

Bench Mark: BM HEI 28
 R.R. spike in ±26" maple tree,
 S. side of E. Lamoine River
 Sta ±582+90, ±50.0' Lt
 Elev 580.91

Existing Structure: None

Bridge Omission Sta 580+04.30 to Sta 586+57.20 (SN 055-0046 & 0047)

LOADING HL-93
 Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
 2012 AASHTO LRFD Bridge Design Specifications
 6th Edition

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Structural Steel M270 Grade 50W)

SEISMIC DATA

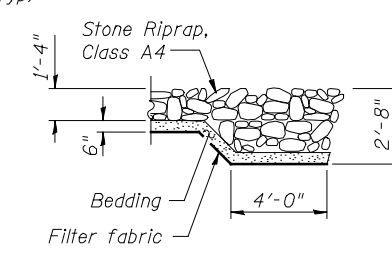
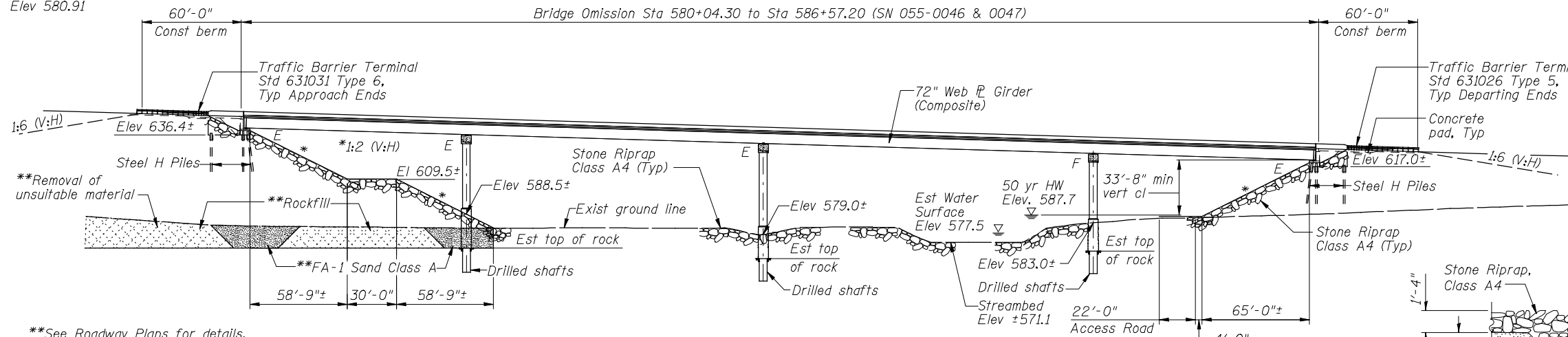
Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 Sec. (S_{d1}) = 0.08g
 Design Spectral Acceleration at 0.2 Sec. (S_{d5}) = 0.13g
 Soil Site Class = C

HIGHWAY CLASSIFICATION

FAP Rte. 407 (IL 336)
 Functional Class: Freeway
 ADT: 3045 (2015); 3715 (2035) (NB & SB)
 ADTT: 305 (2015); 370 (2035) (NB & SB)
 DHV: 10% (NB & SB)
 Design Speed: 70 m.p.h.
 Posted Speed: 65 m.p.h.
 One-Way Traffic Each Structure
 Directional Distribution: 50:50

CURVE DATA

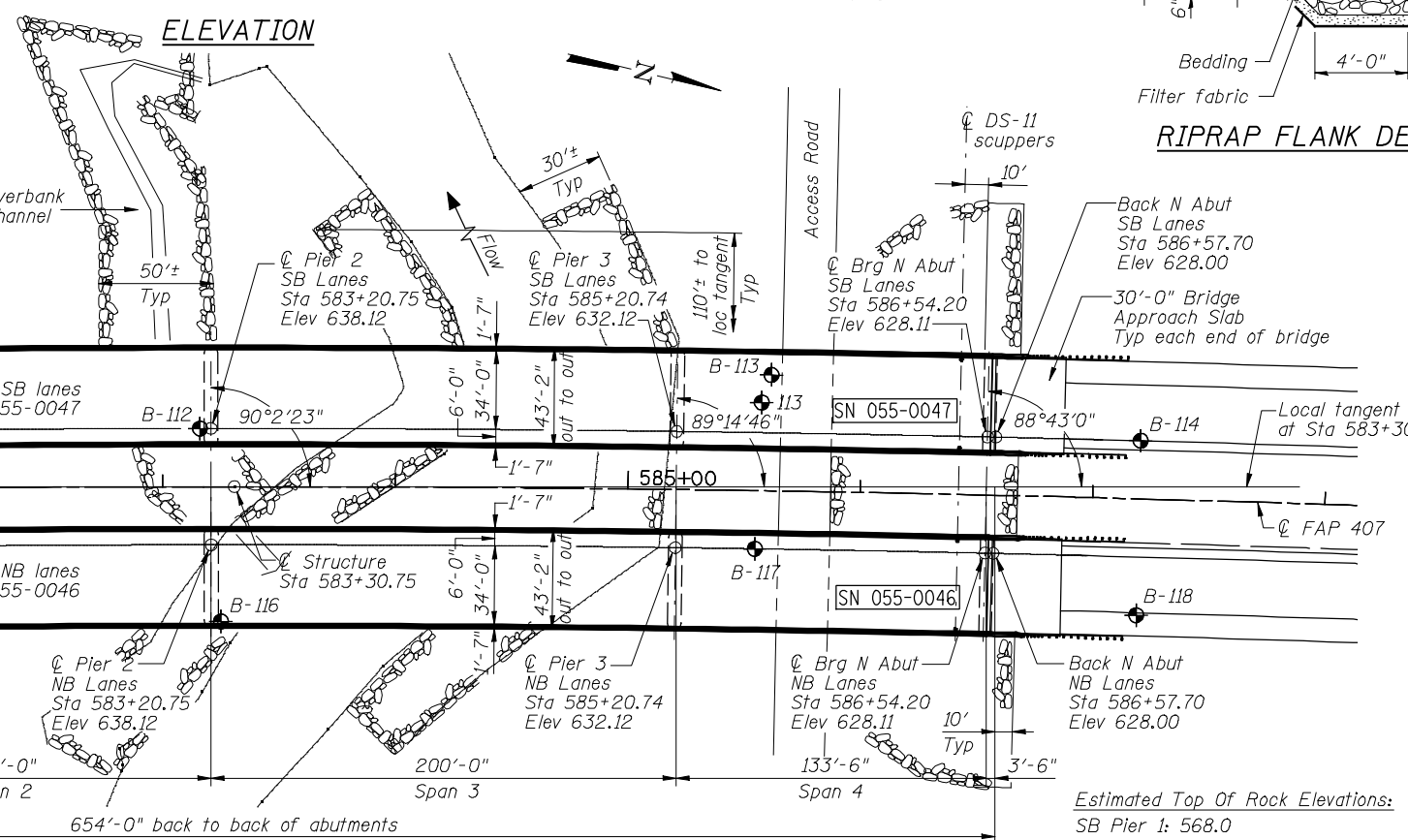
PROP. CURVE IL336-2
 PI STA. = 590+36.90
 $\Delta = 9^\circ 15' 34''$ (RT)
 $D = 0^\circ 23' 48''$
 $R = 14,440.00'$
 $T = 1,169.34'$
 $L = 2,333.59'$
 $E = 47.27'$
 P.C. STA. = 578+67.56
 P.T. STA. = 602+01.15



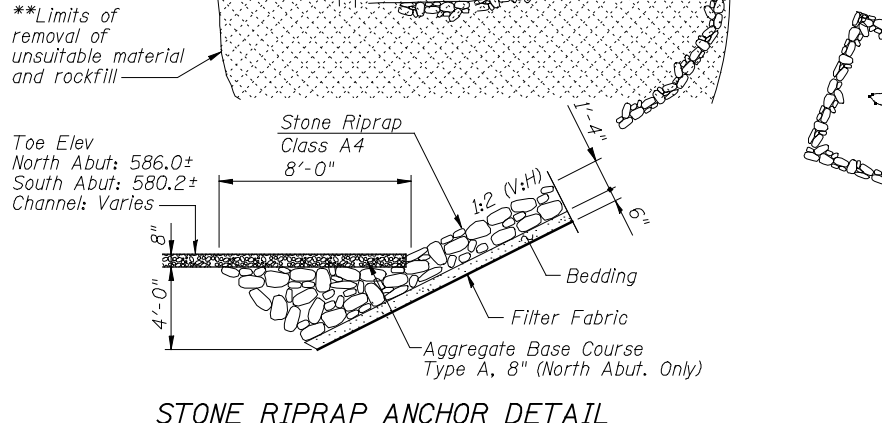
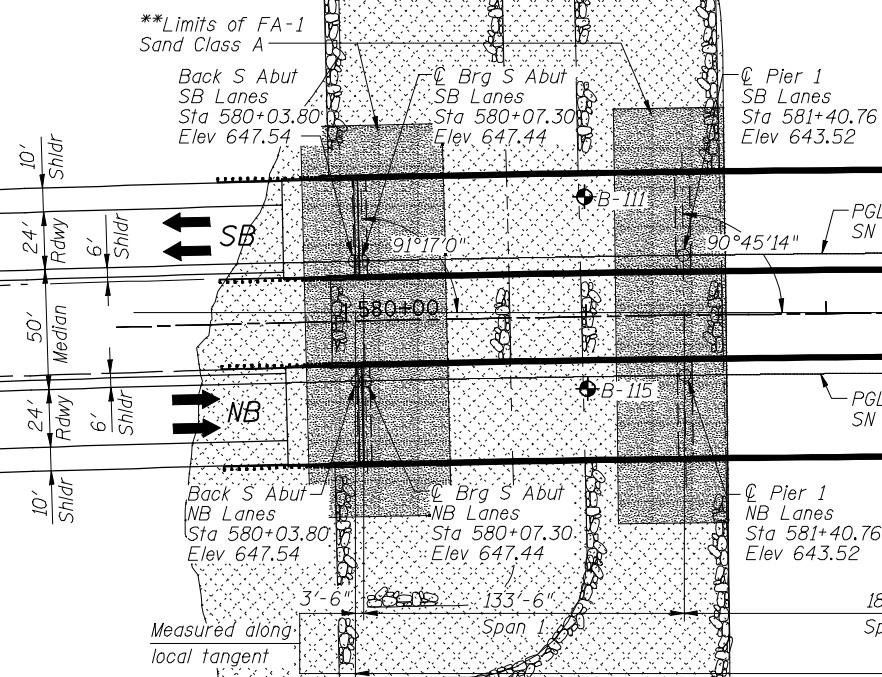
DESIGN SCOUR ELEVATION TABLE

Design Scour Elev. (ft.)	S Abut	Pier 1	Pier 2	Pier 3	N Abut
Q100	636.4	570.5	561.0	565.0	617.0
Q500	636.4	568.5	559.0	565.0	617.0

ELEVATION



PLAN



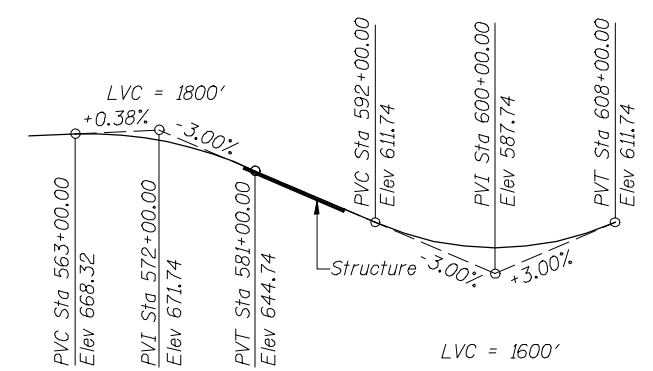
STONE RIPRAP ANCHOR DETAIL

NOT FOR CONSTRUCTION FOR ROADWAY REFERENCE ONLY

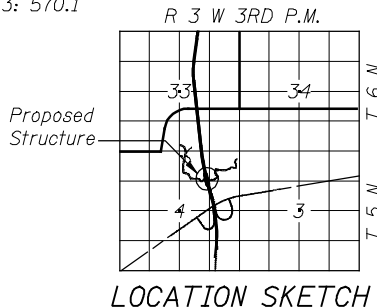
WATERWAY INFORMATION

Flood		Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exist.	Prop.	Exist.	Exist.	Prop.
Design		10	8,280	2,151	585.3	0.7	586.0
Base		50	12,700	3,149	587.7	0.8	588.5
Max. Calc.		100	14,700	3,854	588.7	1.0	589.7
		500	19,500	5,365	590.5	1.0	591.5

10 Year Vel. thru Exist Br = n/a 10 Year Velocity thru Prop Br = 3.9 fps



PROFILE GRADE



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
FAP ROUTE 407 OVER
EAST FORK LAMOINE RIVER
SECTION 55-3
MCDONOUGH COUNTY
STA 583+30.75
STRUCTURE NO. 055-0046 (NB)
STRUCTURE NO. 055-0047 (SB)

HOMER L. CHASTAIN & ASSOCIATES, LLP
 CONSULTING ENGINEERS
 184-001897

USER NAME = jdean	DESIGNED - JMB	REVISED -
PLOT TIME = *TIME*	CHECKED - ACB	REVISED -
PLOT SCALE = 80.0000' / IN.	DRAWN - RLK	REVISED -
PLOT DATE = 2/5/2013	CHECKED - JMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 407 (IL RTE 336)
LAMOINE RIVER TS & L
 SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
407	(55-3)A	MCDONOUGH	671	257
SN. 055-0046 (NB) & 0047 (SB)		CONTRACT NO. 68A42		
STA. 583+30.75 ILLINOIS FED. AID PROJECT				