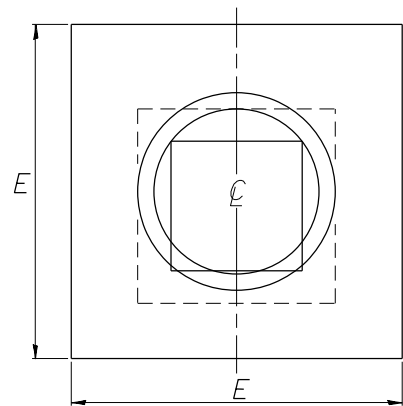
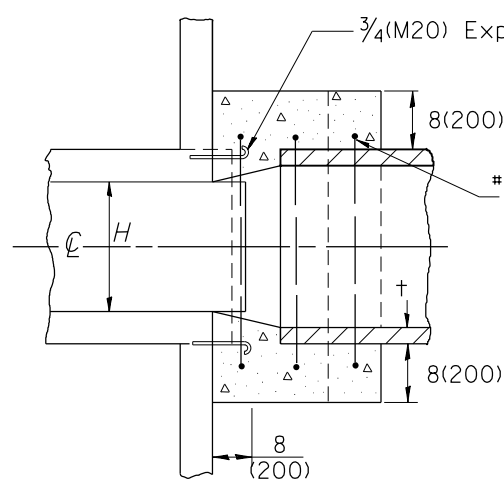


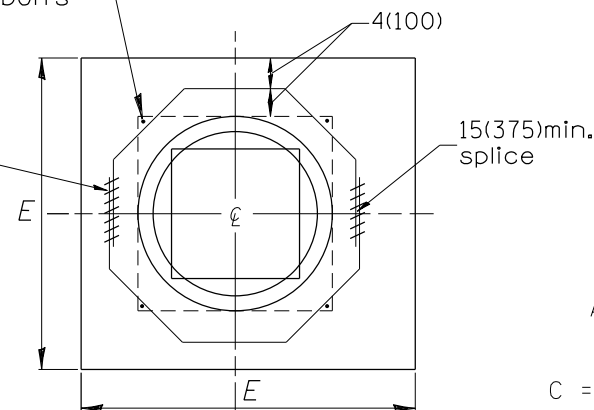
SECTION A-A



END VIEW



SECTION A-A



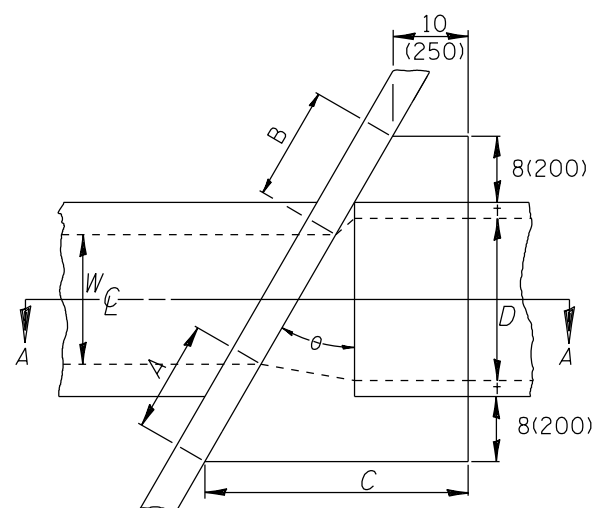
END VIEW

$$A = B = \frac{D - W}{2} + t + 8(200) \cos \theta$$

$$C = \tan \theta [D + 2t + 16(410)] + 10(250)$$

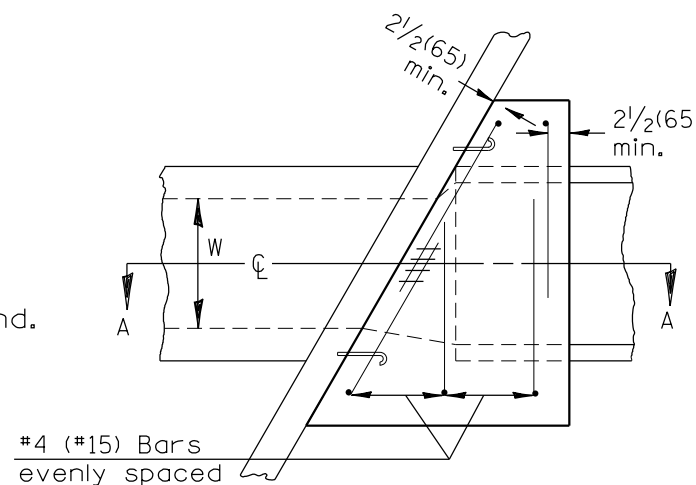
$$G = \frac{D + 2t + 8(200)}{2.4142 [\cos \theta]}$$

(Note: 'G' is based upon maximum skewed length)

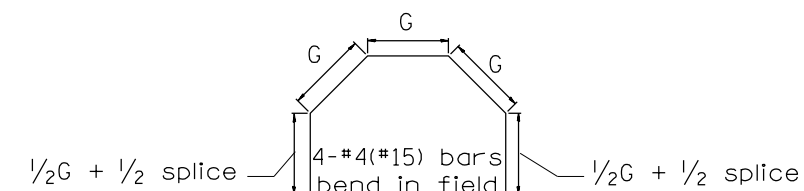


PLAN VIEW UP STREAM

NOTE:
Dimensions are shown in Plan View of Up Stream End while Reinforcement is shown in plan view of Down Stream End.



PLAN VIEW DOWN STREAM



GENERAL NOTES

- The collar shall be constructed entirely of CLASS SI CONCRETE and in accordance with the applicable portions of section 503 of the Standard Specifications. Reinforcement bars shall conform to section 508.
- Expansion bolts shall consist of approved expansion anchors, and 3/4 (M20) hook bolts which conform to section 1006.09. These bolts shall extend at least 8(200) into the new concrete.

EXISTING CULVERT		EACH COLLAR											
W	H	θ	A	B	C	D	E	†	CONCRETE	REINFORCEMENT BARS		EXPAN. BOLTS	
									CU. YD. (m ³)	G	L	KG(LBS.)	EACH
36	PIPE	25.4	13.25	13.25	38.5	36	60	4	1.1	23.875	110.5	30	8

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HORNER &
SHIRIN, INC.
ENGINEERS

MISCELLANEOUS DETAILS
SKEWED PIPE CULVERT EXTENSION COLLAR (WITH END SECTION)

SCALE: NONE SHEET NO. 14 OF 22 SHEETS STA. TO STA.

All dimensions are in inches (millimeters) unless otherwise noted.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	68-WRS-1	MONROE	760	478
CONTRACT NO. 76817			ILLINOIS FED. AID PROJECT	