



TABLE 1	
STRUCTURE TYPE	PIT DEPTH
BGT	1800-3600
DGT	3600-7200

TABLE 2		
LINER Ø	MAX. Ø PIPE CONNECTING TO LINER	CONVERSION SLAB
NOM. Ø1050	NOM. Ø525	NOT REQUIRED
NOM. Ø1200	NOM. Ø600	NOT REQUIRED
NOM. Ø1500	NOM. Ø750	TYPE T3
NOM. Ø1800	NOM. Ø900	TYPE T2
NOM. Ø2250	NOM. Ø1050	TYPE T1

NOTES

GENERAL

1. INVERT LEVELS AND REFERENCE POINT DATA ARE SPECIFIED IN THE DESIGN DRAWINGS.
2. INLET/OUTLET PIPES MAY JOIN STRUCTURE AT SKEW ANGLES.
3. THIS STRUCTURE IS NOT APPROPRIATE FOR DIRECT CONNECTION TO WATER CORPORATION DRAIN UNLESS PROVIDED WITH SILT TRAP OR INCOMING SURFACE DRAINAGE HAS BEEN 'TRAPPED' UPSTREAM.
4. FOR INFORMATION RELATING TO GROUND PREPARATION OF STRUCTURES REFER TO MAIN ROADS SPECIFICATION NO. 405 DRAINAGE STRUCTURES.

CONCRETE & REINFORCEMENT

5. ALL IN-SITU CONCRETE SHALL BE CLASS N32 IN ACCORDANCE WITH AS 1379.
6. ALL IN-SITU CONCRETE CORNERS SHALL HAVE A 20 CHAMFER UNLESS OTHERWISE NOTED.
7. CEMENT MORTAR SHALL CONSIST OF ONE PART PORTLAND CEMENT (OR SIMILAR) AND THREE PARTS SAND.
8. SL81 REINFORCEMENT SHALL CONFORM WITH HARD DRAWN FABRIC TO AS/NZS 4671.
9. MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 50.

LINER

10. THE PRECAST LINER SHALL BE REINFORCED CONCRETE TO AS/NZS 4058 AND TO SPECIFICATION 405.
11. THE MAXIMUM INLET/OUTLET PIPE OUTSIDE DIAMETER MUST BE LESS THAN 60% OF THE LINER INTERNAL DIAMETER. SEE TABLE 2.
12. MINIMUM SPACE OF 200 BETWEEN HOLES IN LINER.
13. MINIMUM OF 40% OF LINER SHALL REMAIN IN ANY HORIZONTAL PLANE.
14. HOLES TO BE PUNCHED/CUT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION.
15. THE LINER SHALL HAVE EQUIVALENT PROPERTIES AND REINFORCEMENT OF CLASS 2 RCP EXCEPT THAT THE REINFORCEMENT SHALL BE CIRCULAR.
16. ALL GAPS AND VOIDS BETWEEN AND/OR AROUND THE LINER AND COVER SLAB SHALL BE SEALED WITH N32 CONCRETE. DENSO PAVING TAPE SHALL BE USED WHERE THE CONCRETE IS UNDER THE ROAD SEALED SURFACE. REFER TO DWG NO. 200231-122 FOR DETAILS.

STEP IRONS

17. BGT & DGT STRUCTURES SHALL BE FITTED WITH STEP IRONS OR A PREFABRICATED STEEL LADDER. THE LADDER SHALL BE FIXED WITH STAINLESS STEEL MASONRY ANCHORS IN ACCORDANCE WITH AS 1657.
18. ORIENTATE STEP IRONS OR LADDER TO ENABLE EASY ACCESS AND TO FACE ONCOMING TRAFFIC.
19. WHERE STRUCTURE DEPTH IS MORE THAN 6.0m A LADDER CAGE SHOULD BE FITTED AS PER AS 1657 CLAUSE NO. 7.4.7.

BRICKWORK

20. BRICKWORK TO BE REINFORCED EVERY THIRD COURSE WITH ANCON AMR/G/D4.0/W150 OR SIMILAR APPROVED TYPE A CAVITY WALL TIE IN ACCORDANCE WITH AS/NZS 2699.1 AND AS 3700.
21. BRICKWORK SHALL BE 230X110X76 NOMINAL SIZE, SOUND, HARD, WELL BURNED AND TRUE TO SHAPE AND DIMENSIONS AND SHALL BE OF 'EXPOSURE' DURABILITY CLASS IN ACCORDANCE WITH AS/NZS 4455.1
22. BRICKWORK SHALL BE SOLID AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa IN ACCORDANCE WITH AS/NZS 4455.1.

OPEN GRADED ASPHALT

23. REFER TO DRAWING 200231-122 IF OPEN GRADED ASPHALT IS USED FOR THE FINISHED SURFACE.

SUPERSEDED DRAWINGS

24. THIS DRAWING SUPERSEDES DRAWINGS 9831-5043 & 9831-5045

DRAWING REFERENCES

STRUCTURE SELECTION GUIDE	200231-084
COVER TYPE GT (RECTANGULAR)	200231-105
COVER TYPE GT (ROUND)	200231-106
CONVERSION SLAB TYPE T1	200231-113
CONVERSION SLAB TYPE T2	200231-114
CONVERSION SLAB TYPE T3	200231-115
STEP IRON DETAILS	200231-116
GRATE AND FRAME	200231-118
PIT SILT TRAP (IF REQUIRED)	200231-121

ALL UNITS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

No.	DESCRIPTION	APPROVED & DATE	No.	DESCRIPTION	APPROVED & DATE
4.	PLAN AND SECTION "A" AMENDED, NOTE 10 & NOTE 20 AMENDED, NOTE 16 ADDED.	T. FREEMAN 16.02.16			
3.	SECTION "A" AMENDED.	T. FREEMAN 7.10.15			
2.	SECTION "A" AMENDED.	T. FREEMAN 08.04.14			
1.	NOTE 18. ADDED				
AMENDMENTS			AMENDMENTS		



DRAINAGE STANDARD DRAWINGS

BGT & DGT STRUCTURES
CONSTRUCTED WITH LINERS

DESIGNED / DRAWN	VERIFIED
ROAD AND TRAFFIC ENGINEERING BRANCH	J. KARPINSKI 11.02.03
DRAWING TYPE	APPROVED
FILE NUMBER	R. GROVE 11.02.03
9906	
9900	
DRAWING NUMBER	67-08-52
200231-096-4	

SCALE NOT TO SCALE

DATE

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