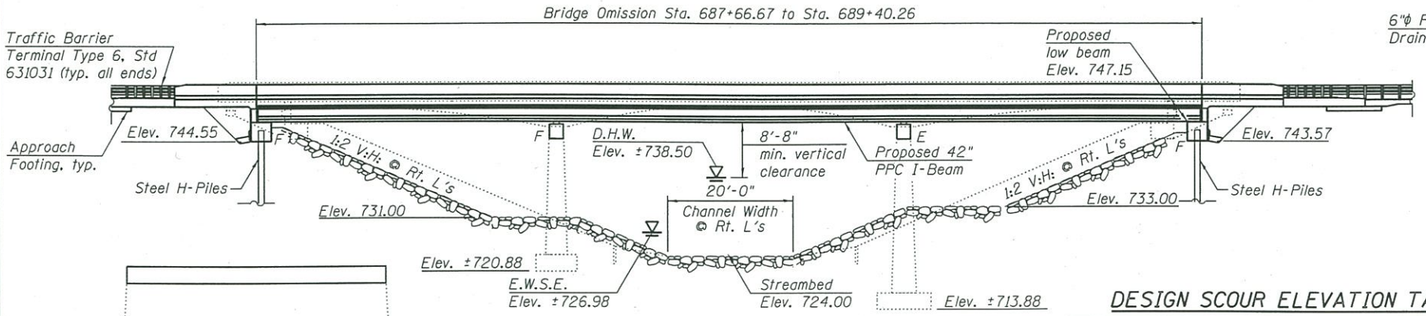
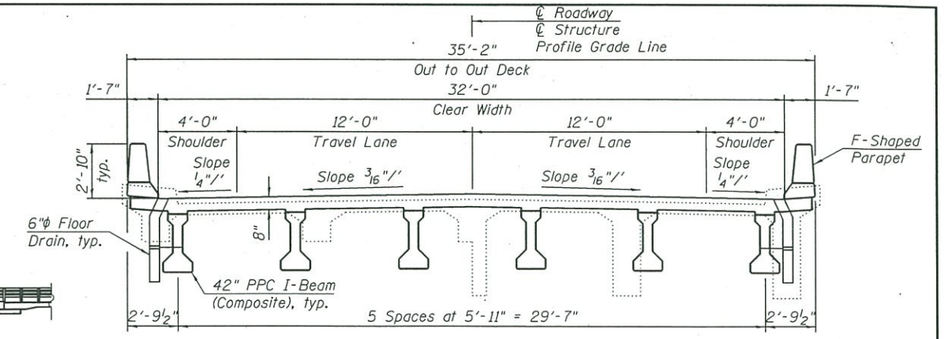
Benchmark: Chiseled square corner of N.E. wingwall. Elev. 753.77.

Existing Structure: S.N. 037-0054 was originally constructed in 1960 under SBI Route 28 Section 10B-1 as a three span reinforced concrete arched girder (T-Beam) superstructure on two reinforced concrete solid wall piers on spread footings and two reinforced concrete stub abutments on battered H-Piles. In 1988 the bridge received deck repairs, an overlay and thrie beam rails. The structure is 167'-0" back-to-back abutments and 35'-8" out-to-out. The Superstructure and abutments to be removed and replaced. Existing Piers to support new Superstructure. Traffic to be detoured.

No salvage.



ELEVATION



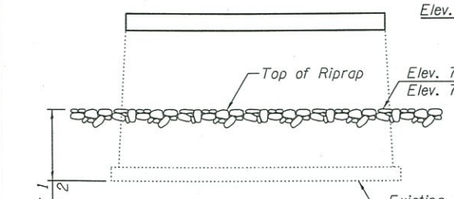
NEAR ABUTMENT NEAR PIER

CROSS SECTION

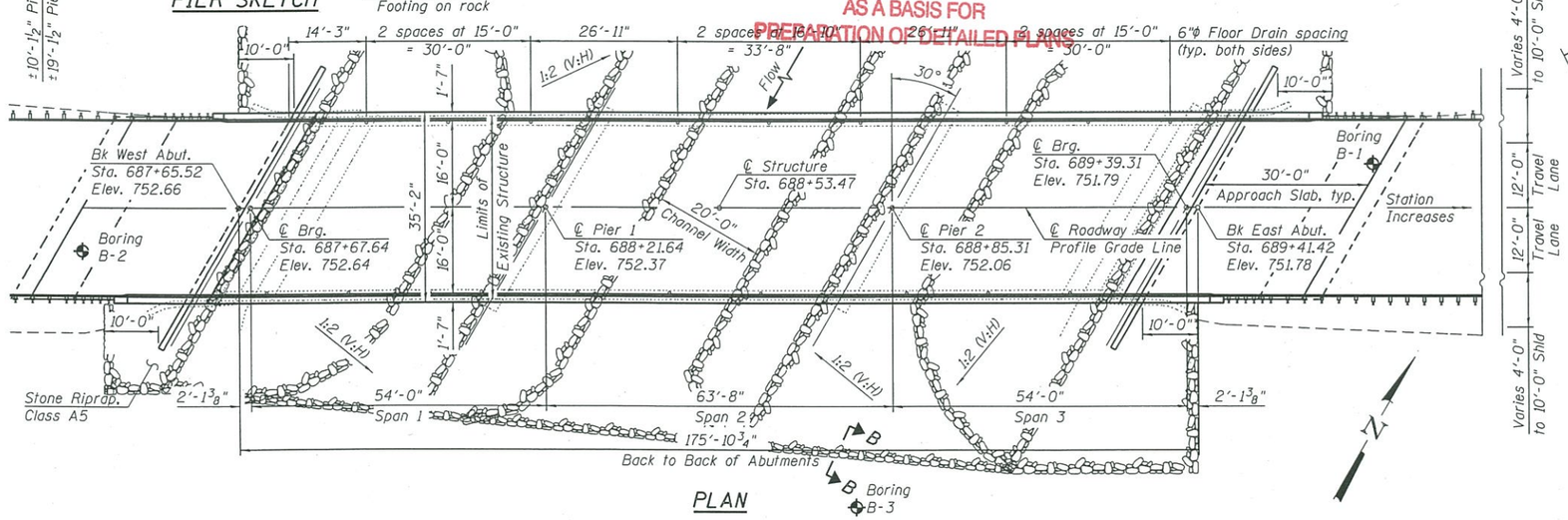
DESIGN SCOUR ELEVATION TABLE

	Design Scour Elevations (ft.)			
	W. Abut.	Pier 1	Pier 2	E. Abut.
0.100	744.55	720.88	713.88	743.57
0.500	744.55	720.88	713.88	743.57

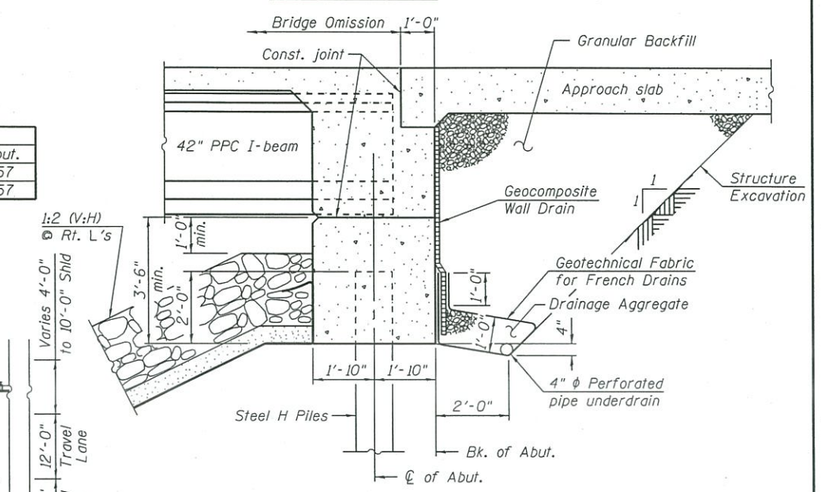
APPROVED
DEC 04 2013
AS A BASIS FOR PREPARATION OF DETAILED PLANS



PIER SKETCH



PLAN



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 interim

DESIGN STRESSES

NEW CONSTRUCTION FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 (½"ϕ low lax. strands)
fpbt = 201.960 psi (½"ϕ low lax. strands)

EXISTING CONSTRUCTION

f'c = 2,500 psi
fy = 40,000 psi (Reinforcement)

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}) = .069
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = .113
Soil Site Class = C

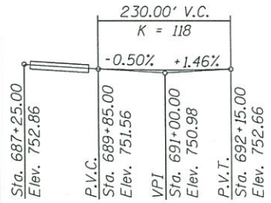
HIGHWAY CLASSIFICATION

FAP Rte. 37 - US Rte. 34
Functional Class: Minor Arterial, (Non-Urban)
ADT: 2,550 (2011); 2,606 (2032)
ADTT: 332 (2011); 339 (2032)
DHV: 250
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
2-Way Traffic
Directional Distribution: 50-50

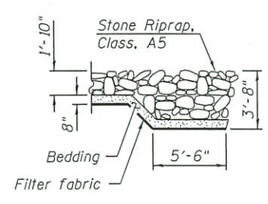
WATERWAY INFORMATION

Drainage Area = 17.6 sq. mi.
Existing Low Grade Elev. 751.6 @ Sta. 690+00
Proposed Low Grade Elev. 751.4 @ Sta. 690+44

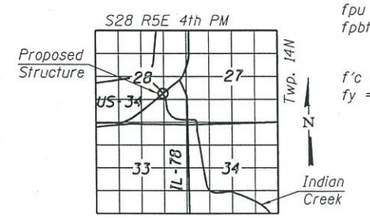
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2,876	596	659	736.5	1.3	1.0	737.7	737.4
Design	50	4,656	746	846	738.5	1.4	1.0	739.9	739.5
Base	100	5,483	803	917	739.2	1.6	1.1	740.8	740.3
Scour Design Check	200	6324	903	1032	740.3	1.7	1.1	742.0	741.4
Overtop Existing	-	-	-	-	-	-	-	-	-
Overtop Proposed	-	-	-	-	-	-	-	-	-
Max. Calc.	500	7,499	1,025	1,174	741.6	1.7	1.1	743.2	742.7



PROFILE GRADE
(Along ℄ Roadway)



SECTION B-B



LOCATION SKETCH

GENERAL PLAN
US-34 OVER INDIAN CREEK
F.A.P. RT. 37 SECTION 10BR-1
HENRY COUNTY
STATION 688+53.47
STRUCTURE NO. 037-0054

FILE NAME = S:\JOL\6300--6399\6346\049\Micro\CADD Sheets\Structural\D23456-sht-TS&L.dgn

STRAND ASSOCIATES
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME =	DESIGNED - RRD	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE =	CHECKED - RRD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 037-0054
SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
37	10BR-1	HENRY	1	1
		CONTRACT NO. 64H02		
		ILLINOIS FED. AID PROJECT		