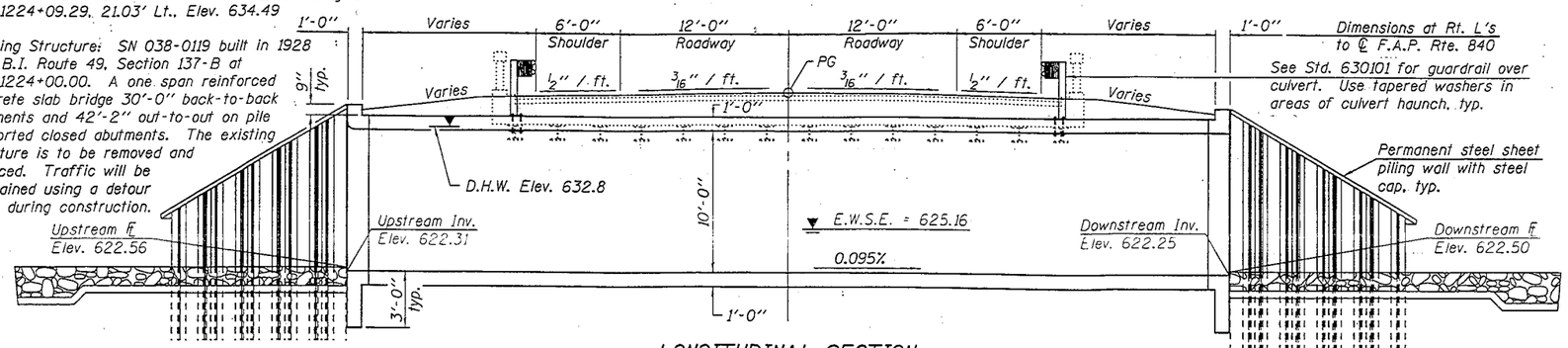
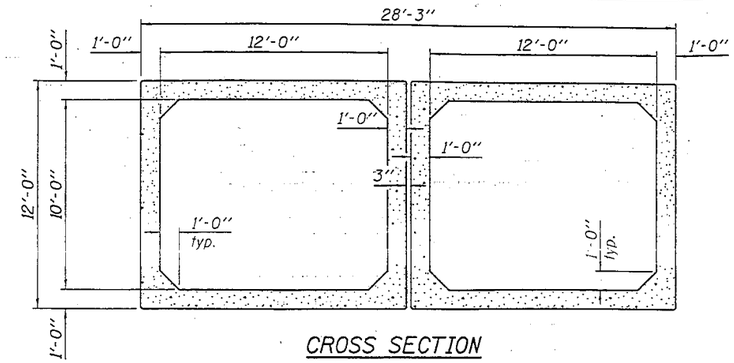
Benchmark: BM #119 - Chiseled "□" on SE wingwall: Sta. 1224+09.29, 21.03' Lt., Elev. 634.49

Existing Structure: SN 038-0119 built in 1928 as S.B.I. Route 49, Section 137-B at Sta. 1224+00.00. A one span reinforced concrete slab bridge 30'-0" back-to-back abutments and 42'-2" out-to-out on pile supported closed abutments. The existing structure is to be removed and replaced. Traffic will be maintained using a detour route during construction.

The temporary steel beams under the existing concrete beams shall be salvaged and delivered to a District 3 maintenance yard. Contact Mr. Kip Rutledge at Watseka Maintenance Yard (815)-432-2350 for additional information or to set up a delivery date. The cost of removing the beams and delivering them to the maintenance yard shall be included in the cost of Structure Removal.



LONGITUDINAL SECTION



CROSS SECTION

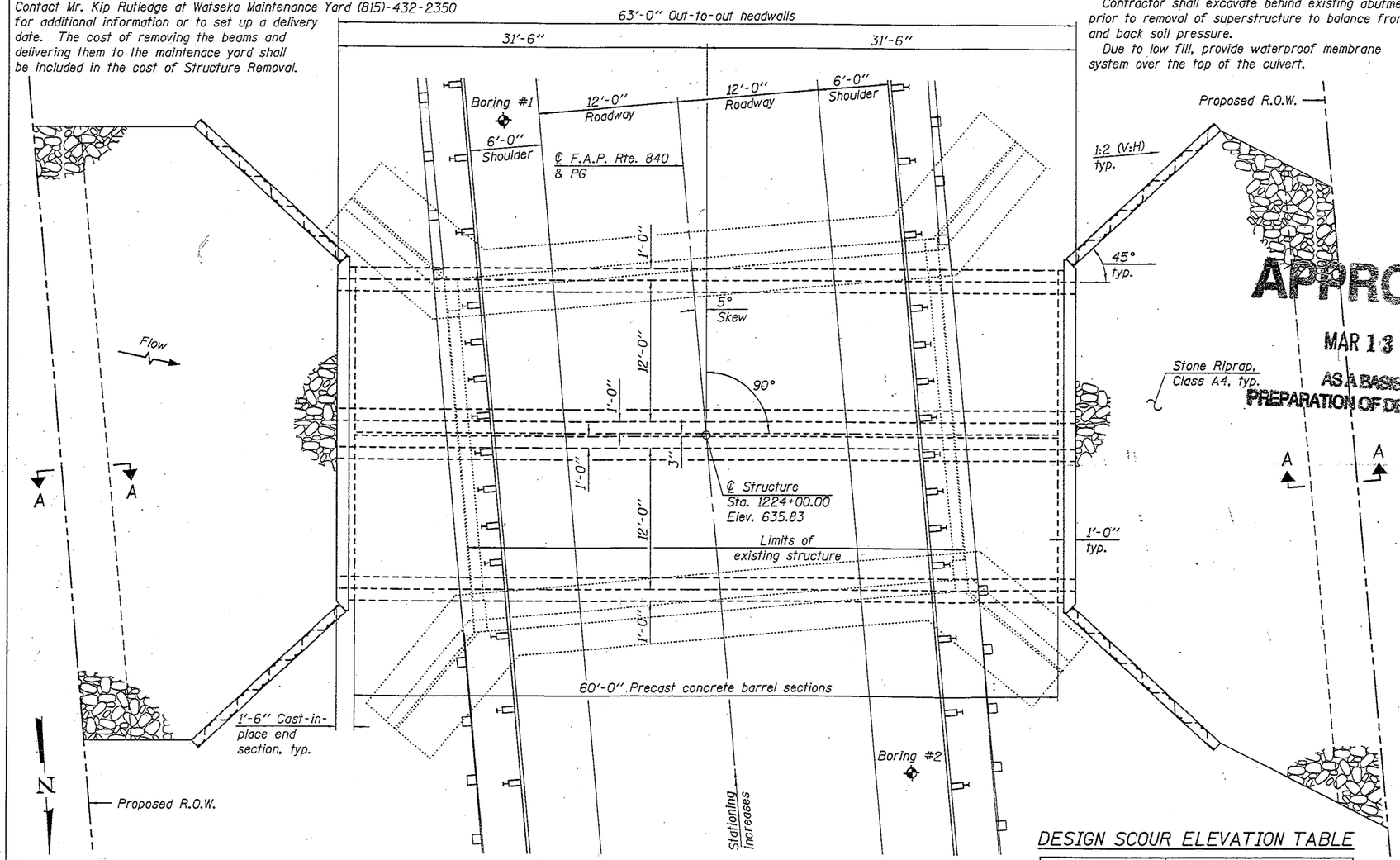
WATERWAY INFORMATION

Note:
Contractor shall excavate behind existing abutments prior to removal of superstructure to balance front and back soil pressure.
Due to low fill, provide waterproof membrane system over the top of the culvert.

Drainage Area = 5.75 sq. mi.
Existing Low Grade Elev. 635.25 @ Sta. 1224+00
Proposed Low Grade Elev. 635.25 @ Sta. 1224+00

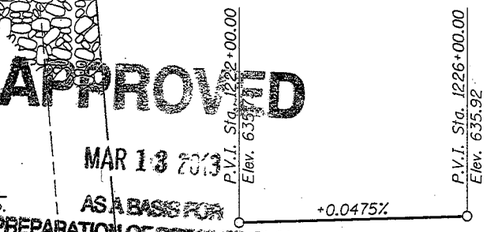
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	448	167	200	630.9	0.0	0.0	630.9	630.9
Design	50	718	219	240	632.8	0.1	0.1	632.9	632.9
Base	100	839	219	240	633.4	0.2	0.2	633.6	633.6
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	1136	219	240	634.2	0.4	0.4	634.6	634.6

Existing 10-year velocity = 2.5 ft./sec.
Proposed 10-year velocity = 2.2 ft./sec.

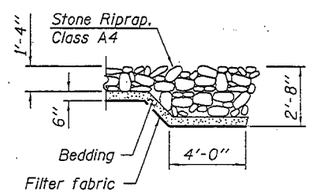


PLAN

APPROVED
MAR 13 2013
AS A BASIS FOR PREPARATION OF DETAILED PLANS



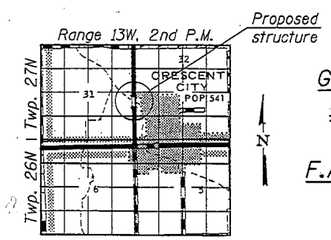
PROFILE GRADE
(Along ℄ F.A.P. Rte. 840)



SECTION A-A

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	619.31	619.25



LOCATION SKETCH

DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition
ASTM C1577

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Permanent sheet piling)
fy = 50,000 psi (AASHTO M270, Grade 50W)

PRECAST UNITS
f'c = 5,000 psi
fy = 65,000 psi (Welded wire fabric)

HIGHWAY CLASSIFICATION
F.A.P. Rte. 840 - IL Rte. 49
Functional Class: Minor Arterial (Non-Urban)
ADT: 2350 (2014); 2800 (2034)
ADTT: 212 (2014)
DHV: 194 (One-way)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

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

DESIGN FILL HEIGHT
Design earth cover = 1.95 ft.

GENERAL PLAN & ELEVATION
IL. RTE. 49 OVER UNNAMED DRAINAGE DITCH
F.A.P. RTE. 840 - SEC. 137-BR
IROQUOIS COUNTY
STATION 1224+00.00
STRUCTURE NO. 038-2026

DESIGNED -	SEAN CHAU
CHECKED -	ALEX S. SIUDYLA
DRAWN -	MICHAEL B. MOSSMAN
CHECKED -	___

3-11-2013

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	137-BR	IROQUOIS	___	___
		CONTRACT NO. 66B92		
		ILLINOIS FED. AID PROJECT		