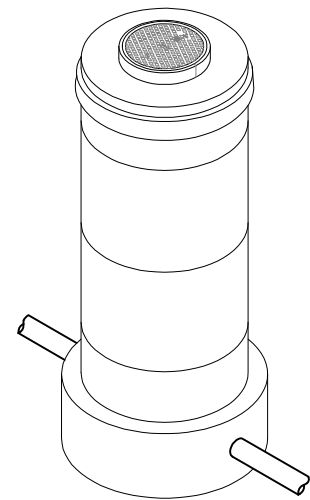
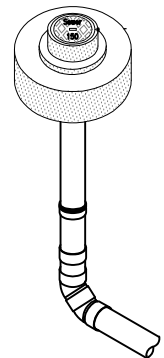


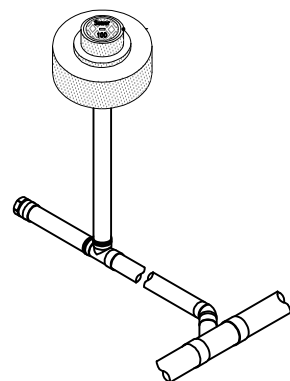
CONTINUED FROM 4005-20002-01



MAINTENANCE HOLE
(TYPICAL)



INSPECTION OPENING
(TYPICAL)



INSPECTION POINT
(TYPICAL)

10. MAINTENANCE HOLES:

- ALL COMPONENTS SHALL BE OBTAINED FROM THE SAME MANUFACTURER (PRECAST LID, RINGS, SLABS, SHAFTS & JOINT SEALANT).
- PRECAST CONCRETE SHAFTS SHALL NOT BE SAWCUT.
- PRECAST COMPONENTS ARE AVAILABLE IN VARIOUS HEIGHTS TO ASSIST IN ACHIEVING THE REQUIRED FINISHED SURFACE LEVEL.
- THE FSL SHALL BE ACHIEVED BY A COMBINATION OF SHAFTS SECTIONS, CONVERSION SLABS & ADJUSTMENT RINGS.
- THE CONSTRUCTOR SHALL DETERMINE THE COMBINATION OF ITEMS REQUIRED TO ACHIEVE THE REQUIRED FSL PRIOR TO PLACEMENT OF THE BUTT SHAFT INCREMENT.
- FOR SLOPING & DIFFICULT LOCATIONS, THE PLACEMENT OF CONVERSION SLABS & ADJUSTMENT RINGS TO ACHIEVE THE FSL SHALL BE ACHIEVED USING APPROVED TECHNIQUES AS DEPICTED ON 4005-20005-04. WHERE THE CONTRACTOR IS UNCERTAIN CONCERNING THE PERMISSIBLE COMBINATION OF CONVERSION SLABS & ADJUSTMENT RINGS, DIRECTION SHALL BE SOUGHT FROM THE SA WATER REPRESENTATIVE.
- SHAFT SECTION JOINTS, CONVERSION SLABS & ADJUSTMENT RINGS SHALL BE JOINED & SEALED BY AN APPROVED SEALANT. REFER 4005-20005-03.

11. MAINTENANCE SHAFTS:

- ALL MAINTENANCE SHAFTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH 4005-20005-10, 4005-20005-11 & 4005-20005-12.
- REFER 4005-20005-12 FOR INFORMATION ON VARIO BENDS & ASSOCIATED FITTINGS.

12. INSPECTION OPENINGS:

- ALL INSPECTION OPENINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH 4005-20005-02.

13. PROPERTY CONNECTIONS:

- ALL CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SCM SECTION 6 DRAWINGS.

14. EASEMENTS

- ALL SEWERS AND SEWER APPURTENANCES SHALL NORMALLY BE LOCATED IN ROADWAYS IN ACCORDANCE WITH THE REQUIREMENTS OF THE "SERVICES IN STREET CODE".
- REFER 4005 - 20004 - 01 FOR ALLOCATION OF SPACE IN NEW DIVISIONS.
- ONLY WHERE IT IS NEITHER PRACTICAL OR POSSIBLE TO LOCATE SEWERS IN ROADWAYS, DUE TO TOPOGRAPHICAL OR BACKFILL CONSTRAINTS, SEWERS MAY BE LOCATED IN EASEMENTS TAKEN SPECIFICALLY FOR THAT PURPOSE.
- SA WATER EASEMENTS MAY ONLY BE SHARED WITH STORMWATER PIPES.

- OTHER AUTHORITIES AND UTILITIES, ARE NOT PERMITTED TO SHARE THE SA WATER SEWER EASEMENT TO ACCOMMODATE THEIR RESPECTIVE ASSETS.
- FOR MINIMUM HORIZONTAL CLEARANCE BETWEEN THE OUTSIDE FACE OF THE SEWER AND AN EXISTING OR PROPOSED BUILDING OR STRUCTURE REFER 4005-20002-01, TABLE 1.

UNDER NO CIRCUMSTANCES SHALL THE SEWER AND STORMWATER PIPELINE ARRANGEMENTS SHOWN IN SKETCH 1 BE ALTERED, RESULTING IN THE SEWER BEING CLOSER THAN THE PRESCRIBED DISTANCE FROM THE ALLOTMENT BOUNDARY / EDGE OF EASEMENT.

CATEGORIES OF EASEMENTS:

- EASEMENT REQUIREMENTS ARE DIVIDED INTO TWO CATEGORIES (REFER TABLE 3 & SKETCH 1):

TABLE 3
EASEMENT CATEGORIES

DEPTH TO INVERT (m)	PIPE SIZE	WIDTH (m)	LOCATION	CATEGORY 1 NOT SHARED	CATEGORY 2 SHARED EASEMENT	
					LOCATION	
					D1 (m) (REFER SKETCH 1)	D2 (m) (REFER SKETCH 1)
≤ 1	DN150 & DN225	2.5	CENTRAL (*)		-	MIN 1.2
		3.0	-		1.0	
	DN300	5.0	CENTRAL (*)		1.5	
1 TO 3.3	DN150 & DN225	3.0	CENTRAL		-	MIN 1.5
		4.0	-		1.5	
	DN300	5.0	CENTRAL		1.5	
> 3.3	DN150 & DN225	4.0	CENTRAL		-	MIN 1.5
		5.0	-		2.0	
	DN300	5.0	CENTRAL		-	
		6.0	-		2.0	

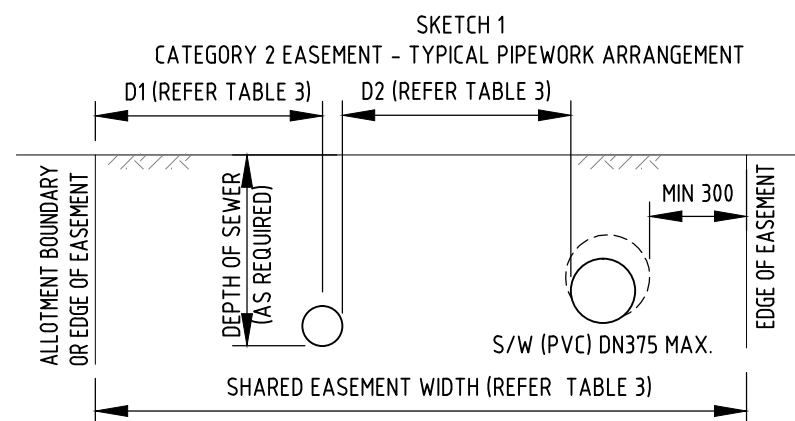
(* WHERE THERE ARE IMMOVABLE OBSTACLES ALONG THE CENTERLINE OF THE SEWER EASEMENT, OR ENCROACHING UPON THE EASEMENT (EG. NEARBY TREES) AND THE SEWER DESIGN TO INVERT IS LESS THAN OR EQUIVALENT TO 1.0 m, OFF THE EASEMENT BOUNDARY THAT IS MOST DISTANT FROM ANY BUILDING OR PROPOSED BUILDING.



FOR THE FOLLOWING SPECIAL SITUATIONS, SA WATER SHALL DETERMINE EASEMENT WIDTHS (AND PIPELINE ALIGNMENTS WITHIN EASEMENTS), ON A CASE BY CASE BASIS:

- WHERE SITE SPECIFIC CONDITIONS WARRANT ADDITIONAL EVALUATION (EG. EXCESSIVE DEPTH OF SEWER, ANGLE OF REPOSE CONSIDERATIONS, DIFFICULT ACCESS REQUIREMENTS ETC.)
- FOR STORMWATER PIPELINES GREATER THAN DN375.
- WHERE BUTT JOINED CONCRETE STORMWATER PIPES ARE USED:
 - LEAKAGE FROM THE STORMWATER PIPES INTO SINGLE SIZE GRANULAR SEWER EMBEDMENT MEDIA IS VERY LIKELY, THEREBY UNNECESSARILY EXACERBATING THE EXISTING 'TRENCH' DRAIN EFFECT ASSOCIATED WITH SEWERS.
 - REPLACING A SECTION OF SEWER ADJACENT TO A DISCONTINUOUS STORMWATER PIPELINE (EG. BUTT JOINED CONCRETE PIPES) IS UNNECESSARILY DIFFICULT AND EXPENSIVE, REQUIRING SPECIAL SIDE SUPPORT FOR THE INDIVIDUAL CONCRETE PIPE LENGTHS.

REFER THE SA WATER SUPPLEMENT TO WSA 02-2014, CLAUSE 5.2.8 FOR PROVISION OF EASEMENTS REQUIREMENTS.

FOR ADDITIONAL NOTES REFER 4005-20002-03 & 4005-20002-01.



REVISION PANEL						DESIGN PANEL			<div></div> <div>This drawing is the property of the SOUTH AUSTRALIAN WATER CORPORATION and shall not be copied or modified in part or in whole without authorization.</div>	SA WATER STANDARD DRAWINGS SEWER CONSTRUCTION MANUAL			<div>A3</div> <div>SHT SIZE</div>	1 REVISION	
REV	DATE	DRN	DETAILS	APR	CURRENT REV	DESIGNED: 03/08/15	AUTHORISED: 31/03/16	TOTAL SHEETS: 3							
					AUTHORISED:	RJP	T.GALEK	SUPERSEDES:							
					SIGNATURE:	DRAWN: 25/09/15	SIGNATURE:	DRAWING NUMBER							
						MS		4005-20002-02							
1	31/03/16	MS	2016 STANDARDS REVIEW	TG		REVIEWED: 21/03/16		GENERAL NOTES		PREFIX	NUMBER	SHEET			
						TG		SHEET 2 OF 3							