

NOTES:

1. SA WATER DOCUMENTATION :
AUTHORISED DOCUMENTATION COMPRISES:
 - WATER SERVICES ASSOCIATION OF AUSTRALIA (WSAA) CODES,
 - GRAVITY SEWERAGE CODE OF AUSTRALIA, WSA02-2014.
 - SEWAGE PUMPING STATION CODE OF AUSTRALIA, WSA04-2005.
 - VACUUM SEWERAGE CODE OF AUSTRALIA, WSA06-2008.
 - PRESSURE SEWERAGE CODE OF AUSTRALIA, WSA07-2007.
 - SA WATER SUPPLEMENTARY DOCUMENTATION TO EACH WSAA CODE.
 - SA WATER CONSTRUCTION MANUAL DRAWINGS.
 - SA WATER ENGINEERING STANDARDS & GUIDELINES.
 - SA WATER AUTHORISED ITEMS FOR USE WITH EACH CATEGORY.
2. ORDER OF PRECEDENCE.
WHERE SA WATER PROVIDES SPECIFIC DETAIL, IT'S DRAWINGS AND DOCUMENTS TAKE PRECEDENCE OVER THAT ASPECT OF THE RELEVANT WSAA CODE.
3. AUTHORISED ITEMS:
 - SA WATER HAS PRODUCT CATALOGUES IDENTIFYING SPECIFIC PRODUCTS APPROVED FOR USE.
 - ONLY ITEMS INCLUDED IN THESE CATALOGUES SHALL BE USED WITHIN THE RETICULATION SYSTEMS.
 - SHOULD A PROJECT REQUIRE AN ITEM NOT CONTAINED WITHIN THE CATALOGUES, APPROVAL SHALL BE SOUGHT FROM SA WATER FOR THE SPECIFIC ITEM.
4. SA WATER REPRESENTATIVE:
THE CONTRACTOR SHALL SEEK APPROVAL FOR:
 - NONCONFORMITY WITH THE SA WATER DRAWINGS.
 - DEVIATION FROM THE APPROVED DESIGN DRAWINGS.
 - UNFORESEEN SITE FACTORS IMPACTING THE PROPOSED LOCATION OF THE SA WATER INFRASTRUCTURE.
5. EXCAVATION:
 - ALL EXCAVATION WORK SHOULD BE UNDERTAKEN IN SUCH A MANNER AS TO MINIMISE RISK TO WORKERS AND OTHERS. AT ALL TIMES SAFE WORK PRACTICES SHALL BE IMPLEMENTED THAT AS A MINIMUM REQUIREMENT COMPLY WITH THE REQUIREMENTS OF RELEVANT LEGISLATION AND INDUSTRY GUIDELINES INCLUDING BUT NOT LIMITED TO:
 - THE WORK HEALTH AND SAFETY ACT 2012 (SA),
 - THE WORK HEALTH AND SAFETY REGULATIONS 2012 (SA),
(SPECIFICALLY CHAPTER 6, DIVISION 3 - EXCAVATION WORK.)
 - SAFE WORK AUSTRALIA'S EXCAVATION WORK CODE OF PRACTICE.
 - SA WATER RESERVES THE RIGHT TO REVIEW SAFE WORK PRACTICES UNDERTAKEN BY ALL CONTRACTORS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.
6. EMBEDMENT & BACKFILL:
 - EXCAVATION OF TRENCH, EMBEDMENT AROUND PIPES & MAINTENANCE STRUCTURES & CONNECTIONS, AND TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH 4005-20003-01.
 - ONLY MATERIALS APPROVED FOR PLACEMENT WITHIN TRENCHES & EXCAVATIONS SHALL BE USED.
 - FOR GEOTECHNICAL AND GROUNDWATER REQUIREMENTS REFER 4005-20003-02.
7. CONCRETE
 - ALL IN-SITU CONCRETE SHALL BE IN ACCORDANCE WITH TS68, CLAUSE 2.1.

8. OBSTRUCTIONS & CLEARANCE REQUIREMENTS:
 - FOR MINIMUM HORIZONTAL & VERTICAL CLEARANCE BETWEEN SA WATER INFRASTRUCTURE AND OTHER AUTHORITY PIPES/ CABLES REFER WSA02, TABLE 5.4.
 - CLEARANCE FROM PROPOSED STRUCTURES:
FOR THE MINIMUM HORIZONTAL CLEARANCE BETWEEN THE PROPOSED PIPE EDGE AND A PROPOSED WALL OR BUILDING. REFER TABLE 1.

TABLE 1

SEWER DIAMETER AND DEPTH	CLEARANCE TO WALL OR BUILDING (mm)
DN150 & DN225 (<3.3 m DEEP)	1500 *
DN150 & DN225 (>3.3 m DEEP)	2000 *
DN300 & DN375	2500 *

* BASED UPON EASEMENT WIDTH REQUIREMENT SHOWN IN TABLE 3, 4005-20002-02

- CLEARANCE FROM EXISTING STRUCTURES:
MINIMUM HORIZONTAL CLEARANCE BETWEEN THE PROPOSED PIPE EDGE AND AN EXISTING WALL OR BUILDING SHALL BE DISTANCE EQUIVALENT TO THE GREATER OF:
 - THE DEPTH OF THE SEWER TRENCH PLUS HALF THE TRENCH WIDTH, OR
 - A MINIMUM OF 1.5 m.
 - REDUCED CLEARANCES ARE POSSIBLE IF THE BUILDING FOOTINGS ARE FOUNDED ON PIERS EXTENDING TO AT LEAST THE INVERT LEVEL OF THE SEWER. PRIOR TO PROCEEDINGS WITH THE DESIGN THE CONSULTANT SHALL APPROACH SA WATER FOR APPROVAL OF ANY REDUCED CLARENCE.
9. CLEARANCE FROM TREES:
 - CLEARANCE BETWEEN PIPES AND TREES SHALL BE THE GREATER OF THE FOLLOWING TWO CONDITIONS:
 - MINIMUM 15 m LATERAL CLEARANCE BETWEEN THE PIPE EDGE AND THE TRUNK OF A MATURE SMALL TREE, OR
 - LARGE CLEARANCES (COVERING MANY TREE TYPES) AS DETERMINED BY THE SA WATER "TREE PLANTING GUIDE.
 - NOTE: WHERE IT IS NOT POSSIBLE TO ACHIEVE REQUIRED LATERAL CLEARANCE FROM TREES, BORING SHOULD BE CONSIDERED.
10. COLD BENDING OF PVC PIPE
 - COLD BENDING OF PVC PIPE IS PERMITTED FOR HORIZONTAL AND VERTICAL CURVES.
 - COLD BENDING OF THE PIPE BARREL SHALL BE PERFORMED MANUALLY (NOT MECHANICALLY).
 - ALL BENDING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
 - COLD BENDING SHALL NOT BE PERFORMED WHEN THE AMBIENT TEMPERATURE IS LESS THAN 5° C.
 - BRANCH SEWERS AND CONNECTIONS SHALL NOT BE LOCATED ON A CURVE.
 - PERMISSIBLE HORIZONTAL CURVE LENGTH AND VERTICAL CURVE LENGTH - REFER TABLE 2.

TABLE 2

DEFLECTION (ANGLE OR %)		MINIMUM CURVE LENGTH	
HORIZONTAL	VERTICAL	Ø150 mm	Ø225 mm
UP TO 10°	UP TO 18%	6 m	12 m
10° TO 22°	18% TO 40%	12 m	24 m

FOR ADDITIONAL NOTES REFER 4005-20002-02 & 4005-20002-03

REVISION PANEL					DESIGN PANEL			SA WATER STANDARD DRAWINGS SEWER CONSTRUCTION MANUAL		A3 SHT SIZE		1 REVISION	
REV	DATE	DRN	DETAILS	APR	CURRENT REV	DESIGNED: 03/08/15	AUTHORISED: 31/03/16	 <p>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.</p>		TOTAL SHEETS: 3		4005-20002-01	
					RJP	T.GALEK	SUPERSEDES:						
					DRAWN: 25/09/15	SIGNATURE:	DRAWING NUMBER						
					MS		PREFIX						
1	31/03/16	MS	2016 STANDARDS REVIEW	TG	REVIEWED: 21/03/16	TG		SHEET 1 OF 3		NUMBER	SHEET		