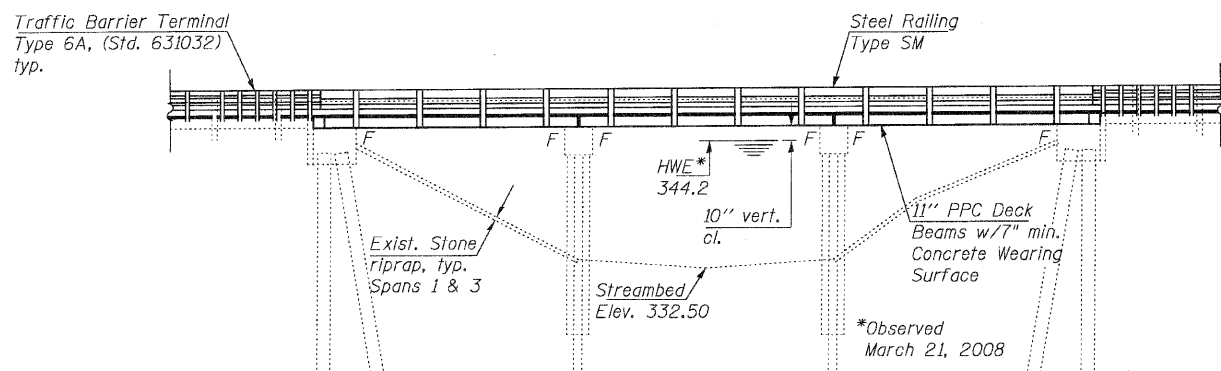


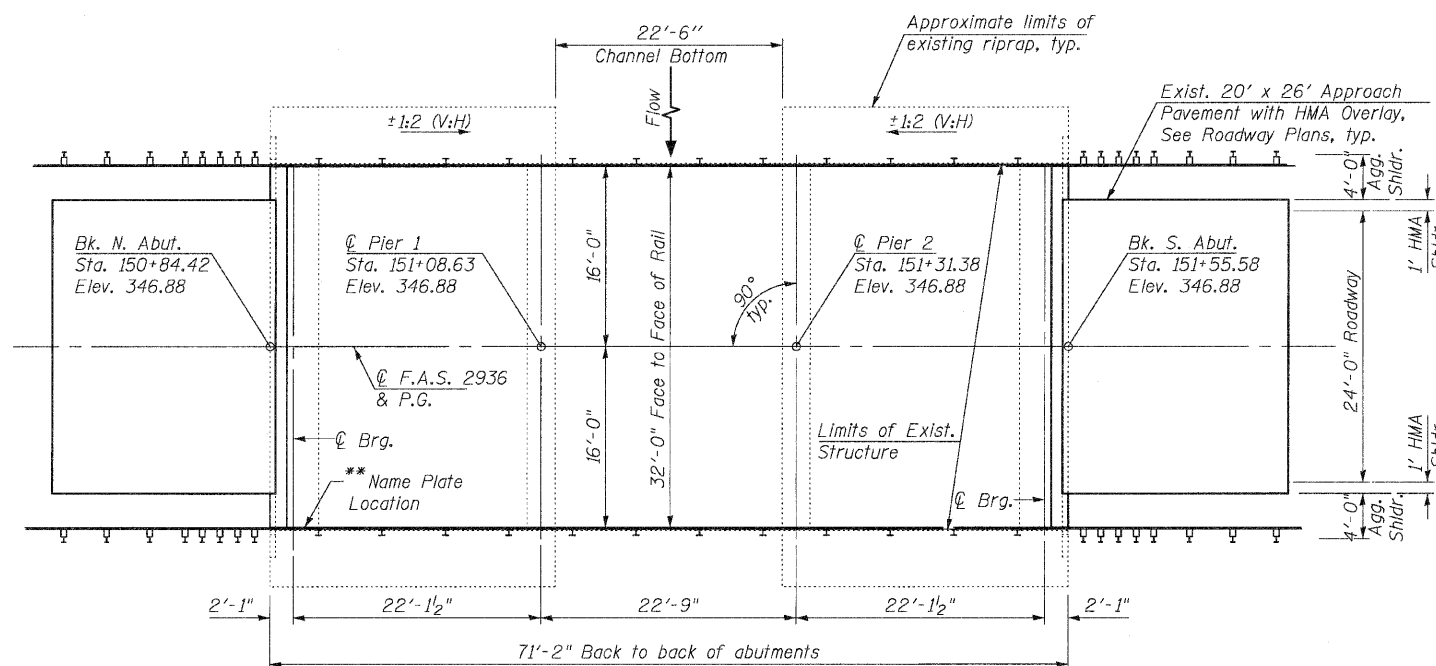
Bench Mark: BM 77352-Railroad spike in power pole; 34'± left Sta. 156+11; Elev. 343.16 (NAVD 88)

Existing Structure: SN 077-0035 was built as part of FAS Rt. 2936 Section 16A-B in 1979. The structure is a three simple span (22'-1 1/2", 22'-9", 22'-1 1/2") 11" PPC Deck Beam bridge supported by stub abutments and pile bent piers. The existing structure is 71'-2" back to back of abutments and has a clear width between rails of 32'-0". The bridge will be closed to traffic during reconstruction of the superstructure.

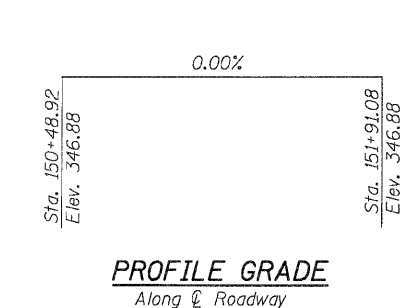
No Salvage



ELEVATION



PLAN

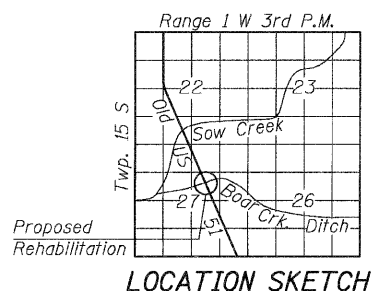


PROFILE GRADE
Along Centerline of Roadway

STATION 151+20.00
RE-BUILT 20__ BY
STATE OF ILLINOIS
F.A.S. RT. 2936 SEC. 16BR-1
LOADING HL-93
STRUCTURE NO. 077-0035

NAME PLATE

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



LOCATION SKETCH

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Superstructure
- 3 Superstructure Details
- 4 11" x 48" PPC Deck Beam
- 5 Steel Railing, Type SM with Concrete Wearing Surface
- 6 Abutment Concrete Removal
- 7 Abutment Details
- 8 Dowel Rod Location Detail
- 9 Abutment Repair Details
- 10 Pier Repair Details

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
Concrete Removal and Structural Repair of Concrete shall occur prior to placement of the new deck beams.
Plan dimensions and details relative to existing plans are subject to nominal construction 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 on the unit price bid for the work.
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 shall be permitted into the proposed precast deck beams.
If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the existing or new deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Precast Prestressed Concrete Deck Beams (11" Depth).
Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included with Removal of Existing Superstructures. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
No in-stream work will be allowed on this project.
The minimum thickness of concrete overlay shall be 7" and varies as required to adjust for the new profile grade and beam camber.

LOADING HL-93 (NEW CONST.)
LOADING HS20-44 (EXIST. CONST.)

No allowance for future wearing surface

DESIGN SPECIFICATIONS

NEW CONSTRUCTION
2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims
EXISTING CONSTRUCTION
2002 AASHTO Bridge Design Specifications
1995 FHWA Seismic Retrofitting Manual for Highway Bridges

DESIGN STRESSES

NEW CONSTRUCTION
FIELD UNITS
f'c = 3,500 psi
f'c = 5,000 psi (CWS only)
fy = 60,000 psi (Reinforcement)
PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax strands)
fpbt = 201,960 psi (1/2" low lax strands)

EXISTING CONSTRUCTION

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

LFD SEISMIC DATA-EXISTING CONSTRUCTION
Seismic Performance Category (SPC) = B
Horizontal Bedrock Acceleration Coefficient (A) = 0.175 g
Site Coefficient (S) = 1.5
LRFD SEISMIC DATA-NEW CONSTRUCTION
Seismic Performance Zone (SPZ) = 4
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.814 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 1.915 g
Soil Site Class = D

TOTAL BILL OF MATERIAL

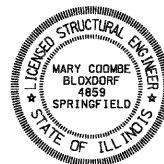
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 2	Each	1		1
Concrete Removal	Cu. Yd.	3.5		3.5
Concrete Superstructure	Cu. Yd.	4.2		4.2
Concrete Wearing Surface, 7"	Sq. Yd.	242		242
Protective Coat	Sq. Yd.	242		242
Bridge Deck Grooving	Sq. Yd.	242		242
Reinforcement Bars, Epoxy Coated	Lb.	3550		3550
Name Plates	Each	1		1
Precast Prestressed Concrete Deck Beams (11" Depth)	Sq. Ft.	2177		2177
Steel Railing, Type SM	Ft.	137		137
Epoxy Crack Injection	Ft.		3	3
Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)	Sq. Ft.		19	19
Structure Excavation	Cu. Yd.		3	3

GENERAL PLAN & ELEVATION
OLD U.S. 51 OVER BOAR CREEK DITCH
F.A.S. ROUTE 2936 SECTION 16BR-1
PULASKI COUNTY
STATION 151+20.00
STRUCTURE NO. 077-0035

APPROVED

FOR STRUCTURAL ADEQUACY ONLY

Paul E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



Mary Coombe Bloxdorf
Illinois Structure No. 4859
Expires: 11/30/10
Date: 4/30/10

CB Coombe-Bloxdorf P.C.
- CIVIL ENGINEERS -
- STRUCTURAL ENGINEERS -
- LAND SURVEYORS -
Design Firm License No. 184-002703

PROJECT NO. 07056-5
SCALE
DATE 4/27/10
DESIGN BY CME
DRAWN BY TFG/CFC
CHECKED BY CME/MCB

SHEET NO. 1
10 SHEETS

F.A.S. RTE. 2936	SECTION 16BR-1	COUNTY PULASKI	TOTAL SHEETS 68	SHEET NO. 46
CONTRACT NO. 78071			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	