

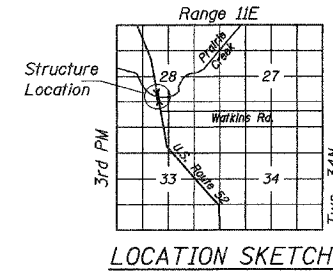
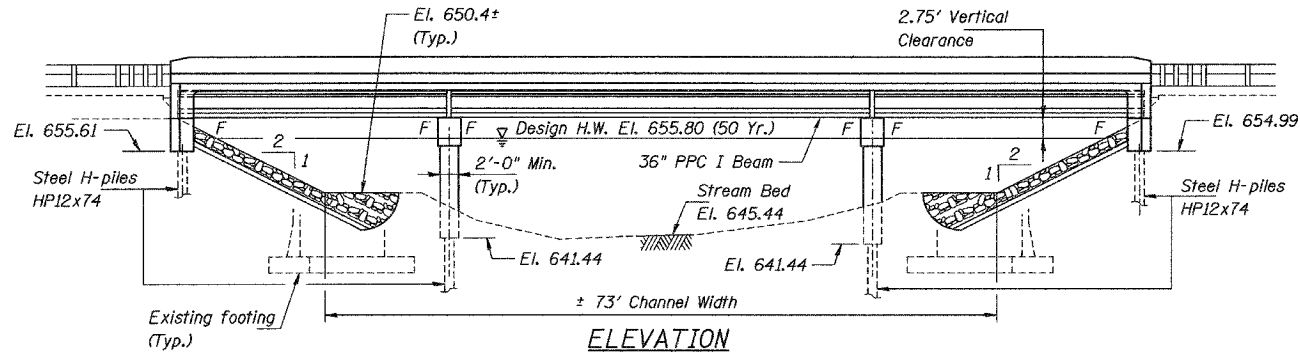
Bench Mark:
 Square cut on top of south end of west bridge wall over Prairie Creek on Route 52. Elev. 658.66 Ft.

Existing Structure: SN 099-0132 is a single span precast prestressed concrete multi box beam bridge built in 1922, superstructure replaced in 1974, concrete deck replaced in 1985 and five box beams replaced in 2001. The bridge is supported on closed abutments with caps, 63'-1 1/4" bk. to bk. of abutments and 33'-0" o. to o. of deck.

Traffic to be maintained utilizing staged construction with temporary traffic signals.

No Salvage

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 51
18B-5-R	WILL	66	21	21	521 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-					
CONTRACT NO. 62845					



LOADING HS20-44
 Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
 2002 AASHTO

DESIGN STRESSES

FIELD UNITS

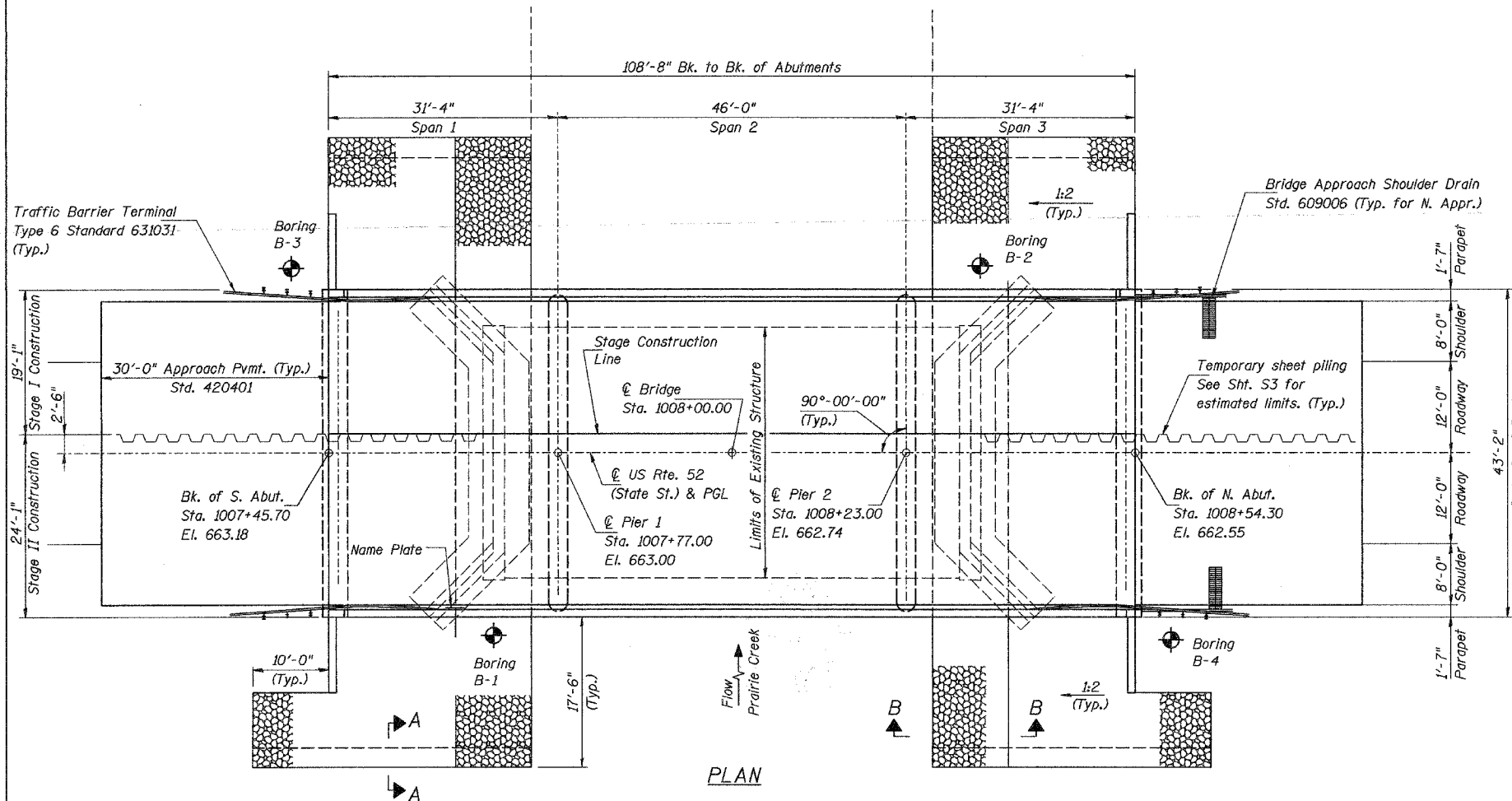
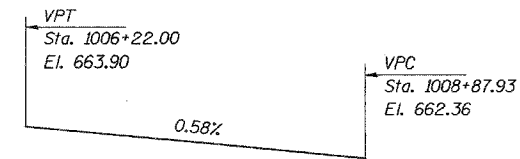
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_s = 5,000$ psi
 $f'_s = 270,000$ psi (1/2" ϕ low lax. strands)
 $f_{st} = 201,960$ psi (1/2" ϕ low lax. strands)

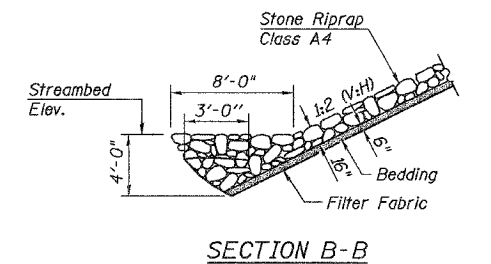
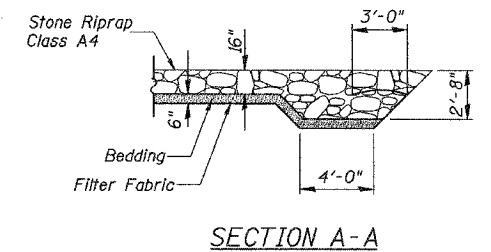
SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.4g
 Site Coefficient (S) = 1.0



PRAIRIE CREEK
 BUILT 200 BY
 WILL COUNTY
 SEC. 18B-5-R
 FAP RTE. 852 STA. 1008+00.00
 STR. NO. 099-4643 LOADING HS20

NAME PLATE
 See Std. 515001



WATERWAY INFORMATION

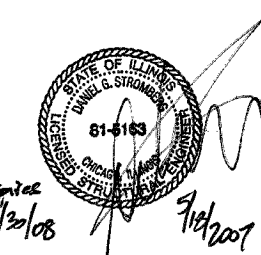
Drainage Area = 21.8 Sq. Mi. Low Grade Elev. 658.1 @ Sta. 1013+50

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	1350	428	499	654.7	0.3	0.3	655.0	655.0
Base	50	1970	458	595	655.8	0.7	0.4	656.5	656.2
Overtopping	100	2220	458	641	656.3	0.9	0.5	657.2	656.8
Max. Calc.	350	2600	458	656.7	656.7	1.0	1.0	657.7	657.7
	500	2790	458	696	656.9	1.1	0.7	658.0	657.6

Design Scour Elevations (ft.)

S. Abut. - 652.61
 Pier 1 - 638.66
 Pier 2 - 639.15
 N. Abut. - 651.99

Notes:
 For Staging and Temporary Sheet Piling
 Details see Sheet No. S3.
 For Soil Borings Logs see Sheet No. S20.



APPROVED
 For Structural Adequacy Only
 Ralph E. Anderson (P.E.)
 Engineer of Bridges & Structures

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 (312) 704-9300
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LICENSE NO. 184-000993

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 US ROUTE 52 (STATE STREET)
 OVER PRAIRIE CREEK
 FAP RTE. 852 SEC. 18B-5-R
 WILL COUNTY
 STA. 1008+00.00 STRUCTURE NO. 099-4643
GENERAL PLAN

DRAWN BY: KAC
 CHECKED BY: JMH/DGS
 DATE: OCTOBER, 2004