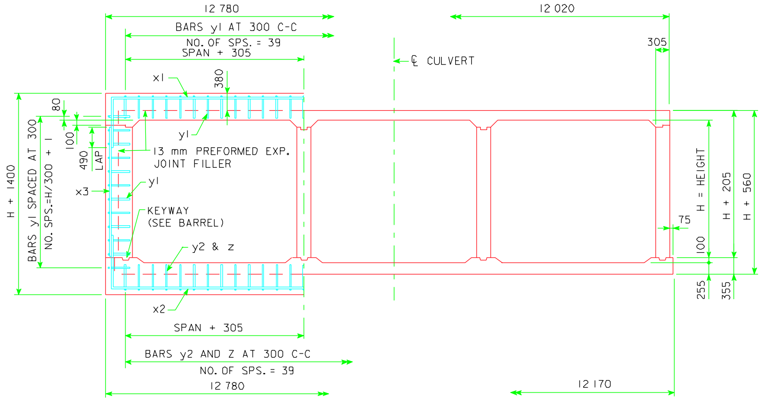
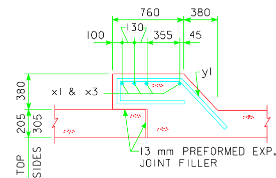


JOINT DETAIL
SECTION THRU BARREL

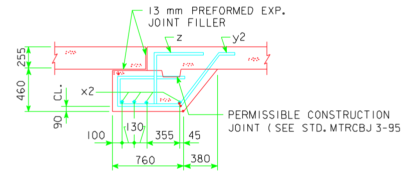
ESTIMATE OF QUANTITIES - ONE JOINT - 3600mm SPAN

BILL OF REINFORCING STEEL				3600 x 1800			3600 x 2400			3600 x 3000			3600 x 3600		
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS	NO.	LENGTH	MASS	NO.	LENGTH	MASS	NO.	LENGTH	MASS
x1	20	SLAB AND WALLS		4	15 740	148	4	15 740	148	4	15 740	148	4	15 740	148
x2	20	FLOOR AND WALLS		4	15 740	148	4	15 740	148	4	15 740	148	4	15 740	148
x3	20	WALLS		8	900	17	8	1500	28	8	2100	40	8	2700	51
y1	20	TOP AND SIDES		54	2390	304	58	2390	326	62	2390	349	66	2390	371
y2	20	BOTTOM		40	2710	255	40	2710	255	40	2710	255	40	2710	255
z	20	BOTTOM AND FLOOR		40	1000	94	40	1000	94	40	1000	94	40	1000	94
TOTAL MASS						966 kg			999 kg			1034 kg			1067 kg
TOTAL CONCRETE				11.7 m³			12.1 m³			12.5 m³			12.9 m³		



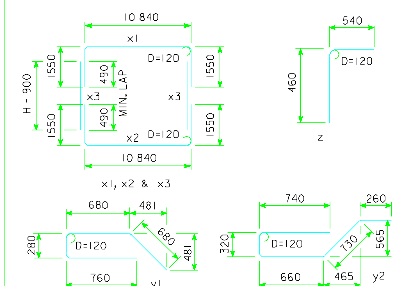
TOP AND SIDES - y1

A = SLAB THICKNESS
B = FLOOR THICKNESS
C = WALL THICKNESS



BOTTOM BARS - y2 & z

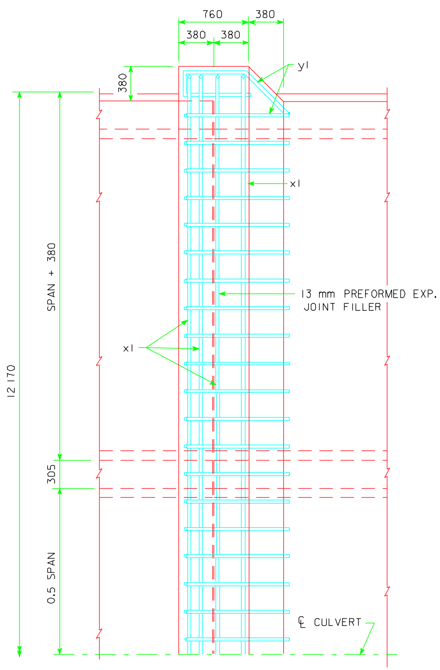
BENT BAR DETAILS



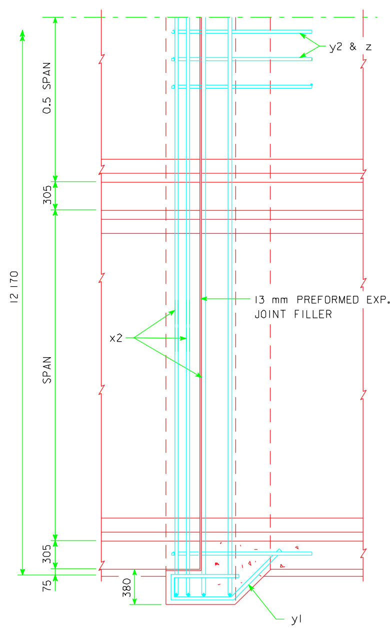
ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

CONCRETE PLACEMENT

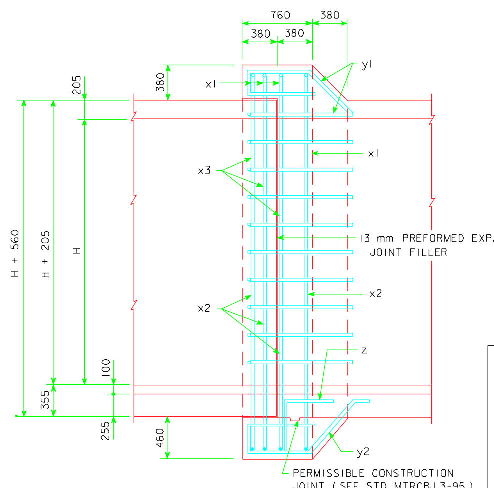
SIZE	FOOTING	WALLS	SLAB
3600x1800	5.68	1.17	4.80
3600x2400	5.68	1.60	4.80
3600x3000	5.68	2.03	4.80
3600x3600	5.68	2.46	4.80



PLAN VIEW - SLAB



PLAN VIEW - FLOOR



LONGITUDINAL SECTION

NOTES:

1. DIMENSIONS AND QUANTITIES SHOWN ARE BASED ON SLAB THICKNESS OF 205 mm, WALL = 305 mm, AND FLOOR = 255 mm.
2. CHANGE LENGTHS OF BARS x1, x2, z, 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 50 mm 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 MTRRCB-GI-94 FOR GENERAL INFORMATION, SPECIFICATIONS AND DESIGN STRESSES.
6. BARS x1 AND x2 MAY BE FURNISHED IN TWO EQUAL LENGTHS ADDING 490 mm TO THE OVERALL LENGTH FOR LAP. THE ABOVE IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE CONTRACTING AUTHORITY.

LATEST REVISION DATE : 04-02
APPROVED BY : [signature]

STANDARD DESIGN
CULVERT BELL JOINTS 3600 mm SPANS
FOR
TRIPLE REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

DECEMBER, 1994

MTRCBJ 2-94

REVISED 04-02 - ADDED PERMISSIBLE CULVERT BELL JOINT. ADDED x3 BARS TO DETAILS AND BAR LIST.
TRCBJ2M.S01

XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDGNSPEC