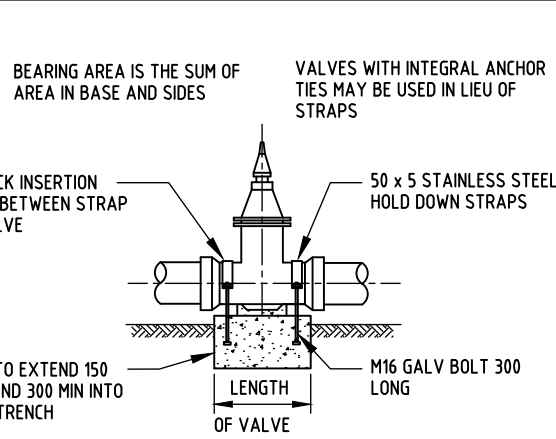


**THRUST BLOCK FOR TEES**  
(FOR HORIZONTAL THRUST)

**THRUST BLOCK FOR BENDS**  
(FOR HORIZONTAL THRUST)

**THRUST BLOCK FOR DEAD ENDS**  
(FOR HORIZONTAL THRUST)

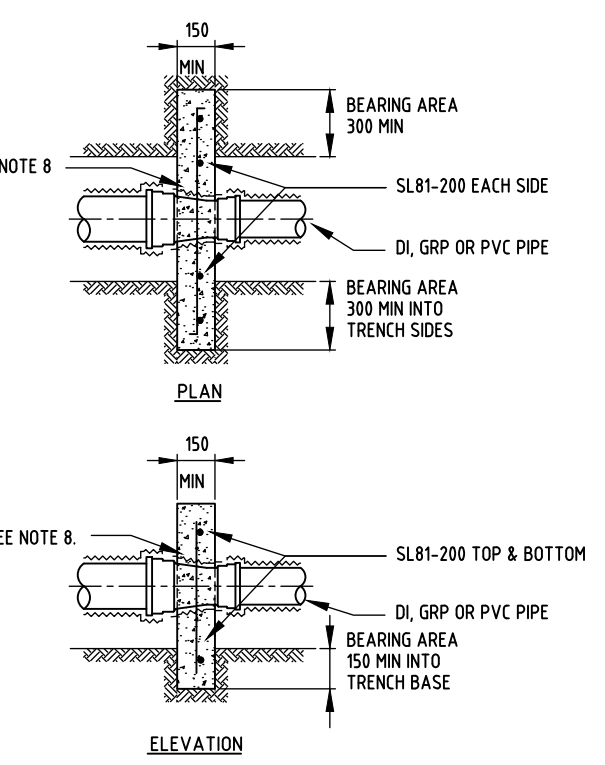
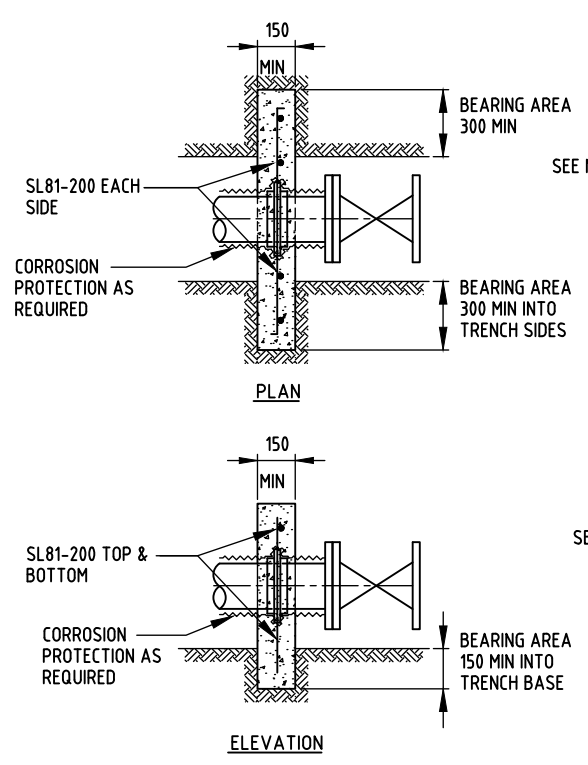


**VALVES WITHOUT SEPARATE IN-LINE ANCHORAGE**  
(FOR HORIZONTAL THRUST)

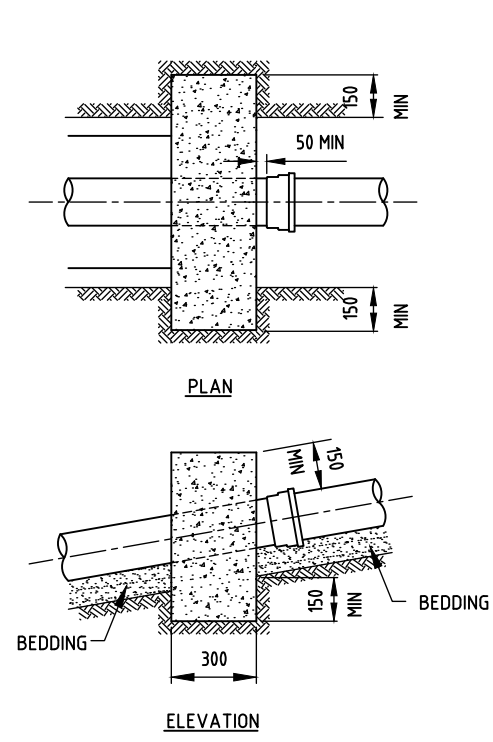
REFER TO W1-2-05B FOR MINIMUM THRUST BLOCK AREA m<sup>2</sup> - TABLES & OTHER DETAILS

**NOTES**

- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
- CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES.
- DESIGN PRESSURES OTHER THAN 1200 kPa REDUCE OR INCREASE THE MINIMUM THRUST AREA BY THE RATIO OF THE DESIGN PRESSURES EXCEPT WHERE THE MINIMUM THRUST AREA IS <math>0.1 \text{ m}^2</math>.
- DESIGN PRESSURES OTHER THAN 1200 kPa REDUCE OR INCREASE THE MINIMUM ANCHOR BLOCK VOLUME TO SUIT PRESSURE.
- FINISH THRUST BLOCKS APPROXIMATELY 100mm ABOVE THE TOP OF THE FITTING OR BEARING PAD AND EXTEND TO THE FLOOR OF TRENCH OR DEEPER IF NECESSARY TO ACHIEVE THE REQUIRED THRUST AREA. MAXIMUM ENCASEMENT TO BE 180°.
- THE MINIMUM THRUST AREA FOR IN-LINE TAPER THRUST BLOCKS TO BE EQUAL TO THE DIFFERENCE BETWEEN THE THRUST AREAS FOR DEAD ENDS OF EQUIVALENT DIAMETER TO THOSE EACH SIDE OF TAPER.
- FOR DOWNWARDS VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURES FOR THE VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN.
- WHEN SETTING DUCTILE IRON PIPES AND FITTINGS IN CONCRETE, THEY SHALL BE EXTERNALLY PROTECTED WITH TWO THICKNESSES OF BLUEBOSS POLYETHYLENE SLEEVING OR EQUIVALENT TO AS.3680 PLACED BETWEEN FITTINGS AND THRUST BLOCKS.
- WHEN SETTING PVC PRESSURE PIPES IN CONCRETE A COMPRESSIBLE MEMBRANE OF CLOSED CELL FOAM OR FELT SHALL SURROUND THE PIPE AND FITTING TO PERMIT PIPE MOVEMENT IN THE CONCRETE.
- CONCRETE FOR THRUST AND ANCHOR BLOCKS SHALL BE CLASS N25 IN ACCORDANCE WITH AS.1379 AND AS.3600.
- THRUST BLOCKS ARE TO BE FORMED WITH A MINIMUM CLEARANCE OF 50mm FROM SOCKETS. LEAVE SUFFICIENT SPACE AT FLANGED JOINTS FOR FUTURE DISMANTLING OF JOINTS.
- FOR LONGITUDINAL ANCHOR BLOCKS ON DUCTILE IRON OR STEEL PIPE USE FACTORY FITTED PUDDLE FLANGES.
- IN-LINE THRUST BLOCKS FOR TAPERS, TEMP. DEAD ENDS, VALVES, ETC. REQUIRE ONE STEEL BAR REINFORCEMENT CAGE FOR DN150 AND TWO STEEL BAR REINFORCEMENT CAGES FOR DN225 AND DN300.
- THRUST BLOCK SIZE FOR PIPES LARGER THAN DN225 WILL NEED TO BE CALCULATED BY THE CONSULTING ENGINEER.
- THRUST BLOCKS ARE TO BE FORMED USING PLY. SAND BAGS CAN BE USED TO HOLD FORM WORK IN PLACE.
- HOLD DOWN STRAPS 50MM WIDE FOR DN150 AND DN225 PIPES WITH M12 316 GRADE STAINLESS STEEL BOLTS SET A MINIMUM 300MM INTO THRUST BLOCK. LARGER SIZES REQUIRE A MINIMUM OF TWO 75MM WIDE STRAPS AND M16 316 GRADE STAINLESS STEEL BOLTS.
- DO NOT USE STANDARD THRUST BLOCKS AS SPECIFIED IN THIS DRAWING IN: VERY SOFT, SOFT OR FIRM CLAY, LOOSE CLEAN SAND OR UNCOMPACTED FILL OR REFUSE. A GEOTECHNICAL ASSESSMENT AND INDIVIDUAL DESIGN IS REQUIRE FOR THESE SOILS



**IN-LINE THRUST BLOCKS FOR TAPERS, TEMP. END STOPS AND VALVES**  
(FOR HORIZONTAL THRUST)



**GRADIENT ANCHOR BLOCKS**  
(SLOPE OF 1:6 OR STEEPER)  
(REFER ANCHOR BLOCK SPACING TABLE)

GRADIENT	MAX. SPACING (m)
1:2	6
1:3	11
1:4	13
1:5	17
1:6	22

**ANCHOR BLOCK SPACING**

NO	DESCRIPTION	DRN	DATE	CKD	APPD
4	NOTES AND DIMENSIONS AMENDED.	J.W.	JAN'24	J.C.	D.C.
3	GENERAL AMENDMENTS 2021.	P.W.	JUNE'21	I.L.	D.C.
2	REDRAWN IN AUTOCAD.	A.W.	OCT'18	J.R.	D.C.
1	TRENCH DETAILS DELETED. ANCHOR BLOCK SPACING CHANGED.	A.W.	JUN'11	R.J.	J.P.
AMENDMENTS					

DES	J.C.
DRN	L.M.
CHK	V.G.
APPD	D.C.
SCALE	N.T.S.
ISSUED	JUN '11
ALL DIM. IN mm	
DRAFTING STANDARD TO A.S.1100	



WATER STANDARD DRAWING		DRAWING NUMBER		4
MAINLAYING		W1-2-05A		
THRUST AND ANCHOR BLOCK DETAILS		CAD PRODUCT - DO NOT AMEND MANUALLY		AMDT
FOR DN150 TO DN225 PRESSURE MAIN				