

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
03-00894-00-BR	CHAMPAIGN	12	6
STA.	TO STA.		
F.H.W.A. REG.	ILLINOIS	PROJECT	

**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 Compression Strength - Tons/Sq.Ft.  
 Mc - Water Content - Percentage of oven dry weight - %  
 D - Depth

Surface	D	N	Qu	Mc	Soil Description
Surface 732.21					SILTY CLAY LOAM- Dark Brown, moist, little sand, little limestone gravel, tr. organics
	5	9	1.0	15.3	LOAM- Mottled brown moist, stiff, some sand, tr. organic stain
		5		30.6	SILTY CLAY LOAM- Dark Grey, very moist, firm, tr. sand, tr. organic stains
	10	10	1.1	21.8	SILTY CLAY LOAM- Dark Grey, moist, stiff, little sand
		13		20.2	
	15	15		21.0	SAND- Grey, saturated, medium dense, fine
		20	4.8	12.5	SILTY LOAM- Grey, moist, very stiff, little sand, tr. gravel
	20	8		31.0	-Stiff
		4		21.4	SAND- Grey, saturated, loose, fine
	25	12		20.5	SILTY LOAM- Grey, very moist, firm, some sand, tr. gravel
		19		9.5	SAND- Grey, saturated, medium dense, fine to coarse, little gravel
	30	44		17.0	
		18	2.8	14.6	SILTY LOAM- Grey, moist, very stiff some sand, tr. gravel
	35	27	3.1	13.0	-Hard
		30	4.1	12.9	
	40	44	4.3	11.2	
		38	4.9	12.8	
	45	38	3.0	12.8	
		47	2.0	12.4	
	50	30	2.3	13.2	
		66		10.9	
	55	98		10.3	END OF BORING 55.6'

BORING NO. B-1  
Sta. 10+18.23 Rt. 7'

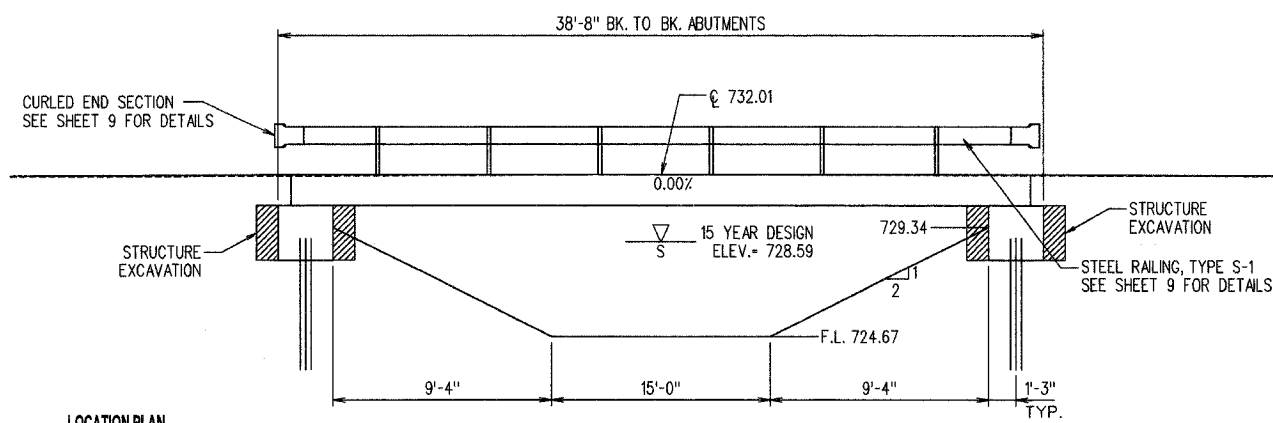
BORING NO. B-2  
Sta. 9+80.99 Lt. 10'

**TOTAL BILL OF MATERIAL**

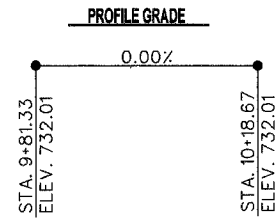
ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu.Yd.		102	102
Removal of Existing Structures	Each			1
Concrete Structures	Cu.Yd.		18.3	18.3
Concrete Cut-Off Wall	Cu. Yd.		5.5	5.5
Precast Prestressed Conc. Deck Beams (17" Deep)	Sq.Ft.	1008		1008
Reinforcement Bars	Pounds		2080	2080
Steel Railing, Type S-1	Foot	75		75
Furnishing Steel Piles HP 10 x 42	Foot		280	280
Driving Steel Piles	Foot		280	280
Metal Shoes	Each		8	8
Test Pile Steel HP 10 x 42	Each		2	2
Name Plate	Each		1	1
Grouted Riprap	Sq. Yd.		135	135

**GENERAL PLAN AND ELEVATION**

SECTION 03-00894-00-BR  
CHAMPAIGN COUNTY  
STATION 10+00



**GROUTED RIPRAP ANCHOR DETAIL**  
R-O-W TO R-O-W



**NAME PLATE**

STRUCTURE NO. 4516  
SEC. 03-00894-00-BR  
BUILT 2006 BY  
CHAMPAIGN COUNTY  
LOADING HS 20-44  
SEE STANDARD 515001

**DESIGN STRESSES**

Design Loading  
HS 20-44 and Allowance for  
25 P.S.F. Future Wearing Surface

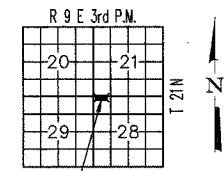
Design Stresses  
 F<sub>c</sub> = 3,500 P.S.I. Cast-in-Place Concrete  
 F<sub>y</sub> = 60,000 P.S.I. Reinforcement Steel  
 F<sub>c</sub> = 5,000 P.S.I. P.P.C. Units  
 F<sub>ci</sub> = 4,000 P.S.I. P.P.C. Units  
 F<sub>s</sub> = 270,000 P.S.I. 1/2" Ø Strands  
 F<sub>si</sub> = 189,000 P.S.I. 1/2" Ø Strands

Design Specifications AASHTO 2002

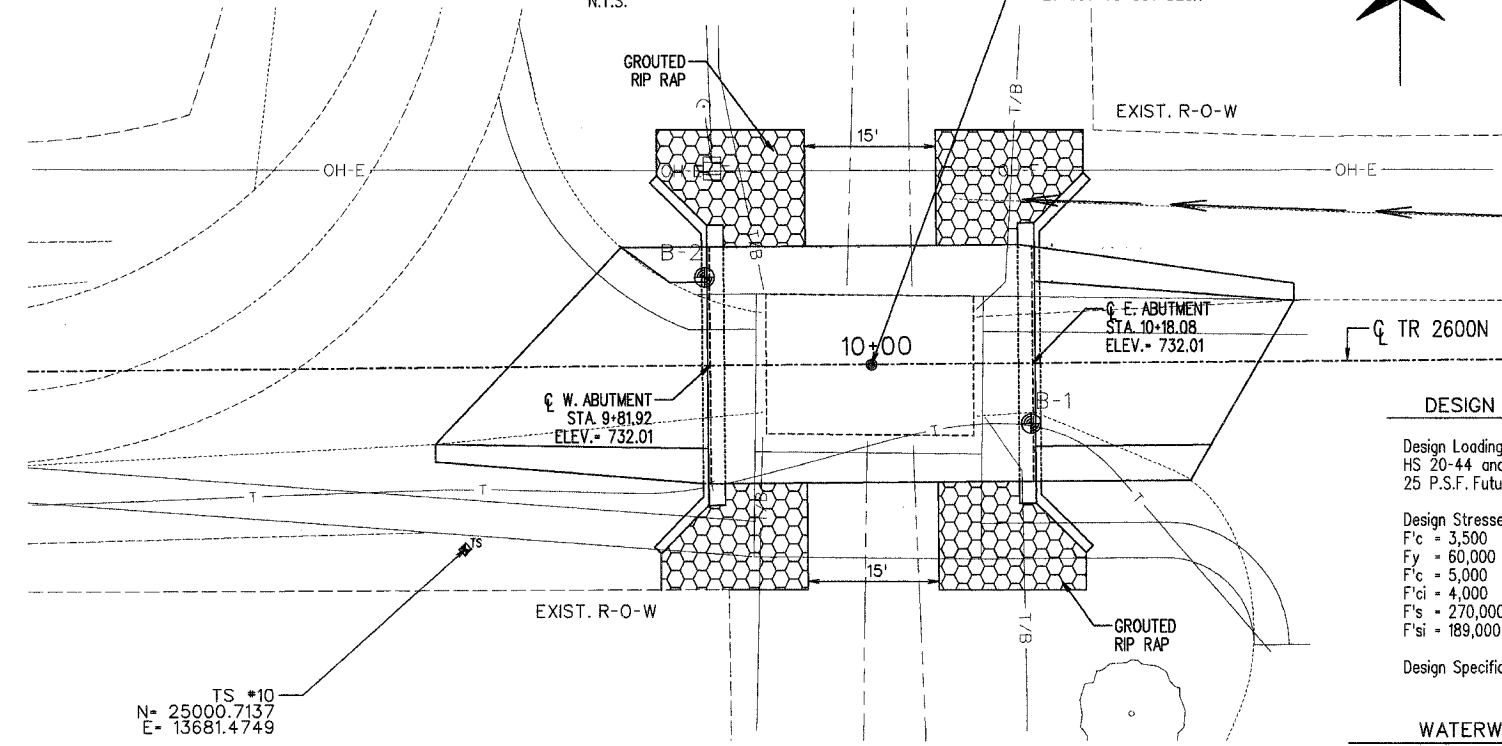
**WATERWAY DATA**

Drainage Area	1.11	Sq.Mi.
Existing Opening (15 Yr.)	86	Sq.Ft.
Proposed Opening (15 Yr.)	90	Sq.Ft.
Existing Opening (100 Yr.)	107	Sq.Ft.
Proposed Opening (100 Yr.)	120	Sq.Ft.

**LOCATION PLAN**



**ELEVATION**  
N.T.S.



**PLAN**  
SCALE: 1"=10'

**GENERAL NOTES**

Class MS or SI Concrete shall be used in the Abutments.

Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.

Masonry materials salvaged from the existing structure shall not be reused and shall be disposed of off the site by the Contractor.

Riprap required to meet the limits shown on the plan shall be paid for as Grouted Riprap and shall be grouted. See Special Provisions.

"This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory - T 5140.23, "Evaluating Scour at Bridges" and Hydraulic Engineering Circular 18 - Evaluating Scour at Bridges.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on 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* 2/1/06  
 KEITH E. BRANDAU DATE  
 Illinois Licensed Structural Engineer Number 4905  
 License Expires 11/30/06