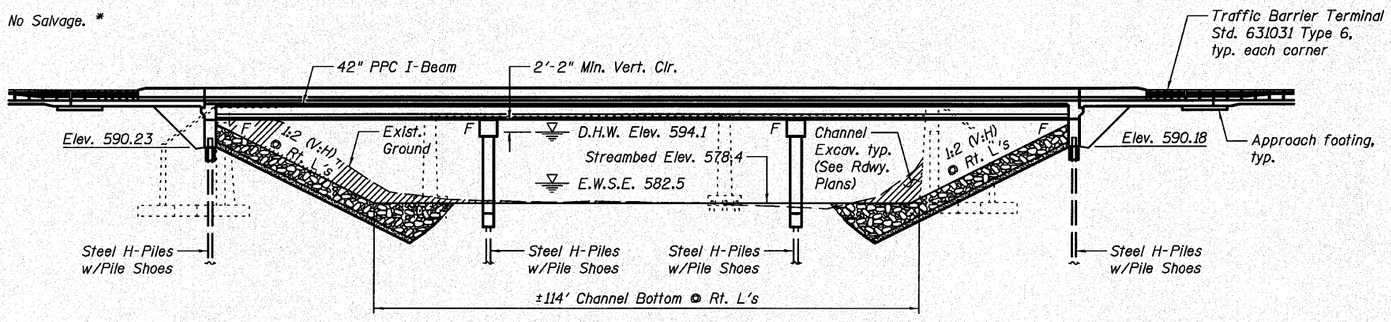
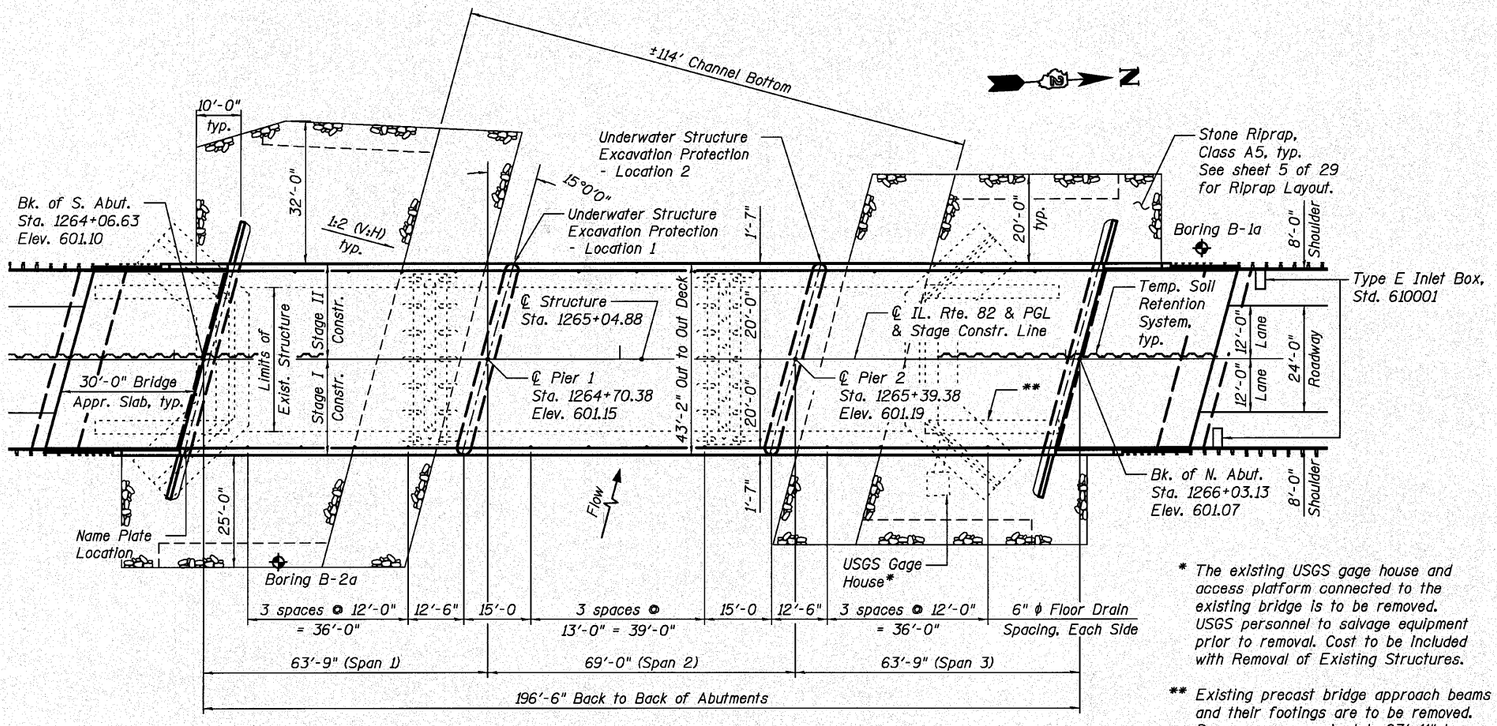
Bench Mark: Chiseled square on the NE wingwall of the existing bridge, S.N. 037-0071 Elev: 597.22

Existing Structure: S.N. 037-0071, built in 1931 as S.B.I. 82 Section 129-B&C at Station 1262+18. Original structure is a single span truss bridge supported by full height RC abutments on timber piles. The structure was reconstructed in 1971 as S.B.I. 82, Section 129-BR-1. Two intermediate solid wall RC piers on concrete piles were added. The abutments were partially removed and rehabilitated. The truss superstructure was replaced with a 3 simple span PPC deck beam superstructure. The reconstructed structure is 162'-7" bk. to bk. abutments and 33'-0" out to out deck. In 1984 the bituminous wearing surface was removed and replaced with PCC. Structure is to be removed and replaced. Traffic to be maintained utilizing stage construction.

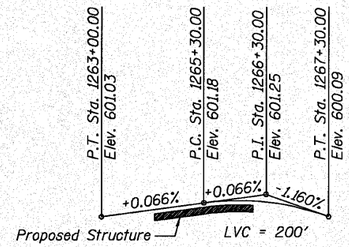
No Salvage. *



ELEVATION



PLAN



PROFILE GRADE
(along ℄ roadway)

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

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

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 7,000 psi
f'ci = 6,000 psi
f's = 270,000 psi (1/2" ϕ low lax strands)
fsi = 201,960 psi (1/2" ϕ low lax strands)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.086g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.136g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 999 sq. mile
Exist. Low Grade Elev. 599.31 @ Sta. 1266+23
Prop. Low Grade Elev. 600.96 @ Sta. 1266+23

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.
Ten-Year	10	10100	1651.1	2055.9	592.4	1.0	0.9	593.3	593.3
Design	50	12600	1867.5	2355.5	594.1	1.0	0.9	595.1	595.0
Base	100	13600	1957.7	2482.2	594.8	1.0	0.9	595.8	595.6
Max. Calc.	500	15400	2100.6	2537.1	595.9	1.0	0.1	596.9	595.9

10 year velocity through Exist. Bridge = 6.38 fps
10 year velocity through Prop. Bridge = 5.66 fps

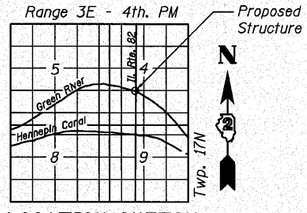
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	590.3	571.0	571.0	590.2

STATE OF ILLINOIS
BRIAN J. MALONE
081-006002
WHEATON, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Brian J Malone
Expires 11-30-2012

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TDD)
ENGINEER OF BRIDGES AND STRUCTURES



LOCATION SKETCH

* The existing USGS gage house and access platform connected to the existing bridge is to be removed. USGS personnel to salvage equipment prior to removal. Cost to be included with Removal of Existing Structures.

** Existing precast bridge approach beams and their footings are to be removed. Beams are approximately 27'-11" long and 3'-9" wide. Cost to be included with Removal of Existing Structures.

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 82 OVER GREEN RIVER
F.A.P. ROUTE 638 - SEC. 129BR-4
HENRY COUNTY
STATION 1265+04.88
STRUCTURE NO. 037-0176

Wight

	DESIGNED - MAS/GPM	REVISED -
	CHECKED - BJM	REVISED -
	DRAWN - JNH	REVISED -
PLOT DATE = 11/22/2018	CHECKED - BJM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 037-0176
SHEET NO. 1 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
638	129BR-4	HENRY	93	22
		CONTRACT NO. 64D25		
		ILLINOIS FED. AID PROJECT		

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