

Bench Mark: TBM #53 Chiseled square on top of Northeast wingwall of existing structure. Station 1070+08, 17.5' Left. Elev. 692.15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 1
F.A.P. 717	(111B)BR	DEWITT	53	21	16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #70387

Existing Structure: S.N. 020-0007, originally built in 1930 as S.B.I. 120, Section 111B. In 1971, the superstructure was replaced and the substructure was widened as F.A. Route 11, Section 111BR. The existing structure is a two span PPC deck beam bridge supported on closed abutments and a solid wall pier on a pile supported footing. The back to back abutments measures 106'-3 1/4" and 33'-0" out to out of deck. The existing structure is to be removed and replaced. Traffic to be detoured.

No salvage.

INDEX OF SHEETS

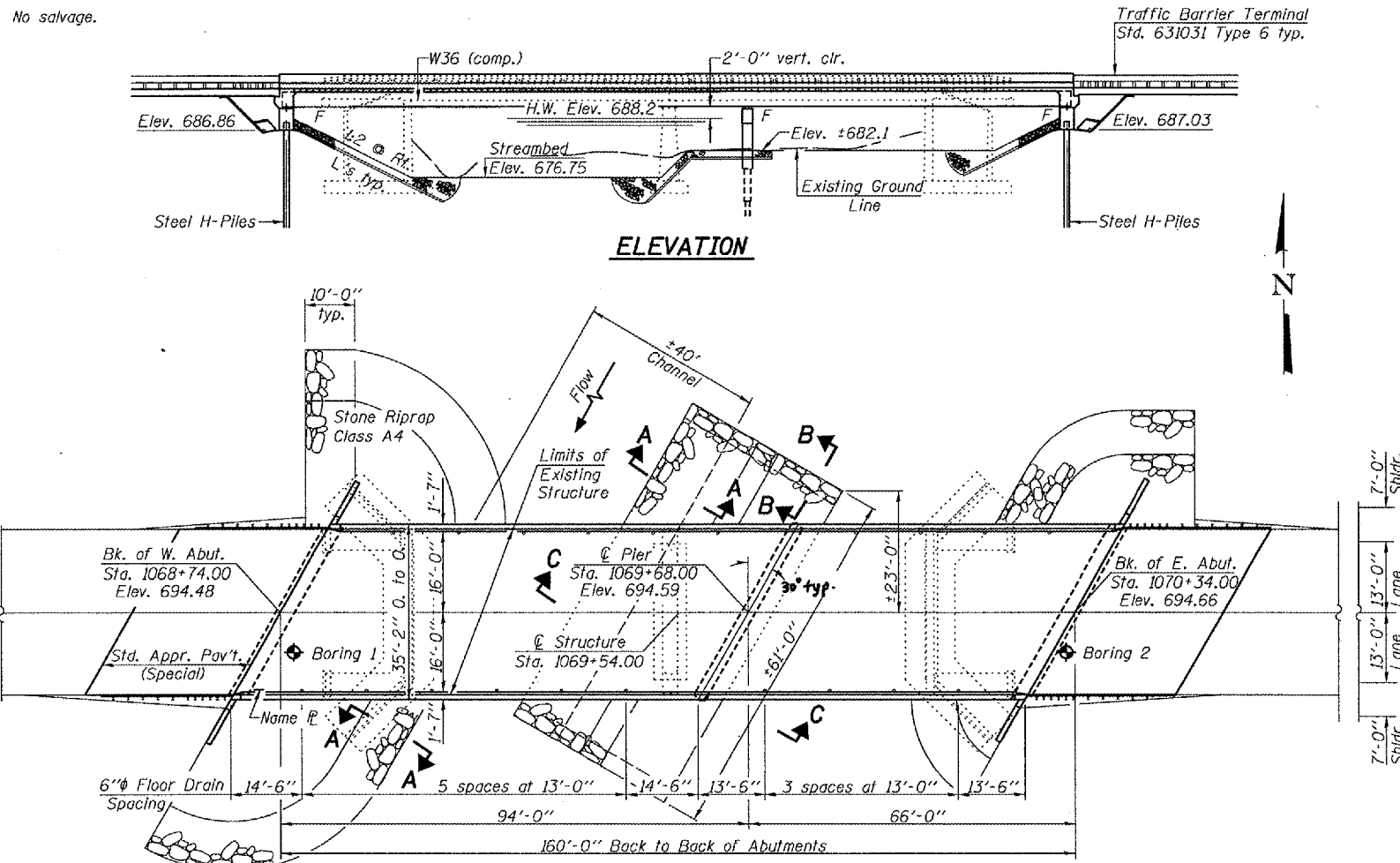
1. General Plan & Elevation
2. General Details
- 3-5. Top of Slab Elevations
6. Superstructure
7. Superstructure Details
8. Diaphragm Details
9. Structural Steel
10. Structural Steel & Bearing Details
11. Anchor Bolt Details
12. West Abutment
13. East Abutment
14. Pier
15. Bar Splicer Assembly Details
16. Boring Details

GENERAL NOTES

Fasteners shall be high strength bolts AASHTO M 164, Type 3 in unpainted areas. Bolts 7/8" ϕ , open holes 5/8" ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 179,430 pounds
 All structural steel shall be AASHTO M 270 Grade 50W.
 Field welding of construction accessories will not be permitted to beams. Anchor bolts shall be set before bolting diaphragms over supports.
 The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
 The Contractor shall drive one (1) Steel HP 12x53 test piles in a permanent location at each abutment and one (1) Steel HP 12x74 test pile in a permanent location at the pier as directed by the Engineer before ordering the remainder of piles.
 AASHTO M 270 Grade 50W structural steel shall only be painted, at the ends of the beams, for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with an inorganic zinc rich primer per AASHTO M 300, Type 1. No field painting shall be required. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".
 All construction joints shall be bonded.
 Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

TOTAL BILL OF MATERIAL

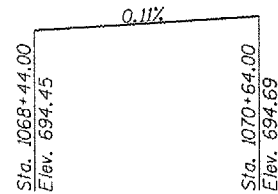
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		382	382
Protective Coat	Sq. Yd.	703		703
Concrete Structures	Cu. Yd.		70.5	70.5
Concrete Superstructure	Cu. Yd.	190.8		190.8
Furnishing and Erecting Structural Steel	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	44810	8230	53040
Name Plates	Each	1		1
Porous Granular Embankment (Special)	Cu. Yd.		140	140
Furnishing Steel Piles HP 12x53	Foot		715	715
Furnishing Steel Piles HP 12x74	Foot		552	552
Driving Piles	Foot		1267	1267
Stud Shear Connectors	Each	3084		3084
Bar Splicers	Each	64		64
Floor Drains	Each	20		20
Stone Riprap, Class A4	Sq. Yd.		855	855
Test Pile Steel HP 12x53	Each		2	2
Test Pile Steel HP 12x74	Each		1	1
Filter Fabric	Sq. Yd.		855	855
Geocomposite Wall Drain	Sq. Yd.		76.4	76.4
Underwater Structure Excavation Protection-Location 1	Each	1		1
Pipe Underdrains for Structures 4"	Foot		110	110
Diamond Grinding (Bridge Section)	Sq. Yd.	722		722
Bridge Deck Grooving	Sq. Yd.	633		633



ELEVATION

PLAN

Design Scour Elevation	W. Abut.	Pier	E. Abut.
	686.80	672.75	687.00



PROFILE GRADE

DESIGNED	Steph M Ryan
CHECKED	[Signature]
DRAWN	R. Sommer
CHECKED	SMR/FT

September 29, 2006
 EXAMINED [Signature]
 PASSED [Signature]
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2006 10 yr. velocity through Existing Bridge = 4.9 fps 10 yr. velocity through Proposed Bridge = 2.7 fps

WATERWAY INFORMATION

Exist. Low Grade Elev. 694.4 ft. @ Sta. 1068+44
 Prop. Low Grade Elev. 694.5 ft. @ Sta. 1069+52

Flood	Freq. Yr.	Q	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	2145	434	787	686.8	1.1	0.9	687.9	687.7
Base	50	3318	532	923	688.2	1.5	1.0	689.7	689.2
Overtopping	100	3818	568	1031	688.7	1.6	1.0	690.3	689.7
Max. Calc.	500	5021	650	1185	689.9	2.0	1.3	691.9	691.2

STATION 1069+54.00
 BUILT 200 BY
 STATE OF ILLINOIS
 F.A.P. RTE. 717 - SEC. (111B)BR
 LOADING HL93
 STR. NO. 020-0063

NAME PLATE

See Std. 515001

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

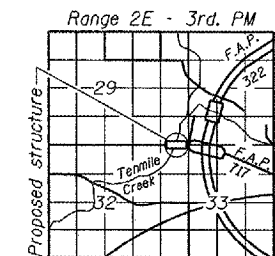
2004 AASHTO LRFD Bridge Design Specifications with 2005 Interims

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Bedrock Acceleration Coefficient (A) = 0.05g
 Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN & ELEVATION

ILLINOIS ROUTE 10 OVER
TENMILE CREEK
F.A.P. RT. 717 SEC. (111B)BR
DEWITT COUNTY
STATION 1069+54.00
STRUCTURE NO. 020-0063