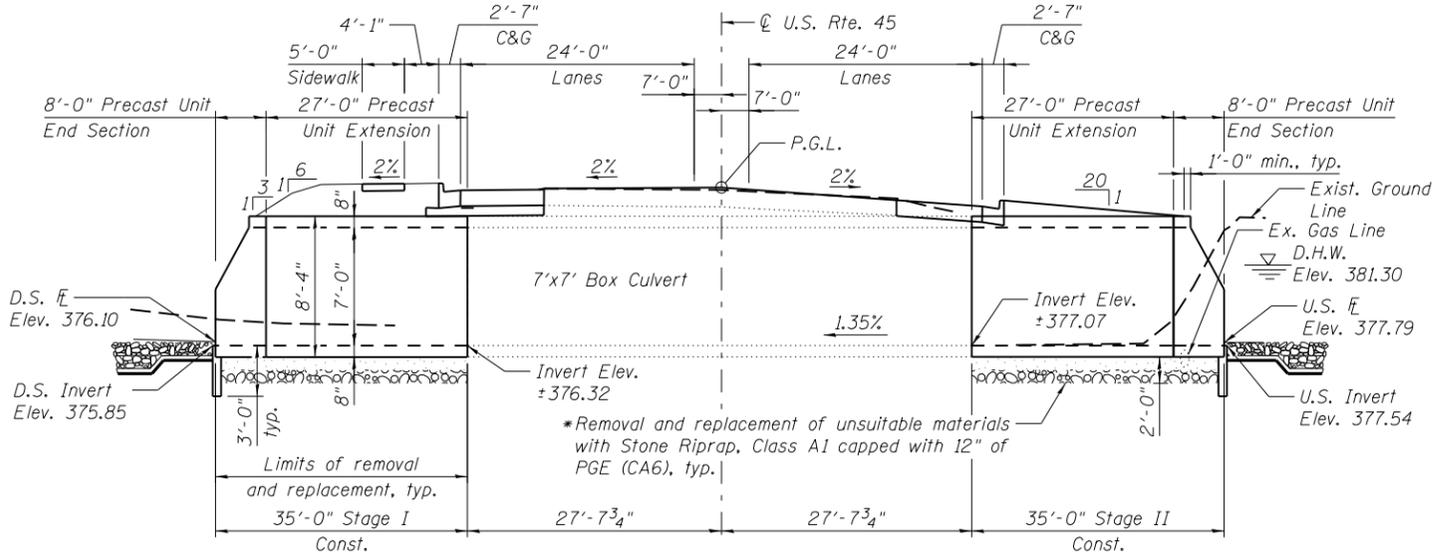


Bench Mark: Saw cut "□" on top of SW wingwall for city of Eldorado box culvert north of Rte. 45 on west side of Fourth St. S.N. 083-7060 Sta. 405+50± & 53' Lt. Elev. 384.77.

Existing Structure: SN 083-7060, built in 1922 under SBI Rte. 1, Section 30A. The original structure is a single barrel cast in place culvert with 7' rise, 7' span and 31'-4" length. The culvert was widened in 1987 approximately 18'-0" each end with precast segments. The skew is approximately 2 degrees. The structure is to be lengthened with precast extensions on each end utilizing staged construction.

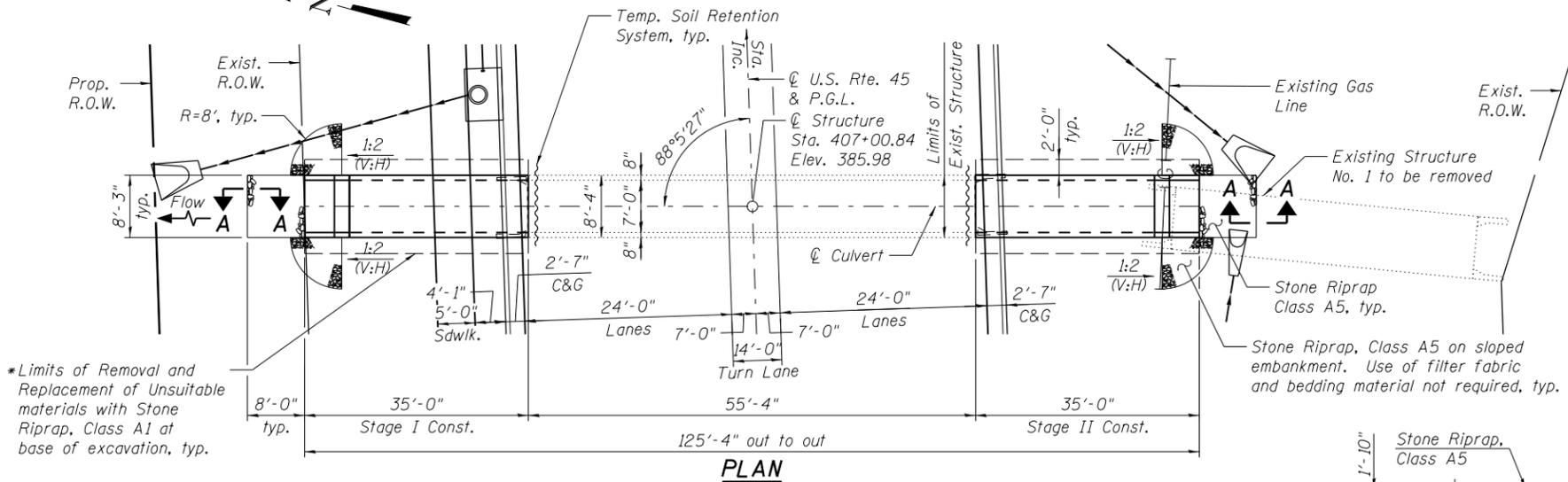
No salvage.



LONGITUDINAL SECTION

(Dims. at Rt. L's to C.R. Rdwy. unless noted otherwise) (Looking East)

*The limits and quantities of removal and replacement shown may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.



*Limits of Removal and Replacement of Unsuitable materials with Stone Riprap, Class A1 at base of excavation, typ.

DESIGN SCOUR ELEVATION TABLE

| Design Scour Elevation (ft.) | Upstream | Downstream |
|------------------------------|----------|------------|
| | 374.54 | 372.85 |

WATERWAY INFORMATION

| Drainage Area=0.156 Sq. Mi. | | Exist. Overtopping Elev. 385.65 @ Sta. 405+50 | | Prop. Overtopping Elev. 385.45 @ Sta. 405+50 | | | | |
|-----------------------------|-----------|---|-----------------|--|------------|---------------|-------|-------|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | Nat. H.W.E. | Head - Ft. | Headwater El. | | |
| Design | 10 | 123 | 23 | 21 | 380.5 | 1.7 | 382.2 | 382.2 |
| Base | 50 | 170 | 29 | 27 | 381.3 | 1.2 | 382.5 | 382.6 |
| Overtopping(E) | 100 | 195 | 31 | 29 | 381.6 | 1.1 | 382.7 | 382.8 |
| Overtopping(P) | >500 | 412 | | | | | 385.5 | 385.5 |
| Max. Calc. | 500 | 270 | 35 | 33 | 382.2 | 1.4 | 383.6 | 383.5 |

10-Year Outlet Velocity from Existing Structure = 3.1 fps
10-Year Outlet Velocity from Proposed Structure = 2.9 fps

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|--|---------|-------|
| Porous Granular Embankment | Cu. Yd. | 27 |
| Stone Riprap, Class A1 | Sq. Yd. | 95 |
| Stone Riprap, Class A5 | Sq. Yd. | 48 |
| Filter Fabric | Sq. Yd. | 15 |
| Removal of Existing Structures No. 1 | Each | 1 |
| Removal and Disposal of Unsuitable Material for Structures | Cu. Yd. | 63 |
| Precast Concrete Box Culverts 7'x7' | Foot | 54 |
| Box Culvert End Sections, Culvert No. 1 | Each | 2 |
| Temporary Soil Retention System | Sq. Ft. | 542 |

GENERAL NOTES

Precast concrete box culverts shall conform to the design requirements of ASTM C1577.
The new box culvert bell or spigot connection shall have configuration to mate with the existing culvert spigot or bell connection to remain in place.
Contractor shall exercise caution when removing existing precast culvert end sections in order to minimize damage to bell or spigot connection of existing precast culvert sections to remain in place. Removal of existing precast culvert end section shall be in accordance with section 501 of the Standard Specifications. Cost included with Precast Concrete Box Culverts 7'x7'.
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

INDEX OF SHEETS

- 1. General Plan and Elevation
- 2. Stage Construction Details

LOADING HL-93 (NEW CONSTRUCTION)

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition w/2013 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

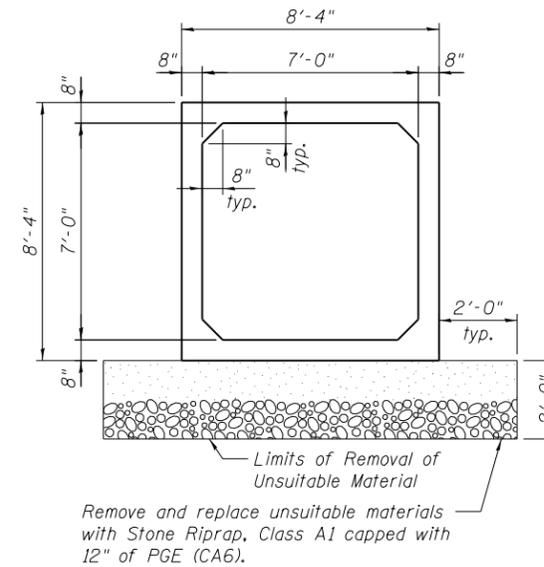
f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

EXISTING CONSTRUCTION (1987)

f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

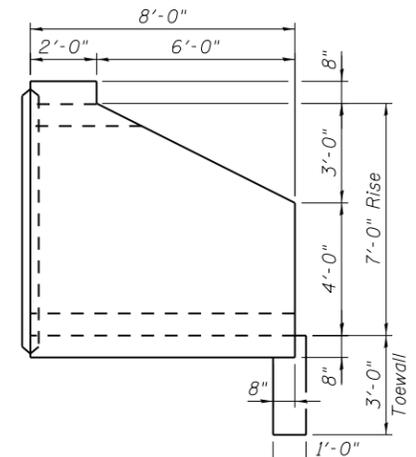
EXISTING CONSTRUCTION (1922)

f'c = 3,000 psi
fy = 33,000 psi (Reinforcement)

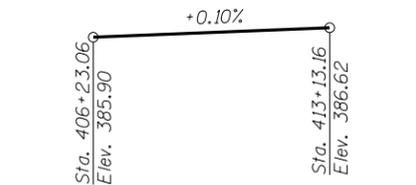


SECTION THRU BARREL

(Dimensions at Rt. L's to C.R. Structure)

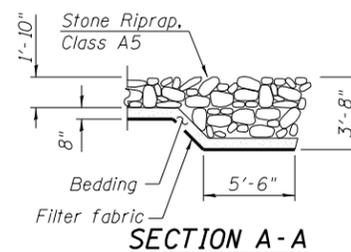


END SECTION DETAIL



PROPOSED PROFILE GRADE

(C.R. U.S. Rte. 45)

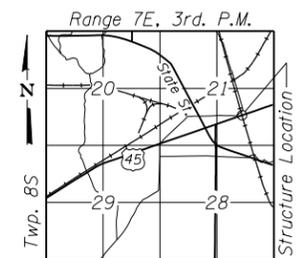


SECTION A-A



Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2014

Date



LOCATION SKETCH



| | | |
|--------------|----------------|---------|
| USER NAME = | DESIGNED - BDC | REVISED |
| FILE NAME = | CHECKED - VPT | REVISED |
| PLOT SCALE = | DRAWN - AJF | REVISED |
| PLOT DATE | CHECKED - VPT | REVISED |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SN 083-7060

SHEET NO. 1 OF 2 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|------------|--------|--------------|-----------|
| 332 | (29,30)R-1 | SALINE | 745 | 473 |
| CONTRACT NO. 78077 | | | | |

ILLINOIS FED. AID PROJECT