

Bench Mark: Survey Pt. #403 on West Parapet in north span, 17' Lt. Sta. 312+08.83, Elev.700.35

Existing Structure: S.N. 052-0026, originally built in 1927 as a through truss superstructure with closed concrete abutments, and reconstructed in 1981 as Section 102BR-1, F.A. Route 38-Illinois 26, to its present three simple span PPC Deck Beam superstructure with the addition of solid wall encased concrete pile bent piers. A reinforced concrete overlay was constructed as a wearing surface in 1996. Auxiliary steel wide-flange support beams (24" depth) were installed beneath damaged deck beams in end spans in 2007 and (36" depth) in 2010. Span lengths are 29'-9 1/4" (17" Depth Bms), 60'-0" (27" Depth Bms), 29'-9 1/4" (17" Depth Bms); 124'-2" Bk.-Bk. Abutments and 35'-2" Out to Out Deck, Skew 0°. Structure to be removed and replaced. Traffic to be maintained utilizing stage construction.

Supplemental steel W-beams, framing angles, and support seats are to be salvaged and delivered to a location designated by the District.

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	692.7	670.3	670.3	691.1

**LOADING HL-93**

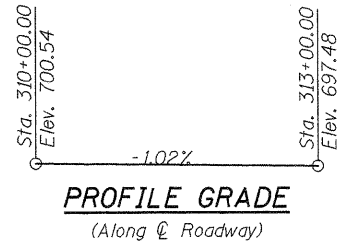
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD Bridge Design Specifications

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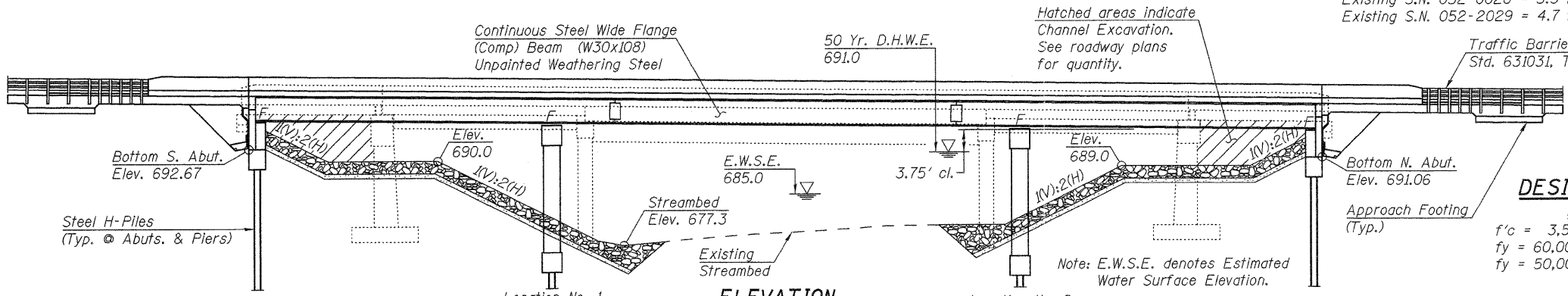
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**WATERWAY INFORMATION**

Flood	Frequency Year	Discharge of cfs		Waterway Opening - ft <sup>2</sup>		Nat. H.W.E.	Head - ft.		Headwater Elev. - ft.	
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
10-Year	052-2001	197	184	122	122	690.0	0.2	0.2	690.2	690.2
	052-0081	4274	3571	780	872					
	052-2031	569	1285	120	248					
	TOTAL	5040	5040	1022	1242					
Design	50-Year	052-2001	506	482	149	691.0	0.4	0.3	691.4	691.3
	052-0081	5677	4891	880	1014					
	052-2031	757	1567	140	284					
	TOTAL	6940	6940	1169	1447					
Base	100-Year	052-2001	591	571	154	691.2	0.5	0.4	691.7	691.6
	052-0081	6189	5457	900	1042					
	052-2031	870	1622	144	288					
	TOTAL	7650	7650	1198	1484					
Overtopping	Not Applicable									
Max. Calc	500-Year	052-2001	775	747	163	691.5	0.7	0.7	692.2	692.2
	052-0081	7378	6577	930	1085					
	052-2031	1007	1836	150	288					
	TOTAL	9160	9160	1243	1536					

10 Year velocity through Existing S.N. 052-2001 = 1.1 ft/s  
 Existing S.N. 052-0026 = 5.3 ft/s  
 Existing S.N. 052-2029 = 4.7 ft/s  
 Existing S.N. 052-2001 = 1.1 ft/s  
 Prop. Bridge S.N. 052-0081 @ S.N. 052-0026 = 4.4 ft/s  
 Prop. Bridge S.N. 052-2031 @ S.N. 052-2029 = 5.3 ft/s

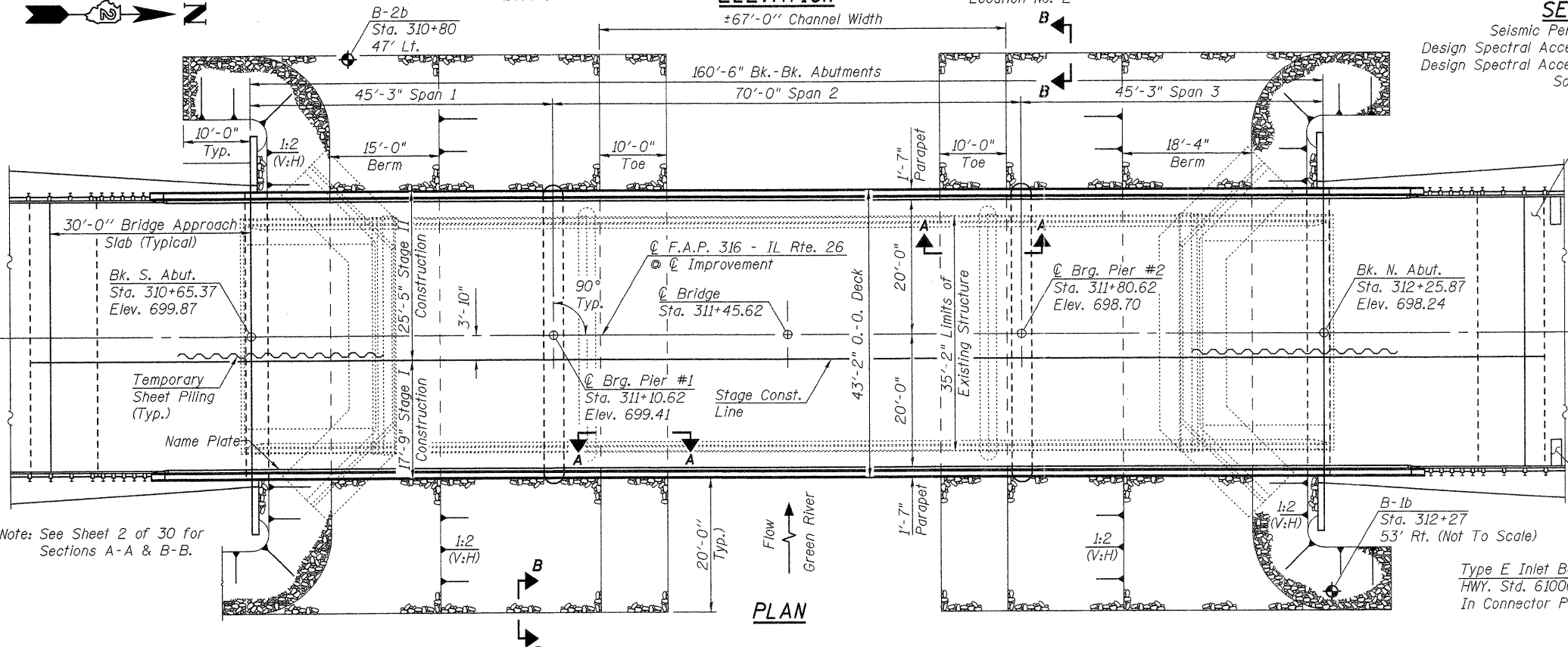
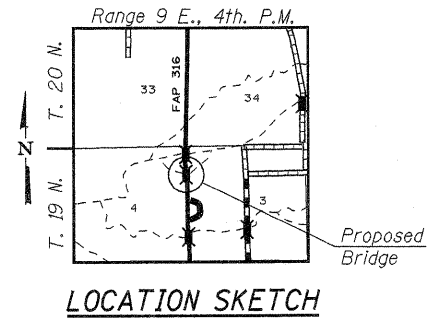


**DESIGN STRESSES**

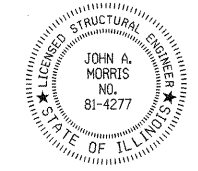
**FIELD UNITS**  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50W)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.090g  
 Design Spectral Acceleration at 0.2 sec. (SDs) = 0.150g  
 Soil Site Class = D



Bridge Approach Pavement Connector (PCC) See Hwy. Std. 420401 & Roadway Plans



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 John A. Morris  
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 State of Illinois No. 81-4277  
 Expires 11-30-2012

**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY  
 [Signature]  
 ENGINEER OF BRIDGES AND STRUCTURES

**GENERAL PLAN & ELEVATION**  
**ILLINOIS ROUTE 26 OVER GREEN RIVER**  
**F.A.P. RTE 316 - SEC. 102BR-6**  
**LEE COUNTY**  
**STATION 311+45.62**  
**STRUCTURE NO. 052-0081**