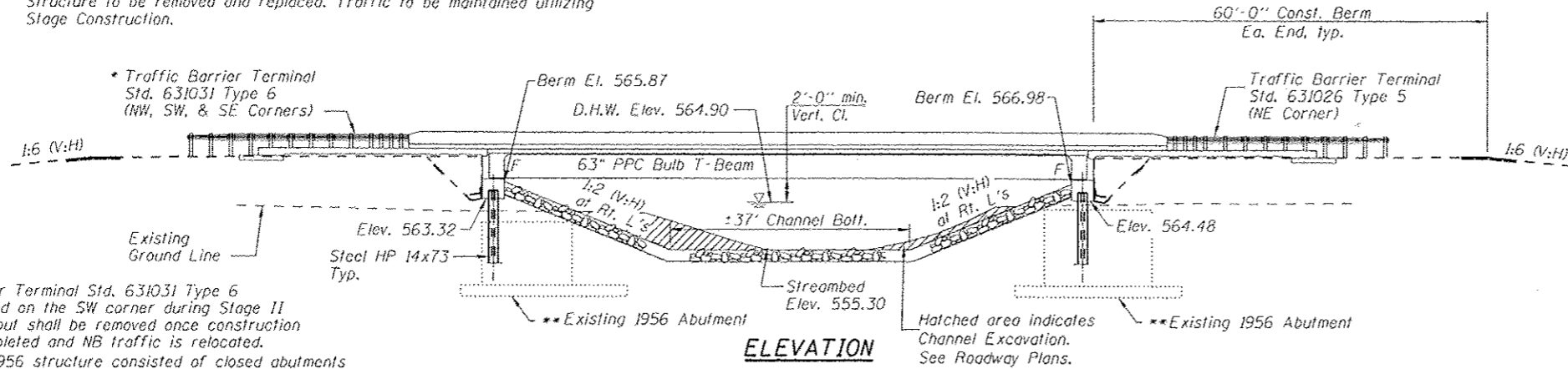


Bench Mark: Set 5/8" rebar, in the Northeast Quad, of I-80 and IL Rte. 47. Elev. 547.82

Existing Structure: S.N. 032-0089, built in 1988 as F.A. Rte. 100, Section 110BR at Station 136+58.25. Existing Structure consists of a Single Span Prestressed Concrete Bridge 91'-6" Bk. to Bk. Abutments, 39'-2" out-to-out deck. Structure to be removed and replaced. Traffic to be maintained utilizing Stage Construction.

No salvage.

* Traffic Barrier Terminal Std. 631031 Type 6 (NW, SW, & SE Corners)



ELEVATION

* Traffic Barrier Terminal Std. 631031 Type 6 shall be utilized on the SW corner during Stage II Construction, but shall be removed once construction has been completed and NB traffic is relocated.
 ** The existing 1956 structure consisted of closed abutments with 2'-0" thick footings, with #7 bars at 11" cts. on top, and #6 bars at 11" cts. on bottom. Bottom of footing elevation is +549.0.

WATERWAY INFORMATION

Drainage Area = 12.130 mi ²		Low Grade Elev. 568.90 at Sta. 6113+60 (Exist.)		Low Grade Elev. 569.98 at Sta. 6116+44 (Prop.)		
Flood Yr.	Freq. Q	C.F.S.	Opening Sq. Ft.	Not. H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	924	221 253	562.8	0.4 0.5	563.2 563.2
Base	50	1381	315 387	564.9	0.5 0.5	565.4 565.4
Max. Calc.	100	1564	315 434	565.6	0.6 0.5	566.2 566.1
	500	2003	315 506	566.6	1.0 0.5	567.6 567.1

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)		
	S. Abut.	N. Abut.
0100	563.32	564.48
0500	563.32	564.48

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th edition

DESIGN STRESSES

FIELD UNITS

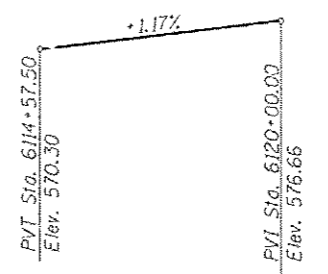
f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (M270 Grade 50)

PRECAST PRESTRESSED UNITS

f'c = 7,000 psi
 f'ci = 6,000 psi
 fpu = 270,000 psi (1/2" φ low relax strands)
 fpbt = 201,960 psi (1/2" φ low relax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.069g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.128g
 Soil Site Class = C



PROFILE GRADE

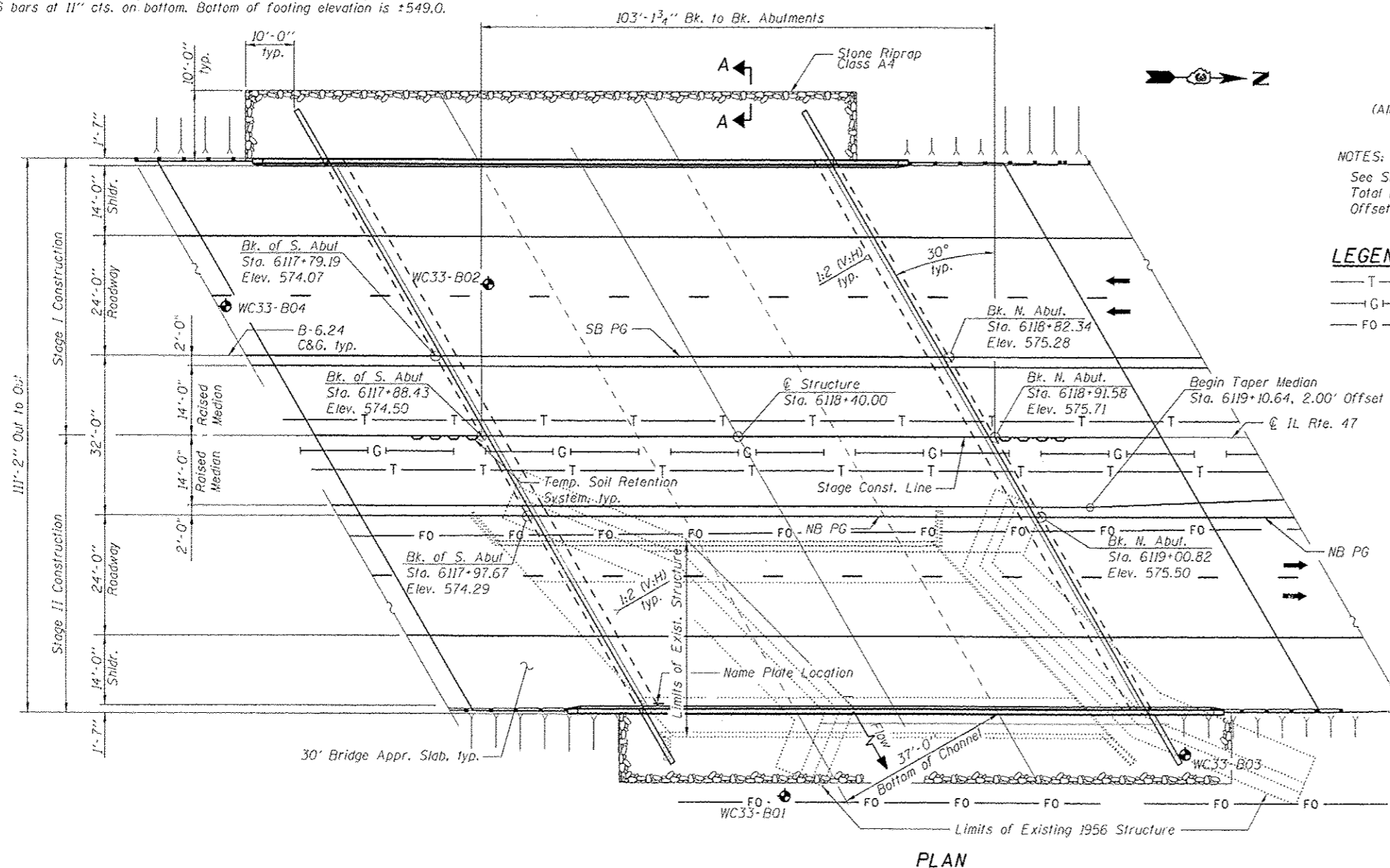
(Along SB PG and NB PG IL Rte. 47)

NOTES:

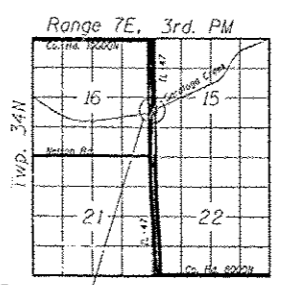
See Sheet 2 of 32 for Index of Sheets, Total Bill of Material, and General Notes. Offsets are taken from NB PG.

LEGEND

- T — Exist. Underground Telephone
- G — Exist. Underground Gas
- FO — Exist. Underground Fiber Optic



PLAN

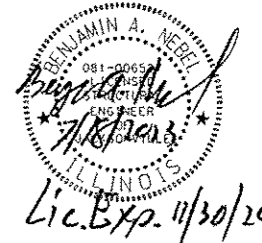


LOCATION SKETCH

APPROVED

For Structural Adequacy Only

Benjamin A. Nebel
 Engineer of Bridges & Structures



GENERAL PLAN AND ELEVATION
IL RTE. 47 OVER
SARATOGA CREEK
F.A.P. RTE. 326 - SEC. 110BR
GRUNDY COUNTY
STATION 6118+40.00
STRUCTURE NO. 032-0122

V:\Bridges\3195 Grundy\032-0122\0320122	USER NAME = bnobel	DESIGNED - STM	Hutchison Engineering, Inc. JACKSONVILLE-SHOREWOOD-PEORIA	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 032-0122	F.A.P. RTE. 326	SECTION 110BR	COUNTY GRUNDY	TOTAL SHEETS 644	SHEET NO. 321
	PLOT SCALE = NONE	CHECKED - BAN								
	PLOT DATE = 7/18/2013	DRAWN - STM				SHEET NO. 1 OF 32 SHEETS				
(ILLINOIS) FED. AID PROJECT										