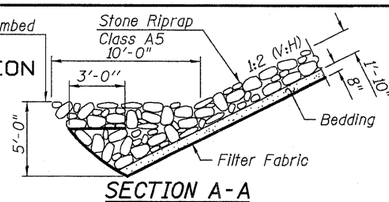
B.M. 151: Chiseled box on SE wingwall of SN 031-0018, Sta. 85+92, 18.2' Left, Elev. 512.96.

EXISTING STRUCTURE: S.N. 031-0018, originally constructed in 1952 as FA Route 164 Sec. 410-B at Station 85+20.00, using cast-in-place concrete deck beams with 7" concrete deck, 3 spans, 147'-0" back-back abutments, 35'-8" out-out width, open pile bent abutment on concrete piles, wall piers with footings on timber piles, open abutment with footing on timber piles. In 1988 the bridge was repaired, including a concrete deck overlay and new bridge railing.

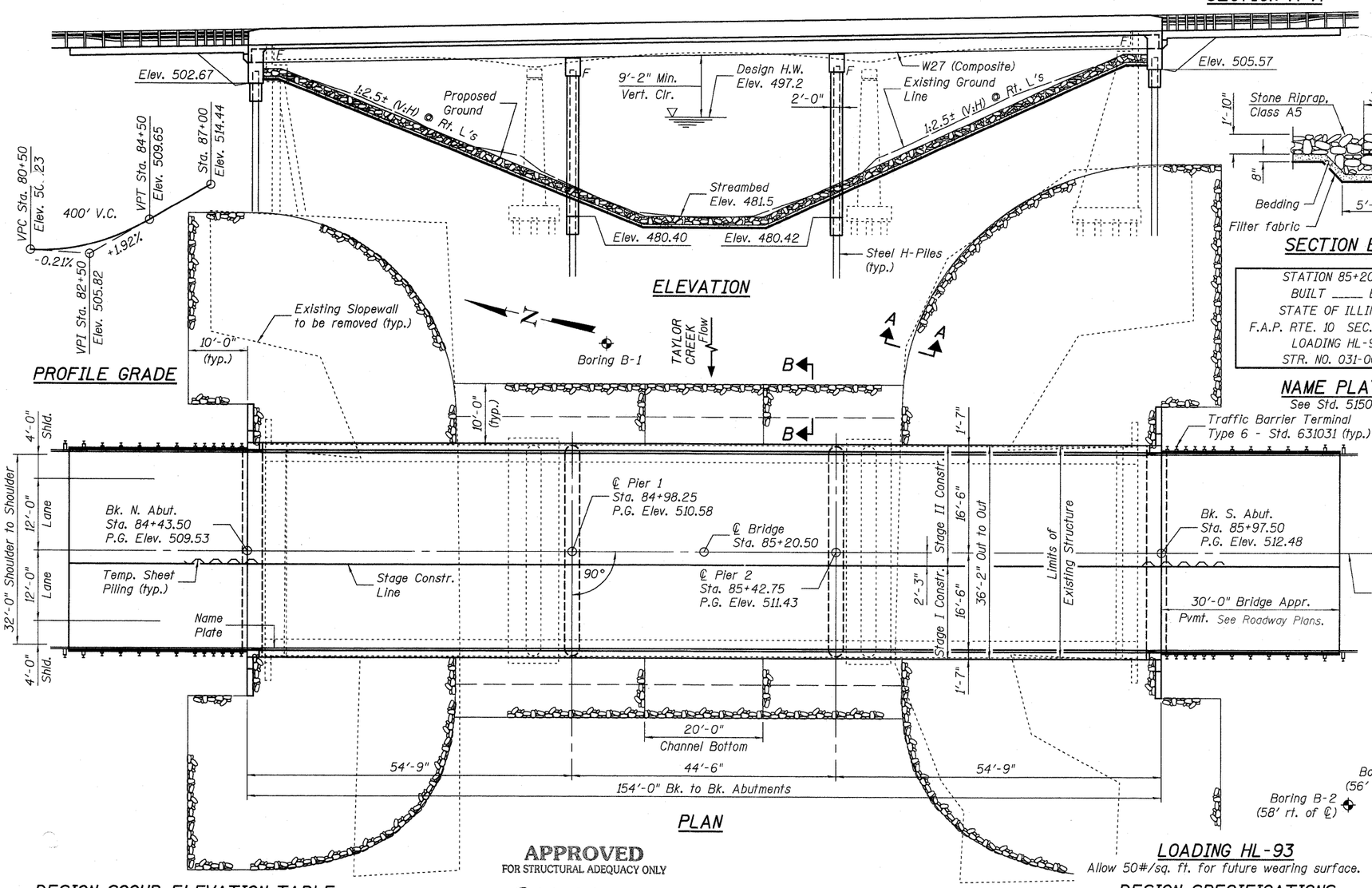
Existing structure shall be removed and replaced using staged construction to maintain one lane of traffic.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A



ELEVATION

PROFILE GRADE

PLAN

SECTION B-B

STATION 85+20.50
BUILT ____ BY
STATE OF ILLINOIS
F.A.P. RTE. 10 SEC. 410BR-1
LOADING HL-93
STR. NO. 031-0043

NAME PLATE

See Std. 515001

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{7}{8}$ in. ϕ, holes $\frac{15}{16}$ in. ϕ, unless otherwise noted.

All structural steel shall be AASHTO M 270 Grade 50W.

Calculated weight of Structural Steel = 89040 lbs.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated.

Structural steel shall only be painted 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 a Department approved zinc rich primer. 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".

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu Yd	--	98	98
Stone Riprap, Class A5	Sq Yd	--	1661	1661
Filter Fabric	Sq Yd	--	1661	1661
Removal Of Existing Structures	Each	1	--	1
Slope Wall Removal	Sq Yd	--	1080	1080
Structure Excavation	Cu Yd	--	224	224
Concrete Structures	Cu Yd	--	175.2	175.2
Concrete Superstructure	Cu Yd	191.9	--	191.9
Bridge Deck Grooving	Sq Yd	530	--	530
Concrete Encasement	Cu Yd	--	8.4	8.4
Protective Coat	Sq Yd	694	--	694
Furnishing And Erecting Structural Steel	L Sum	1	--	1
Stud Shear Connectors	Each	2700	--	2700
Reinforcement Bars, Epoxy Coated	Pound	45480	13080	58560
Bar Splicers	Each	552	124	676
Furnishing Steel Piles HP 12x53	Foot	--	1050	1050
Furnishing Steel Piles HP 12x63	Foot	--	1050	1050
Driving Piles	Foot	--	2100	2100
Test Pile Steel HP12x53	Each	--	2	2
Test Pile Steel HP12x63	Each	--	2	2
Pile Shoes	Each	--	24	24
Temporary Sheet Piling	Sq Ft	--	299	299
Name Plates	Each	1	--	1
Anchor Bolts, 1"	Each	--	48	48
Geocomposite Wall Drain	Sq Yd	--	62	62
Pipe Underdrains For Structures 4"	Foot	--	134	134
Underwater Struct. Excav. Protection - Loc. 1	Each	--	1	1
Underwater Struct. Excav. Protection - Loc. 2	Each	--	1	1

INDEX OF SHEETS

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut.	Pier 1	Pier 2	S. Abut.
	502.7	480.4	480.4	505.6

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E Anderson (TSD)
ENGINEER OF BRIDGES AND STRUCTURES

WATERWAY INFORMATION

Existing Low Grade Elevation: 506.23 @ Sta. 81+00

Drainage Area = 30.8 sq. mi. Prop. Low Grade Elevation: 506.23 @ Sta. 81+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Scour	10	4100	533.80	672.72	494.71	1.23	1.12	495.94	495.83
Design	50	6600	737.35	893.34	497.18	2.67	2.51	499.85	499.69
Base	100	7720	806.50	969.48	497.96	3.68	3.46	501.64	501.42
Overtopping									
Max. Calc.	500	10500	972.14	1153.75	499.73	5.54	5.33	505.27	505.06

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications

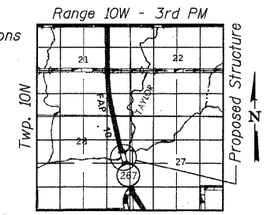
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.060g
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN
ILLINOIS 267 OVER TAYLOR CREEK
STRUCTURE NO. 031-0043

SHEET 1 OF 19	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	10	410BR-1	GREENE	37	13
		STA. 85+20.50	CONTRACT NO. 76B58		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ	DRAWN: P. Ray
CHECKED: DCD	CHECKED: DCD

STATE OF ILLINOIS
DAVID C. DEPP
081-005117
LICENSED
STRUCTURAL ENGINEER

Signed: David Depp
Date: 10-7-2008
Lic. Expires: 11-30-2008

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