

Benchmark: 672.311, aluminum disk in the center of US 150, Sta. 324+38.40, 0.04'LT

Existing Structure: Sta. 36"x24" elliptical CMP to be removed.

### INDEX OF SHEETS

1. Plan & Profile Sheet
2. General Plan and Elevation
- 3-4. Precast Concrete Box Culvert Apron End Section Details
5. Porous Granular Embankment Details

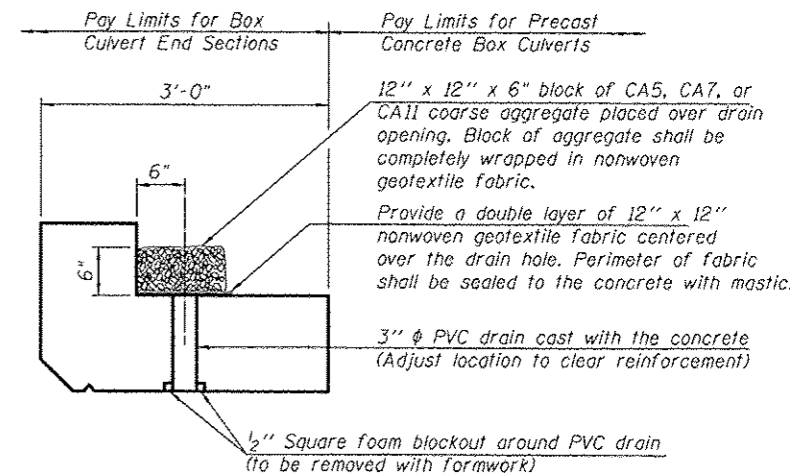
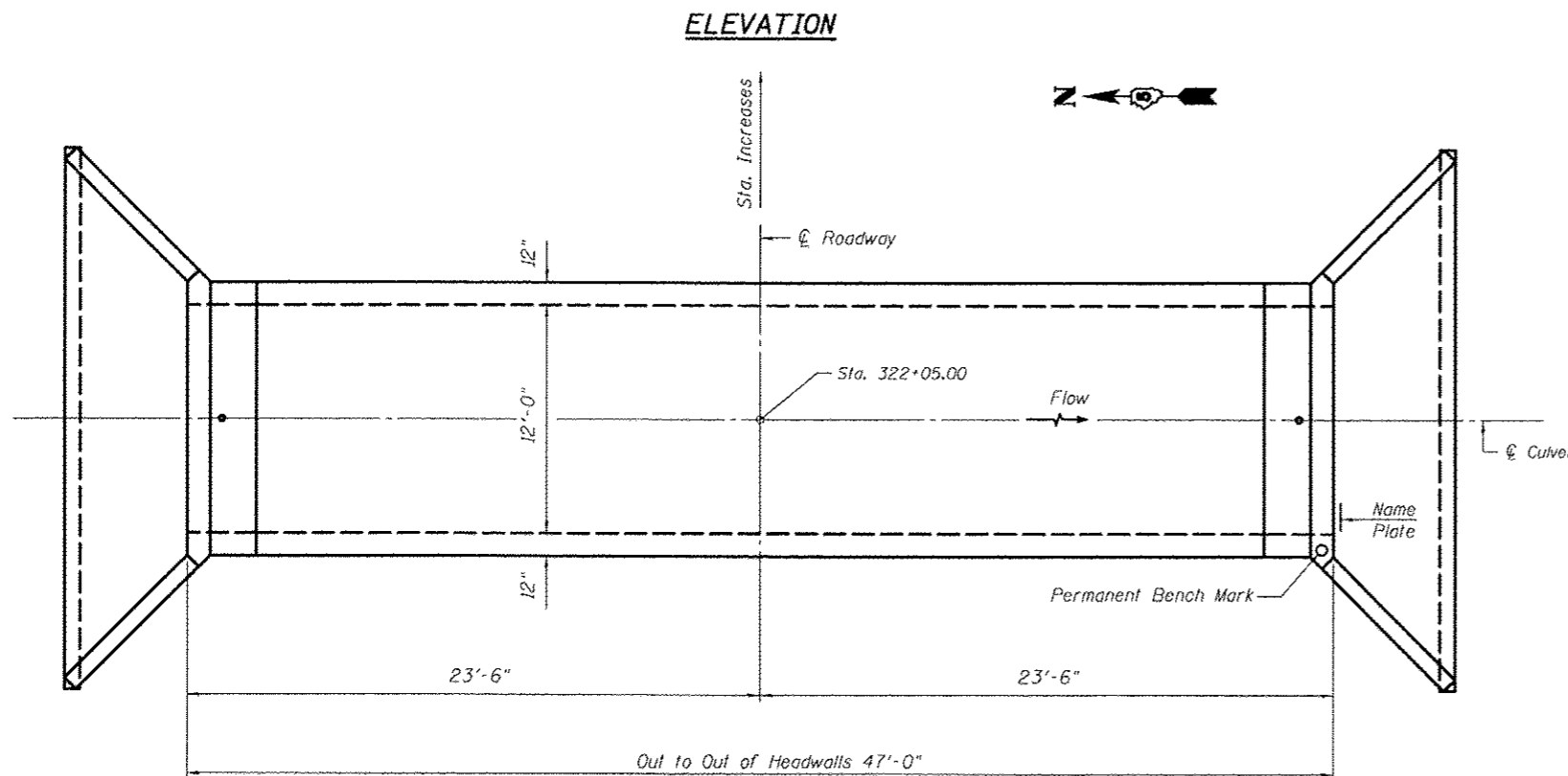
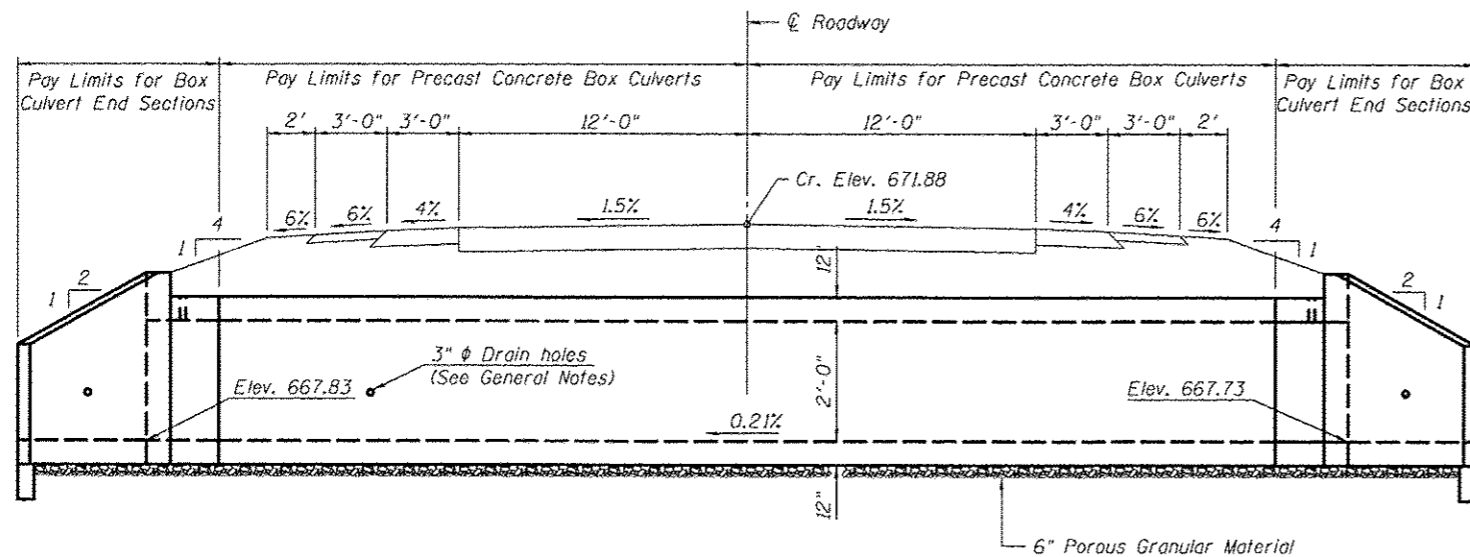
### GENERAL NOTES

The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.

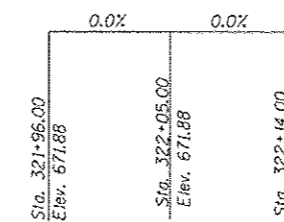
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.



(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)



### DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications  
6th Edition

### LOADING HL-93

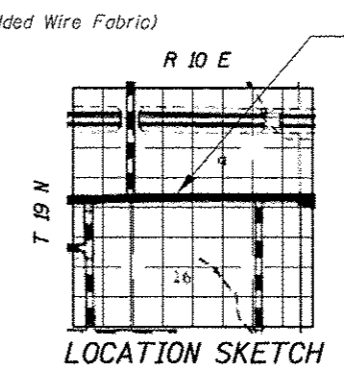
### DESIGN STRESSES

#### PRECAST UNITS

$f'_c = 5,000$  psi  
 $f_y = 65,000$  psi (Welded Wire Fabric)

STATION 322+05.00  
BUILT 2014 BY  
STATE OF ILLINOIS  
F.A.S. RT. 1512 US 150  
SEC. (2X,3)RS-3 & 2RS-4  
LOADING HL-93  
STR. NO. 010-8163

**NAME PLATE**  
See Std. 515001



PROP. S.N. 010-8163  
STA. 322+05.00

**GENERAL PLAN AND ELEVATION**  
**SINGLE 12'x2' PRECAST BOX CULVERT**  
**F.A.S. ROUTE 1512 (US 150)**  
**SECTION (2X,3)RS-3 & 2RS-4**  
**CHAMPAIGN COUNTY**  
**STATION 322+05.00, S.N. 010-8163**  
**CULVERT NO. 11**

### TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 11	Each	2.0
Precast Concrete Box Culverts, 12' x 4'	Foot	41.0
Permanent Bench Marks	Each	1.0
Porous Granular Embankment	Cu. Yd.	21.6

### WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 671.87 @ Sta. 322+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	76	7	22.4				Over	669.7
Base	50	119	7	24				Over	670.3
Overtopping	100	137	7	24				Over	670.6
Max. Calc.	500	181	7	24				Over	671.4

### DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	664.83	664.73