

Benchmark: Chiseled "X" on the Southwest Wingwall S.N. 038-0215. Sta. 845+02.71. Offset 51.61. Elev. 641+61

Existing Structure: S.N. 038-0015 was built in 1951 as F.A. Route 26 (Southbound), Section 141 B. SN 038-0016 was built in 1961 as F.A.I. Route 57 (Northbound), Section 38-1B. The existing dual superstructures consist of three continuous spans of 36-inch deep wide flange steel beams. The superstructure is supported by pile-bent abutments founded on concrete piles, and solid shaft piers founded on footings supported by untreated timber piles. The back to back abutment dimension is 216'-0", and the out to out width of the deck is 35'-8".

Traffic Control: Traffic will be maintained by using median cross-overs to divert traffic onto the northbound bridge (038-0016) first while the southbound bridge (038-0015) is removed and replaced. Once construction is complete, traffic will be diverted to the southbound bridge.

Salvage: None

WATERWAY INFORMATION

Drainage Area = 90.98 mi ²		Exist. Low Grade El. 641.24 @ Sta. 849+00		Prop. Low Grade El. 641.85 @ Sta. 848+50.71					
Flood	Freq. Yr.	Q		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.	
		C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	10	2410	1065	1214	636.2	0.1	0.1	636.3	636.3
Base	50	3620	1255	1410	637.5	0.1	0.0	637.6	637.6
Overtopping	100	4130	1253	1484	638.0	0.1	0.0	638.1	638.1
Max. Calc.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10 year velocity through existing bridge = 2.3 fps									
10 year velocity through prop. bridge = 2.0 fps									

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

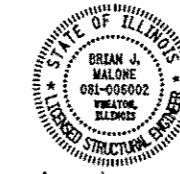
DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications, 5th Edition with 2010 Interims

DESIGN STRESSES
FIELD UNITS

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

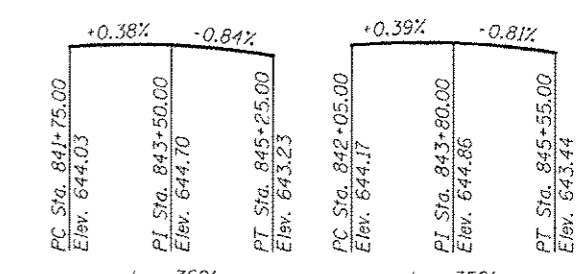
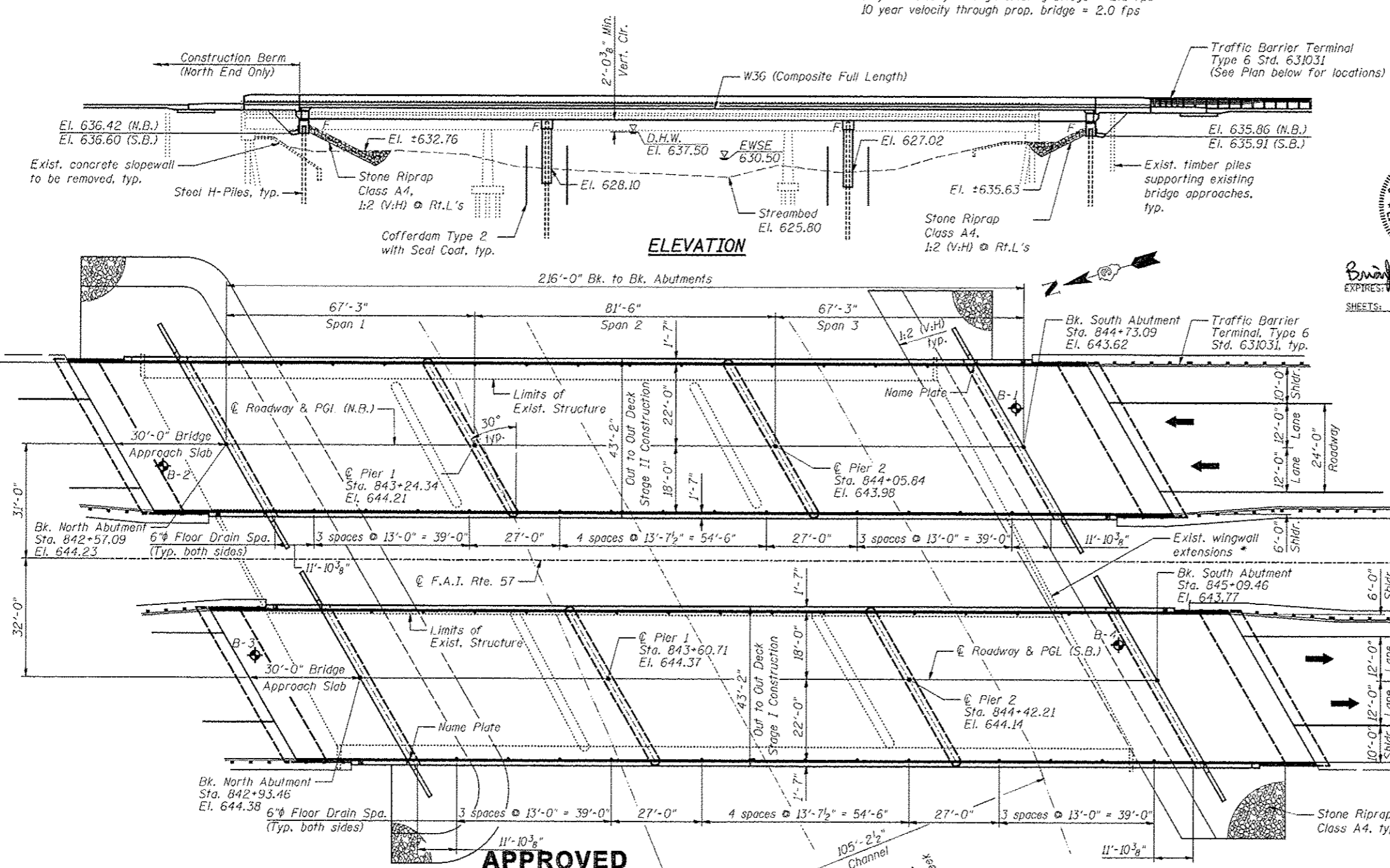
SEISMIC DATA

Seismic Performance Zone (SPZ) = I
Design Spectral Acceleration at 1.0 sec. (S₁) = 0.106g
Design Spectral Acceleration at 0.2 sec. (S_{0.2}) = 0.171g
Soil Site Class = D



Brian J. Malone DATE 12-6-2012
EXPIRES: 11-30-2014
SHEETS: 39-64, 69-76 (Structure Plans: 1-26 and 31-38)

Michael J. Trelo DATE 12/5/12
EXPIRES: 11-30-2014
SHEETS: 65-68 (Structure Plans: 27-30)



DESIGN SCOUR ELEVATION TABLE

Design Scour	N. Abut.	Pier 1	Pier 2	S. Abut.
Elevation (ft.) (S.B.)	636.60	623.52	622.44	635.91
Elevation (ft.) (N.B.)	636.42	623.52	622.44	635.86

APPROVED
For Structural Adequacy Only
J. Carl Purvey, JFS
Engineer of Bridges & Structures

* Removal of exist. wingwall extensions at both North and South Abutments included in the cost of Removal of Existing Structures.

GENERAL PLAN AND ELEVATION
I-57 OVER LANGAN CREEK
F.A.I. RT. 57 - SEC. 141 BR (SB) & 38-1 BR (NB)
TROQUOIS COUNTY
STATION 843+82.98
STRUCTURE NO. 038-0215 (S.B.)
STRUCTURE NO. 038-0216 (N.B.)

Wight	DESIGNED - DJM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 038-0215 (S.B.) & 038-0216 (N.B.)	F.A.I. RT. 57	SECTION 141 BR(SB) & 38-1 BR(NB)	COUNTY IROQUOIS	TOTAL SHEETS 138	SHEET NO. 39
	CHECKED - MAS	REVISED			CONTRACT NO. 66944				
	DRAWN - MWS	REVISED			ILLINOIS FED. AID PROJECT				
	CHECKED - DJM	REVISED			SHEET NO. 1 OF 38 SHEETS				