

SHEET 6
 DWG van-gpe.dgn
 DATE AUG 2004
 PROJ NO. 2088

DSGN	J.R. Wolf				
DR	J.R. Wolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

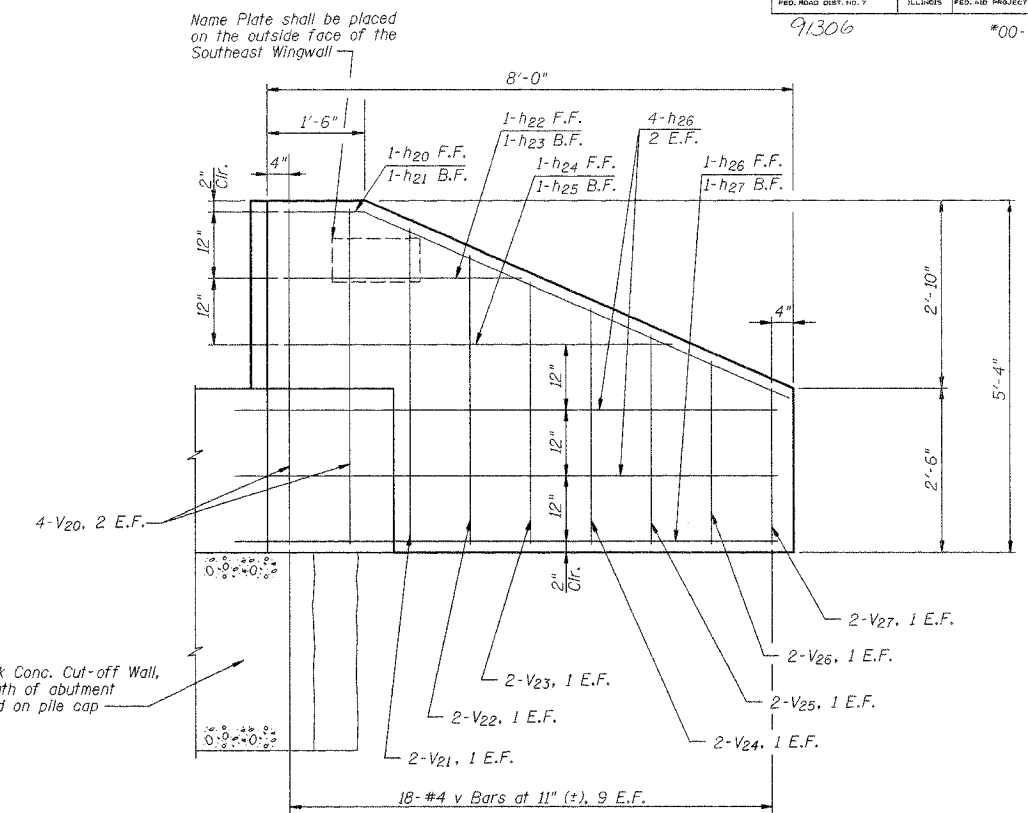
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 38	*	Vermilion	18	7
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

91306 *00-19134-00-BR



TOP PLAN

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



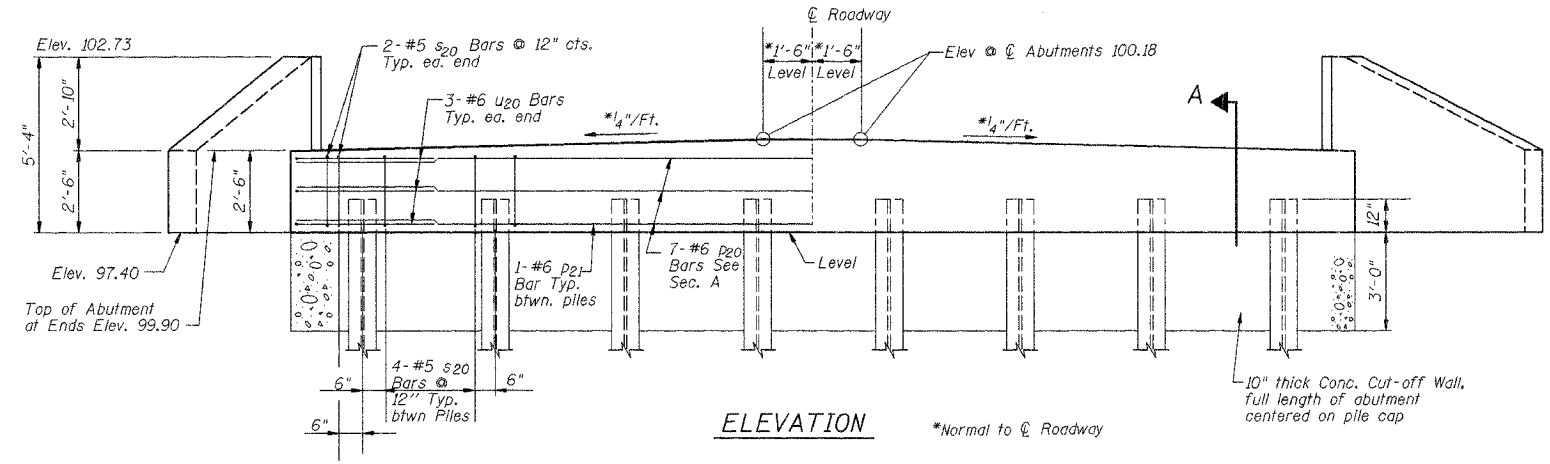
WINGWALL ELEVATION

Wingwalls shall be poured after beams are in place.

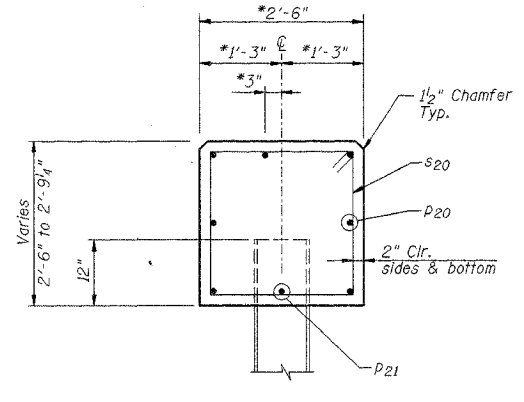
BILL OF MATERIAL-2 ABUTS.

Bar	No.	Size	Length	Shape
h20	4	#5	8'-3"	
h21	4	#5	7'-9"	
h22	4	#5	3'-7"	
h23	4	#5	3'-1"	
h24	4	#5	5'-11"	
h25	4	#5	5'-5"	
h26	20	#5	9'-6"	
h27	4	#5	8'-4"	
P20	14	#6	32'-0"	
P21	14	#6	3'-6"	
S20	64	#5	9'-7"	
U20	12	#6	12'-3"	
V20	16	#4	5'-0"	
V21	8	#4	4'-9"	
V22	8	#4	4'-4"	
V23	8	#4	3'-11"	
V24	8	#4	3'-6"	
V25	8	#4	3'-2"	
V26	8	#4	2'-9"	
V27	8	#4	2'-4"	

Concrete Structures	Cu. Yds.	20.3
Reinforcement Bars	Lbs.	2170
Test Pile, Steel HP10x42	Each	2
Furnishing Steel Piles, HP10x42	Foot	266
Driving Steel Piles	Foot	266
Metal Shoes	Each	14
Name Plate	Each	1
Concrete Cut-off Wall	Cu. Yds.	6.0
Structure Excavation	Cu. Yds.	9

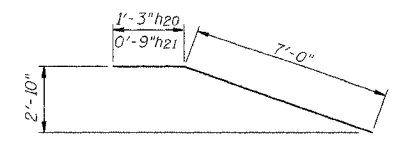


ELEVATION

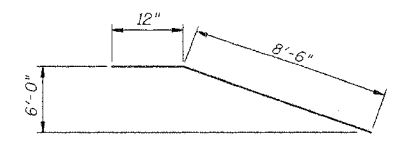


SECTION A

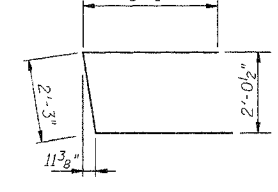
*Normal to @ Abutment



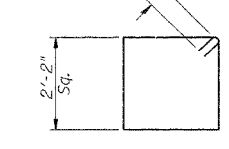
BAR h20, h21



BAR h26



BAR u20



BAR s20

PILE DATA

Type: Steel HP 10 x 42
 No. Required: 7 East Abutment, 7 West Abutment
 Capacity: 30 T/Pile @ East Abutment, 30 T/Pile @ West Abutment
 Est. Length: 19 Ft. E. Abutment, 19 Ft. W. Abutment
 Test Piles: 1 East Abutment, 1 West Abutment

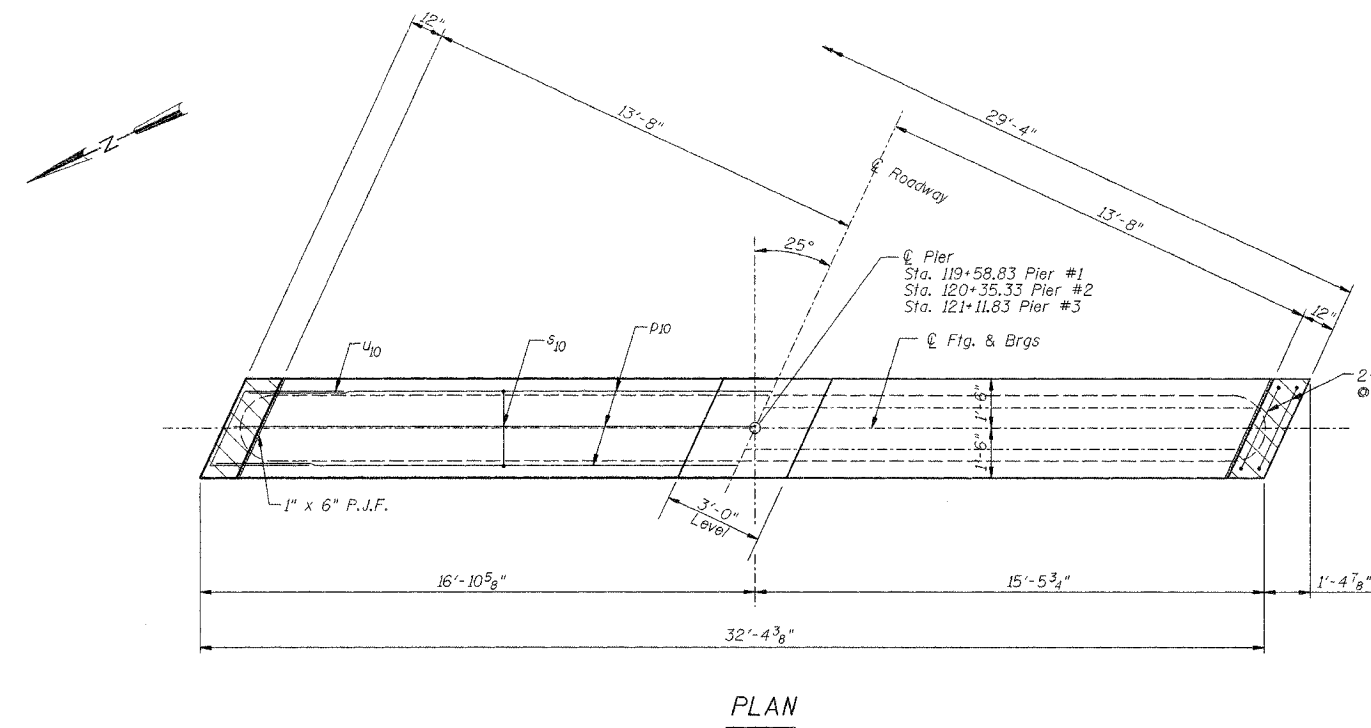
DSGN	J.R. Wolf				
DR	J.R. Wolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

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 3002 Crossing Court Champaign, IL 61822 217-351-6268

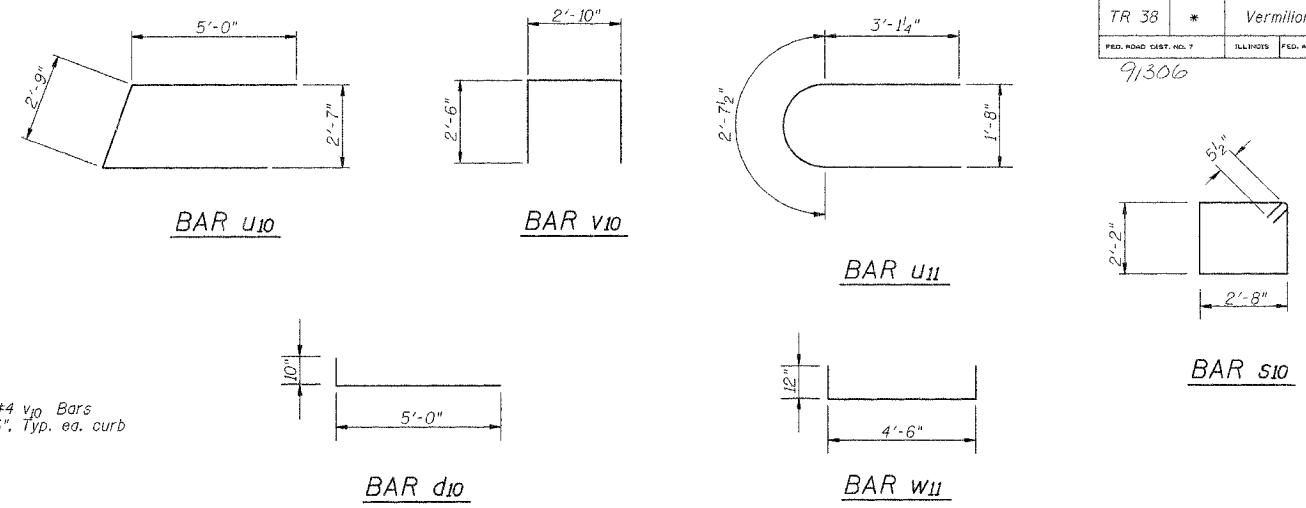
ABUTMENTS	SHEET 7
VANCE ROAD DISTRICT	DWG NO. van-abt.dgn
SECTION 00-19134-00-BR	DATE AUG 2004
VERMILION COUNTY	PROJ NO. 2088

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 38	*	Vermilion	18	8
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT-		

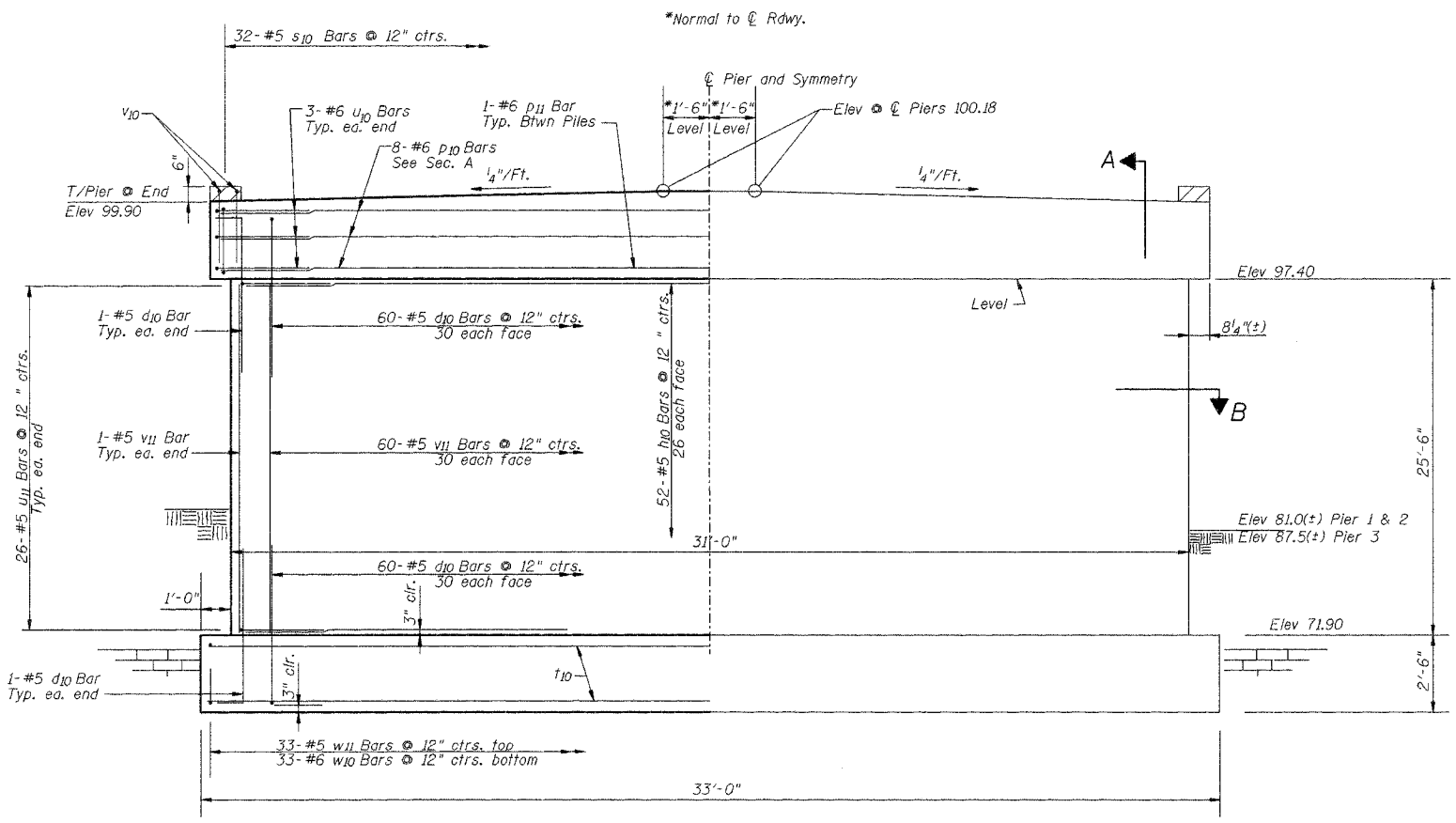
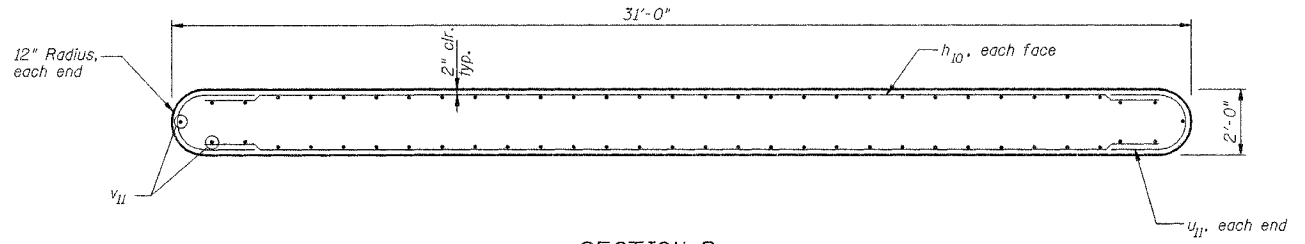
91306 00-19134-00-BR



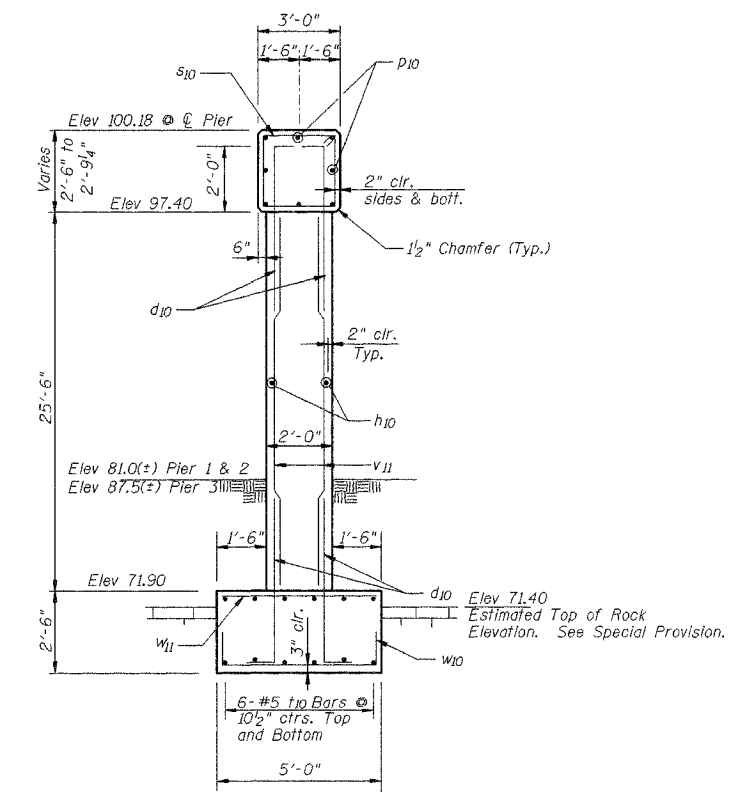
PLAN



SECTION B



ELEVATION



SECTION A

BILL OF MATERIAL-3 PIERS

Bar	No.	Size	Length	Shape	
d10	372	#5	5'-10"	┌───┐	
h10	156	#5	31'-0"	───	
p10	24	#6	32'-0"	───	
s10	96	#5	10'-7"	┌───┐	
u10	18	#6	12'-9"	┌───┐	
u11	156	#4	8'-10"	┌───┐	
t10	36	#5	32'-6"	───	
v10	12	#4	7'-10"	┌───┐	
v11	186	#5	25'-2"	───	
w10	99	#6	6'-6"	┌───┐	
w11	99	#5	4'-6"	───	
Concrete Structures				Cu. Yds.	247.7
Reinforcement Bars				Lbs.	18,970
Cofferdams				Each	3
Cofferdam Excavation				Cu. Yds.	436
Rock Excavation for Structures				Cu. Yds.	37

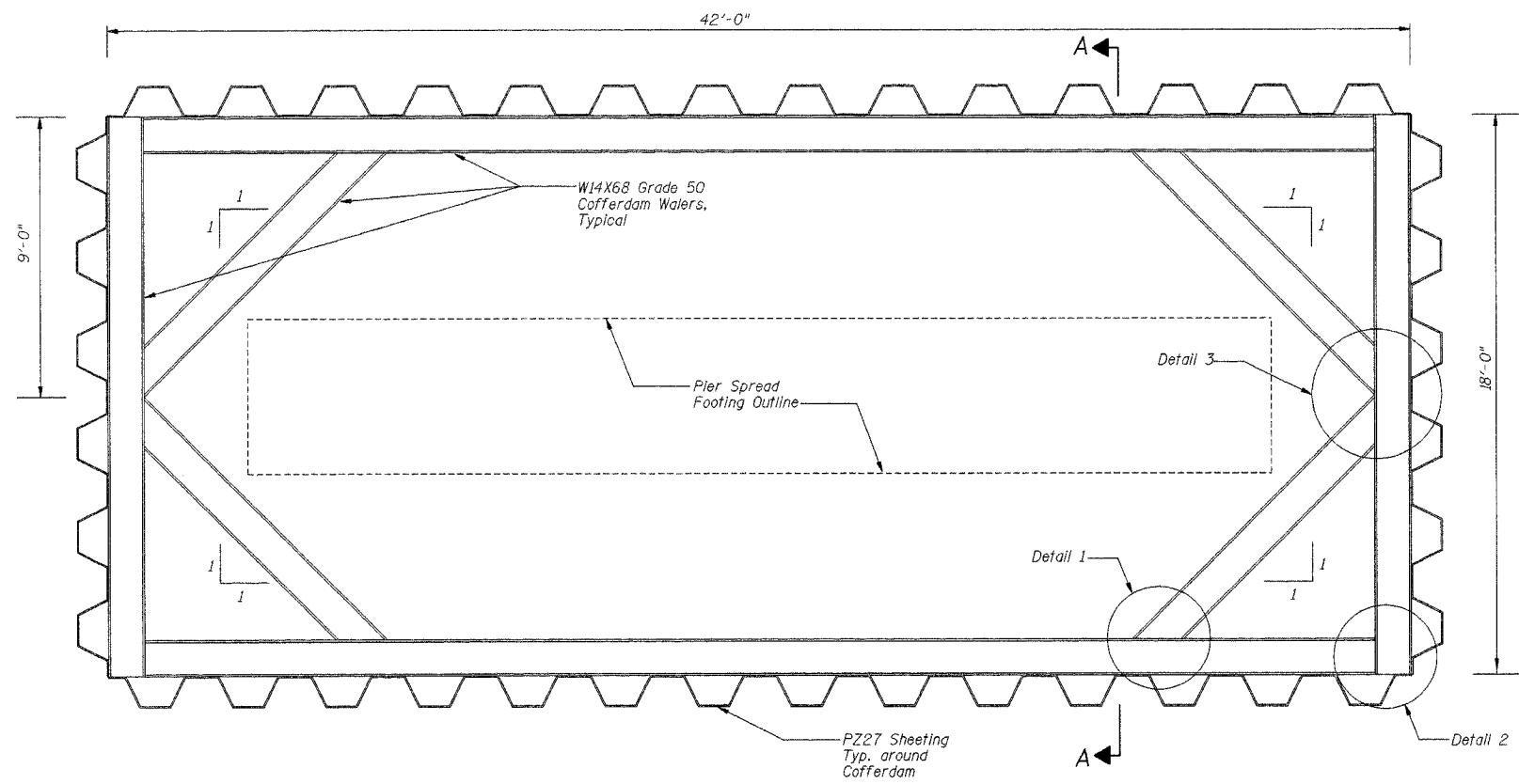
DSGN	J.R. Wolf				
DR	J.R. Wolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

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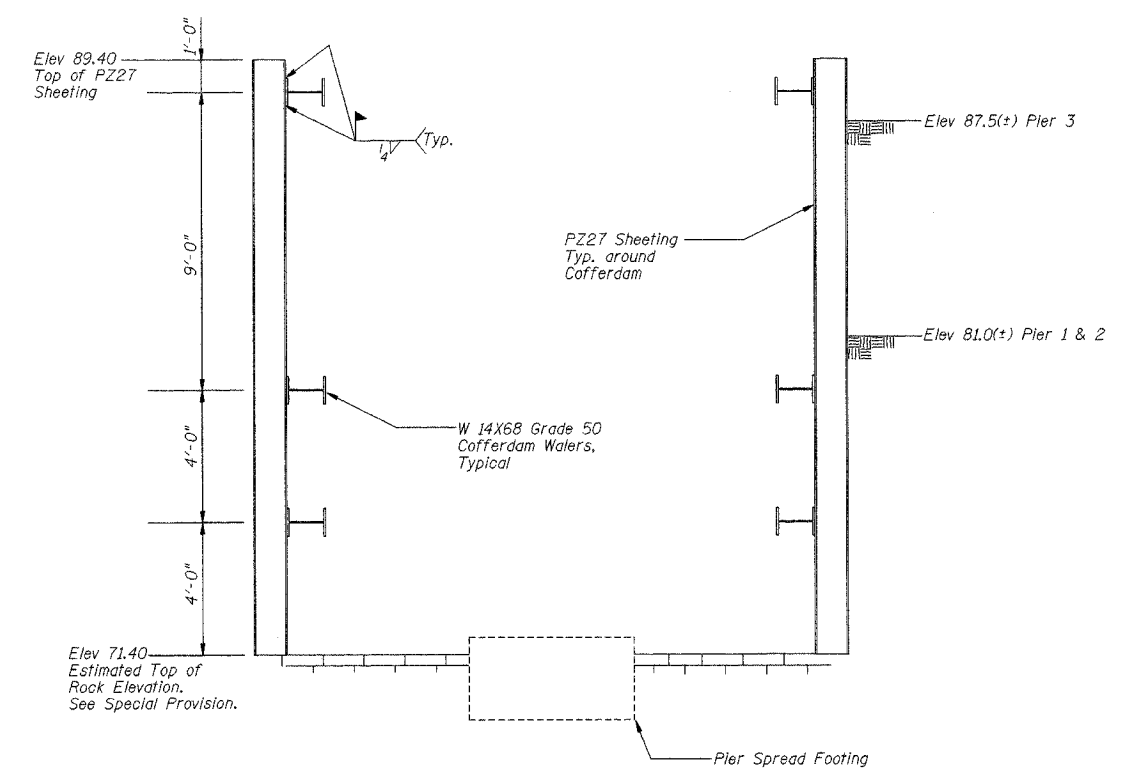
PIERS		SHEET	8
VANCE ROAD DISTRICT		DWG NO.	van-pr.dgn
SECTION 00-19134-00-BR		DATE	AUG 2004
VERMILION COUNTY		PROJ NO.	2088

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 38	*	Vermilion	18	9
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

91306 *00-19134-00-BR



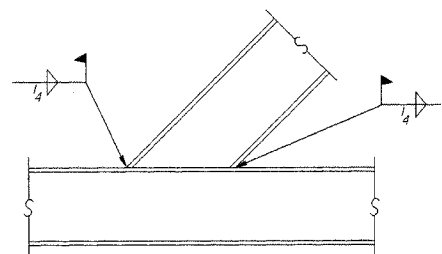
PLAN



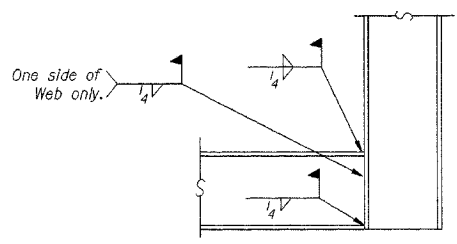
SECTION A

Notes:

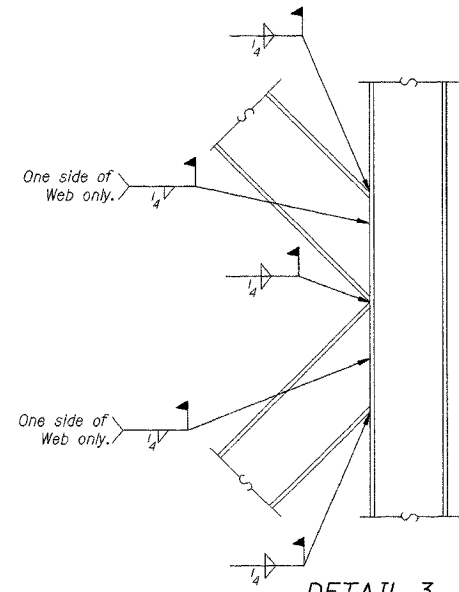
The cofferdams are designed for flood protection to Elevation 89.40. The 15 YR Flood Elevation is 98.78. The actual height of the cofferdam above the streambed elevation or above existing grade is at the Contractors option. Regardless of the height chosen by the Contractor, 3 rows of waters are required.



DETAIL 1



DETAIL 2



DETAIL 3

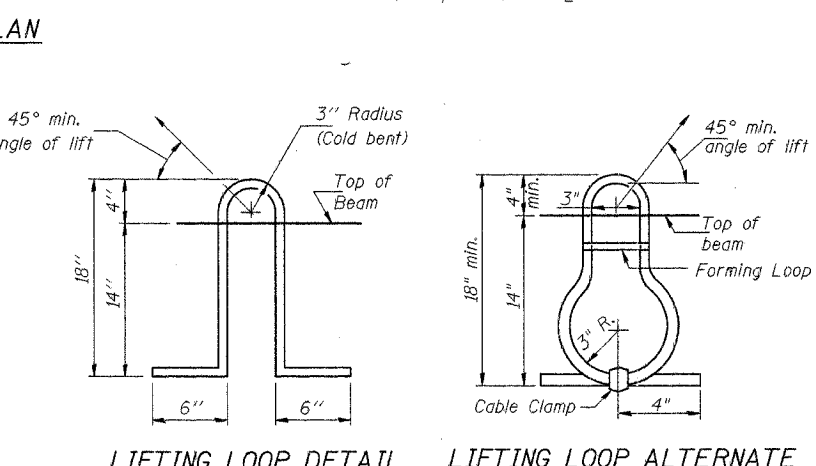
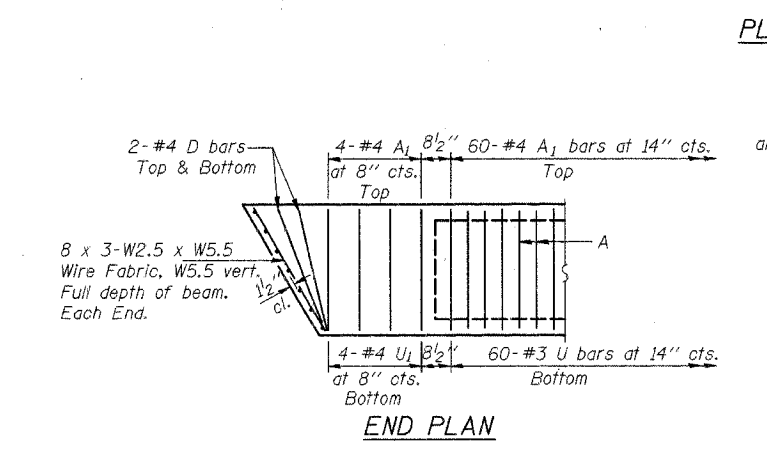
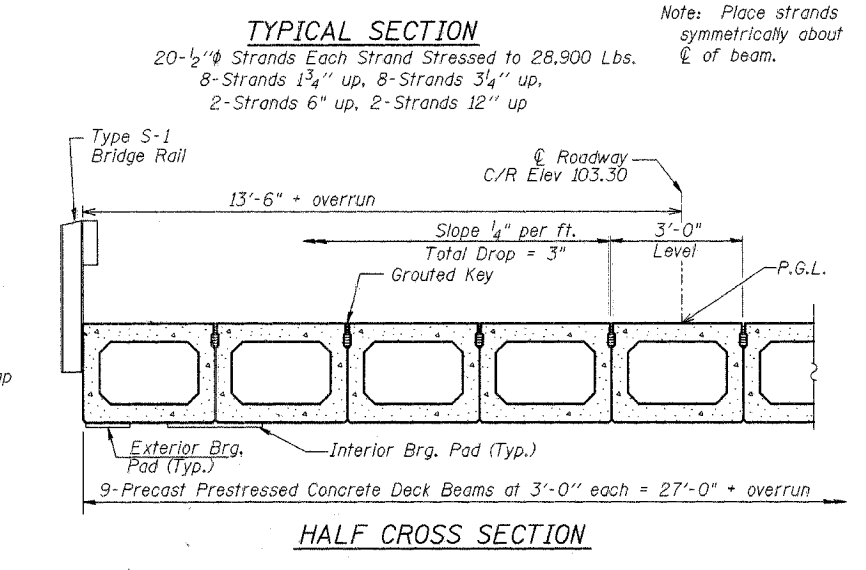
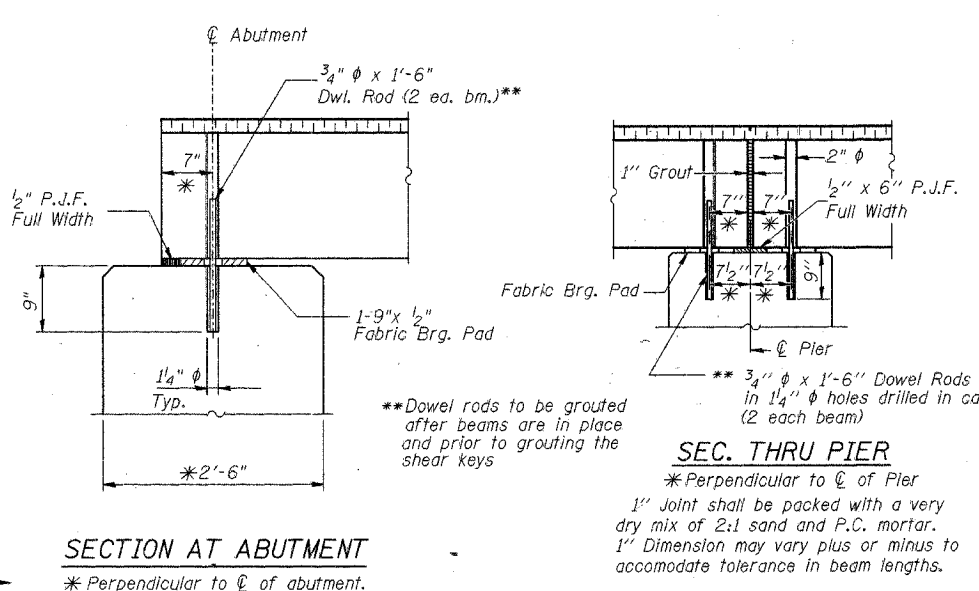
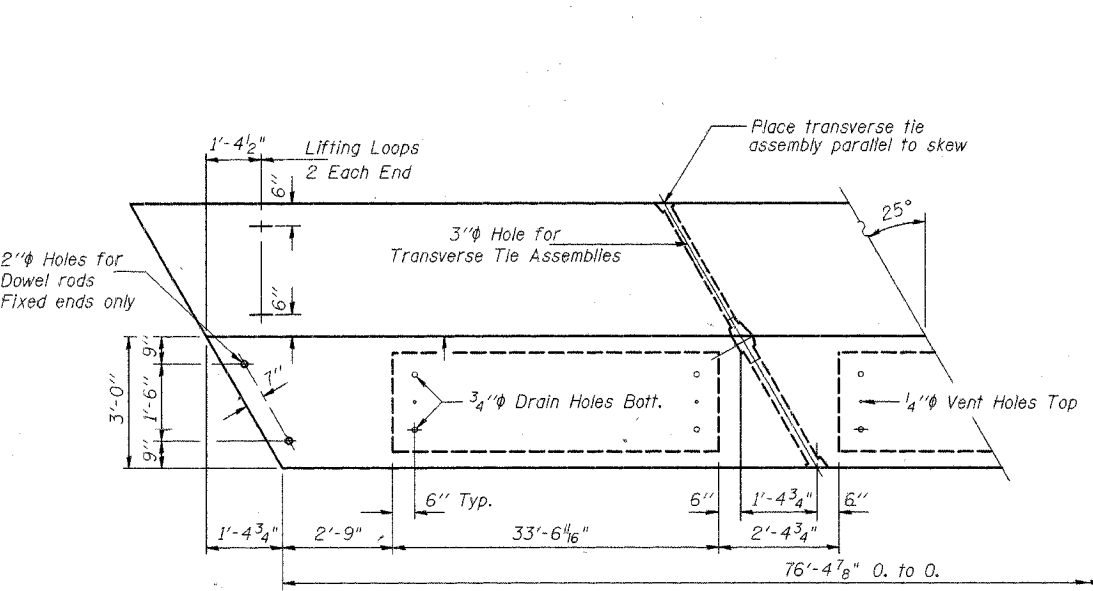
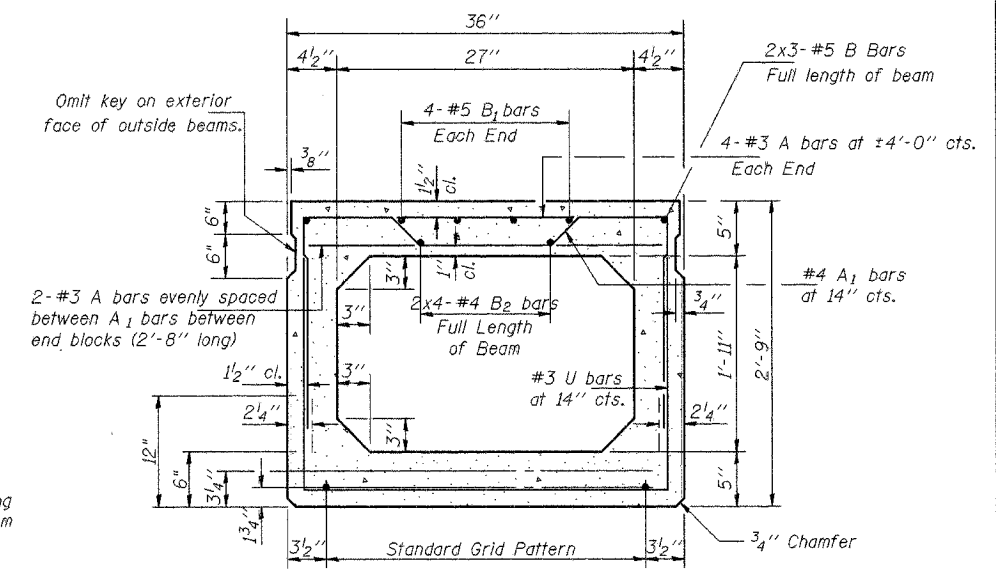
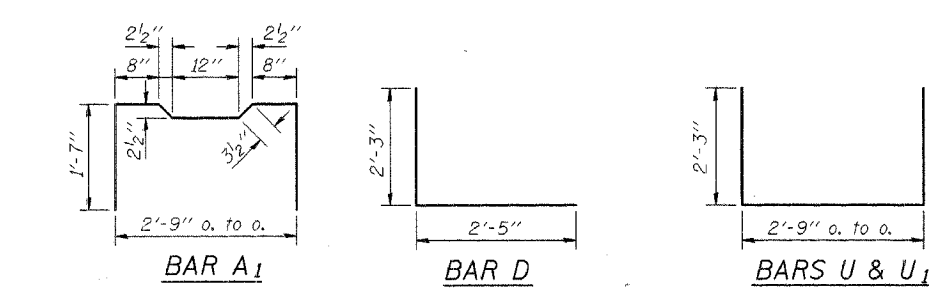
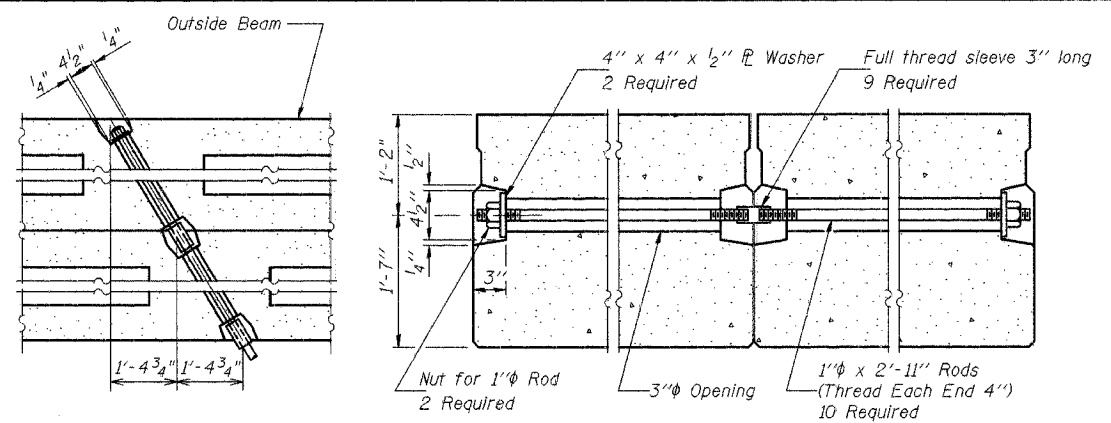
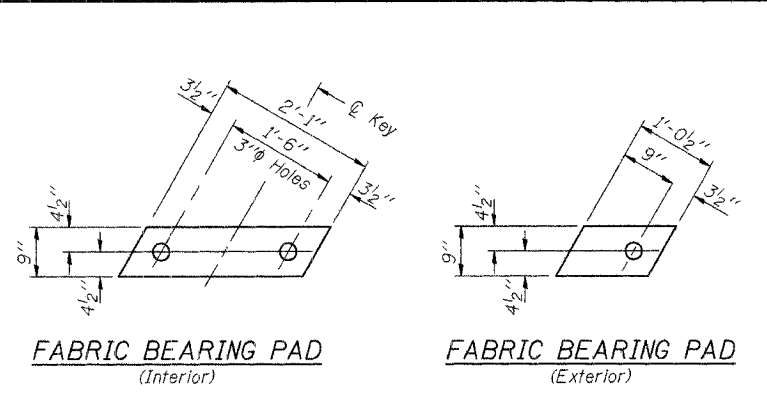
DSGN	J.R. Wolf				
DR	J.R. Wolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

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COFFERDAMS
 VANCE ROAD DISTRICT
 SECTION 00-19134-00-BR
 VERMILION COUNTY

SHEET	9
DWG NO.	van-pr.dgn
DATE	AUG 2004
PROJ NO.	2088

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
TR 38	#	Vermilion	18	10
FED. ROAD DIST. NO. Y		BLDG. NO.	PREL. AID PROJECT	
91306		*00-19134-00-BR		



SEC. THRU PIER
 * Perpendicular to centerline of 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.

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 1/2" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 63,000 or 4-1/2" 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 1/2" 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'ci, shall be 4100 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
A	122	#3	2'-8"	—
A1	68	#4	6'-1"	—
B	6	#5	26'-10"	—
B1	8	#5	15'-4"	—
B2	8	#4	20'-5"	—
D	8	#4	4'-8"	—
U	60	#3	7'-3"	—
U1	8	#4	7'-3"	—
Precast Prestressed Conc. Deck Bms.		Sq. Ft.	8252*	

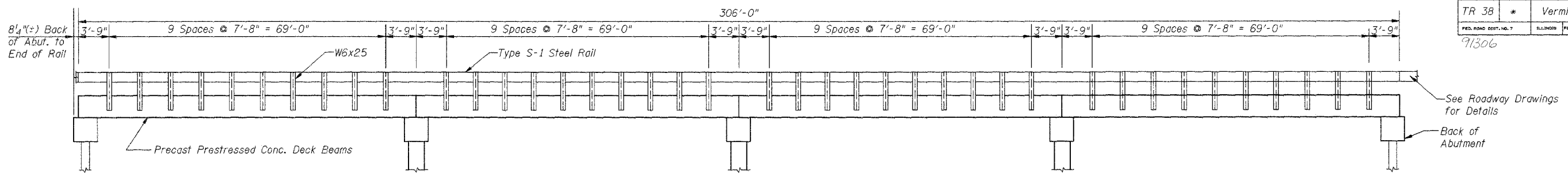
*Total Quantity of Beams

DSGN	L.A. Rolf				
DR	L.A. Rolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

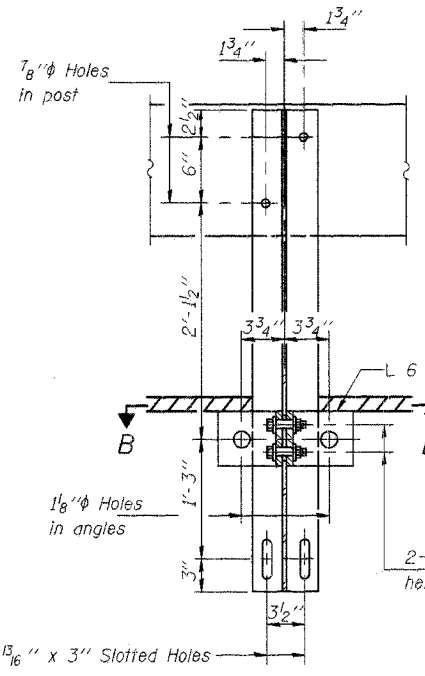
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 3002 Crossing Court Champaign, IL 61822 217-351-6268

SUPERSTRUCTURE		SHEET	10
VANCE ROAD DISTRICT SECTION 00-19134-00-BR VERMILION COUNTY		DWG. NO.	van-sup.dgn
		DATE	AUG2004
		PROJ. NO.	2088

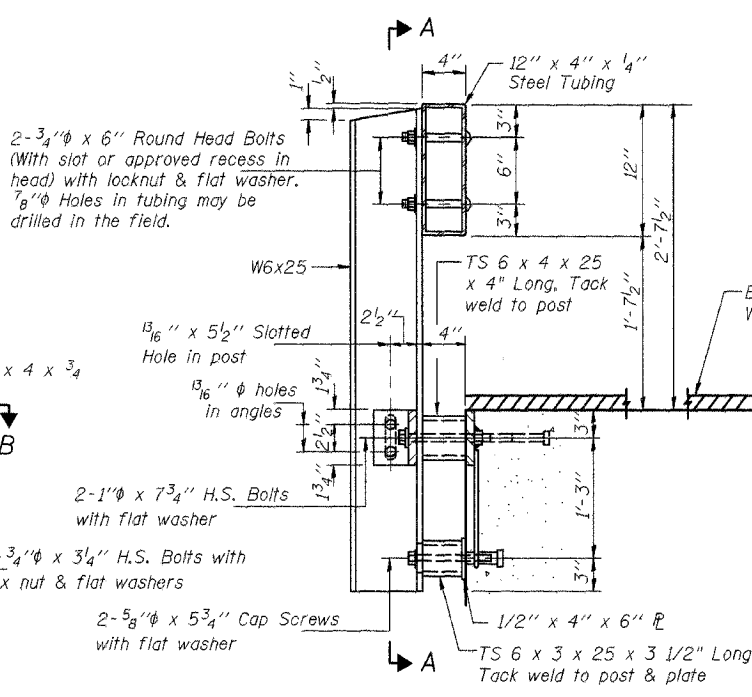
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
TR 38	*	Vermilion	18	11
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT
91306		*00-19134-00-BR		



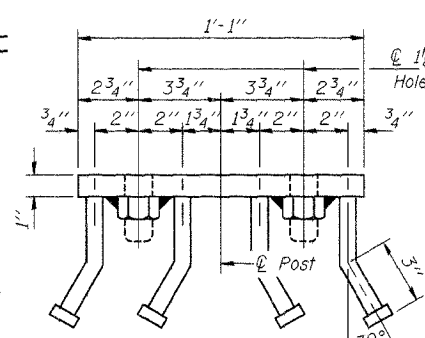
STEEL RAILING ELEVATION



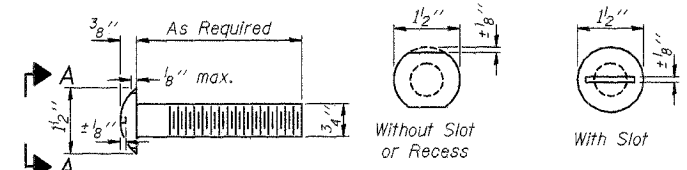
SECTION A-A



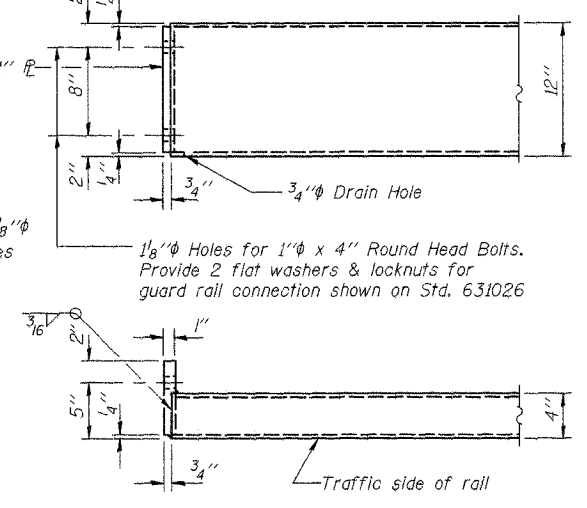
SECTION AT RAIL POST



VIEW C-C



VIEW A-A ROUND HEAD BOLT



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.

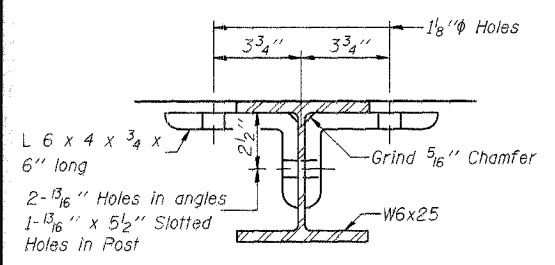
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

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.

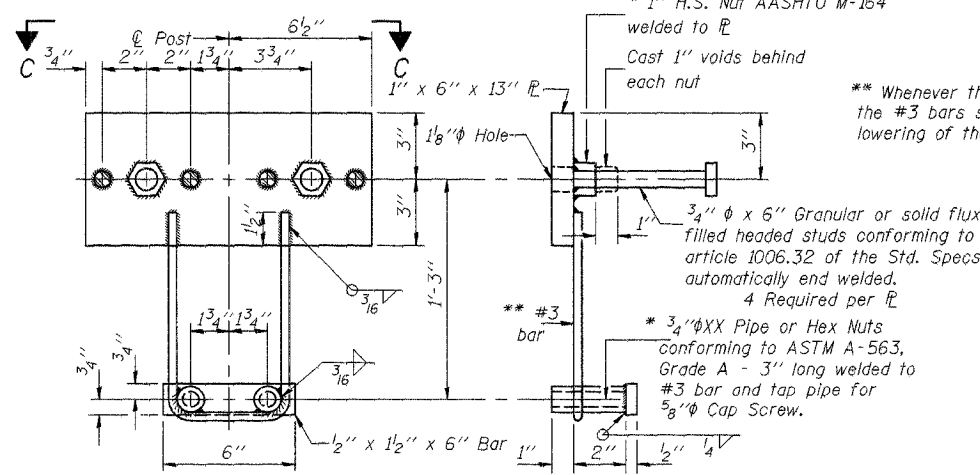
All field drilled holes shall be coated with an approved zinc rich paint before erection.

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 1/2" fabric bearing pad between the post and concrete.

The 3/4" 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" 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" cap screws in bottom of posts shall be tightened to a snug fit only.



SECTION B-B

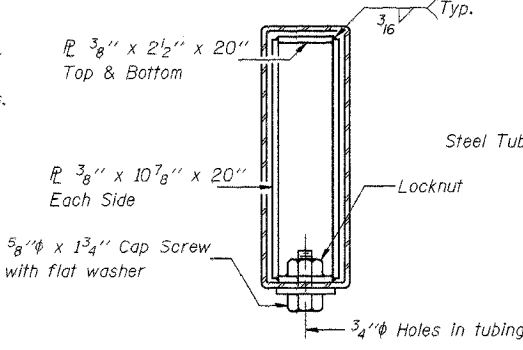


ANCHOR DEVICE

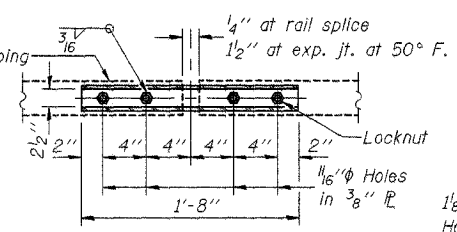
* Threaded areas shall be plugged or blocked off during casting of beam.

* 1" H.S. Nut AASHTO M-164 welded to $\bar{\bar{L}}$
Cast 1" voids behind each nut

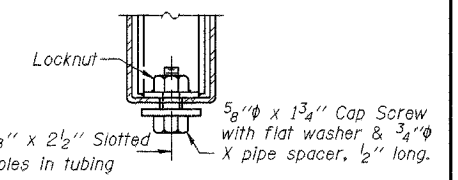
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

BILL OF MATERIAL

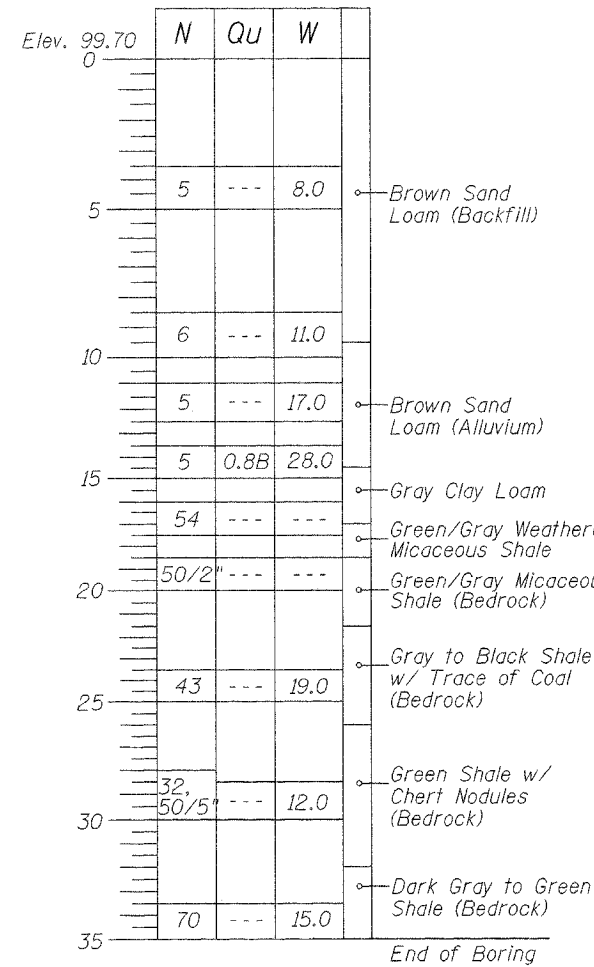
Item	Unit	Quantity
Steel Railing Type S-1	Foot	612

DSGN	L.A. Rolf				
DR	L.A. Rolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

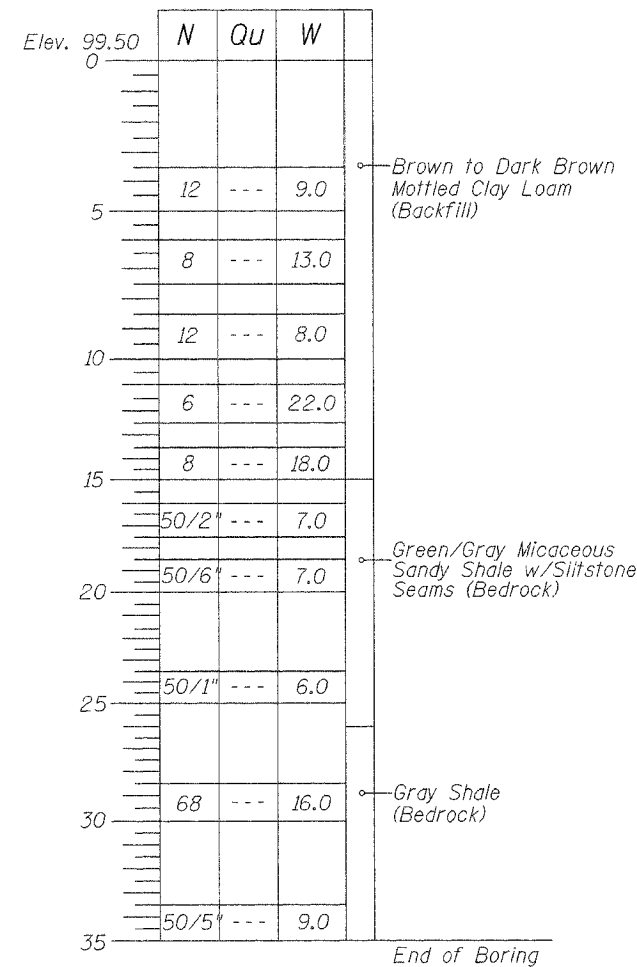
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3002 Crossing Court Champaign, IL 61822 217-351-6268

STEEL RAILING TYPE S-1
VANCE ROAD DISTRICT
SECTION 00-19134-00-BR
VERMILION COUNTY

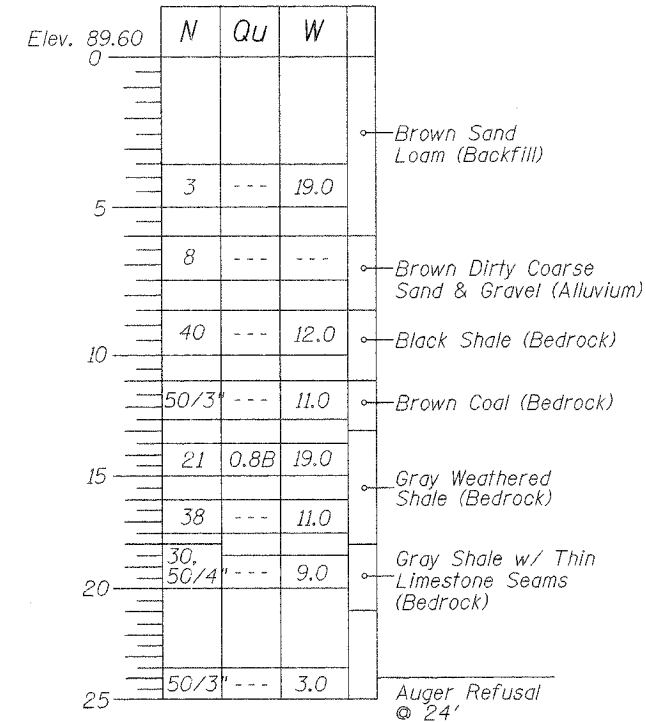
SHEET 11
DWG van-s1.dgn
DATE AUG2004
PROJ NO. 2088



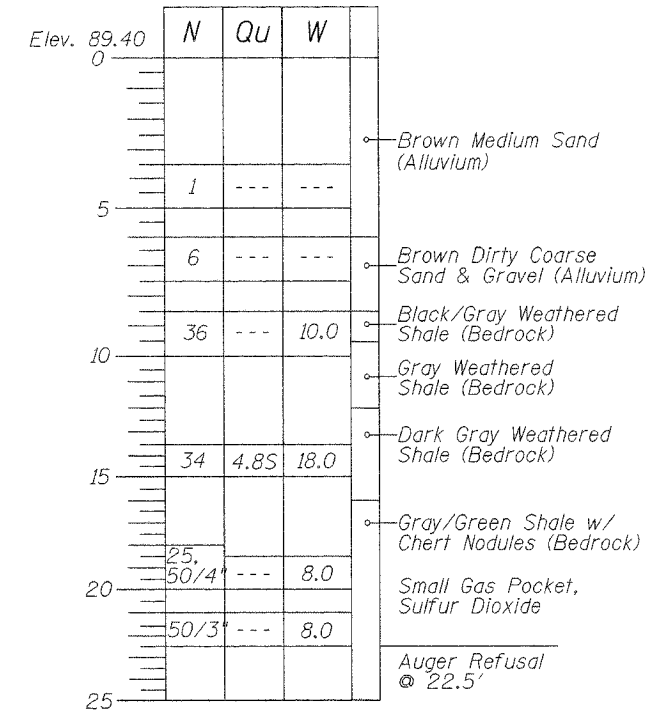
BORING B-1
STA 20+85, 0' Lt.



BORING B-2
STA 19+14, 0' Lt.



BORING B-3
STA 120+40 (Prop.), 5' Rt.



BORING B-4
STA 120+40 (Prop.), 0' Lt.

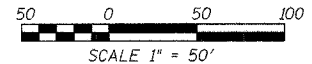
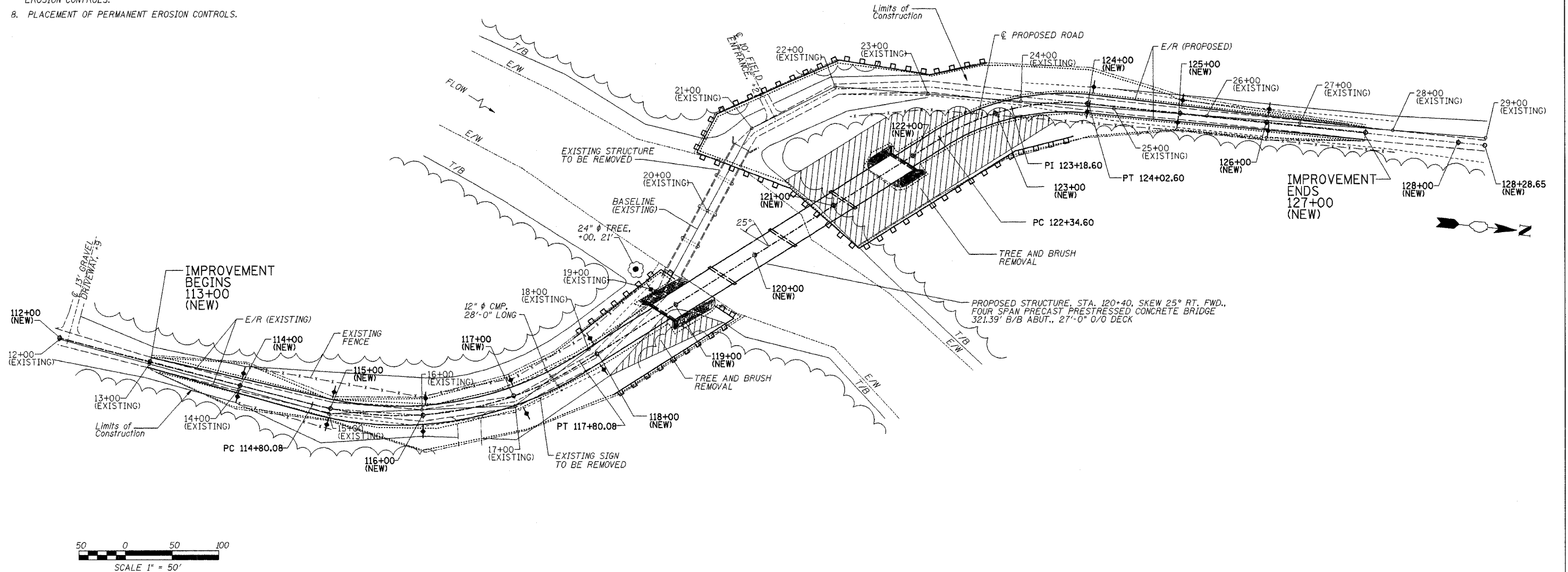
DSGN	J.R. Wolf				
DR	J.R. Wolf				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

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

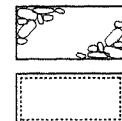
SOIL BORINGS		SHEET 12
VANCE ROAD DISTRICT SECTION 00-19134-00-BR VERMILION COUNTY		DWG NO. van-bor.dgn DATE AUG2004 PROJ NO. 2088

INTENDED SEQUENCE

1. PLACEMENT OF PERIMETER EROSION CONTROL BARRIER PRIOR TO COMMENCEMENT OF ANY WORK. SEE STANDARD 280001.
2. CONSTRUCTION OF NEW SUBSTRUCTURE.
3. REMOVAL OF THE EXISTING STRUCTURE.
4. CONSTRUCTION OF THE NEW SUPERSTRUCTURE.
5. THE PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROLS.
6. FINAL GRADING AND SHAPING INCLUDING PLACEMENT OF AGGREGATE BASE COURSE & BITUMINOUS SURFACE.
7. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROLS.
8. PLACEMENT OF PERMANENT EROSION CONTROLS.

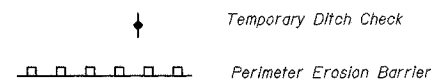


PERMANENT EROSION CONTROL



Grouted RipRap
Seeding, Cl. 2 with Fertilizer and Mulch

TEMPORARY EROSION CONTROL



Temporary Ditch Check
Perimeter Erosion Barrier

PERIMETER EROSION BARRIER

STA	OFFSET	TO	STA	OFFSET	LENGTH
118+00	60' RT		119+40	60' RT	140 FT
118+00	30' LT		119+10	40' LT	110 FT
119+10	40' LT		119+10	25' LT	15 FT
119+20	40' RT		119+20	25' RT	15 FT
120+10	125' LT		121+00	50' RT	175 FT
120+10	125' LT		120+45	150' LT	45 FT
120+45	150' LT		121+85	130' LT	140 FT
121+85	130' LT		122+60	65' LT	100 FT
122+60	65' LT		123+20	60' LT	60 FT
121+00	50' RT		123+00	50' RT	200 FT
123+00	50' RT		123+80	35' RT	80 FT
TOTAL					1080 FT

TEMPORARY DITCH CHECKS

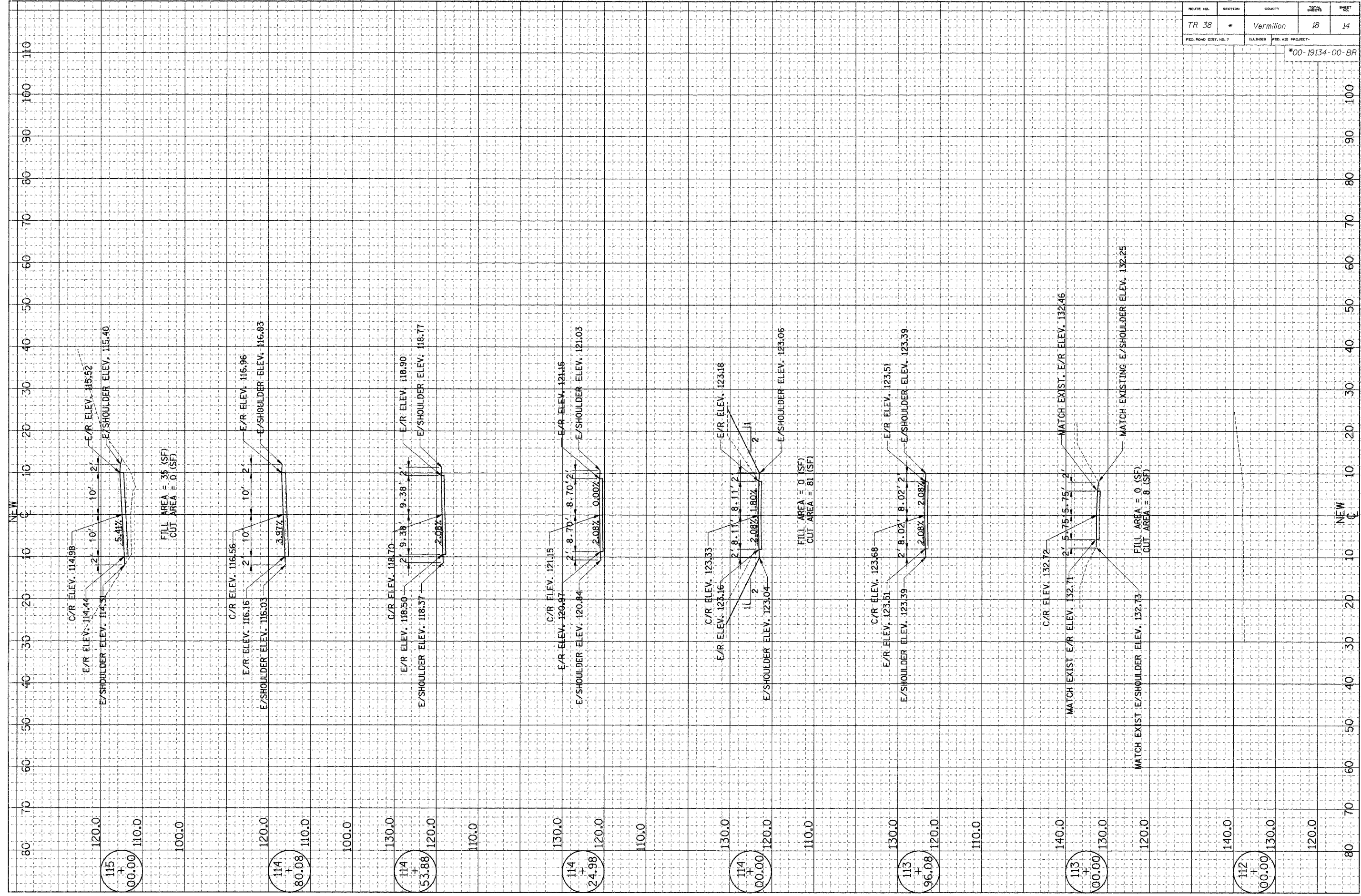
STA	OFFSET	QUANTITY
114+00	LT. & RT.	2 EACH
115+00	LT. & RT.	2 EACH
116+00	LT. & RT.	2 EACH
117+00	LT. & RT.	2 EACH
118+00	LT. & RT.	2 EACH
119+00	LT.	1 EACH
124+00	LT. & RT.	2 EACH
125+00	LT. & RT.	2 EACH
126+00	LT. & RT.	2 EACH
TOTAL		17 EACH

TEMPORARY EROSION CONTROL		
Bill of Materials		
Item	Unit	Quantity
Temporary Erosion Control Seeding	Pound	850
Temporary Ditch Checks	Each	17
Perimeter Erosion Barrier	Foot	1080

91306

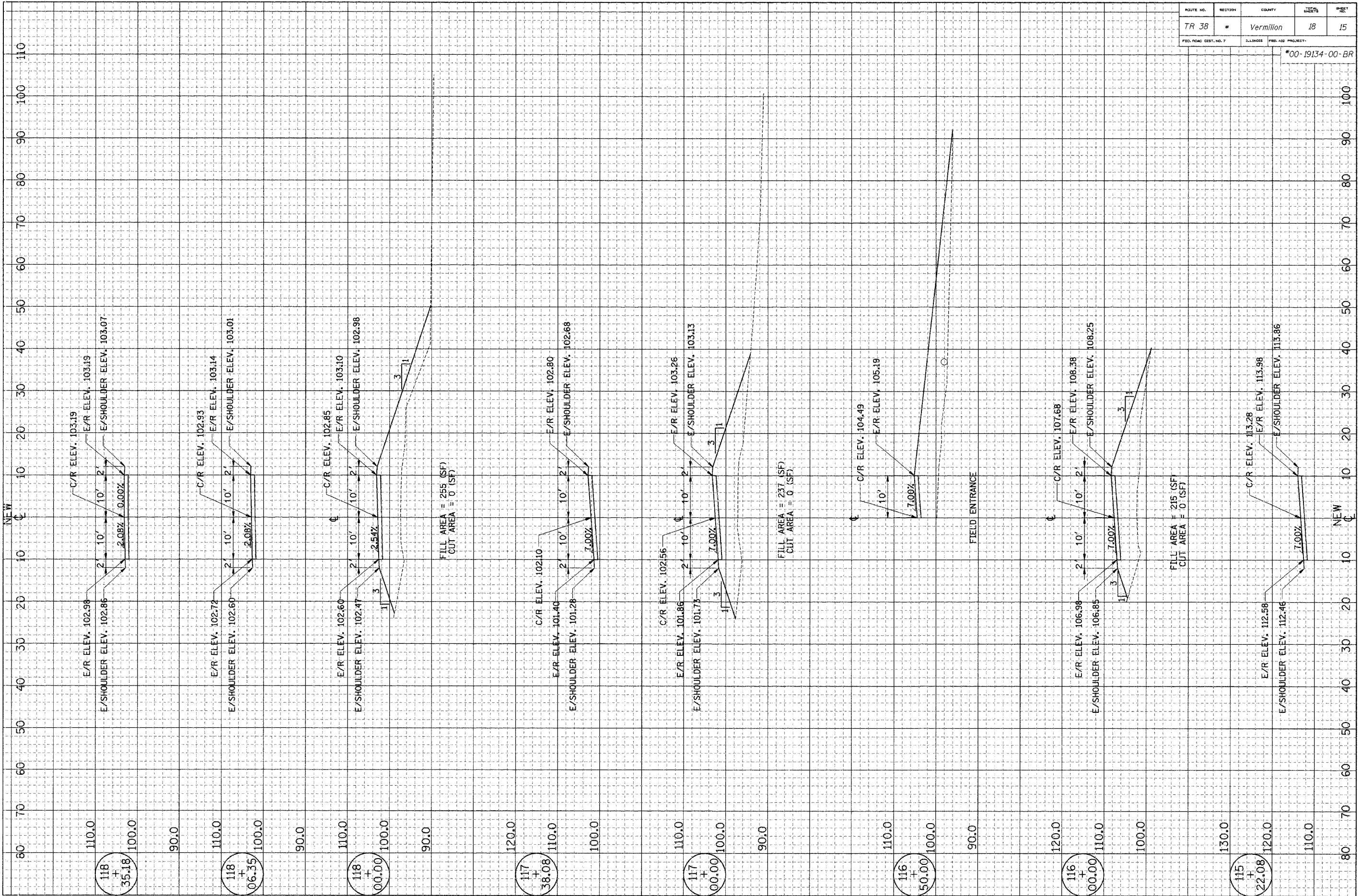
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
TR 38	*	Vermilion	18	14
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

*00-19134-00-BR



91306

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 38	*	Vermilion	18	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
*00-19134-00-BR				



118
+
35.18

118
+
06.35

118
+
00.00

117
+
38.08

117
+
00.00

116
+
50.00

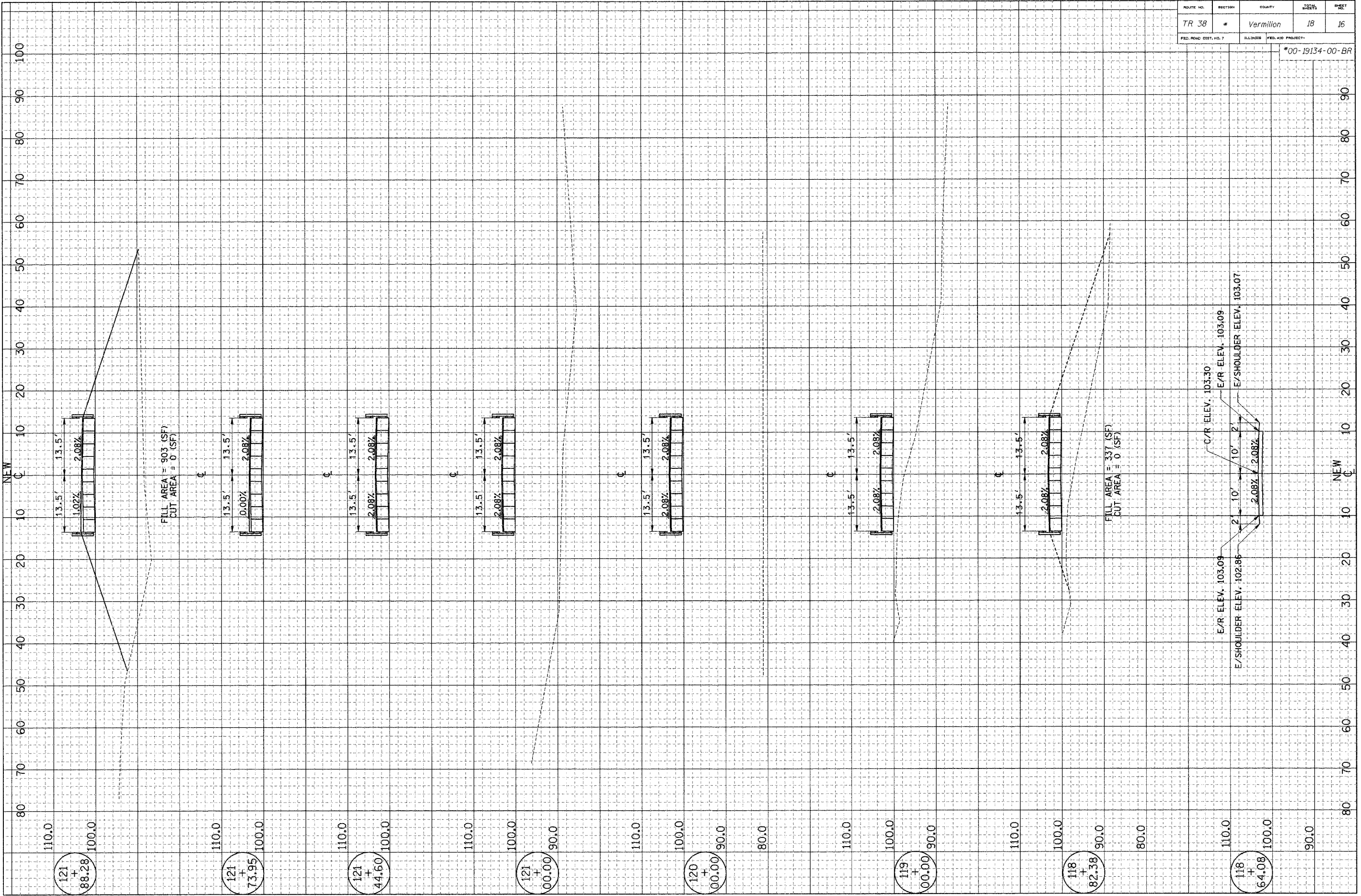
116
+
00.00

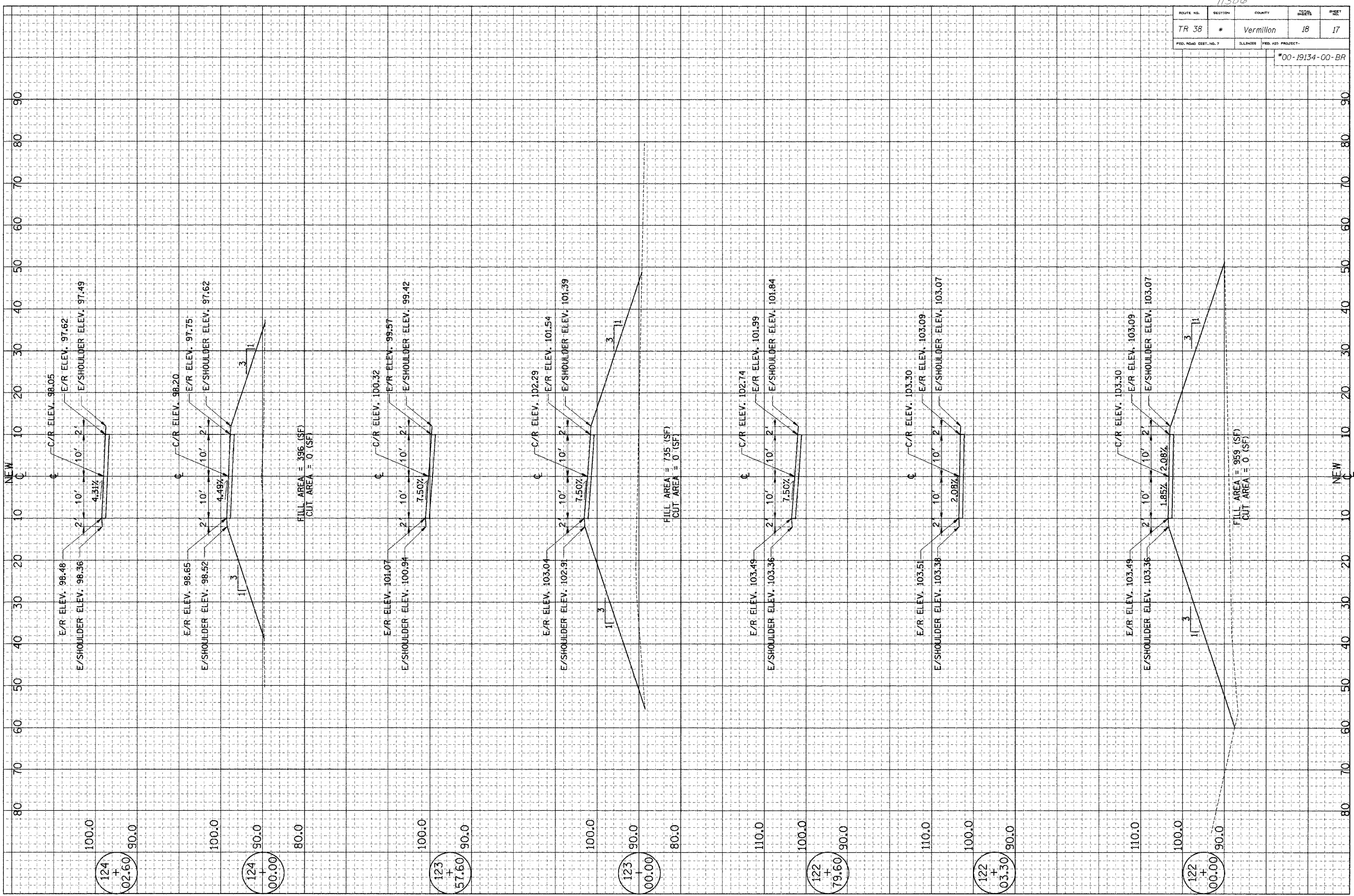
115
+
22.08

91306

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
TR 38	*	Vermilion	18	16
FED. ROAD DIST. NO. 7	BLINDS	FED. AID PROJECT		

*00-19134-00-BR

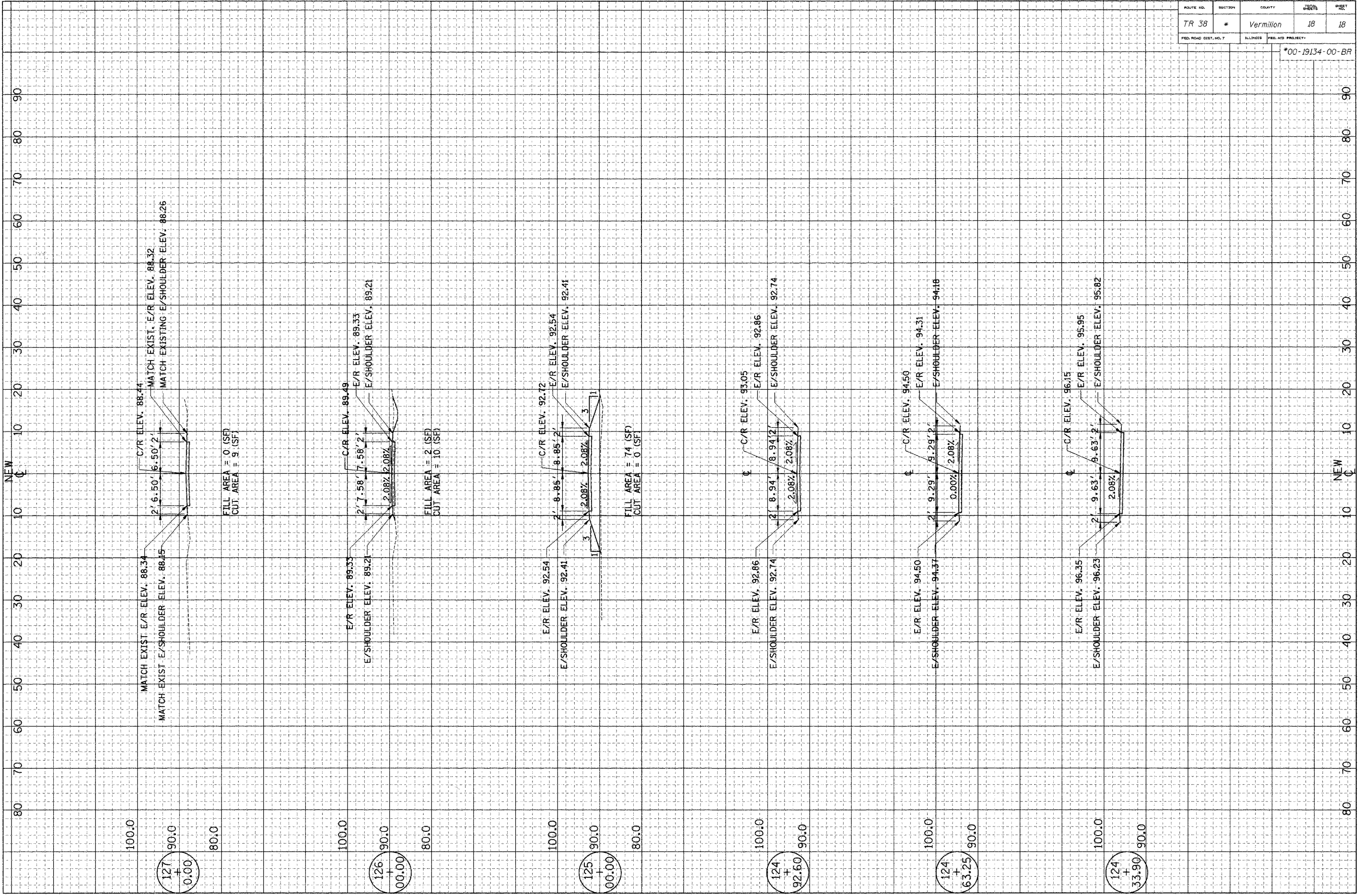




91306

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET
TR 38	*	Vermilion	18	18
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

*00-19134-00-BR



MATCH EXIST. E/R ELEV. 88.34
MATCH EXIST. E/SHOULDER ELEV. 88.15
C/R ELEV. 88.44
6.50' 2'
2' 6.50' 2'
MATCH EXIST. E/R ELEV. 88.32
MATCH EXIST. E/SHOULDER ELEV. 88.26

FILL AREA = 0 (SF)
CUT AREA = 9 (SF)

E/R ELEV. 89.33
E/SHOULDER ELEV. 89.21
C/R ELEV. 89.49
7.58' 2'
2' 7.58' 2'
E/R ELEV. 89.33
E/SHOULDER ELEV. 89.21

FILL AREA = 2 (SF)
CUT AREA = 10 (SF)

E/R ELEV. 92.54
E/SHOULDER ELEV. 92.41
C/R ELEV. 92.72
8.85' 3'
2' 8.85' 3'
E/R ELEV. 92.54
E/SHOULDER ELEV. 92.41

FILL AREA = 74 (SF)
CUT AREA = 0 (SF)

E/R ELEV. 92.86
E/SHOULDER ELEV. 92.74
C/R ELEV. 93.05
8.94' 2'
2' 8.94' 2'
E/R ELEV. 92.86
E/SHOULDER ELEV. 92.74

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

E/R ELEV. 94.50
E/SHOULDER ELEV. 94.37
C/R ELEV. 94.50
9.29' 2'
2' 9.29' 2'
E/R ELEV. 94.31
E/SHOULDER ELEV. 94.18

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

E/R ELEV. 96.35
E/SHOULDER ELEV. 96.23
C/R ELEV. 96.15
9.63' 2'
2' 9.63' 2'
E/R ELEV. 95.95
E/SHOULDER ELEV. 95.82

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

127
+
0.00

126
+
00.00

125
+
00.00

124
+
92.60

124
+
63.25

124
+
33.90