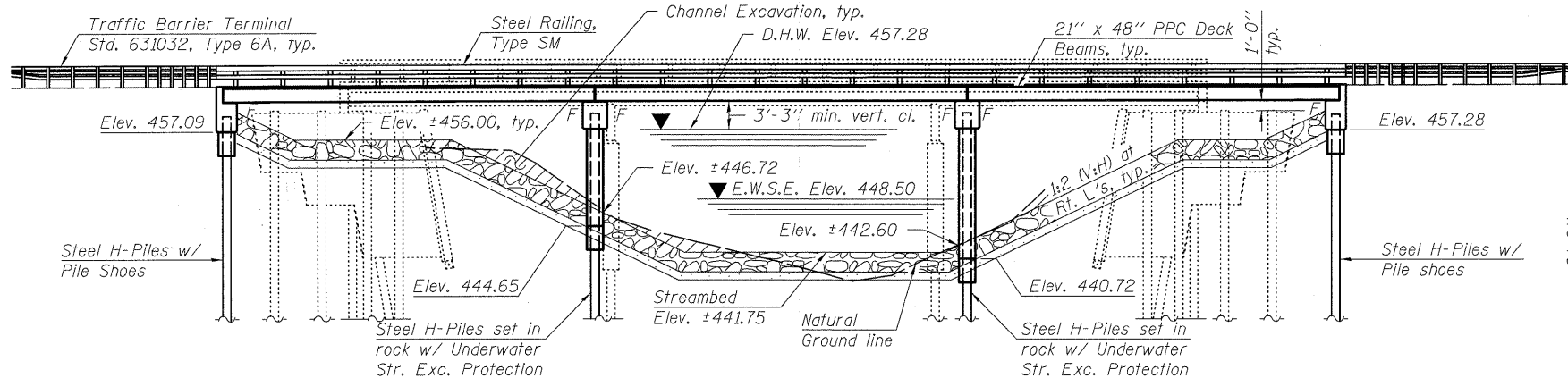


Bench Mark: RR Spike in 31" Oak Tree ±87' Left of Sta. 941+50.27, Elev. 457.09.

Existing Structure: S.N. 095-3002 was built in 1948 under F.A.S. Rt. 828, Section 36-B. After Pier 2 failed due to scour, S.N. 095-3002 was reconstructed in 1962 under F.A.S. Rt. 828, Section 36 B-1. The existing structure consists of three span wide flange beams, is 109'-7 1/4" Bk. to Bk. Abutms., is 24'-0" wide out-to-out, and has a 14° left advance skew. The substructure consists of treated timber pile supported stub abutments and H-pile supported straddle bent piers. The abutments are protected by treated timber pile walls. The roadway will be closed during construction.

No salvage.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



LITTLE MUDDY RIVER  
BUILT 201 BY  
WASHINGTON COUNTY  
SEC. 07-00077-01-BR  
F.A.S. RT. 836 STA. 945+71.00  
STR. NO. 095-3260 LOADING HL-93

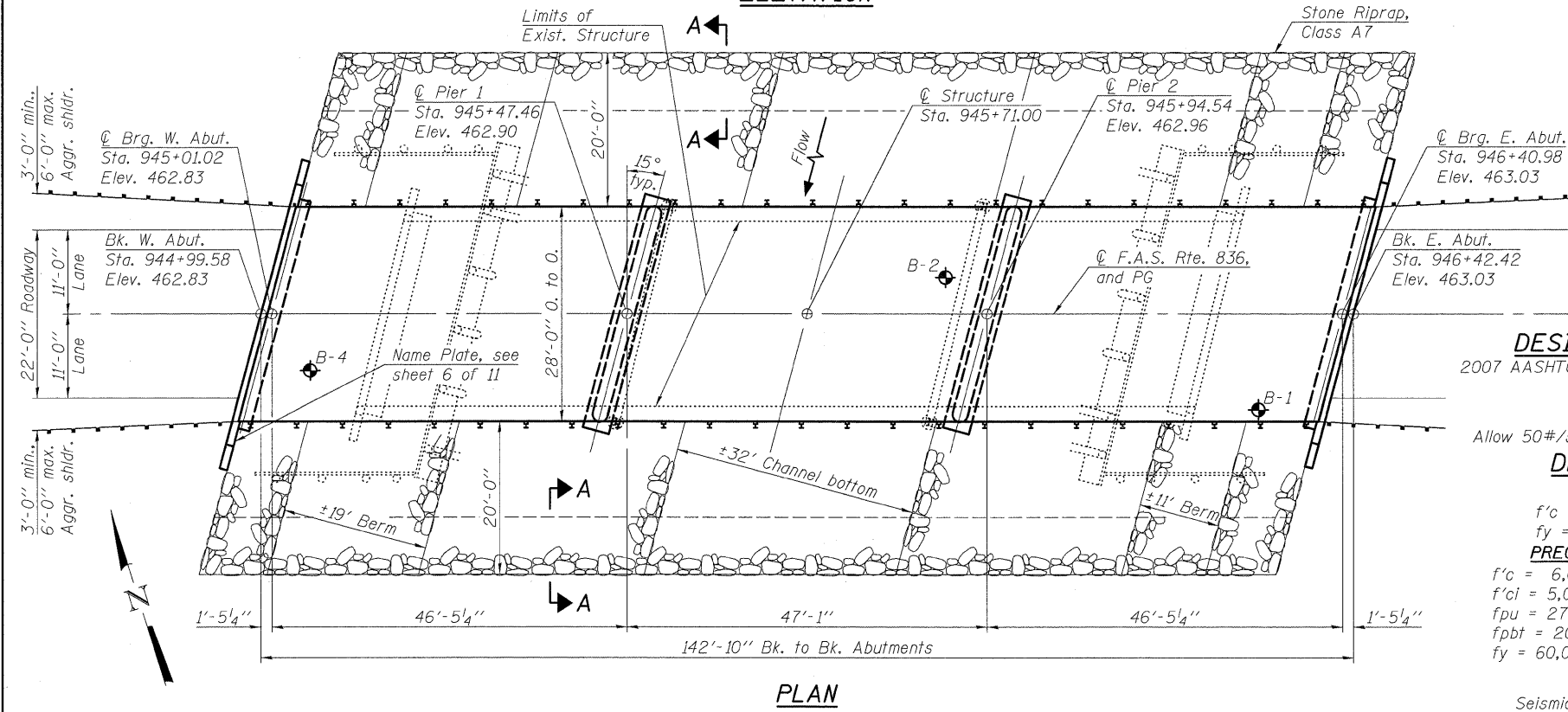
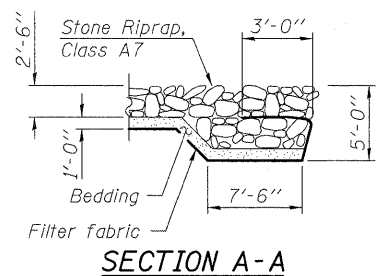
**NAME PLATE**  
See Std. 515001

**INDEX OF SHEETS**

1. General Plan
2. Superstructure
3. 21" x 48" PPC Deck Beam
4. 21" x 48" PPC Deck Beam Details
5. Steel Railing, Type SM
6. West Abutment
7. East Abutment
8. Pier 1
9. Pier 2
10. HP Pile Details
11. Boring Logs

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		811	811
Stone Riprap, Class A7	Sq. Yd.		1,122	1,122
Filter Fabric	Sq. Yd.		1,322	1,322
Hot-Mix Asphalt Surface Course, Mix "C", N70	Ton	50		50
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		152	152
Concrete Structures	Cu. Yd.		121.3	121.3
Concrete Encasement	Cu. Yd.		11.2	11.2
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3,948		3,948
Reinforcement Bars	Pound		12,390	12,390
Reinforcement Bars, Epoxy Coated	Pound		5,460	5,460
Steel Railing, Type SM	Foot	286		286
Furnishing Steel Piles HP12x63	Foot		1,102	1,102
Driving Piles	Foot		462	462
Test Pile Steel HP12x63	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	439		439
Portland Cement Mortar Fairing Course	Foot	846		846
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Mechanical Splicers	Each		56	56
Setting Piles in Rock	Each		16	16



**DESIGN SPECIFICATIONS**  
2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**

f'c = 6,000 psi  
f'ci = 5,000 psi  
fpu = 270,000 psi (1/2" φ low lax. strands)  
fpbt = 201,960 psi (1/2" φ low lax. strands)  
fy = 60,000 psi (Reinforcement)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.22g  
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.61g  
Soil Site Class = D

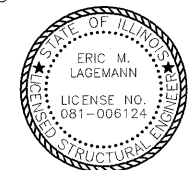
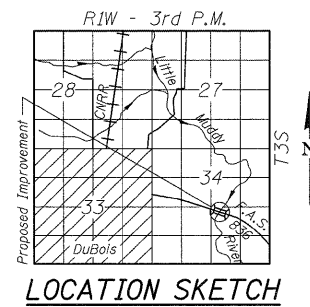
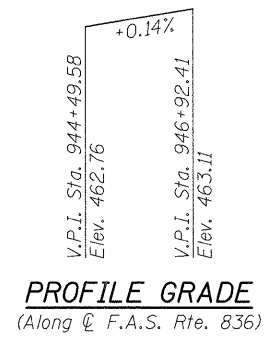
**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See special Provisions.  
Reinforcement bars designated (E) shall be epoxy coated.  
Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.  
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

**WATERWAY INFORMATION**

Drainage Area = 30.7 Sq. Mi. Low Grade Elev. 462.58 @ Sta. 943+50.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	20	5,000	735.14	925.76	457.28	1.97	1.69	459.25	458.97		
Base	100	7,390	735.14	925.76	458.24	3.48	2.75	461.72	460.99		
Overtopping	500	10,000	735.14	925.76	459.14	4.92	3.48	464.06	462.62		



Eric Lagemann 1/29/10  
Expires 11/30/2010

**GENERAL PLAN**  
**CH 8 OVER LITTLE MUDDY RIVER**  
**F.A.S. RT. 836 - SECTION 07-00077-01-BR**  
**WASHINGTON COUNTY**  
**STA. 945+71.00**  
**STRUCTURE NO. 095-3260**

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	457.09	430.00	430.00	457.28



SHEET NO. 1	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 9
11 SHEETS	FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT CONTRACT NO. 97402		