

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAS 1536	125BR	Macon	45	13	29 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #74145

Bench Mark: BM 4261-6; Chiseled square on the top of the Southwest wingwall of bridge, 16.7' RT. Elevation 649.44

Existing Structure: S.N. 058-0046 Built 1931 as S.B.I. Rt. 48 Sec. 125B at Station 616+52 as a four span reinforced concrete T-beam 212' Bk.-Bk. abutment and out to out of deck width of 32'-6" supported on untreated timber piles.
Bridge widening in 1970 with PPC deck beams & bituminous overlay.
Existing bridge to be removed & replaced.
Traffic to be maintained utilizing stage construction.

No salvage

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
Reinforcement bars designated (E) shall be epoxy coated.
Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
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.
The Contractor is advised that the existing concrete superstructure is a continuous structure and removal must be done in a proper sequence, possibly falsework support. See Special Provisions.
Slip-forming of the parapets is not allowed.

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29. Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		153.0	153.0
Stone Riprap, Class A4	Sq. Yd.		1680	1680
Filter Fabric	Sq. Yd.		1680	1680
Removal of Existing Structure	Each	1		1
Structure Excavation	Cu. Yd.		182	182
Floor Drains	Each	34		34
Concrete Structures	Cu. Yd.		100.6	100.6
Concrete Superstructure	Cu. Yd.	286.0		286.0
* Bridge Deck Grooving	Sq. Yd.	923		923
Concrete Encasement	Cu. Yd.		30.4	30.4
* Protective Coat	Sq. Yd.	1172		1172
Furnishing and Erecting Precast Prestressed Concrete I Beams, 48"	Foot	1275		1275
Reinforcement Bars, Epoxy Coated	Pound	66,050	12,280	78,330
Bar Splicers	Each	720	80	800
Furnishing Metal Shell Piles 14"x0.312"	Foot		994	994
Furnishing Steel Piles HP12x53	Foot		640	640
Driving Piles	Foot		1634	1634
Test Pile Metal Shells	Each		2	2
Test Pile Steel HP12x53	Each		2	2
Temporary Sheet Piling	Sq. Ft.		822	822
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		81	81
Pipe Underdrains for Structures, 4"	Foot		152	152
Geotextile Retaining Wall	Sq. Ft.		395.0	395.0
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1

*Quantities include bridge and approach pavement.

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 LRFD AASHTO w/2005 & 2006 Interims

DESIGN STRESSES

FIELD UNITS

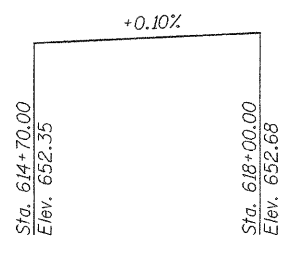
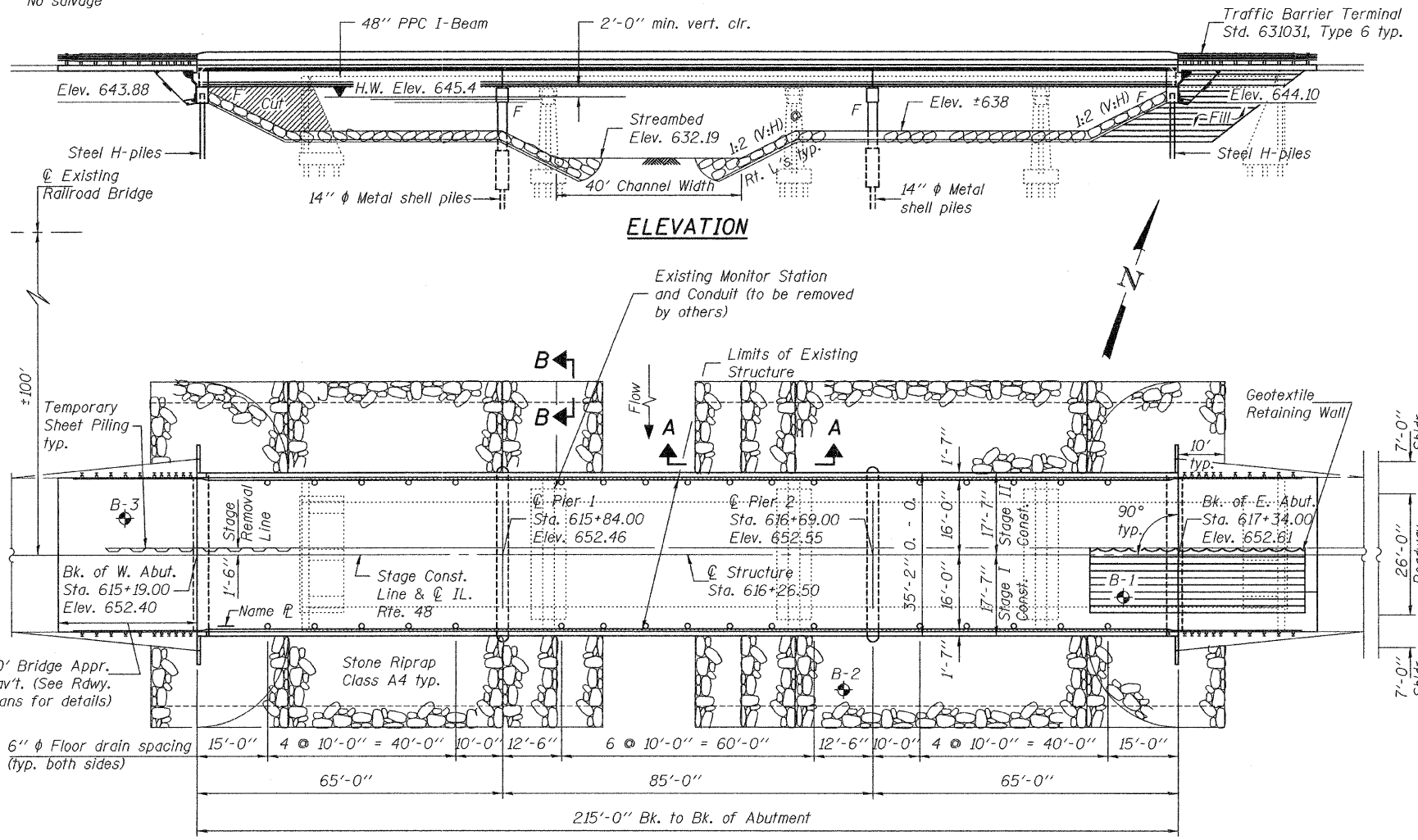
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 4.5%g
Site Coefficient (S) = 1.0



STATION 616+26.50
BUILT 200 BY
STATE OF ILLINOIS
F.A.S. ROUTE 1536 - SECTION 125BR
LOADING HL93
STRUCTURE NO. 058-0132

NAME PLATE
See Std. 515001

Design Scour Elevation (feet)	West Abut.	Pier 1	Pier 2	East Abut.
	643.88	626.0	626.0	644.10

WATERWAY INFORMATION

Existing Low Grade Elev. 649.7 @ Sta. 617+50
Proposed Low Grade Elev. 652.1 @ Sta. 612+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.	Exist.	Prop.
Design	50	6130	1599	1605	645.4	0.5	0.4	645.9	645.8		
Base	100	7260	1599	1767	646.3	0.6	0.4	646.9	646.7		
Max. Calc.	500	10200	1599	2046	648.1	1.1	0.6	649.2	648.7		

10 year velocity through Existing Bridge = 3.0 fps 10 year velocity through Proposed Bridge = 3.0 fps

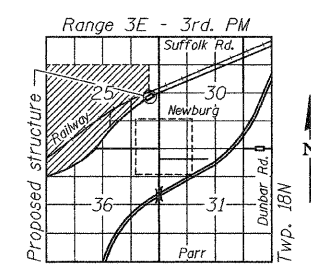
PROFILE GRADE
(along ϕ Roadway)

DESIGNED	[Signature]
CHECKED	[Signature]
DRAWN	W.D. Collins OML
CHECKED	SEA / NRB

November 14, 2008
EXAMINED [Signature]
PASSED [Signature]
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2010



LOCATION SKETCH

GENERAL PLAN
IL. ROUTE 48 OVER
FRIENDS CREEK
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132