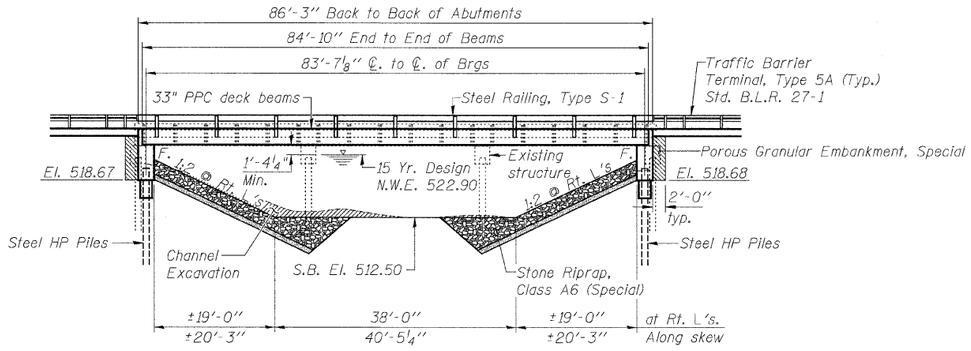
EXISTING STRUCTURE: S.N. 006-4007
Originally built in 1978 as Twp. Route 240, Section 77-01114-00-BR. The existing structure is a three span (28'-6½", 29'-2", 28'-6½") precast, prestressed concrete deck beam structure. 88'-9" back to back of abutments and 26'-0" out to out of deck. Structure to be removed and replaced. Road shall be closed to traffic during construction. Deck beams to be salvaged and delivered to Township.

BENCH MARK: Chiseled "□" on southeast wingwall of existing structure. ±13.6' Rt. of Sta. 14+56.5, El. 525.97

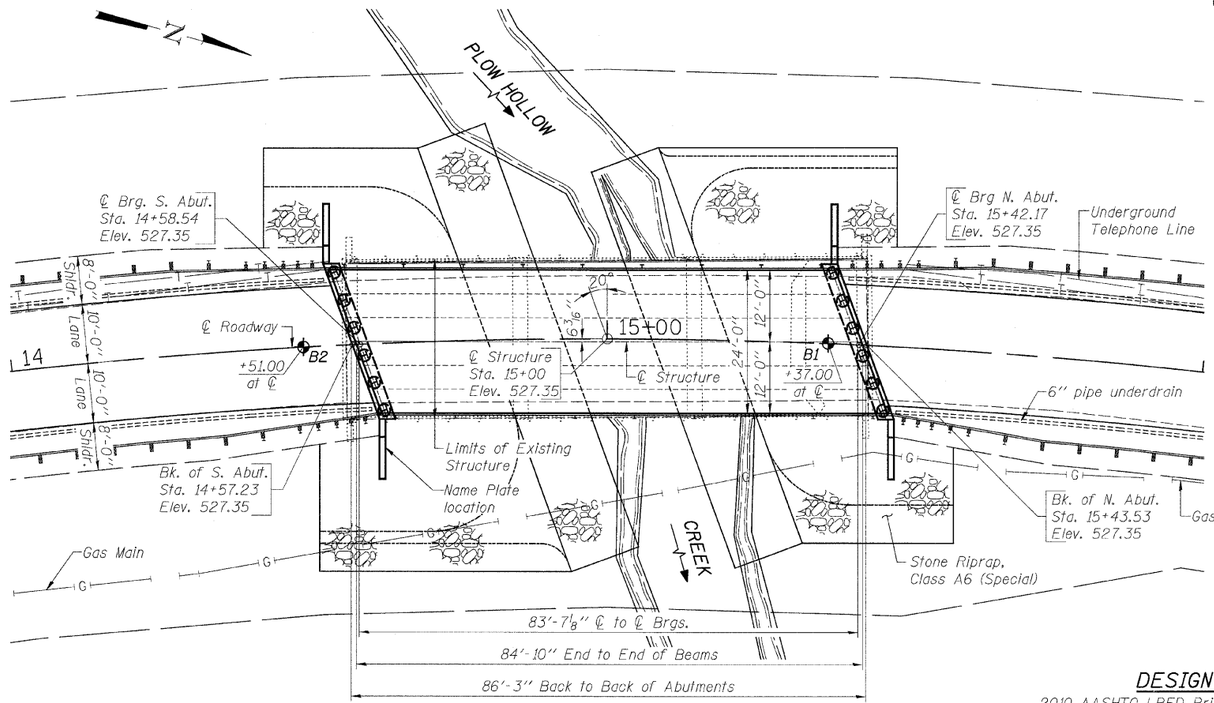


INDEX OF SHEETS

PLOW HOLLOW CREEK
BUILT 2011 BY
BUREAU COUNTY
SECTION 10-01121-00-BR
TWP RTE 240 STATION 15+00
STR. NO. 006-4012 LOADING HL-93

NAME PLATE LETTERING

Refer To Std. 515001-03



PLAN

WATERWAY INFORMATION

Drainage Area = 8.74 sq. mi. Low Grade Elev. 521.96 @ Sta. 18+00

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.
Design	15	3,150	603	607	522.90	0.36	0.35	523.26	523.25
Base	100	5,330	725	739	524.64	1.82	1.62	526.46	526.26

DESIGN SCOUR ELEVATION TABLE

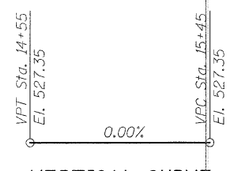
Design Scour Elevation (ft.)	S. Abut.	N. Abut.
	518.67	518.68

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}) = 0.098g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.157g
Soil Site Class = D



VERTICAL CURVE

Along Roadway ℄

HORIZONTAL CURVE DATA

PI Sta. = 15+13.22
Δ = 18° 54' 28" (Rt.)
D = 6° 21' 58"
R = 900.00'
T = 149.86'
L = 297.00'
E = 12.39'
e = 3.0%
T.R. = 31'
S.E. run = 46'
P.C. Sta. = 13+63.36
P.T. Sta. = 16+60.36

BILL OF MATERIAL - BRIDGE

	ITEM	UNIT	SUPER	SUB	TOTAL
	Channel Excavation	Cu. Yd.	———	115	115
	Removal of Existing Structures	Each	———	———	1
	Concrete Structures	Cu. Yd.	———	45.8	45.8
	Concrete Encasement	Cu. Yd.	———	4.2	4.2
	Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,036	———	2,036
	Reinforcement Bars	Pound	———	5,480	5,480
	Steel Railing, Type S1	Foot	173	———	173
	Furnishing Steel Piles HP12x63	Foot	———	260	260
	Driving Piles	Foot	———	260	260
	Test Pile Steel HP12x63	Each	———	2	2
	Name Plates	Each	———	1	1
*	Porous Granular Embankment, Special	Ton	———	100	100
*	Stone Riprap, Class A6 (Special)	Ton	———	909	909

GENERAL NOTES

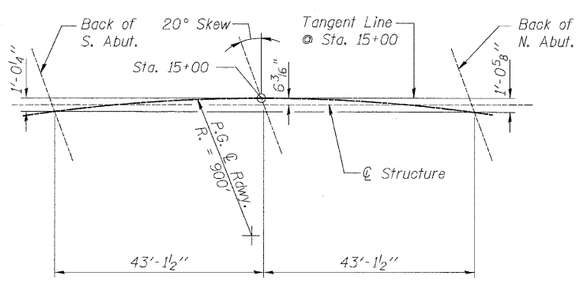
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

If the existing piles interfere with the proposed pile locations, the Engineer shall be notified and approve any adjustment in pile spacing.

All excavation required, below the proposed riprap line, for the placement of the riprap and bedding shall be considered incidental to the pay item Stone Riprap, Class A6 (Special).

* See Special Provisions.



OFFSET SKETCH

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th. Edition

DESIGN STRESSES

FIELD UNITS

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

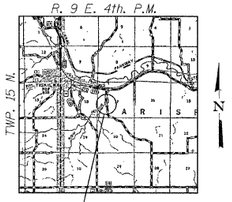
PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" ϕ Low Lax Strands)
fpbt = 201,960 psi (½" ϕ Low Lax Strands)

STATE OF ILLINOIS * BRIAN K. CONGRESS * 081-005213 * DIXON, IL * LICENSED STRUCTURAL ENGINEER

Brian K. Congress
DATE: March 31, 2011
EXPIRES 11/30/12

"I certify that 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 compiles with requirements of the current 'AASHTO Bridge Design Specifications."



LOCATION SKETCH

WILLETT, HOFMANN & ASSOCIATES, INC.
CONSULTING ENGINEERS
Land Surveying - Transportation - Structural
Environmental - Architecture
809 East Second Street Dixon, Illinois 61021
Phone 815.284.3381 Fax 815.284.3385
Design Firm #184-000919
www.willetthofmann.com

FILE NAME = S:\PROJECTS\2010\1285D10_BureauCo_TR240\DESIGN\STRUCT\Structure Drawings\1285D10GPE.dgn

USER NAME =	DESIGNED - B.S.K.	REVISED -
	CHECKED - B.K.C.	REVISED -
PLOT SCALE =	DRAWN - F.D.L.	REVISED -
PLOT DATE =	CHECKED - M.A.C.	REVISED -

BUREAU COUNTY
T.R. 240 OVER PLOW HOLLOW CREEK
STATION 15+00

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 006-4012
STRUCTURAL SHEET NO. 1 OF 9 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
240	10-01121-00-BR	BUREAU	23	10
	WHA* 1285D10	CONTRACT NO. 87483		
	ILLINOIS FED. AID PROJECT BROS-0011(075)			