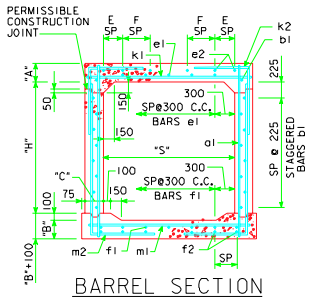
VARIABLE DIMENSIONS AND QUANTITIES FOR BARREL SECTIONS

DIMENSIONS							DIMENSIONS																														QUANTITIES				
							a1			b1			e1			e2						f1			f2			k1			m1			k2				m2				CONCRETE m³/m				STEEL
																SPACING																													
FILL	S	H	A	B	C	*D	SIZE	SP	L	SIZE	SP	NO.	SIZE	SP	NO.	SIZE	E	F	NO.	SIZE	SP	NO.	SIZE	SP	NO.	SIZE	SP	L	SIZE	SP	L	SIZE	SP	L	h	v	SIZE	SP	L	h	v	SLAB	FLOOR	WALLS	TOTAL	kg/m
0	1200	1200	245	255	230	140	15	140	1670	15	225	12	15	300	3	15	380	-	4	15	300	5	15	410	4	15	140	1560	15	210	1710	15	280	1790	1100	690	15	280	2220	690	1580	0.487	0.548	0.505	1.539	160.4
300	1200	1200	245	255	230	140	15	140	1670	15	225	12	15	300	3	15	360	-	4	15	300	5	15	410	4	15	140	1560	15	210	1710	15	280	1300	610	690	15	280	2200	670	1580	0.487	0.548	0.505	1.539	154.3
600	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	280	1560	15	210	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	157.1
900-2100	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	280	1560	15	210	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	157.1
2400-3000	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	280	1560	15	280	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	154.0
3300-3900	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	210	1560	15	210	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	159.8
4200-4800	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	210	1560	15	210	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	159.8
5100-6000	1200	1200	205	255	230	210	15	280	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	210	1560	15	280	1710	15	140	1130	540	590	15	140	2040	540	1500	0.420	0.548	0.505	1.472	156.8
6300-7500	1200	1200	205	255	230	180	15	180	1630	15	225	12	15	300	3	15	280	-	4	15	300	5	15	280	4	15	182	1560	15	140	1710	15	182	1130	540	590	15	182	2040	540	1500	0.420	0.548	0.505	1.472	161.8

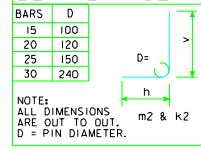
* THESE DIMENSIONS ARE CORRECT FOR 11 480 mm LONG STANDARD SECTIONS ONLY. DIMENSIONS MUST BE RECALCULATED FOR ALL OTHER SECTION LENGTHS.



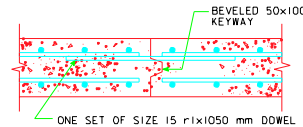
BARREL SECTION

BENT BAR DETAIL

BARS	D
15	100
20	120
25	150
30	240

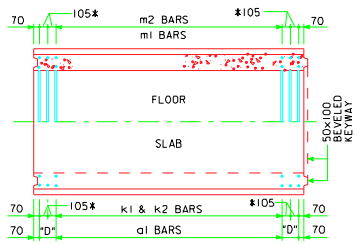


NOTE:
ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.



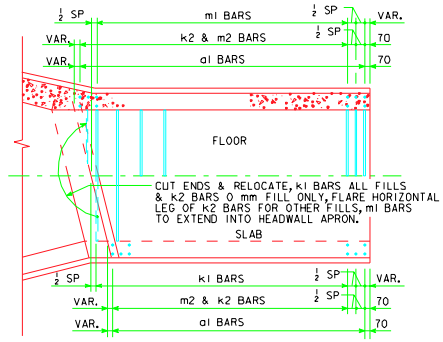
ONE SET OF SIZE 15 r1×1050 mm DOWEL BARS @ 300 mm SPACING REQUIRED IN SLAB AT ALL CULVERT BARREL JOINTS, EXCEPT JOINTS WITH BELL JOINTS. r1 BARS REQUIRED = 5, TOTAL MASS = 9 kg.

TOP SLAB CONSTRUCTION JOINT DETAIL



STANDARD SECTION PLAN VIEW

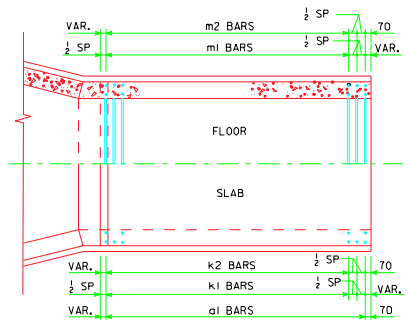
NOTE:
TYPICAL FOR LENGTHS OF 11 480 mm.
(KEYWAY IS TO BE OMITTED WHEN BELL JOINTS ARE USED)



PLAN - SKEW TYPICAL

(KEYWAY NOT SHOWN)

NOTE:
ALL LONGITUDINAL BARREL STEEL SHALL EXTEND AT LEAST TO THE BACKFACE OF PARAPET.



PLAN - 0° SKEW

(KEYWAY NOT SHOWN)

NOTES:

1. SEE SHEET MRCB-G1-95 FOR GENERAL INFORMATION, SPECIFICATIONS, AND DESIGN STRESSES.

LATEST REVISION DATE :

APPROVED BY : William A. Kneuppel

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

JULY, 1995

MRCB-1200-1-95

RCB12M1.SOI

XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXX