

Benchmark: Railroad spike in power pole on the east side of Thompson Road at the intersection with Wondermere Road. Elev. 824.79 (NAVD 88)


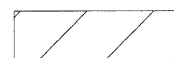
Existing Structure: SN 056-3096 built in 1966 as Adams Dam Bridge. Structure consists of three span precast prestressed concrete deck beams with variable thickness bituminous overlay supported by spill-thru abutments and open pile bent piers. Structure measures 133'-9" back to back abutments and 26'-0" out-to-out deck. Structure to be removed and replaced. Road to be closed. Traffic to be maintained with temporary detour route during construction.

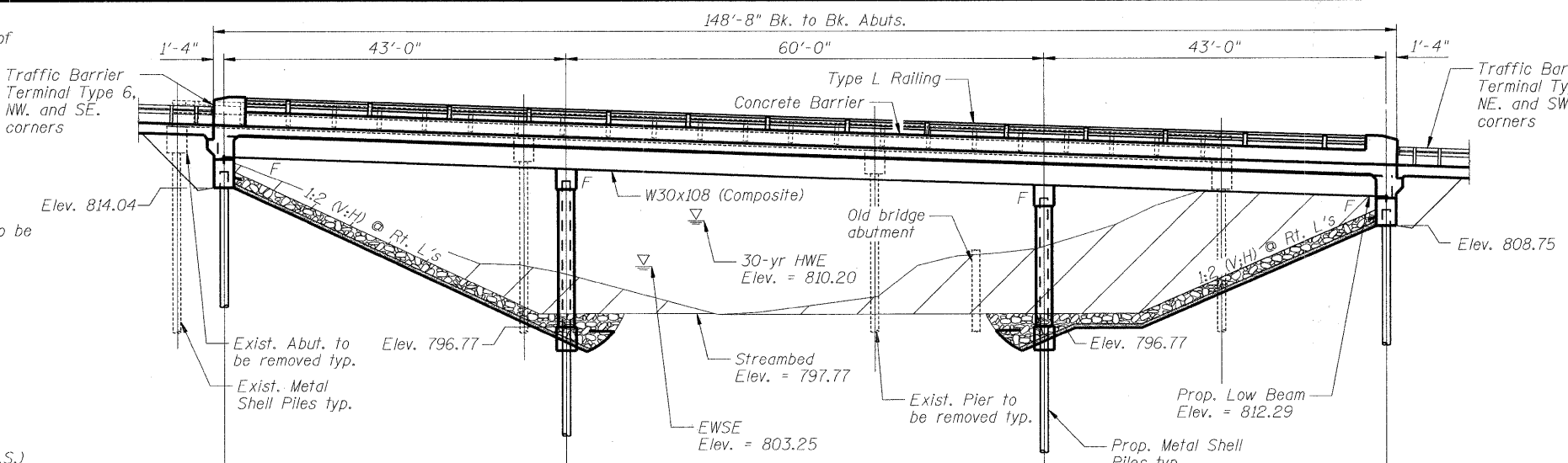
See Roadway Plans for detour route.

No Salvage

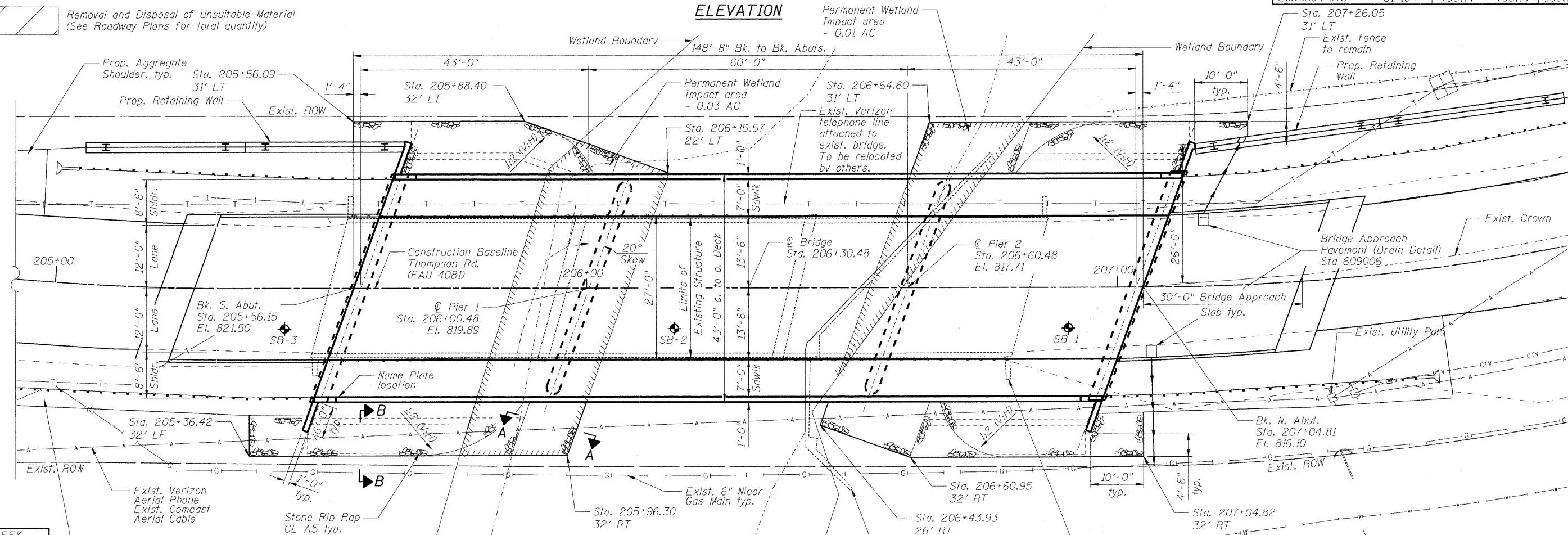
Total Permanent Wetland Impact = 0.04 AC

LEGEND

-  Permanent Wetland Impact (Impact to Waters of the U.S.)
-  Removal and Disposal of Unsuitable Material (See Roadway Plans for total quantity)



ELEVATION



PLAN

GENERAL PLAN AND ELEVATION

THOMPSON ROAD
OVER NIPPERSINK CREEK
SECTION NO. 06-00005-00-BR
McHENRY COUNTY
STATION 206+30.48
STRUCTURE NO. 056-6006

NIPPERSINK CREEK
BUILT 20__ BY
VILLAGE OF WONDER LAKE
SEC 06-00005-00-BR
F.A.U. 4081 STA. 206+30.48
STRUCTURE NO. 056-6006
LOADING HL-93

NAME PLATE

See Sta. 515001

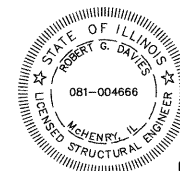
WATERWAY INFORMATION

Drainage Area = 85 sq. mi. Low Grade Elev. 812.29 @ Sta. 210+20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	30	4331	666	1391	809.70	1.5	0.8	811.20	810.50
Base	50	5192	744	1495	810.20	1.6	0.9	811.80	811.10
Overtopping		3875	628	1455	809.90	1.6	1.0	811.50	810.90
Max. Calc.	100	6073	824	1624	811.00	1.6	0.7	812.60	811.70

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 requirements of the current "AASHTO LRFD Bridge Design Specifications".

Robert G. Davies 12/15/09
Structural Engineer Expires 11/30/2010
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LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

FIELD UNITS

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (Sp1) = 0.112
Design Spectral Acceleration at 0.2 sec. (Sp5) = 0.200
Soil Site Class = E

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	814.04	793.77	793.77	808.75

FILE NAME: 060563.DWG DATE: 12/14/2009 PLOT DRIVER: pdf.plt STANDARD: TRANS.TBL PEN TABLE:

SHEET NO. S-1	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	4081	06-00005-00-BR	McHENRY	45	12
S-25 SHEETS		CONTRACT NO. 63409		DATE: 12/15/09	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					