① STEEL ROUND PIPE
125 mm x 25 mm and 76 mm x 25 mm Corrugations

DIAMETER OF PIPE 'D'	MINIMUM COVER ABOVE PIPE	(H) Maximum Allowable Cover in Meters									
		Steel Thickness									
		1.6 mm		2.0 mm		2.8 mm		3.5 mm		4.3 mm	
mm	mm	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated
900	300	8.2	12.2	9.4	15.2	12.2	22.6	-	-	-	-
1050	300	6.4	10.4	7.0	12.8	8.8	17.7	-	-	-	-
1200	300	5.2	9.1	5.8	11.3	7.0	14.0	-	-	-	-
1350	300	4.6	8.2	4.9	9.8	5.8	11.6	-	-	-	-
1500	300	4.0	7.3	4.6	8.8	4.9	10.1	-	-	-	-
1650	300	4.0	6.7	4.0	8.2	4.6	9.1	-	-	-	-
1800	300	3.7	6.1	3.7	7.6	4.3	8.2	-	-	-	-
1950	300	3.7	5.5	3.7	7.0	4.0	7.9	-	-	-	-
2100	300	-	-	3.7	6.4	3.7	7.3	4.0	7.9	-	-
2250	300	-	-	-	-	3.7	7.3	3.7	10.7	4.0	7.9
2400	300	-	-	-	-	3.4	7.0	3.7	7.3	3.7	7.6
2550	600	-	-	-	-	-	-	3.7	7.0	3.7	7.3
2700	600	-	-	-	-	-	-	-	-	3.7	7.0
2850	600	-	-	-	-	-	-	-	-	3.4	7.0
3000	600	-	-	-	-	-	-	-	-	3.4	6.1

② STEEL ROUND PIPE
68 mm x 13 mm Corrugations

DIAMETER OF PIPE 'D'	MINIMUM COVER ABOVE PIPE	(H) Maximum Allowable Cover in Meters									
		Steel Thickness									
		1.6 mm		2.0 mm		2.8 mm		3.5 mm		4.3 mm	
mm	mm	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated
300	300	21.3	-	23.2	-	-	-	-	-	-	-
375	300	17.1	-	18.6	-	-	-	-	-	-	-
450	300	12.2	-	14.6	-	19.5	-	-	-	-	-
600	300	7.0	-	7.9	-	10.1	-	-	-	-	-
750	300	-	-	5.5	9.1	6.7	13.1	7.6	15.5	-	-
900	300	-	-	4.6	7.6	5.2	10.1	5.8	11.6	-	-
1050	300	-	-	-	-	4.3	8.5	4.9	9.4	5.2	10.4
1200	300	-	-	-	-	4.0	7.6	4.3	8.2	4.6	8.8
1350	450	-	-	-	-	3.7	7.3	4.0	7.6	4.0	7.9
1500	450	-	-	-	-	-	-	3.7	7.0	3.7	7.6
1650	450	-	-	-	-	-	-	3.4	6.7	3.7	7.0
1800	450	-	-	-	-	-	-	3.4	5.2	3.4	6.4
1950	600	-	-	-	-	-	-	-	-	3.4	5.2
2100	600	-	-	-	-	-	-	-	-	3.4	4.0

SPECIAL NOTE:

Special installations may be designed to exceed indicated maximum allowable cover by specific modification of one or more of the following conditions:

1. Bedding class
2. Pipe strength (including special design pipe)
3. Type of backfill or cover material
4. Compaction requirements for backfill or cover material
5. Controlled trench width

Where site conditions favor such modifications significant economy may result from special design installations and these should be considered. Special designs shall specify particular modifications of construction requirements or design criteria as applicable. Necessary modifications of normal requirements will not ordinarily be paid for separately but will be included in the price bid for that culvert pipe.

The maximum allowable cover values, indicated hereon for the various kind of pipe culvert installations, are design values based on current Standard and Supplemental Specifications (Class "C" Bedding and other normal conditions).

Unless specified otherwise, the Contractor may choose the type of corrugated culvert to furnish as long as the selection conforms to the limits shown on charts 1 or 2 only.

For culverts shown in elongated column, the installation shall be made in accordance with current Standard and Supplemental Specifications. Minimum allowable cover for roadway culverts H = 600 millimeters.

DESIGN CRITERIA:

These height of cover tables have been prepared from data in the "AASHTO Standard Specifications for Highway Bridges", section 12 with exceptions only as stated.

W = density of soil = 1920 kilograms per cubic meter.

CIRCULAR CORRUGATED METAL PIPE

(A) Seam strength
(B) Handling and installation strength
(C) Failure of conduit wall (buckling)
(D) Deflection of flattening

K = Soil stiffness factor = 0.55
E' = Modulus of passive earth pressure = 109 megapascals per meter.

POLYETHYLENE PIPE

1. The use of polyethylene pipe will be allowed only as specified in the contract documents.
2. Class 'B' Bedding is required when polyethylene pipe is selected for unclassified roadway culverts.
3. The maximum allowable cover for all sizes and installations of polyethylene pipe is 4.6 meters.

All dimensions given in millimeters unless noted.

M

Iowa Department of Transportation
Highway Division

STANDARD ROAD PLAN | RF-32

REVISION: Change maximum allowable cover from 3.6 meters to 4.6 meters.

REVISION NO. 7

REVISION DATE 04-18-06

Deanna Maifield
APPROVED BY DESIGN METHODS ENGINEER

METRIC VERSION

DEPTH OF COVER TABLES FOR CORRUGATED PIPE