

Bench Mark: 4584-15 Chiseled square located on the top of the southwest wingwall of the existing structure. Elev. 621.67

Existing Structure: S.N. 092-0041, originally built in 1936 as S.B.I. Route 1, Section 47B-WPH. In 1971, the superstructure was replaced and the substructure was modified as F.A. 1, Section 47BR. The existing structure is a four span PPC deck beam bridge supported on spill-thru, counterforted abutments and solid stem piers on spread footings. The back to back abutments measures 265'-11" and 48'-0" out to out of deck. The existing structure is to be removed and replaced. Traffic to be maintained using stage construction.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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ROUTE NO.	SECTION	COUNTY	SHEETS	"SET"	SHEET NO. 1
FAP 332	47BR-2	VERMILION	68	20	23 SHEETS
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

Contract #70420

STATION 2522+72.00
BUILT 200 BY
STATE OF ILLINOIS
F.A.P. RT. 332 SECTION 47BR-2
LOADING HL93
STRUCTURE NO. 092-0206

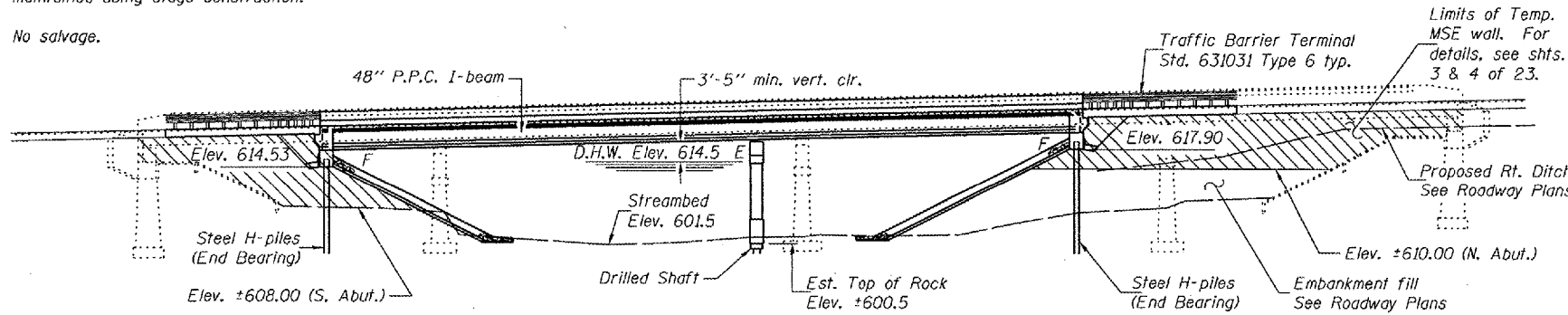
NAME PLATE
See Std. 515001

GENERAL NOTES

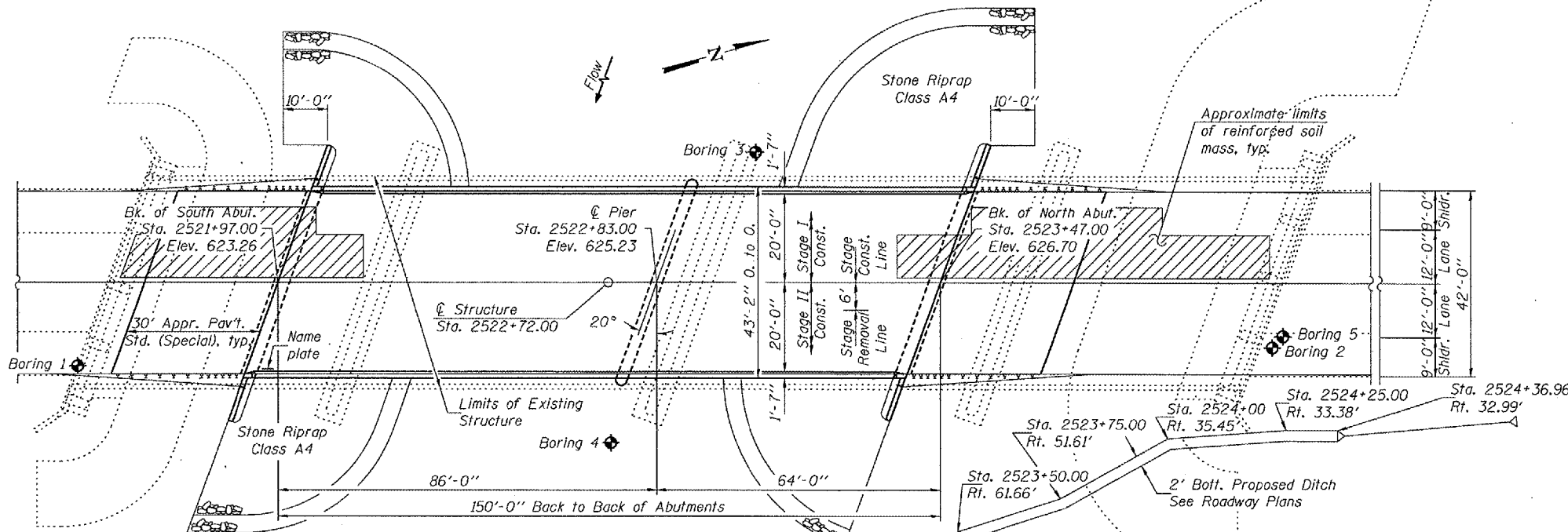
Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322, Grade 60.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The Contractor shall drive two (2) steel HP12x53 test piles in a permanent location, one at each abutment as directed by the Engineer before ordering the remainder of piles.
All construction joints shall be bonded.
The embankment configuration shown shall be the minimum embankment that must be constructed prior to the construction of the abutments.

TOTAL BILL OF MATERIAL

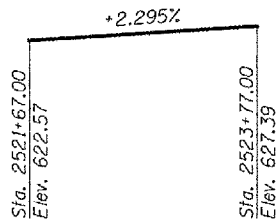
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		181.0	181.0
Stone Riprap, Class A4	Sq. Yd.		1260	1260
Filter Fabric	Sq. Yd.		1260	1260
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		5.7	5.7
Concrete Structures	Cu. Yd.		103.8	103.8
Concrete Superstructure	Cu. Yd.	244.2		244.2
Bridge Deck Grooving	Sq. Yd.	633		633
Protective Coat	Sq. Yd.	792		792
Elastomeric Bearing Assembly, Type I	Each		16	16
Furnishing and Erecting Precast Prestressed Concrete I Beams, 48"	Foot	1185		1185
Reinforcement Bars, Epoxy Coated	Pound	54810	18300	73110
Furnishing Steel Piles HP12x53	Foot		385	385
Driving Piles	Foot		385	385
Test Pile Steel HP12x53	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each	1		1
Bar Splicers	Each	526	207	733
Drilled Shaft in Soil 36"	Foot		20	20
Drilled Shaft in Rock 30"	Foot		28	28
Temporary Mechanically Stabilized Earth Wall	Sq. Ft.		1575	1575
Diamond Grinding (Bridge Section)	Sq. Yd.	936		936
Underwater Structure Excavation Protection - Location 1	Each		1	1
Pipe Underdrains for Structures, 4"	Foot		140	140
Geocomposite Wall Drain	Sq. Yd.		106.5	106.5



ELEVATION



PLAN



PROFILE GRADE

Notes: The profile grade shows the final elevations after grinding. Up to 1/4" will be ground off the bridge slab and bridge approach pavement.

	S. Abut.	Pier	N. Abut.
Design scour elev.	614.6	597.5	617.9

WATERWAY INFORMATION

Low Grade Elev. 619.54 @ Sta. 2519+00

Flood	Freq. Yr.	Q	C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
				Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	5709	1648	1106	614.5	0	0.2	614.5	614.7	
Base	100	6376	1729	1153	614.9	0	0.3	614.9	615.2	
Overtopping										
Max. Calc.	500	7906	1894	1248	615.7	0	0.3	615.7	616.0	

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

2004 AASHTO LRFD Bridge Design Specifications with 2005 & 2006 Interims

DESIGN STRESSES

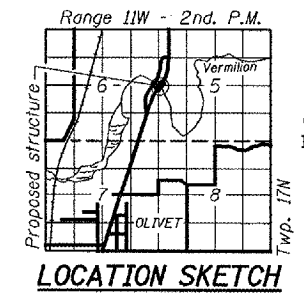
FIELD UNITS
f_c' = 3,500 psi
f_y = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f_c' = 6,000 psi
f_{ci}' = 5,000 psi
f_s' = 270,000 psi (1/2" dia. low lax strands)
f_{sl}' = 201,960 psi (1/2" dia. low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.047g
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN & ELEVATION
U.S. RTE. 150 / IL. RTE. 1 OVER
LITTLE VERMILION RIVER
F.A.P. RTE. 332 - SEC. 47BR-2
VERMILION COUNTY
STATION 2522+72.00
STRUCTURE NO. 092-0206

DESIGNED	Thomas P. Novak
CHECKED	Stephanie M. Ryan
DRAWN	h.t. duong
CHECKED	DPN/SMR

August 4, 2006
EXAMINED: Thomas P. Novak
PASSED: Robert M. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2006