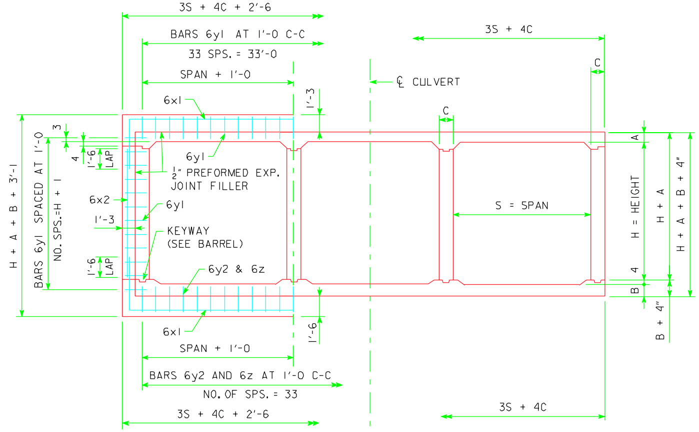
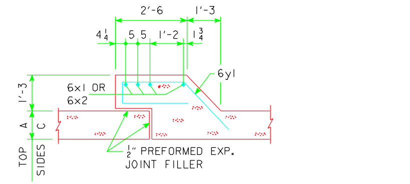


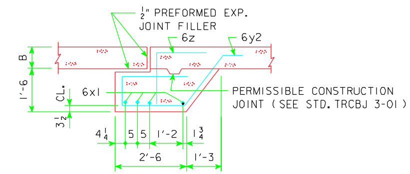

JOINT DETAIL
SECTION THRU BARREL

# ESTIMATE OF QUANTITIES - ONE JOINT - 10' SPAN

| BILL OF REINFORCING STEEL | | | 10' x 6' | | | 10' x 8' | | | 10' x 10' | | | 10' x 12' | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BAR | LOCATION | SHAPE | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT |
| 6x1 | SLAB AND FLOOR | | 8 | 45'-1 | 614 | 8 | 45'-1 | 614 | 8 | 45'-5 | 617 | 8 | 46'-1 | 626 |
| 6x2 | WALLS | | 8 | 3'-8 | 44 | 8 | 5'-8 | 68 | 8 | 7'-8 | 92 | 8 | 9'-8 | 116 |
| 6y1 | TOP AND SIDES | | 50 | 8'-0 | 601 | 54 | 8'-0 | 649 | 58 | 8'-1 | 704 | 62 | 8'-2 | 761 |
| 6y2 | BOTTOM AND FLOOR | | 34 | 9'-2 | 468 | 34 | 9'-2 | 468 | 34 | 9'-2 | 468 | 34 | 9'-2 | 468 |
| 6z | BOTTOM AND FLOOR | | 34 | 3'-10 | 196 | 34 | 3'-10 | 196 | 34 | 3'-10 | 196 | 34 | 3'-10 | 196 |
| TOTAL WEIGHT (LBS.) | | | | | 1923 | | | 1995 | | | 2077 | | | 2167 |
| TOTAL CONCRETE - CU. YD. | | | 13.686 CU. YD. | | | 14.264 CU. YD. | | | 14.950 CU. YD. | | | 15.729 CU. YD. | | |

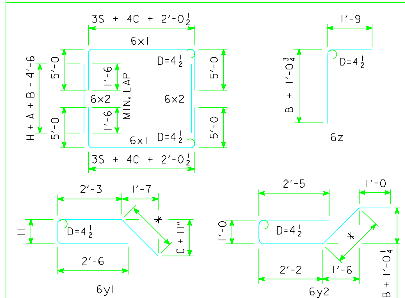



TOP AND SIDES - BAR 6y1




BOTTOM BARS - 6y2 & 6z

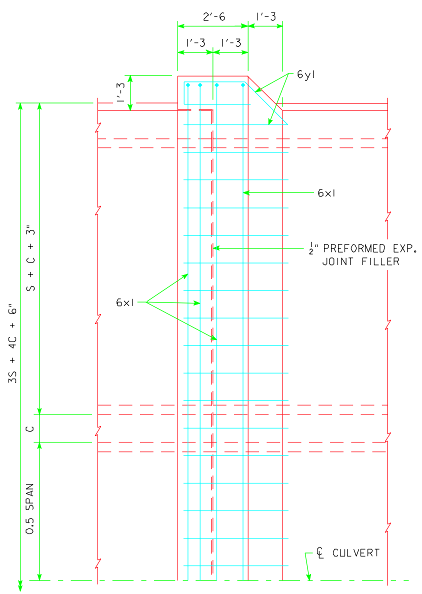
# BENT BAR DETAILS



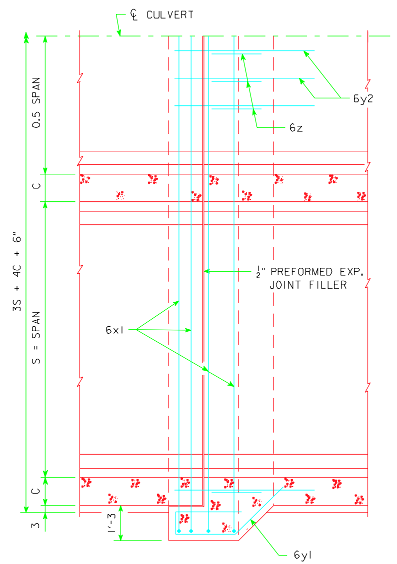

* SQUARE ROOT OF THE SUM OF THE SIDES SQUARED.
ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

# CONCRETE PLACEMENT

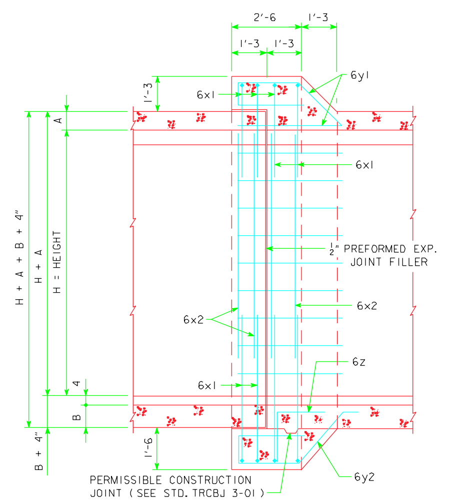
| BARREL SIZE | BARREL DIMEN. | | | BELL JOINT QUANTITIES (CU. YDS.) | | |
|---|---|---|---|---|---|---|
| | A | B | C | FOOTING | WALLS | SLAB |
| 10' x 6' | 10 | 12 | 9 | 6.597 | 1.640 | 5.449 |
| 10' x 8' | 10 | 12 | 9 | 6.597 | 2.218 | 5.449 |
| 10' x 10' | 10 | 12 | 10 | 6.655 | 2.797 | 5.498 |
| 10' x 12' | 9 1/2 | 12 | 12 | 6.771 | 3.376 | 5.582 |




PLAN VIEW - SLAB




PLAN VIEW - FLOOR




LONGITUDINAL SECTION

## BELL JOINT NOTES:

1. DIMENSIONS AND QUANTITIES SHOWN ARE BASED ON SLAB, FLOOR, AND WALL THICKNESSES (A, B, AND C, RESPECTIVELY). VALUES FOR THESE DIMENSIONS, UNDER VARYING FILL CONDITIONS, CAN BE FOUND ON THE TRRCB CULVERT BARREL DETAIL SHEETS.
2. CHANGE LENGTHS OF BARS 6x1, 6x2, 6z, AND ADJUST REINFORCING STEEL AND CONCRETE QUANTITIES ACCORDINGLY FOR SLAB, WALL AND FLOOR THICKNESSES OTHER THAN SHOWN.
3. ALL BAR LENGTHS ARE ESTIMATED WITH A 2" CLEARANCE FROM CONCRETE EDGE TO OUTSIDE OF BAR, EXCEPT AS NOTED.
4. MATERIAL AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF I.D.O.T.
5. SEE SHEET TRRCB-GI-01 FOR GENERAL INFORMATION, SPECIFICATIONS AND DESIGN STRESSES.
6. BARS 6x1 AND 6x2 MAY BE FURNISHED IN TWO EQUAL LENGTHS ADDING 1'-7 1/2 TO THE OVERALL LENGTH FOR LAP. THE ABOVE IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE CONTRACTING AUTHORITY.

LATEST REVISION DATE :

APPROVED BY :

STANDARD DESIGN

# CULVERT BELL JOINTS - 10' SPANS

FOR

TRIPLE REINFORCED CONCRETE BOX CULVERTS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

SEPT., 2001

TRCBJ 1-01

TRCBJ.S01 - 09-01 THIS SHEET ISSUED.

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