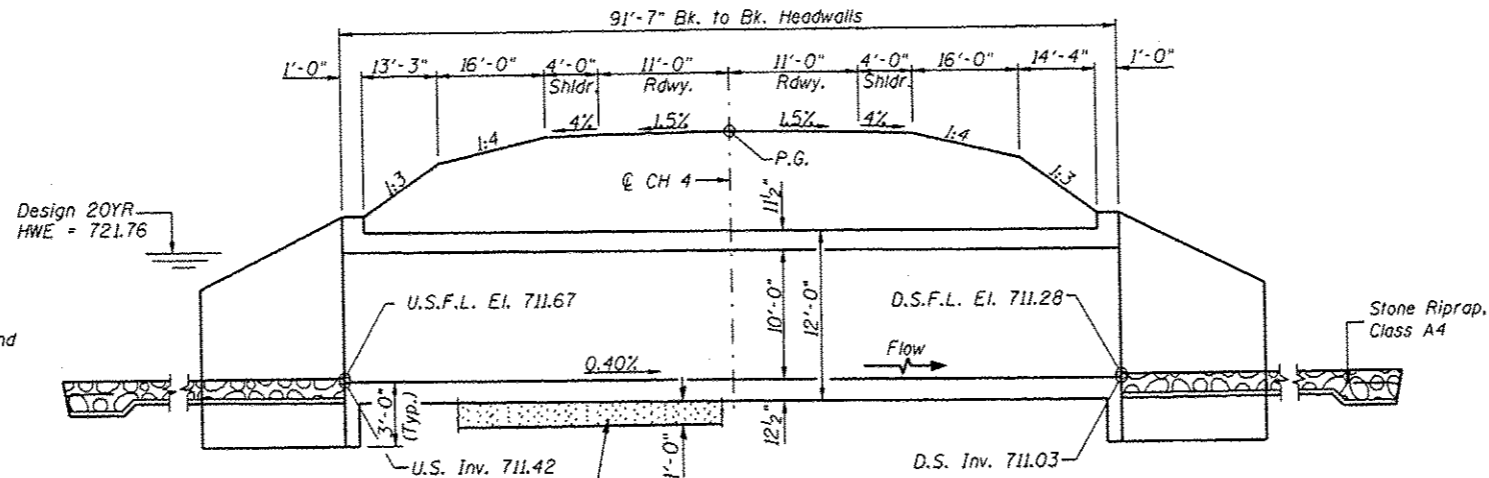


Existing Structure:
 Double 10'x8' reinforced concrete box culvert. The structure is approximately 43' in length, and is skewed ±20°. Str. No. 048-6051

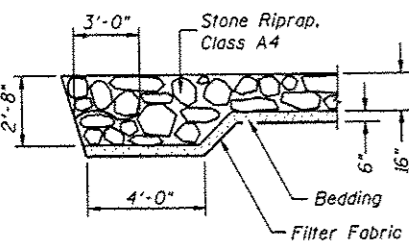
Salvage: None
 Road to be closed to traffic during construction.

*Unsuitable Material Removal and Replacement with P.G.E. Limits are 2' outside the bottom slab and extends the length of the barrel.



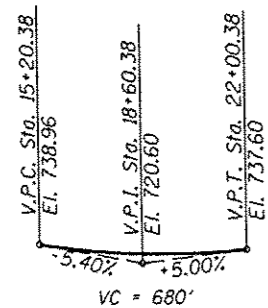
ELEVATION

Dimensions are at Rt. L's to & Roadway



SECTION A-A

**Riprap dimensions are for estimating quantities only.

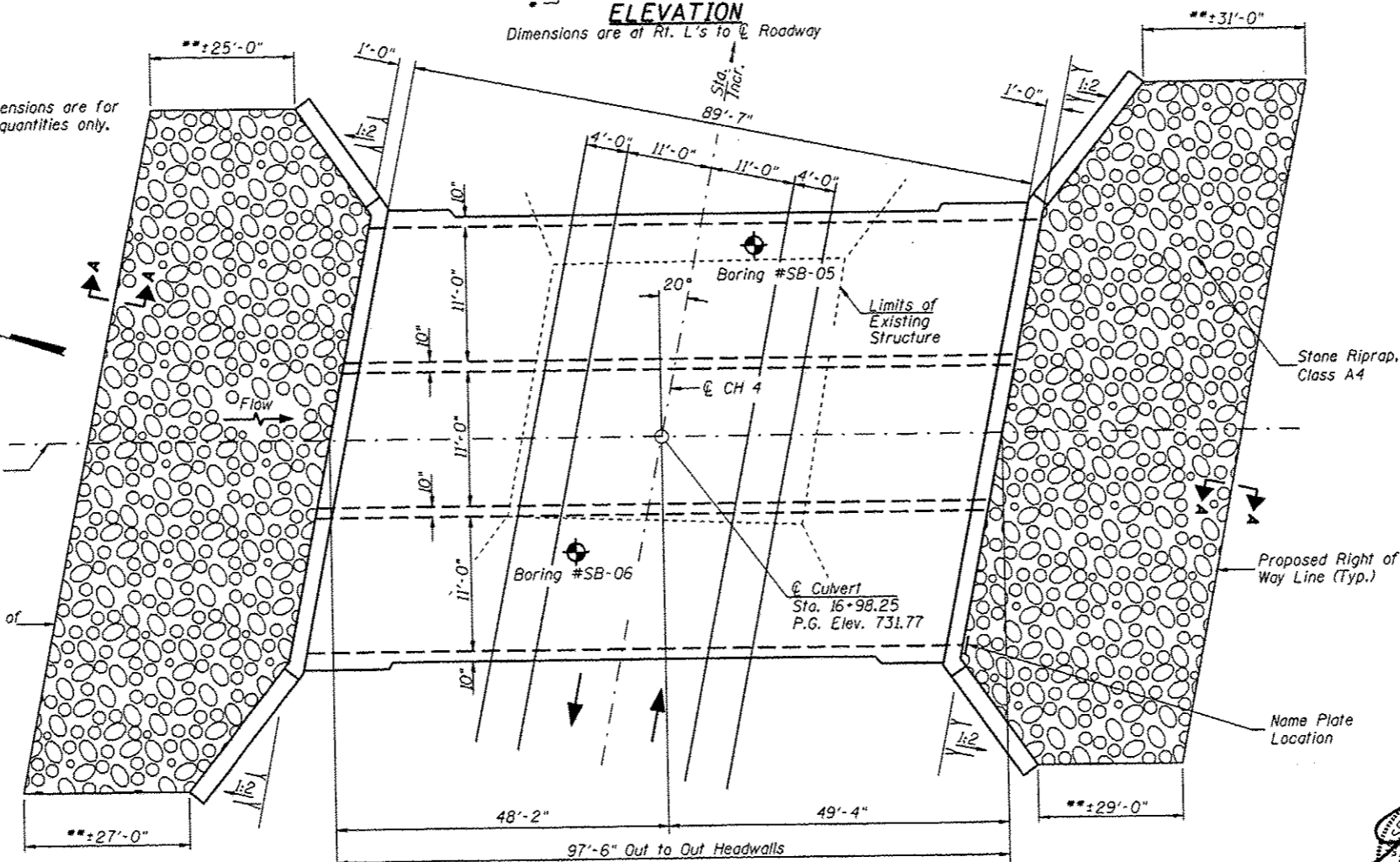


PROFILE GRADE

WALNUT CREEK TRIBUTARY
 BUILT 201 BY
 KNOX COUNTY
 SEC. 12-00001-01-RS
 C.H. 4 STATION 16+98.25
 F.A. PROJ. RS-0393(105)
 STR. NO. 048-5037 LOADING HL-93

NAME PLATE

Locate Name Plate at South Headwall
 S.W. Corner of Culvert (See Std. 515001)



PLAN

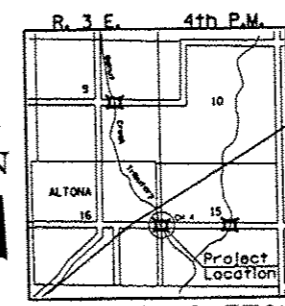
DESIGN SPECIFICATIONS
 2012 AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES
FIELD UNITS

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

LOADING HL-93

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



LOCATION SKETCH

GENERAL NOTES

Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60.
 For backfilling and embankment see Standard Specifications.
 All construction joints shall be bonded.
 Exposed concrete edges shall have a 3/4" chamfer unless otherwise noted.
 Precast culvert option will not be allowed.
 Layout of stone riprap/slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 A distance of half the length of the wingwall, but not less than 6 feet of the barrel shall be poured monolithically with the wingwall.
 Areas of excavation required for removal of the existing structure or construction of the new culvert shall be backfilled with Porous Granular Embankment up to the top of slab elevation. See Special Provisions for more detailed information.
 All excavation required for construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Box Culverts	CU YD	429.4
Reinforcement Bars	POUND	76,330
① Removal of Existing Structures No. 1	EACH	1
Name Plates	EACH	1
Stone Riprap, Class A4	SQ YD	455
Filter Fabric	SQ YD	455
Removal & Disposal of Unsuitable Material	CU YD	145
① Porous Granular Embankment	CU YD	930

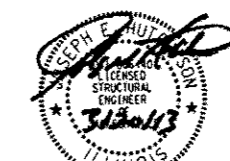
① See Special Provisions

DESIGN SCOUR TABLE

Location	Upstream	Downstream
Design Scour Elevation	711.42	711.03

I certify that to the best of my knowledge, information and belief, this culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges.

[Signature] 3/20/2013
 Illinois Structural No. 6440
 Expires 11/30/2014



L.C. Exp 11/30/2014

GENERAL PLAN & ELEVATION
 KNOX COUNTY
 SECTION 12-00001-01-RS
 C.H. 4 OVER WALNUT CREEK TRIBUTARY

DESIGNED	STM
CHECKED	CTM
DRAWN	STM
CHECKED	CTM

Drainage Area = 6.40 Sq. Mi.		Low Grade Elev. = 729.43 @ Sta. 18+73.46	
Flood	Design	Base	
Freq. Yr.	Q	Opening Sq. Ft.	Head - Ft.
	C.F.S.	Exist.	Prop.
20	1,634	160	330
100	2,400	160	330
Headwater El.	Exist.	Prop.	Exist.
723.82	721.92	722.79	725.96
721.76	2.06	0.16	3.17
722.79	0.75	0.75	0.75

SHEET NO. 1	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4 SHEETS	CH 4	12-00001-01-RS	KNOX	174	72
S.N. 048-5037			CONTRACT NO. 89614		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT RS-0393(105)		