Existing Structure SN 098-0014:
Structure is a 12 span precast prestressed concrete box beam bridge with 4" min wearing surface.
The 11 piers are cast in place concrete on spread footings constructed in 1923 and rebuilt in 1982.
The overall design length is 1032' face to face abutments and 64' out to out of deck.

Traffic is to be maintained on this structure while the new structure is under construction using staged construction.

No salvage.

Bench Mark:
Chiseled "□" top of SW corner of bridge retaining wall
Sta 723+76.16 37.29' Lt
Elev 649.29

Bench Mark:
Chiseled "□" top of light pole foundation
Sta 722+30.74 51.98' Rt
Elev 650.12

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = .060 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = .108 g
Soil Site Class = C

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)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications
5th Edition

LOADING HL-93

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

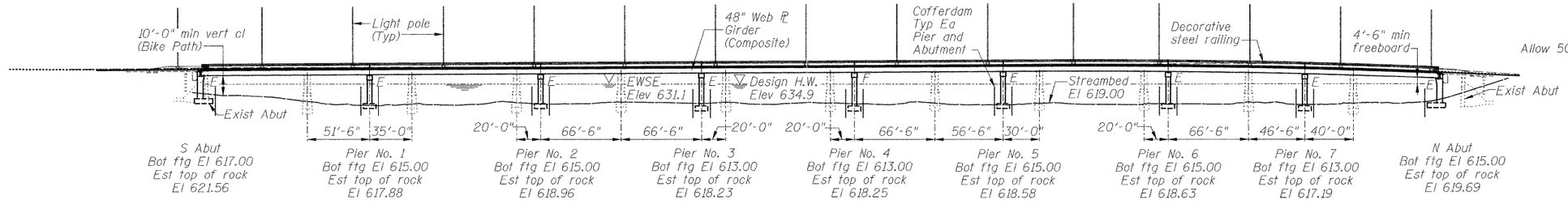
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	N. Abut.
	620.9	617.9	618.8	617.6	617.6	618.0	618.4	615.8	619.1

PROPOSED CURVE

CURVE D200
PI STA. = 723+82.48
Δ = 17° 39' 00" (LT)
D = 18° 28' 57"
R = 310.00'
T = 48.13'
L = 95.50'
E = 3.71'
P.C. STA. = 723+34.36
P.T. STA. = 724+29.85

ELEVATION



Scenic overlook locations:
Lt & Rt Sta 727+38.00
Lt & Rt Sta 732+57.00

PARAPET MOUNTED LIGHT LOCATIONS

Lt Sta 724+37.84
Rt Sta 724+37.89
Lt & Rt Sta 725+07.57
Lt & Rt Sta 725+82.57
Lt & Rt Sta 726+57.57
Lt & Rt Sta 727+32.57
Lt & Rt Sta 728+07.57
Lt & Rt Sta 728+82.60
Lt & Rt Sta 729+57.54
Lt & Rt Sta 730+32.59
Lt & Rt Sta 731+07.59
Lt & Rt Sta 731+78.59
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Lt & Rt Sta 733+24.59
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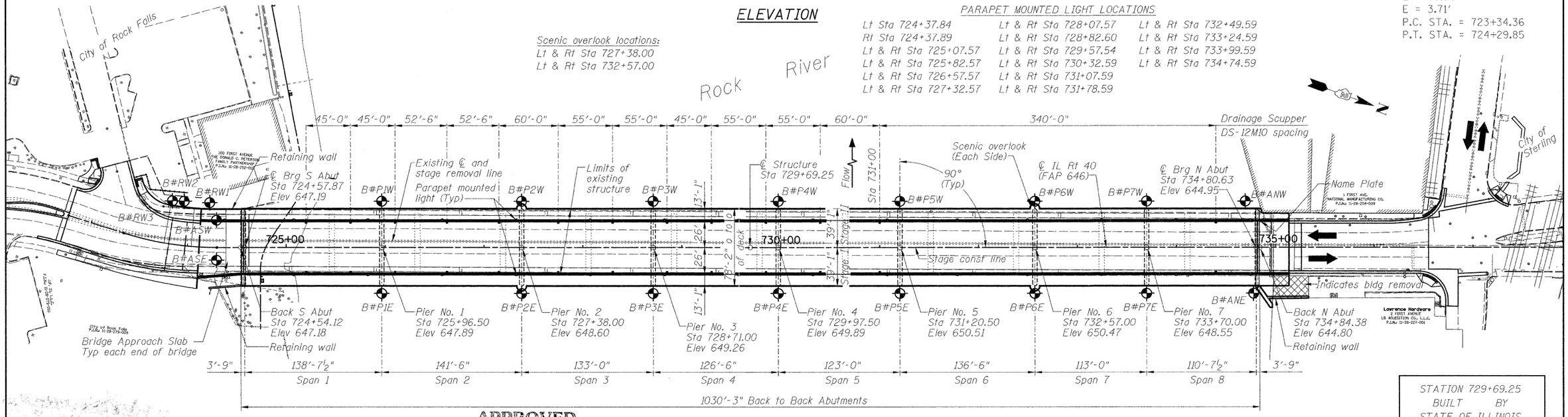
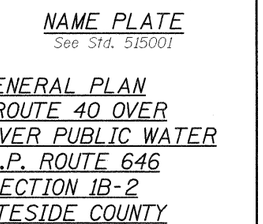
Lt & Rt Sta 734+74.59



PLAN



APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

WATERWAY INFORMATION TABLE

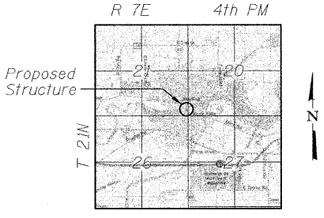
Drainage Area = 8741.0 sq mi
Existing Low Grade Elev. 646.4 @ Sta. 734+88
Proposed Low Grade Elev. 644.7 @ Sta. 734+88

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	41700	12494	13181	633.3	0.1	0.1	633.4	633.4
Design	50	58900	13748	14752	634.9	0.1	0.1	635.0	635.0
Base	100	66000	14140	15319	635.4	0.1	0.1	635.5	635.5
Overtop									
	500	82900	15234	16623	636.8	0.1	0.1	636.9	636.9

10 year velocity through existing bridge = 3.3 fps
10 year velocity through proposed bridge = 3.2 fps

Sheets 1-5, 7-67, 71-79
STATE OF ILLINOIS THOMAS E SZKODZINSKI LICENSED STRUCTURAL ENGINEER 4941 CHICAGO
exp. 11-30-12
Thomas E Szkodzinski
7-14-11

sheets 6, 68-70, 80 & 81
LICENSED STRUCTURAL ENGINEER MARY COOMBE BLOXDORF 4859 STATE OF ILLINOIS
Exp 11-30-12
Mary Coombe Bloxdorf
7-19-11



LOCATION SKETCH

STATION 729+69.25
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 646 SEC. 1B-2
LOADING HL-93
STRUCTURE NO. 098-0115

NAME PLATE

See Std. 515001

GENERAL PLAN
IL ROUTE 40 OVER
ROCK RIVER PUBLIC WATER
F.A.P. ROUTE 646
SECTION 1B-2
WHITESIDE COUNTY
STATION 729+69.25
STRUCTURE NUMBER 098-0115

HOMER L. CHASTAIN & ASSOCIATES, LLP
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ROCKFORD (815) 489-0050
184-001397

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - TES	REVISED -
		CHECKED - ACB	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - RLK	REVISED -
	PLOT DATE = 7/14/2011	CHECKED - TES	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 098-0115
SHEET NO. 1 OF 103 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	1B-2	WHITESIDE	257	104
		CONTRACT NO. 64B80		
	ILLINOIS FED. AID PROJECT			