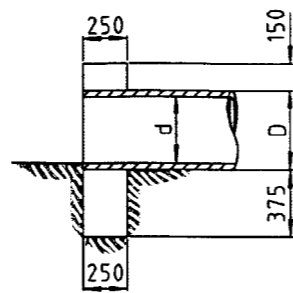
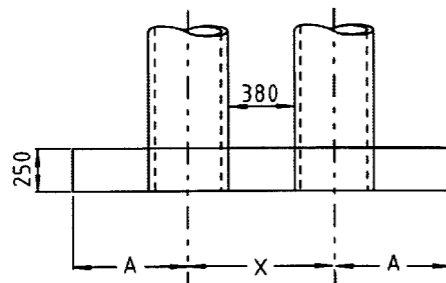


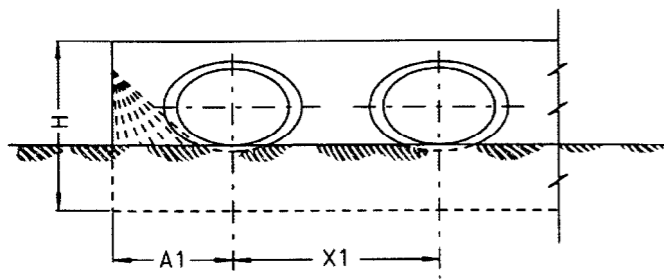
ELEVATION



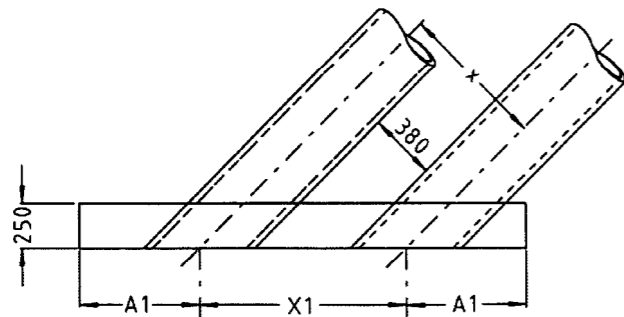
SECTION A - A



PLAN



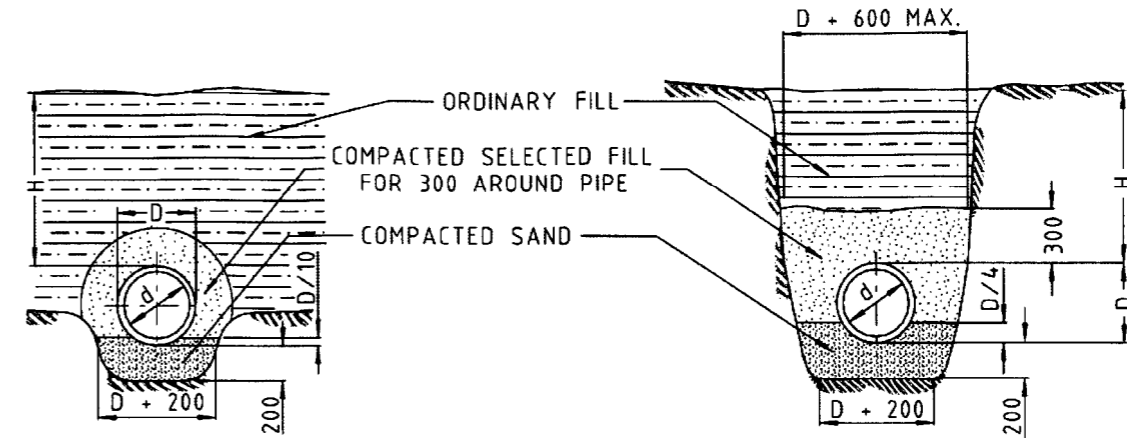
ELEVATION



PLAN

NOMINAL PIPE SIZE d	SKEW 0°					
	D	H	A	X	Q	AC
375	445	969	653	825	0.56	0.32
450	533	1058	788	913	0.72	0.37
525	616	1141	918	996	0.90	0.42
600	699	1224	1049	1079	1.09	0.47
675	781	1306	1181	1161	1.30	0.52
NOMINAL PIPE SIZE d	SKEW 15°					
	D	H	A	X	Q	AC
375	AS	AS	656	854	0.56	0.33
450	F	F	790	945	0.72	0.38
525	O	O	921	1031	0.90	0.43
600	R	R	1052	1117	1.09	0.49
675	0°	0°	1185	1202	1.30	0.54
NOMINAL PIPE SIZE d	SKEW 30°					
	D	H	A	X	Q	AC
375	AS	AS	662	953	0.55	0.37
450	F	F	799	1054	0.72	0.43
525	O	O	931	1150	0.89	0.48
600	R	R	1063	1246	1.08	0.54
675	0°	0°	1197	1341	1.29	0.60
NOMINAL PIPE SIZE d	SKEW 45°					
	D	H	A	X	Q	AC
375	AS	AS	677	1167	0.54	0.46
450	F	F	817	1291	0.71	0.53
525	O	O	952	1408	0.88	0.59
600	R	R	1087	1526	1.06	0.66
675	0°	0°	1224	1642	1.26	0.73

DESIGN DATA
 Type (B) bedding CA 33 - 1952
 Ordinary fill density = 1.92 t/m³
 Projection ratio, P = 0.7
 Settlement ratio, r = 0.6
 Vehicle loading = 1 No. h20 Truck



NOTE : DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS.

EMBANKMENT
TRENCH
BEDDING REQUIREMENTS FOR ALL DIAMETERS

HEIGHT OF FILL 'H' (m)	NOMINAL INTERNAL PIPE DIA. 'd' (mm)											
	375	450	525	600	675	750	900	1050	1200	1500	1800	1950
3.000	Y											
2.850	X	Y										
2.700	X	X	Y									
2.550	X	X	X	X								
2.400	X	X	X	X	X							
2.250	X	X	X	X	X	X						
2.100	X	X	X	X	X	X	X					
1.950	X	X	X	X	X	X	X	X				
1.800	S	X	X	X	X	X	X	X	X			
1.650	S	X	X	X	X	X	X	X	X	X		
1.500	S	X	S	S	X	X	X	X	S	S	S	
1.350	S	S	S	S	S	S	S	S	S	S	S	S
1.200	S	S	S	S	S	S	S	S	S	S	S	S
1.050	S	S	X	X	X	S	S	S	S	S	S	S
0.900	S	S	X	X	X	X	S	S	S	S	S	S
0.750	X	X	X	X	X	X	X	S	S	S	S	S
0.600	X	Y	Y	X	X	X	X	S	S	S	S	S
0.450	Y	Y	Y	Y	Y	X	X	X	S	S	S	S
0.300	Y	Y	Y	Y	Y	Y	Y	X	X	X	S	S

TABLE OF PIPE CLASSES IN EMBANKMENT

NOTES

FOR OTHER DESIGN CONDITIONS THE PIPE CLASS SHOULD BE CALCULATED FOLLOWING THE A.S. CA 33 PROCEDURES.

Q = CUBIC METRES OF CONCRETE REQUIRED FOR TWO HEADWALLS FOR FIRST CELL.

AC = CUBIC METRES OF CONCRETE REQUIRED FOR EACH ADDITIONAL CELL.

ALL CONCRETE SHALL BE STRENGTH GRADE N20 TO AS3600.

ENDWALLS FOR BOX CULVERTS

BACKFILL AROUND THE CULVERT FOR THE FULL WIDTH OF THE TRENCH, AND FOR A MIN. 300mm ABOVE THE TOP OF CULVERT, OR TO SUBGRADE SURFACE IF LESS, WITH SELECT FILL.

BACKFILL THE REMAINDER OF THE TRENCH WITH STANDARD FILL.

STABILISE ALL BACKFILL WITH 2% CEMENT BY MASS AND COMPACT TO 95% MMDD.

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No.	DESCRIPTION	DATE	INIT.
3.	BACKFILL NOTE UPDATED.	03/2004	K.S.
2.	DRAWING CONVERTED TO ELECTRONIC FORMAT & DEPARTMENT LOGO CHANGED	02/2003	K.S.
1.			

DRAWN	CHECKED
DATE	DATE
DESIGNED	CHECKED
DATE	DATE
DESIGN PROJECT LEADER <i>Blanch</i>	PROJECT OFFICER <i>P. J. Hill</i>
DATE 1/04/2004	DATE 1/04/2004

Northern Territory Government
 Department of Planning and Infrastructure

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
		1 OF 1	C(S)1102-3		A1