STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

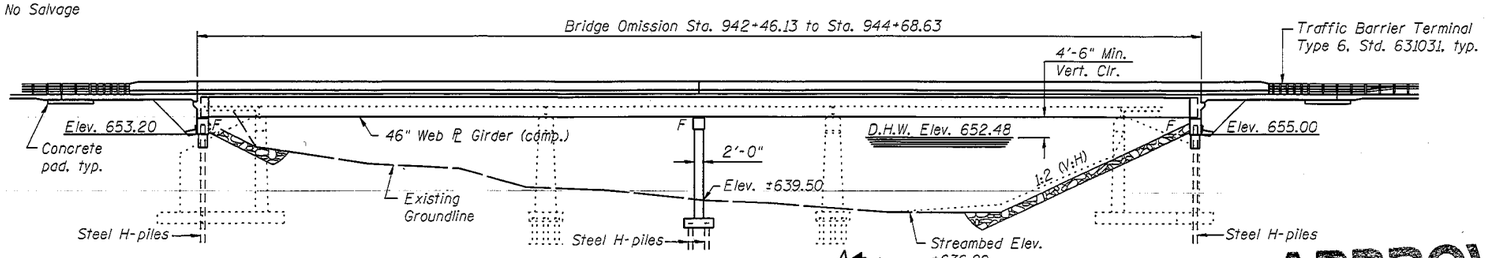
Bench Mark: Chiseled "□" on NW Pier. Elev. 658.57

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.

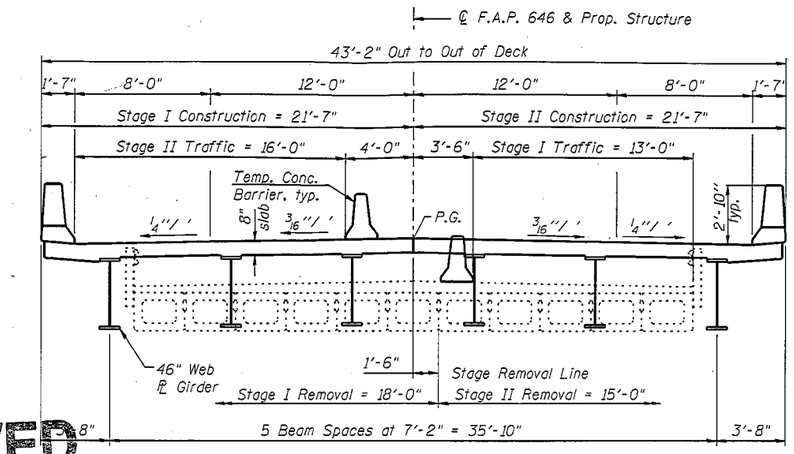
No Salvage

NOTES

The condition of the existing deck beams for the duration of stage I Traffic should be verified during final design. If their condition changes, the proposed staging sequence shall be re-evaluated. (If a beam replacement or beam support contract is required the designer shall provide the necessary plans.)



ELEVATION

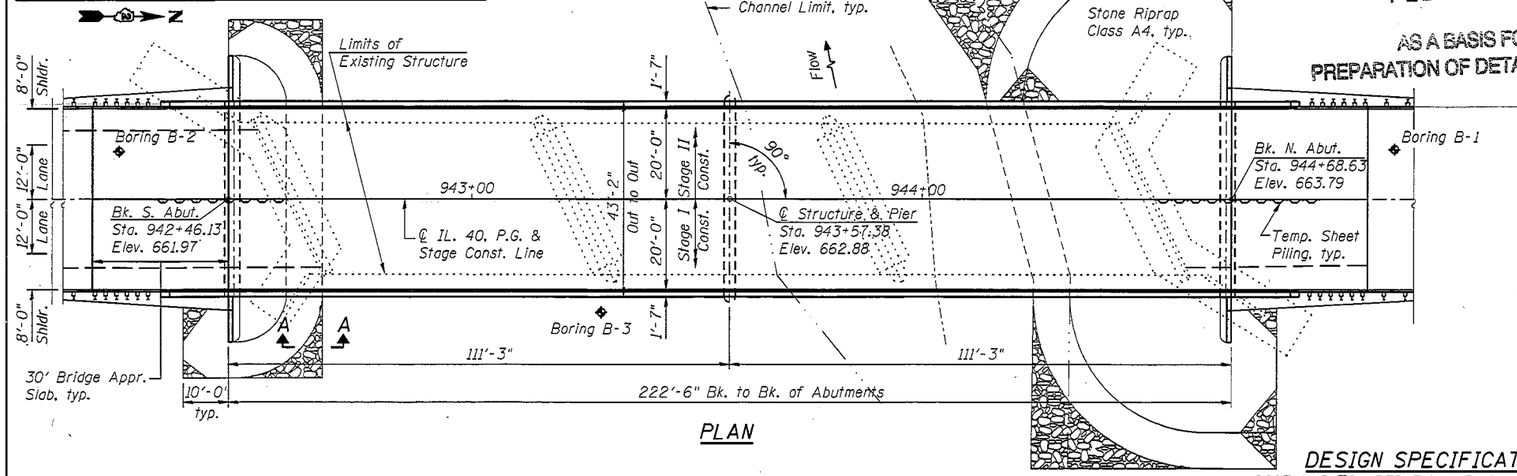


CROSS SECTION
(Looking North)
Composite in positive moment regions

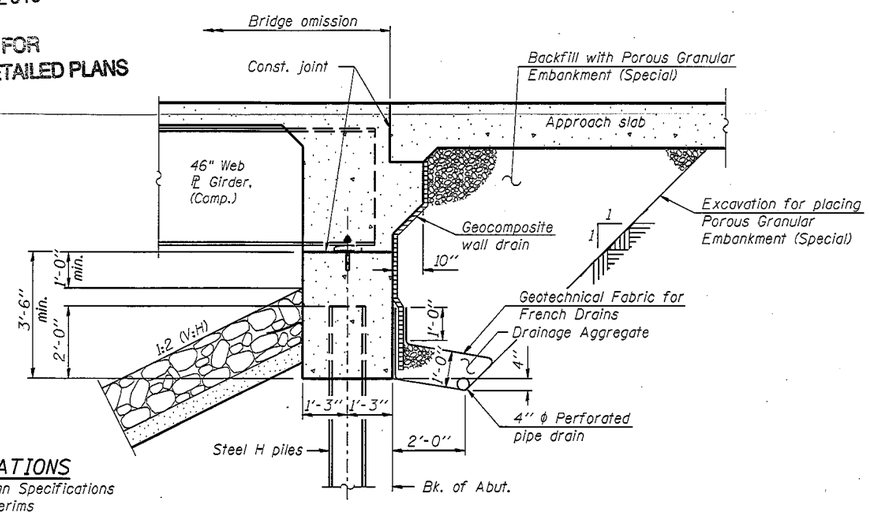
APPROVED
FEB 18 2010
AS A BASIS FOR PREPARATION OF DETAILED PLANS

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	North Abut.	Pier	South Abut.
	655.00	629.40	653.20



PLAN



SECTION THRU INTEGRAL ABUTMENT

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 50W)

HIGHWAY CLASSIFICATION

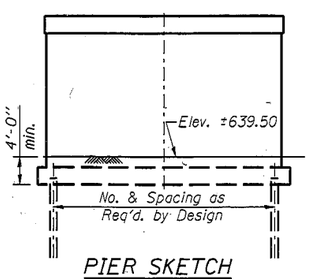
F.A.P. Rte. 646 - Il. Rte. 40
Functional Class: Minor Arterial (Non-Urban)
ADT: 4,600 (2007); 6,500 (2027)
ADTT: 9%
DHV: 380
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
2-way traffic
Directional Distribution: 50:50

LOADING HL-93

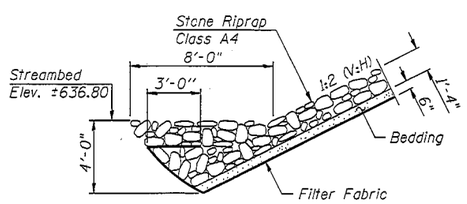
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

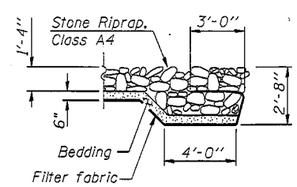
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.060g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.104g
Soil Site Class = C



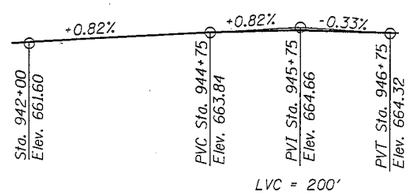
PIER SKETCH



STONE RIPRAP ANCHOR DETAIL



SECTION A-A

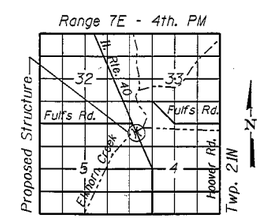


PROFILE GRADE
(along ℄ roadway)

WATERWAY INFORMATION

Exist. Low Grade Elev. 655.76 @ Sta. 936+30
Drainage Area = 199.9 sq. mi. Prop. Low Grade Elev. 655.76 @ Sta. 936+30

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	6300	1332	1681	651.64	2.61	2.45	654.25	654.09
Design	50	9553	1452	1836	652.48	2.93	2.77	655.41	655.25
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



LOCATION SKETCH

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	SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS / SHEET NO.
CHECKED DS	1 SHEETS	646	8BR-1	WHITESIDE	
DRAWN AEU				CONTRACT NO. 84854	
CHECKED DS		FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT	