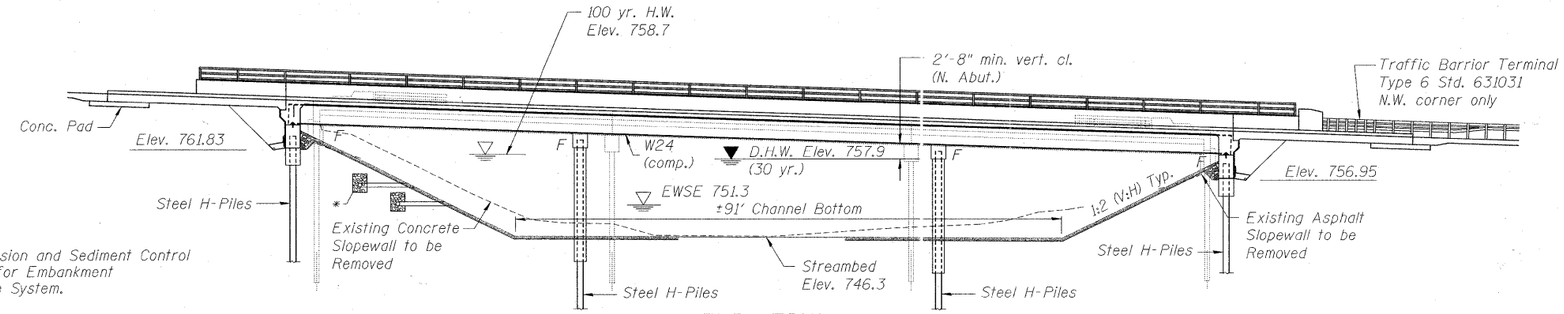
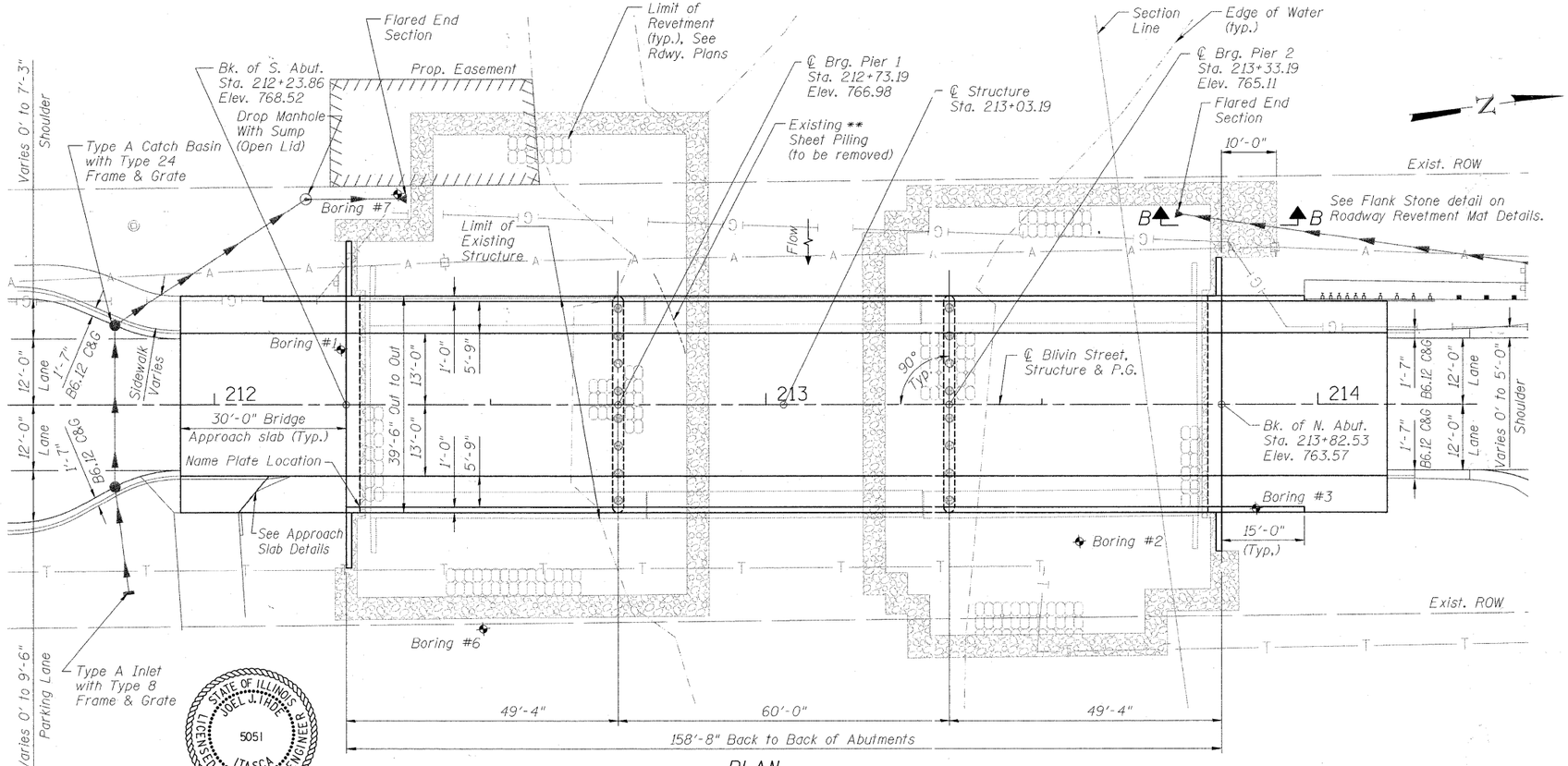
Bench Mark: Railroad spike in west face of power pole, first power pole south of Nippersink Creek Bridge on east side of Blivin Street. Sta. 211+54.66 Rt., Elevation 772.16.

Existing Structure: S.N. 056-3024 built 1968, Section 13-B-MFT.
Structure consists of 3-simple span PPC deck beams supported on spill-thru abutments and open steel H-pile bent piers. 151'-8" back-to-back abutments. 42'-0" out-to-out deck.
Structure to be removed and replaced. Bridge to be closed and traffic detoured during construction.

No Salvage.



ELEVATION



PLAN

STATE OF ILLINOIS
JOEL J. LATHE
5051
ITASCA
LICENSED STRUCTURAL ENGINEER

DATE SIGNED: 3-17-11
EXP. DATE: 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 requirements of the current "AASHTO LRFD Bridge Design Specifications."

** Existing sheet piling shall be removed 1 foot below proposed streambed elev. in accordance with Section 501.04 of the Standard Specifications. Cost is included in Removal of Existing Structures pay item.

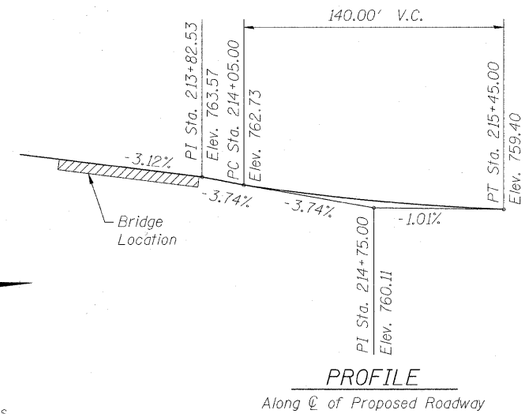
WATERWAY INFORMATION

Drainage Area = 192 sq. mi. Low Grade Elev. 759.40 @ Sta. 215+55

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	4407	824.4	1092.8	756.8	0.9	0.6	757.7	757.4
Design	30	6088	954.5	1233.3	757.9	1.1	0.8	759.0	758.6
Base	100	7681	1052.8	1338.5	758.7	1.5	1.0	760.1	759.6
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	12190	1331.9	1639.0	760.8	2.1	1.0	762.9	761.8

DESIGN SCOUR ELEVATION TABLE (500 YR)

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	761.8	738.1	738.1	757.0



PROFILE

Along ℄ of Proposed Roadway

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

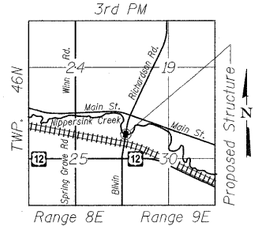
DESIGN STRESSES

FIELD UNITS

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.08g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.15g
Soil Site Class = D



LOCATION SKETCH

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = gonzalo	DESIGNED - SRT	REVISED -	
	CHECKED - JJI	REVISED -	
PLOT SCALE =	DRAWN - GM	REVISED -	
PLOT DATE = 3/17/2011	CHECKED - JJI	REVISED -	

McHENRY COUNTY
DIVISION OF TRANSPORTATION
BLIVIN STREET OVER NIPPERSINK CREEK

GENERAL PLAN & ELEVATION
STRUCTURE NO. 056-3191

SCALE: | SHEET NO. 1 OF 28 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	08-00355-00-BR	MCHENRY	89	26
		CONTRACT NO. 63583		
		ILLINOIS FED. AID PROJECT		

FILE NAME = W:\755-818 Blivin Phase II\CADD\Sheets\Structural\755-818 SHT-01 S- GENERAL PLAN.dgn