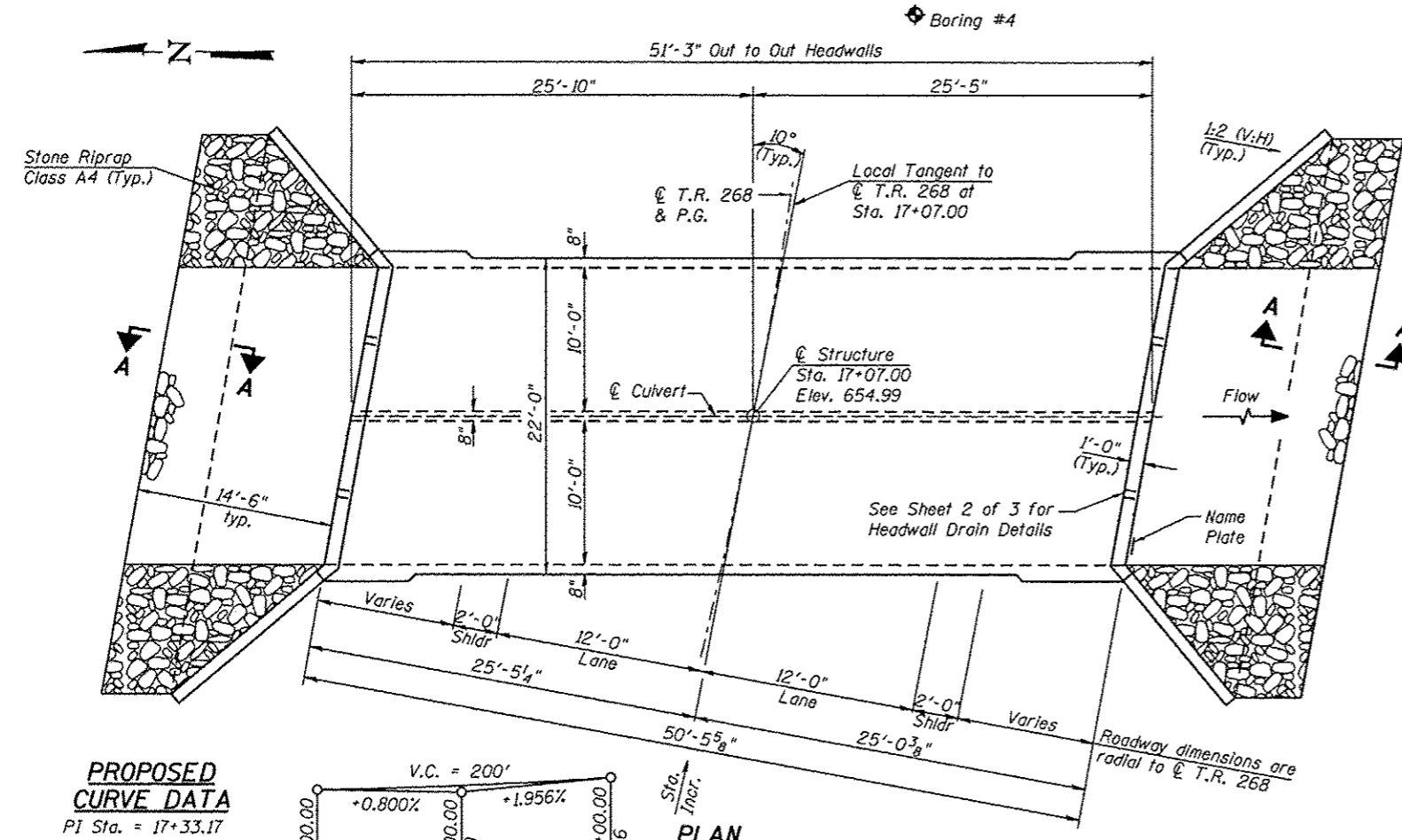
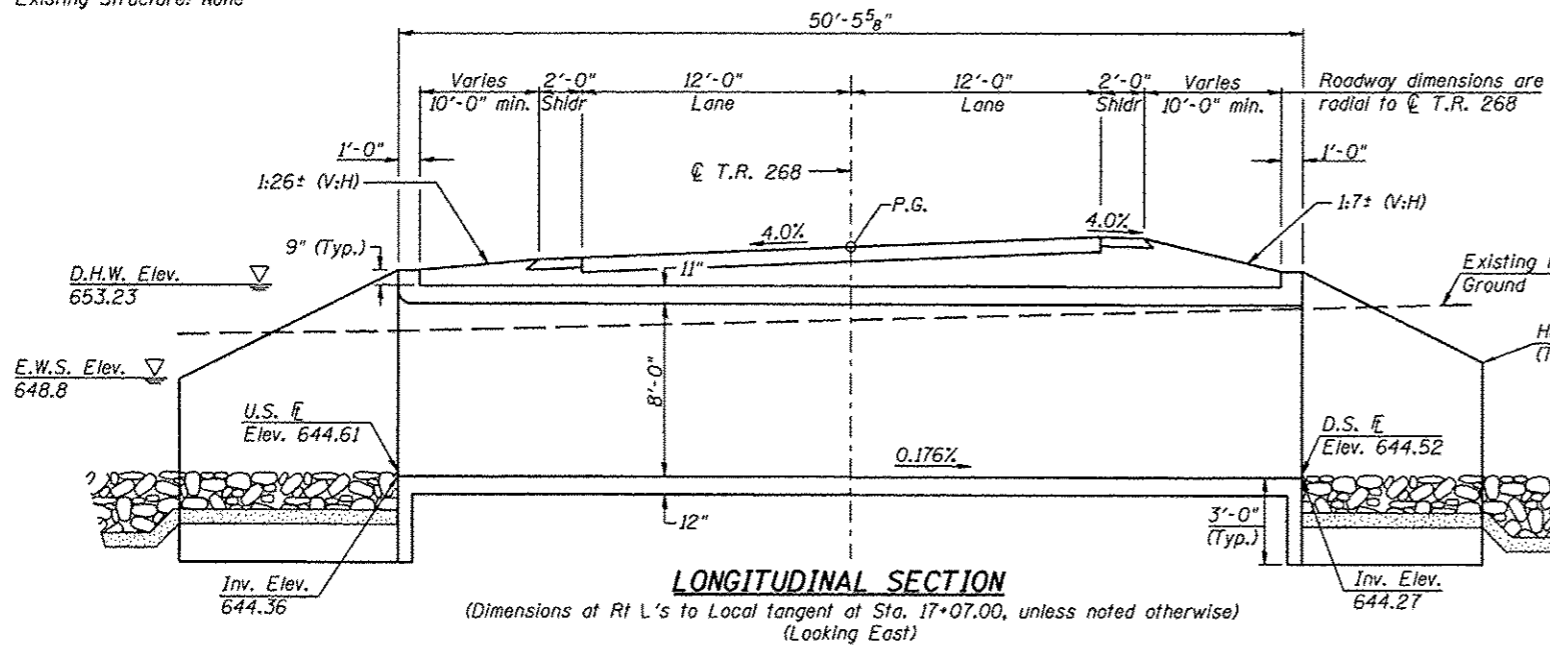
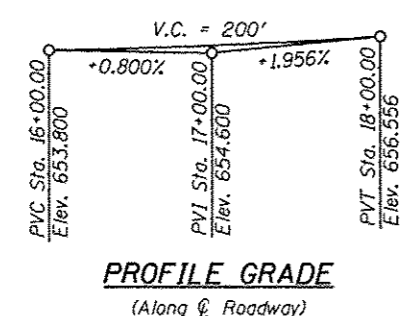


Benchmark: Chiseled square in west end of south wingwall of Existing S.N. 011-2008, Elev. 653.52.

Existing Structure: None



PROPOSED CURVE DATA
 P.I. Sta. = 17+33.17
 $\Delta = 47^\circ 33' 31''$ (LT)
 $D = 19^\circ 05' 55''$
 $R = 300.00'$
 $T = 132.19'$
 $L = 249.02'$
 $E = 27.83'$
 P.C. Sta. = 16+00.98
 P.T. Sta. = 18+50.00
 Superelevation = 4.0%



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	641.27	641.36

WATERWAY INFORMATION

Flood	Freq. Yr.	Q (C.F.S.)		Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
	10	38	470	40.0	155.6	652.31	652.14	0.10	0.29	652.41	652.43
Design	50	63	747	40.0	160.0	653.28	653.23	0.24	0.78	653.52	654.01
Base	100	74	869	40.0	160.0	653.50	653.47	0.29	0.99	653.79	654.46
Overtopping**	500	-	1160	-	160.0	-	653.80	-	1.47	-	655.27
Max. Calc.	500	102	1160	40.0	160.0	653.83	653.80	0.35	1.47	654.18	655.27

** Overtopping occurs under 10-year Flood Event for existing conditions
 10 year velocity through existing Structure = 0.95 fps
 10 year velocity through proposed Structure = 3.00 fps

GENERAL NOTES

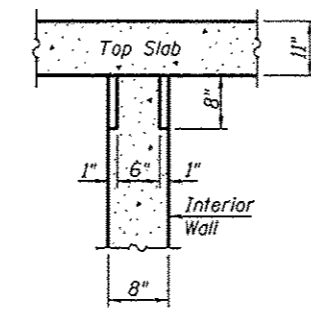
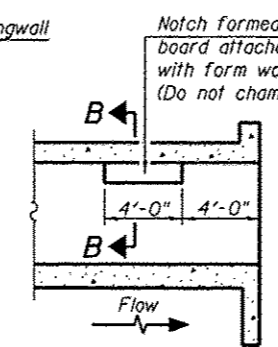
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 Precast alternate is not allowed.
 See Roadway Plans for channel excavation.
 Backfill within the limits of the paved surface to the top of culvert elevation shall be performed according to the special provision for Granular Culvert Backfill.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. Yd.	108
Filter Fabric	Sq. Yd.	108
Reinforcement Bars	Pound	21820
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	142.2
Granular Culvert Backfill	Cu. Yd.	183

INDEX OF SHEETS

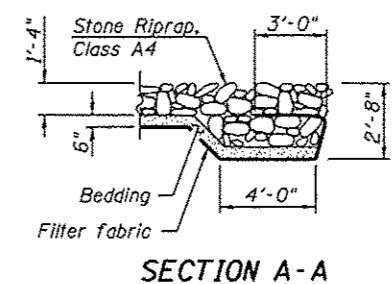
- General Plan and Elevation
- Culvert Details
- Soil Boring Logs



PHOEBE NESTING SITE DETAILS (Downstream End Only)

STATION 17+07.00
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. RT. 322 SEC. 11-13
 LOADING HS20-44
 STRUCTURE NO. 011-3413

NAME PLATE
 See Std. 515001



DESIGN SPECIFICATIONS

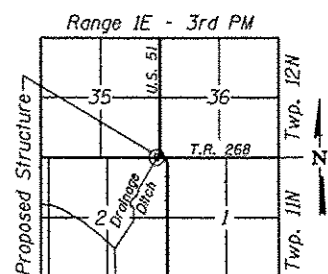
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

LOADING HS20-44

Allow 50#/sq. ft. for Future Wearing Surface.



APPROVED
 For Structural Adequacy Only
 Michael T. Haley
 Engineer of Bridges & Structures



Michael T. Haley 8-10-12
 Date
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2012

GENERAL PLAN & ELEVATION

T.R. 268 OVER DRAINAGE DITCH

F.A.P. 322-SECTION 11-13

CHRISTIAN COUNTY

STA. 17+07.00

STRUCTURE NO. 011-3413