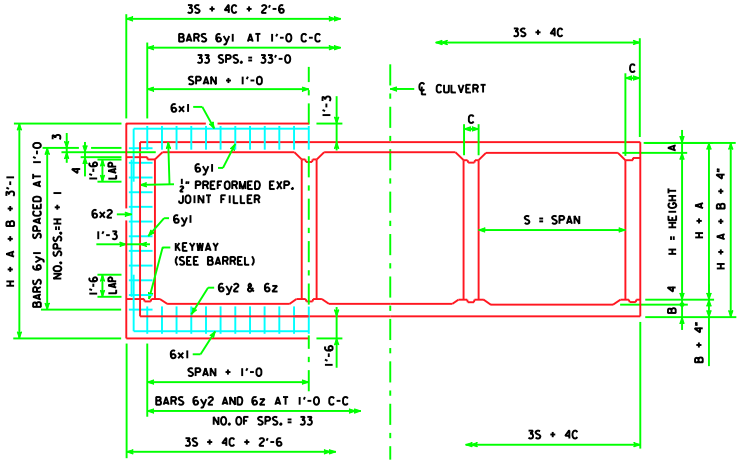
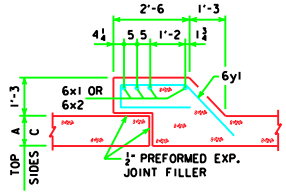


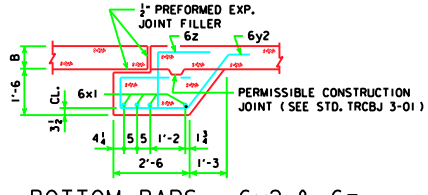
JOINT DETAIL
SECTION THRU BARREL

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	44'-3	532	8	44'-3	532	8	44'-7	536	8	45'-3	544
6x2	WALLS		8	5'-4	64	8	7'-4	88	8	9'-4	112	8	11'-4	136
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.)					1861			1933			2016			2105
TOTAL CONCRETE - CU. YD.			13.686 CU. YD.			14.264 CU. YD.			14.950 CU. YD.			15.729 CU. YD.		

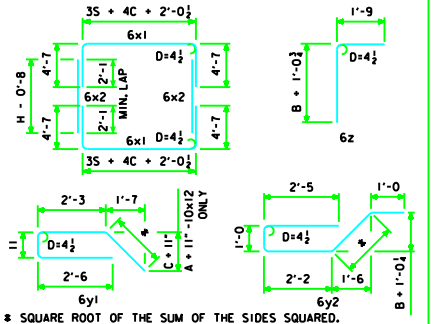


TOP AND SIDES - BAR 6y1



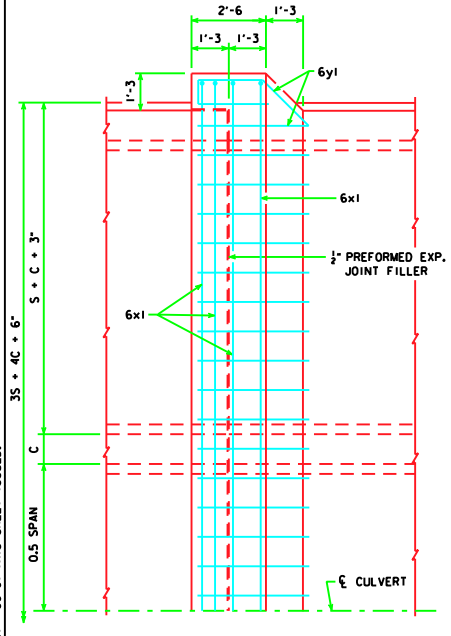
BOTTOM BARS - 6y2 & 6z

BENT BAR DETAILS

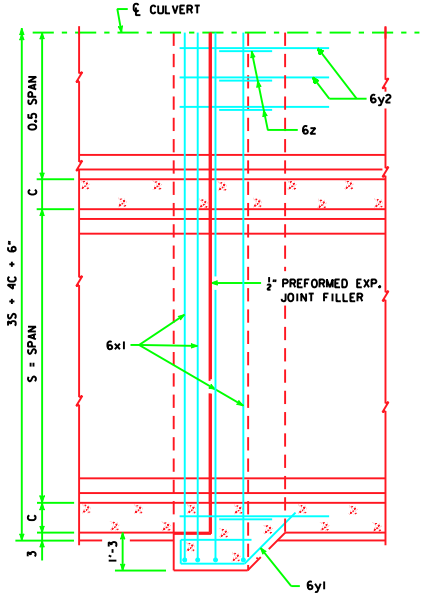


CONCRETE PLACEMENT

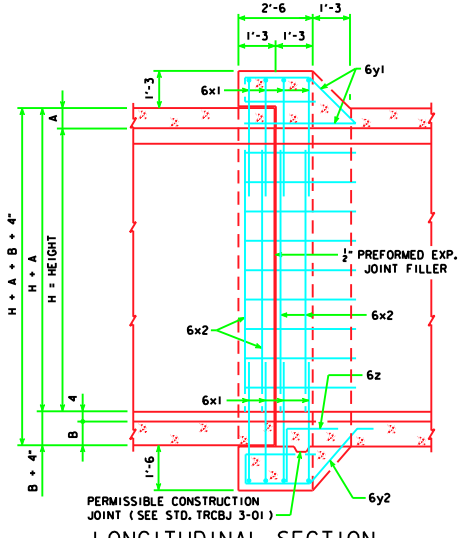
BARREL SIZE	BARREL DIMEN. A	B	C	BELL JOINT QUANTITIES (CU. YDS.) FOOTING	WALLS	SLAB
10' x 6'	10	12	9	6.597	1.640	5.449
10' x 8'	10	12	9	6.597	2.218	5.449
10' x 10'	10	12	10	6.655	2.797	5.498
10' x 12'	9½	12	12	6.771	3.376	5.582



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, 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 MAY BE FURNISHED IN TWO EQUAL LENGTHS ADDING 2'-0 TO THE OVERALL LENGTH TO OBTAIN A 2'-0 MIN. LAP. THE ABOVE IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE CONTRACTING AUTHORITY.
7. BARREL FLOOR BARS m1 ARE TO BE SHORTENED 6" AT BELL JOINTS.

LATEST REVISION DATE : 04-07

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

REVISED 04-07 - THE BAR LENGTHS OF 6x1 AND 6x2 BARS CHANGED. ADDED NOTE 7 TO BELL JOINTS NOTES.
TRCBJ 1-01 - 09-01 THIS SHEET ISSUED.