

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark: Chiseled "□" on NW Pier. Elev. 658.57

Existing Structure: S.N. 098-0013, built 1926 as SBI-Route 40, Section 8B, at Station 1375+23.67 as a 3 simple span reinforced concrete deck girder bridge, 190'-8" Bk.-to-Bk abutments. Closed abutments and piers supported on untreated timber piles. The bridge is skewed 25° right ahead. Superstructure replacement and widening to 33'-0" out to out in 1976 at Station 1375+23.67 with simple span PPC deck beams and bituminous wearing surface. Existing bridge to be removed and replaced.
Traffic to be maintained utilizing staged construction.

No Salvage

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications
with 2008 & 2009 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
fy = 36,000 psi (M270 Grade 36)

LOADING HL-93

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

SEISMIC DATA

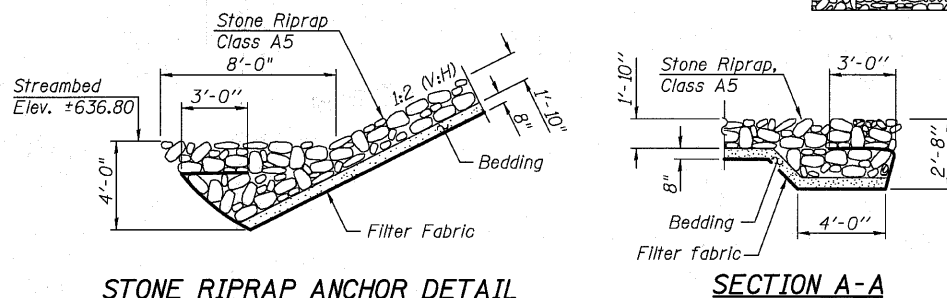
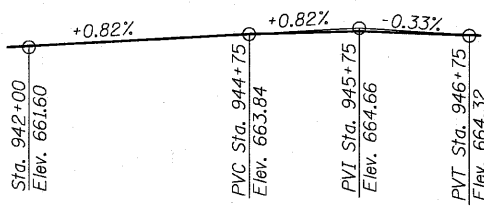
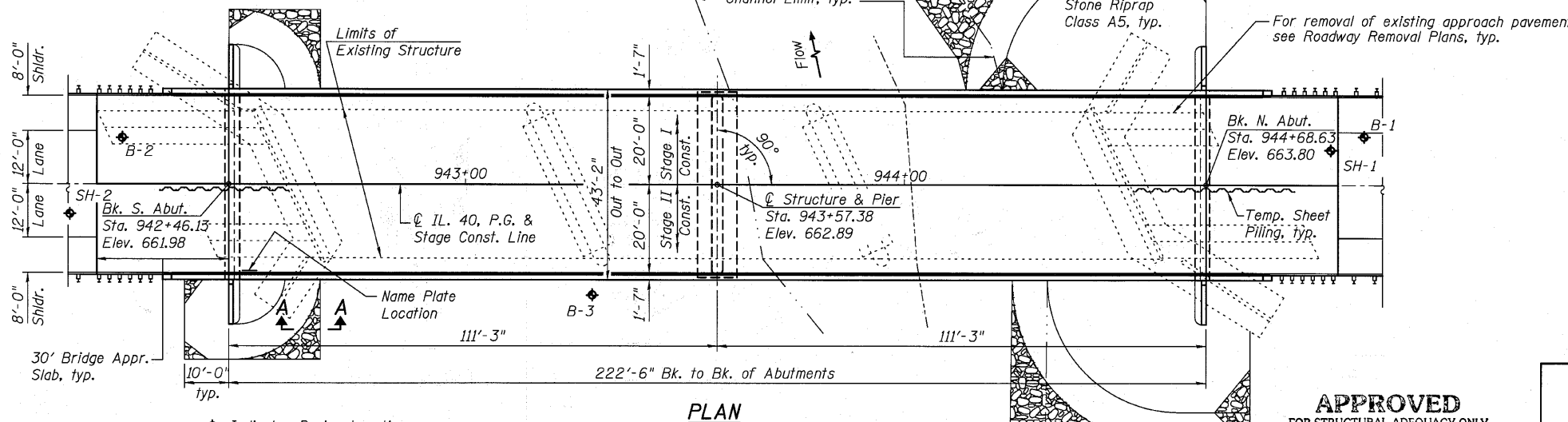
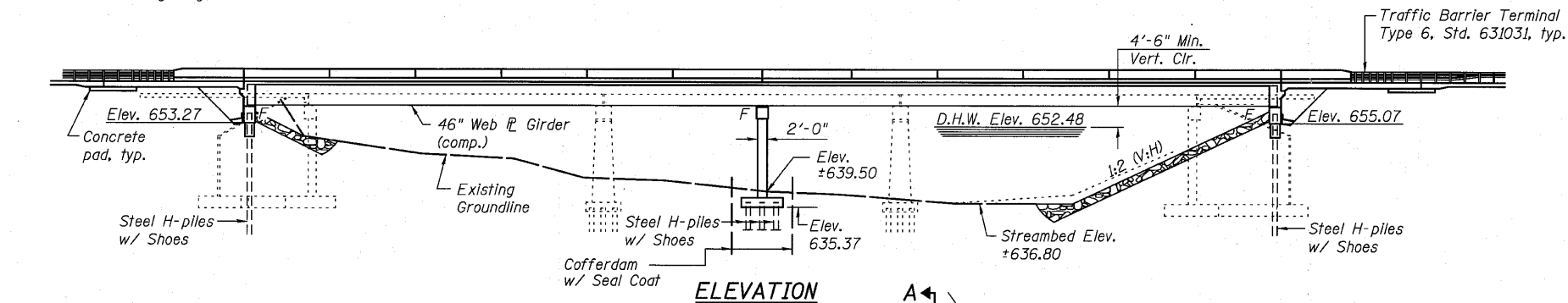
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.060g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.104g
Soil Site Class = C

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DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	North Abut.	Pier	South Abut.
	655.07	629.40	653.27



WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
			Design	50		9553	1452	1836	652.48
Base	100	10960	1497	1896	652.80	2.99	2.82	655.79	655.62
Overtop Prop.	500	14385	1592	2023	653.48	3.00	2.86	656.48	656.34

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

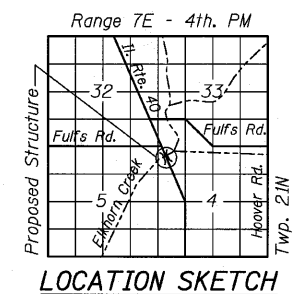
Robert E. Anderson (SE)
ENGINEER OF BRIDGES AND STRUCTURES



Andrew E. Underwager
Licensed Structural Engineer
State of Illinois No. 81-6218
Expires 11/30/2010

STATION 943+57.38
BUILT 2011 BY
STATE OF ILLINOIS
F.A.P. RT. 646 SEC. 8BR-1
LOADING HL-93
STRUCTURE NO. 098-0117

NAME PLATE
See Std. 515001



GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 40 OVER
ELKHORN CREEK
F.A.P. RT. 646 - SEC. 8BR-1
WHITESIDE COUNTY
STATION 943+57.38
STRUCTURE NO. 098-0117

DESIGNED -	AEU
CHECKED -	DLS
DRAWN -	AWH
CHECKED -	AEU

SHEET NO. 1
26 SHEETS

WILLS BURKE KELSEY ASSOCIATES LTD.
116 West Main Street, Suite 201
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	8BR-1	WHITESIDE	90	35
CONTRACT NO. 84854				

ILLINOIS FED. AID PROJECT