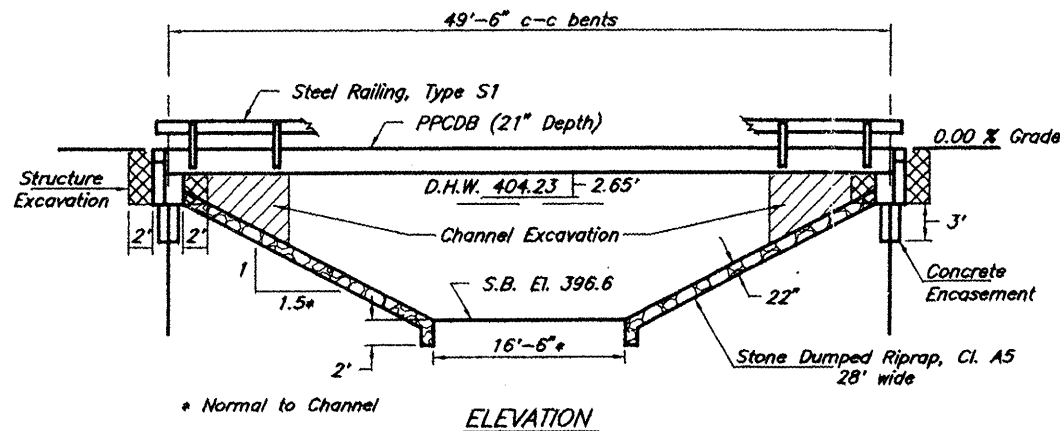
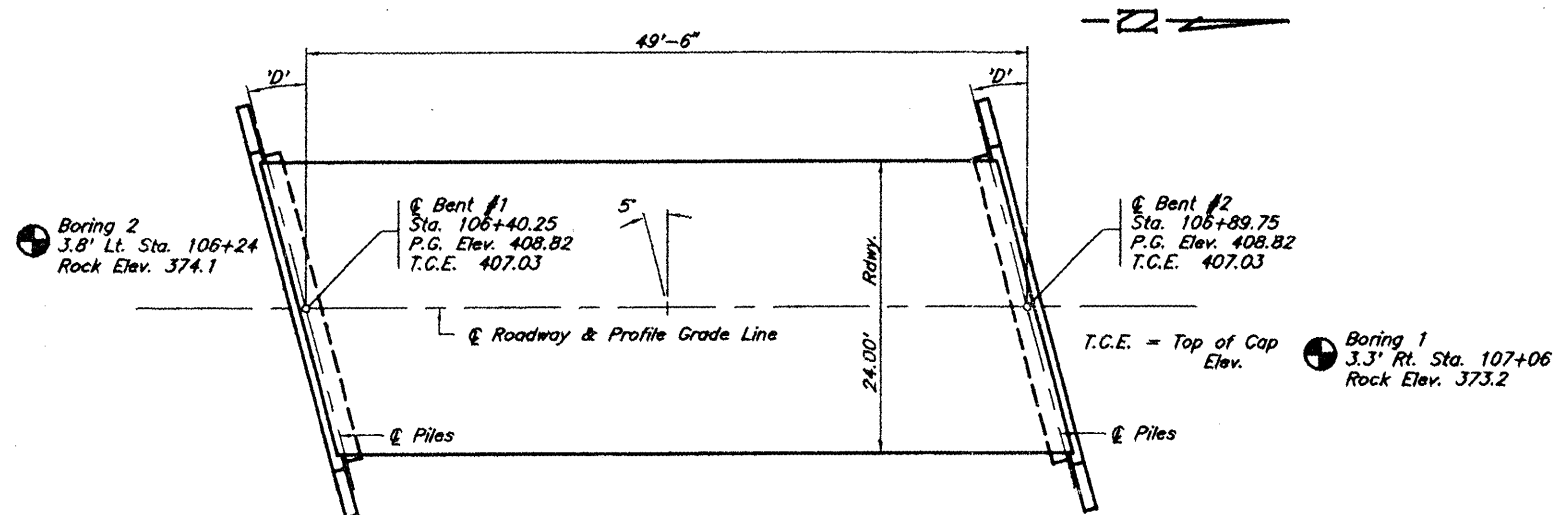


B.M. - RR Spike in Power Pole  
16' Rt. of Station 105+79  
Assumed Elev. 410.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 112	09-01162-00-BR	ALEXANDER	10	3
PROJECT NO. BROS-0003(099) CONTRACT NO. 99424				



Existing Structure - Precast concrete deck beams on closed timber pile bent abutments with concrete caps. 22.7' W x 35.74' L

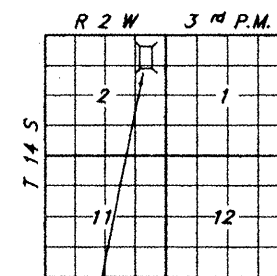


Skew Angle "D" = 5° Right Forward

COOPER CREEK  
SEC. 09-01162-00-BR BUILT 20  
COUNTY UNIT ROAD DISTRICT  
ALEXANDER COUNTY  
LOADING HL-93  
STR. NO. 002-3108

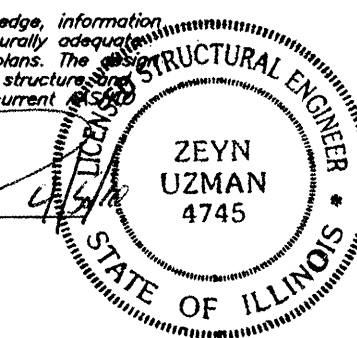
**LETTERING FOR NAME PLATE**

Locate Name Plate at Southeast Corner of Bridge (See Sheet 8)



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 type of structure and complies with the requirements of the current AASHTO LRFD Specifications.

Zeyn Uzman  
S.E. #81-4745  
Expires Nov. 30, 2010



**GENERAL NOTES**

- Steel H piles shall meet AASHTO M270 Grade 50 specifications.
- See special provisions for boring logs.
- A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Channel Excavation	Cu. Yds.			41	41
Stone Dumped Riprap, Cl. A5	Tons			147	147
Removal of Existing Structures	Each	1			1
Structure Excavation	Cu. Yds.			79	79
Concrete Structures	Cu. Yds.			16.8	16.8
Concrete Encasement	Cu. Yds.			2.7	2.7
P.P. Conc. Dk. Bm. 21" Dp.	Sq. Ft.	1,210			1,210
Reinforcement Bars	Pound			2,252	2,252
Steel Railing, Type S1	Foot			104	104
Furnishing Steel Piles HP10X42	Foot			272	272
Driving Piles	Foot			272	272
Name Plates	Each			1	1

**PILE DATA (2-ABUTS.)**

Type & Size : HP10X42  
Nominal Required Bearing : 335 kips  
Factored Resistance Available : Refusal  
Estimated Length : 34 Feet  
Number Required : 8

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications and all applicable interims.

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface

**SEISMIC DATA**

Soil Site Class = D  
Design Spectral Acceleration at 0.2 sec. ( $S_{DS}$ ) = 1.327  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.591  
Seismic Performance Zone (SPZ) = 4

**WATERWAY INFORMATION**

Drainage Area = 2.27 Sq. Mi. Low Grade Elev. = 407.95 At Sta. 109+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head-Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	1,750	225.6	213.5	404.23	0.00	0.00	404.23	404.23
Base	100	2,820	274.2	274.2	405.75	0.00	0.07	405.75	405.82
Overtopping	±425	3,748	307.5		406.79	1.16		407.95	
Max. Calc.	500	3,850		328.4	406.88		0.64		407.52

GENERAL PLAN & ELEVATION  
TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)  
COOPER CREEK  
SECTION 09-01162-00-BR  
ALEXANDER COUNTY  
STRUCTURE NO. 002-3108