CONTRACT NO. 70600

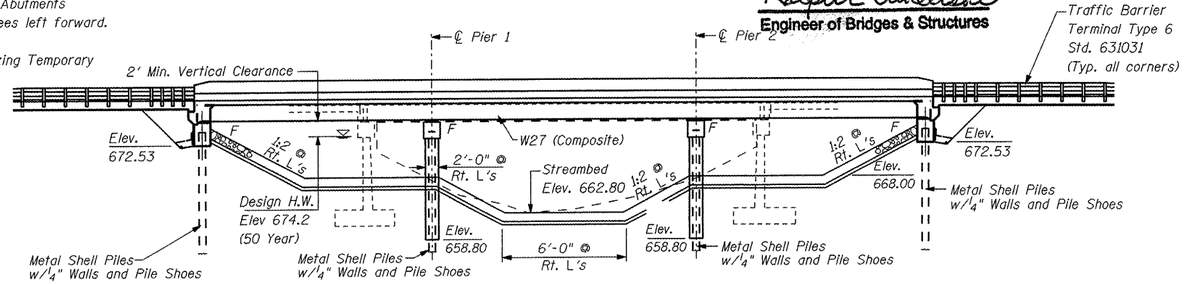
EXISTING STRUCTURE: S.N. 010-0139 to be removed. Built in 1928 as S.B.I. Route 49, Section 118B at Sta. 688+85. Reconstructed in 1971 as FA 836, Section 118 BR-1 at STA. 688+85 single span structure, PPC Deck Beams 62'-1 3/8" Bk. to Bk. of Abutments and 33'-0" O. to O. and skewed 35 degrees left forward.

One lane of traffic to be maintained utilizing Temporary Signals and Stage Construction.

No salvage.

Bench Mark: Chiseled "□" on the East Side of the top of the South Abutment of S.N. 010-0139. Sta. 688+43.49, 17.7' Rt. Elevation= 676.38

APPROVED
For Structural Adequacy Only
Ralph E Anderson
Engineer of Bridges & Structures

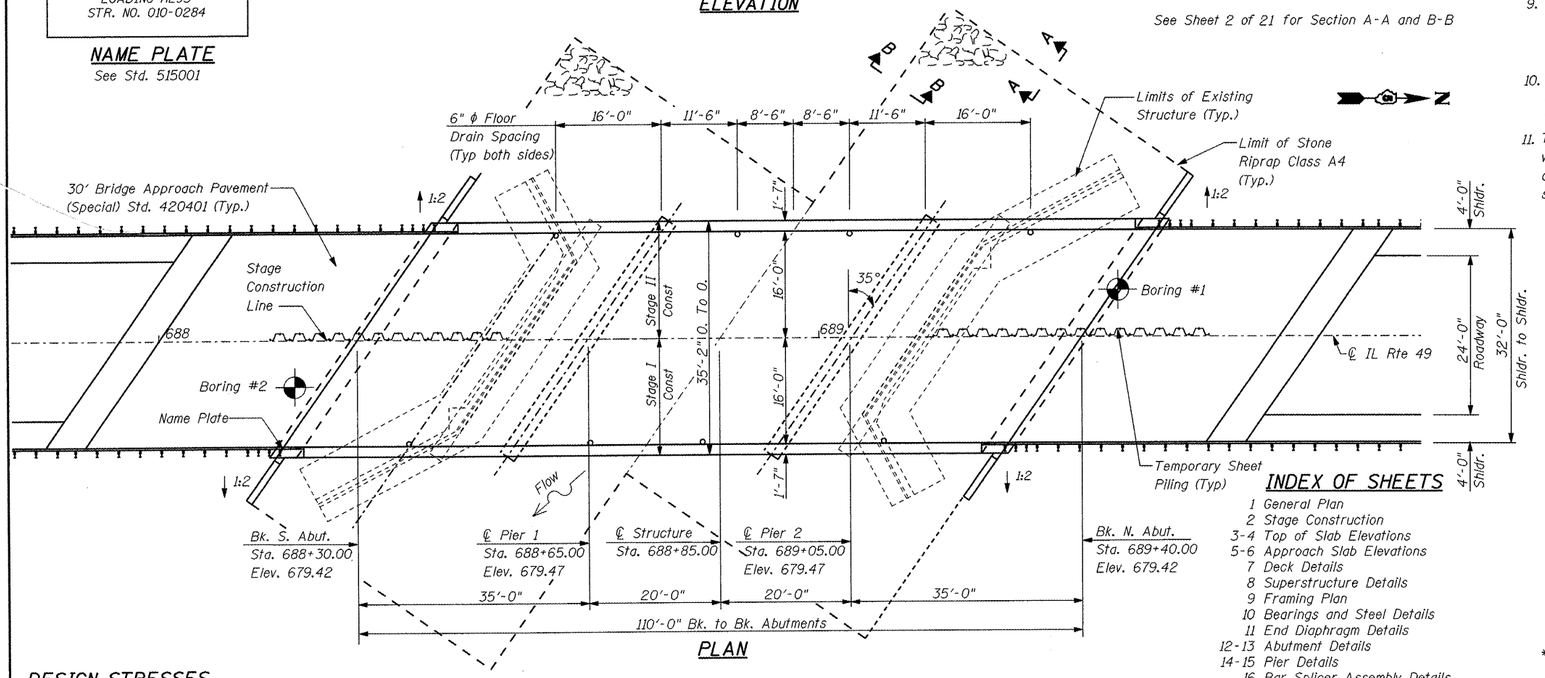


ELEVATION

See Sheet 2 of 21 for Section A-A and B-B

STATION 688+85
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 836 SEC. 118BR-2
LOADING HL93
STR. NO. 010-0284

NAME PLATE
See Std. 515001



PLAN

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164, Type 3, in unpainted areas. Bolts 7/8" diameter, open holes 15/16" diameter, unless otherwise noted.
2. Calculated weight of Structural Steel = 62990 lbs
3. All Structural steel shall be AASHTO M270, GRADE 50W.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60. (IL Modified)
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
8. 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 bearings.
9. 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. 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".
10. The Contractor shall drive 2 test piles to 110% of the nominal required bearing specified in production locations, (one at Pier 1 and one at the North abutment) as directed by the Engineer before ordering the remainder of the piles.
11. The Contractor is advised that the existing PCC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for the removal of the superstructure.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Porous Granular Embankment, Special	Yd³		93	93
	Pipe underdrains for Structures, 4 inch	Lf		164	164
	Geocomposite Wall Drain	Yd²		76	76
	Stone Riprap, Class A4	Yd²		801	801
	Filter Fabric	Yd²		801	801
	Removal of Existing Structures	Each		1	1
	Structure Excavation	Yd³		228	228
	Bridge Deck Grooving	Yd²	367		367
	Protective Coat	Yd²	482		482
	Concrete Structures	Yd³		57.2	57.2
	Concrete Superstructure	Yd³	149		149
	Reinforcement Bars, Epoxy Coated	Lb	32860	6180	39040
	Floor Drains	Each	8		8
	Name Plates	Each	1		1
	Furnishing Metal Shell Piles, 14" x 0.250"	Ft.		1164	1164
	Driving Piles	Ft.		1164	1164
	Test Pile Metal Shells	Each		2	2
	Concrete Encasement	Yd³		52.8	52.8
	Furnishing and Erecting Structural Steel	L. Sum	1		1
	Stud Shear Connectors	Each	2430		2430
	Temporary Sheet Piling	Ft²		1527	1527
	Underwater Structure Excavation Protection - Location 1	Each		1	1
	Underwater Structure Excavation Protection - Location 2	Each		1	1
*	Diamond Grinding (Bridge Section)	Yd²	529		529
	Bar Splicers	Each	400	32	432
	Anchor Bolts, 1"	Each		48	48
	Asbestos Bearing Pad Removal	Each		24	24

* Includes Bridge Approach Pavement

INDEX OF SHEETS

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
F_y = 50,000 psi (M270 Grade 50W)

LOADING HL 93

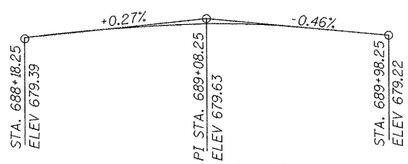
Allow 50 lb./sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2007 LRFD AASHTO 4th Edition.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.047 g
Site Coefficient (S) = 1.0



PROFILE GRADE

Along ℄ Roadway

The profile grade shows the final elevations after grinding. Up to 1/4" will be ground off the bridge slab and approach pavement.

DESIGN SCOUR ELEVATION TABLE

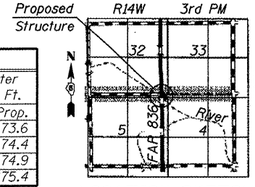
Design Scour Elevation (ft.)	Abutments	Piers
	672.53	658.80

WATERWAY INFORMATION

Drainage Area = 17.7 Sq. Mi. Low Grade Elev. 676.1 Ft. @ Sta. 698+00

Flood	Freq. Yr.	Q CFS	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E. Ft.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater Elev. - Ft. Exist.	Headwater Elev. - Ft. Prop.
	10	935	338	474	673.5	0.2	0.1	673.7	673.6
Design	50	1433	371	529	674.2	0.3	0.2	674.5	674.4
Base	100	1646	385	553	674.5	0.6	0.4	675.1	674.9
Max. Calc.	500	2149	404	585	674.9	0.8	0.5	675.7	675.4

10 Year Velocity through Existing Bridge= 2.8 fps
10 Year Velocity through Proposed Bridge= 2.0 fps



LOCATION SKETCH

MARTIN J. SILVESTER
081-004873
LICENSED STRUCTURAL ENGINEER OF ILLINOIS

MARTIN J. SILVESTER
STRUCTURAL ENGINEER
LICENSE EXP. DATE 11-30-08

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	12
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
21 SHEETS

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
SCALE: VERT.
HORIZ.
DATE MAY 2008
DRAWN BY RMH
CHECKED BY MJS

TUG PROJ.# 3007812-01
PLOT DATE = 7/28/2008 11:34:49 AM
FILE NAME = ...\br-dgn\LVR_GP1en.dgn

THE UPCHURCH GROUP, INC.