

SELECTION GUIDE FOR CULVERT INLET AND OUTLET STRUCTURES

STRUCTURE TYPE	MATERIALS	DRAWING NUMBERS					
		PIPE CULVERT NOMINAL DIAMETER (mm)				BOX CULVERT NOMINAL HEIGHT (mm)	
		300 - 525	600 - 900	1050 - 1200	1350 - 2100	225 - 450	600 - 900
DROP INLETS	REINFORCED CONCRETE	SD 1701 (S,M,SK-S,SK-M)	SD 1701 (S,M,SK-S,SK-M)	SD 1701 (S,M,SK-S,SK-M)	SD 1701 (S,M,SK-S,SK-M)	SD 1701 (S,M,SK-S,SK-M)	SD 1701 (S,M,SK-S,SK-M)
ENDWALLS	GROUTED MASONRY	SD 1801 (S)					
	MASS CONCRETE	SD 1811 (S,M)	SD 1821 (S,M)			SD 1831 (S,M)	
DRIVEABLE ENDWALLS (LONGITUDINAL CULVERT)	REINFORCED CONCRETE	SD 1991 (S)	SD 1991 (S) (MAX DIA. 600 mm)			SD 1991 (S) (MAX WIDTH 600 mm)	
DRIVEABLE ENDWALLS (CROSS CULVERT)	REINFORCED CONCRETE	SD 1992 (S)	SD 1992 (S) (MAX DIA. 600 mm)			SD 1992 (S) (MAX WIDTH 600 mm)	
WINGWALLS	MASS CONCRETE	SD 1851 (S,M)	SD 1861 (S,M) SD 1881 (SK-S) SD 1901 (SK-M)	SD 1861 (S,M) SD 1881 (SK-S) SD 1901 (SK-M)	SD 1861 (S,M) SD 1891 (SK-S) SD 1911 (SK-M)	SD 1841 (S,M)	SD 1841 (S,M)
	REINFORCED CONCRETE	SD 1921 (S,M)	SD 1931 (S,M) SD 1941 (SK-S) SD 1951 (SK-M)	SD 1931 (S,M) SD 1941 (SK-S) SD 1951 (SK-M)	SD 1931 (S,M) SD 1941 (SK-S) SD 1961 (SK-M)	SD 1971 (S,M)	SD 1981 (S,M)


LEGEND : S : SINGLE CELL
M : MULTIPLE CELLS
SK-S : SKEW SINGLE CELL
SK-M : SKEW MULTIPLE CELLS

NOTES:

1. CULVERT INLET AND OUTLET STRUCTURES SHALL BE LOCATED ACCORDING TO THE FOLLOWING GUIDELINES TO PROVIDE A DRIVEABLE CLEAR ZONE ADJACENT TO TRAFFIC LANES :

LOCATION OF STRUCTURE (SEE SD 3501)	PIPE SIZE OR BOX CULVERT SPAN ≤ 600 mm	PIPE SIZE OR BOX CULVERT SPAN > 600 mm
WITHIN CLEAR ZONE	USE DRIVEABLE ENDWALLS (SEE SD 1991 AND SD 1992)	EXTEND THE PIPE OR BOX CULVERT TO THE EDGE OF CLEAR ZONE AND USE REINFORCED CONCRETE WINGWALLS. WARP THE BATTER AROUND THE CULVERT USING DRIVEABLE BATTER SLOPES (6:1 DESIRABLE, 4:1 MINIMUM). IF THE CULVERT CANNOT BE EXTENDED TO THE EDGE OF THE CLEAR ZONE THEN PROTECT THE STRUCTURE WITH GUARD FENCE.
OUTSIDE CLEAR ZONE	USE ANY STRUCTURE AS APPROPRIATE	

2. UNLESS SPECIFICALLY REQUESTED BY THE PROJECT MANAGER, GROUTED MASONRY ENDWALLS, AND MASS CONCRETE ENDWALLS AND WINGWALLS, SHALL NOT BE USED FOR LARGE CULVERTS (525 mm DIAMETER OR LARGER). REINFORCED CONCRETE WINGWALLS SHALL BE USED FOR LARGE CULVERTS.

E				GENERAL NOTES / CROSS REFERENCES	 PRINCIPAL ROAD DESIGN ENGINEER'S DEPARTMENT	STANDARD DRAWING					
D						CULVERT INLET AND OUTLET STRUCTURES					
C						SELECTION GUIDE					
B						APPROVED	DATE	SPEC. REF. No.	SHEET No.	DRAWING No.	AMENDMENT
A						<i>J. Cunningham</i>	12.95			SD 1700	
AMEND.	Appd.	Date		AMENDMENTS		PRINCIPAL RD ENGINEER					