

Benchmark: Chiseled "□" on northeast wingwall of S.N. 070-0033  
Elevation 650.32.

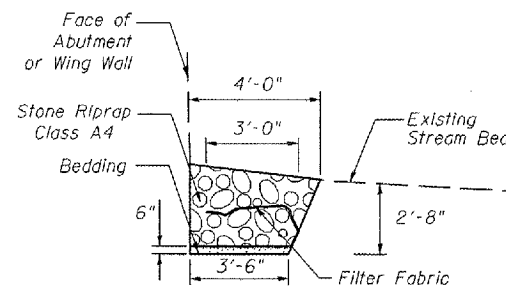
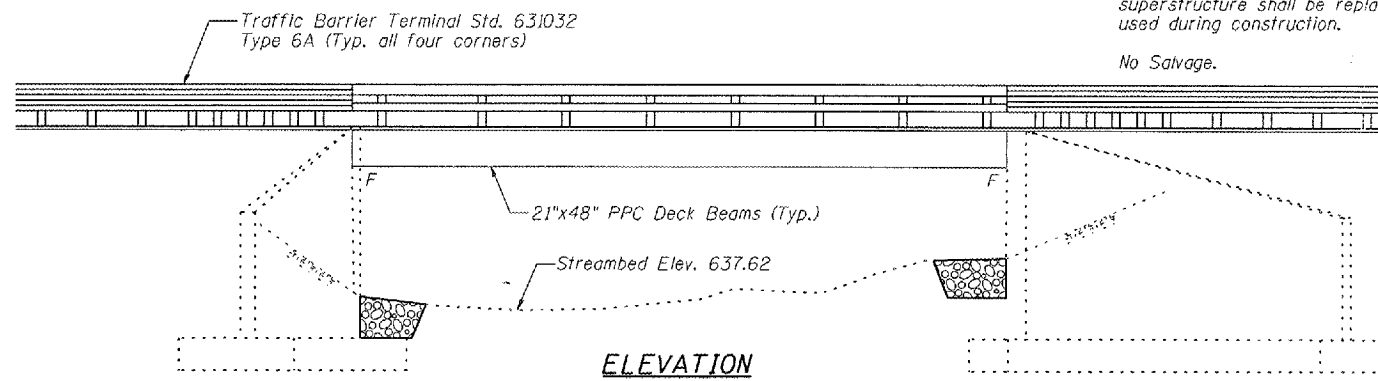
Existing Structure: Structure Number 070-0033 was built in 1975 as FA-33 (S.B.I. Route 32), Section 3 BR. The structure consists of single span PPC-deck beams on closed abutments. The bk. to bk. abutments is 48'-0" and the O.-O. width is 33'-0". The existing superstructure shall be replaced with PPC deck beams. Road closure shall be used during construction.

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
758	3BR-1	MOULTRIE	24	8
SHEET NO. 1 6 SHEETS				

Contract #74147

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		76	76
Filter Fabric	Sq. Yd.		76	76
Removal of Existing Superstructure	Each	1		1
Concrete Removal	Cu. Yd.		0.8	0.8
Concrete Structures	Cu. Yd.		1.0	1.0
Bridge Deck Grooving	Sq. Yd.	167		167
Protective Coat	Sq. Yd.	183		183
Concrete Wearing Surface, 5"	Sq. Yd.	179		179
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1546		1546
Reinforcement Bars, Epoxy Coated	Pound	2460	50	2510
Steel Railings, Type SM	Foot	97		97
Name Plates	Each		1	1



**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

All construction joints shall be bonded.

Removal of existing bridge rail included in the cost of Removal of Existing Superstructures.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.

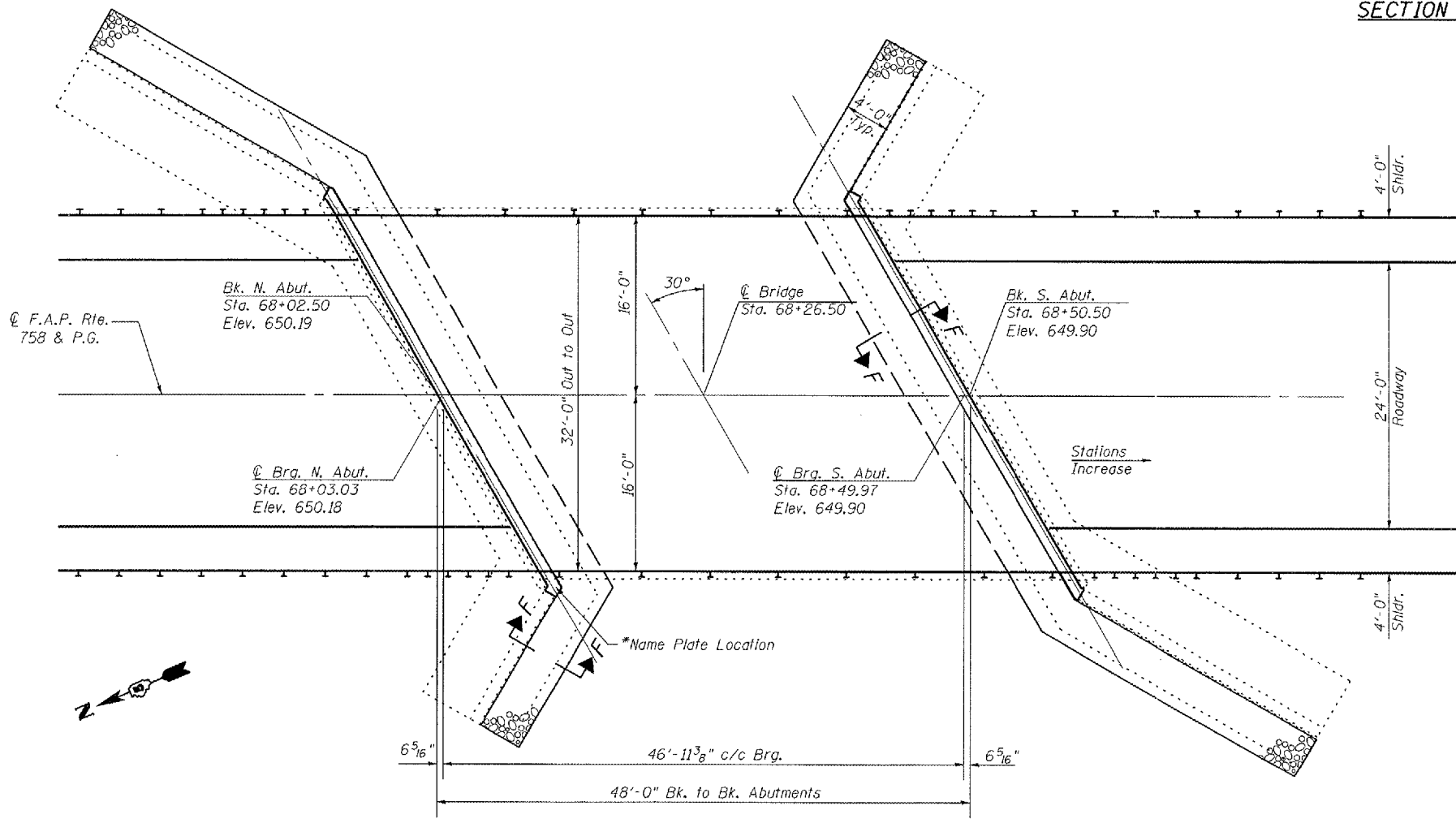
The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied along the entire length of fascia beams to both the exterior vertical face and 9" in on the underside surface of the beams. 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.

The Contractor shall temporarily brace the top of abutments prior to the removal of the existing superstructure. The Contractor shall submit the bracing system to the Engineer for approval prior to fabrication or installation. Cost included in the cost of Removal of Existing Superstructure.

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.

Reinforcement bars shall conform to the requirements of ASTM A-706 GR60 (IL Modified) See Special Provisions.



**PLAN**

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi (Concrete structures)  
 $f'_c = 5,000$  psi (Concrete wearing surface)  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
 $f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi ( $1/2"$   $\phi$  Low Relax. strands)  
 $f_{si} = 201,960$  psi ( $1/2"$   $\phi$  Low Relax. strands)

**EXISTING SUBSTRUCTURE FIELD UNITS**  
 $f'_c = 1,000$  psi  
 $f_s = 20,000$  psi (Reinforcement)

**DESIGN SPECIFICATIONS**

2002, AASHTO  
**LOADING HS-20-44**  
 (Allow 25 psf for future wearing surface)

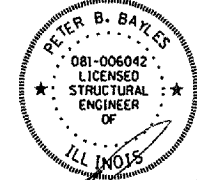
STATION 68+26.50  
 REBUILT 20... BY  
 STATE OF ILLINOIS  
 F.A.P. ROUTE 758  
 SECTION 3BR-1  
 LOADING HS20  
 STR. NO. 070-0033

**NAME PLATE**

See Std. 515001  
 \*Existing Name Plate shall be cleaned and relocated adjacent to new Name Plate. Cost included with Name Plates.

**INDEX OF SHEETS**

- 1 General Plan
- 2 Type SM Steel Bridge Rail Side Mounted
- 3 Superstructure
- 4-5 Superstructure Details
- 6 Abutments



Peter B. Bayles, S.E. Date 11/29/06  
 Structural Engineer License No. 081-006042  
 Expiration Date: 11/30/2006

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL PLAN**  
 IL ROUTE 32 OVER  
 JONATHAN BRANCH  
 F.A.P. ROUTE 758 SECTION 3BR-1  
 MOULTRIE COUNTY  
 STATION 68+26.50  
 STRUCTURE NO. 070-0033

DATE: MARCH 2006 DRAWN BY: MLO CHECKED BY: PBB

