Benchmark:

BM1: Cut cross on top of west bridge railing bridge carrying 8th Street over Keith Creek. Sta. 103+21.03, 148.06' RT Elev. 726.87 (NAVD88)

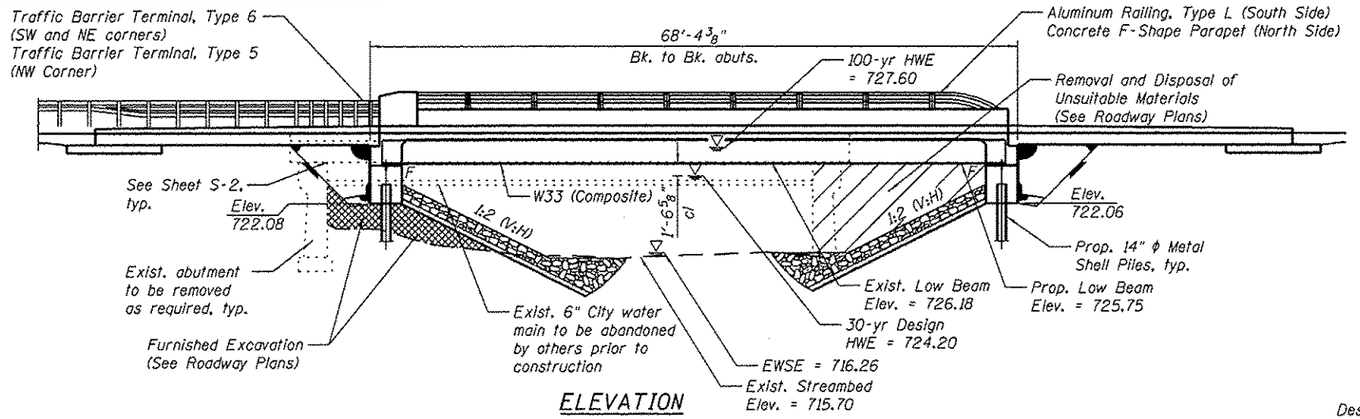
BM2: North bolt on fire hydrant at southeast corner of intersection of Railroad Ave. and 8th Street. Sta. 103+01.90, 25.43' RT Elev. 728.65 (NAVD88)

Existing Structure:

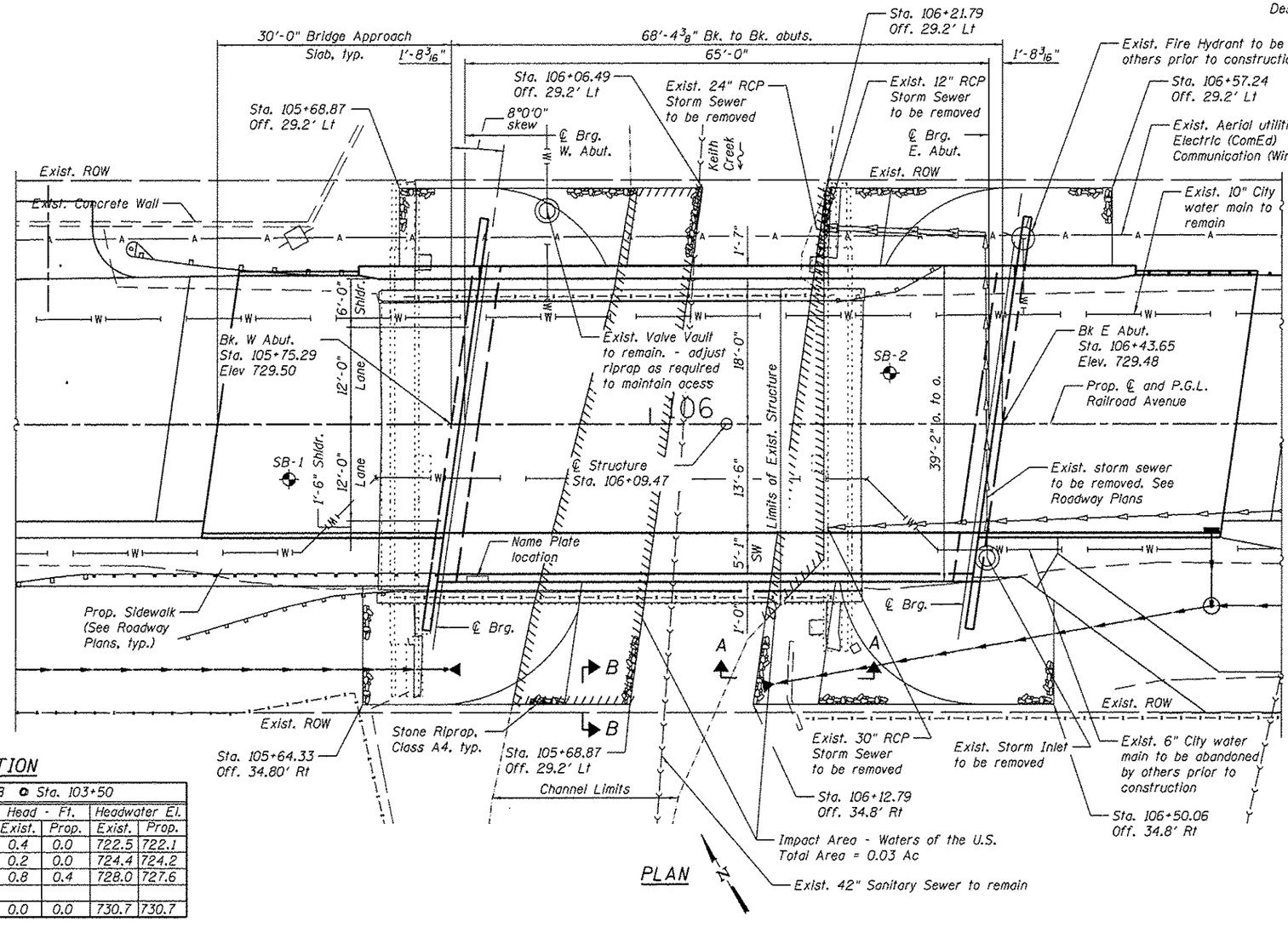
Existing bridge SN 101-6048 is a precast, prestressed concrete (PPC) deck beam bridge. The single span is approximately 57 feet. The substructure dates to 1909, but the superstructure was installed in 1993. The deck is 39' wide out-to-out with a clear width of 37'. Foundation type is unknown, but 1909 plans indicate spread footings. Roadway to be closed to through traffic during construction.

Salvage:

None



ELEVATION



PLAN

KEITH CREEK
BUILT 20 BY
CITY OF ROCKFORD
SEC. 11-00590-00-BR
STATION 106+09.47
STR. NO. 101-6148 LOADING HL-93

NAME PLATE
See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)		
	W. Abut.	E. Abut.
O_{100}	722.08	722.06
O_{500}	722.08	722.06

WATERWAY INFORMATION

Drainage Area = 13.3 sq. mi. Low Grade Elev. 726.78 @ Sta. 103+50

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	1,070	222	276	722.1	0.4	0.0	722.5	722.1
Design	30	1,733	333	380	724.2	0.2	0.0	724.4	724.2
Base	100	2,744	392	476	727.2	0.8	0.4	728.0	727.6
Overtopping									
Max. Calc.	500	5,090	392	476	730.7	0.0	0.0	730.7	730.7

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

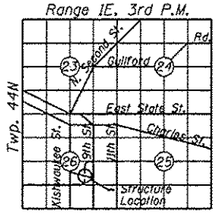
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

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}) = 0.118g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.215g
Soil Site Class = E



LOCATION SKETCH

STATE OF ILLINOIS
ROBERT G. DAVIES
081-004655
McHENRY, IL
LICENSED STRUCTURAL ENGINEER

To the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications".

2/18/2014
Structural Engineer Expires: 11/30/2014
HRGreen

GENERAL PLAN AND ELEVATION
RAILROAD AVENUE
OVER KEITH CREEK
SECTION 11-00590-00-BR
WINNEBAGO COUNTY
STATION 106+09.47
STRUCTURE NO. 101-6148

COMPANY NAME: HRGreen
PROJECT CONTACT: Kevin M. Arft
CLIENT: City of Rockford
DATE PLOTTED: 2/18/2014 12:55:1 PM
FILE NAME: 85607A_Gen Plan.dgn
PLOT DRIVER: pdf.DET-TT1.pdf
PEN TABLE: Struct 11x17.tbl

HRGreen.com
Illinois Professional Design Firm # 184-001322

USER NAME = whood	DESIGNED - KMA	REVISED -
	CHECKED - RDG	REVISED -
PLOT SCALE =	DRAWN - WJH	REVISED -
PLOT DATE = 2/18/2014	CHECKED - 2/18/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-01 OF S-19 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3259	11-00590-00-BR	WINNEBAGO	32	11
		CONTRACT NO. 85607		
		ILLINOIS FED. AID PROJECT		