CONTRACT NO. 90919

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1513	5BR-1	CHAMPAIGN	38	12
STA.		TO STA.		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

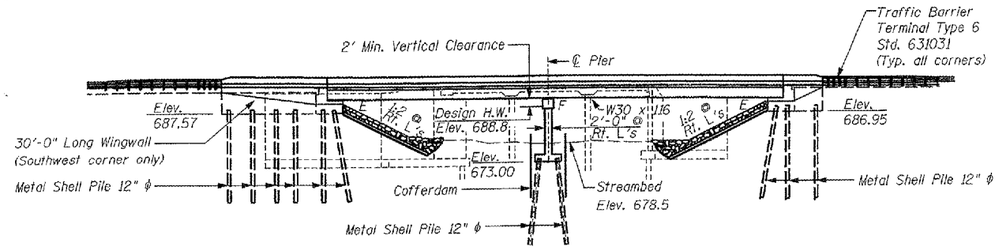
SHEET 1 OF 19 SHEETS

EXISTING STRUCTURE: S.N. 010-0133 to be removed.
Built in 1955 as S.B.I. Route 10 Section 5BR at Sta. 16+69.
3 span structure, continuous RC Slab 62'-1" Bk. to Bk. of Abutments and 34'-4" O. to O. and skewed 50 degrees left forward with closed Abuts. and Pile Bent Piers.

Existing Structure to be removed and Replaced.
Traffic to be detoured during construction.

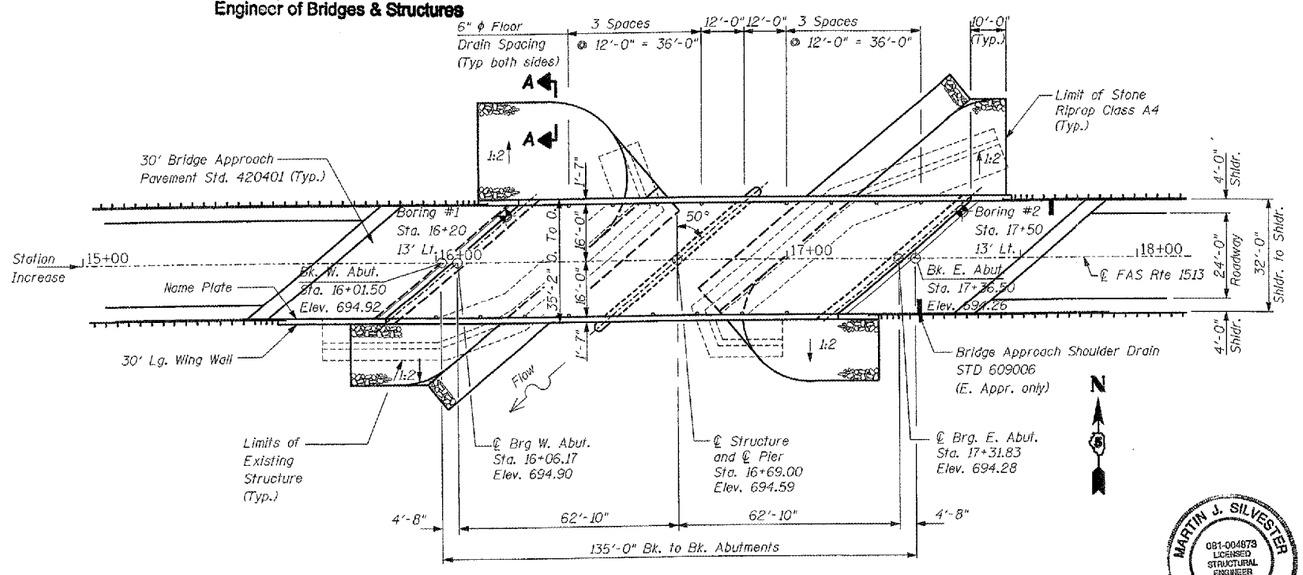
No salvage.

B.M. 4604-02 Elev. 694.25'
Chiseled "□" on top of Northwest wing wall S.N. 010-0133



ELEVATION

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



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 = 103460 lbs (AASHTO M270, Grade 50W).
3. No field welding is permitted except as specified in the contract documents.
4. Anchor bolts shall be set before bolting diaphragms over supports.
5. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
6. 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 wide flange beams and all splice plate material except fill plates.
7. Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60. (IL Modified)
8. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
9. 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 bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type 1 Elastomeric Bearings, two spare 1/8" adjusting shims shall be provided for each bearing and placed as detailed.
10. AASHTO M270 Grade 50W structural steel shall only be painted, for a distance of three times the depth of the beams or girders (but not exceeding 10 feet) each way from the deck joints. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".
11. The Contractor shall drive 2 test piles to 110% of the nominal required bearing specified in production locations, (one at the Pier and one at the east abutment) as directed by the Engineer before ordering the remainder of the piles.
12. Concrete Sealer shall be applied to the seat area of the abutments.
13. The concrete for bridge decks finished according to Article 503.16a of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine, used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
14. All reinforcement bars designated (E) shall be epoxy coated.
15. All structural steel shall be AASHTO M270 Grade 50W (except expansion joints which shall be AASHTO M270 Grade 36.)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Yd³		122	122
Pipe underdrains for Structures, 4 inch	Lf		122	122
Geocomposite Wall Drain	Yd²		68	68
Stone Riprap, Class A4	Yd²		826	826
Filter Fabric	Yd²		826	826
Removal of Existing Structures	Each	1		1
Structure Excavation	Yd³		380	380
Bridge Deck Grooving	Yd²	428		428
Protective Coat	Yd²	591		591
Concrete Structures	Yd³		214.1	214.1
Concrete Superstructure	Yd³	157.7		157.7
Concrete Sealer	Ft²		300	300
Reinforcement Bars, Epoxy Coated	Lb	31,620	22,000	53,620
Floor Drains	Each	16		16
Name Plates	Each	1		1
Furnishing Metal Shell Piles, 12" x 0.179"	Ft.		1,044	1,044
Furnishing Metal Shell Piles, 12" x 0.250"	Ft.		840	840
Driving Piles	Ft.		1,884	1,884
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		22	22
Elastomeric Bearing Assembly, Type 1	Each	12		12
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,944		1,944
Preformed Joint Strip Seal	Ft	104		104
Cofferdam (Location 1)	Each		1	1
Cofferdam Excavation	Yd³		127	127
Bar Splicers	Each	102		102

* Expose and demolish the existing footing as required at Southwest Wingwall in order to drive the Piles. Cost included with "Driving Piles".

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

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

DESIGN STRESSES

FIELD UNITS

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

DESIGN SPECIFICATIONS

AASHTO 1996 with 1997 Thru 2002 Interims

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.048 g
Site Coefficient (S) = 1.2

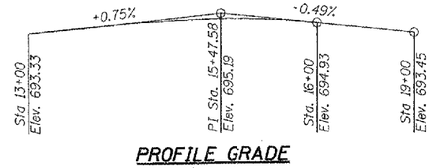
LOADING HS20-44

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

WATERWAY INFORMATION

Drainage Area = 19.2 Sq. Mi. Low Grade Elev. 691.8 Ft. @ Sta. 11+00

Flood	Freq. Yr.	Q CFS	Opening Sq. Ft.		Nat. H.W.E. Ft.	Head - Ft.		Headwater Elev. - Ft.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	2131	337	445	688.8	0.6	0.1	689.4	688.9
Base	100	2446	351	480	689.3	0.8	0.2	690.1	689.5
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	3200	390	560	690.5	1.3	0.4	691.8	690.9



PROFILE GRADE

Along ℄ Roadway

STATION 16+69.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.S. RTE. 1513 SEC. 5BR-1
LOADING HS20
STR. NO. 010-0275

NAME PLATE

See Std. 515001

LOCATION SKETCH

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN AND ELEVATION
IL ROUTE 10 OVER CAMP CREEK
FAS ROUTE 1513 SECTION 5BR-1
STA. 16+69.00
CHAMPAIGN COUNTY STR. 010-0275

SCALE: 1"=20' DRAWN BY LP
DATE MAY 2007 CHECKED BY MJS

THE UPCHURCH GROUP, INC.

TUE PROJ. = 31/05/07-82
PLOT DATE = 7/26/2007
FILE NAME = p:\IDOT\District5\Camp Creek Revised_WG 2\GA00\gplan.dgn