

B.M. 4750-1: Chiseled square on the northeast corner of the southwest wingwall of S.N. 074-0005, Sta. 1210+13.6, 2.37' Rt., Elev. 660.10.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1
OF 10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
721	(115BR-1)BR	PIATT	32	12
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70433				

EXISTING STRUCTURE: S.N. 074-0005, originally constructed in 1931 as SBI 120 Sec. 115B at Station 1210+52, reconstructed with longer superstructure and new substructures (existing west abut widened) in 1977 as SBI 120 Sec. 115BR-1 at Station 1210+89.58, using 21" PPC Deck Beams with 3/4" bituminous overlay, 3 spans, 151'-5 1/4" back-back abutments, 41'-0" out-out width, (W. Abut.) closed abutment on timber pile footings, (Pier 1) wall pier on concrete piles, (Pier 2) wall pier with footing on concrete piles, (E. Abut.) open abutment cap on concrete piles. In 2000, bituminous overlay was removed and replaced with 5" concrete wearing surface, and steel railing was replaced with Type SM railing.

Existing superstructure shall be removed and replaced using staged construction to maintain one lane of traffic.

Existing Steel Bridge Railing shall be salvaged and reused on the new superstructure.

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1	General Plan, General Notes & Bill of Material
2	Stage Construction and Strip Seal Joint Details
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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.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

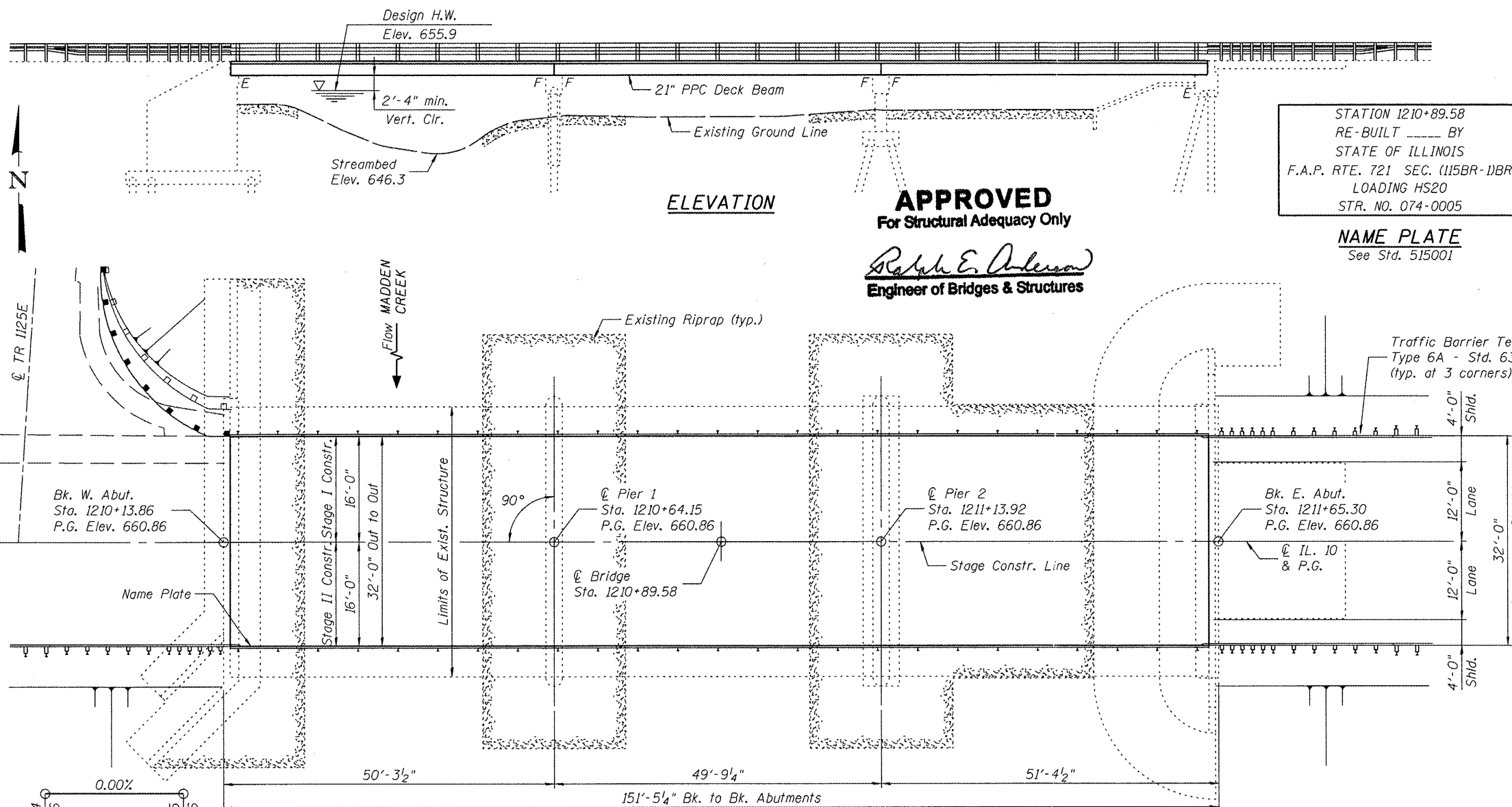
The existing bearing pads at the West and East Abutments contain asbestos. The Contractor shall take appropriate precautions to deal with the presence and disposal of asbestos on this project. See Special Provisions.

The minimum thickness of the concrete wearing surface shall be 5" and varies as required to adjust for the profile grade and beam camber.

Repair of the pier caps shall be completed prior to placement of the new deck beams.

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.

If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing 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.



STATION 1210+89.58
RE-BUILT BY
STATE OF ILLINOIS
F.A.P. RTE. 721 SEC. (115BR-1)BR
LOADING HS20
STR. NO. 074-0005

NAME PLATE
See Std. 515001

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal Of Existing Superstructures	Each	1	--	1
Concrete Removal	Cu Yd	--	2.0	2.0
Concrete Structures	Cu Yd	--	2.0	2.0
Bridge Deck Grooving	Sq Yd	497	--	497
Protective Coat	Sq Yd	531	--	531
Precast Prest. Conc. Deck Beams (21" Depth)	Sq Ft	4770	--	4770
Reinforcement Bars, Epoxy Coated	Pound	6530	260	6790
Bar Splicers	Each	149	4	153
Name Plates	Each	1	--	1
Preformed Joint Strip Seal	Foot	64	--	64
Epoxy Crack Injection	Foot	--	40	40
Remove And Re-Erect Existing Bridge Rail	Foot	299	--	299
Diamond Grinding (Bridge Section)	Sq Yd	782	--	782
Structural Repair Of Concrete (Depth < 5")	Sq Ft	--	172.0	172.0
Concrete Wearing Surface, 5"	Sq Yd	531	--	531
Asbestos Bearing Pad Removal	Each	--	52	52

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	643.0	645.0	648.0	655.5

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.
DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi
f'c = 5,000 psi (Concrete Wearing Surface)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (1/2" low lax strands)
fsi = 201,960 psi (1/2" low lax strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.050g
Site Coefficient (S) = 1.0

WATERWAY INFORMATION

Existing Low Grade Elevation: 660.7 @ Sta. 1210+18.4

Flood	Freq. Yr.	Opening		Nat. H.W.E.	Head - Ft.		Headwater El.		
		Sq. Ft.	Prop.		Exist.	Prop.	Exist.	Prop.	
Design	10	1896	515	515	655.0	0.7	0.7	655.7	655.7
Base	50	3012	658	658	655.9	1.1	1.1	657.0	657.0
Overtopping	100	3503	712	712	656.2	1.2	1.2	657.4	657.4
Max. Calc.	500	4693	790	790	656.8	1.5	1.5	658.3	658.3

PROFILE GRADE

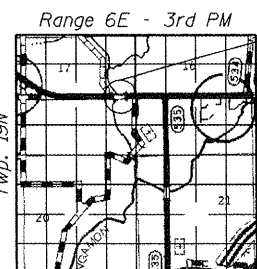
The profile grade shows the final elevations after grinding. Up to 1/4" will be ground off the bridge slab.

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDO	DRAWN: SJS
CHECKED: DCD	CHECKED: DCD



Signed: *David Depp*
Date: 6-16-2008
Lic. Expires: 11-30-2008



LOCATION SKETCH

GENERAL PLAN

ILLINOIS 10 OVER
MADDEN CREEK
FAP ROUTE 721 SECTION (115BR-1)BR
PIATT COUNTY
STATION 1210+89.58
STRUCTURE NO. 074-0005

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