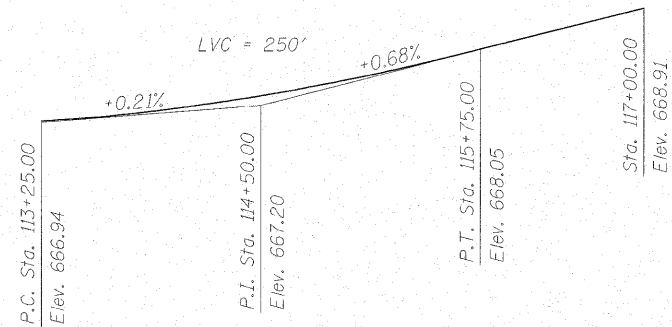
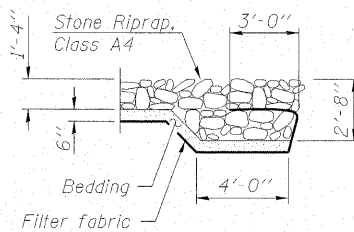
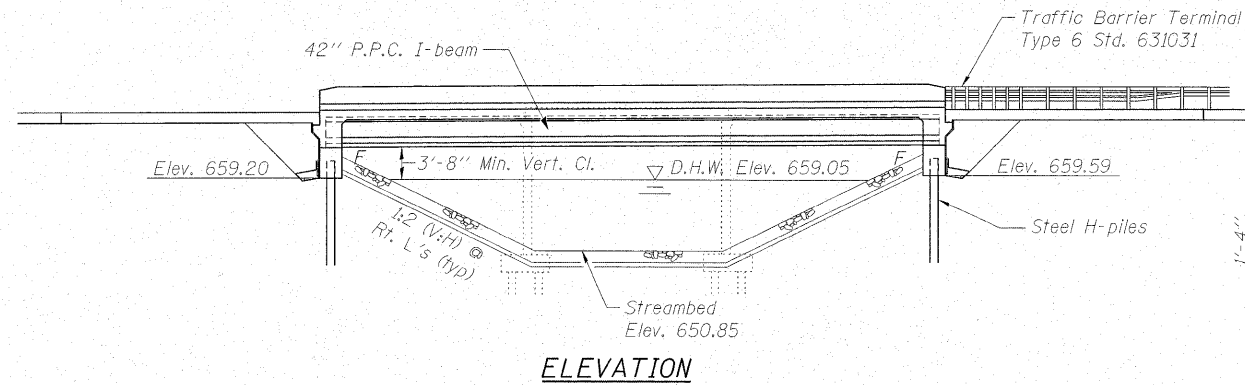


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark: 5/8" φ rod, Sta 114+16.50, 11.25' south of WB EOP, Elevation 666.90

Existing Structure: 052-0015. Built in 1955 as FA 7, Section 31-1B as a single span, cast-in-place, slab bridge, 24'-7" back-to-back abutments, 48'-8" out-to-out slab width. Various repairs made in 1984 to the deck drains, deck slab and abutment. Additional 1-1/2" overlay done in 1991. Existing bridge to be replaced with single-span P.P.C. I-beam bridge. Structure to be removed and replaced using stage construction.

Salvage: None.



PROFILE GRADE

FAP 561 - IL Route 2
(Along CL of WB Lanes)

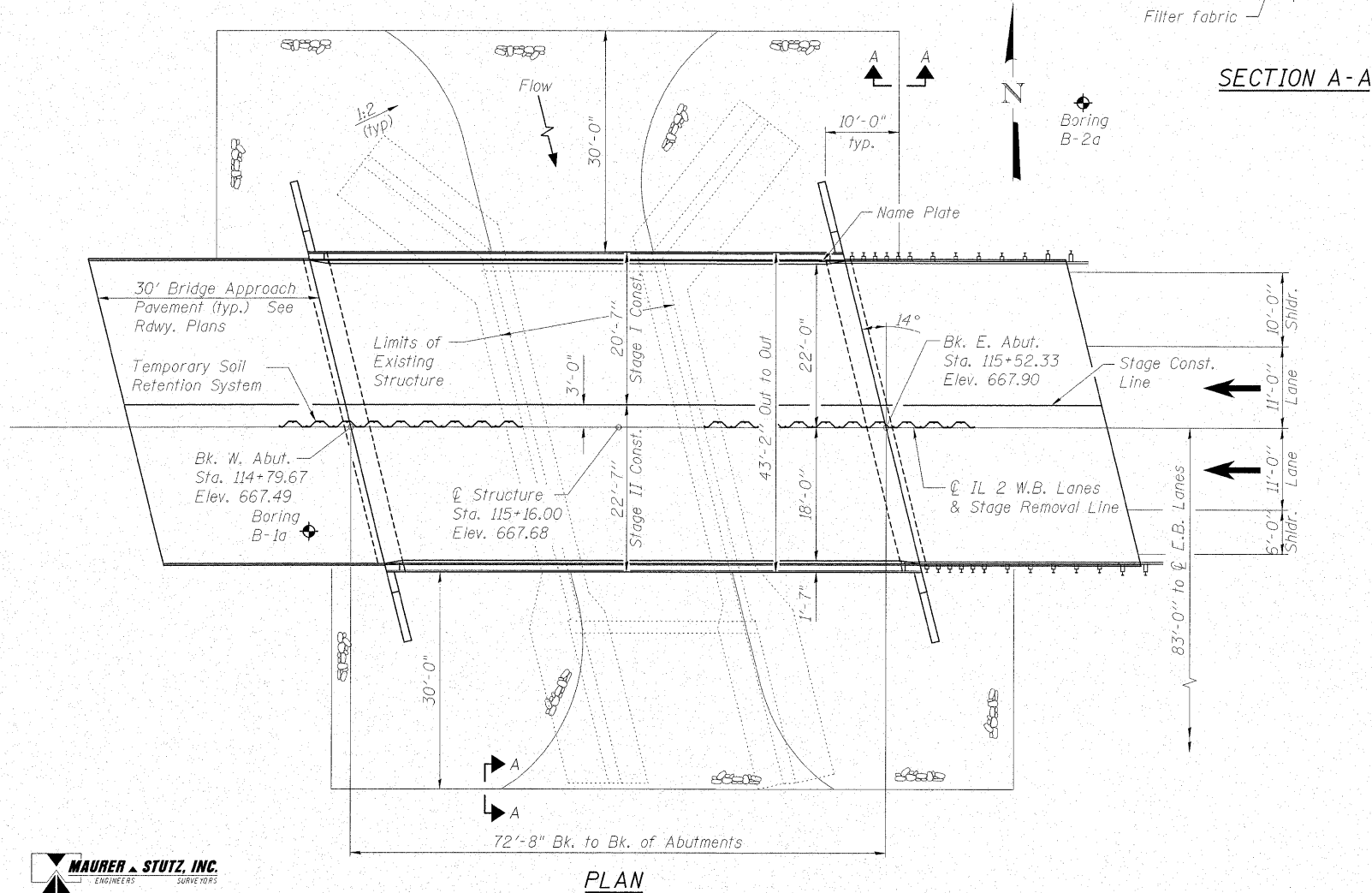
STATION 115+16.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 561 SEC. 31-1BR-2
LOADING HL93
STRUCTURE NO. 052-0079

NAME PLATE

See Std. 515001

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Notes, Total Bill of Material
- 3 Staging Details
- 4 Temporary Concrete Barrier
- 5-6 Top of Slab Elevations
- 7-8 Top of Approach Slab Elevations
- 9 Superstructure
- 10 Superstructure Details
- 11 Diaphragm Details
- 12 Framing Plan
- 13 42" PPC I-Beam
- 14 42" PPC I-Beam Details
- 15 West Abutment
- 16 East Abutment
- 17 HP Pile Details
- 18 Bar Splicer Assembly Details
- 19-20 Soil Borings



WATERWAY INFORMATION

Drainage Area = 2.90 sq. mi. Proposed Low Grade Elev. 662.22 @ Sta. 112+05

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Ten-Year	10	925	138	233	657.91	2.85	1.90	660.8	659.8
Design	50	1453	161	289	659.05	3.98	2.25	663.0	661.3
Base	100	1678	170	311	659.47	2.59	2.36	652.1	661.8
Max. Calc.	500	2220	185	352	660.24	4.25	3.05	664.5	663.3

10-Year Velocity through Existing Structure = 7.7 fps
10-Year Velocity through Proposed Structure = 2.8 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	656.2	656.6

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Ed.

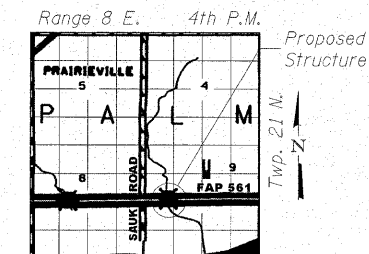
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
PRECAST PRESTRESSED UNITS
 $f'_c = 7,000$ psi
 $f'_ci = 6,000$ psi
 $f_s' = 270,000$ psi (1/2" φ low lax strands)
 $f_{sl} = 201,960$ psi (1/2" φ low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Horizontal Bedrock Acceleration Coefficient (A) = .034g
Site Coefficient (S) = 1.5



LOCATION SKETCH

GENERAL PLAN & ELEVATION

IL RTE. 2 WB OVER UNNAMED TRIBUTARY TO THE ROCK RIVER

STATION 115+16.00



DESIGNED - JAE
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA/KEF



Kristen E. Fields
Date Signed: 7-29-09
Exp. Date: 11-30-10

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (P.E.)
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 1 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	561	31-1BR-2	LEE	92	54
STRUCTURE NO. 052-0079			CONTRACT NO. 64B05		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					