

BENCHMARK

Chiseled square on Northeast corner of abutment (SN 048-0027). Elevation 721.18

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 1
FAS 1190	(125BY)BR	KNOX	94	43	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

EXISTING STRUCTURE

S.N. 048-0027, built in 1928 and widened in 1951, is a single span reinforced concrete deck with T-beam girders. The structure has closed reinforced concrete abutments and wingwalls. 63' back to back of abutments, 42'-4" out to out of deck with no skew. One lane of traffic to be maintained using stage construction.

No salvage

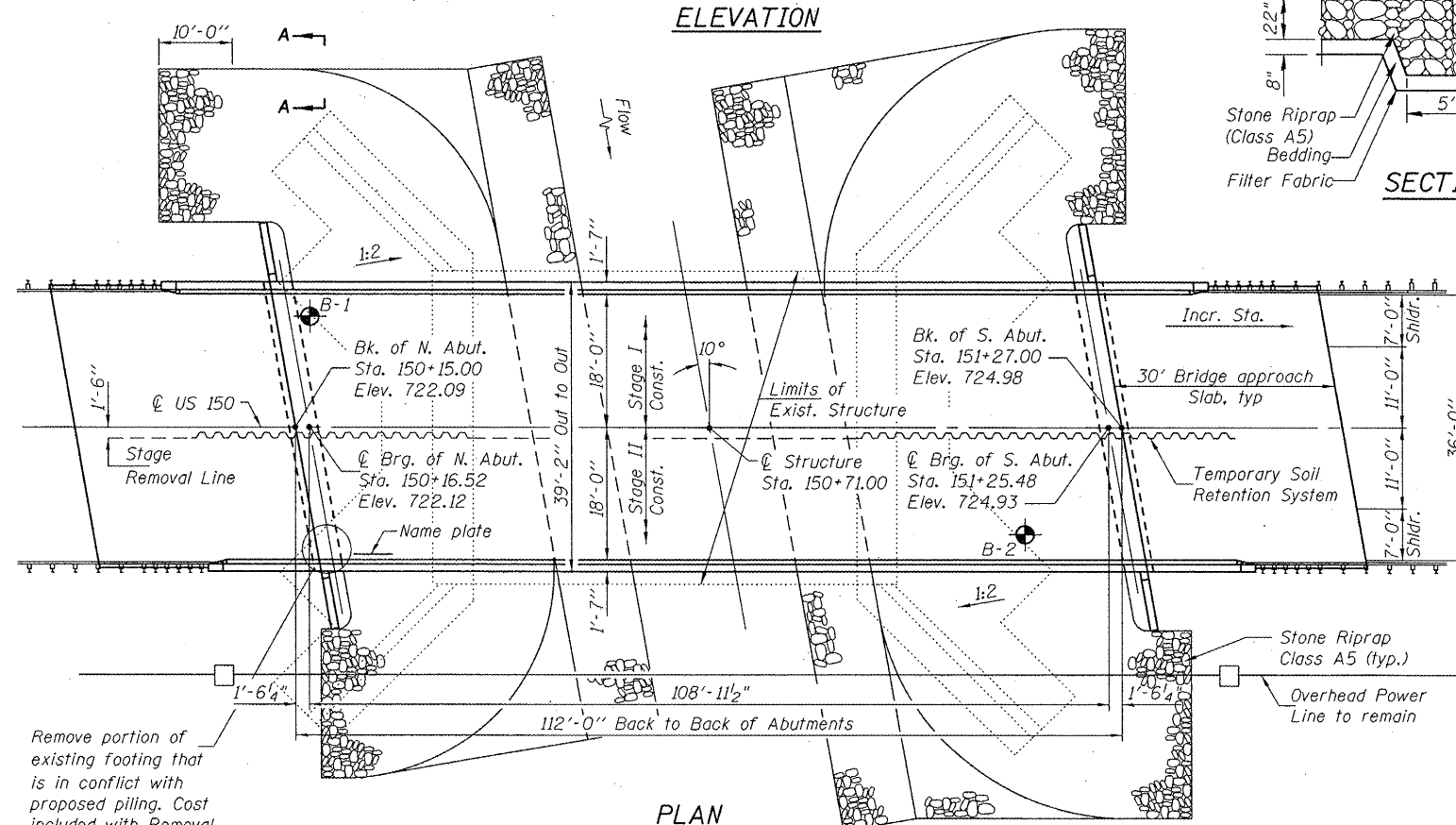
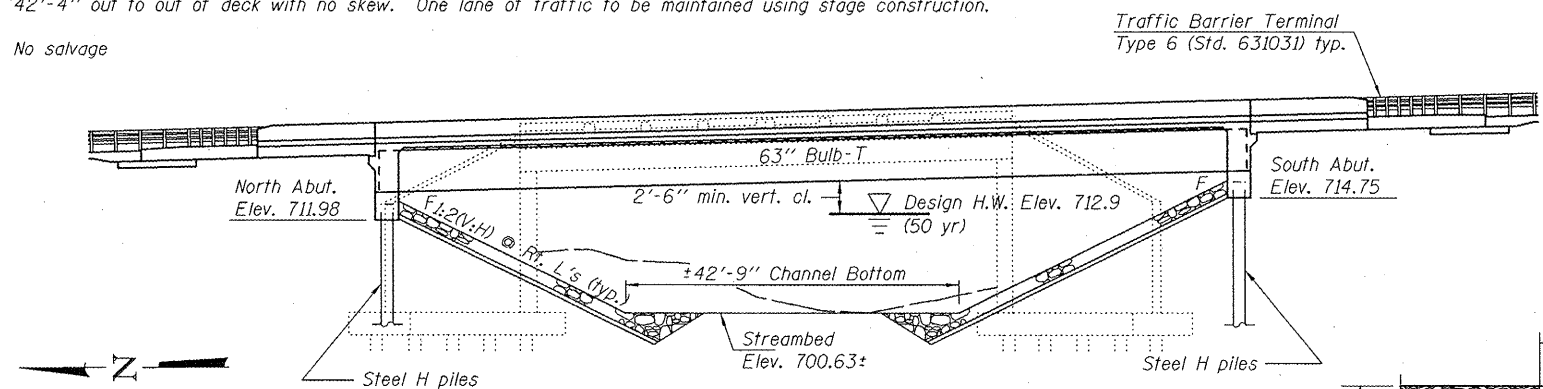
GENERAL NOTES

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
Reinforcement bars shall conform to the requirements of ASTM A706 GR 60.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
Reinforcement bars designated (E) shall be epoxy coated.
Slip-forming of the parapets is not allowed.
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

Contract No. 68087

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		230	230
Stone Riprap, Class A5	Sq. Yd.		1080	1080
Filter Fabric	Sq. Yd.		1080	1080
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		212	212
Driving Piles	Foot		355	355
Concrete Structures	Cu. Yd.		69.8	69.8
Concrete Superstructure	Cu. Yd.	318.3		318.3
Bridge Deck Grooving	Sq. Yd.	650		650
Protective Coat	Sq. Yd.	815		815
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 63"	Foot	662		662
Reinforcement Bars, Epoxy Coated	Pound	63720	6420	70140
Furnishing Steel Piles HP12x74	Foot		355	355
Test Pile Steel HP12x74	Each		2	2
Name Plates	Each		1	1
Bar Splacers	Each	562	98	660
Temporary Soil Retention System	Sq. Ft.		809	809
Pipe Underdrains for Structures, 4"	Foot		162	162
Geocomposite Wall Drain	Sq. Yd.		114	114
Concrete Encasement	Cu. Yd.		4.2	4.2

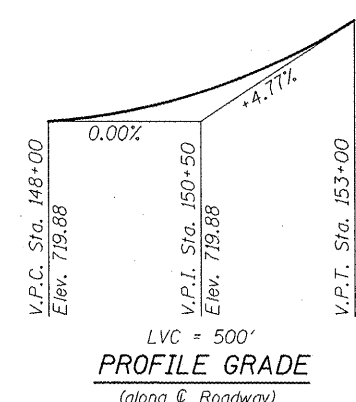


WATERWAY INFORMATION

Drainage Area = 22.10 mi ²		Low Grade Elev. 719.6 ft @ Sta. 148+50							
Flood	Freq. Yr.	Q ft ³ /s	Opening ft ²		Head - ft		Headwater Elev. - ft		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	50	3,786	478	822	712.9	1.6	0.4	714.5	713.3
Base	100	4,391	499	855	713.3	2.0	0.5	715.3	713.8
Max. Calc.	500	5,861	545	928	714.1	2.8	0.8	716.9	714.9

DESIGNED *Stephen M. Ryan*
CHECKED *Festli Tekli*
DRAWN *JMI, KBF*
CHECKED *SMR/FT*

December 6, 2011
EXAMINED *Thomas J. ...*
PASSED *David Carl Puzey*
ENGINEER OF BRIDGES AND STRUCTURES



DESIGN SPECIFICATIONS

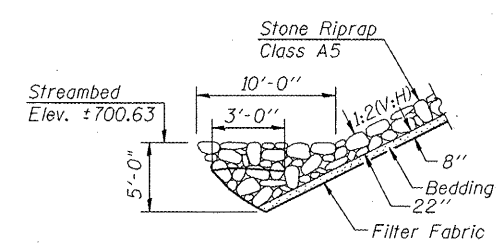
2002 AASHTO LFD
LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface

DESIGN STRESSES

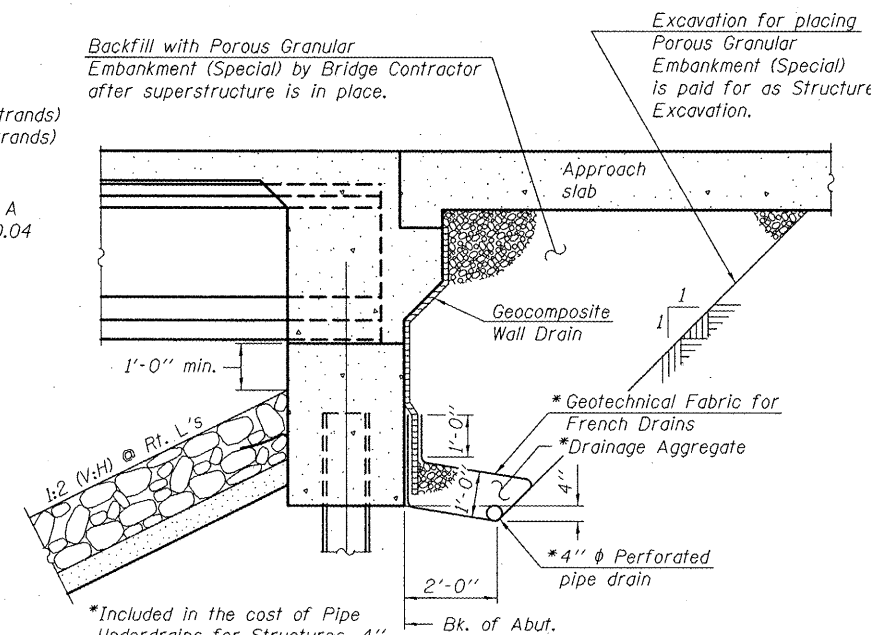
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
PRECAST PRESTRESSED UNITS
 $f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f'_s = 270,000$ psi (1/2" ϕ low relaxation strands)
 $f'_{sl} = 201,960$ psi (1/2" ϕ low relaxation strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04
Site Coefficient (S) = 1.0



STONE RIPRAP ANCHOR DETAIL
(Dimensions at Rt. Angles)



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

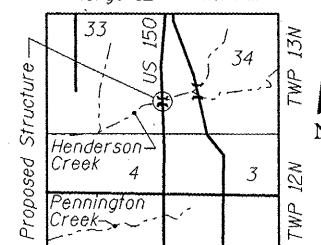
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STATION 150+71.00
BUILT 20... BY
STATE OF ILLINOIS
F.A.S. RT. 1190 SEC. (125BY)BR
LOADING HS20
STR. NO. 048-0088

NAME PLATE

See Std. 515001
Range 1E 4th PM



LOCATION SKETCH

US ROUTE 150 OVER HENDERSON CREEK
F.A.S. ROUTE 1190 - SEC. (125BY)BR
KNOX COUNTY
STATION 150+71.00
STRUCTURE NO. 048-0088

GENERAL PLAN & ELEVATION