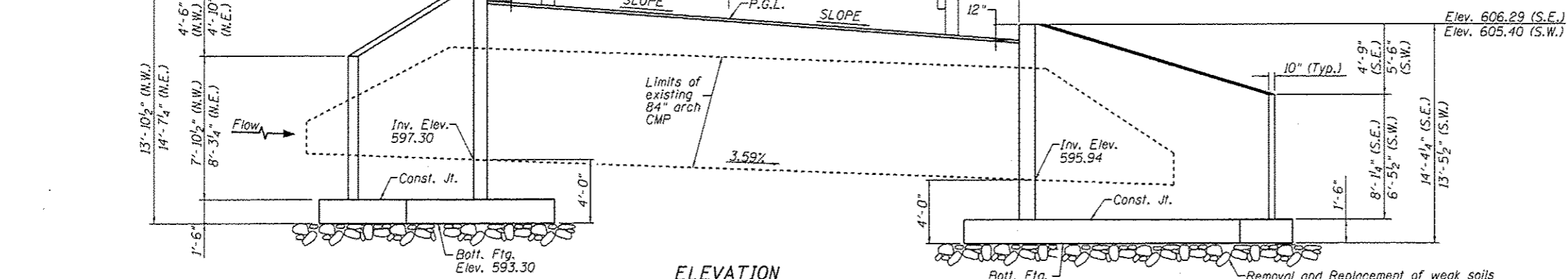


Bench Mark: Iron pin set in ground west of structure at Sta. 224+31.59, 49.69' Lt. Elevation = 604.16.

Iron pin set in ground southeast of structure at Sta. 227+10.75, 15.94' Lt. Elevation = 612.22.

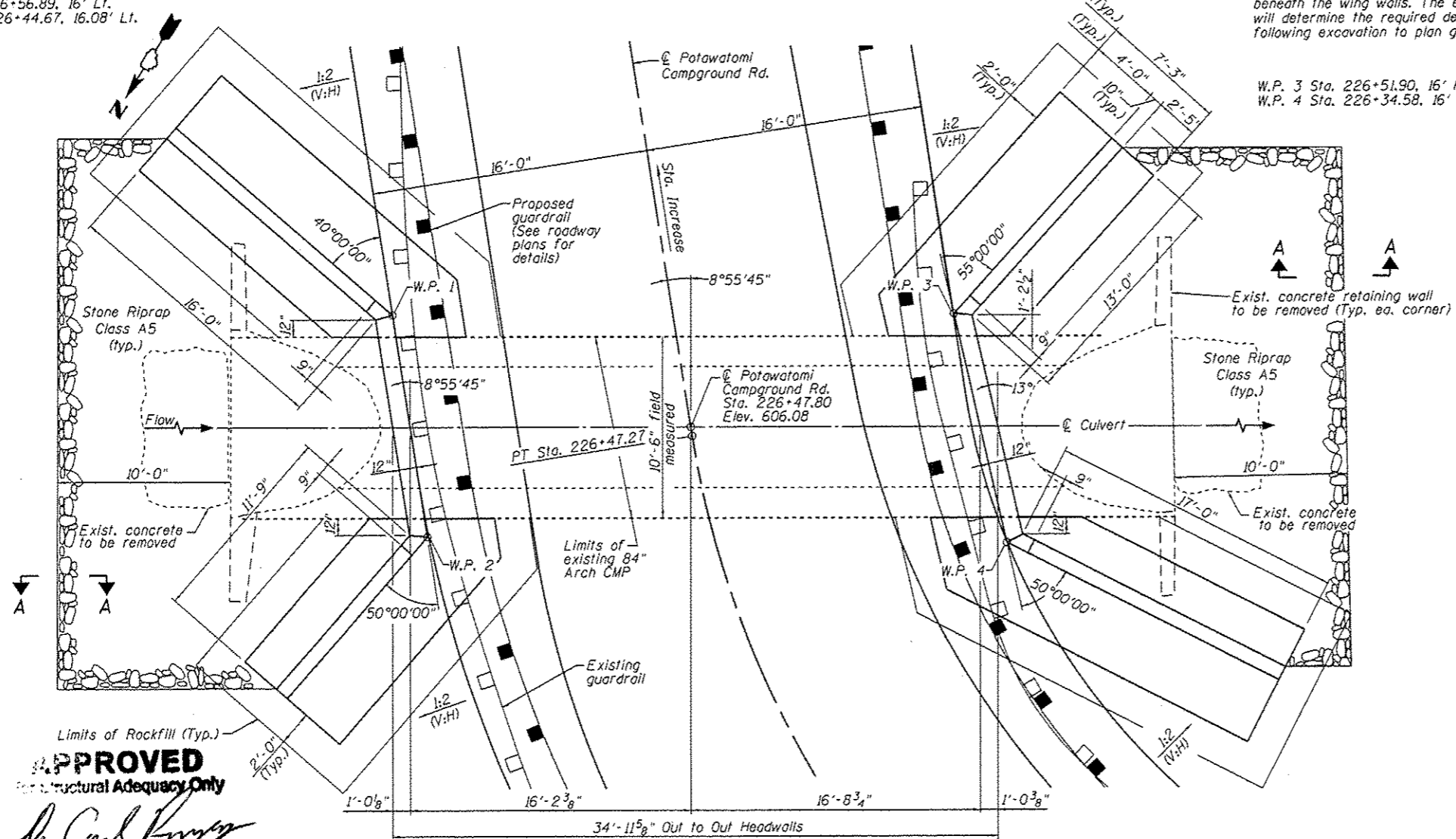
Existing Structure: 84" CMP (to remain)

Elev. 607.18 (N.W.)  
Elev. 607.90 (N.E.)



**ELEVATION**

W.P. 1 Sta. 226+56.89, 16' Lt.  
W.P. 2 Sta. 226+44.67, 16.08' Lt.



**PLAN**

**APPROVED**  
For Structural Adequacy Only  
*De Carl Kuyper*  
Engineer of Bridges & Structures

**\*ROADWAY INFORMATION TABLE**

STATION	P.G.L. ELEV.	SLOPE
226+00	603.89	2.95%
226+25	604.58	3.77%
226+50	605.78	4.18%
226+75	607.89	1.32%

\* See Potawatomi Campground Road plan sheets for roadway reconstruction details.

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD 6th Edition, with 2013 Interims

**DESIGN STRESSES**

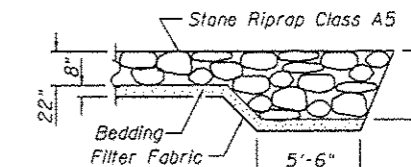
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**FACTORED SOIL BEARING RESISTANCE**

$q_u = 2,900$  psf

**TOTAL BILL OF MATERIAL**

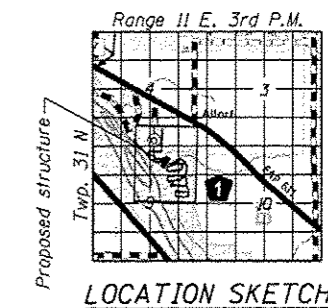
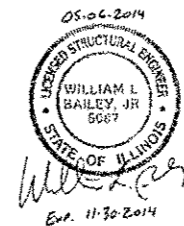
Item	Unit	Quantity
Stone Riprap, Class A5	Sq. Yd.	91
Filter Fabric	Sq. Yd.	91
Concrete Removal	Cu. Yd.	6
Structure Excavation	Cu. Yd.	331
Reinforcement Bars	Pound	4,550
Reinforcement Bars, Epoxy Coated	Pound	1,340
Concrete Structures	Cu. Yd.	50.8
Geocomposite Wall Drain	Sq. Yd.	27.6
Granular Backfill for Structures	Cu. Yd.	49
Rock Fill	Cu. Yd.	31



**SECTION A-A**

**GENERAL NOTES:**

1. Reinforcement bars shall conform to the requirements of the ASTM A706, Grade 60.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the engineer.
4. Precast alternate is not allowed.
5. Removal and replacement of weak soils with Rock Fill may be required beneath the wing walls. The engineer will determine the required depth following excavation to plan grade.



**LOCATION SKETCH**