

Bench Mark: 4753-1 Chiseled square on top of the Northeast wingwall of upstream railroad bridge.
Station 142+66.00 Lt. 77.16' Elevation = 722.66

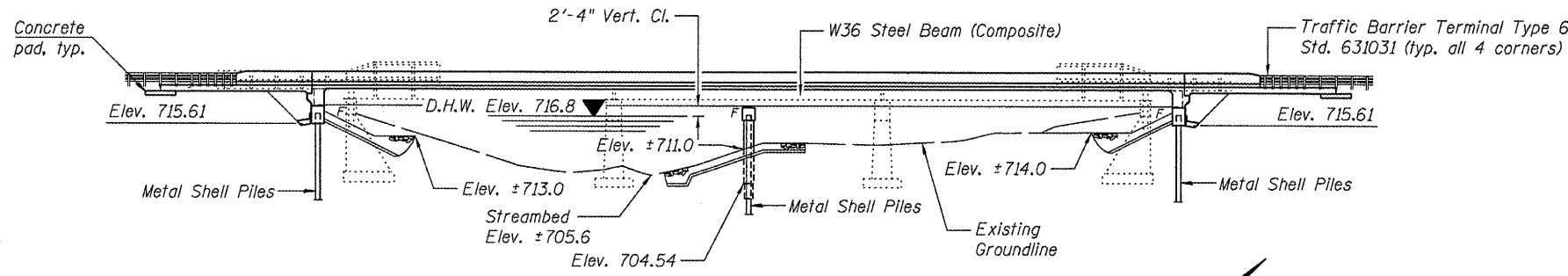
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Existing Structure: S.N. 020-0012 was built in 1928 as S.B.I. Rt. 48 Section 121 R.B. and widened in 1951. In 1979 the bridge was widened and the superstructure was replaced with 3 simple span PPC deck beams added under F.A. Rt. 71 Section 121BR. The substructure consists of spill-through abutments and solid piers founded on timber piles. The Bk. to Bk. dimension measures 159'-2 5/8" while the out-to-out, width measures 41'-0". The structure is to be replaced using stage construction.

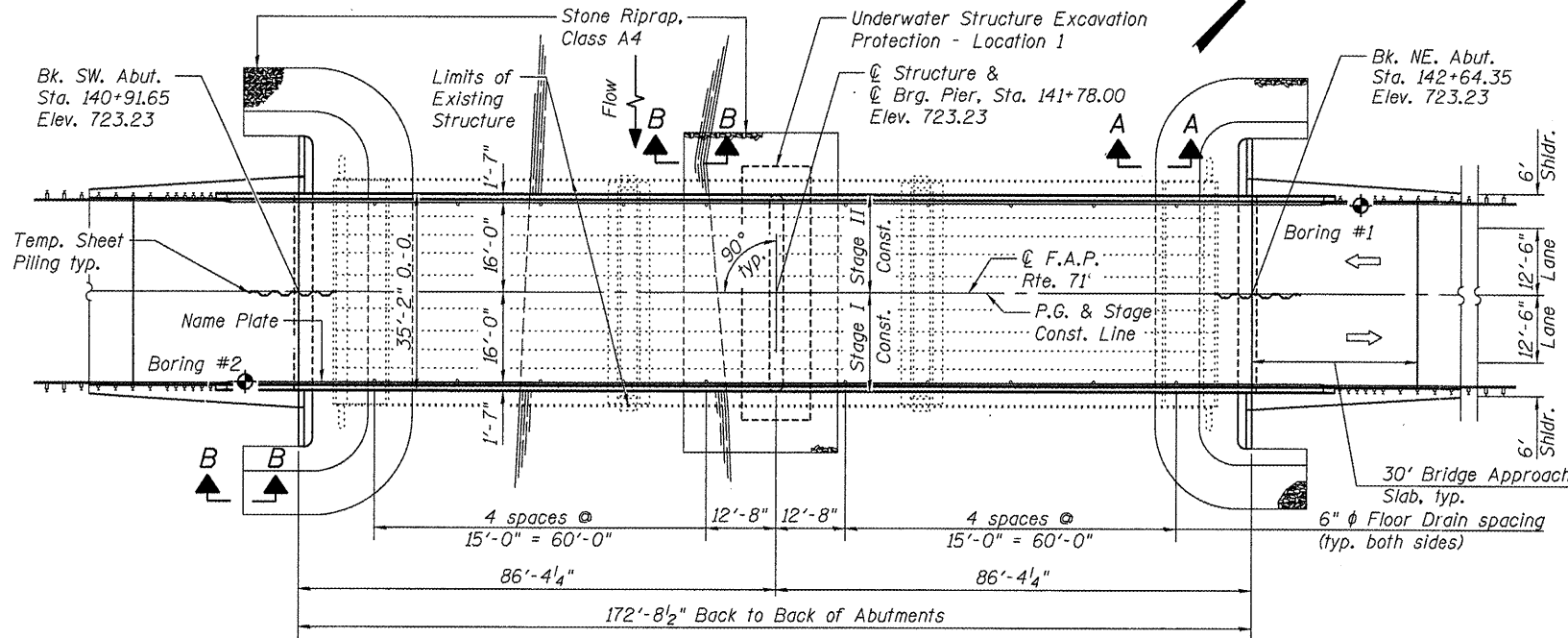
No Salvage.

STATION 141+78.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RTE 71 SEC. (121BR)BR
LOADING HL-93
STRUCTURE NO. 020-0064

NAME PLATE
See Std. 515001

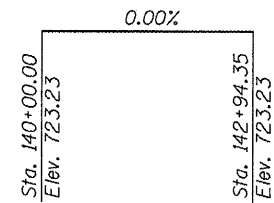


ELEVATION
(Looking Northwest)



PLAN

Note: See Sheet 2 of 29 for Sections A-A and B-B



PROFILE GRADE
(along centerline roadway)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	SW. Abut.	Pier	NE. Abut.
	715.5	701.0	715.5

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	4502	903	942	716.8	1.4	0.6	718.2	717.4
Base	100	5220	963	1006	717.2	1.5	0.7	718.7	717.9
Overtopping									
Max. Calc.	500	6954	1098	1153	718.1	2.1	0.9	720.2	719.0

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TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		134	134
Stone Riprap, Class A4	Sq. Yd.		512	512
Filter Fabric	Sq. Yd.		512	512
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		245	245
Floor Drains	Each	20		20
* Concrete Structures	Cu. Yd.	20.9	79.8	100.7
* Concrete Superstructure	Cu. Yd.	336.9		336.9
* Bridge Deck Grooving	Sq. Yd.	776		776
Concrete Encasement	Cu. Yd.		12.1	12.1
* Protective Coat	Sq. Yd.	1,005		1,005
Furnishing and Erecting Structural Steel	L. Sum			1
Stud Shear Connectors	Each	2,232		2,232
* Reinforcement Bars, Epoxy Coated	Pound	73,560	11,220	84,780
* Bar Splicers	Each	739	134	873
Furnishing Metal Shell Piles 14"φ x 0.312"	Foot		839	839
Driving Piles	Foot		839	839
Test Pile, Metal Shell	Each		3	3
Temporary Sheet Piling	Sq. Ft.		1,172	1,172
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	36		36
Geocomposite Wall Drain	Sq. Yd.		77	77
Pipe Underdrains for Structures, 4"	Foot		145	145
* Diamond Grinding (Bridge Section)	Sq. Yd.	724		724
Underwater Structure Excavation Protection - Location 1	Each		1	1
Asbestos Bearing Pad Removal	Each			39
Permanent Bench Marks	Each			1

* Quantity includes Approach Slab

APPROVED
For Structural Adequacy Only

Ralph E. Anderson
Engineer of Bridges & Structures

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

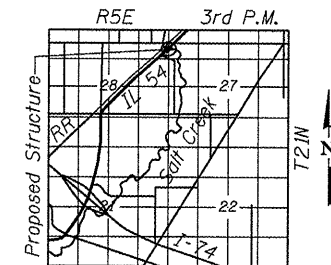
DESIGN STRESSES

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
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.13g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.22g
Soil Site Class = D



LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 54 OVER
SALT CREEK
F.A.P. RTE. 71 - SEC. (121BR)BR
DEWITT COUNTY
STATION 141+78.00
STRUCTURE NO. 020-0064

DESIGNED	SMM
CHECKED	SLD
DRAWN	SMM
CHECKED	KMS



Sean M. Szymanski
Structural Engineer
Clark Dietz, Inc.
DATE: 7/7/09
License Expires 11-30-2010

CLARK DIETZ, INC.

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	71	(121BR)BR	DEWITT	75	30
CONTRACT NO. 70429					
FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT					