

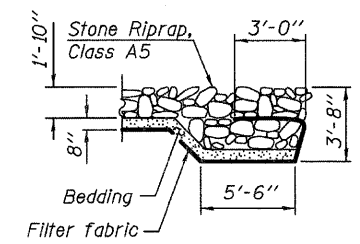
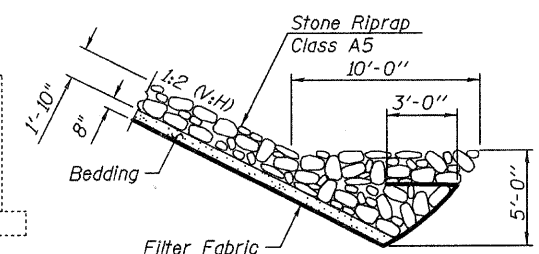
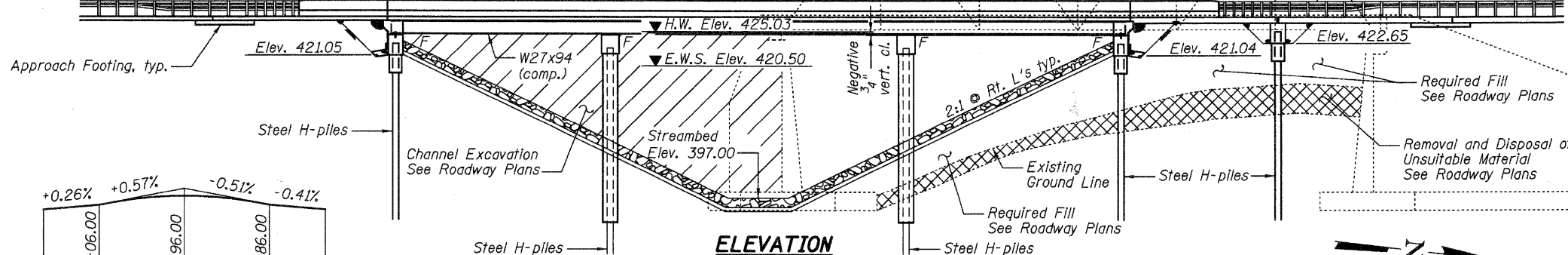
Bench Mark: "BM #1000" - A cut  $\square$  on top of NW wingwall of S.N. 039-0033, located north of S.N. 039-0034. Elev. 431.579  
 "UE9C" 1966, USGS, NAVD 29, Cut  $\square$  inside a larger cut  $\square$  in top of SE wingwall of S.N. 039-0034. Elev. 428.77

Existing Structure: S.N. 039-0034 was built in 1935 at Sta. 241+50. The structure is a single span skewed (31°55') steel Pratt through truss on closed abutments. The structure is 100'-0" center to center of bearings and has a deck width of 24'-0" face to face of curb. The existing structure is to be removed and replaced. Traffic is to be maintained utilizing a temporary runaround structure.

No Salvage.

**WATERWAY INFORMATION**

Drainage Area = 27.49 sq. mi.		Low Grade Elev. 424.90 @ Sta. 231+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
10	5074	1462	1459	423.71	0.09	0.08	423.80	423.79	
Design	50	8230	1552	1570	425.03	0.52	0.34	425.55	425.37
Base	100	9644	1552	1570	425.58	0.76	0.54	426.34	426.12
Overtopping	-	8007	1552	1570	424.97	0.49	0.33	425.46	425.30
Max. Calc.	500	13360	1552	1570	426.85	0.86	1.20	427.71	428.05



**LOADING HL-93**

Allow 50#/Sq. Ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

AASHTO LRFD Bridge Design Specifications, 4th Edition, with 2009 Interims.

**DESIGN STRESSES**

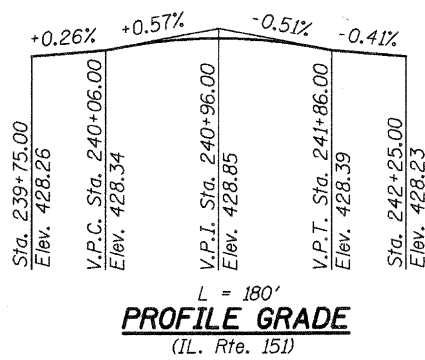
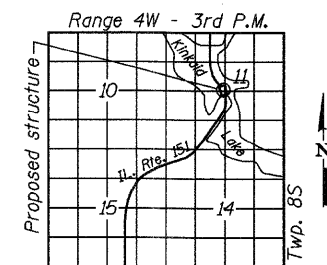
- $f'_c = 3,500$  psi
- $f_y = 60,000$  psi (reinforcement)
- $f_y = 36,000$  psi (M270 Grade 36 structural steel)
- $f_y = 50,000$  psi (M270 Grade 50 structural steel)

**SEISMIC DATA**

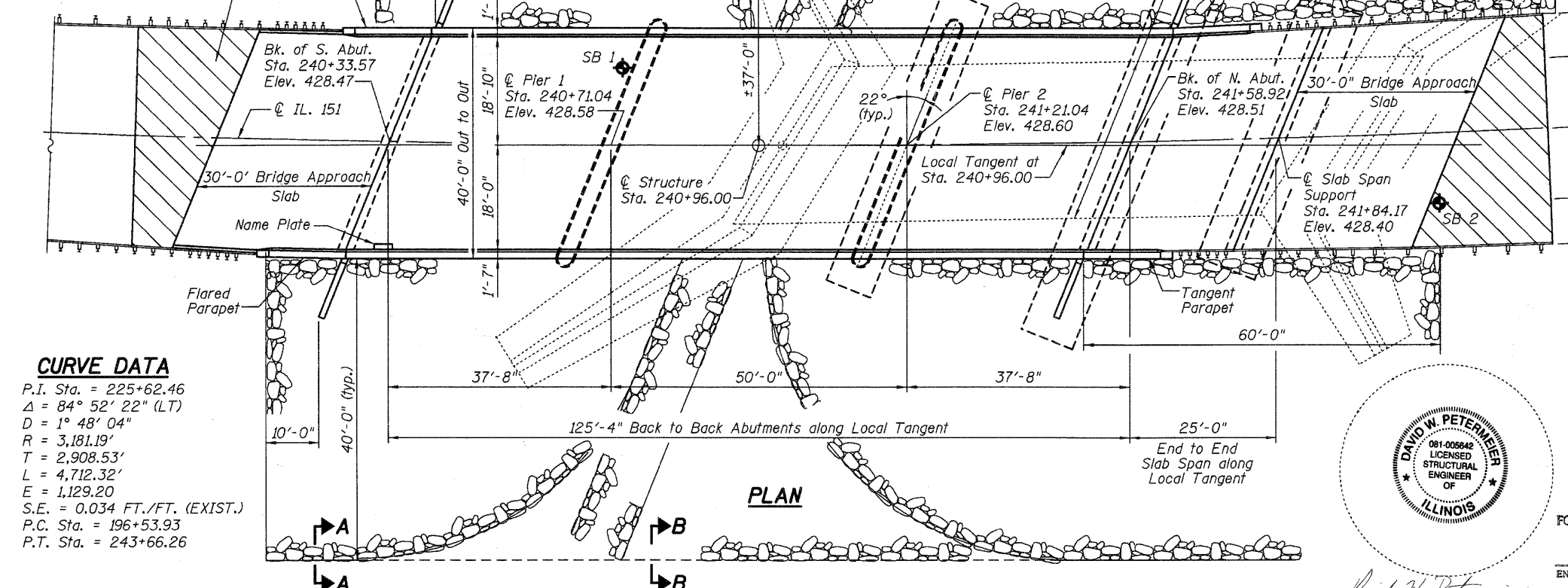
Seismic Performance Zone (SPZ) = 3  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.329 g  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.764 g  
 Soil Site Class = D

STATION 240+96.00  
 BUILT 2011 BY  
 STATE OF ILLINOIS  
 F.A.S. RTE. 1908 SEC. (13B)I-2  
 LOADING HL-93  
 STRUCTURE NO. 039-0073

**NAME PLATE**  
 See Std. 515001



Bridge Approach Pavement Connector (PCC) typ. See Roadway Plans



**CURVE DATA**

- P.I. Sta. = 225+62.46
- $\Delta = 84^\circ 52' 22''$  (LT)
- $D = 1^\circ 48' 04''$
- $R = 3,181.19'$
- $T = 2,908.53'$
- $L = 4,712.32'$
- $E = 1,129.20'$
- $S.E. = 0.034$  FT./FT. (EXIST.)
- P.C. Sta. = 196+53.93
- P.T. Sta. = 243+66.26

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (feet)	S. Abut.	Pier 1	Pier 2	N. Abut.
	418.6	391.22	391.22	418.6



**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY

David W. Petermeier  
 DAVID W. PETERMEIER  
 EDWARDSVILLE, ILLINOIS  
 ILLINOIS LICENSED STRUCTURAL  
 ENGINEER NO. 081-005642  
 EXPIRES NOVEMBER 30, 2012

Note:  
 For General Notes, Total Bill of Material, and Index of Sheets, see sheet 2 of 32.

**GENERAL PLAN AND ELEVATION**  
**ILLINOIS ROUTE 151 OVER KINKAID LAKE**  
**F.A.S. RTE. 1908 SEC. (13B)I-2**  
**JACKSON COUNTY**  
**STATION 240+96.00**  
**STRUCTURE NO. 039-0073**



FILE NAME =	USER NAME =	DESIGNED - RLM	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	F.A.S. RTE. 1908	SECTION (13B)I-2	COUNTY JACKSON	TOTAL SHEETS 71	SHEET NO. 40
	PLOT SCALE =	CHECKED - MJP	REVISED -						
	PLOT DATE = 12/02/2010	DRAWN - AEC	REVISED -						
		CHECKED - RLM	REVISED -						
					SHEET NO. 1 OF 32 SHEETS		CONTRACT NO. 98898		