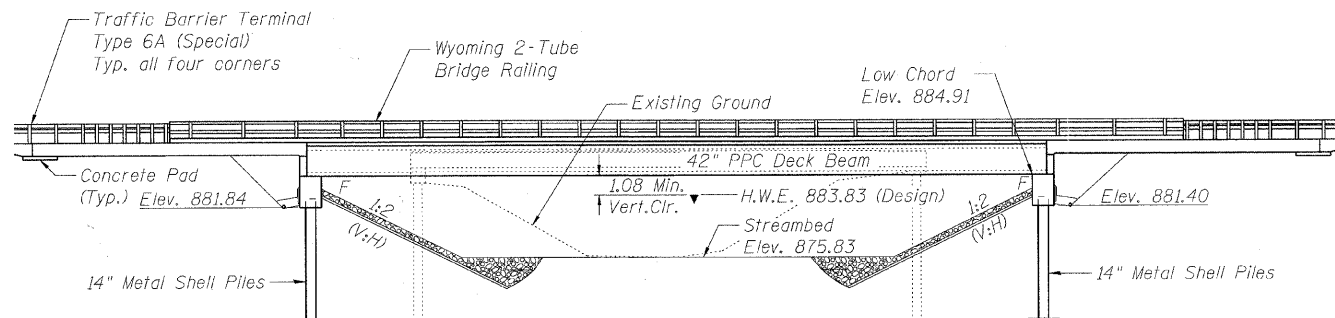


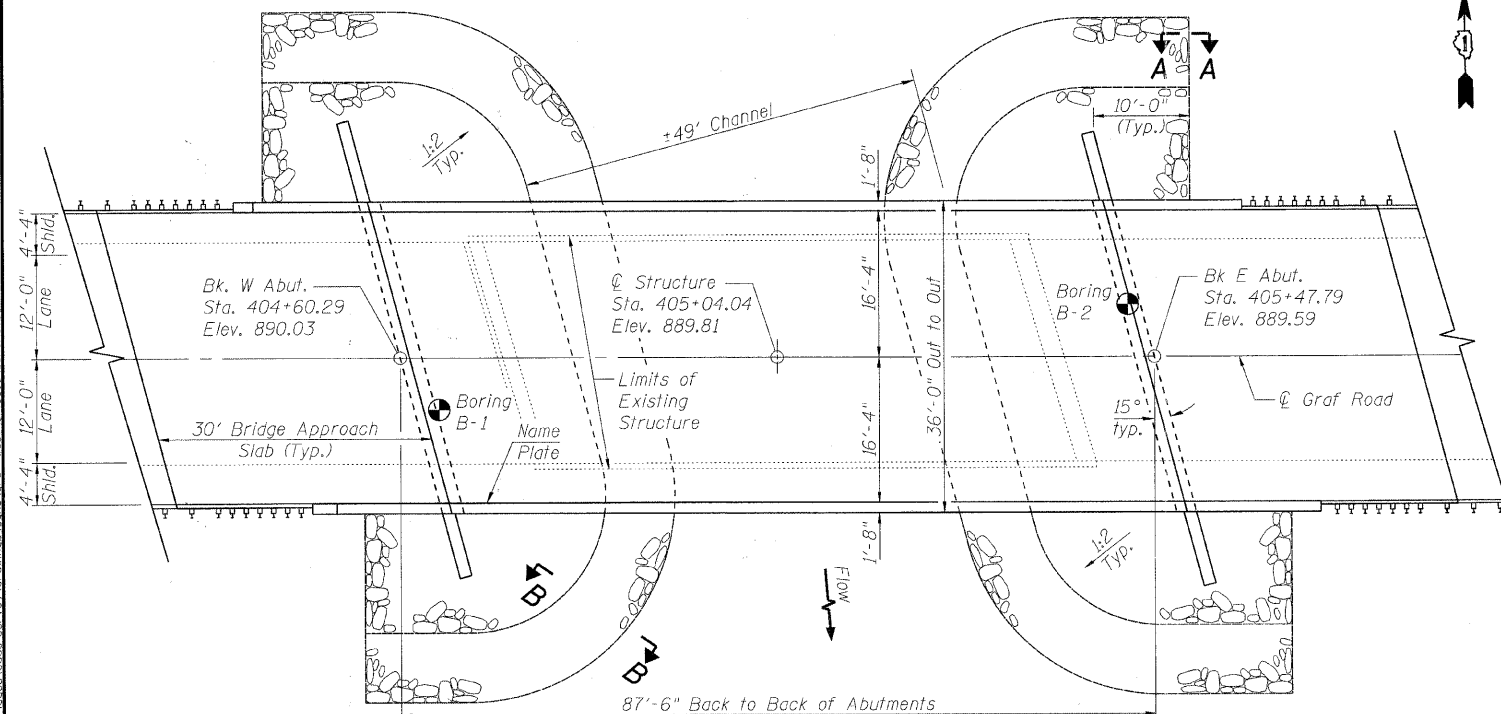
Bench Mark: Spike in power pole on north side of Graf Road approx. 180 feet west of the west bridge abutment over Piscasaw Creek. Elev. = 885.41

Existing Structure: S.N. 056-3122 was built in 1967. (Bridge 104)
The single-span structure is 25'-0" wide with 1'-0" curbs, and 61'-7" back to back of abutments. The superstructure is precast, prestressed concrete bridge deck. The substructure consists of concrete pile bent abutments. Existing structure to be removed and replaced. Traffic to be detoured during construction.

Existing Name Plate to be salvaged. See Roadway General Notes.



ELEVATION



PLAN

WATERWAY INFORMATION

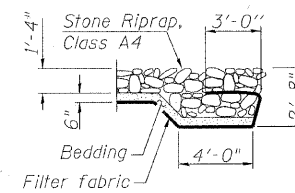
Drainage Area = 10.22 sq. mi. Ex. Low Grade Elev. = 885.44 @ Sta. 408+86
Pr. Low Grade Elev. = 885.79 @ Sta. 409+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	768	217	434	883.48	883.83	0.02	0.01	883.50	883.49
	20	927	233	460	883.83	884.13	0.14	0.13	883.97	883.96
	50	1141	248	483	884.13	884.26	0.28	0.23	884.41	884.36
Base	100	1290	254	492	884.26	884.52	0.41	0.32	884.67	884.58
Max. Calc.	500	1645	267	512	884.52	885.25	0.73	0.52	885.25	885.04

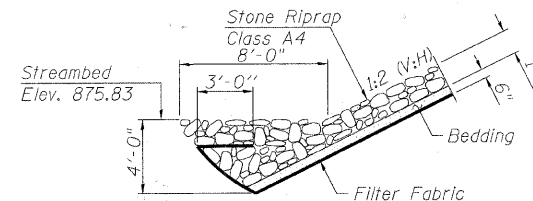
10 year velocity through existing bridge = 3.6 fps
10 year velocity through proposed bridge = 1.7 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	881.84	881.40



SECTION A-A



SECTION B-B

LOADING LRFD 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 = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" dia. low lax strands)
fpbt = 201,960 psi (1/2" dia. low lax strands)

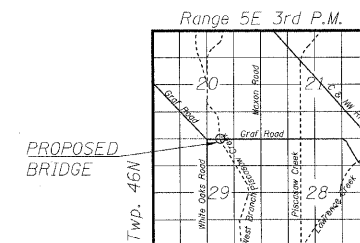
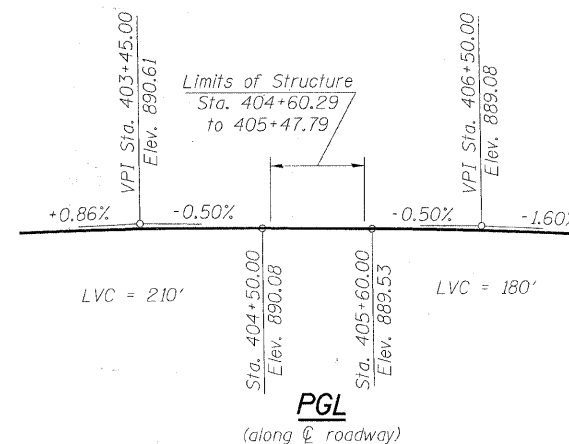
SEISMIC DATA

LRFD Seismic Performance Zone (LRFD SPZ) = 1
Design Spectral Acceleration @ 1.0 sec. (SD1) = 0.15g
Design Spectral Acceleration @ 2.0 sec. (SDS) = 0.05g
Soil Site Class - D

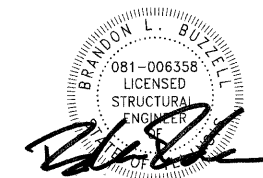
WEST BRANCH PISCASAW CREEK
BUILT 20__ BY
McHENRY COUNTY
DIVISION OF TRANSPORTATION
SEC. 06-00322-01-BR
TWP. RT. 37 STATION 405+04.04
STR. NO. 056-3183 LOADING HL-93

NAME PLATE

See Std. 515001



LOCATION SKETCH



DATE: 8/2/11
LICENSE 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 complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

**GENERAL PLAN & ELEVATION
GRAF ROAD OVER THE WEST
BRANCH PISCASAW CREEK
SEC. 06-00322-01-BR
McHENRY COUNTY
STATION 405+04.04
STRUCTURE NO. 056-3183**

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 LICENSE NO. 184-00189 - EXPIRES 4/30/2011
 8/11/2011



USER NAME =
DESIGNED - BLB
CHECKED - BLB
DRAWN - BCD
DATE - 10/08/10

DESIGNED - BLB
CHECKED - BLB
DRAWN - BCD
DATE - 10/08/10

REVISED - 12/30/10 PER MCDOT
REVISED -
REVISED -
REVISED -

**McHENRY COUNTY DIVISION OF TRANSPORTATION
GRAF ROAD BRIDGE OVER
WEST BRANCH PISCASAW CREEK**

**GENERAL PLAN
STRUCTURE NO. 056-3183**
SHEET NO. 1 OF 18 SHEETS

TR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0037	06-00322-01-BR	McHENRY	52	24
C-91-258-11		CONTRACT NO. 63580		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT BROS-01110640				