① STEEL ROUND PIPE 3" X 1" and 5" X 1" CORRUGATIONS											
DIAMETER OF PIPE 'D' Inches	MINIMUM COVER ABOVE PIPE Inches	(H) MAXIMUM ALLOWABLE COVER IN FEET									
		16 GAGE (0.064")		14 GAGE (0.079")		12 GAGE (0.109")		10 GAGE (0.138")		8 GAGE (0.168")	
		Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated
36	12	27	40	31	50	40	74	-	-	-	-
42	12	21	34	23	42	29	58	-	-	-	-
48	12	17	30	19	37	23	46	-	-	-	-
54	12	15	27	16	32	19	38	-	-	-	-
60	12	13	24	15	29	16	33	-	-	-	-
66	12	13	22	13	27	15	30	-	-	-	-
72	12	12	20	12	25	14	27	-	-	-	-
78	12	12	18	12	23	13	26	-	-	-	-
84	12	-	-	12	21	12	24	13	26	-	-
90	12	-	-	-	-	12	24	12	35	13	26
96	12	-	-	-	-	11	23	12	24	12	25
102	24	-	-	-	-	-	-	12	23	12	24
108	24	-	-	-	-	-	-	-	-	12	23
114	24	-	-	-	-	-	-	-	-	11	23
120	24	-	-	-	-	-	-	-	-	11	20

② STEEL ROUND PIPE 2 2/3" x ½" CORRUGATIONS											
DIAMETER OF PIPE 'D' Inches	MINIMUM COVER ABOVE PIPE Inches	(H) MAXIMUM ALLOWABLE COVER IN FEET									
		16 GAGE (0.064")		14 GAGE (0.079")		12 GAGE (0.109")		10 GAGE (0.138")		8 GAGE (0.168")	
		Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated	Round	Elongated
12	12	70	-	76	-	-	-	-	-	-	-
15	12	56	-	61	-	-	-	-	-	-	-
18	12	40	-	48	-	64	-	-	-	-	-
24	12	23	-	26	-	33	-	-	-	-	-
30	12	-	-	18	30	22	43	25	51	-	-
36	12	-	-	15	25	17	33	19	38	-	-
42	12	-	-	-	-	14	28	16	31	17	34
48	12	-	-	-	-	13	25	14	27	15	29
54	18	-	-	-	-	12	24	13	25	13	26
60	18	-	-	-	-	-	-	12	23	12	25
66	18	-	-	-	-	-	-	11	22	12	23
72	18	-	-	-	-	-	-	11	17	11	21
78	24	-	-	-	-	-	-	-	-	11	17
84	24	-	-	-	-	-	-	-	-	11	13

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.

Refer to tabulation of culvert installations and other detail project plans as well as appropriate other Standard Road Plans for additional information regarding individual culvert installations.

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

Minimum allowable cover for roadway culverts H=2.0'

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 =120 lbs. per cu. ft.

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 = 400 psi per inch

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 15'-0".

Iowa Department of Transportation
Highway Division

STANDARD ROAD PLAN **RF-32**

REVISION: Change maximum allowable cover from 12' to 15'.

REVISION NO. 7

REVISION DATE 04-18-06

Deanna Maifeldt
APPROVED BY DESIGN METHODS ENGINEER

DEPTH OF COVER TABLES FOR CORRUGATED PIPE