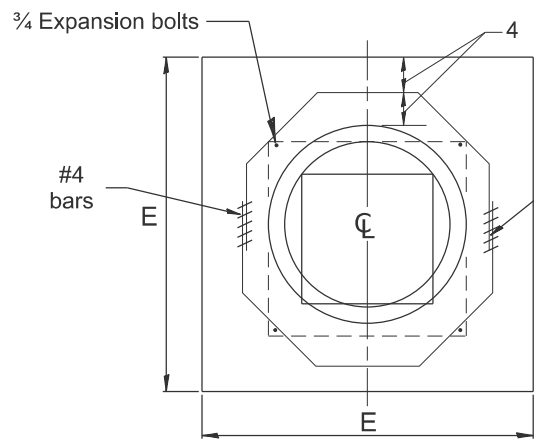
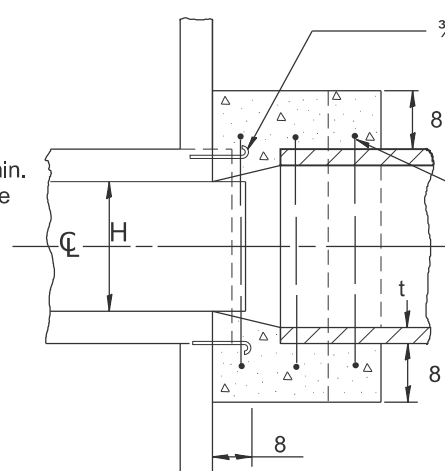


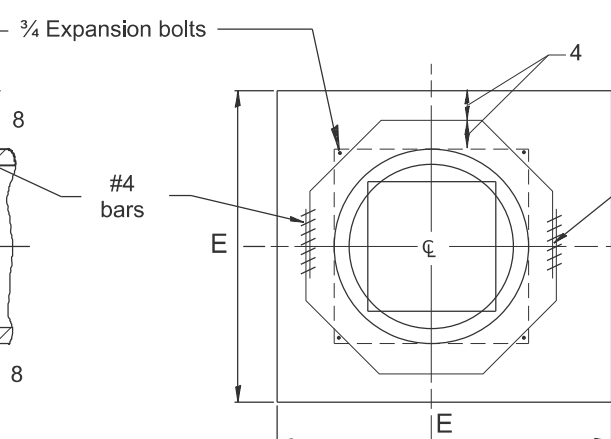
SECTION A-A



END VIEW



SECTION A-A



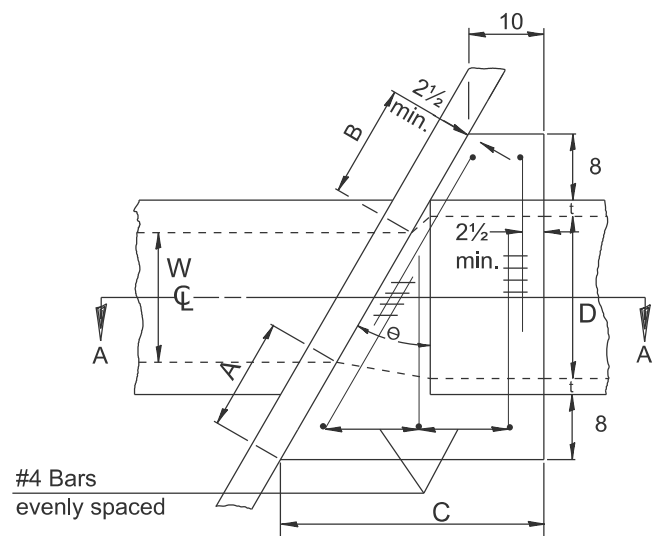
END VIEW

$$A = B = \frac{\frac{D - W}{2} + t + 8}{\cos \Theta}$$

$$C = \tan \Theta [D + 2t + 16] + 10$$

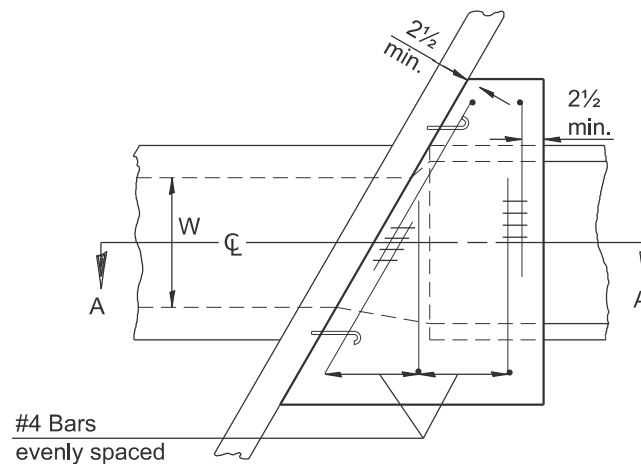
$$G = \frac{D + 2t + 8}{2.4142 [\cos \Theta]}$$

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

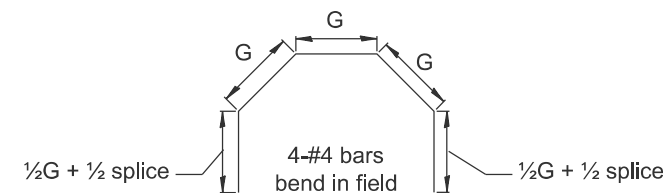


PLAN VIEW UP STREAM

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

1. 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.
2. Expansion bolts shall consist of approved expansion anchors, and 3/4 hook bolts which conform to section 1006.09. These bolts shall extend at least 8 into the new concrete.
3. This work will be paid for by the cubic yard for CONCRETE COLLAR, by the pound for REINFORCEMENT BARS, and by Each for EXPANSION BOLTS of the size indicated.

| EXISTING BOX | | | | | | | | | | EACH COLLAR | | | | EXPAN. BOLTS |
|--------------|---|---|---|---|---|---|---|---|--|-------------|--------------------|---|------|--------------|
| | | | | | | | | | | CONCRETE | REINFORCEMENT BARS | | | |
| | | | | | | | | | | CU. YD. | G | L | LBS. | EACH |
| W | H | Θ | A | B | C | D | E | t | | | | | | |
| | | | | | | | | | | | | | | |
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QUANTITIES

CALC. BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

QUANTITY CALCULATIONS ARE ON
FILE AT THE DISTRICT 4 OFFICE;
BUREAU OF PROJECT IMPLEMENTATION;
DOCUMENTATION SECTION

| | | |
|------------------------|------------|-----------|
| USER NAME = thomas.cox | DESIGNED - | REVISED - |
| | DRAWN - | REVISED - |
| | CHECKED - | REVISED - |
| PLOT DATE = 9/22/2025 | DATE - | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SKewed PIPE CULVERT EXTENSION COLLAR (WITH END SECTION)

SCALE: NOT TO SCALE SHEET 000 OF SHEETS STA. TO STA.

All dimensions are in inches
unless otherwise noted.

| | | | | |
|-----------------------------|----------|------------------|-----------------|--------------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | | | 0 |
| DISTRICT 4 DETAIL NO.542011 | | CONTRACT NO. | | |
| | ILLINOIS | FED. AID PROJECT | | |