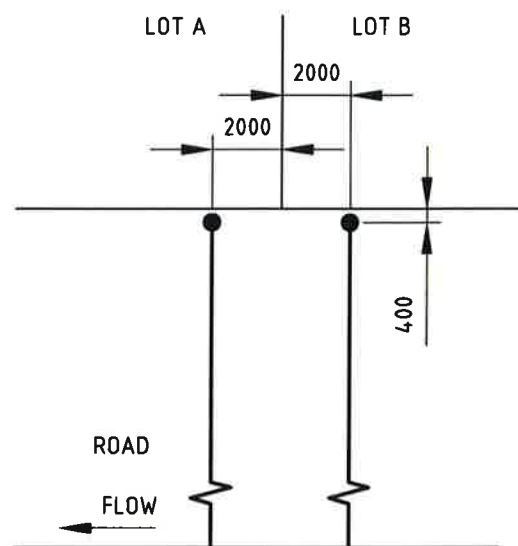
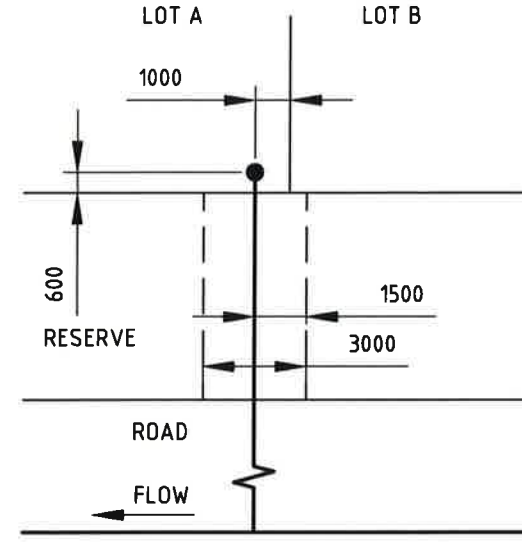


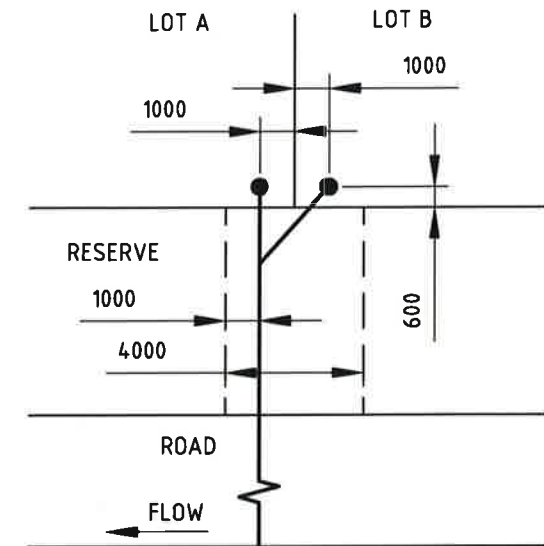
**STANDARD CONNECTION
IN ROADWAY**



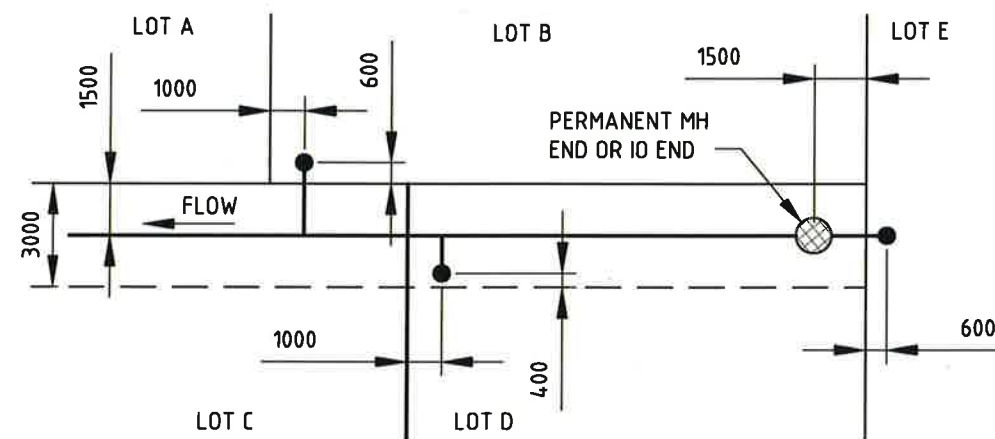
**STANDARD CONNECTION
ALLOTMENT FRONTAGE < 8m**
REFER 4005-20004-03



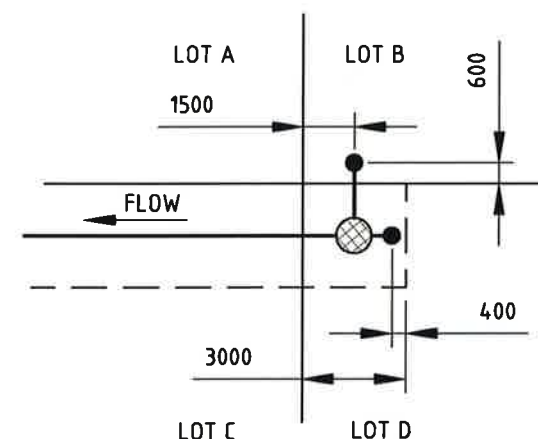
**SINGLE CONNECTION THROUGH
BUFFER RESERVE**



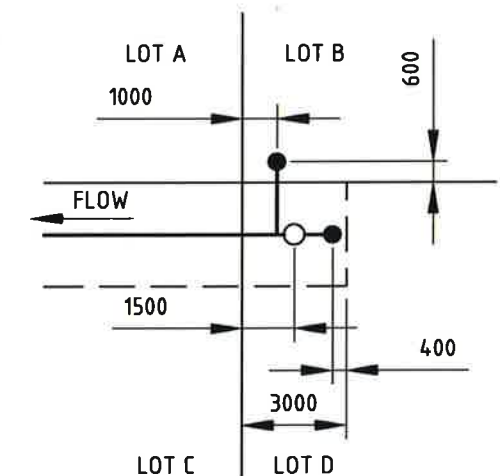
**Y CONNECTION THROUGH BUFFER
RESERVE**



STANDARD CONNECTION IN EASEMENT



**TWO CONNECTIONS OFF PERMANENT MH
OR MS END IN EASEMENT**





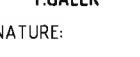
**TWO CONNECTIONS OFF PERMANENT IO END
IN EASEMENT**

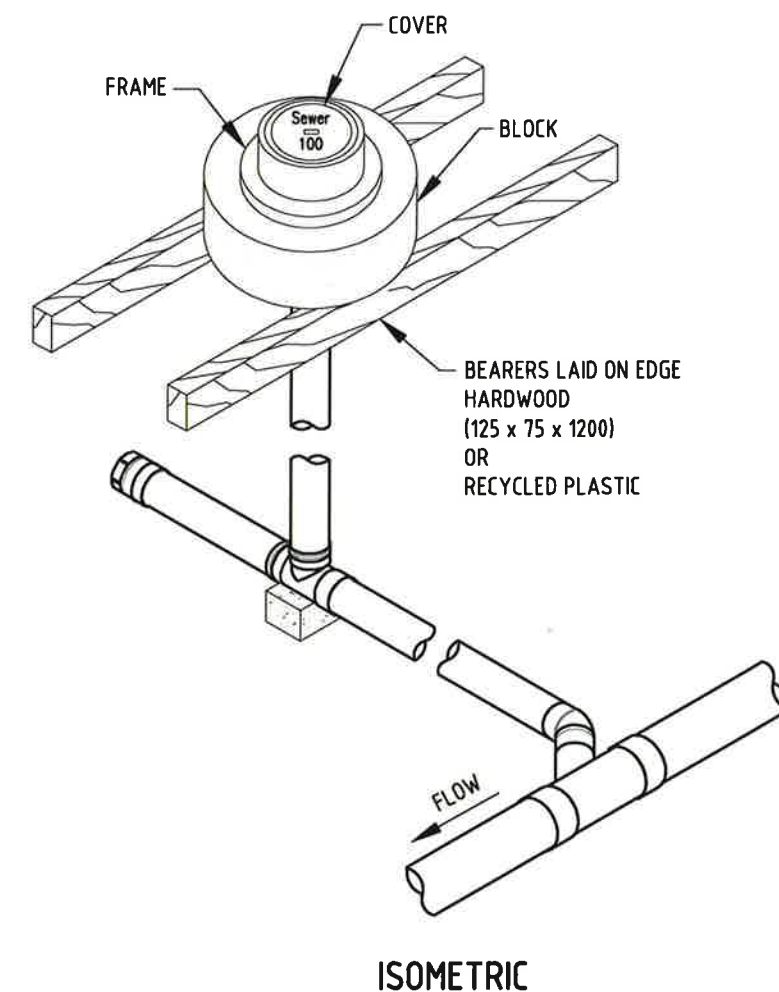
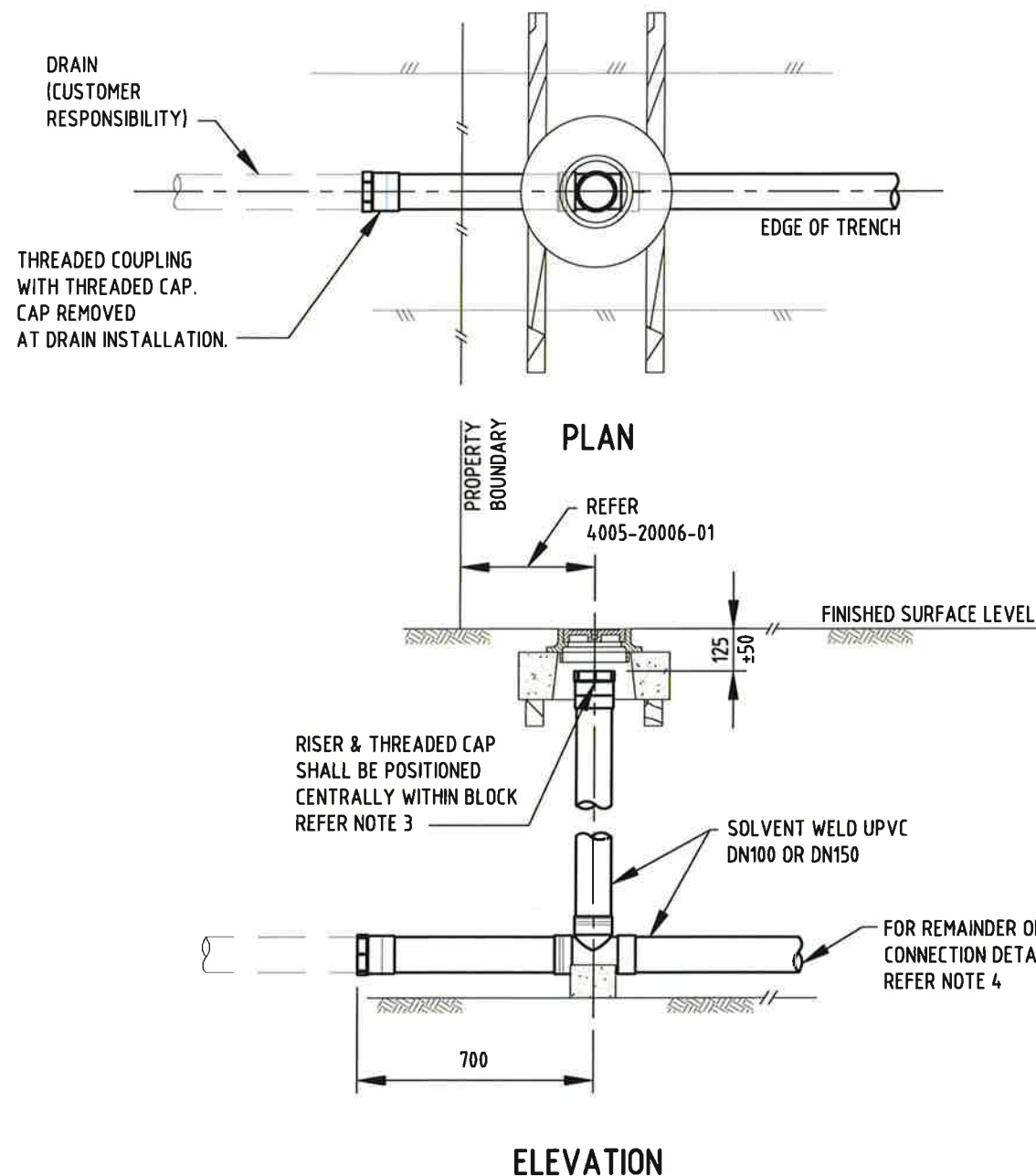
LEGEND

●	INSPECTION POINT IP	←	SEWER MAIN
○	INSPECTION OPENING IO	—	LOT BOUNDARY
⊗	MAINTENANCE HOLE MH	- - -	EASEMENT BOUNDARY

NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. REFER 4005-20005-01 FOR POSITION OF MAINTENANCE STRUCTURES.
3. AT TEMPORARY MH/ IO ENDS, CONNECTIONS SHALL BE POSITIONED TO AVOID CONFLICT WITH FUTURE EXTENSIONS OF SEWER.
4. WHERE EXISTING STRUCTURES INFLUENCE POSITION OF THE CONNECTION, THE STANDARD BOUNDARY OFFSET MAY BE ALTERED TO SUIT STRUCTURES/ SERVICES IMPACTING CONNECTION POSITION.
5. ALL CHANGES SHALL BE APPROVED BY SA WATER REPRESENTATIVE.
6. ALL DIMENSIONS ARE IN MILLIMETRES.


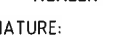
REVISION PANEL					DESIGN PANEL		<div> SA Water Government of South Australia</div> <div>This drawing is the property of the  SOUTH AUSTRALIAN WATER CORPORATION and shall not be copied or modified in part or in whole without authorization.</div>	SA WATER STANDARD DRAWINGS SEWER CONSTRUCTION MANUAL POSITIONING OF PROPERTY CONNECTIONS		A3 SHT SIZE	1 REVISION
REV	DATE	DRN	DETAILS	APR	CURRENT REV AUTHORISED:	DESIGNED: 03/08/15 RJP		AUTHORISED: 31/03/16 T.GALEK	TOTAL SHEETS:		
						DRAWN: 25/09/15 MS		SIGNATURE: 	SUPERSEDES: 94-0164-01 (K1)		
					SIGNATURE:	REVIEWED: 21/03/16 TG			DRAWING NUMBER		
1	31/03/16	MS	2016 STANDARDS REVIEW	TG					4005-20006-01	PREFIX NUMBER SHEET	

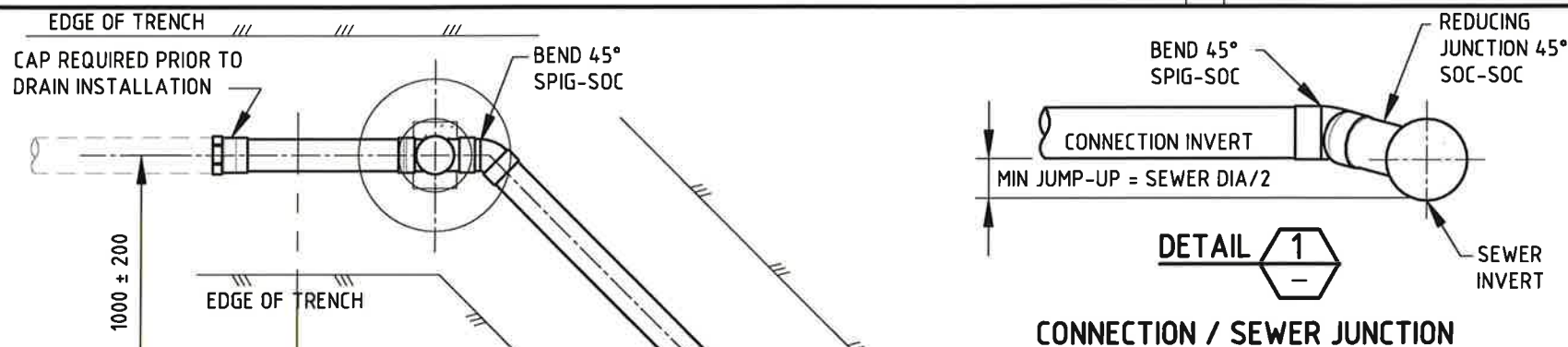


NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. REFER 4005-20006-03 FOR TYPICAL SEWER CONNECTION DETAILS.
3. DURING COMPACTION OF THE CONCRETE BLOCK, THE COVER & FRAME SHALL BE REMOVED. THE CONTRACTOR SHALL ENSURE THE BLOCK DOES NOT MOVE TO IMPEDE FUTURE ACCESS TO THE THREADED CAP.
4. REFER SECTION 6 FOR MORE ALTERNATIVES TO THE STANDARD CONNECTION ASSEMBLY.
5. ALL DIMENSIONS IN MILLIMETRES.

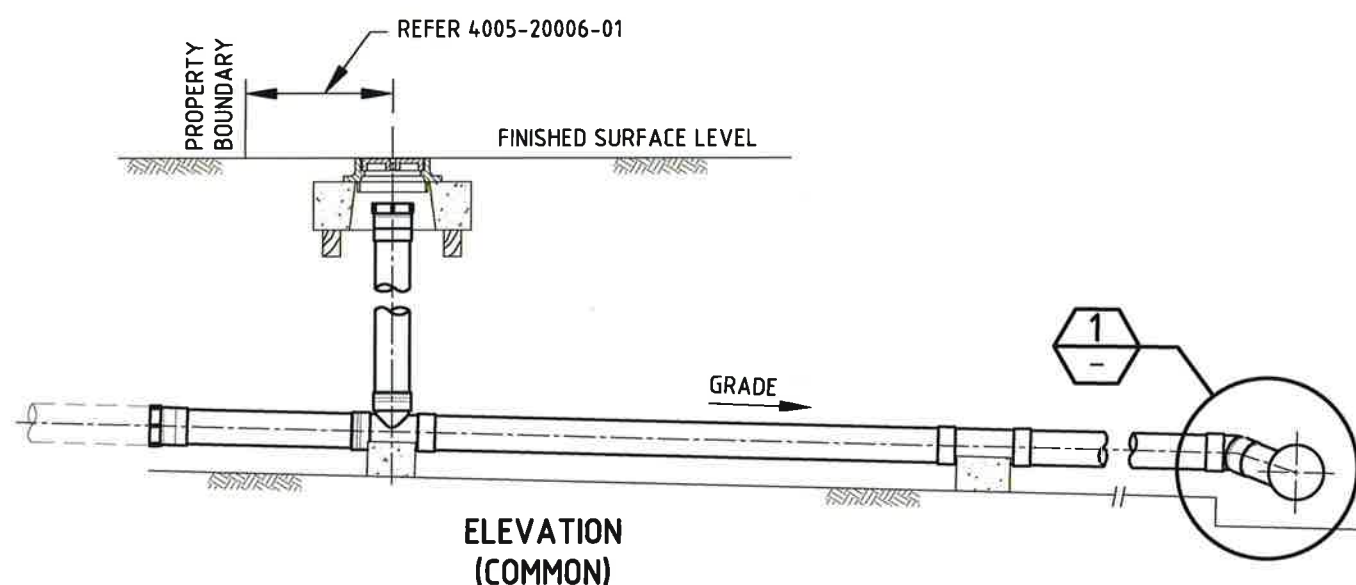
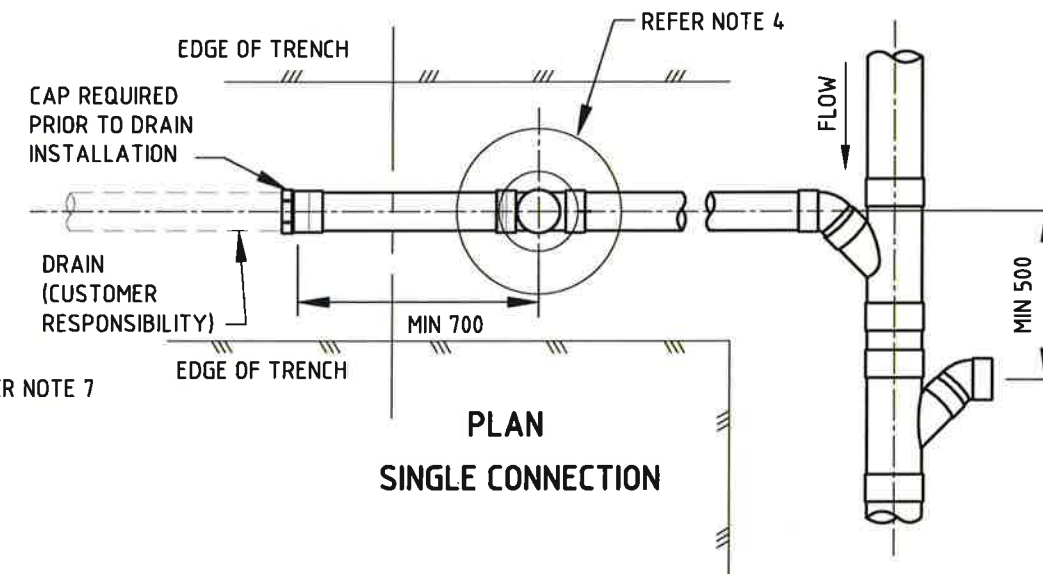
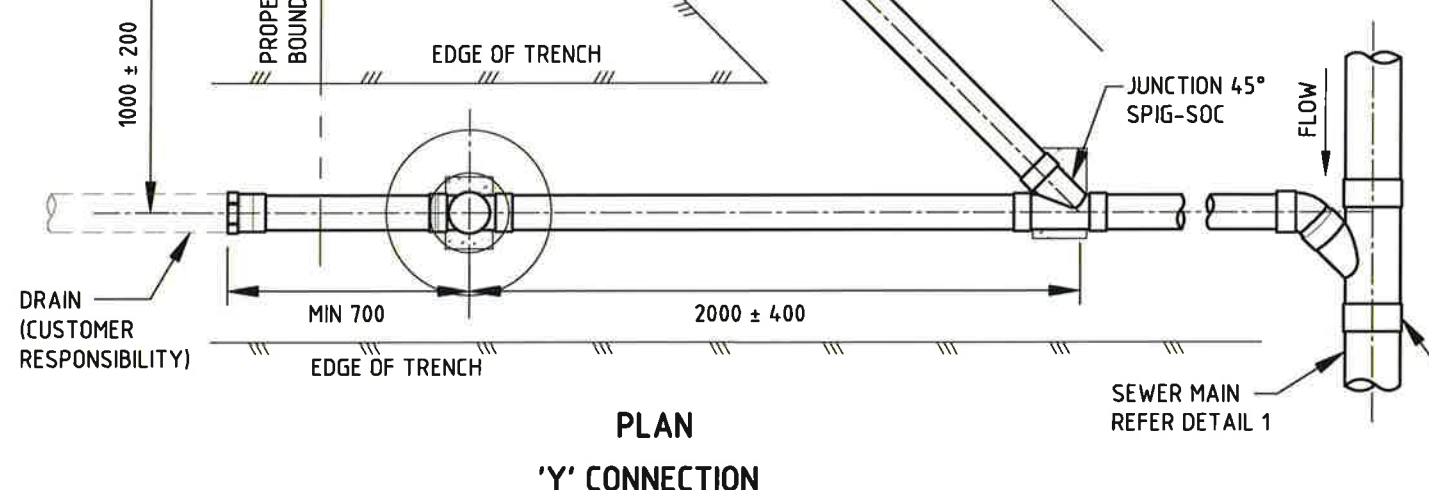
INSPECTION POINT DEPTH TABLE		
CATEGORY	MIN	MAX
RESIDENTIAL	1400	2600
INDUSTRIAL / COMMERCIAL	1400	3500

REVISION PANEL					DESIGN PANEL		<div><p>SA Water</p><p>Government of South Australia</p></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 INSPECTION POINT TYPICAL DETAILS			A3		1												
REV		DATE		DRN		DETAILS					APR		CURRENT REV		AUTHORISED:		DESIGNED: 03/08/15		AUTHORISED: 31/03/16		SHT SIZE		REVISION		
																	RJP		T.GALEK						
																	DRAWN: 25/09/15		SIGNATURE:						
																	MS								
																REVIEWED: 21/03/16		TG							
1		31/03/16		MS		2016 STANDARDS REVIEW				TG															



SEWER CONNECTION MINIMUM GRADES		
DN	STANDARD MIN. GRADE	ABSOLUTE MIN. GRADE (SUBJECT TO APPROVAL)
100	2.0	2.0
150	1.0	0.8

REFER NOTE 5



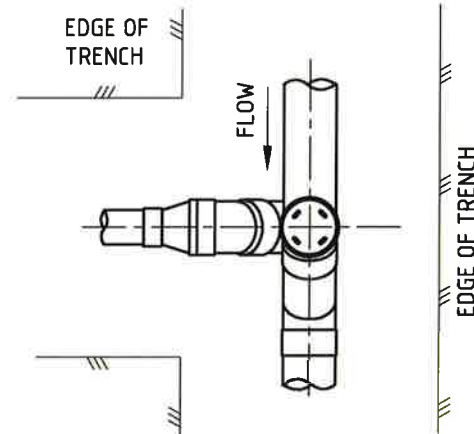
NOTES:

- REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
- THE CONNECTION POINT SHALL BE LOCATED IN ACCORDANCE WITH SCM SECTION 6 AND THE APPROVED DESIGN DRAWINGS.
- SHOULD SITE FACTORS IMPACT THE DESIGNED IP LOCATION, APPROVAL OF THE SA WATER REPRESENTATIVE SHALL BE SOUGHT FOR THE NEW LOCATION. THE REVISED LOCATION SHALL BE SHOWN ON THE 'AS CONSTRUCTED' DRAWINGS.
- REFER 4005-20006-02 FOR IP PIPEWORK AND COVER DETAILS.
- ABSOLUTE MINIMUM GRADES:
 - ARE ONLY PERMITTED IF THERE IS SUFFICIENT GRADE TO MAINTAIN SELF CLEANSING VELOCITY (SCV).
 - FLOW CALCULATIONS CONFIRMING SCV SHALL BE PROVIDED TO SA WATER REPRESENTATIVE FOR REVIEW AND APPROVAL.
- Y CONNECTION SHALL NOT BE USED FOR ALLOTMENTS <8m WIDE. REFER NOTES 4005-20004-04.
- REFER 4005-20006-09 FOR NEW CONNECTION OFF EXISTING VC PIPE.
- ALL DIMENSIONS IN MILLIMETRES.

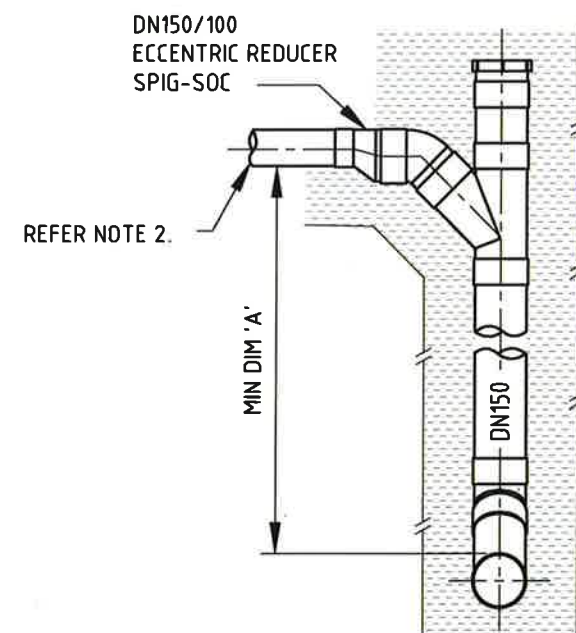
REVISION PANEL					DESIGN PANEL		SA Water		SA WATER STANDARD DRAWINGS		A3	1
REV	DATE	DRN	DETAILS	APR	CURRENT REV	AUTHORISED:	DESIGNED:	31/03/16	SEWER CONSTRUCTION MANUAL		SHT SIZE	REVISION
							RJP	T.GALEK	STANDARD CONNECTION			
							DRAWN:	25/09/15	SINGLE AND 'Y' TYPE			
							MS					
							REVIEWED:	21/03/16				
							TG					
1	31/03/16	MS	2016 STANDARDS REVIEW	TG								

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TOTAL SHEETS:
SUPERSEDES: K3, K4
DRAWING NUMBER
4005-20006-03
PREFIX NUMBER SHEET

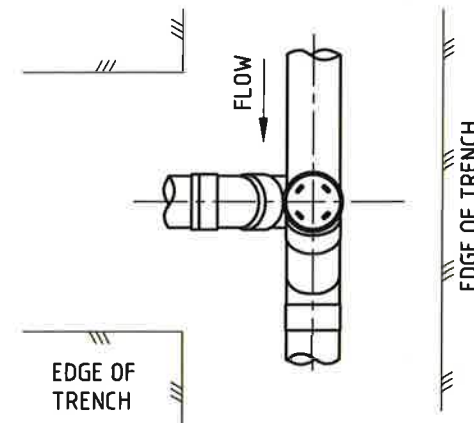


PLAN

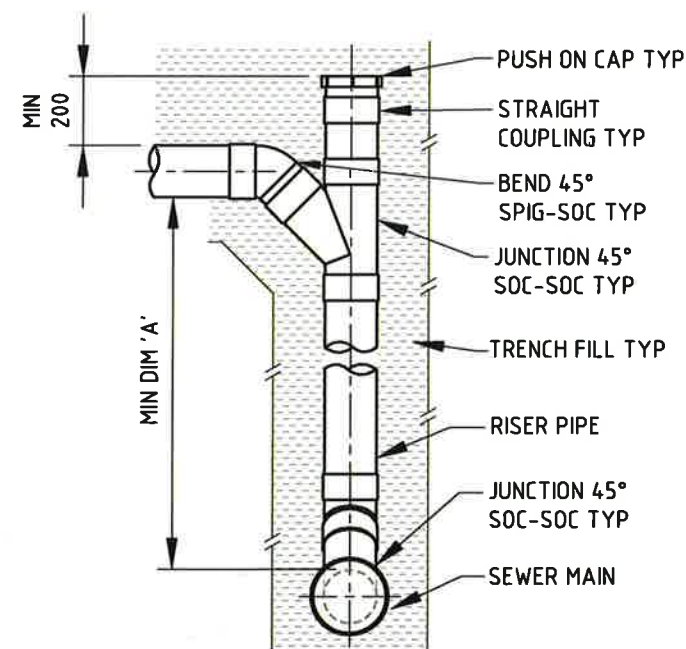


ELEVATION
RISER FOR DN100
SINGLE CONNECTION

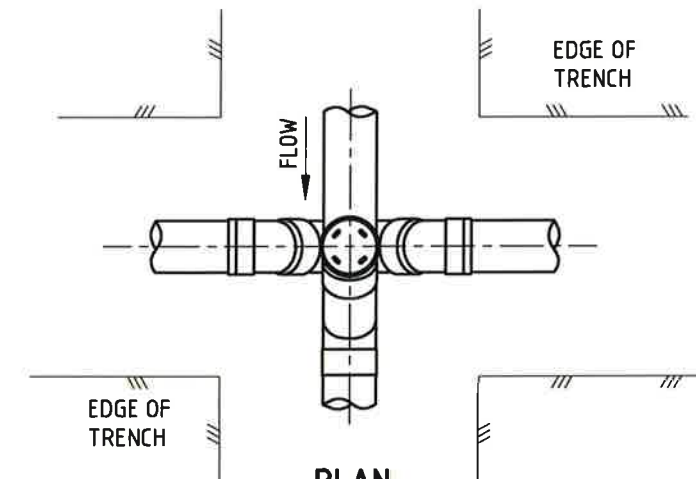
DROP DIMENSIONS		
DN	MIN 'A'	MIN 'B'
100	600	450
150	600	450



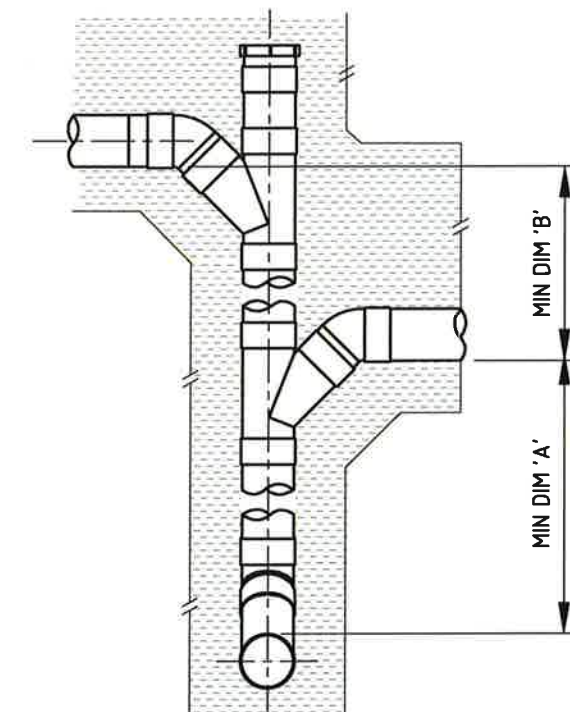
PLAN



ELEVATION
RISER FOR DN150
SINGLE CONNECTION



PLAN



ELEVATION
RISER FOR DUAL
CONNECTION

NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. REFER 4005-20006-03 FOR TYPICAL SEWER CONNECTION DETAILS.
3. REFER SECTION 6 FOR MORE ALTERNATIVES TO THE STANDARD CONNECTION ASSEMBLY.
4. ALL DIMENSIONS IN MILLIMETRES.

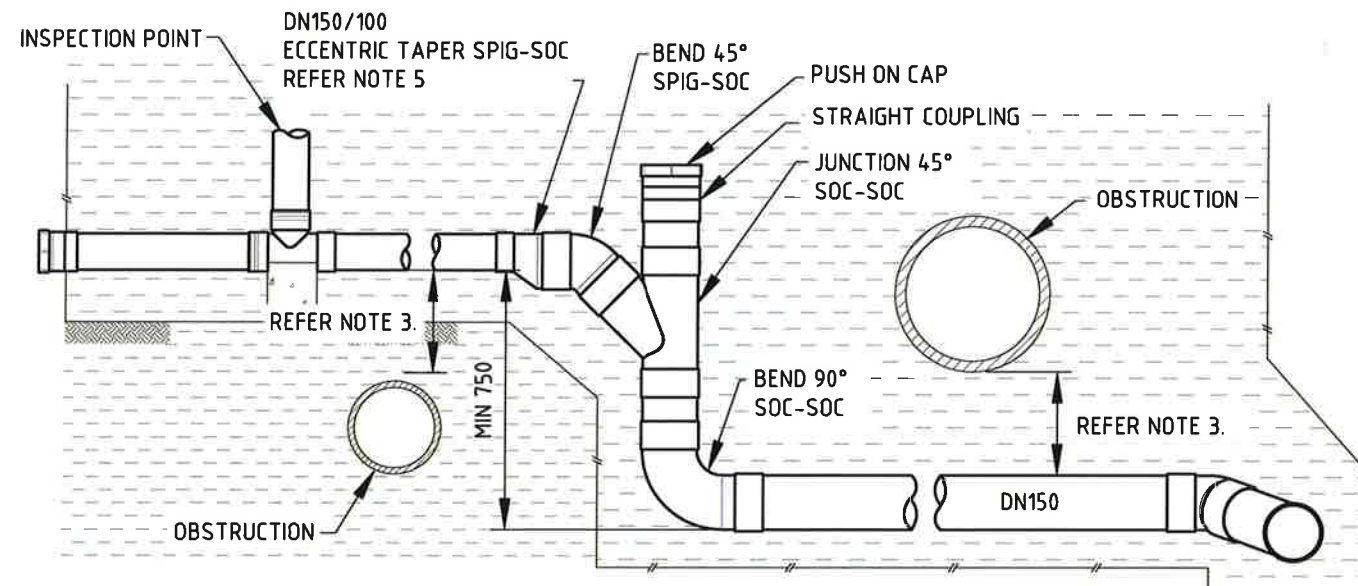
REVISION PANEL				
REV	DATE	DRN	DETAILS	APR
1	31/03/16	MS	2016 STANDARDS REVIEW	TG

DESIGN PANEL	
DESIGNED: 03/08/16 RJP	AUTHORISED: 31/03/16 T.GALEK
DRAWN: 25/09/15 MS	SIGNATURE: <i>T. Galek</i>
REVIEWED: 21/03/16 TG	


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 in part or in whole without authorization.

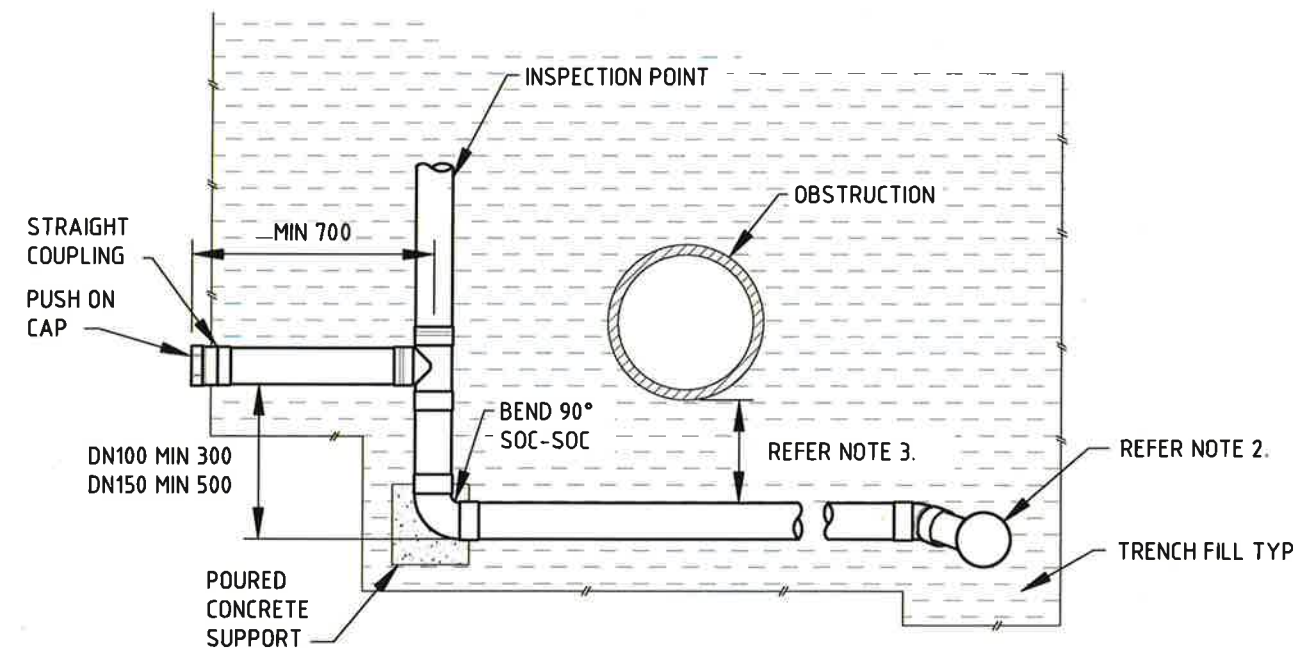
SA WATER STANDARD DRAWINGS
SEWER CONSTRUCTION MANUAL
PROPERTY CONNECTION
WITH VERTICAL RISER

A3	1
SHT SIZE	REVISION
TOTAL SHEETS:	
SUPERSEDES: 94-0164-05 (K5)	
DRAWING NUMBER	
4005-20006-04	
PREFIX	NUMBER SHEET



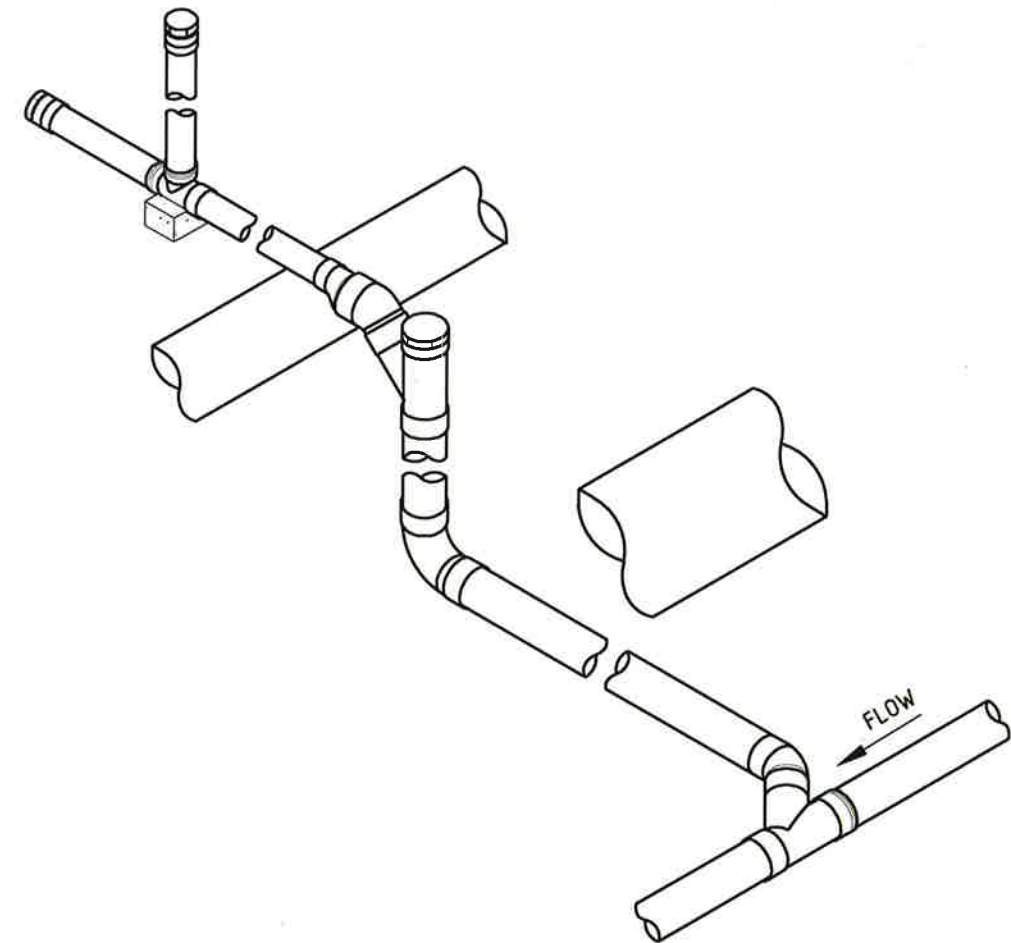
ELEVATION

DOUBLE OBSTRUCTION WITH INTERMEDIATE RISER



ELEVATION


SINGLE OBSTRUCTION



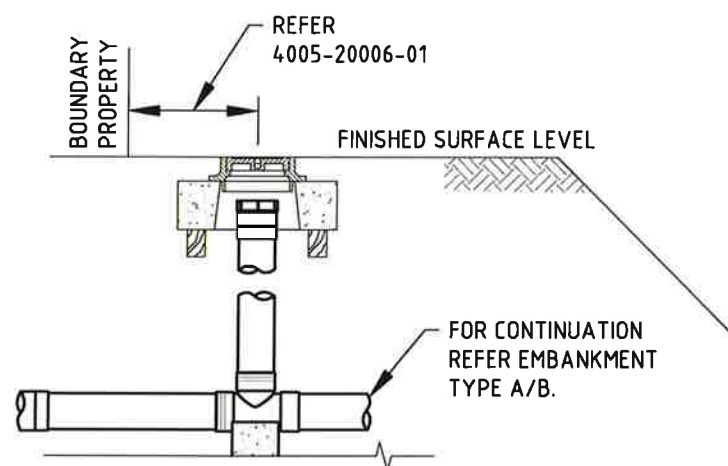
ISOMETRIC

NOTES:

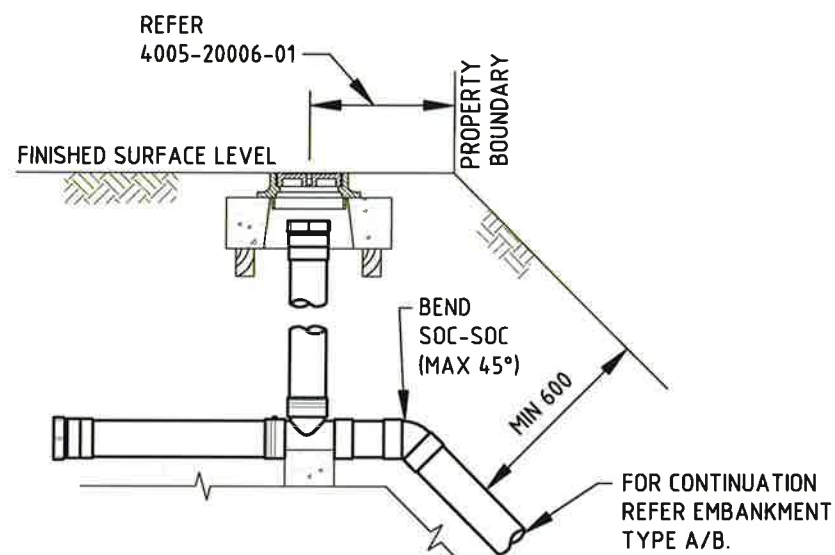
1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. REFER 4005-20006-03 FOR TYPICAL SEWER CONNECTION DETAILS.
3. REFER WSA02 TABLE 5.4 FOR MINIMUM CLEARANCE DIMENSION FROM OBSTRUCTION.
4. AN INTERMEDIATE RISER SHALL ONLY BE USED WHERE OBSTRUCTIONS PRECLUDE THE USE OF A STANDARD CONNECTION. THE USE OF AN INTERMEDIATE RISER SHALL BE APPROVED BY THE SA WATER REPRESENTATIVE.
5. FOR A DN150 CONNECTION USING THE INTERMEDIATE RISER OPTION, THE ECCENTRIC TAPER IS NOT REQUIRED.
6. ALL DIMENSIONS IN MILLIMETRES.

REVISION PANEL					DESIGN PANEL		 <p>SA Water</p> <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>	SA WATER STANDARD DRAWINGS			A3	1
REV	DATE	DRN	DETAILS	APR	CURRENT REV	AUTHORISED:		SEWER CONSTRUCTION MANUAL			SHT SIZE	REVISION
								PROPERTY CONNECTION				
								WITH INTERMEDIATE RISER				
1	31/03/16	MS	2016 STANDARDS REVIEW	TG								

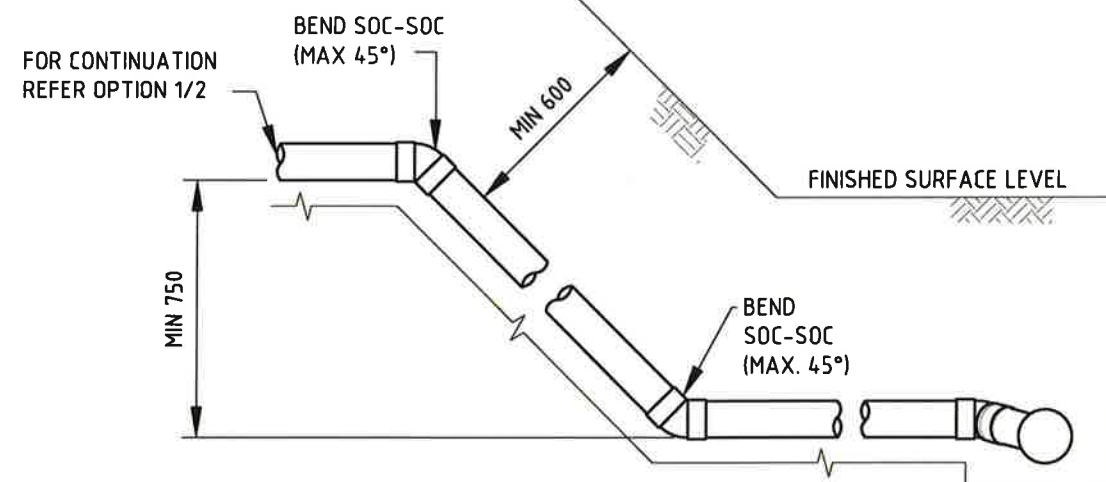
TOTAL SHEETS:	
SUPERSEDES: K6, K7	
DRAWING NUMBER	4005-20006-05
PREFIX	NUMBER
	SHEET



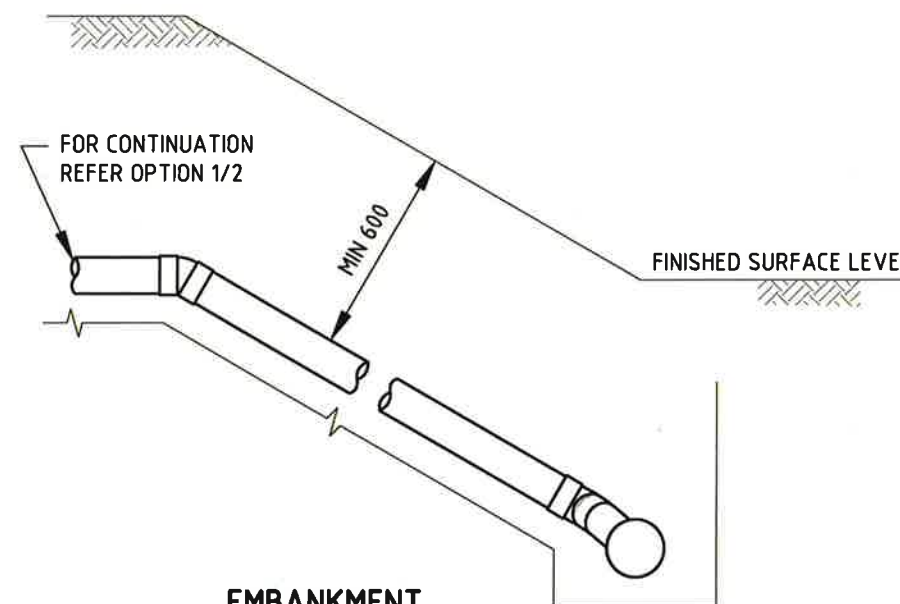
OPTION 1
IP OUTSIDE PROPERTY BOUNDARY



OPTION 2
IP WITHIN ALLOTMENT BOUNDARY




EMBANKMENT
TYPE A

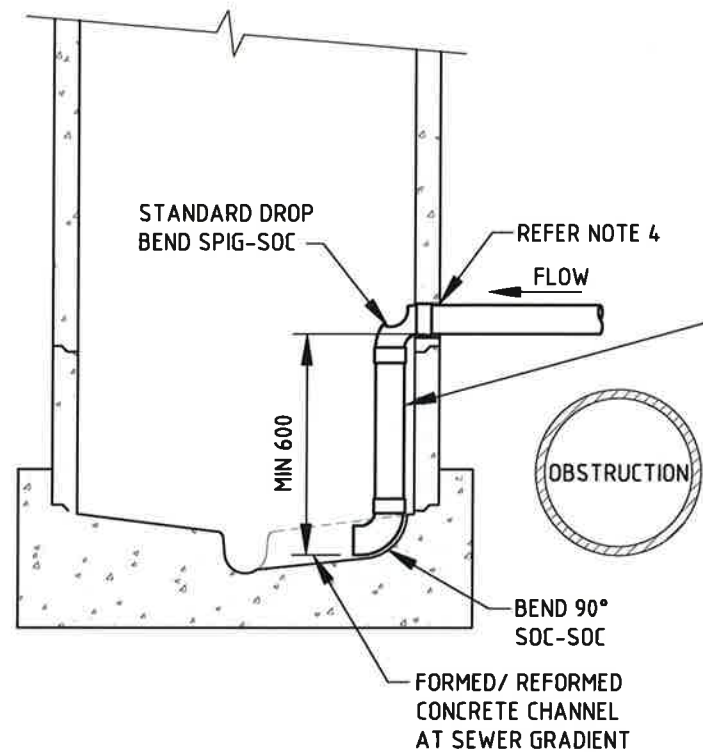


EMBANKMENT
TYPE B

NOTES:

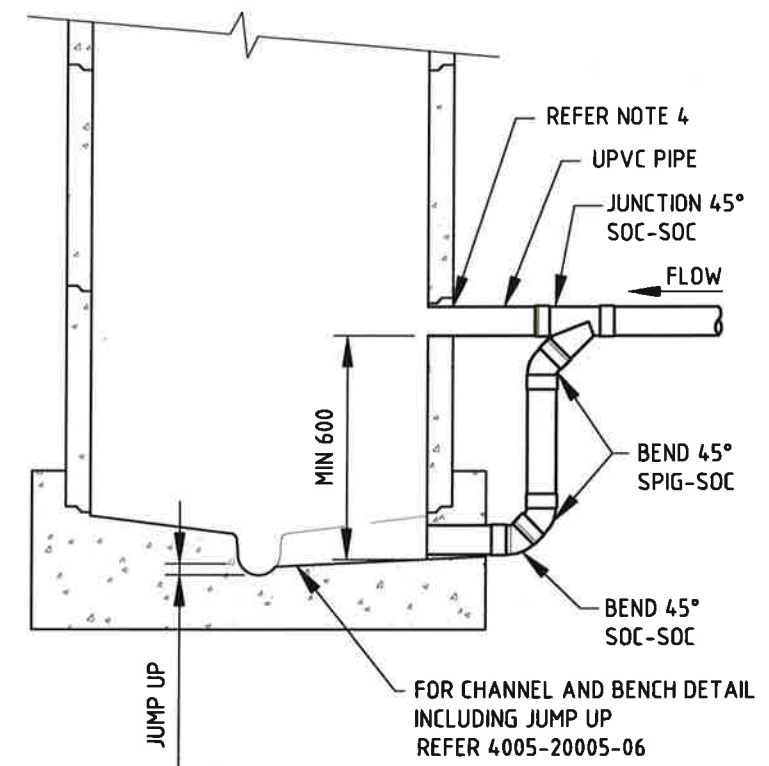
1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. REFER 4005-20006-03 FOR TYPICAL SEWER CONNECTION DETAILS.
3. SHOULD SITE CONDITIONS REQUIRE MODIFICATION TO THE STANDARD ARRANGEMENTS DISPLAYED, APPROVAL SHALL BE SOUGHT FROM THE SA WATER REPRESENTATIVE PRIOR TO ANY WORK BEING UNDERTAKEN.
4. ALL DIMENSIONS IN MILLIMETRES.

REVISION PANEL					DESIGN PANEL		 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.	SA WATER STANDARD DRAWINGS		A3	1
REV	DATE	DRN	DETAILS	APR	CURRENT REV	AUTHORISED:		SEWER CONSTRUCTION MANUAL		SHT SIZE	REVISION
								PROPERTY CONNECTIONS			
								THROUGH EMBANKMENT			
1	31/03/16	MS	2016 STANDARDS REVIEW	TG							
					DESIGNED: 03/08/15	AUTHORISED: 31/03/16				TOTAL SHEETS:	
					RJP	T.GALEK				SUPERSEDES: 94-0164-09 (K8)	
					DRAWN: 25/09/15	SIGNATURE:				DRAWING NUMBER	
					MS					4005-20006-06	
					REVIEWED: 21/03/16					PREFIX NUMBER SHEET	
					TG						



ELEVATION

MAINTENANCE HOLE WITH
INTERNAL JUMP UP CONNECTION
(PREFERRED)



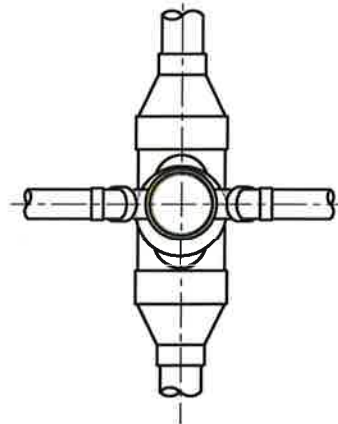
ELEVATION

MAINTENANCE HOLE WITH
EXTERNAL JUMP UP CONNECTION
(SUBJECT TO APPROVAL)

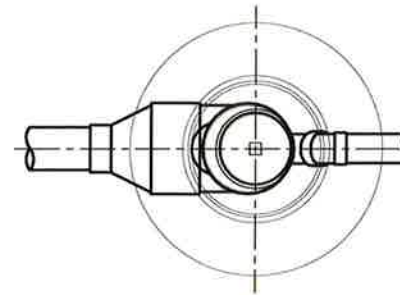
NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. INTERNAL JUMP UP IS THE PREFERRED OPTION.
FOR USE OF THE EXTERNAL OPTION APPROVAL FROM THE SA WATER REPRESENTATIVE SHALL BE SOUGHT.
3. FOR STEEP SEWER GRADIENTS, USE ADDITIONAL BEND(S) TO ENSURE JUMP UP REMAINS VERTICAL.
4. REFER 4005-20005-03 FOR MAINTENANCE HOLE TYPICAL PRECAST STRUCTURE ASSEMBLY DETAILS AND CORING/ REMEDIATION OF THE PIPE THROUGH THE WALL.
5. MAXIMUM OF 2 INTERNAL JUMP-UPS PER MAINTENANCE HOLE SHALL BE PERMITTED.
6. ALL DIMENSIONS IN MILLIMETRES.

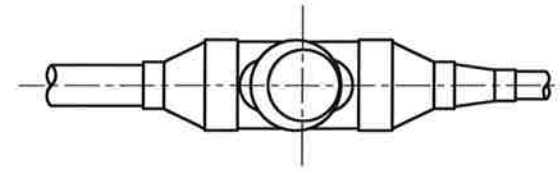
REVISION PANEL					DESIGN PANEL		<div> Government of South Australia</div> <div>This drawing is the property of the SOUTH AUSTRALIAN WATER CORPORATION and shall not be copied or modified in part or in whole without authorization.</div>	SA WATER STANDARD DRAWINGS SEWER CONSTRUCTION MANUAL PROPERTY CONNECTIONS INTO MAINTENANCE HOLE WITH INTERNAL / EXTERNAL JUMP UP			<div>A3<div>1</div></div> <div>SHT SIZE<div>REVISION</div></div>
REV	DATE	DRN	DETAILS	APR	CURRENT REV AUTHORISED:	DESIGNED: 03/08/15 RJP		AUTHORISED: 31/03/16 T.GALEK	TOTAL SHEETS:		
					SIGNATURE:	DRAWN: 25/09/15 MS		SIGNATURE: 	SUPERSEDES: K9, K10		
						REVIEWED: 21/03/16 TG			DRAWING NUMBER		
1	31/03/16	MS	2016 STANDARDS REVIEW	TG					4005-20006-07		
								PREFIX	NUMBER	SHEET	



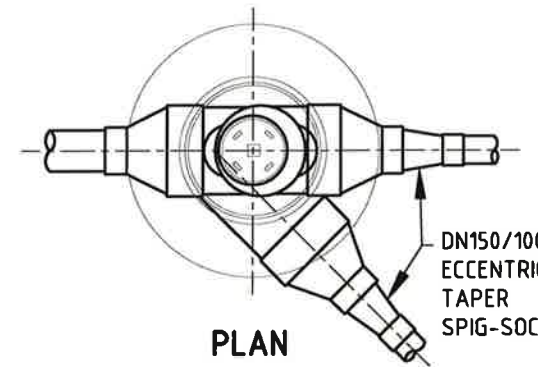
PLAN



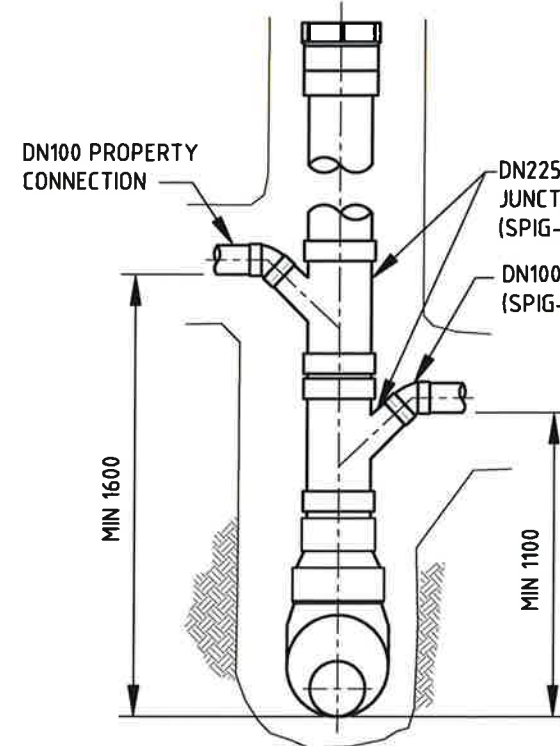
PLAN



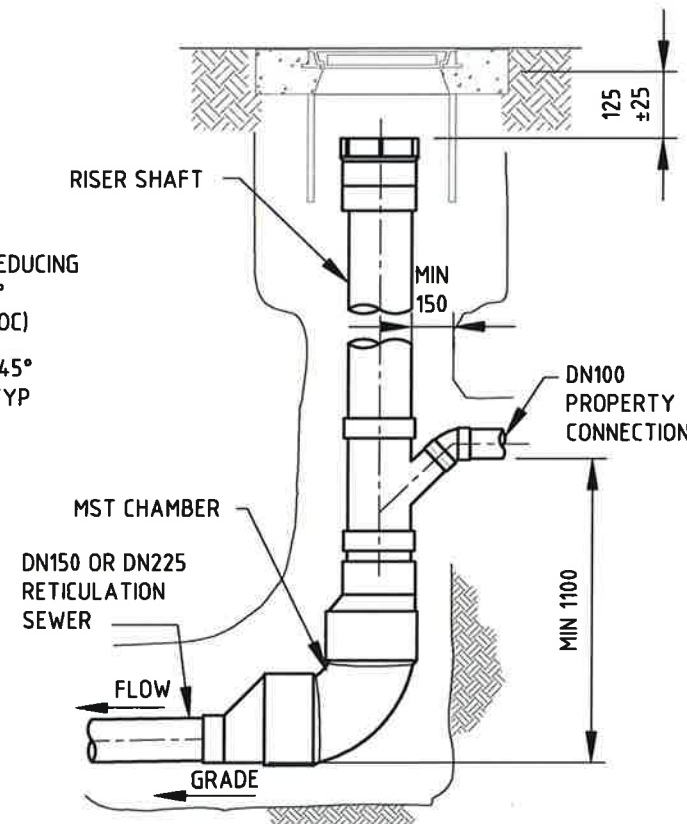
PLAN



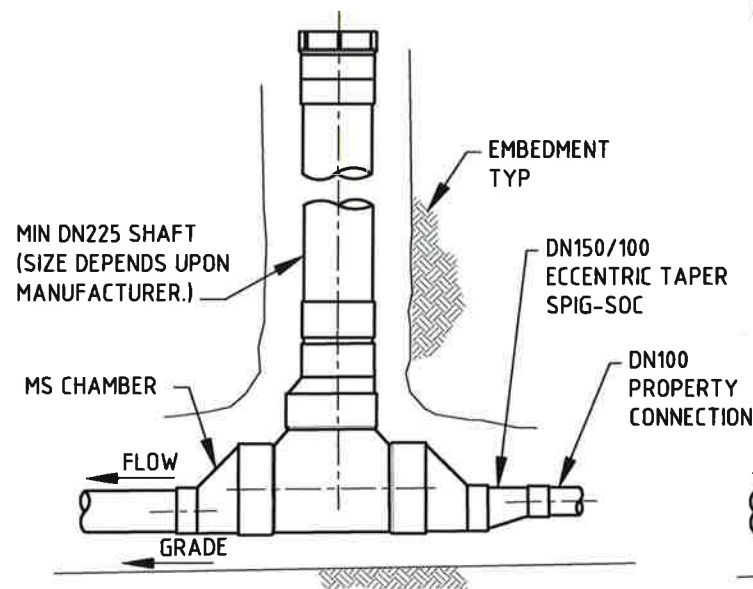
PLAN



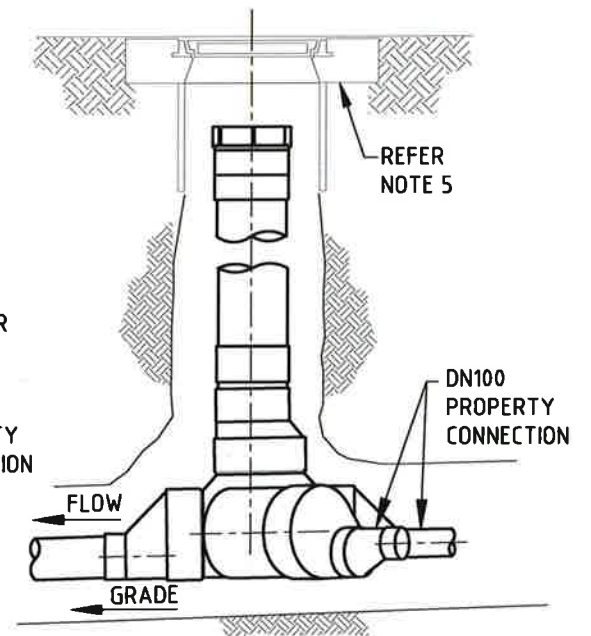
ELEVATION
DROP JUNCTION
(TYPICAL)



ELEVATION
TERMINAL END (MST)





ELEVATION
PROPERTY CONNECTION AHEAD

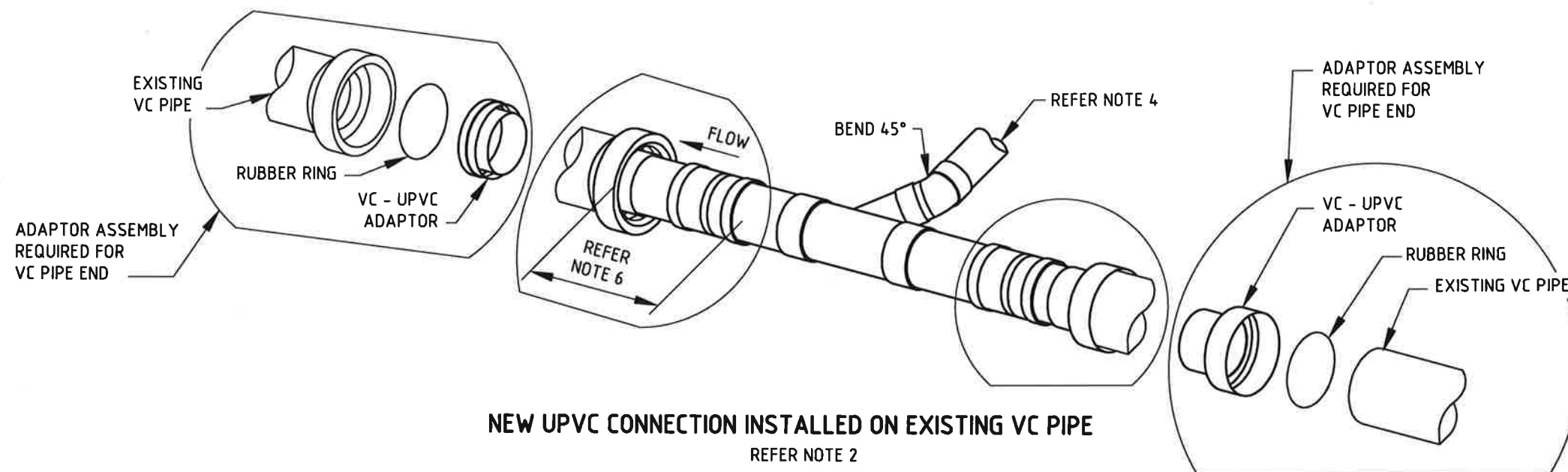


ELEVATION
MULTIPLE PROPERTY CONNECTIONS

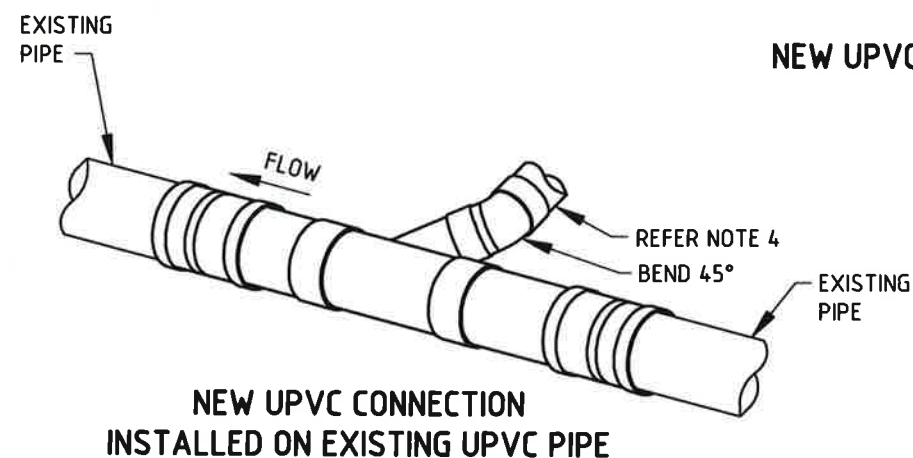
NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. MAXIMUM 2 PROPERTY CONNECTIONS PERMITTED INTO ONE MAINTENANCE SHAFT, INCLUDING 'DROP JUNCTION' OPTION.
3. ADJUST MS TO PIPE GRADE BY TILTING CHAMBER. MAX DEVIATION FROM VERTICAL OF THE RISER TO BE 1:10 OR A MAXIMUM OF 300 AT SURFACE. USE THE 'KICKER BEND' (NOT SHOWN), IF REQUIRED TO ADJUST RISER TO VERTICAL.
4. REFER 4005-20005-10 & 4005-20005-11 FOR MAINTENANCE SHAFT DETAILS.
5. FOR LID & COVER TYPE REFER AUTHORISED ITEMS CATALOGUE. INSTALLATION SHALL BE AS PER 4005-20005-04.
6. ALL DIMENSIONS IN MILLIMETRES.

REVISION PANEL					DESIGN PANEL		<div> SA Water Government of South Australia</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 MAINTENANCE SHAFT WITH PROPERTY CONNECTION		A3 SHT SIZE		1 REVISION	
REV	DATE	DRN	DETAILS	APR	CURRENT REV	DESIGNED: 03/08/15		AUTHORISED: 31/03/16	TOTAL SHEETS:				
					AUTHORISED:	RJP		T.GALEK	SUPERSEDES:				
					SIGNATURE:	DRAWN: 25/09/15		SIGNATURE:	DRAWING NUMBER				
						MS			4005-20006-08				
1	31/03/16	MS	2016 STANDARDS REVIEW	TG		REVIEWED: 21/03/16	TG	PREFIX		NUMBER		SHEET	



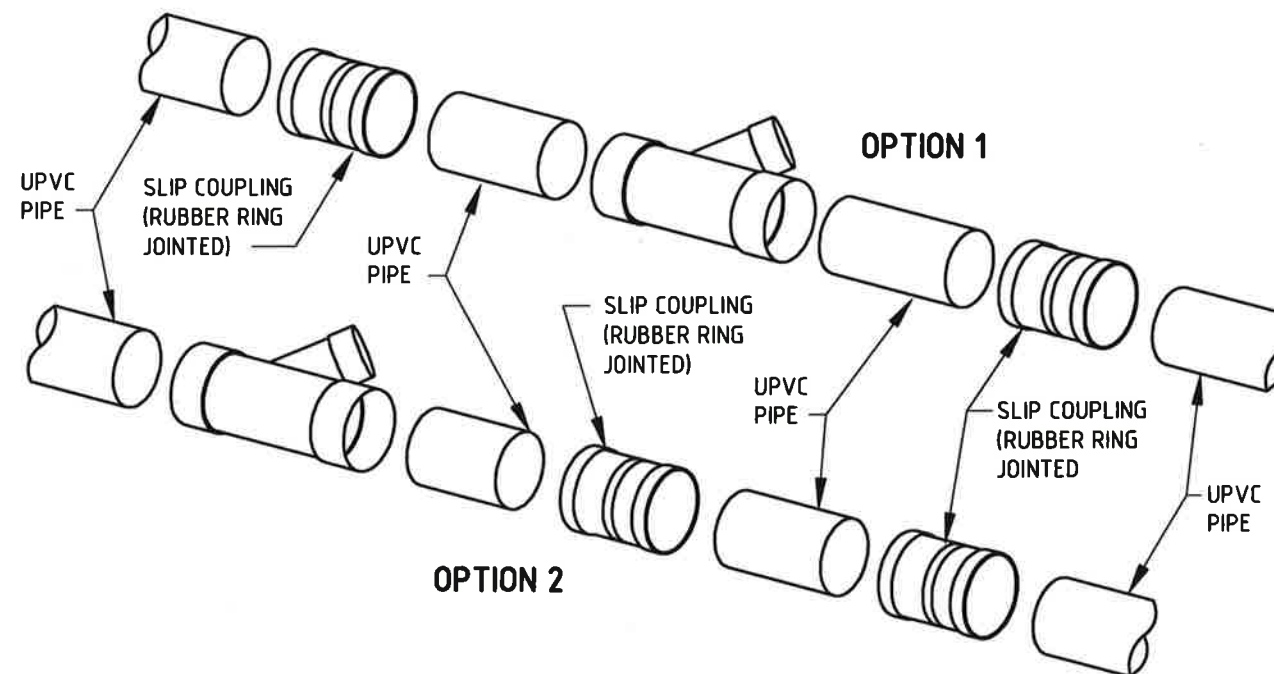
NEW UPVC CONNECTION INSTALLED ON EXISTING VC PIPE
REFER NOTE 2




NEW UPVC CONNECTION
INSTALLED ON EXISTING UPVC PIPE

NOTES:

1. REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
2. THE VC PIPE ARRANGEMENT IS SIMILAR TO THE UPVC ARRANGEMENT WITH AN ADAPTOR AT EACH END.
3. THE USE OF 2 SLIP COUPLINGS ALLOWS THE PRE-ASSEMBLED ARRANGEMENT TO BE FITTED WITH A MINIMUM OF END CLEARANCE/ DISCONTINUITY. ALTERNATIVES FOR POSITION OF COUPLINGS ARE DISPLAYED IN OPTIONS 1 & 2.
4. REFER SECTION 6 FOR CONNECTION CONSTRUCTION.
5. FOR TRUNK SEWERS, TEMPORARY ISOLATION OR DIVERSION OF FLOWS MAY BE NECESSARY DURING LIVE INSTALLATIONS. METHOD FOR UNDERTAKING WORK SHALL BE APPROVED BY THE SA WATER REPRESENTATIVE PRIOR TO COMMENCEMENT.
6. THE USE OF AN ALTERNATIVE ADAPTOR SYSTEM SHALL BE APPROVED BY THE SA WATER REPRESENTATIVE.



REVISION PANEL					DESIGN PANEL		 SA WATER STANDARD DRAWINGS SEWER CONSTRUCTION MANUAL UPVC FITTINGS FOR CONNECTION FROM EXISTING UPVC & VC SEWERS	A3 SHT SIZE	1 REVISION
REV	DATE	DRN	DETAILS	APR	CURRENT REV AUTHORISED:	DESIGNED: 03/08/15 RJP		TOTAL SHEETS:	
						DRAWN: 25/09/15 MS		SUPERSEDES: K13, K14	
						REVIEWED: 21/03/16 TG		DRAWING NUMBER	
1	31/03/16	MS	2016 STANDARDS REVIEW	TG				4005-20006-09	
								PREFIX	NUMBER SHEET

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