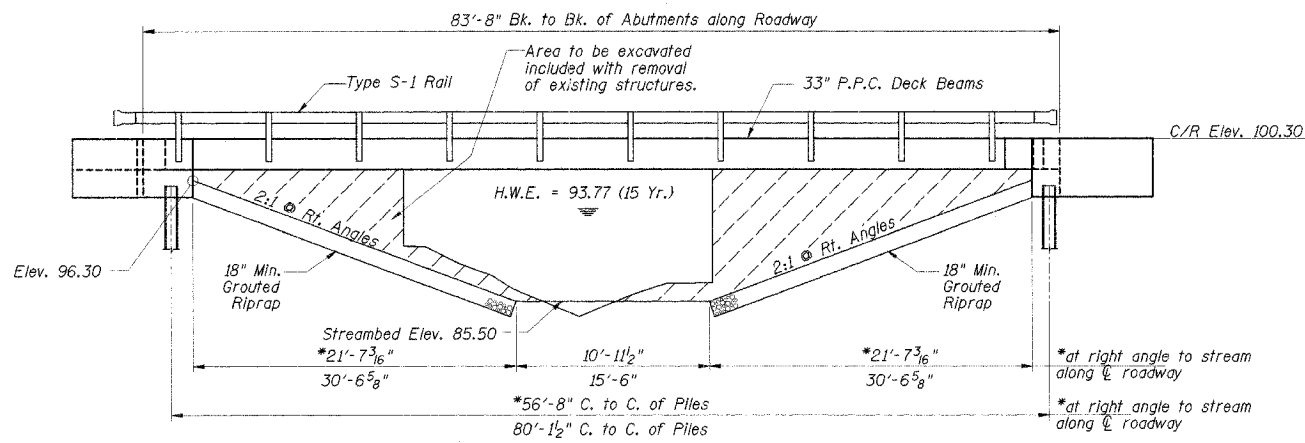
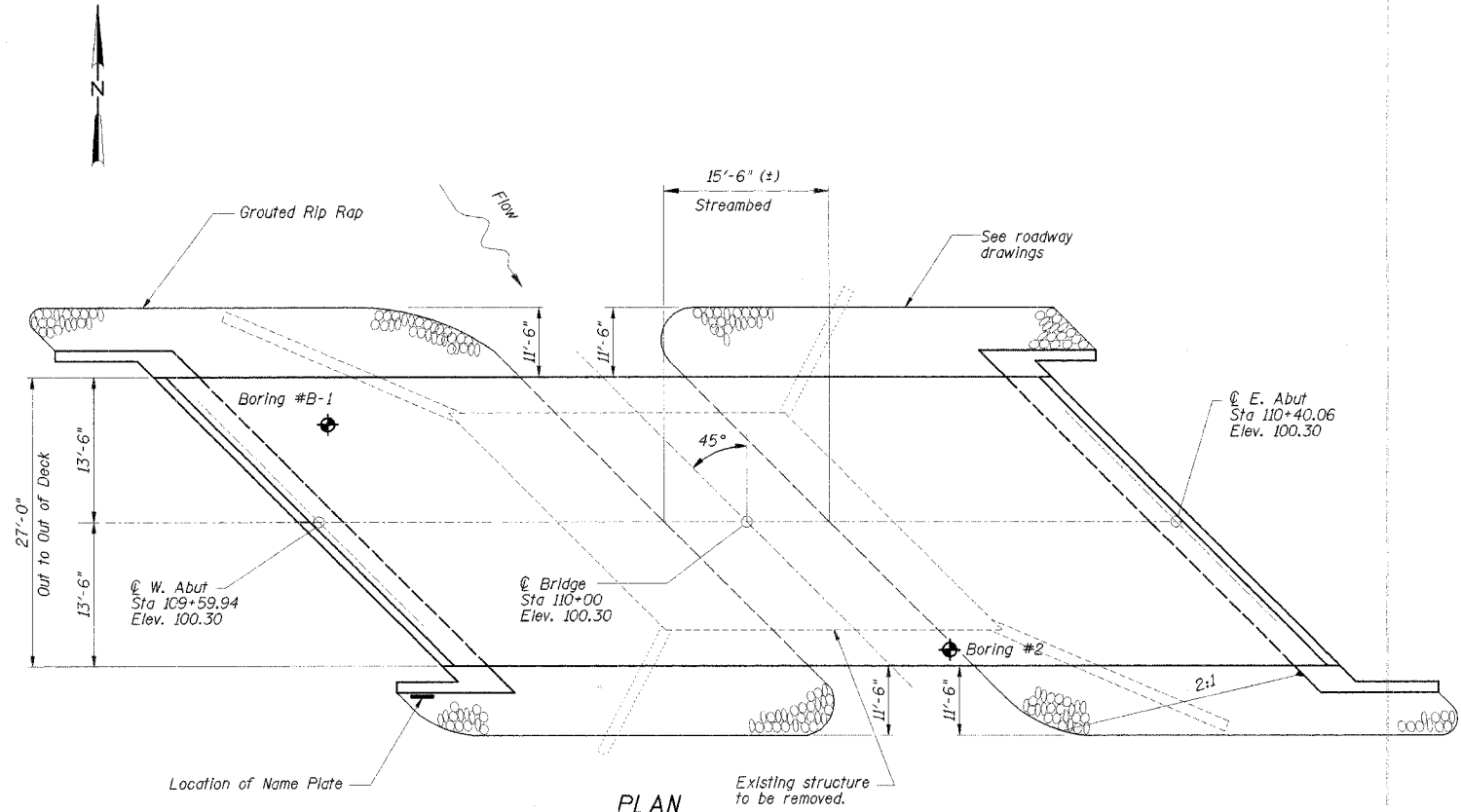


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 261	*	Vermilion	10	5



ELEVATION

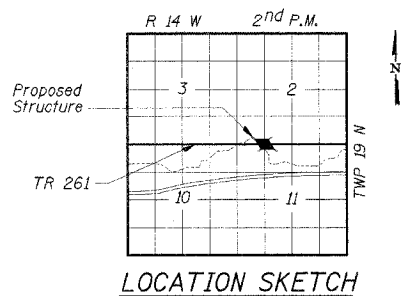


PLAN

GENERAL NOTES

- 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.
- Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.
- Class SI or MS Concrete shall be used in the abutments.
- Masonry material salvaged from the existing structure shall not be reused and shall be disposed of off the site by the contractor.

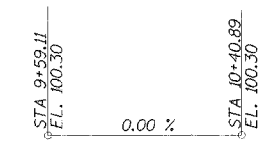
DSGN	D.W. Walter				
DR	C.M. Zajicek				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY



LOCATION SKETCH

STRUCTURE NO. 092-3456
SEC. 94-14129-00-BR BUILT 20
OAKWOOD ROAD DISTRICT
VERMILION COUNTY
LOADING HS-20

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

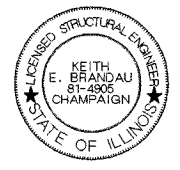
- $f'_c = 3,500$ psi (Cast in Place Concrete)
- $f'_c = 5,000$ psi (P.P.C. Units)
- $f'_{ci} = 4,000$ psi (P.P.C. Units)
- $f_y = 60,000$ psi (Reinforcement)
- $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ Strands)
- $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ Strands)

WATERWAY DATA

Drainage Area	6.6 Sq. Mi.
Existing Opening (15 Yr.)	126 Sq. Ft.
Required Opening (15 Yr.)	188 Sq. Ft.
Proposed Opening (15 Yr.)	227 Sq. Ft.
Design Discharge (15 Yr.)	530 C.F.S.
Computed Discharge (100 Yr.)	798 C.F.S.
15 Yr. Head	0.00 Ft.
100 Yr. Head	0.00 Ft.

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 1/30/06
KEITH E. BRANDAU
Illinois Licensed Structural Engineer Number 4905
License Expires 11/30/06



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

Elev. 100.0	N	Qu	W
0			
5	6	1.2B	16
6		1.0B	23
10	10	2.5B	14
9		1.4B	14
15	9	1.2B	13
19		7.4B	9.9
20	33	10.9S	9.0
14		4.1B	9.9
25	17	2.1B	11
30	43	15.3NF	9.5
35	38	6.5S	9.5
40	23	5.8S	9.1
45	49	6.5S	22

BORING B-1
STA 9+63, 9' LT

Elev. 100.0	N	Qu	W
0			
5	6	1.0B	21
10	7	1.8B	14
10		2.1B	12
15	13	2.1B	11.6
29		8.7S	9.6
20	33	11.8S	9.4
25	15	3.3B	9.5
30	20	--	--
35	25	4.0+E	10
40	30	7.0S	9.0
45			

BORING B-2
STA 10+21, 12' RT

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2208		2208
Steel Railing, Type S-1	Foot	164		164
Concrete Structures	Cu. Yds.		32.2	32.2
Furnishing Steel Piles, HPI0x42	Foot		462	462
Driving Steel Piles	Foot		462	462
Test Piles, Steel HPI0x42	Each		2	2
Metal Shoes	Each		14	14
Conc. Cut-off Wall	Cu. Yds.		8.5	8.5
Name Plate	Each		1	1
Reinforcement Bars	Pound		3380	3380
Structure Excavation	Cu. Yds.		165	165
Grouted Rip Rap	Sq. Yds.		423	423

FRAÜENHÖFFER

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

GENERAL PLAN AND ELEVATION

OAKWOOD ROAD DISTRICT
SECTION 94-14129-00-BR
VERMILION COUNTY

SHEET	5
DWG NO.	oak2-gps.dgn
DATE	DEC 2005
PROJ NO.	97062