

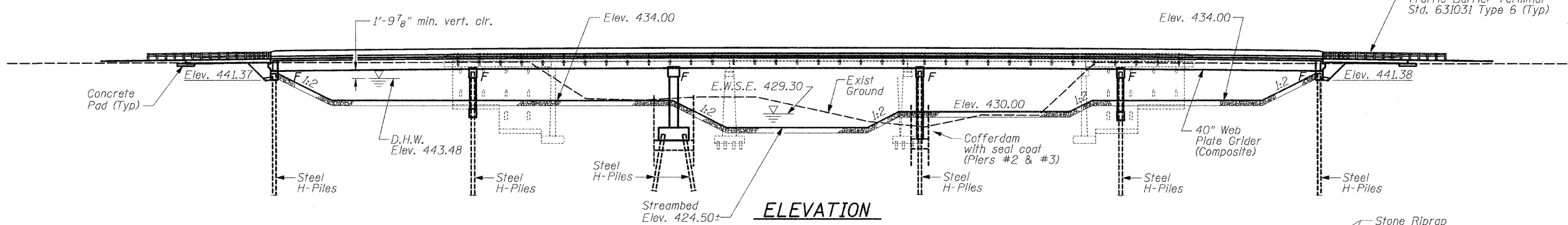
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Benchmark - Chiseled "□" on top northside of west abutment, SN 014-0030, Elev 446.40

Existing Structure - Structure Number 014-0030 was built in 1923 as S.B.I. Rte. 12, Section 27B over Sugar Creek Sta. 385+83 (9+17). The superstructure was replaced and substructure was widened in 1970 as Section 27BR. The existing structure is 33'-0" out to out of deck, 189'-0" back to back of abutments. It has 3-spans at 63'-0" each with 27" precast prestressed concrete deck beams on closed abutment with tie back wingwalls and on solid piers. The abutments and wingwalls are on spread footings. The piers are on timber piles. The existing structure shall be removed and replaced. Roadway will be closed and traffic detoured during construction. No Salvage.

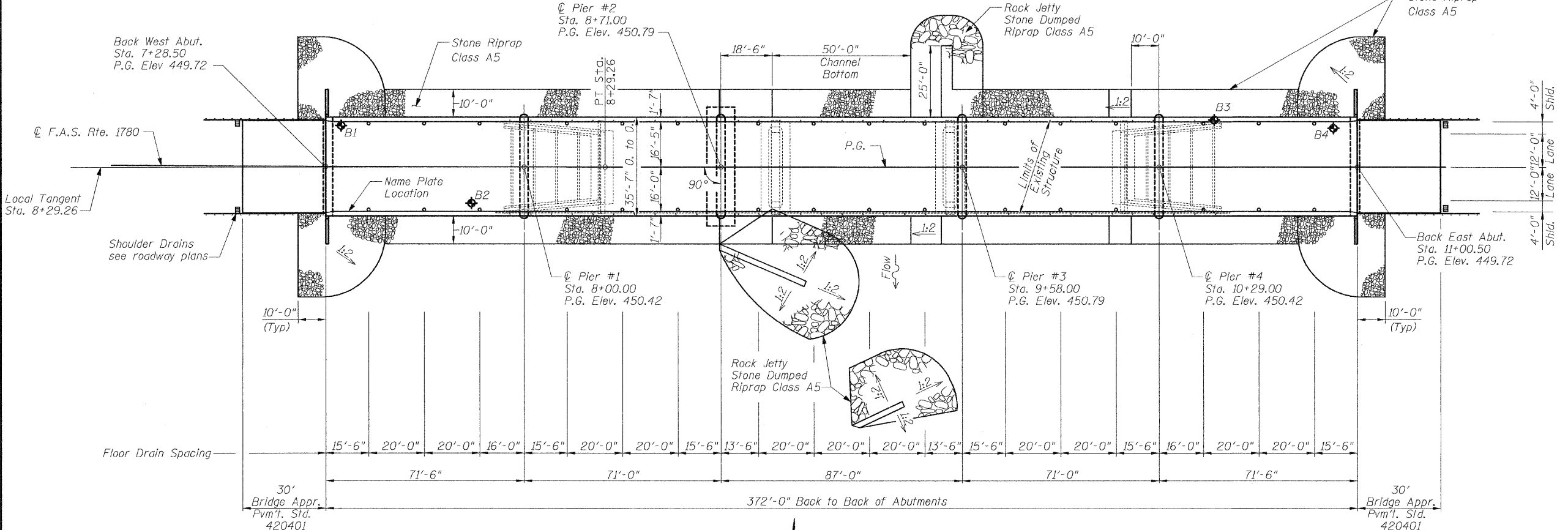
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 1 27 SHEETS
F.A.S. 1780	27-1BR-1	CLINTON	69	26	
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT			

Contract # 76961



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Alan D. Lukens 12/14/07
 Date
 Alan D. Lukens
 Licensed Structural Engineer
 State of Illinois No. 081-005167
 License Expires 11/30/08

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
Robert E. Olson
 ENGINEER OF BRIDGES AND STRUCTURES

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
 Bedrock Acceleration Coefficient (A) = 0.100g
 Site Coefficient (S) = 2.0

CURVE DATA

PI STA. = 5+61.66
 $\Delta = 01^\circ 21' 06''$ (LT)
 $D = 00^\circ 15' 09''$
 $R = 22,687.46'$
 $T = 267.63'$
 $L = 535.23'$
 $E = 1.58'$
 P.C. STA = 2+94.03
 P.T. STA = 8+29.26

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition

LOADING HL 93

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

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_y = 50,000$ psi (Struct.) M270 Grade 50W

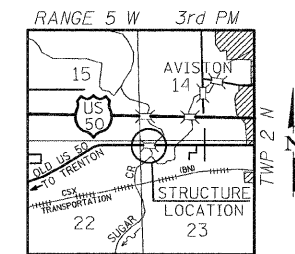
PLAN

Design	W. Abut.	Pier #1	Pier #2	Pier #3	Pier #4	E. Abut.
Scour Elev.	441.3	420.6	419.2	418.6	418.2	441.3

WATERWAY INFORMATION

Drainage Area = 96.63 Sq. Mi. Low Grade Elev. 447.59 at Sta. 20+54.29±

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head-Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	7,232	1552.15	2388.69	441.69	2.13	1.95	443.82	443.64
Base	50	11,017	1873.76	3018.30	443.48	3.47	3.20	446.95	446.68
Ex Overtopping	100	12,673	2004.79	3276.75	444.21	3.93	3.65	448.14	447.86
Pr Overtopping	71	11,890	1948.74		443.90	3.69		447.59	
Max. Calc.	83	12,280		3220.11	444.05		3.54		447.59



LOCATION SKETCH

GENERAL PLAN & ELEVATION
FAS RTE 1780 (OLD US 50) OVER
SUGAR CREEK
SECTION 27-1BR-1
CLINTON COUNTY
STATION 9+14.50
STRUCTURE NUMBER 014-0077

DESIGNED	ADL
CHECKED	WLW
DRAWN	BGJ
CHECKED	WLW

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