

CAPRICORN DISTRICT MUNICIPALITY

**CAPRICORN**



**DISTRICT MUNICIPALITY**

PROJECT NUMBER : INF-W29/2022/2023

CONTRACT NUMBER : INF-W29/2022/2023

**KROMHOEK (MAKGATHO) DEVREDE TAAIBOSCH NEW STANDS (CONTRACT B) WATER SUPPLY**

**BOOK OF PRELIMINARY DRAWINGS**

SEPTEMBER 2022

PREPARED BY:

**MALOKA CONSULTING ENGINEERS**

01 church street  
Morwamocha House  
POLOKWANE  
0699

TEL: 015-2930104,



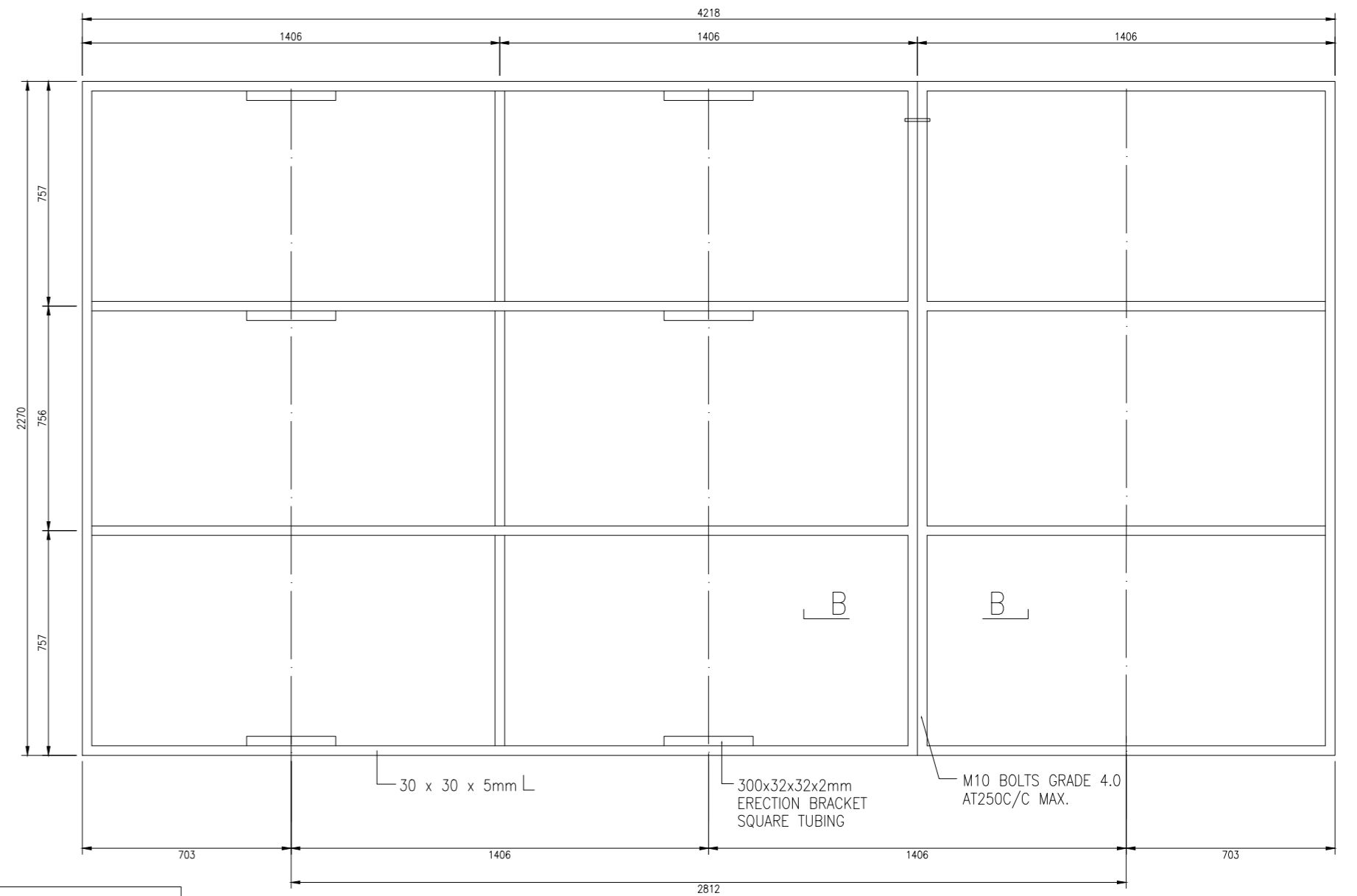
PREPARED FOR:

**CAPRICORN DISTRICT MUNICIPALITY**

PO Box 4100  
POLOKWANE  
0700

TEL: 015 294 1000

FAX: 015 291 4297



SCALE 1:10

SCALE 1:10

## NOTES:

EMBLEM:

1. ALL EMBLEMS TO BE DISPLAYED IN FULL COLOUR ON A SEMI-MATT BACKGROUND.

LETTERS AND NUMBERS:

2. DESCRIPTION : MATT-BLACK, SERIES DIN B LETTERS AND NUMBERS ON A SEMI-MATT SMOKE-GREY BACKGROUND.

BORDERS:

3. BORDER : GREEN NON-REFLECTORIZED.

QUANTITY:

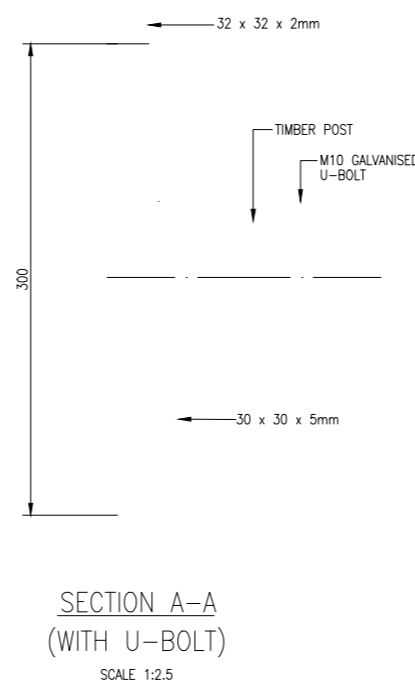
4. TWO SIGN BOARDS, SHALL BE ERECTED AT POSITIONS AS DETERMINED BY THE ENGINEER.

DESCRIPTION:

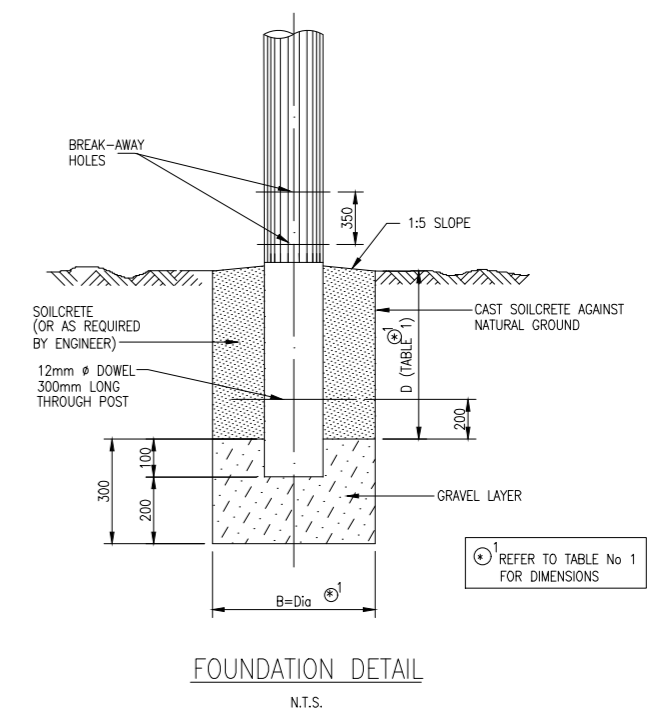
5. DESCRIPTION OF WORK (NUMBER OF KILOMETRES AND TYPE OF WORK, eg " REHABILITATION OF STREETS: SPA PARK  
DESCRIPTION STARTS CENTERED ON THE LEFT-HANDSIDE AND THE FIRST 105mm DIMENSION BELOW "MUNICIPALITY"

6. SACCÉ EMBLEM ONLY IF CONTRACTOR IS A MEMBER OTHERWISE BLANK.

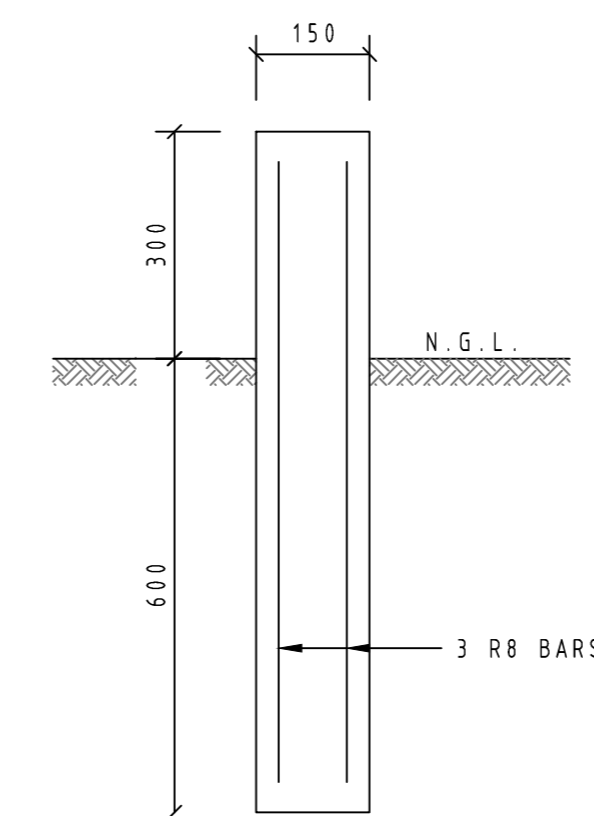
7. NEW SACCÉ LOGO TO BE OBTAINED FROM SACCÉ, JOHANNESBURG.



SECTION B-B  
(AT JOINT OF SIGN)  
SCALE 1:5

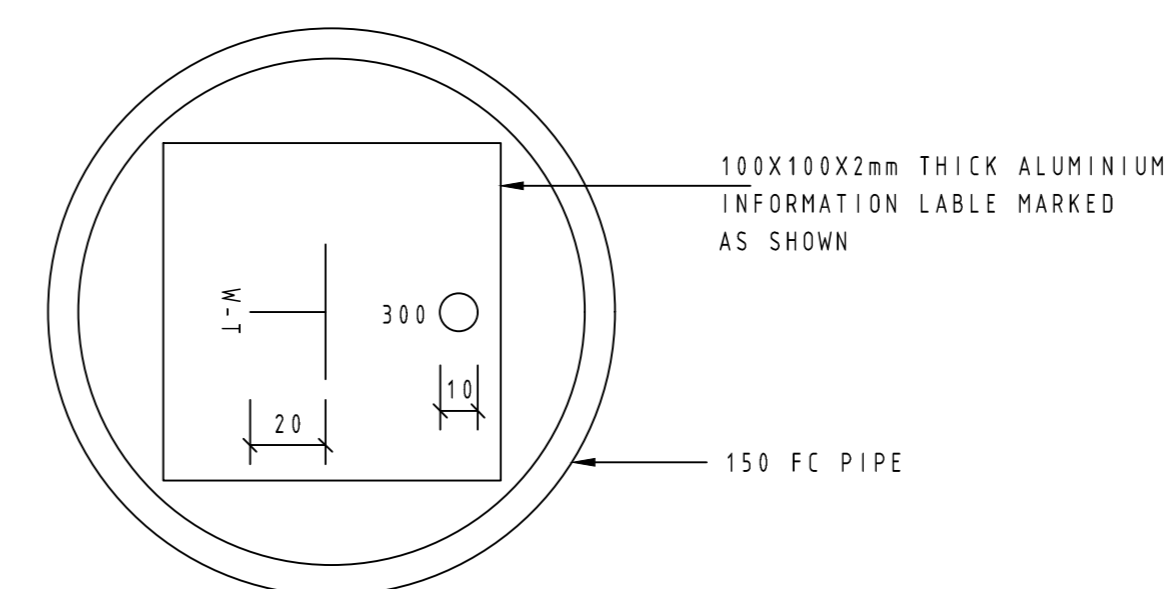


DETERMINATION OF BREAK-AWAY HOLES	
POLE DIA (mm)	HOLE DIA (mm)
< 140	NONE
141 - 170	40
171 - 200	50
201 - 225	65



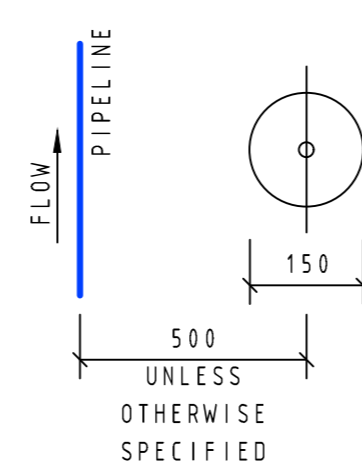
ELEVATION  
SCALE 1 : 10

NOTE: POSITIONING OF ALL PIPELINE MARKERS, TO BE DETERMINED BY ENGINEER ON SITE. NO PIPE MARKER ALLOW IN FRONT OF A FLAT OR DRIVEWAY



PLAN  
SCALE 1 : 2

PLAN  
SCALE 1 : 10



POSITION  
SCALE 1 : 10

PIPELINE MARKER  
TYPE A

NOTE:

- W - INDICATES TYPE OF SERVICE - WATER
- T - INDICATES TYPE OF FITTING - TEE
- T - FITTING TO BE DRAWN ON ALUMINIUM PLATE
- 300 - DISTANCE BETWEEN MARKER AND FITTING IN mm
- D - RELATIVE POSITION OF SERVICE MARKER
- PIPE TO BE FILLED WITH 10MPa CONCRETE
- LETTER HEIGHT = 15mm

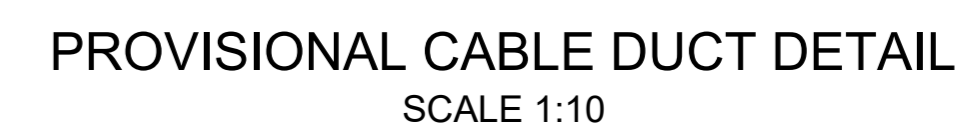
PIPELINE MARKER  
TYPE B

# PIPELINE MARKERS

## TYPE A & B

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PRELIMINARY  
DESIGN

**CAPRICORN DISTRICT MUNICIPALITY**

PO Box 4100  
POLOKWANE  
0700

TEL: 015 294 1000  
FAX: 015 291 4297



The logo of the Capricorn District Municipality features a central shield with a yellow sun and a black gear. The shield is flanked by two grey birds. Below the shield is a green banner with the motto 'To Serve is to Succeed'. The entire logo is set against a white background.

**DISTRICT MUNICIPALITY**



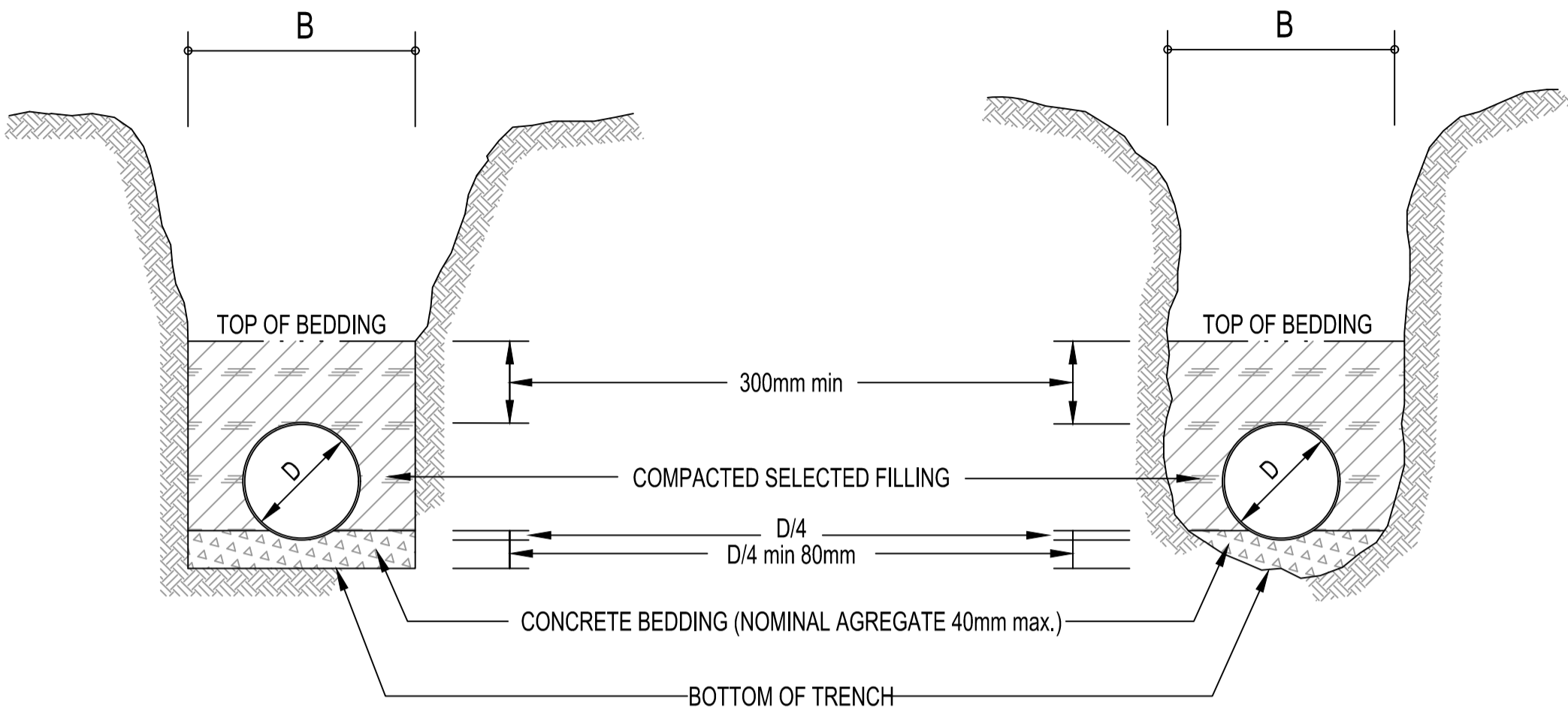
INF-W29/2022/2023

KROMHOEK (MAKGATHO) DEVREDE TAAIBOSCH  
NEW STANDS (CONTRACT B) WATER SUPPLY

## PUMP HOUSE DETAILS

(Full signature)  Per Client  Per Consulting Engineer	20 / /	SHEET <b>02</b> OF <b>02</b>
	20 / /	AD SCALE  <b>AS SHOWN</b>
CONSULTANTS DRAWING NUMBER  <b>TAAIBOSCH PPH 122-02</b>		CLIENT DRAWING NUMBER  <b>TAAIBOSCH PPH 122-02</b>

CLASS A BEDDING: LOADFACTOR = 3.0



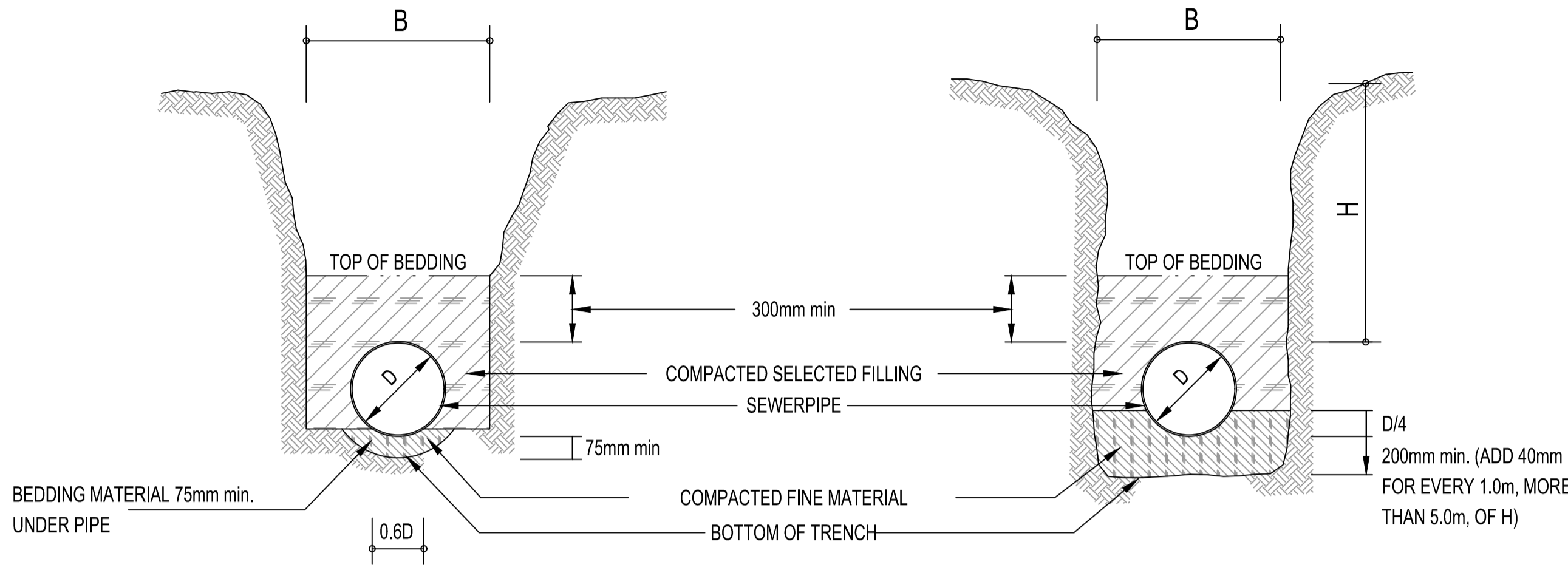
(1) TRENCH IN SOFT MATERIAL  
APPROVED FOR TRENCH BOTTOM

## CLASS A1

(2) TRENCH IN HARD ROCK MATERIAL

## CLASS A2

CLASS B BEDDING: LOADFACTOR = 1.9



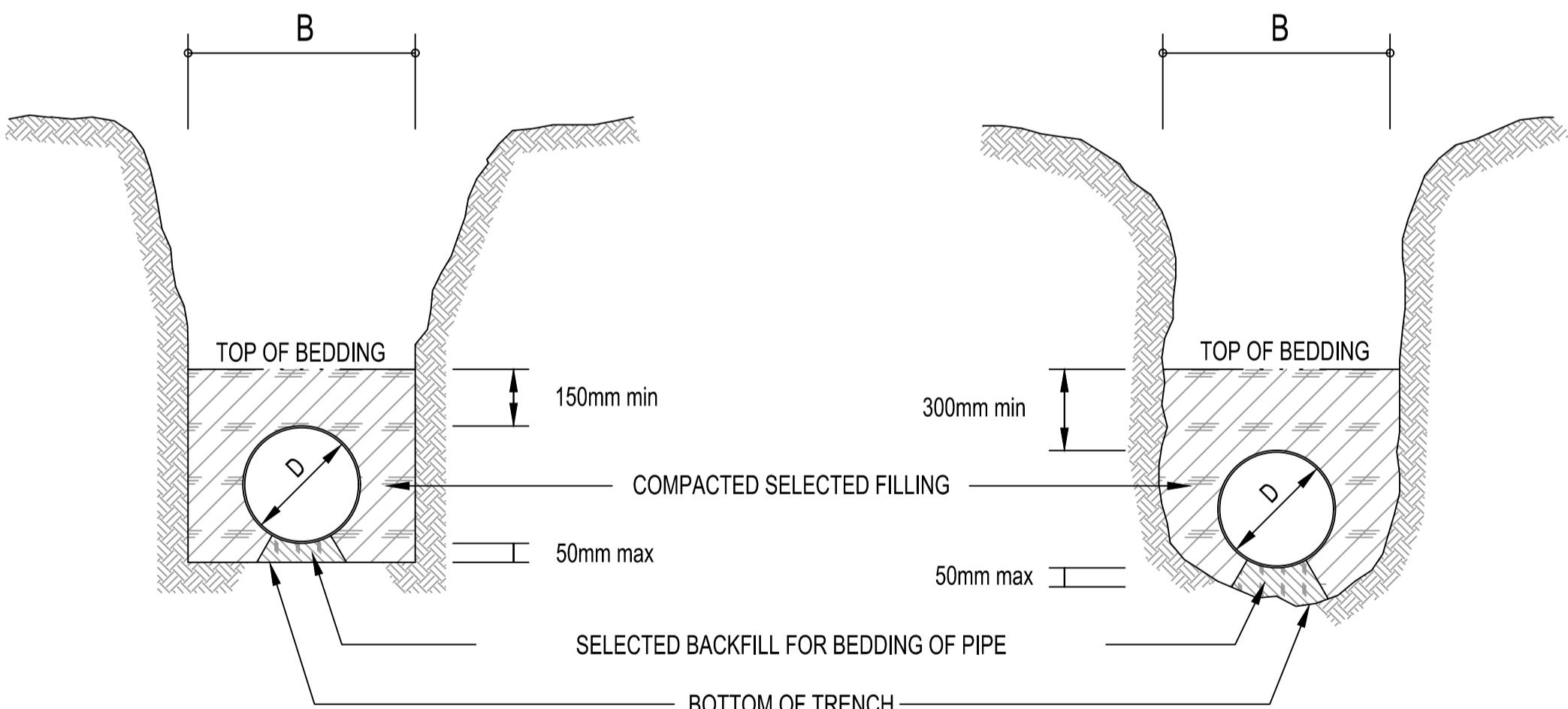
(1) BOTTOM MATERIAL ACCEPTABLE  
FOR BEDDING OF PIPE

(2) BOTTOM MATERIAL UNACCEPTABLE  
FOR BEDDING OF PIPE

CLASS B1

CLASS B2

CLASS C BEDDING: LOADFACTOR = 1,5



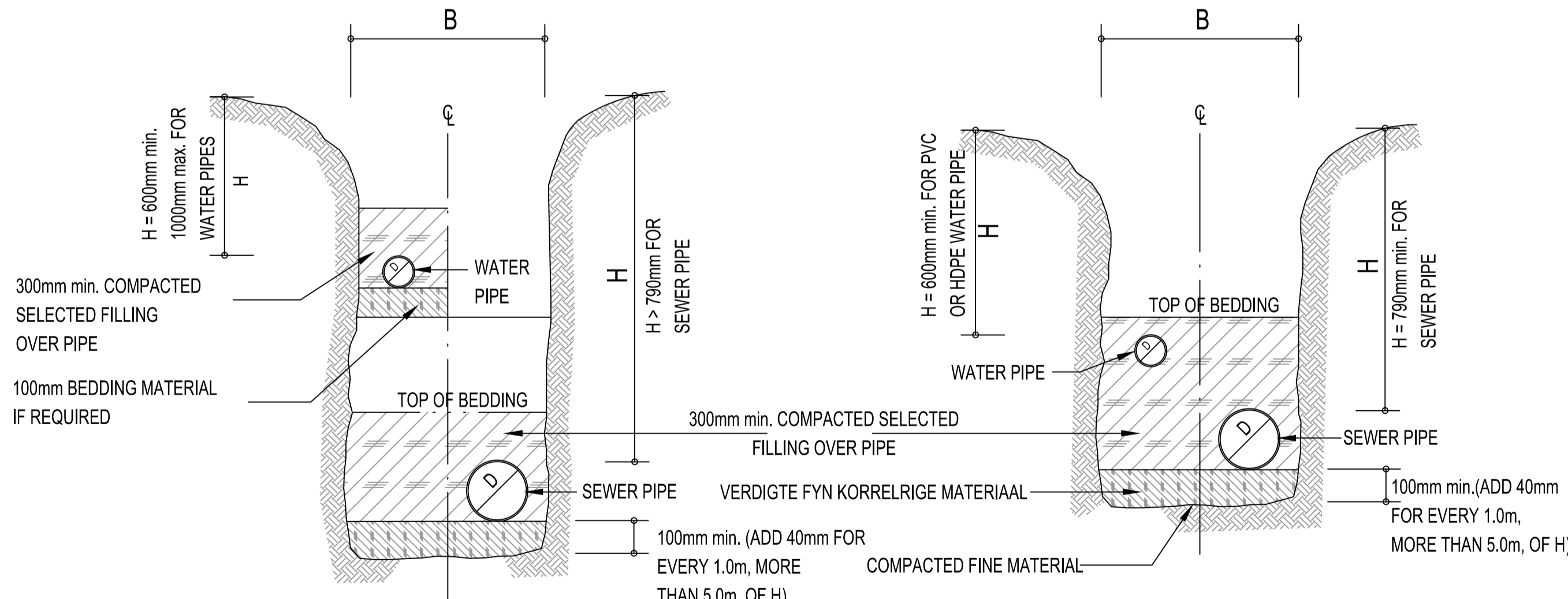
(1) BOTTOM MATERIAL ACCEPTABLE  
FOR BEDDING OF PIPE

## CLASS C1

(2) BOTTOM MATERIAL UNACCEPTABLE  
FOR BEDDING OF PIPE

## CLASS C2

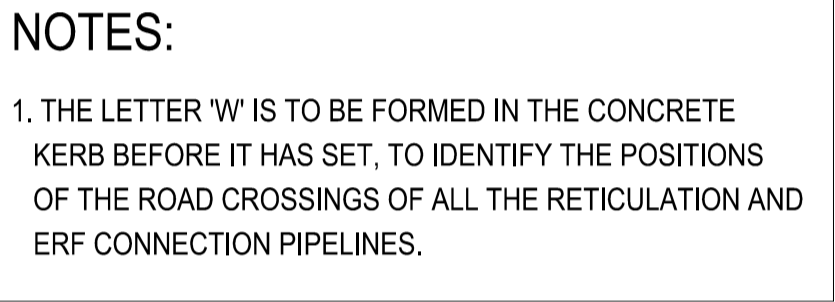
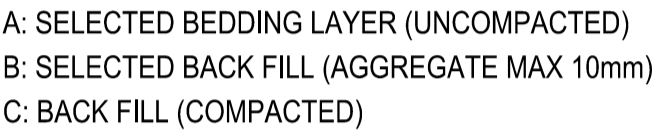
## TYPICAL COMBINED SEWER / WATER TRENCH CLASS B2



MINIMUM DEPTH < 1000mm

MINIMUM DEPTH UP TO 1000mm

[illegible]



## PRELIMINARY DESIGN

**CAPRICORN DISTRICT MUNICIPALITY**

**PO Box 4100**  
**POLOKWANE**  
**0700**

**TEL: 015 294 1000**  
**FAX: 015 291 4297**

The logo of the Capricorn District Municipality features a central shield with a green sunburst and a yellow sun. The shield is flanked by two grey birds. Above the shield is a crown. Below the shield is a banner with the text 'WE ARE SO PROUD'.

**DISTRICT MUNICIPALITY**

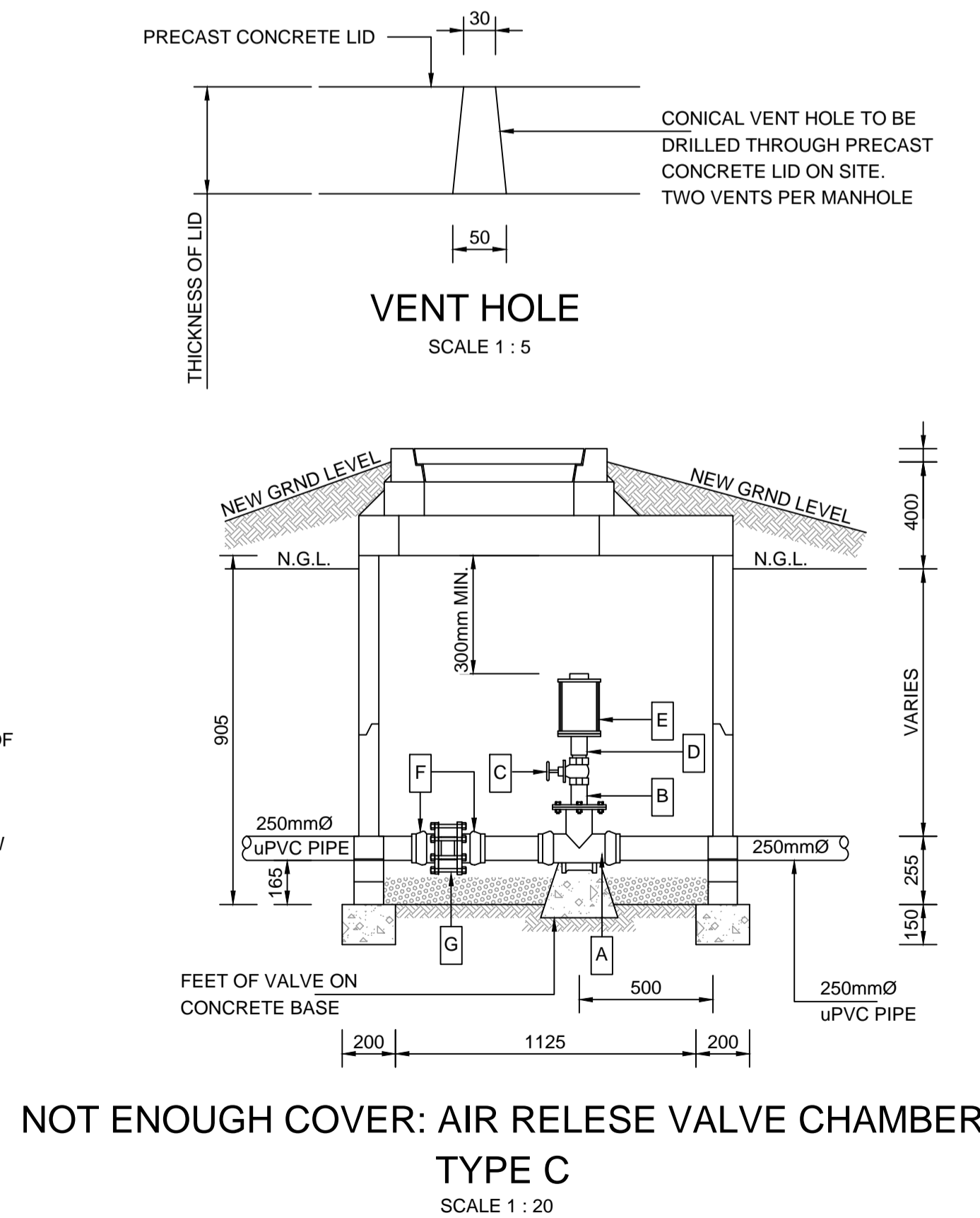
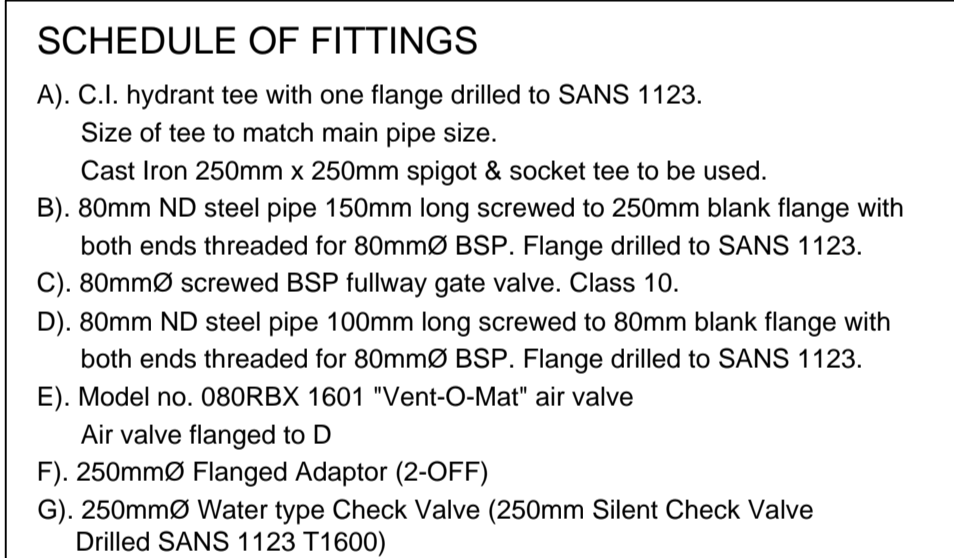
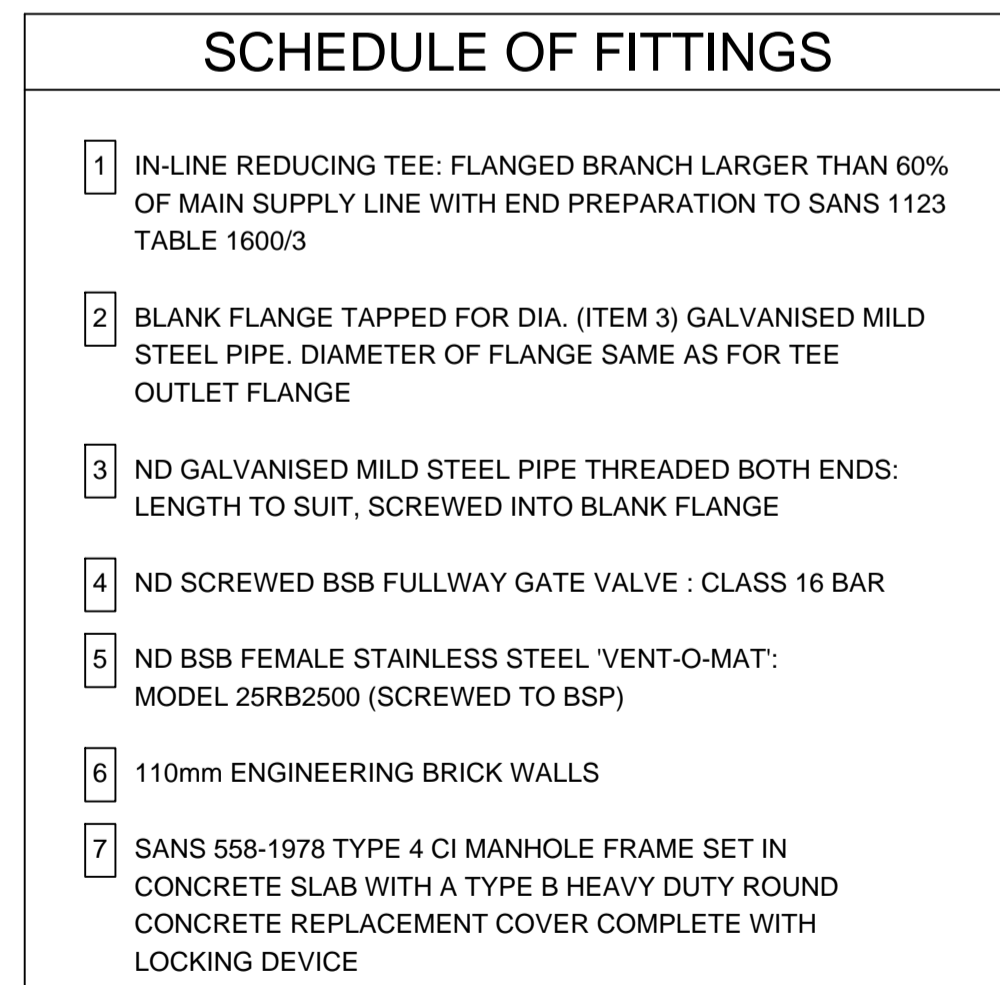
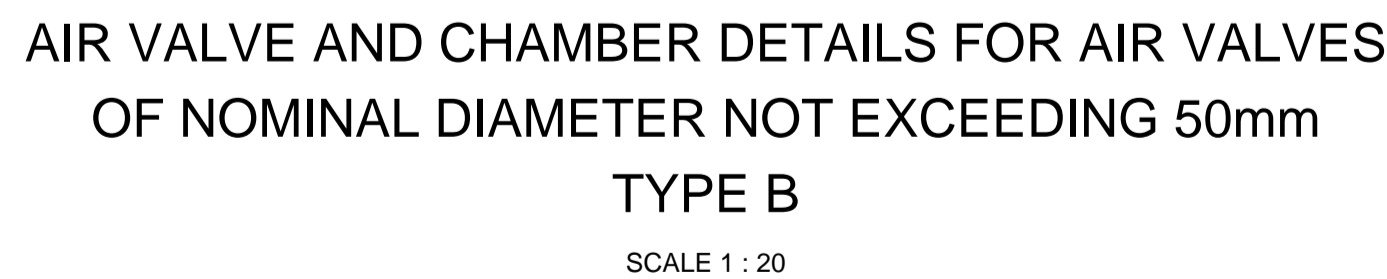
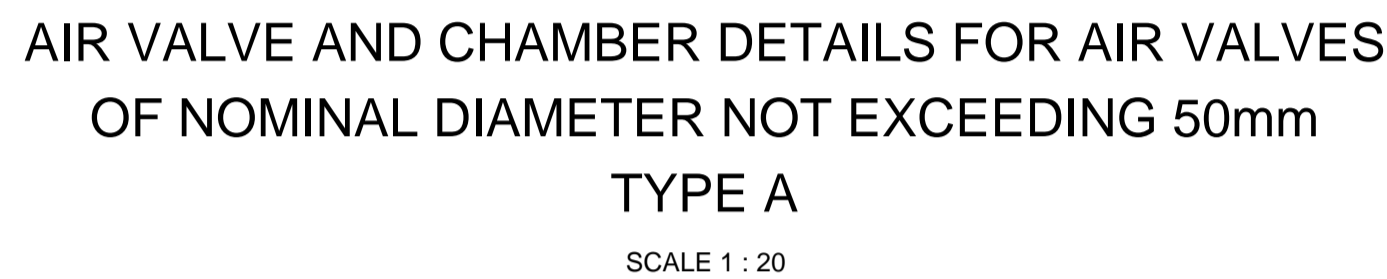


INF-W29/2022/2023

KROMHOEK (MAKGATHO) DEVREDE TAAIBOSCH  
NEW STANDS (CONTRACT B) WATER SUPPLY

ERF CONNECTION  
PIPE DETAIL

(Full signature)  For Client 20 / /  For Consulting Engineer 20 / /	SHEET 01 of 01  A0 SCALE  AS SHOWN
CONSULTANTS DRAWING NUMBER TAAIBOSCH SD-02/122	CLIENT DRAWING NUMBER TAAIBOSCH SD-02/122



										<div style="display: flex; justify-content: space-between;"><div style="width: 20%;"><div style="border: 1px solid black; padding: 10px; text-align: center; margin-bottom: 10px;"><b>PRELIMINARY DRAWING</b></div><table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 5%;">A</td><td style="width: 15%;">09/2022</td><td style="width: 40%;">PRELIMINARY DESIGN</td><td style="width: 10%;">S.M.N</td><td style="width: 10%;">L.G.N</td></tr><tr><td>No</td><td>DATE</td><td>REVISION</td><td>CONSULT</td><td>DIR</td></tr></table></div><div style="width: 30%;"><table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">DESIGNED BY</td><td>SM NXUMALO (Pr. Technician)</td></tr><tr><td>CHECKED BY</td><td>LG NGCOBO (Pr. Technologist)</td></tr><tr><td>DRAWN BY</td><td>J Mkhathshane (Technician)</td></tr><tr><td>CHECKED BY</td><td>SM NXUMALO (Pr. Technician)</td></tr></table></div><div style="width: 30%;"><p><b>CAPRICORN DISTRICT MUNICIPALITY</b></p><p>PO Box 4100 POLOKWANE 0700</p><p>TEL: 015 294 1000 FAX: 015 291 4297</p><p><b>CAPRICORN</b> DISTRICT MUNICIPALITY</p></div><div style="width: 30%;"><p><b>MALOKA CONSULTING ENGINEERS</b></p><p>01 church street Morwamocha House POLOKWANE 0699</p><p>TEL: 015-2330104.</p></div></div>										A	09/2022	PRELIMINARY DESIGN	S.M.N	L.G.N	No	DATE	REVISION	CONSULT	DIR	DESIGNED BY	SM NXUMALO (Pr. Technician)	CHECKED BY	LG NGCOBO (Pr. Technologist)	DRAWN BY	J Mkhathshane (Technician)	CHECKED BY	SM NXUMALO (Pr. Technician)	<div style="display: flex; justify-content: space-between;"><div style="width: 40%;"><p>_____ CLIENT</p><p>_____ DATE</p></div><div style="width: 60%;"><p>_____ CONSULTING ENGINEER</p><p>_____ DATE</p></div></div>										<p style="text-align: center;">INF-W29/2022/2023</p> <hr/> <p style="text-align: center;">KROMHOEK (MAKGATHO) DEVREDE TAAIBOSCH NEW STANDS (CONTRACT B) WATER SUPPLY</p> <hr/> <p style="text-align: center;">AIR VALVE CHAMBER DETAILS</p>										<table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; text-align: center;"><p>Project Number</p><p>29 / 1</p><p>For Client</p><p>29 / 1</p><p>For Consulting Engineer</p></td><td style="width: 50%; text-align: center;"><p>SHEET 01 of 01</p><p>AS SCALE</p><p>AS SHOWN</p></td></tr><tr><td style="text-align: center;"><p>CONSULTANTS DRAWING NUMBER</p><p>TAAIBOSCH SD-03/122</p></td><td style="text-align: center;"><p>CLIENT DRAWING NUMBER</p><p>TAAIBOSCH SD-03/122</p></td></tr></table>										<p>Project Number</p> <p>29 / 1</p> <p>For Client</p> <p>29 / 1</p> <p>For Consulting Engineer</p>	<p>SHEET 01 of 01</p> <p>AS SCALE</p> <p>AS SHOWN</p>	<p>CONSULTANTS DRAWING NUMBER</p> <p>TAAIBOSCH SD-03/122</p>	<p>CLIENT DRAWING NUMBER</p> <p>TAAIBOSCH SD-03/122</p>
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CHECKED BY	SM NXUMALO (Pr. Technician)																																																																						
<p>Project Number</p> <p>29 / 1</p> <p>For Client</p> <p>29 / 1</p> <p>For Consulting Engineer</p>	<p>SHEET 01 of 01</p> <p>AS SCALE</p> <p>AS SHOWN</p>																																																																						
<p>CONSULTANTS DRAWING NUMBER</p> <p>TAAIBOSCH SD-03/122</p>	<p>CLIENT DRAWING NUMBER</p> <p>TAAIBOSCH SD-03/122</p>																																																																						

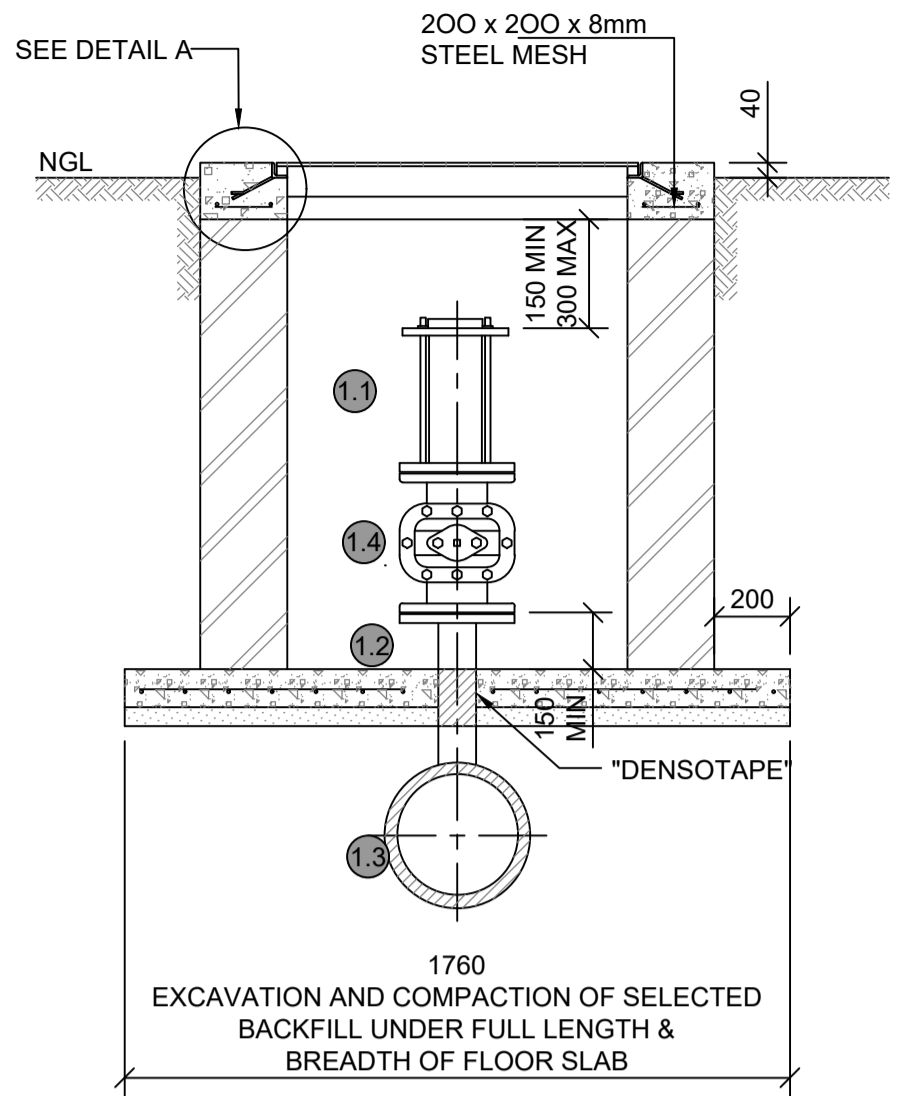
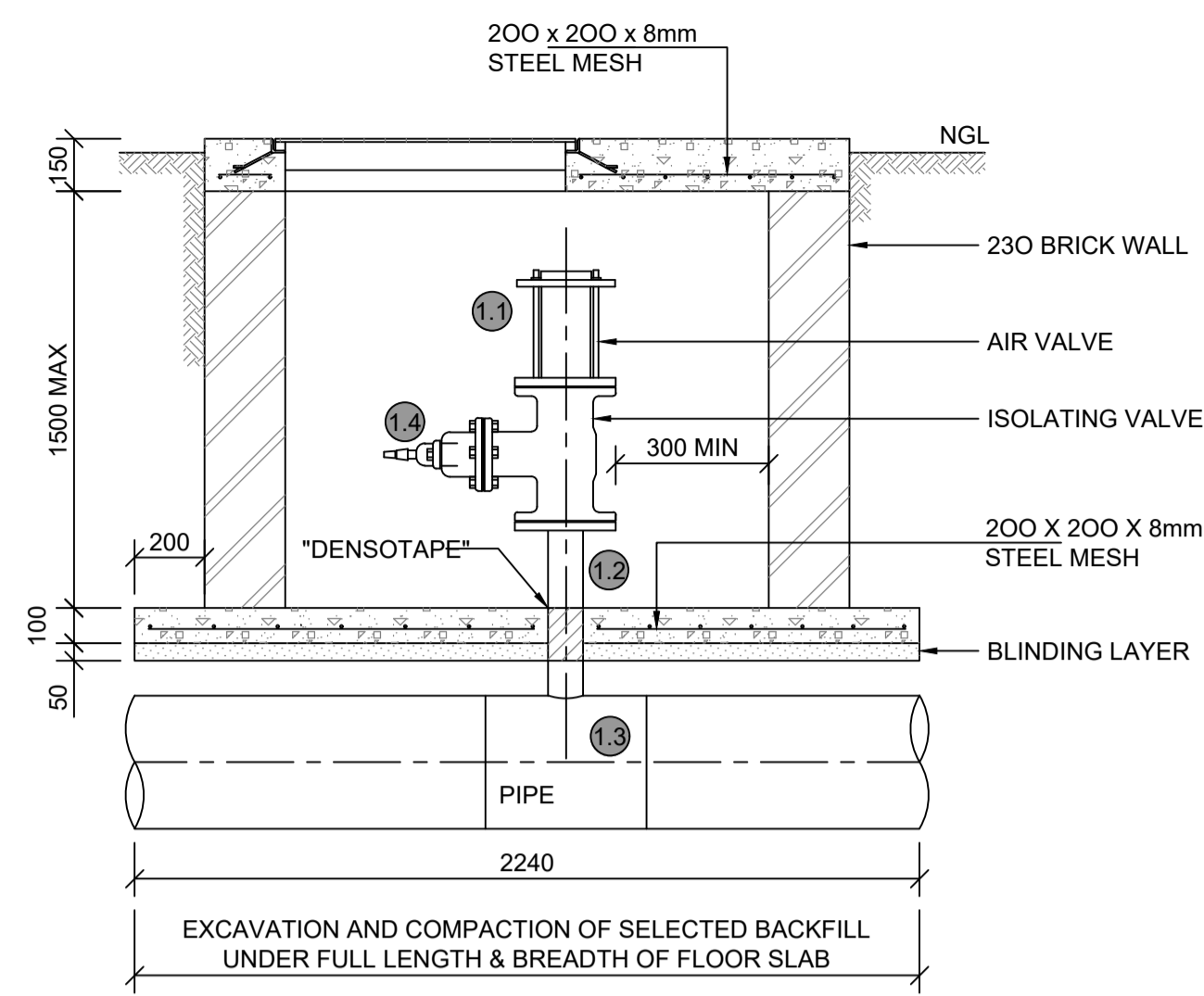
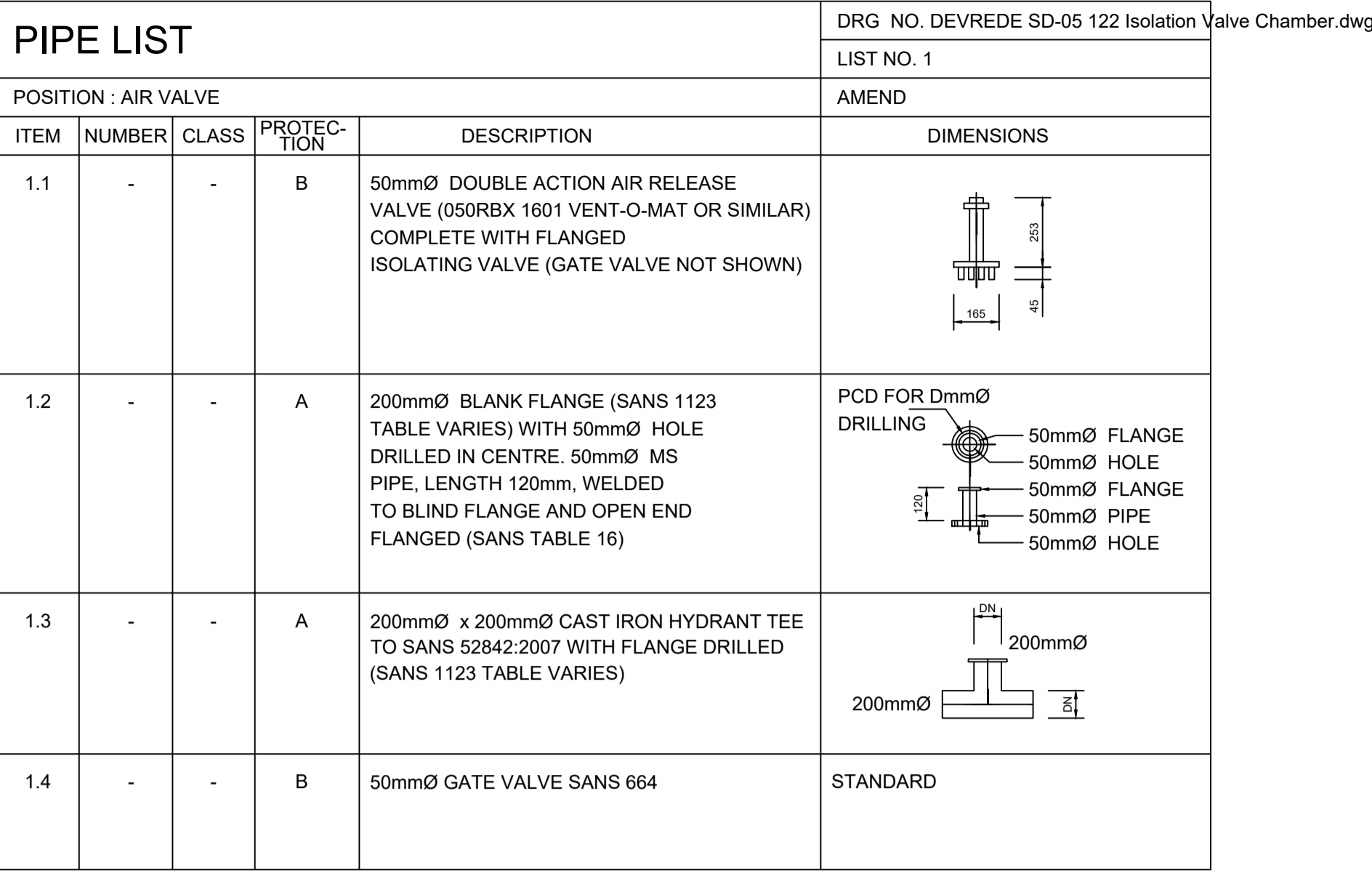


8. ALL FLANGES IN ACCORDANCE WITH TABLE 1600/3, UNLESS OTHERWISE STATED



CONSULTANTS DRAWING NUMBER	CLIENT DRAWING NUMBER
TAAIBOSCH SD-04/122	TAAIBOSCH SD-04/122





SECTION A  
SCALE 1 : 20

SECTION B  
SCALE 1 : 20

## NOTES

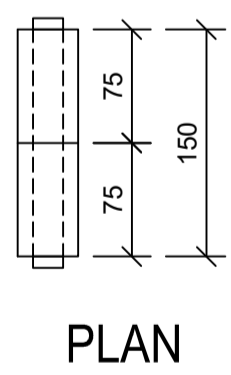
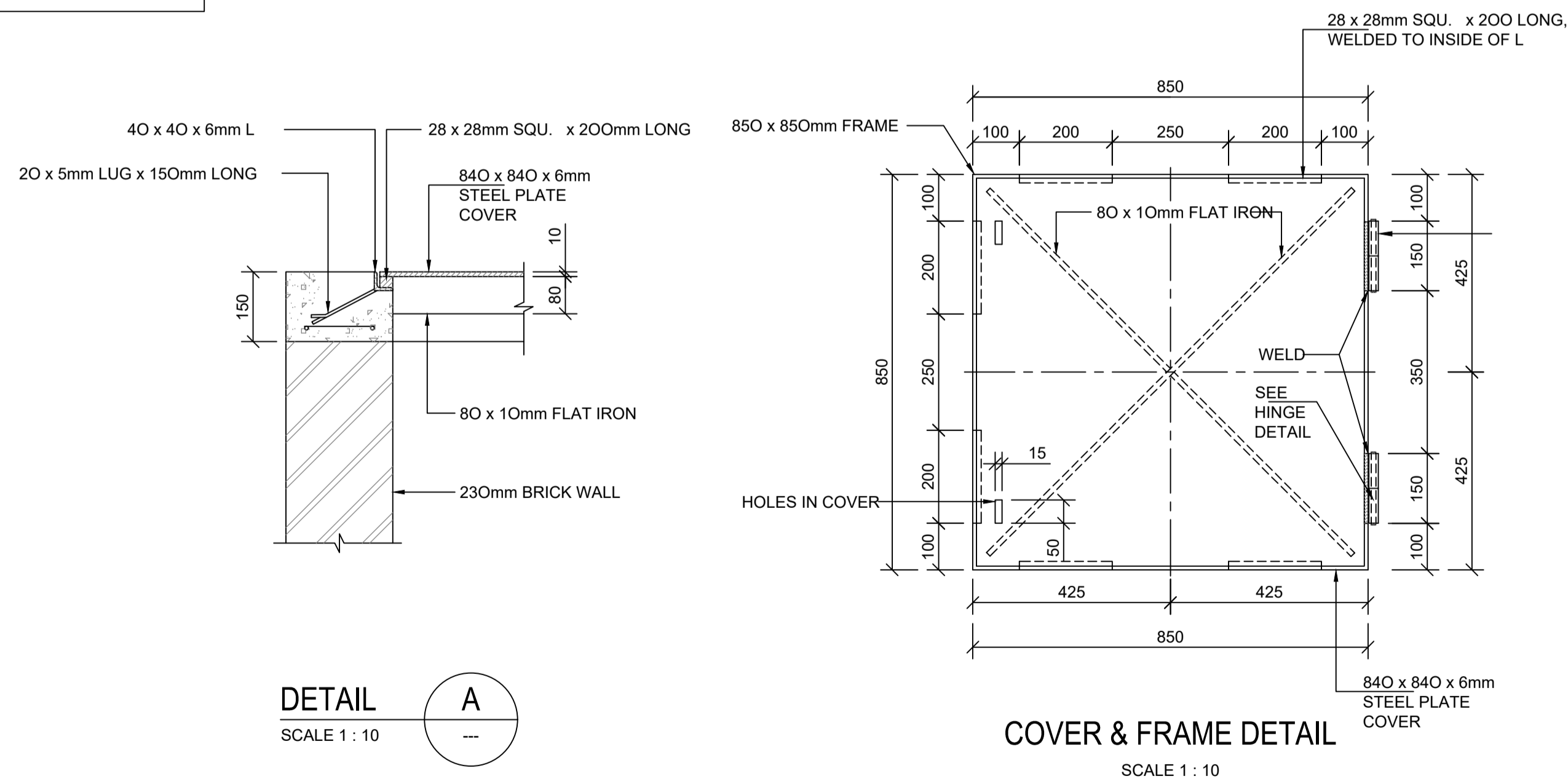
1. CERTAIN VALVES ARE USED FOR THE DESIGN OF THE PIPE LAYOUT, IN THE EVENT THAT ALTERNATIVE ITEMS ARE ACCEPTED DURING TENDER THE DIMENSIONS OF ADJACENT PIPE ITEMS ARE TO BE ADAPTED ACCORDINGLY.

### PROTECTION CODES

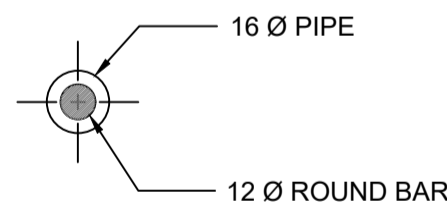
- A. ALL ITEMS TO BE SANDBLAST CLEANED AND 2 LAYERS OF EPOXY RESIN COPON EP 2300 APPLIED TO A TOTAL DRY THICKNESS = 250 microns
  - B. FACTORY PROTECTION
2. RESILIENT SEAL GATE VALVES : IN ACCORDANCE TO SANS 664, RIGHT HAND LOCKING. ALL VALVES ARE FLANGED AND EQUIPPED WITH HANDWHEELS, UNLESS OTHERWISE STATED. VALVES TO BE SUPPLIED WITH THE NECESSARY PRESSURE REDUCERS AND/OR GEARS TO ENABLE FUNCTIONING AT THE SPECIFIED UNBALANCED PRESSURE.
3. ALL FLANGES IN ACCORDANCE WITH TABLE 1600/3, UNLESS OTHERWISE STATED.

NOTES:

1. CONCRETE STRENGTH - 20 MPa (28 DAYS)
2. CONCRETE COVER - 40mm



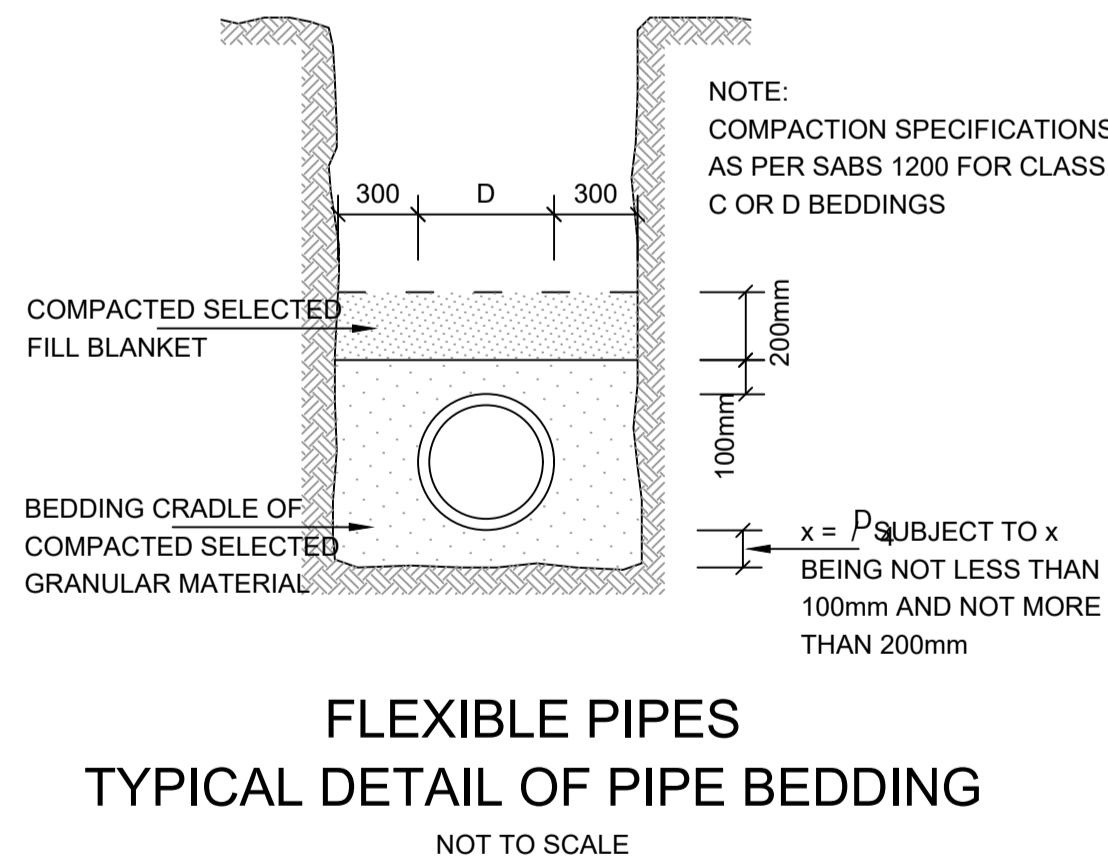
## PLAN



## ELEVATION

# HINGE DETAIL

SCALE 1 : 5



### FLEXIBLE PIPES

#### TYPICAL DETAIL OF PIPE BEDDING

NOT TO SCALE

A	30/2022	ISSUED FOR APPROVAL		S/MN	L/GN
No	DATE	REVISION		CONSULT	DIR

FOR  
APPROVAL

DESIGNED BY	SM NXUMALO ( Pr. Technician)
CHECKED BY	LG NGCOBO ( Pr. Technologist)
DRAWN BY	J Mkhathshane (Technician)
CHECKED BY	SM NXUMALO ( Pr. Technician)

**CAPRICORN DISTRICT MUNICIPALITY**

PO Box 4100  
POLOKWANE  
0700

TEL: 015 294 1000  
FAX: 015 291 4297



The logo of the Capricorn District Municipality features a central shield with a sunburst and a gear. The shield is flanked by two grey birds, possibly pelicans, standing on a green base. Above the shield is a crown. The text 'CAPRICORN' is written in bold capital letters above the shield, and 'DISTRICT MUNICIPALITY' is written in bold capital letters below the shield.

**MALOKA CONSULTING ENGINEERS**

01 church street  
Morwamocha House  
POLOKWANE  
0699

TEL: 015-2930104,

The logo for Maloka Consulting Engineers features the word "maloka" in a stylized, lowercase font. The "m" is blue, and the "a" is green. Below the word "maloka" is the text "Consulting Engineers" in a smaller, green, sans-serif font.

\_\_\_\_\_  
CLIENT DATE

---

\_\_\_\_\_  
CONSULTING ENGINEER DATE

INF-W29/2022/2023

KROMHOEK (MAKGATHO) DEVREDE TAAIBOSCH  
NEW STANDS (CONTRACT B) WATER SUPPLY

## ISOLATION VALVE CHAMBER

(Full signature)

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For Client

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For Consulting Engineer

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CONSULTANTS  
DRAWING NUMBER

**TAAIBOSCH SD-05/122**

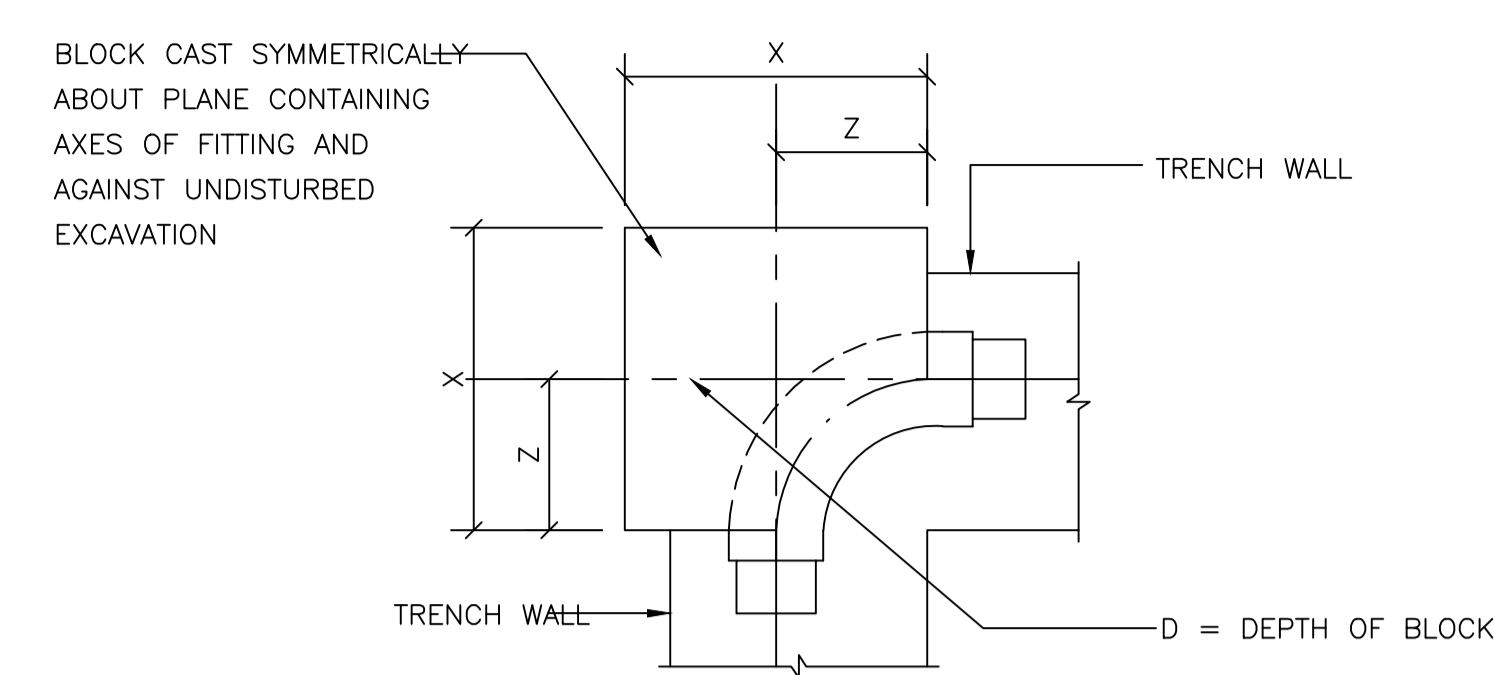
SHEET 01 OF 01

AD SCALE

AS SHOWN

CLIENT DRAWING NUMBER

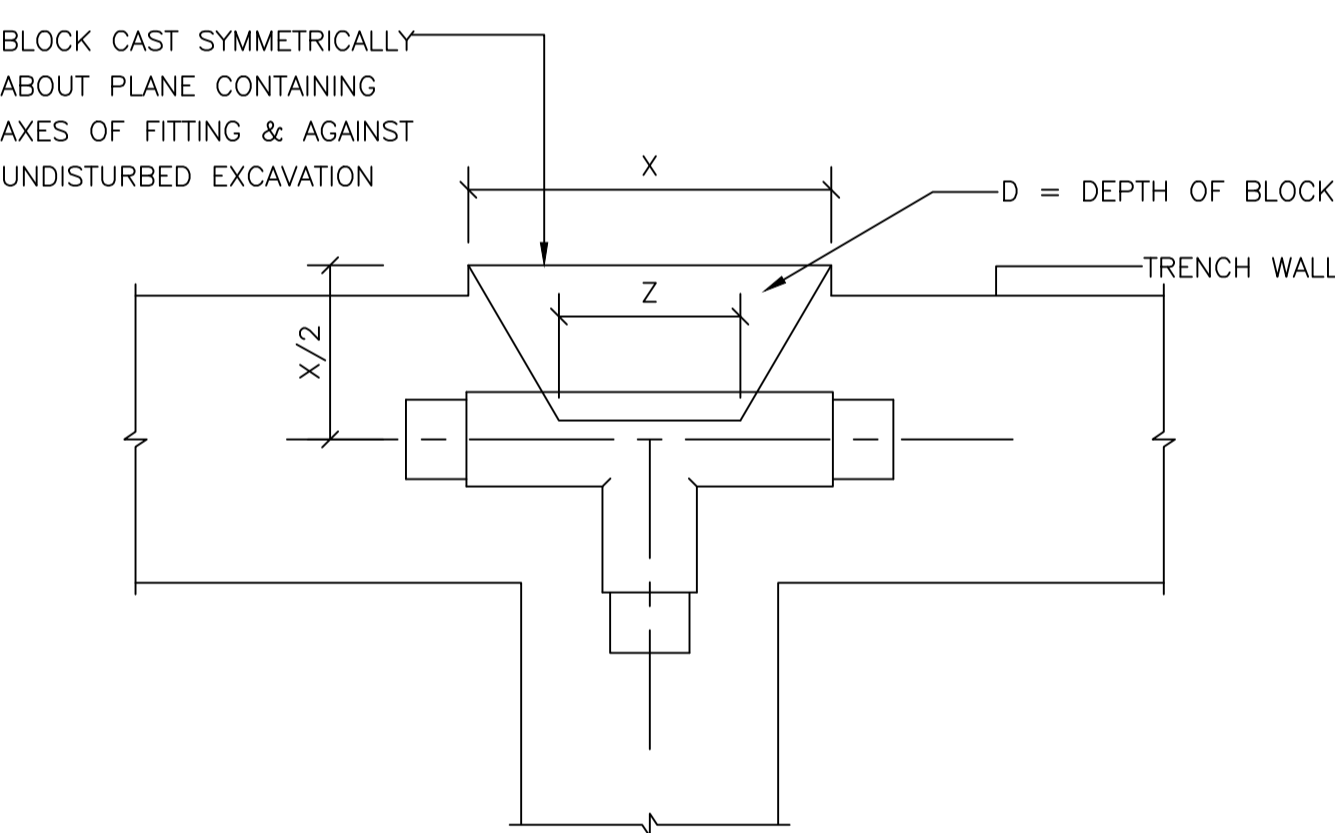
TAAIBOSCH SD-05/122



NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE

PIPE DIAMETER	X	D	Z
200	800	500	250
160	700	450	175
110	500	300	100
75	300	225	75
<50	300	225	75

THRUST BLOCK IN PRESSURE PIPELINE FOR 90 DEG. BEND  
N.T.S.



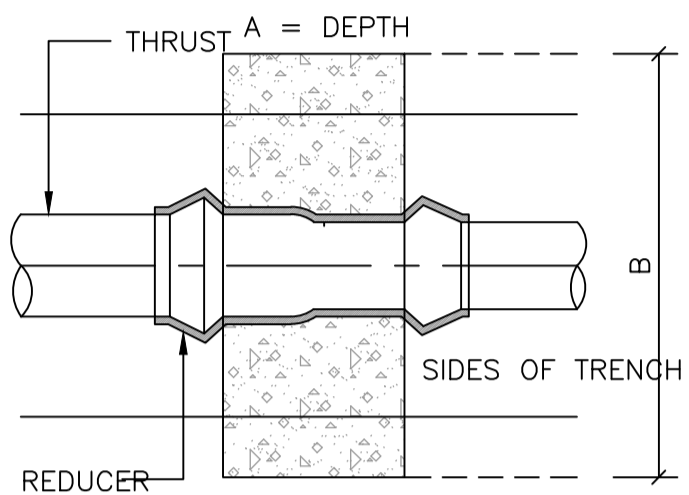
NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE

PIPE DIAMETER	X	D	Z
200	900	400	250
160	800	350	200
110	750	300	100
75	700	275	75
<50	700	275	75

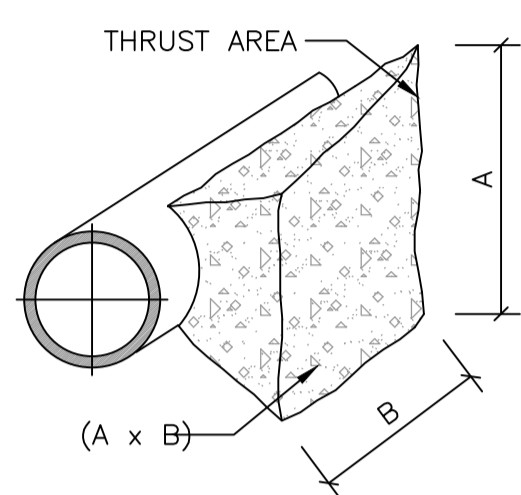
THRUST BLOCK IN PRESSURE PIPELINE FOR TEE  
N.T.S.

A GUIDE TO THRUST BLOCK SIZES				
LINE PRESSURE – 90m, PLUS ALLOWANCE FOR SURGE PRESSURE				
SOIL – MEDIUM LOAN				
PIPE SIZE	90° BENDS A x B	45° BENDS A x B	TEES A x B	END CAPS / SLUICE VALVES REDUCERS A x B
50mm –90mm	0,2 x 0,2	0,2 x 0,2	0,25 x 0,25	0,25 x 0,6
110mm	0,3 x 0,3	0,3 x 0,25	0,3 x 0,3	0,3 x 0,6
125mm&140mm	0,3 x 0,45	0,3 x 0,3	0,3 x 0,4	0,3 x 0,65
160mm	0,3 x 0,6	0,3 x 0,4	0,3 x 0,45	0,3 x 0,7
200mm	0,45 x 0,7	0,3 x 0,7	0,45 x 0,6	0,45 x 0,8
250mm	0,6 x 0,9	0,6 x 0,6	0,45 x 0,8	0,45 x 0,85
315mm	0,6 x 1,3	0,6 x 0,9	0,6 x 0,9	0,6 x 1,0
355mm	0,8 x 1,5	0,6 x 1,2	0,6 x 1,4	0,6 x 1,4
400mm	1,0 x 1,6	1,0 x 1,2	0,8 x 1,5	0,8 x 1,5

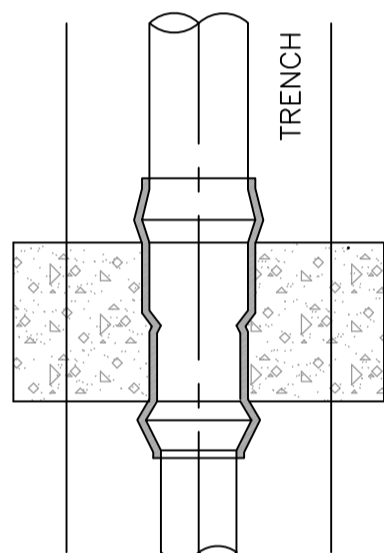
SIZES IN METRES



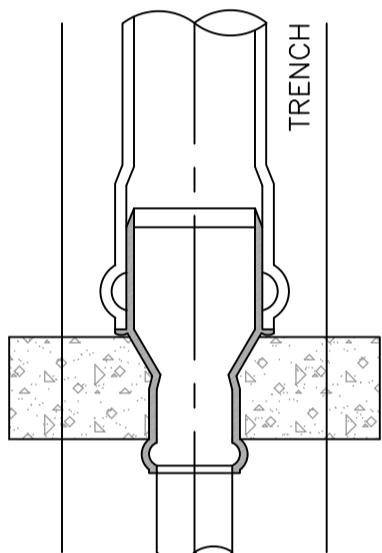
PLAN



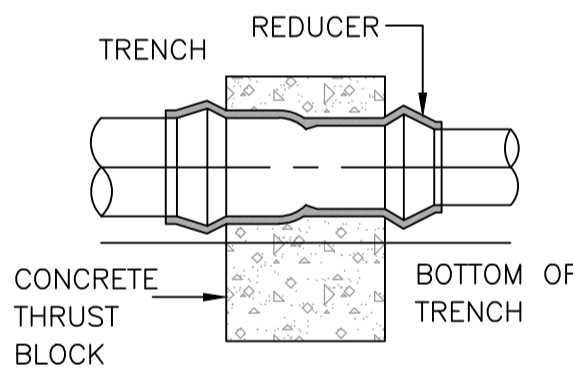
REDUCER, VALVES ETC.  
NOT TO SCALE



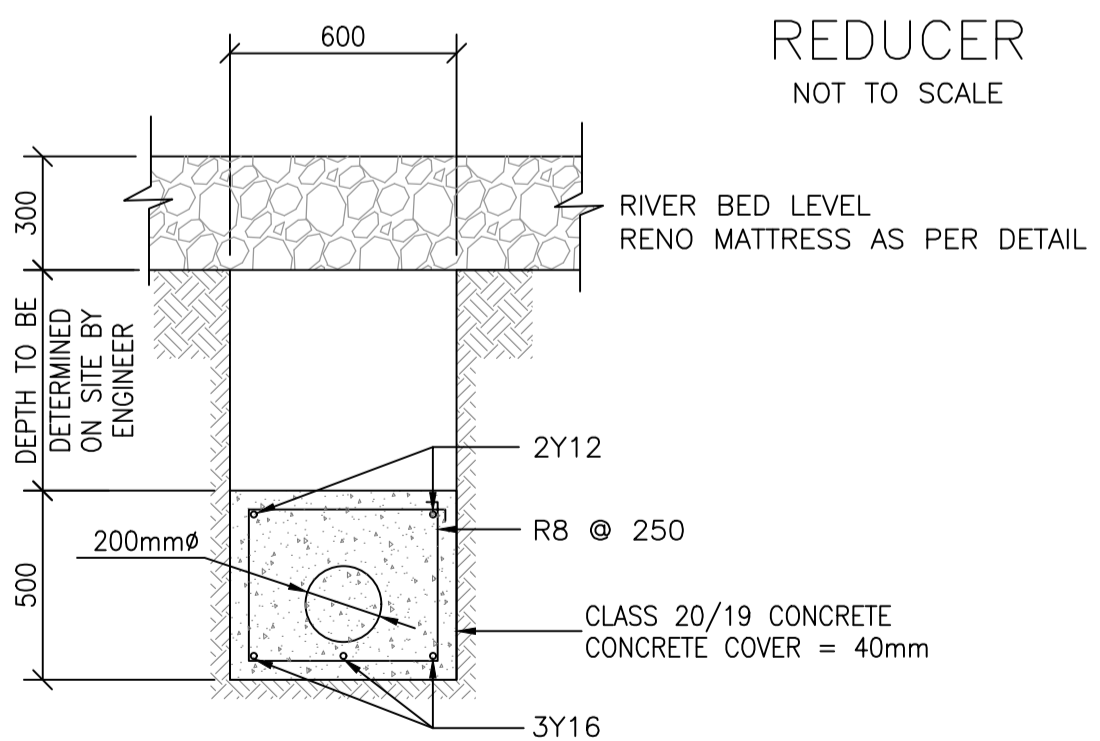
PLAN



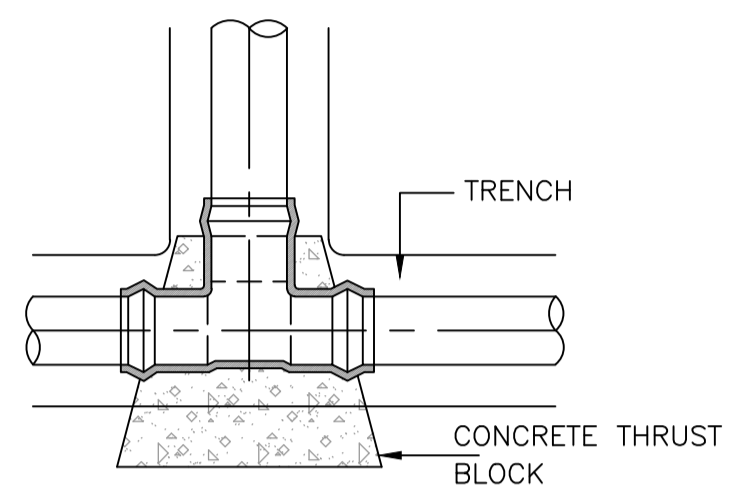
PLAN



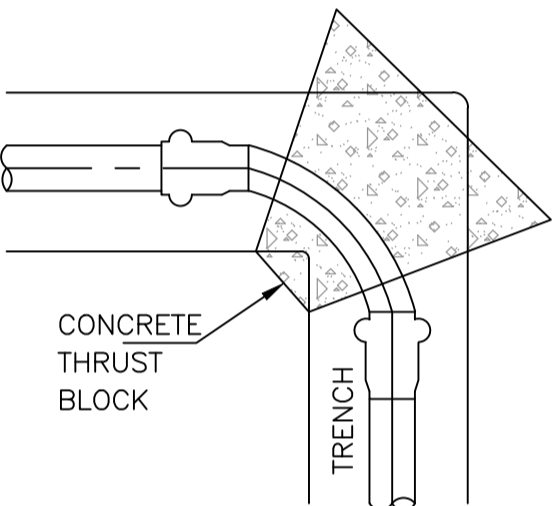
END ELEVATION



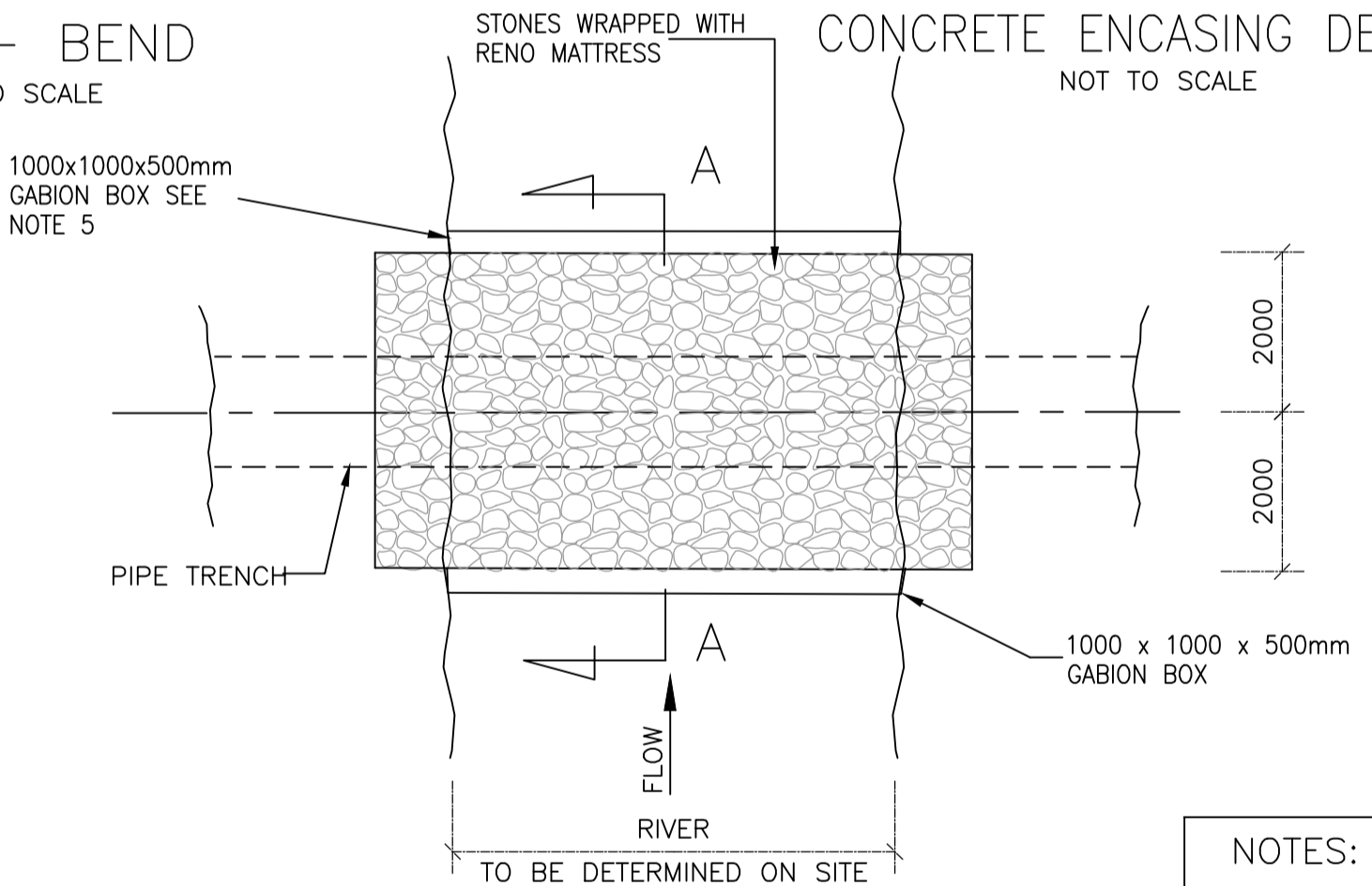
RIVERCROSSING REINFORCEMENT DETAIL  
SCALE 1 : 20



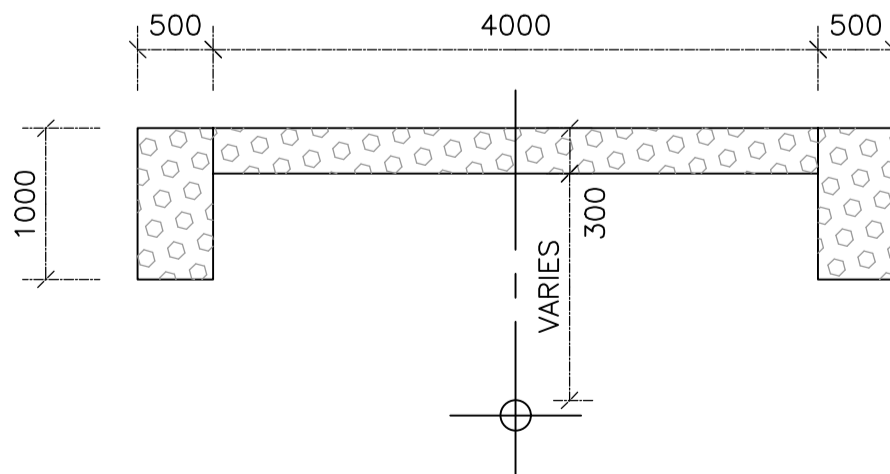
PLAN – TEE  
NOT TO SCALE



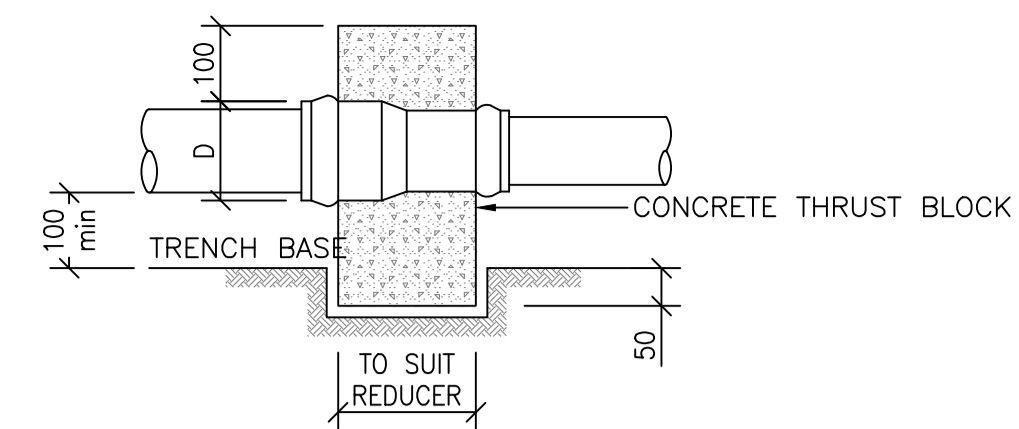
PLAN – BEND  
NOT TO SCALE



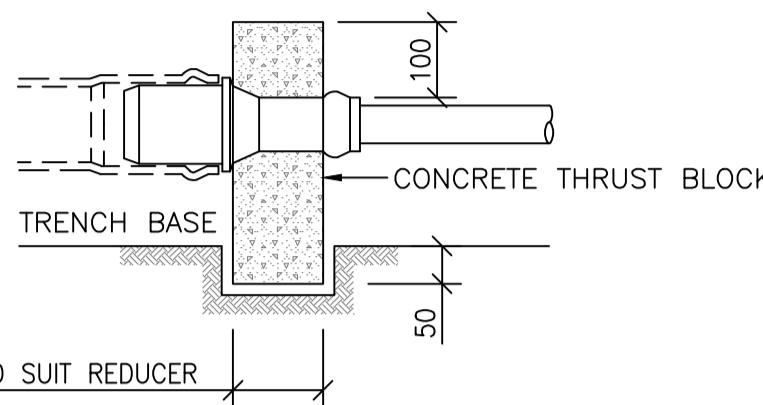
PLAN FOR A RIVER CROSSING  
N.T.S.



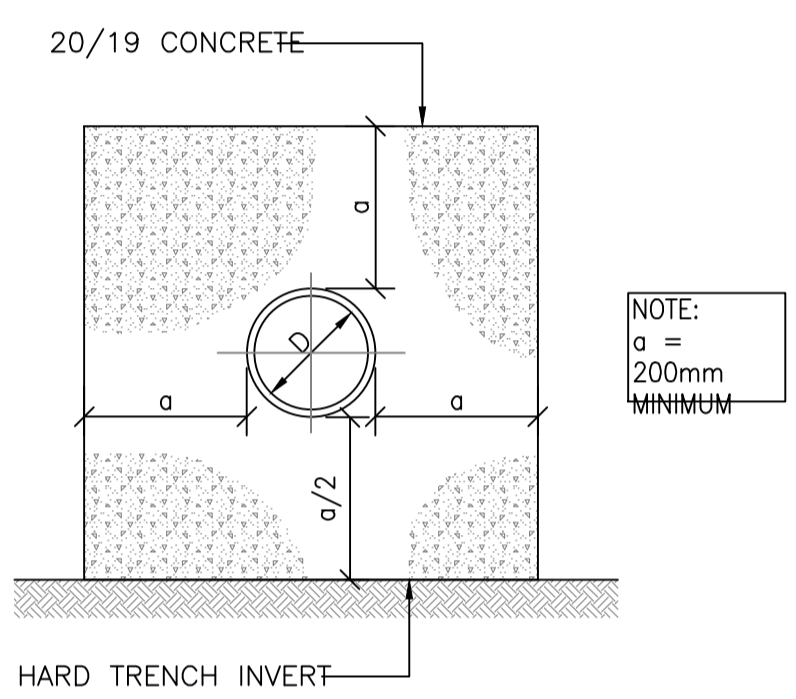
SECTION A FOR A RIVER CROSSING  
SCALE 1:50



SIDE ELEVATION OF REDUCER  
SCALE 1 : 10



SIDE ELEVATION OF REDUCER BUSH  
SCALE 1 : 10



NOTE:  
a = 200mm  
MINIMUM

- NOTES:
- FOR THE PIPES CROSSING THE STREAM, THE STONES SHALL BE LOOSELY PACKED.
  - ALL FLANGES TO BE DRILLED ACCORDING TO SABS 1123 TABLE 1600.
  - ALL GMS PIPEWORK IN ACCORDANCE WITH SABS 62, AND DENSO WRAPPED.
  - ALL CONCRETE TO BE 20MPa.
  - 1 x 1 x 0,5m GABION BOX TO BE PROVIDED ON INSTRUCTION OF THE RESIDENT ENGINEER.
  - ALL PIPEWORK TO BE TESTED BEFORE DENSO-WRAPPED AND INSTALLED.