

Bench Mark: B.M. 4399-29 Chiseled square on the southeast corner of the southwest wing of structure 023-0016; Station 418+02.91. 25.81 ft. Rt., Elevation 689.99.

Existing Structure: S.N. 023-0016 built in 1940 as F.A.P. 175 Section 14 at Station 418+26. The single span superstructure consists of a concrete deck slab and wearing surface. The substructure consists of closed abutments supported on timber piles. The structure length is 22'-9" bk-to-bk of abutments and 45'-4" out-to-out of deck with a 15 degree skew. The existing structure is to be replaced.

Traffic to be detoured for road closure.

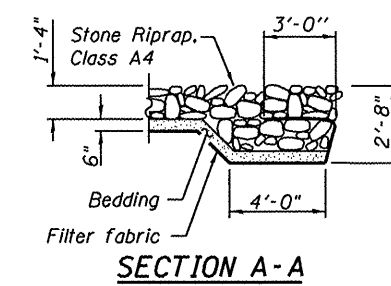
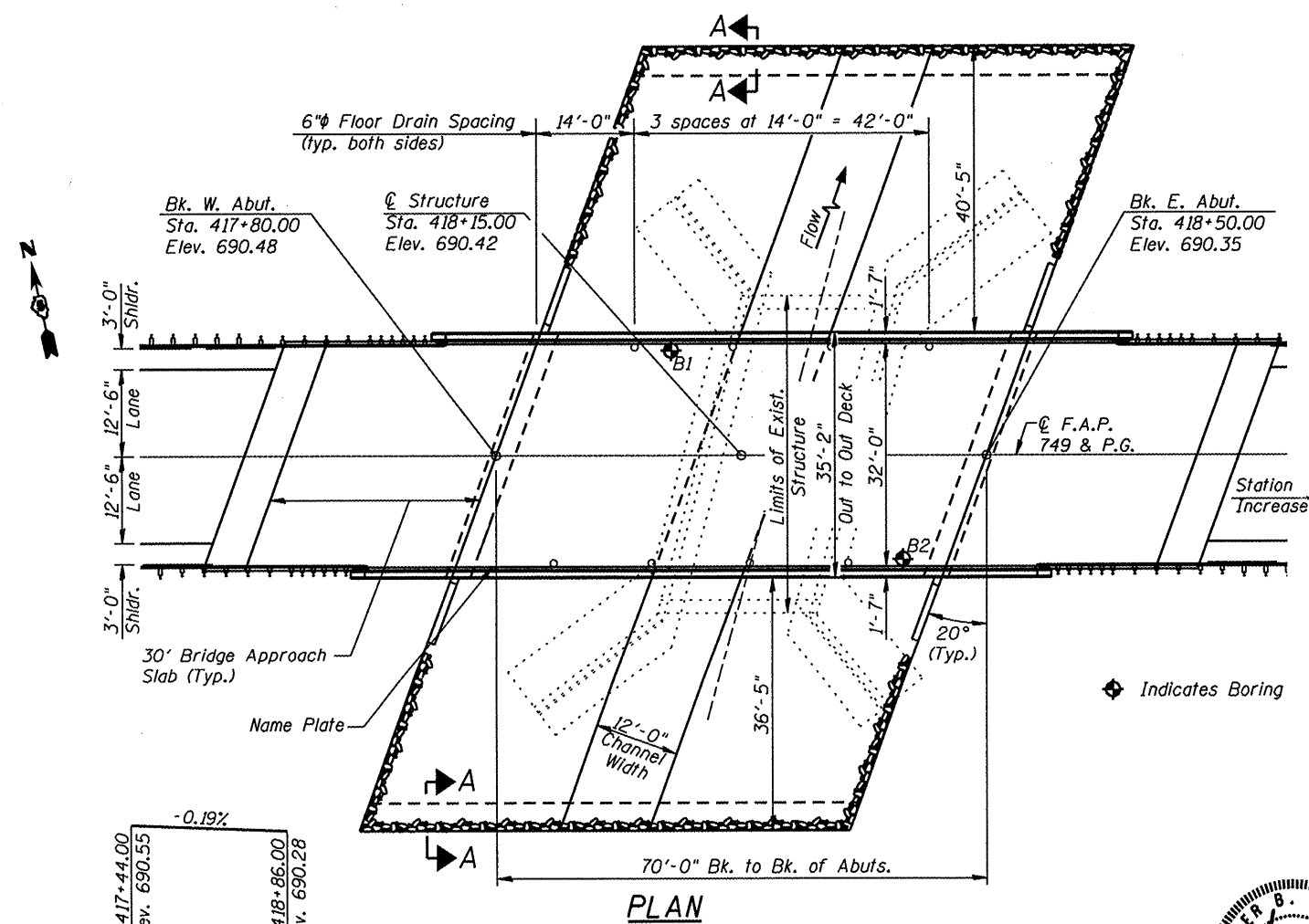
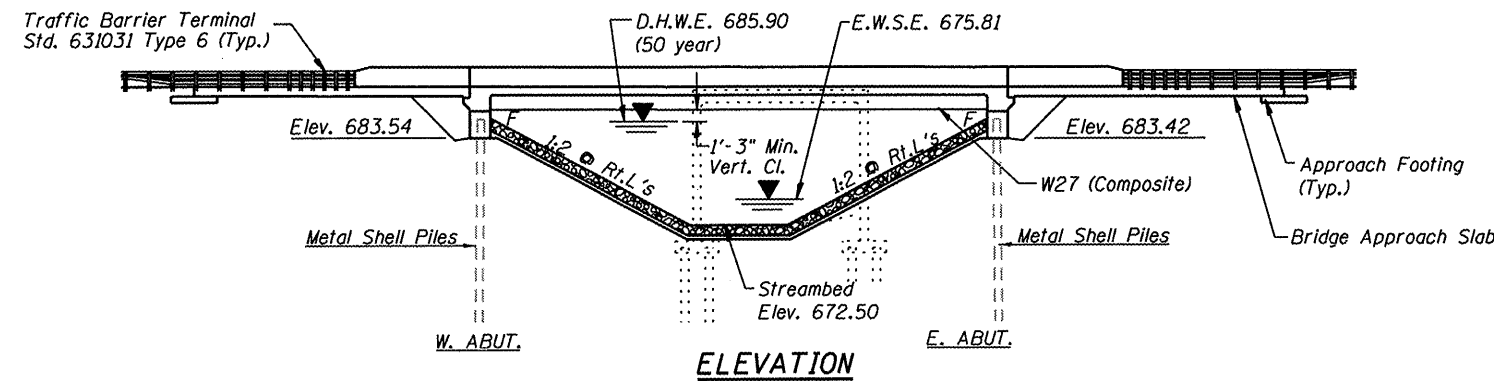
No Salvage

APPROVED
For Structural Adequacy Only
D. Carl Rusey (P.E.)
Engineer of Bridges & Structures

WATERWAY INFORMATION

Drainage Area = 5.8 SQ. MI.		Low Grade Elev. 689.18 @ Sta. 423+00							
Flood Yr.	Freq.	Opening		Nat.	Head - Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
10	889	231	335	683.7	0.1	0.0	683.8	683.7	
Design	50	1450	276	459	685.9	0.5	0.2	686.4	686.1
Base	100	1700	285	484	686.3	0.7	0.2	687.0	686.5
Max. Calc.	500	2320	287	490	686.4	1.4	0.6	687.8	687.0

10 year velocity through Existing Bridge = 4.21 ft/s
10 year velocity through Proposed Bridge = 2.66 ft/s



INDEX OF SHEETS

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LOADING HL-93

Allow 50 psf. for future wearing surface.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications
5th Edition with 2010 Interims

DESIGN STRESSES

FIELD UNITS

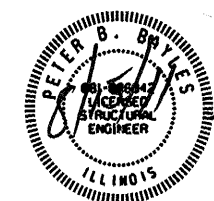
f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)
 f_y = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

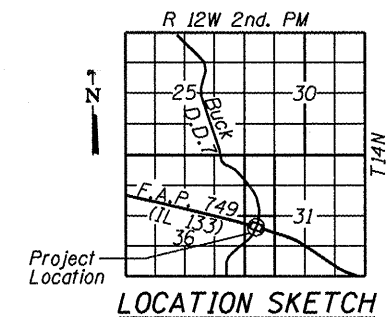
Seismic Performance Category (SP2)=2
Design Spectral Acceleration at 1.0 sec. (SD1)=0.160g
Design Spectral Acceleration at 0.2 sec. (SD3)=0.318g
Soil Site Class=D

STATION 418+15.00
BUILT 20... BY
STATE OF ILLINOIS
F.A.P. 749 SEC. 14BR
LOADING HL-93
STR. NO. 023-0034

NAME PLATE
See Std. 515001



Peter B. Bayles
Peter B. Bayles, P.E., S.E.
Structural Engineer License No. 081-006042
Expiration Date: 11/30/2012



GENERAL PLAN
IL 133 OVER DRAINAGE DITCH NO. 7
F.A.P. 749 - SEC. 14BR
EDGAR COUNTY
STATION 418+15.00
STRUCTURE NO. 023-0034

PROFILE GRADE F.A.P. RTE. 749
Along &Circ; Roadway

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	E. Abut.	W. Abut.
	683.54	683.42

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED - PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN STRUCTURE NO. 023-0034	F.A.P. RTE. 749	SECTION 14BR	COUNTY EDGAR	TOTAL SHEETS 115	SHEET NO. 41	
		CHECKED -	REVISED -			SHEET NO. 1 OF 21 SHEETS					
		PLOT SCALE =	REVISED -			CONTRACT NO. 70618					
		PLOT DATE =	REVISED -			ILLINOIS FED. AID PROJECT					