

Bench Mark: F.P. flush w/ground Sta. 1914+15.08, 37.75' Lt., Elev. 827.44

Existing Structure: SN 057-0076 originally built in 1924 as S.B.I. Route 9, Sec. 22. Widened and Superstructure replaced in 1978 as Sec. 22 BR. Structure consists of 11 single span 17"x3'-0" P.P.C. deck beams on closed concrete abutments with cantilever caps, 38'-3" Bk. to Bk. of abutments, 33'-0" o. to o. of deck, 44°-56" skew R.F. The existing P.P.C. deck beams will be removed and replaced with new 17"x3'-0" P.P.C. deck beams and bituminous wearing surface. Staged construction will be utilized allowing one lane of traffic.

No salvage.

**LOADING HS20-44**

No allowance for future wearing surface.

**DESIGN SPECIFICATIONS**

2002 AASHTO

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

**PRECAST PRESTRESSED UNITS**

$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relaxation Strands)  
 $f_{si} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relaxation Strands)

**GENERAL NOTES**

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.

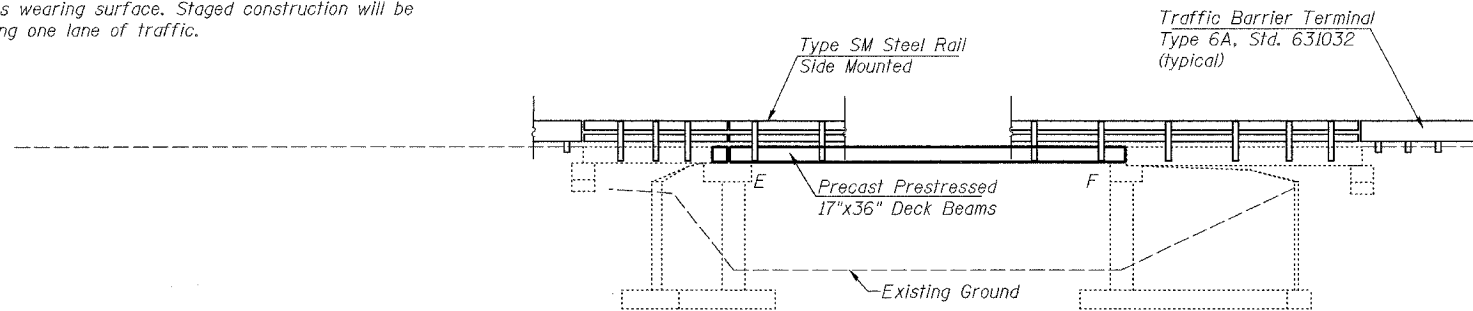
All construction joints shall be bonded. Expansion joint plates shall be AASHTO M270 Grade 50. Expansion guards which are not cast in the precast unit shall be fabricated and erected according to Article 503.10 (C) of the Standard Specifications and are included in the quantity of structural steel. The top surface of the beams shall be finished according to Article 504.06 of the Standard Specification except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a minimum of  $\frac{1}{4}$ ".

All structural steel shall be shop painted with the inorganic zinc rich primer or paint meeting the requirements of ASTM A780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. (Top surface, to which waterproofing will be applied, shall be kept free of sealer). The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

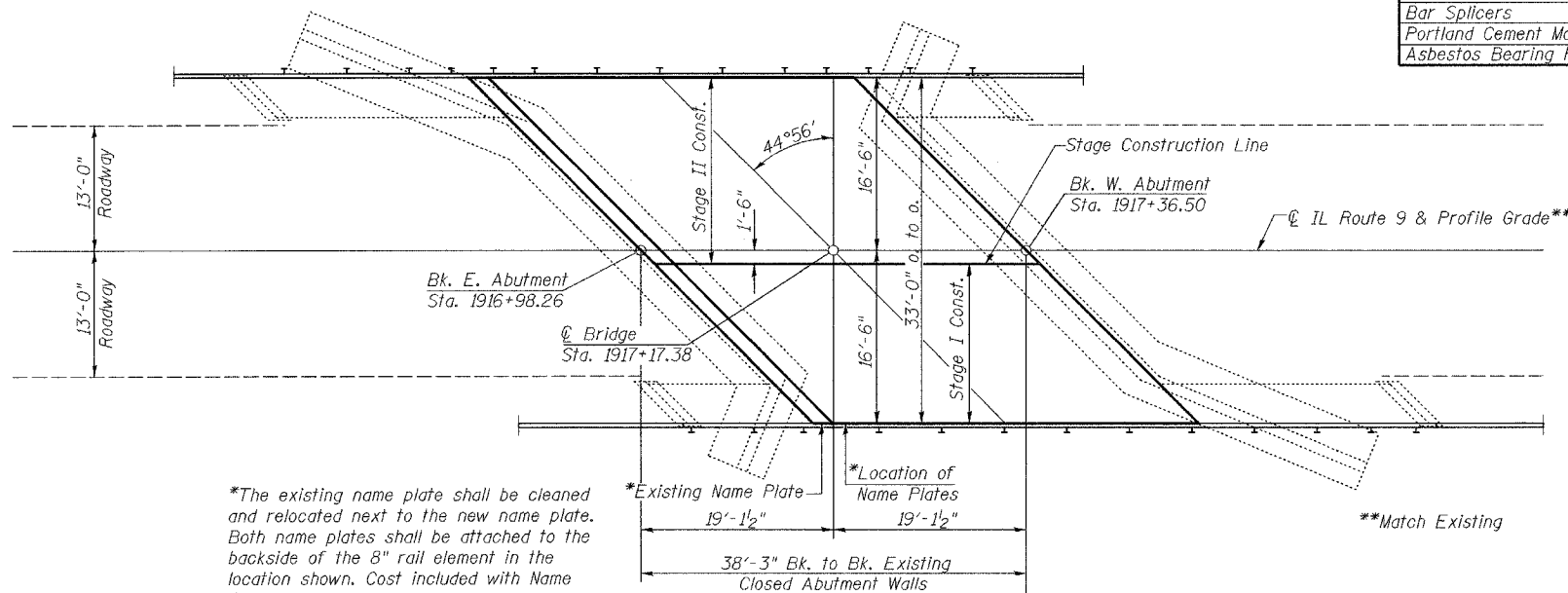
The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure. No drilling will be permitted into the precast deck beams. No in-stream work will be allowed on this project. If the Contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Removal of Existing Superstructures	Each	1
Concrete Removal	Cu. Yd.	2.5
Concrete Structures	Cu. Yd.	4.7
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1216
Reinforcement Bars, Epoxy Coated	Pound	360
Steel Bridge Rail, Type SM	Foot	145
Bituminous Concrete Surface Course Superpave, Mix "C", N50	Ton	14.2
Waterproofing Membrane System	Sq. Yd.	148
Silicone Joint Sealer, 1"	Foot	47
Name Plates	Each	1
Furnishing and Erecting Structural Steel	Pound	3340
Bar Splicers	Each	6
Portland Cement Mortar Fairing Course	Foot	368
Asbestos Bearing Pad Removal	Each	22



**ELEVATION**



**PLAN**

\*The existing name plate shall be cleaned and relocated next to the new name plate. Both name plates shall be attached to the backside of the 8" rail element in the location shown. Cost included with Name Plates.

\*Existing Name Plate  
 \*Location of Name Plates  
 19'-1 1/2"  
 38'-3" Bk. to Bk. Existing Closed Abutment Walls

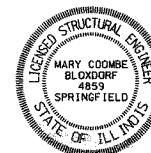
\*\*Match Existing

**INDEX OF SHEETS**

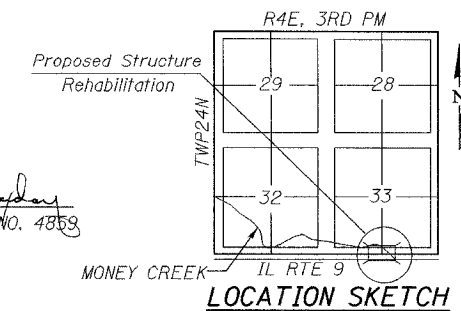
- 1) General Plan
- 2) Stage Construction
- 3) Temporary Concrete Barrier For Staged Construction
- 4) Superstructure Details
- 5) Superstructure Details
- 6) Type SM Steel Bridge Rail Side Mounted
- 7) Abutment Details
- 8) East Abutment
- 9) Bar Splicer Assembly Details

STATION 1917+17.38  
 RE-BUILT 20\_\_ BY  
 STATE OF ILLINOIS  
 F.A.P. RTE 693 SEC. 22 BR  
 LOADING HS20  
 STR. NO. 057-0076

**NAME PLATE**  
 See Std. 515001



Mary Coombe Bloxdorf  
 ILLINOIS STRUCTURAL NO. 4859  
 EXPIRES: 11/30/06  
 DATE: 12-16-05



**LOCATION SKETCH**

ILLINOIS DEPARTMENT OF TRANSPORTATION			
SHEET TITLE			
GENERAL PLAN			
PROJECT	IL ROUTE 9 OVER MONEY CREEK	SCALE	AS SHOWN
	FAP ROUTE 693 SECTION 22 BR	DATE	12/15/05
	MCLEAN COUNTY	DESIGNED BY	CFE/TEG
	STATION 1917+17.38	CHECKED BY	CFE/MCB
	STRUCTURE NUMBER 057-0076	DATE	
COOMBE-BLOXDORF P.C.			1
Engineers / Land Surveyors Springfield, Illinois			OF 9 SHTS
Design Firm License No. 184-002708			

FILE NAME = ...  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = DFC

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP 693	22 BR	MCLEAN	28	10	9 SHEETS
CONTRACT NO. 66583					