

Bench Mark: Chiseled "□" N.W. wingwall S.N. 017-0008 Elev. 433.35

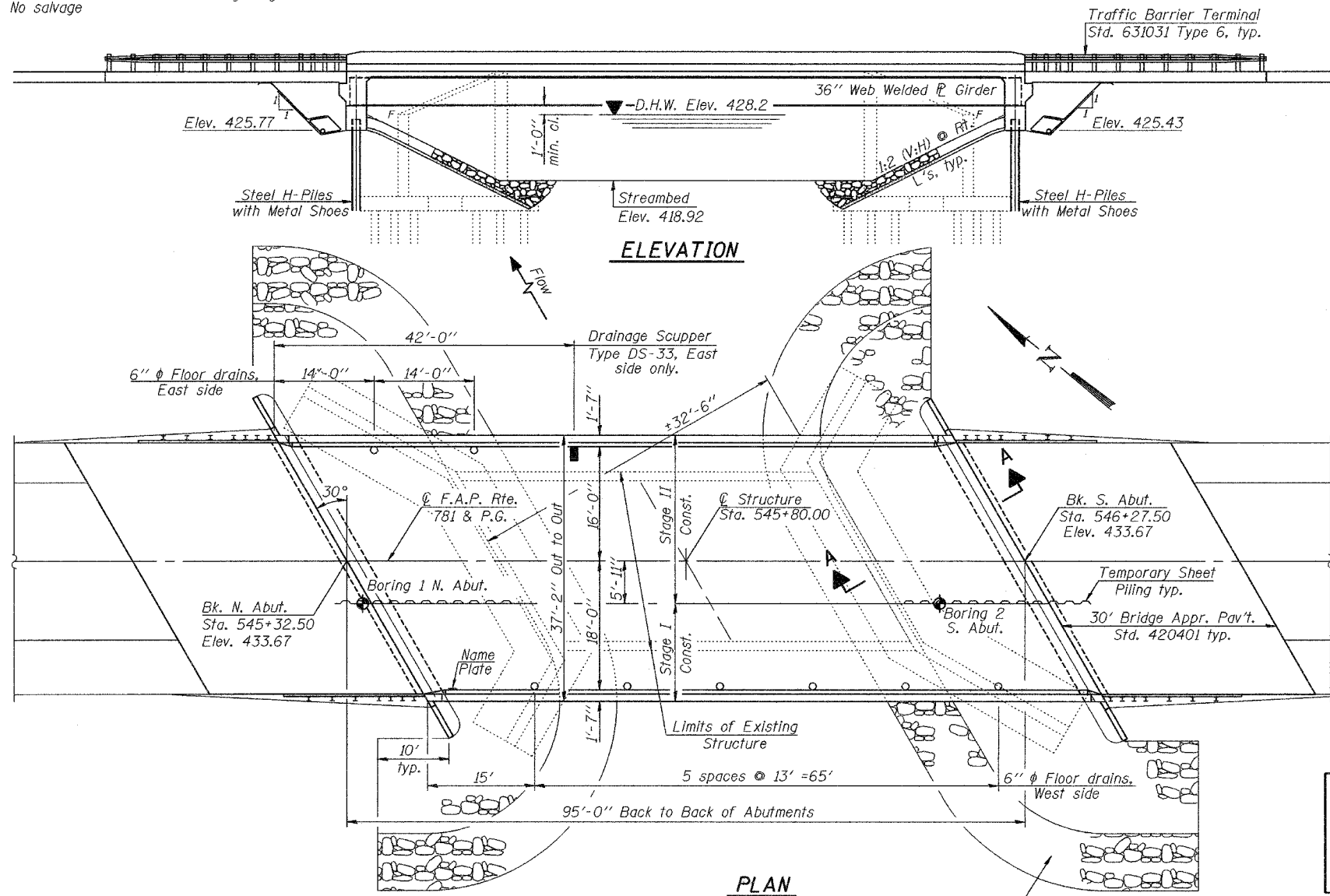
Existing Structure: S.N. 017-0008 Built 1933 as S.B.I. Route 181, Section 108B, at Sta. 545+80.  
 Existing structure consists of a single span concrete T-girder superstructure on closed abutments.  
 53'-5 1/2" Bk.-Bk. abuts. 25'-3" 0.-0. deck. Structure to be removed and replaced.  
 Traffic to be maintained using stage construction.  
 No salvage

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 781	108B-1	CRAWFORD	38	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1  
16 SHEETS

Contract #94656



INDEX OF SHEETS

1. General Plan and Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier
- 4.-5. Top of Slab Elevations
- 6.-7. Superstructure
- 8.-9. Diaphragm Details
10. Drainage Scupper
11. Structural Steel Details
12. Anchor Bolt Details
- 13.-14. Abutments
15. Bar Splicers
16. Boring Data

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 one Steel HP 12x53 test pile in a permanent location at the South Abutment as directed by the Engineer before ordering the remainder of piles.  
 Fasteners shall be high strength bolts. (AASHTO M164, Type 3). Bolts 3/4" φ, open holes 13/16" φ, unless otherwise noted.  
 All structural steel shall be AASHTO M270 Grade 50W.  
 Calculated weight of Structural Steel = 145656 lbs. (AASHTO M270 Grade 50W)  
 Field welding of construction accessories will not be permitted to girders.  
 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 tension flanges and webs.  
 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."  
 Excavation behind existing abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I Removal.  
 All construction joints shall be bonded.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		370.8	370.8
Concrete Structures	Cu. Yd.		40.0	40.0
Protective Coat	Sq. Yd.	438.4		438.4
Stone Riprap, Class A4	Sq. Yd.		736.7	736.7
Reinforcement Bars, Epoxy Coated	Pound	25210	5810	31020
Furnishing Steel Piles HP12x53	Foot		563	563
Driving Steel Piles	Foot		563	563
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each	1		1
Filter Fabric	Sq. Yd.		736.7	736.7
Bridge Deck Grooving	Sq. Yd.	336.6		336.6
Bar Splicers	Each	348	18	366
Temporary Sheet Piling	Sq. Ft.		1554	1554
Floor Drains	Each	8		8
Drainage Scuppers, DS-33	Each	1		1
Stud Shear Connectors	Each	1155		1155
Furnishing & Erecting Structural Steel	L.S.	1		1
Concrete Superstructure	Cu. Yd.	131.6		131.6
Porous Granular Embankment (Special)	Cu. Yd.		209.1	209.1
Metal Shoes	Each		13	13

STATION 545+80.00  
 BUILT 200 BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 781 SEC. 108B-1  
 LOADING HS-20  
 STR. NO. 017-0030

NAME PLATE

See Std. 515001

LOADING HS20-44

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

DESIGN SPECIFICATIONS

1996 AASHTO with 1997 thru 2002 Interims

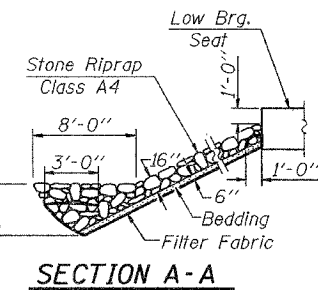
SEISMIC DATA

Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 8.4%g  
 Site Coefficient (S) = 1.0

DESIGN STRESSES

FIELD UNITS

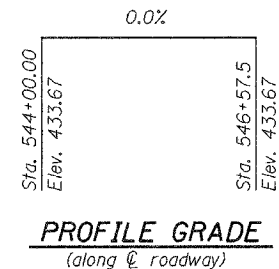
f<sub>c</sub> = 3,500 psi  
 f<sub>y</sub> = 60,000 psi (Reinforcement)  
 f<sub>y</sub> = 50,000 psi (AASHTO M270 GR. 50W)



WATERWAY INFORMATION

Drainage Area = 7.4 sq. mi. Low Grade Elev. 433.6 ft. @ Sta. 545+25

Flood	Freq. Yr.	Q	C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater E.I.
Design	50	1940	333	411	428.2	0.1	428.3
Base	100	2230	360	452	428.8	0.1	428.9
Overtopping							
Max. Calc.	500	2900	430	560	430.6	1.1	431.7



CURVE DATA

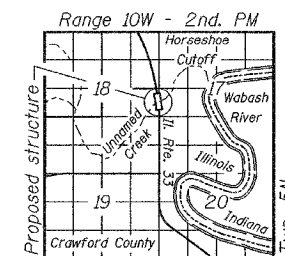
P.I. Sta. = 549+42.49  
 Δ = 18°-08'-51"  
 R = 1909.96 ft.  
 T = 305.03 ft.  
 L = 604.95 ft.  
 E = 24.20 ft.  
 S.E. = 5.4%  
 P.C. Sta. = 546+37.46  
 P.T. Sta. = 552+42.42  
 S.E. attained Sta. 544+93.66  
 to Sta. 546+86.96

DESIGNED *William A. Beisner*  
 CHECKED *chclp*  
 DRAWN R. Dalsin  
 CHECKED CCC/SJB/SMR

December 13 2005  
 EXAMINED *Thomas J. Damschke*  
 PASSED *Robert E. Anderson*  
 ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2006



LOCATION SKETCH

GENERAL PLAN & ELEVATION

ILLINOIS ROUTE 33 OVER  
 UNNAMED CREEK  
 F.A.P. ROUTE 781 - SECTION 108B-1  
 CRAWFORD COUNTY  
 STATION 545+80.00  
 STRUCTURE NO. 017-0030