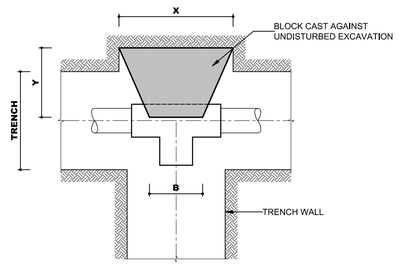


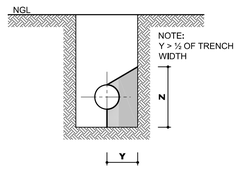
THRUST BLOCK FOR 45° BEND
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	DIMENSIONS (m)				AREA PROVIDED (m²)	VOLUME (m³)
		B	Z	X	Y		
75	0,061	0,300	0,400	0,400	0,350	0,160	0,049
110	0,109	0,300	0,500	0,500	0,375	0,250	0,075
160	0,245	0,300	0,500	0,500	0,400	0,250	0,080
200	0,435	0,300	0,600	0,800	0,400	0,480	0,132
250	0,680	0,350	0,650	1,100	0,450	0,715	0,212
300	0,979	0,400	0,700	1,400	0,500	0,980	0,315
400	1,740	0,530	0,930	1,870	0,670	1,740	0,560



THRUST BLOCK FOR T-PIECE
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	DIMENSIONS (m)				AREA PROVIDED (m²)	VOLUME (m³)
		B	Z	X	Y		
75	0,079	0,150	0,400	0,400	0,350	0,160	0,039
110	0,141	0,200	0,500	0,500	0,375	0,250	0,066
160	0,348	0,300	0,500	0,700	0,400	0,350	0,100
200	0,565	0,300	0,600	1,000	0,400	0,600	0,156
250	0,833	0,350	0,650	1,400	0,450	0,910	0,256
300	1,272	0,400	0,700	1,900	0,500	1,330	0,403
400	1,700	0,,530	0,930	2,530	0,660	1,700	0,540



TYPICAL SECTION FOR
22.5° & 45° BENDS
1 : 25

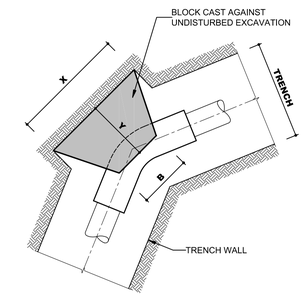
TRENCH WALL

TRENCH WALL

PARTICULAR NOTES:
1. THRUST BLOCK DIMENSIONS ON THIS DRAWING ARE ONLY APPLICABLE FOR THE FOLLOWING CONDITIONS
   - UNDISTURBED SAND-GROUND MIXTURES OR DENSE UNIFORM SAND WITH BEARING CAPACITY OF AT LEAST 150 kPa
   - UNSUBMERGED CONDITIONS
   - MAXIMUM INTERNAL PIPE PRESSURE OF 16 BAR

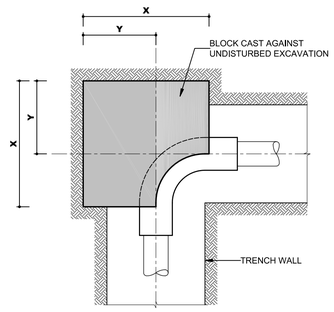
   IF THE CONTRACTOR IS NOT IN A POSITION TO IDENTIFY THE ABOVE CONDITIONS, AN ENGINEERING GEOLOGIST OR AN ENGINEER MUST BE CONSULTED. IN ALL OTHER CONDITIONS THE ACTUAL IN-SITU BEARING PRESSURE SHALL BE CALCULATED & THE THRUST BLOCK DESIGNED BY THE ENGINEER
2. CONCRETE PUDDLE FLANGES - 25/19
   OTHER - 15/19
3. HALF THE DEPTH OF THE THRUST BLOCK TO BE PLACED BELOW THE PIPE AXIS
4. MAINTAIN ADEQUATE SPACE BETWEEN CONCRETE & PIPE JOINT & FLANGES FOR INSTALLATION & MAINTENANCE
5. THRUST BLOCKS FOR PIPE Ø LARGER THAN 300mm HIGHER TEST PRESSURE THAN 16 BAR SHALL BE DESIGNED BY THE CONSULTANT

LEGEND	
	Existing PVC Water Pipeline
	Existing ASBESTOS Water Pipeline
	Pipeline
	Existing Asbestos Pipeline
	Storm Water Pipeline
	Sewer Line
	New house connection
	HDPE-PE 100 PN 16 PIPE WITH CONTINUOUS WELDS WITH CONTROL VALVE



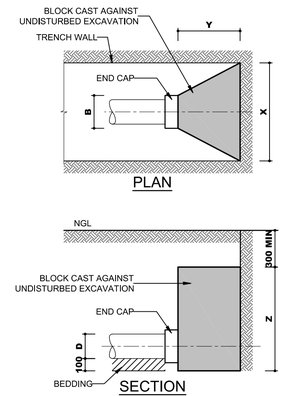
THRUST BLOCK FOR 22.5° BEND
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	DIMENSIONS (m)				AREA PROVIDED (m²)	VOLUME (m³)
		B	Z	X	Y		
75	0,031	0,300	0,400	0,400	0,350	0,160	0,049
110	0,055	0,300	0,500	0,500	0,375	0,250	0,075
160	0,124	0,300	0,500	0,500	0,400	0,250	0,080
200	0,220	0,300	0,600	0,600	0,400	0,360	0,108
250	0,344	0,350	0,650	0,650	0,450	0,423	0,146
300	0,496	0,400	0,700	0,800	0,500	0,560	0,210
400	0,660	0,530	0,930	1,070	,670	0,750	0,280



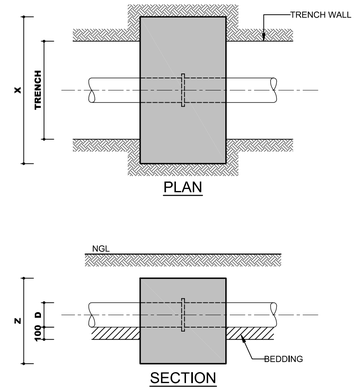
THRUST BLOCK FOR 90° BEND
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	DIMENSIONS (m)			AREA PROVIDED (m²)	VOLUME (m³)
		Z	X	Y		
75	0,078	0,400	0,350	0,350	0,140	0,049
110	0,139	0,500	0,380	0,375	0,190	0,072
160	0,314	0,500	0,650	0,400	0,330	0,211
200	0,576	0,600	1,000	0,400	0,600	0,600
250	0,871	0,650	1,400	0,450	0,910	1,274
300	1,225	0,700	1,800	0,500	1,260	2,268
400	1,630	0,930	2,400	0,670	1,680	3,020



THRUST BLOCK FOR DEAD END
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	DIMENSIONS (m)				AREA PROVIDED (m²)	VOLUME (m³)
		B	Z	X	Y		
75	0,078	0,075	0,300	0,475*	0,200	0,140	0,017
110	0,139	0,100	0,300	0,500*	0,200	0,150	0,018
160	0,312	0,150	0,600	0,550*	0,200	0,330	0,063
200	0,555	0,200	0,650	0,600*	0,200	0,570	0,076
250	0,867	0,250	0,700	1,250	0,500	0,880	0,263
300	1,248	0,300	0,750	1,700	0,700	1,280	0,525
400	1,660	0,400	1,000	0,930	0,930	1,710	0,700



TYPICAL SECTION FOR
PUDDLE FLANGE
1 : 25

NOMINAL PIPE Ø (mm)	AREA REQUIRED (m²)	TRENCH WIDTH (m)	DIMENSIONS (m)			AREA PROVIDED (m²)	VOLUME (m³)
			X	Y	Z		
75	0,078	0,475	0,875	0,500	0,575	0,410	0,250
110	0,139	0,500	0,900	0,500	0,600	0,420	0,270
160	0,312	0,550	0,950	0,700	0,650	0,450	0,420
200	0,555	0,600	1,000	0,700	0,900	0,740	0,610
250	0,867	0,650	1,250	1,000	0,950	0,950	1,140
300	1,250	0,700	1,500	1,000	1,000	1,250	1,430
400	1,670	0,930	2,000	1,330	1,330	1,670	1,910

THRUST BLOCKS DETAILS 1:25

For Tender Purpose Only

AMENDMENDS			
No	Date	By	

Client:
TSWELOPELE LOCAL MUNICIPALITY

Project:
THE REPLACEMENT OF OLD ASBESTOS PIPELINE AND ACCOMPANYING APPURTENANCES IN PHAHAMENG (BULTFONTEIN)

Drawing:
THRUST BLOCK DETAILS

Date:	Scale:
JUNE 2026	AS SHOWN

PULE RAMASIMONG DEVELOPMENT CONSULTANTS

ENGINEERING CONSULTANTS, PROJECT MANAGERS AND COMMUNITY DEVELOPMENT CONSULTANTS

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Drawn By:		SM	
Checked By:		PR	
Drawing No.	PRDC-26-07-02-09		
Contract No.	PRDC-26-07		