

FUNDER:

Department of Water and Sanitation



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DRAWING REVISIONS

REV	DATE	DRAWN	CHECKED	DESCRIPTION

PROJECT NAME:

WESTERN HIGHVELD BULK WATER
SCHEME

DRAWING TITLE:

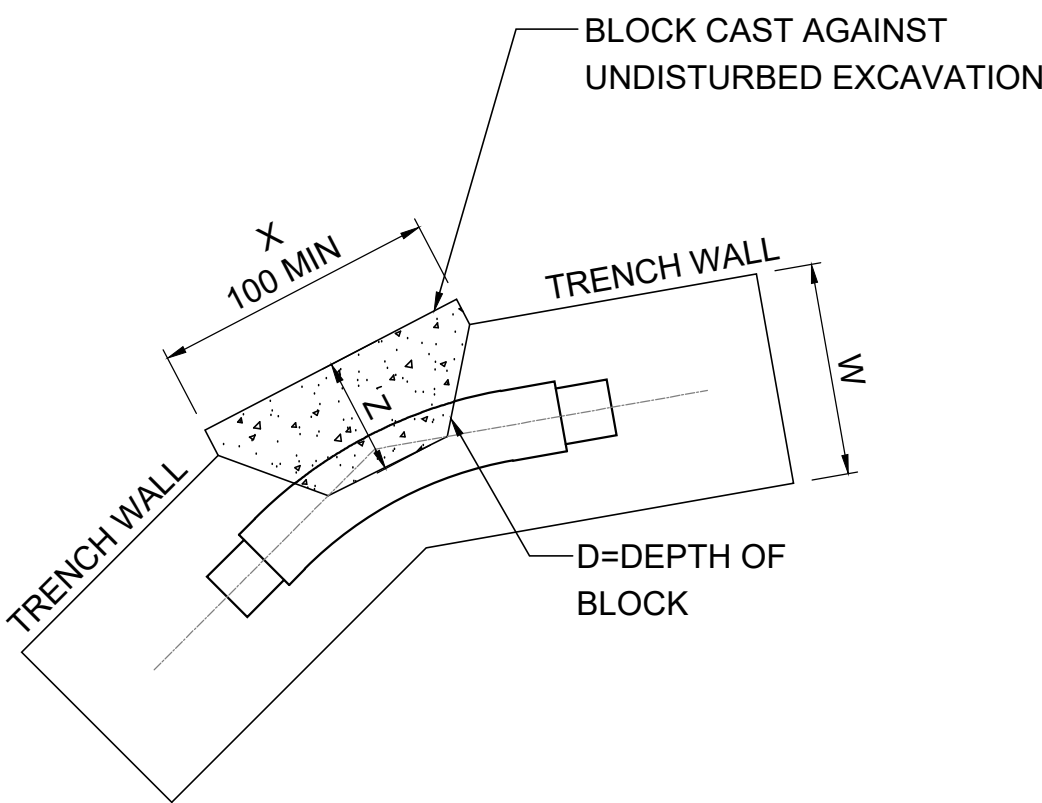
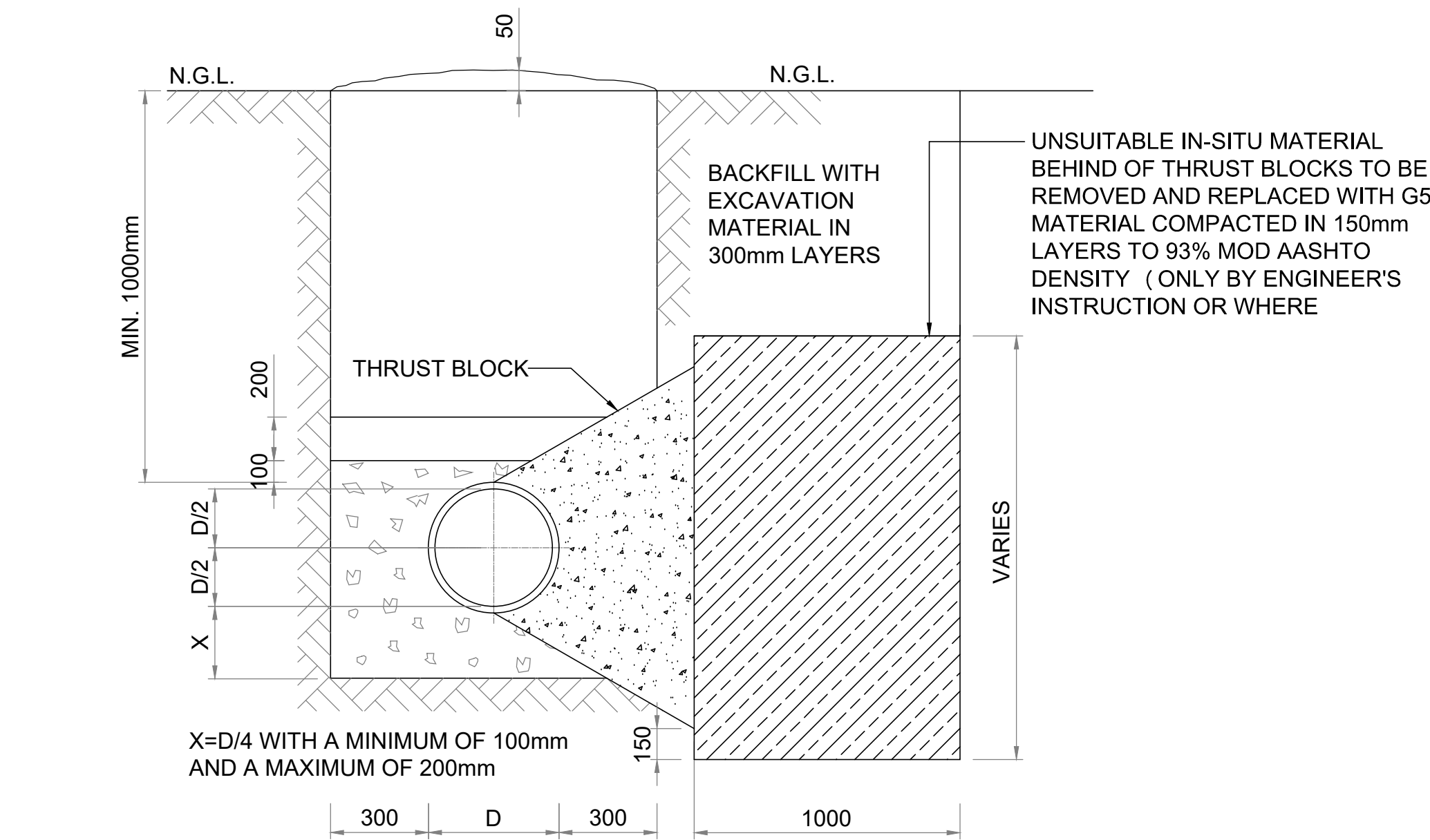
TYPICAL DETAILS OF PIPE THRUST BLOCKS

RESPONSIBLE PERSONNEL	SIGNATURE	DATE
DESIGNED	S NGCOBO	
DRAWN	L JIYANA	
CHECKED	S MNGADI (PR Tech Eng)	
APPROVED	M NDLOVU (PR Tech Eng)	
SCALE	AS SHOWN	

APPROVED : CLIENT

SIGNATURE	DATE
PROJECT NUMBER	DRAWING NUMBER
VU-WTR-21-006	300
STAGE	SHEET SIZE SHEET No. REVISION
TENDER	A0 1 OF 1 0
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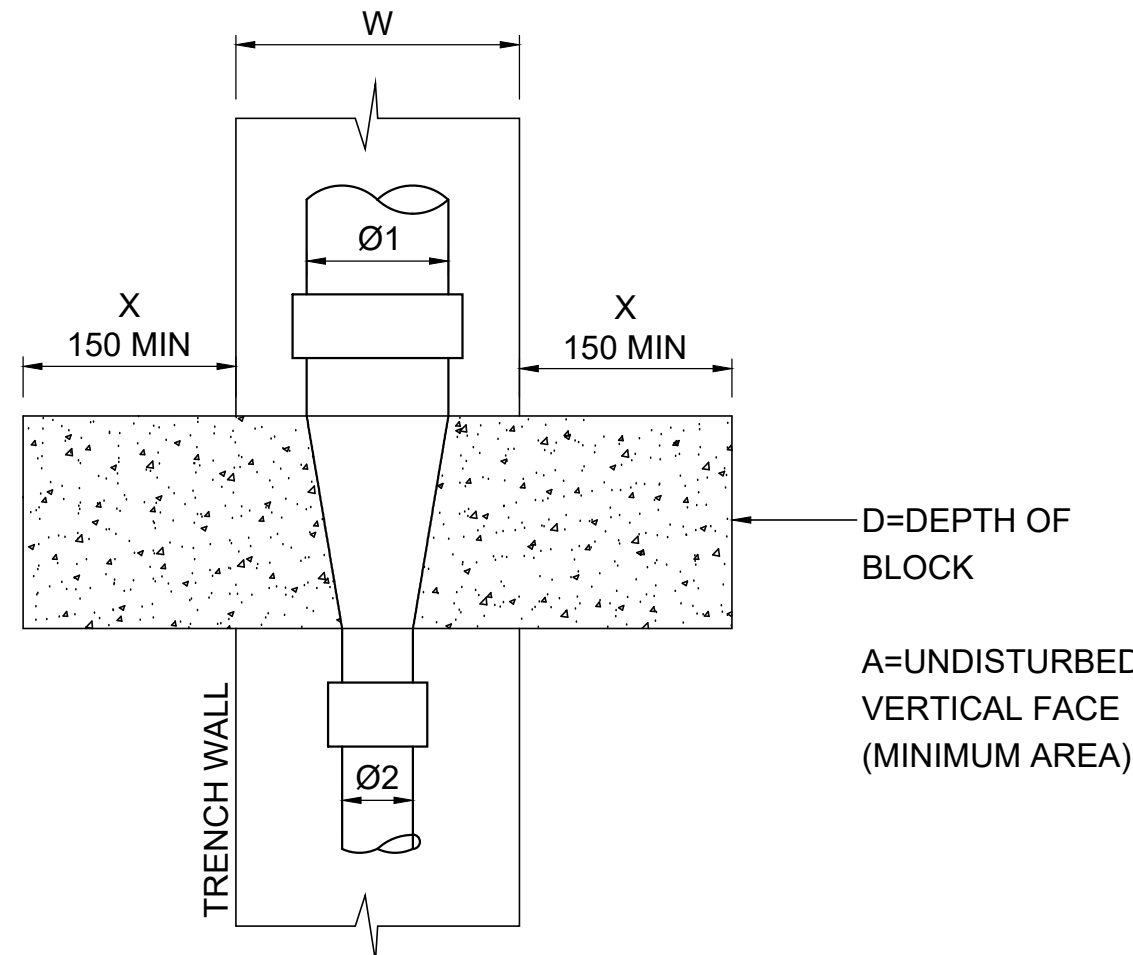
FOR TENDER



THRUST BLOCK FOR 45° BEND

DIA Ø (mm)	MAXIMUM TESTING PRESSURE									
	900 kPa		1350 kPa		1800 kPa		2400 kPa		3000 kPa	
	X	A	X	A	X	A	X	A	X	A
50	130	0.02	130	0.02	170	0.03	190	0.04	220	0.05
75	180	0.03	680	0.46	250	0.06	290	0.08	320	0.10
100	240	0.06	290	0.08	330	0.11	380	0.14	430	0.18
150	370	0.13	430	0.18	500	0.24	580	0.33	640	0.41
200	470	0.22	580	0.33	660	0.43	770	0.58	850	0.72
250	590	0.34	720	0.51	830	0.68	960	0.90	1070	1.13
315	740	0.54	900	0.81	1040	1.08	1200	1.43	1340	1.79
355	830	0.68	1020	1.02	1170	1.37	1350	1.82	1510	2.27
400	940	0.87	1150	1.30	1320	1.73	1520	2.31	1700	2.89

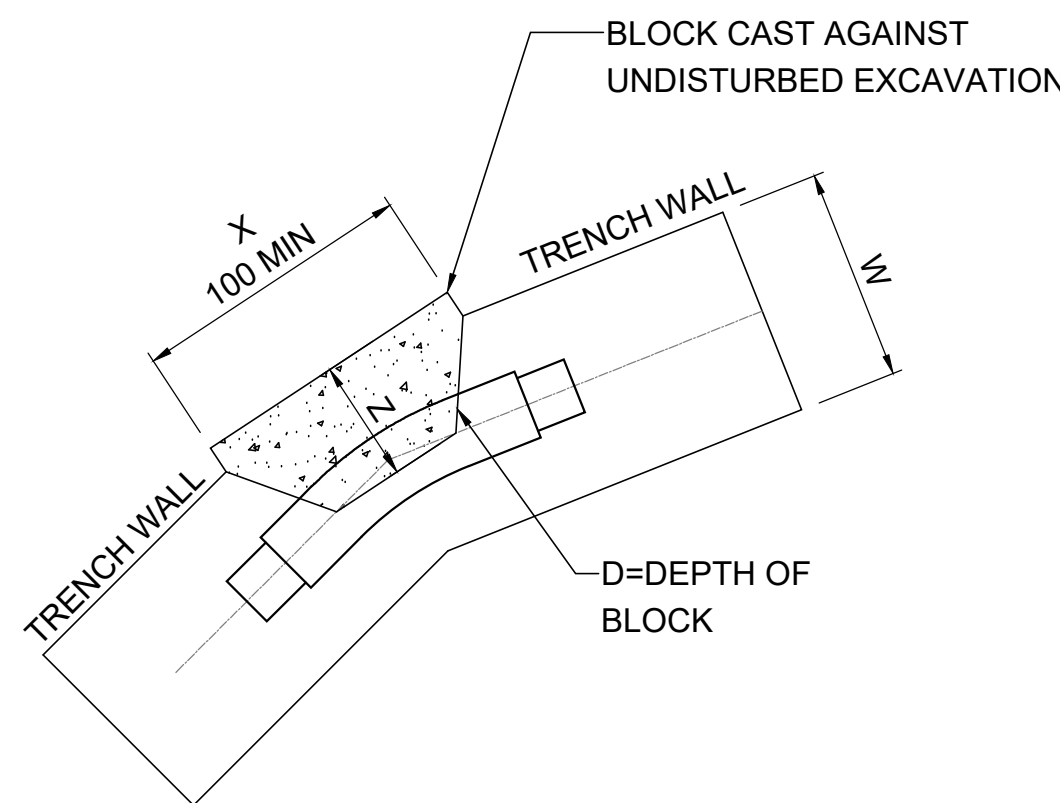
- THIS TABLE IS VALID FOR 100 kPa EARTH BEARING CAPACITY.
- THE REQUIRED AREA CAN BE REDUCED FOR HIGHER EARTH BEARING CAPACITIES. (TO BE APPROVED BY ENGINEER)
- Z = B = X/2
- DEPTH OF BLOCK = X
- HALF THE DEPTH OF THE BLOCK SHALL B BELOW THE PIPE AXIS
- KEEP FLANGES AND COUPLINGS CLEAR FROM CONCRETE.



THRUST BLOCK FOR REDUCER

INLET DIA Ø (mm)	OUTLET DIA Ø (mm)	MAXIMUM TESTING PRESSURE									
		900 kPa		1350 kPa		1800 kPa		2400 kPa		3000 kPa	
		X	A	X	A	X	A	X	A	X	A
75	50	150	0.02	190	0.03	210	0.04	250	0.06	280	0.07
100	75	180	0.03	220	0.05	250	0.06	290	0.08	330	0.10
150	100	300	0.09	370	0.13	420	0.18	490	0.24	550	0.29
200	150	360	0.12	440	0.19	500	0.25	580	0.33	650	0.41
250	200	400	0.16	490	0.24	570	0.32	660	0.42	730	0.53
315	250	510	0.26	630	0.39	720	0.52	840	0.69	930	0.86
355	315	440	0.19	540	0.28	620	0.38	720	0.51	800	0.63
400	355	490	0.24	600	0.36	700	0.48	800	0.64	900	0.80

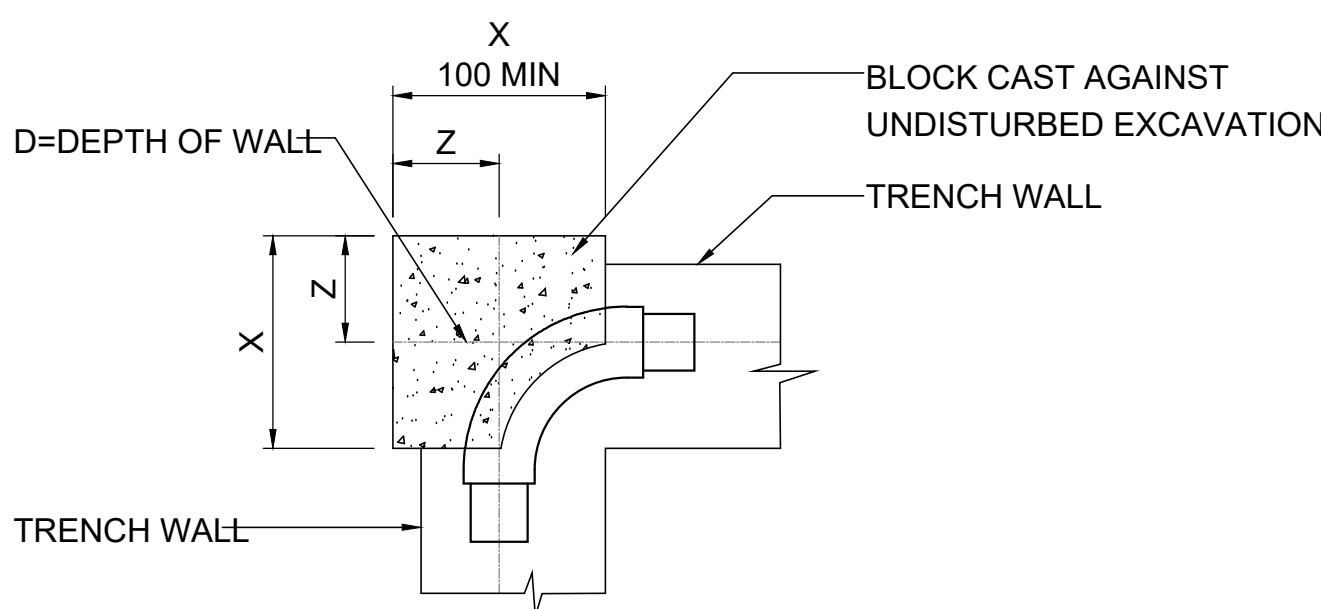
- THIS TABLE IS VALID FOR 100 kPa EARTH BEARING CAPACITY.
- THE REQUIRED AREA CAN BE REDUCED FOR HIGHER EARTH BEARING CAPACITIES. (TO BE APPROVED BY ENGINEER)
- Z = B = X/2
- DEPTH OF BLOCK = X
- HALF THE DEPTH OF THE BLOCK SHALL B BELOW THE PIPE AXIS
- KEEP FLANGES AND COUPLINGS CLEAR FROM CONCRETE.



THRUST BLOCK FOR 22.5° & 11.25° BEND

DIA Ø (mm)	MAXIMUM TESTING PRESSURE									
	900 kPa		1350 kPa		1800 kPa		2400 kPa		3000 kPa	
	X	A	X	A	X	A	X	A	X	A
50	90	0.01	100	0.01	120	0.01	140	0.02	160	0.02
75	130	0.02	160	0.02	180	0.03	210	0.04	230	0.05
100	170	0.03	210	0.04	240	0.06	280	0.07	310	0.09
150	250	0.06	310	0.09	360	0.12	410	0.17	460	0.21
200	340	0.11	410	0.17	480	0.22	550	0.29	610	0.37
250	420	0.17	510	0.26	590	0.35	680	0.46	760	0.58
315	530	0.27	650	0.41	750	0.55	860	0.73	960	0.91
355	590	0.35	730	0.52	840	0.70	970	0.93	1080	1.16
400	670	0.44	820	0.66	950	0.88	1090	1.18	1220	1.47

- THIS TABLE IS VALID FOR 100 kPa EARTH BEARING CAPACITY.
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- Z = B = X/2
- DEPTH OF BLOCK = X
- HALF THE DEPTH OF THE BLOCK SHALL B BELOW THE PIPE AXIS
- KEEP FLANGES AND COUPLINGS CLEAR FROM CONCRETE.



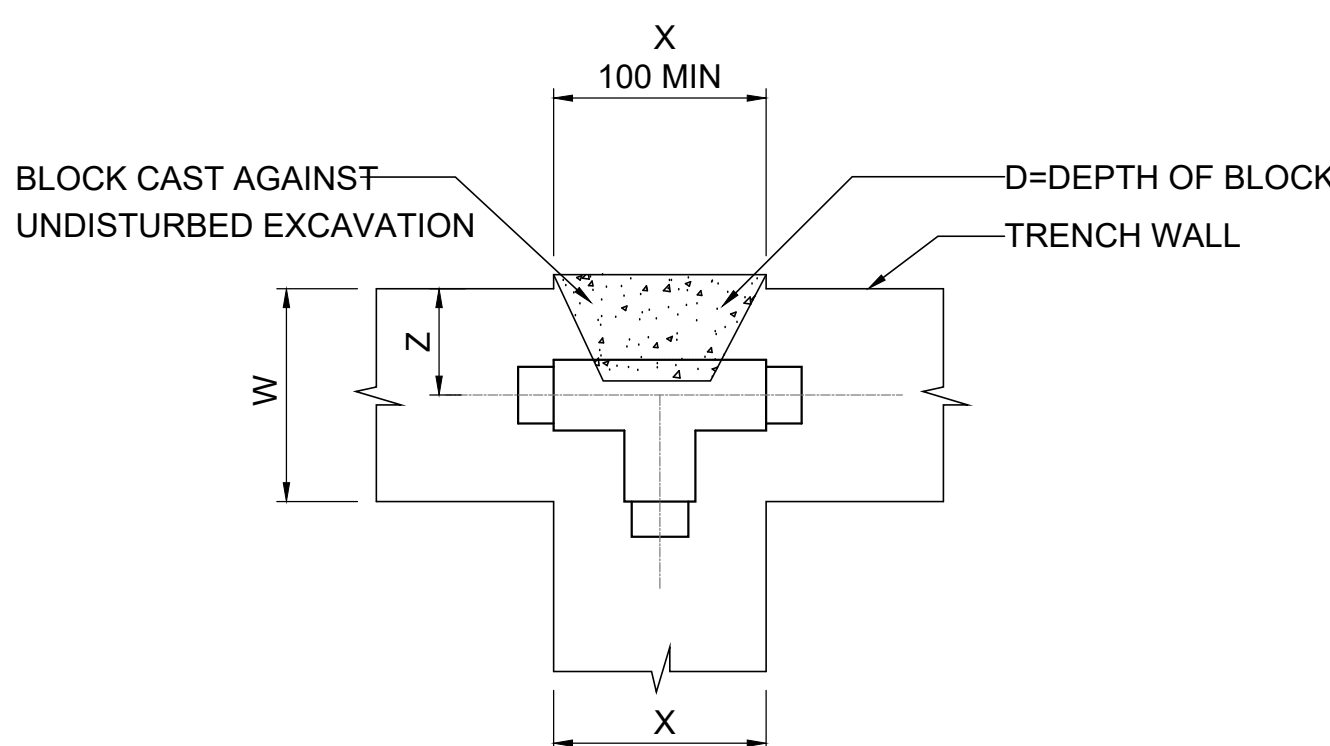
THRUST BLOCK FOR 90° BEND

DIA Ø (mm)	MAXIMUM TESTING PRESSURE									
	900 kPa		1350 kPa		1800 kPa		2400 kPa		3000 kPa	
	X	A	X	A	X	A	X	A	X	A
50	160	0.03	200	0.04	230	0.05	260	0.07	290	0.08
75	240	0.06	290	0.08	340	0.11	390	0.15	440	0.19
100	320	0.10	390	0.15	450	0.20	520	0.27	580	0.33
150	480	0.23	590	0.34	680	0.45	780	0.60	870	0.75
200	640	0.40	780	0.60	900	0.80	1040	1.07	1160	1.33
250	800	0.63	970	0.94	1120	1.25	1300	1.67	1450	2.08
315	1000	0.99	1230	1.49	1410	1.99	1630	2.65	1820	3.31
355	1130	1.26	1380	1.89	1590	2.52	1840	3.36	2060	4.20
400	1270	1.60	1560	2.40	1790	3.20	2070	4.27	2310	5.34

- THIS TABLE IS VALID FOR 100 kPa EARTH BEARING CAPACITY.
- THE REQUIRED AREA CAN BE REDUCED FOR HIGHER EARTH BEARING CAPACITIES. (TO BE APPROVED BY ENGINEER)
- Z = B = X/2
- DEPTH OF BLOCK = X
- HALF THE DEPTH OF THE BLOCK SHALL B BELOW THE PIPE AXIS
- KEEP FLANGES AND COUPLINGS CLEAR FROM CONCRETE.

DIA Ø (mm)	MAXIMUM TESTING PRESSURE									
	900 kPa		1350 kPa		1800 kPa		2400 kPa		3000 kPa	
	X	A	X	A	X	A	X	A	X	A
50	140	0.02	520	0.27	190	0.04	220	0.05	250	0.06
75	200	0.04	250	0.06	290	0.08	330	0.11	370	0.13
100	270	0.07	330	0.11	380	0.14	440	0.19	490	0.24
150	400	0.16	490	0.24	570	0.32	660	0.42	730	0.53
200	540	0.28	660	0.42	760	0.57	870	0.75	980	0.94
250	670	0.44	820	0.66	950	0.88	1090	1.18	1220	1.47
315	840	0.70	1030	1.05	1190	1.40	1370	1.87	1530	2.34
355	950	0.89	1160	1.34	1340	1.78	1550	2.38	1730	2.97
400	1070	1.13	1310	1.70	1510	2.26	1740	3.02	1950	3.77

- THIS TABLE IS VALID FOR 100 kPa EARTH BEARING CAPACITY.
- THE REQUIRED AREA CAN BE REDUCED FOR HIGHER EARTH BEARING CAPACITIES. (TO BE APPROVED BY ENGINEER)
- Z = B = X/2
- DEPTH OF BLOCK = X
- HALF THE DEPTH OF THE BLOCK SHALL B BELOW THE PIPE AXIS
- KEEP FLANGES AND COUPLINGS CLEAR FROM CONCRETE.



THRUST BLOCK FOR TEE

SPECIAL THRUST BLOCK DETAIL

N.T.S.