



UMKHANYAKUDE DISTRICT MUNICIPALITY
CONTRACT No.: SCMU 021 2022/2023
MANGUZI STAR OF THE SEA
ZONE 7B

APRIL 2023

FOR TENDER

Prepared by :

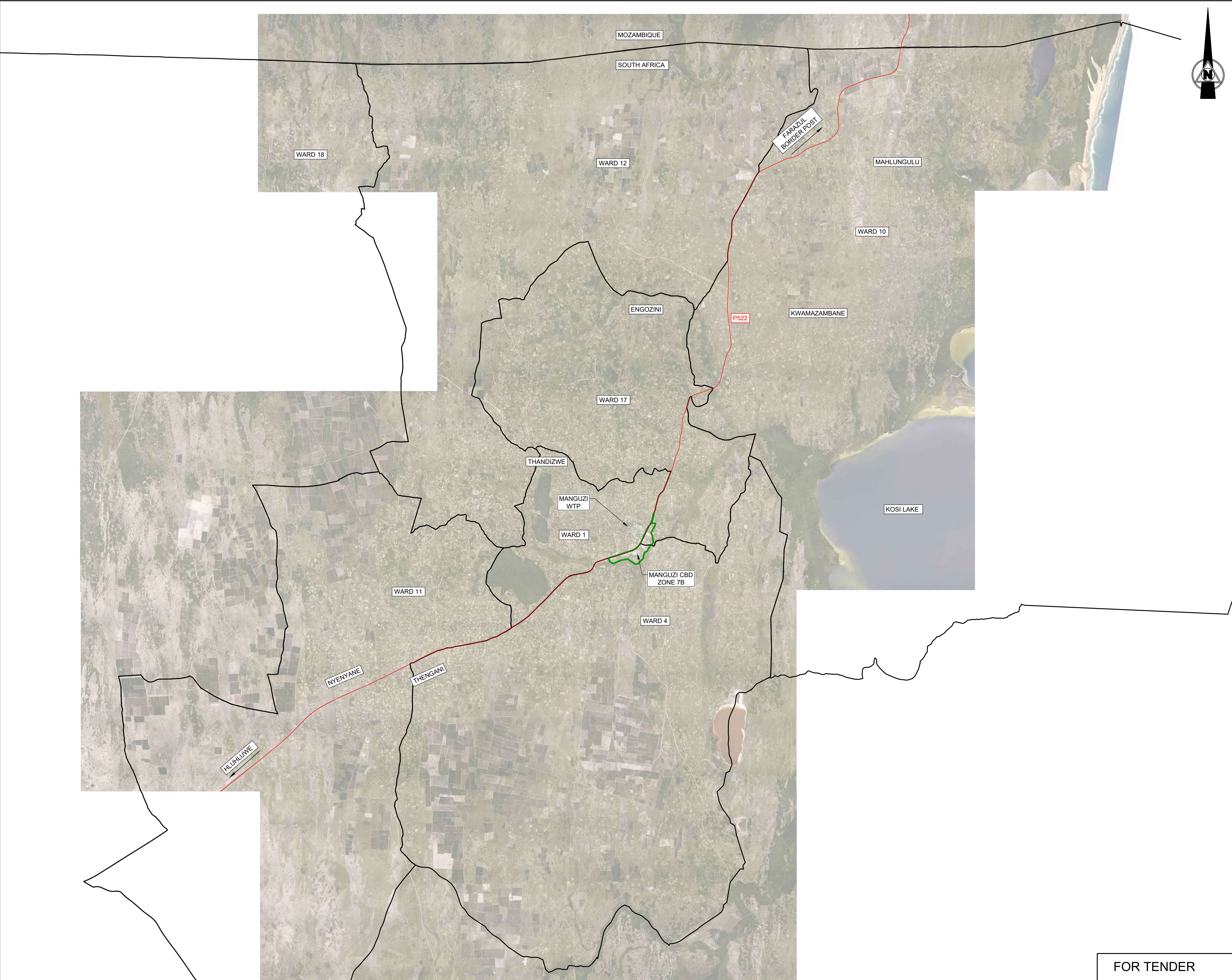


JG AFRIKA (Pty) Ltd
PO Box 794
HILTON
3245
Tel: 033 343 6700
Fax: 033 343 6701
e-mail: pietermaritzburg@jgafrika.com

Supported By :



EXPANDED PUBLIC WORKS PROGRAMME
Creating opportunities towards human fulfilment



NOTES

- P522
- WARD BOUNDARIES
- ZONE 7B BOUNDARY

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION



P.O. BOX 449
MKUZE
3965
TEL: (035) 573 8600
FAX: (035) 573 1094
STAND 13433, KINGFISHER ROAD
MKUZE, 3965

UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

APPROVED:
CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245
TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com
6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : AS SHOWN	DATE: APRIL 2023
DESIGNED: Q SHINGA	CHECKED: T.VAN VUUREN
DRAWN : M SHEZI	CHECKED: Q SHINGA
CONTRACT No. SCMU 021 2022/2023	
DESIGN CHECKED BY: T.VAN VUUREN	
CAPACITY: SENIOR TECHNOLOGIST	
PR.TECH ENG: 2020300712	
APPROVED ON BEHALF OF JG AFRIKA:	
CAPACITY: TECHNICAL DIRECTOR	
DATE: APRIL 2023	

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: LOCALITY PLAN
DESCRIPTION: SHEET 1 OF 1

FOR TENDER

DRAWING No. 3233-7B-001





LEGEND

- PROPOSED ELEVATED TANK
- ZONE 7B BOUNDARY
- ZONE 7B RETICULATION

NOTES

A	FOR TENDER	QS	APR 23
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REVISION

Municipal Infrastructure Grant

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FAX: (035) 573 1094

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**UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27**

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6 PIN OAK AVENUE, HILTON, 3245

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DATE: APRIL 2023	

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

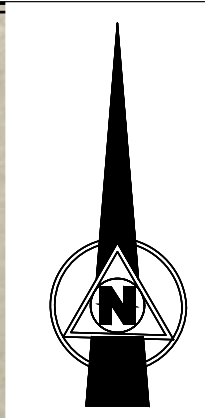
TITLE: OVERALL LAYOUT PLAN

DESCRIPTION: SHEET 1 OF 1

FOR TENDER

DRAWING No. 3233-7B-100

A



NOTES

1. THE PIPE ROUTES, ERF CONNECTIONS, AIR, SCOUR AND ISOLATING VALVES POSITIONS TO BE CONFIRMED BY THE EMPLOYER'S AGENT ON SITE.

LEGEND

- ZONE 7B RETICULATION (TRENCH EXCAVATION) ————
- ZONE 7B RETICULATION (PIPE DRILLING) - - - - -
- ZONE 7B ERF CONNECTION (TRENCH EXCAVATION) ————
- ZONE 7B ERF CONNECTION (PIPE DRILLING) - - - - -
- ZONE 7B BOUNDARY ————

- END CAP
- AV7-3 AIR VALVE
- IV7-3 ISOLATING VALVE
- SV7-3 SCOUR VALVE
- T7-3 POINT SKETCH
- F7-3 FIRE HYDRANT

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

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3965

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TELEPHONE: (033) 343-6700
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E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : 1:2 000

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PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

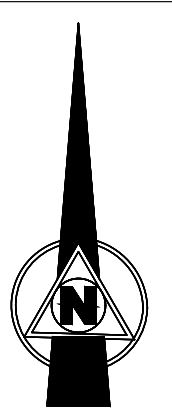
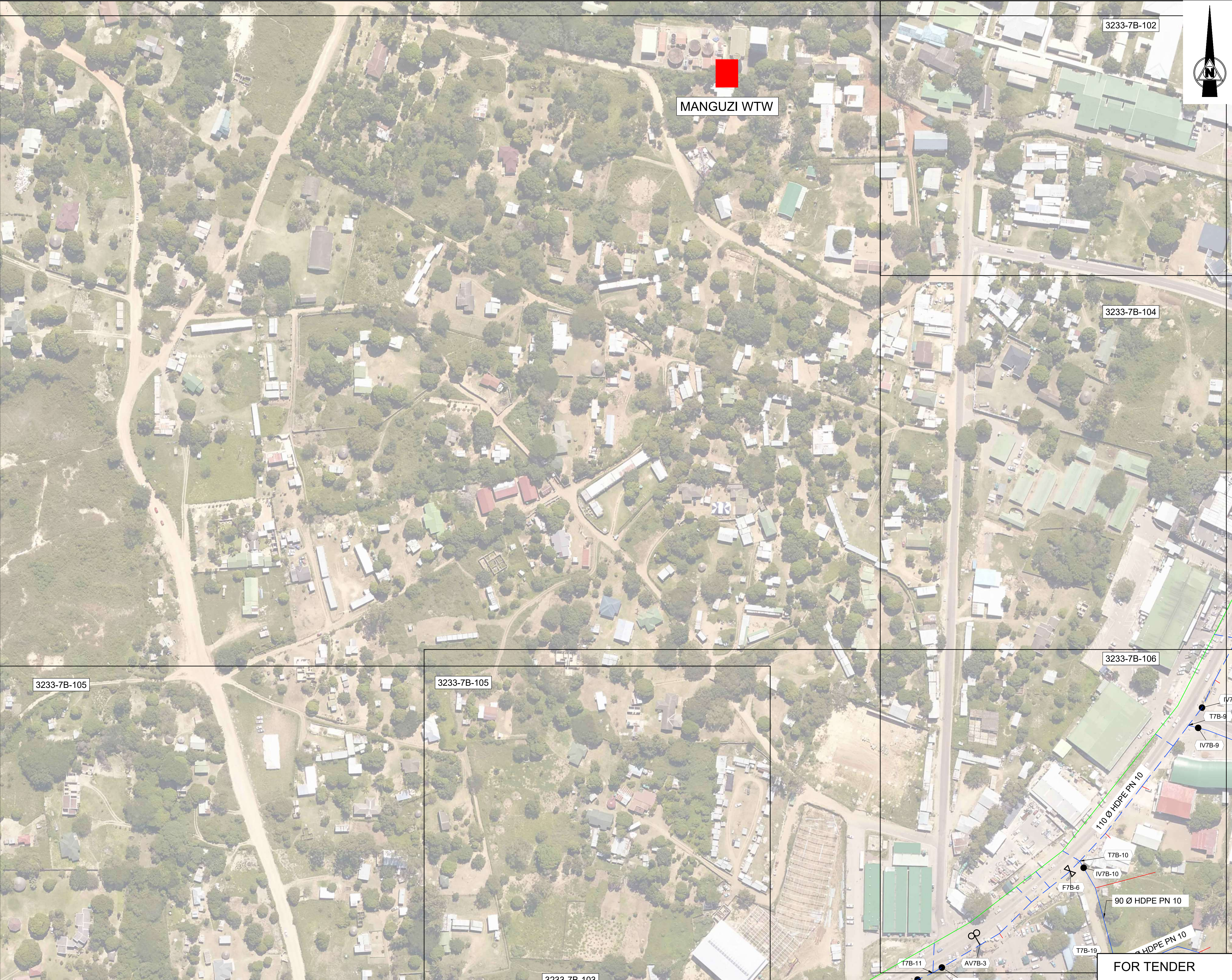
TITLE: ZONE 7B RETICULATION

DESCRIPTION: SHEET 2 OF 6

FOR TENDER

DRAWING No. 3233-7B-102

A



NOTES

1. THE PIPE ROUTES, ERF CONNECTIONS, AIR, SCOUR AND ISOLATING VALVES POSITIONS TO BE CONFIRMED BY THE EMPLOYER'S AGENT ON SITE.

LEGEND	
ZONE 7B RETICULATION (TRENCH EXCAVATION)	—
ZONE 7B RETICULATION (PIPE DRILLING)	- - -
ZONE 7B ERF CONNECTION (TRENCH EXCAVATION)	—
ZONE 7B ERF CONNECTION (PIPE DRILLING)	- - -
ZONE 7B BOUNDARY	—

⊗	END CAP
⊙	AIR VALVE
⊖	ISOLATING VALVE
⊙	SCOUR VALVE
⊙	POINT SKETCH
⊙	FIRE HYDRANT

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

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SCALE ON A1 : 1:1250	DATE: APRIL 2023
DESIGNED: Q SHINGA	CHECKED: T.VAN VUUREN
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CONTRACT No. SCMU 021 2022/2023	
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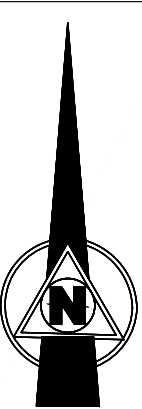


PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: ZONE 7B RETICULATION
DESCRIPTION: SHEET 3 OF 6

FOR TENDER

DRAWING No. 3233-7B-103

A



NOTES

1. THE PIPE ROUTES, ERF CONNECTIONS, AIR, SCOUR AND ISOLATING VALVES POSITIONS TO BE CONFIRMED BY THE EMPLOYER'S AGENT ON SITE.

LEGEND

- ZONE 7B RETICULATION (TRENCH EXCAVATION) ————
- ZONE 7B RETICULATION (PIPE DRILLING) - - - - -
- ZONE 7B ERF CONNECTION (TRENCH EXCAVATION) ————
- ZONE 7B ERF CONNECTION (PIPE DRILLING) - - - - -
- ZONE 7B BOUNDARY ————

- END CAP
- AV7-3 AIR VALVE
- IV7-3 ISOLATING VALVE
- SV7-3 SCOUR VALVE
- T7-3 POINT SKETCH
- F-7-3 FIRE HYDRANT

A	FOR TENDER	QS	APR 23
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3965

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FAX: (035) 573 1094

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FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : 1:1250

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CHECKED: T.VAN VUUREN

DRAWN : M SHEZI

CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023

DESIGN CHECKED BY: T.VAN VUUREN

CAPACITY: SENIOR TECHNOLOGIST

PR.TECH ENG: 2020300712

APPROVED ON BEHALF OF JG AFRIKA:

CAPACITY: TECHNICAL DIRECTOR

DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: ZONE 7B RETICULATION

DESCRIPTION: SHEET 4 OF 6

FOR TENDER

DRAWING No. 3233-7B-104

A



NOTES

1. THE PIPE ROUTES, ERF CONNECTIONS, AIR, SCOUR AND ISOLATING VALVES POSITIONS TO BE CONFIRMED BY THE EMPLOYER'S AGENT ON SITE.

LEGEND

ZONE 7B RETICULATION (TRENCH EXCAVATION)	—
ZONE 7B RETICULATION (PIPE DRILLING)	- - -
ZONE 7B ERF CONNECTION (TRENCH EXCAVATION)	—
ZONE 7B ERF CONNECTION (PIPE DRILLING)	- - -
ZONE 7B BOUNDARY	—

END CAP

AIR VALVE

ISOLATING VALVE

SCOUR VALVE

POINT SKETCH

FIRE HYDRANT

A	FOR TENDER	QS	APR 23
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Municipal Infrastructure Grant			
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P.O. BOX 794 HILTON 3245			
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6 PIN OAK AVENUE, HILTON, 3245			
SCALE ON A1 : 1:1250			
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CAPACITY: TECHNICAL DIRECTOR			
DATE: APRIL 2023			
ISO 9001 QUALITY MANAGEMENT SYSTEM DEKRA CERTIFIED			
PROJECT: MANGUZI STAR OF THE SEA ZONE 7B			
TITLE: ZONE 7B RETICULATION			
DESCRIPTION: SHEET 5 OF 6			
DRAWING No. 3233-7B-105			
A			

FOR TENDER



NOTES

1. THE PIPE ROUTES, ERF CONNECTIONS, AIR, SCOUR AND ISOLATING VALVES POSITIONS TO BE CONFIRMED BY THE EMPLOYER'S AGENT ON SITE.

LEGEND	
ZONE 7B RETICULATION (TRENCH EXCAVATION)	—
ZONE 7B RETICULATION (PIPE DRILLING)	- - -
ZONE 7B ERF CONNECTION (TRENCH EXCAVATION)	—
ZONE 7B ERF CONNECTION (PIPE DRILLING)	- - -
ZONE 7B BOUNDARY	—

	END CAP
	AIR VALVE
	ISOLATING VALVE
	SCOUR VALVE
	POINT SKETCH
	FIRE HYDRANT

A	FOR TENDER	QS	APR 23
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P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
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E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

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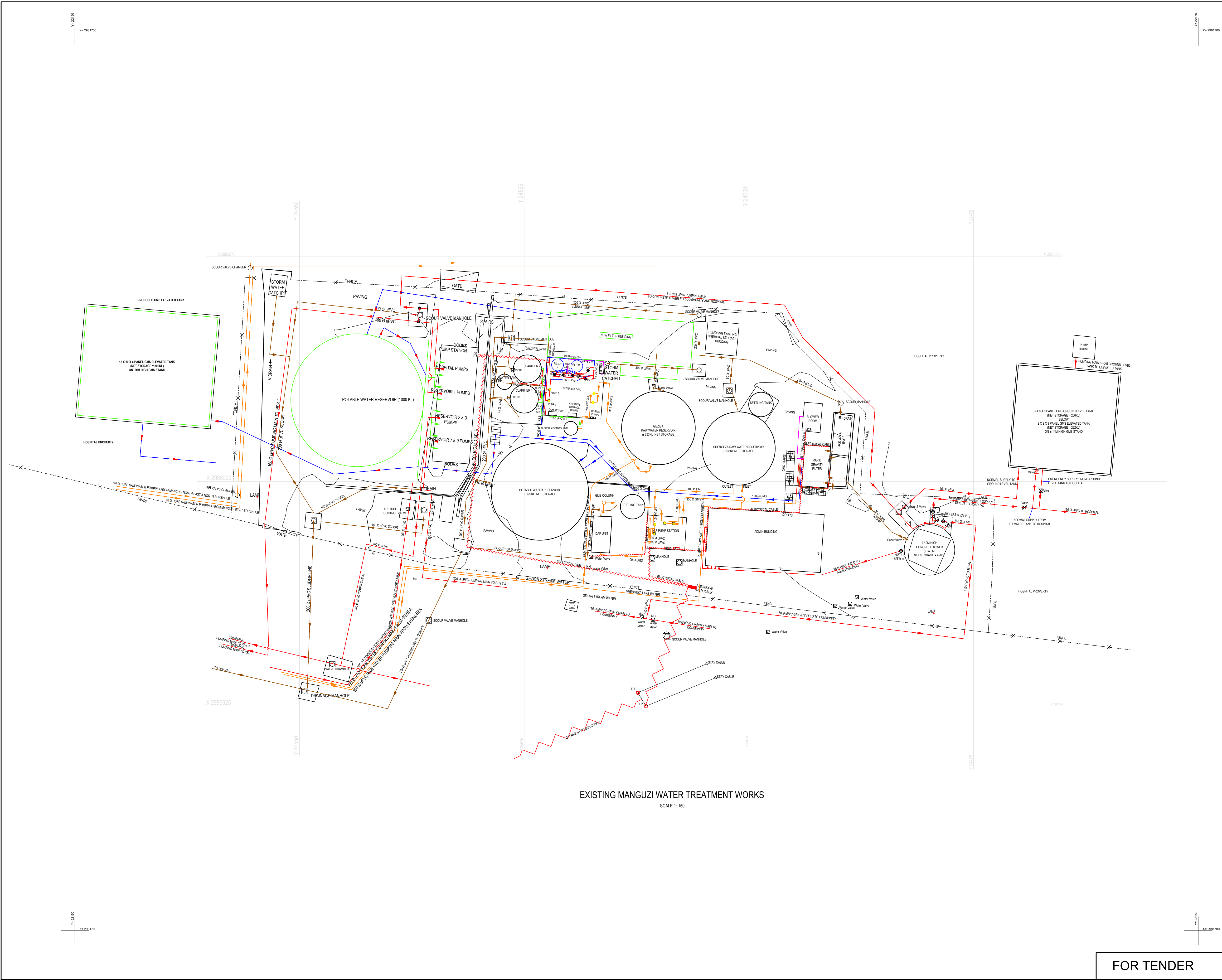


PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: ZONE 7B RETICULATION
DESCRIPTION: SHEET 6 OF 6

FOR TENDER

DRAWING No. 3233-7B-106

A



EXISTING MANGUZI WATER TREATMENT WORKS
SCALE 1:150

NOTES

1. FINAL POSITION OF THE 872 KL ELEVATED TANK TO BE DETERMINED ON SITE.

REVISION			
No.	DESCRIPTION	NAME	DATE
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3965

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DESIGNED: Q SHINGA
DRAWN : S KHOZA
CONTRACT No. SCMU 021 2022/2023
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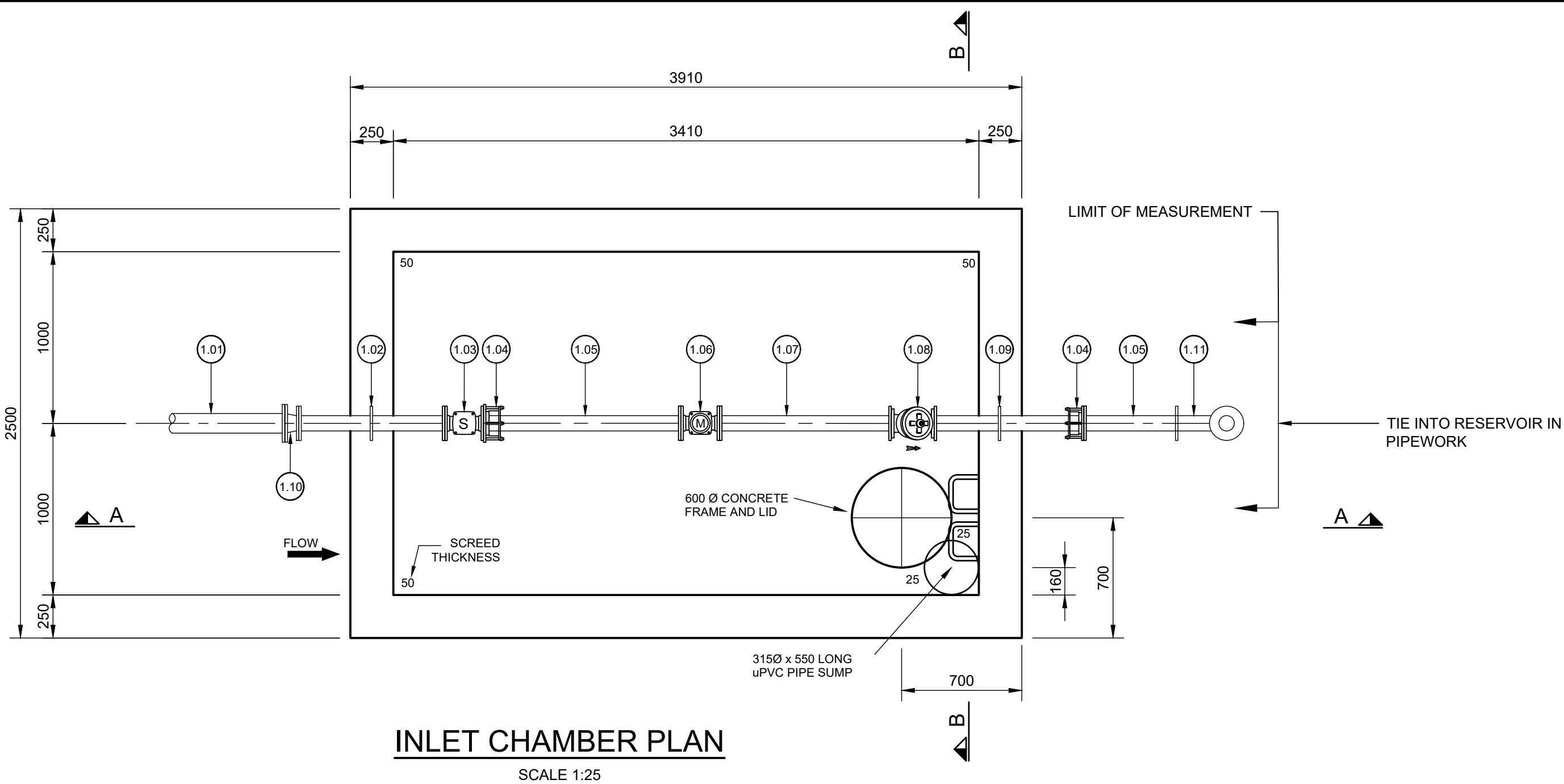


PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: MANGUZI WATER TREATMENT
WORKS
DESCRIPTION: SITE LAYOUT PLAN

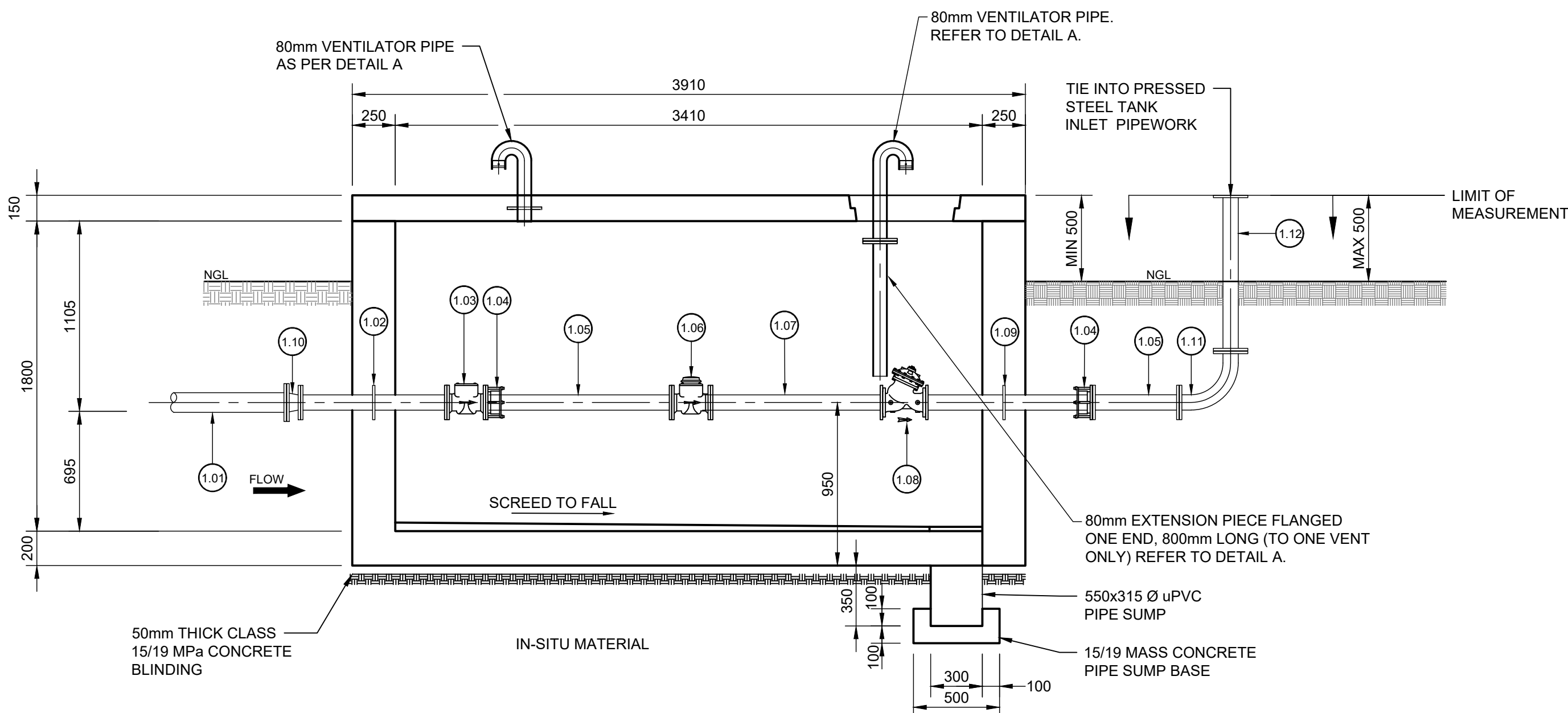
FOR TENDER

DRAWING No. 3233-7B-300

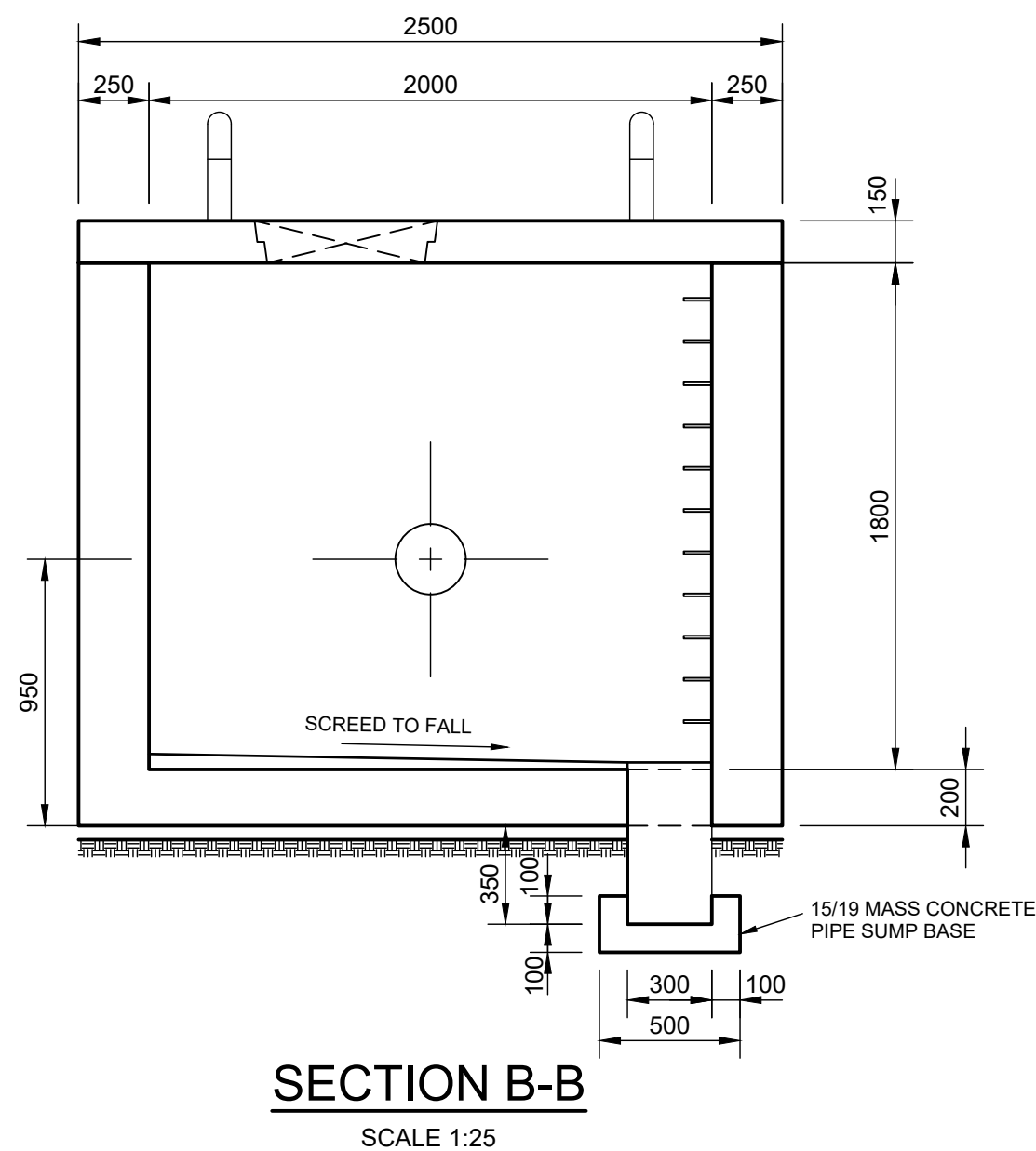
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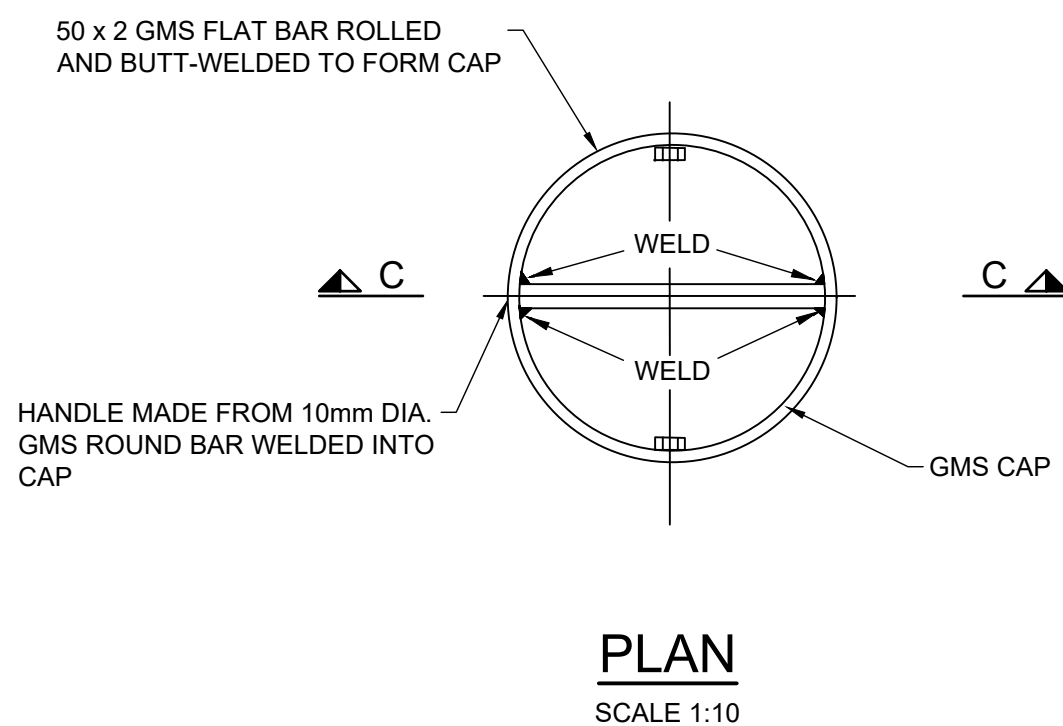
INLET CHAMBER PLAN
SCALE 1:25



INLET PIPEWORK SECTION A-A
SCALE 1:25

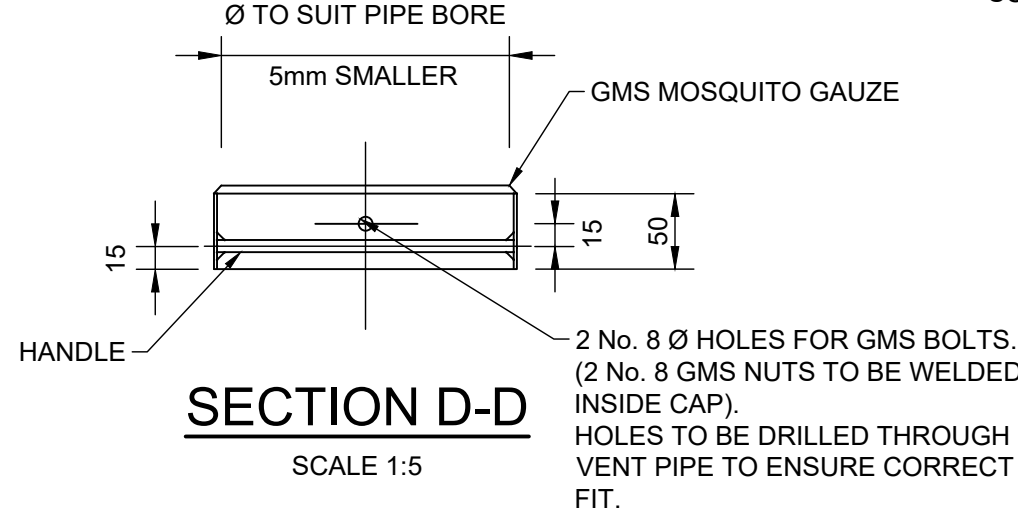


SECTION B-B
SCALE 1:25

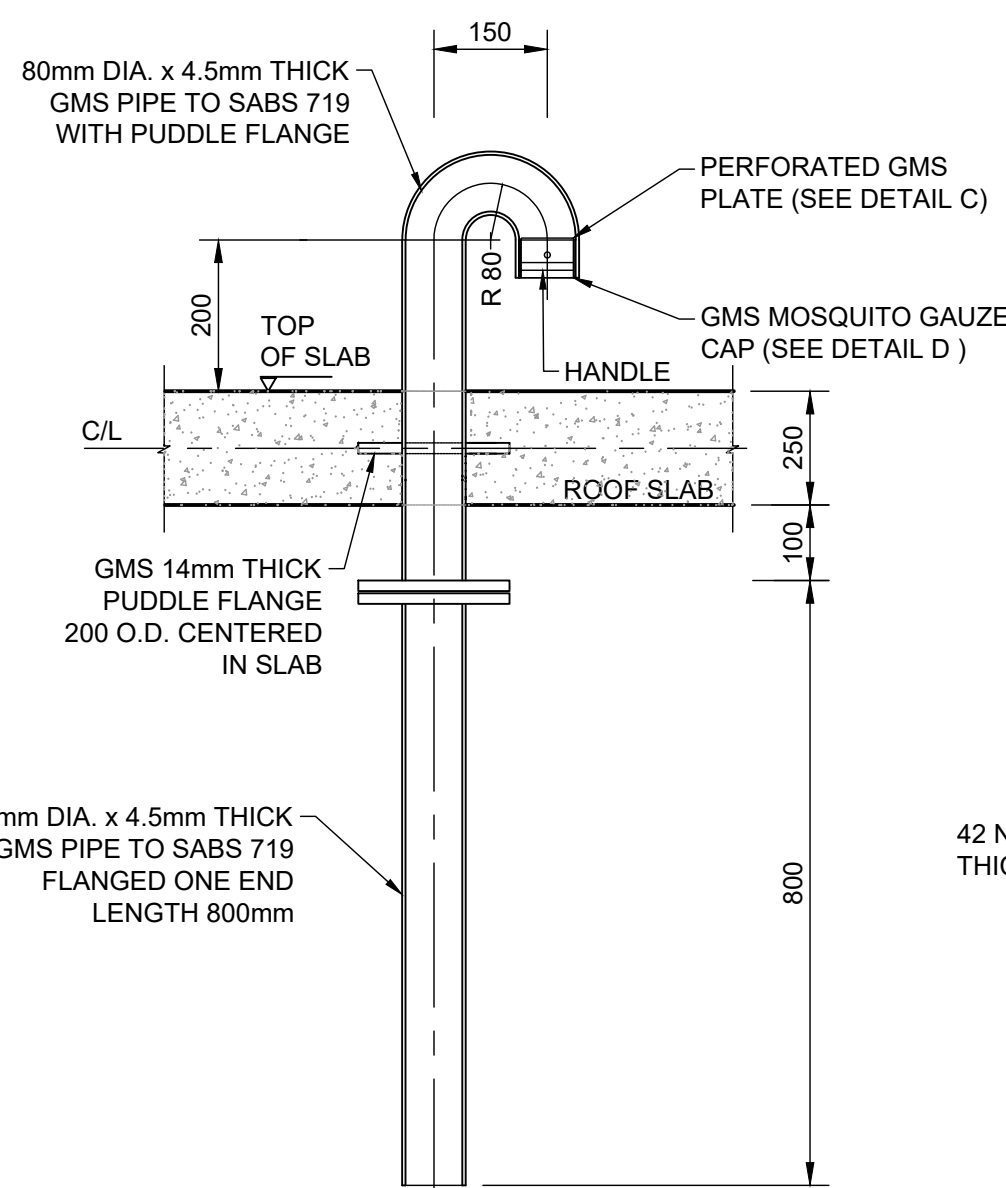


PLAN
SCALE 1:10

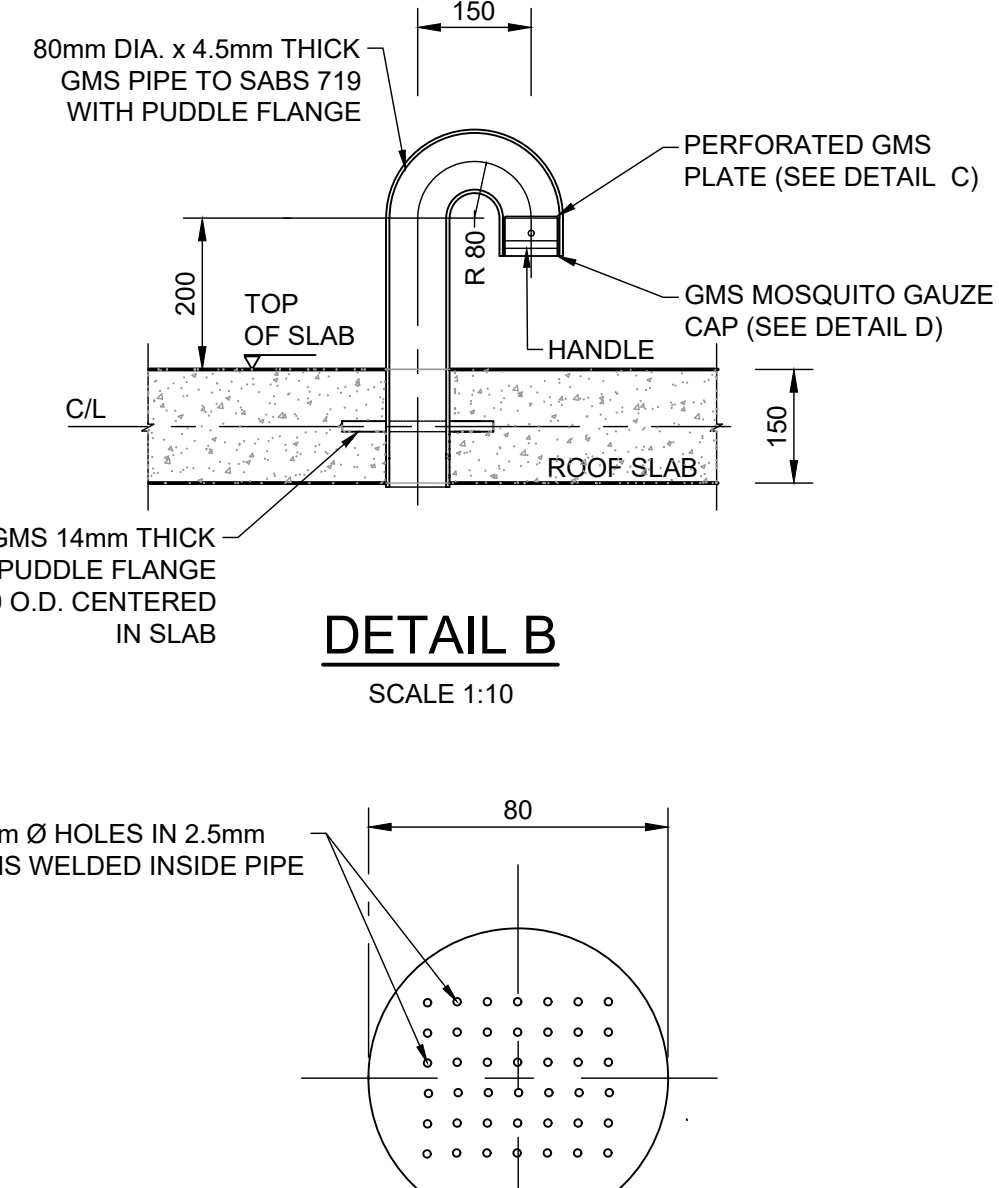
DETAIL D PLAN DETAIL OF MOSQUITO GAUZE CAP



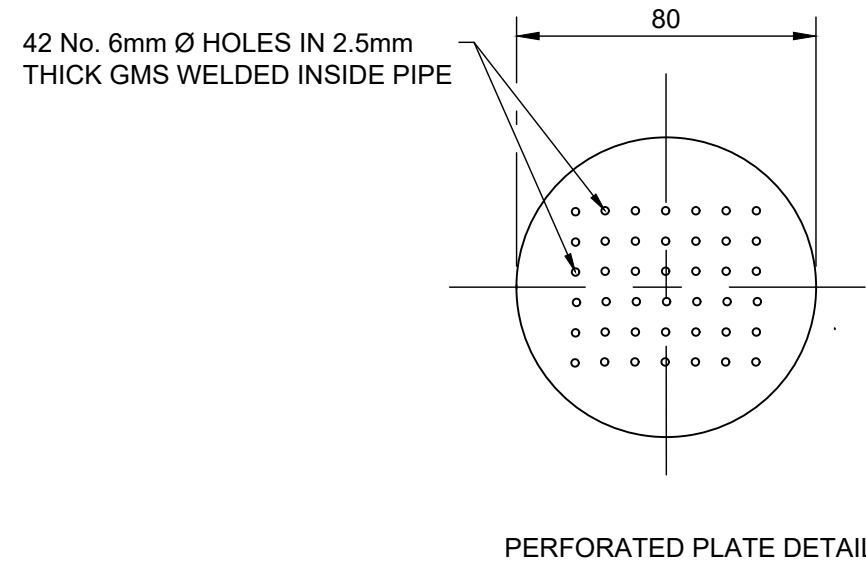
SECTION D-D
SCALE 1:5



DETAIL A
(1 No. REQUIRED FOR CHAMBER)
SCALE 1:10



DETAIL B
SCALE 1:10



DETAIL C
80mm Ø VENTILATOR DETAILS
SCALE 1:5

PIPE LIST					DWG NO. 3233 - 7B - 201
POSITION : MANGUZI WATER TREATMENT WORKS - INLET CHAMBER					LIST NO. 1
AMENDED :					
ITEM	QUANTITY	CLASS	DESCRIPTION	DIMENSIONS	
1.01	1	10	100mmØ STEEL STRAIGHT PIPE.	LENGTH TO SUIT ON SITE	
1.02	1	10	80mmØ FLANGED G.M.S. PUDDLE PIPE AS SHOWN	425 850 425	
1.03	1	16	80mmØ BERMAD STRAINER OR SIMILAR APPROVED	225	
1.04	2	10	80mmØ FLANGE ADAPTOR FOR STEEL PIPE	STANDARD	
1.05	2	10	80mmØ G.M.S. STEEL PIPE, FLANGED ONE END, PLAIN THE OTHER END. LENGTH TO SUIT.	APPROX. 500	
1.06	1	16	80mm Ø MEI-STREAM-RF PLUS METER OR SIMILAR APPROVED	225	
1.07	1	10	80Ø G.M.S. STEEL PIPE. FLANGED BOTH ENDS. LENGTH TO SUIT.	APPROX. 1000	
1.08	1	16	80mmØ BERMAD CONTROL VALVE - MODEL 750 - 60 OR SIMILAR APPROVED	250	
1.09	1	10	80mmØ FLANGED G.M.S. PUDDLE PIPE AS SHOWN, FLANGED ONE END PLAIN ENDED THE OTHER END	455 930 475	
1.10	1	10	100x80mmØ GMS FLANGED ECCENTRIC REDUCER	80	
1.11	1	10	80mmØ G.M.S. 90° BEND. FLANGED BOTH ENDS	297 297	
1.12	1	9	80mmØ G.M.S. PIPE, FLANGED BOTH ENDS	APPROX. 900	

NOTES

- ALL MATERIALS TO BE SANS APPROVED.
- ALL FLANGES TO BE RATED AND DRILLED TO SANS 1123/ 1000 / 3
- ALL BOLTS TO BE HOT DIP GALVANISED TO SANS 763.
- ALL JOINTS FOR THE MAKE UP SPECIALS TO BE FILLET WELDED IN ACCORDANCE WITH SANS 0162 PART 1.
- ALL PIPE FITTINGS TO BE CHECKED ON SITE FOR DIMENSIONS. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER PRIOR TO MANUFACTURE.
- MILD STEEL PIPEWORK: ALL MILD STEEL PIPE TO BE MANUFACTURED FROM SANS 719 GRADE B STEEL. PIPE WALL THICKNESS TO BE 4.5MM.
- STAINLESS STEEL PIPEWORK: ALL STAINLESS STEEL PIPE TO BE GRADE 304. PIPE WALL THICKNESS TO BE 4.5MM.
- ALL BOLTED JOINTS UNDERGROUND TO BE DENSO WRAPPED.
- ALL STAINLESS STEEL TO GMS FLANGE CONNECTIONS TO BE FITTED WITH BOLTS AND PLASTIC BOLT ISOLATOR SLEEVES.
- REFER TO DRAWING 3233-7B-302 FOR THE CHAMBER CONCRETE AND REINFORCEMENT DETAILS

A FOR TENDER APR 23
No. DESCRIPTION NAME DATE

REVISION



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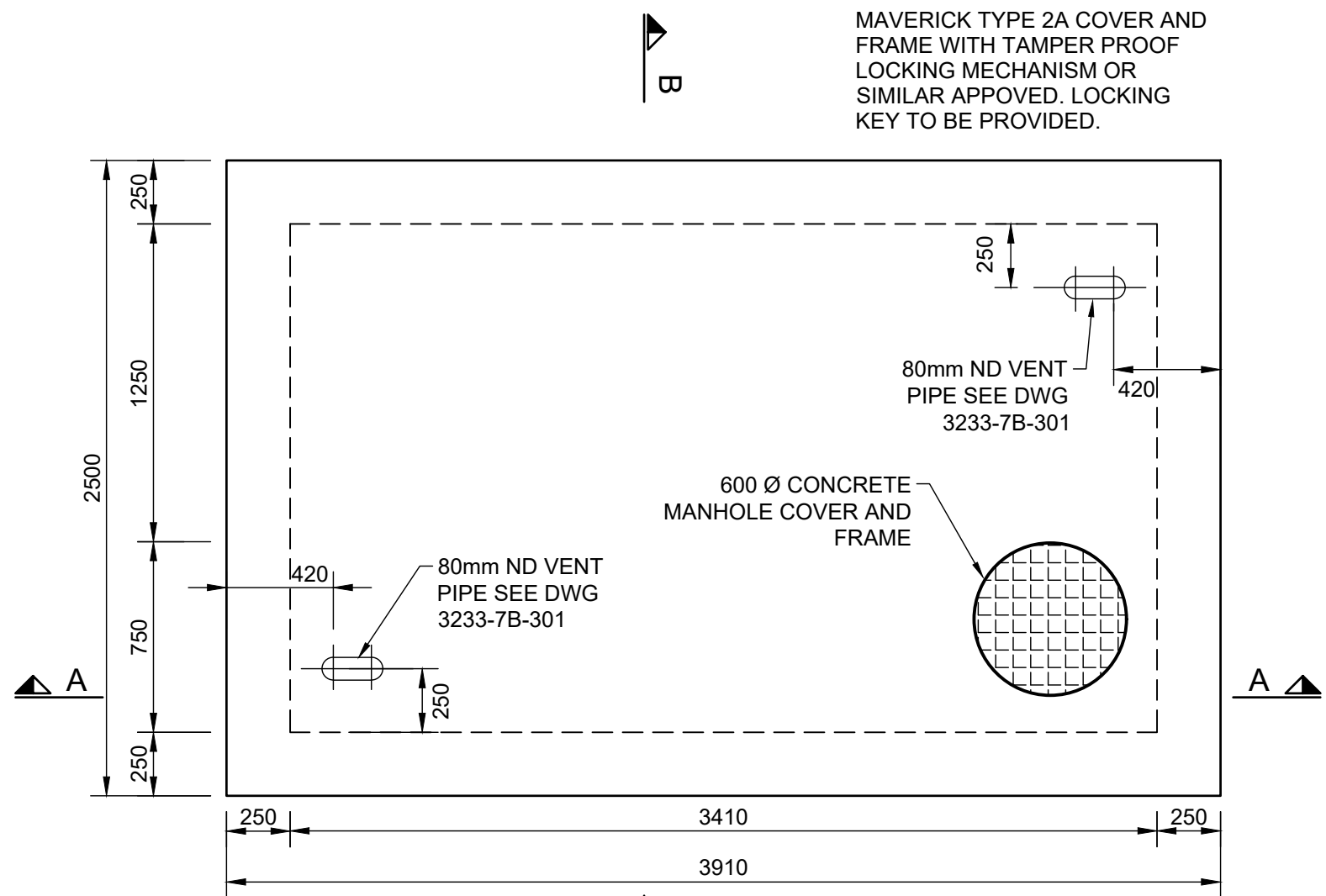
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PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: ZONE 7B INLET CHAMBER
DETAILS
DESCRIPTION: SHEET 1 OF 1

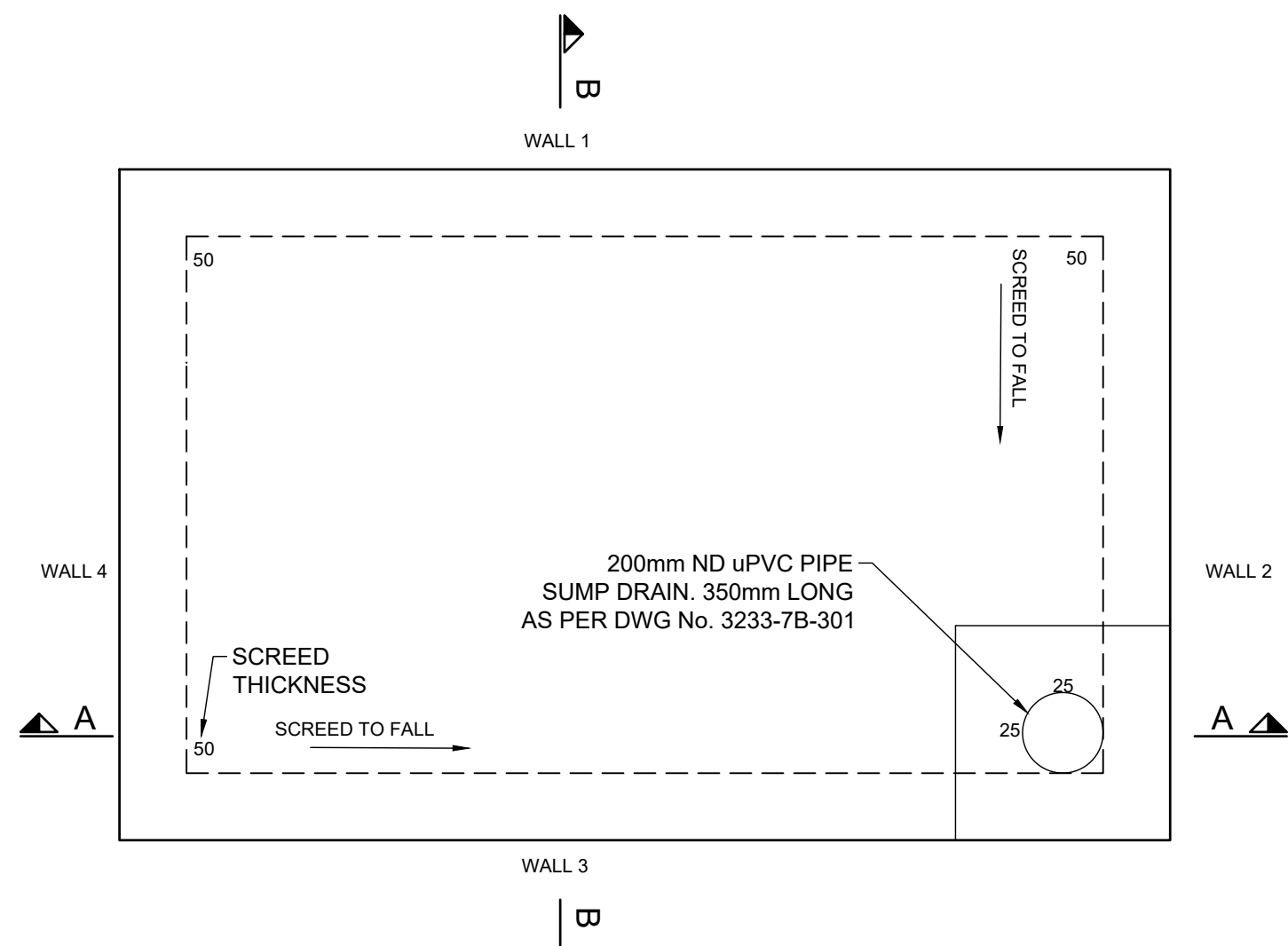
FOR TENDER

DRAWING No. 3233-7B-301

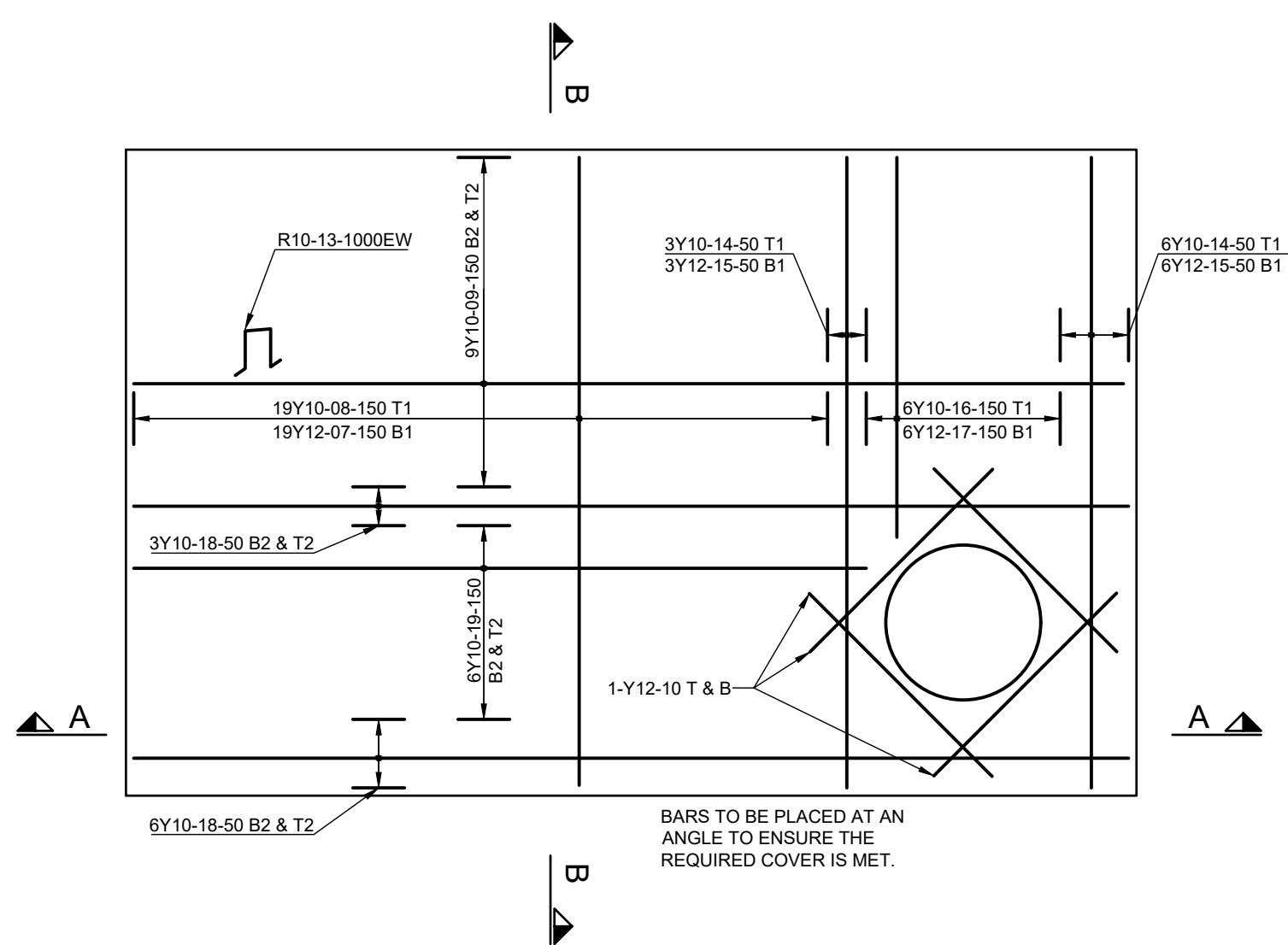
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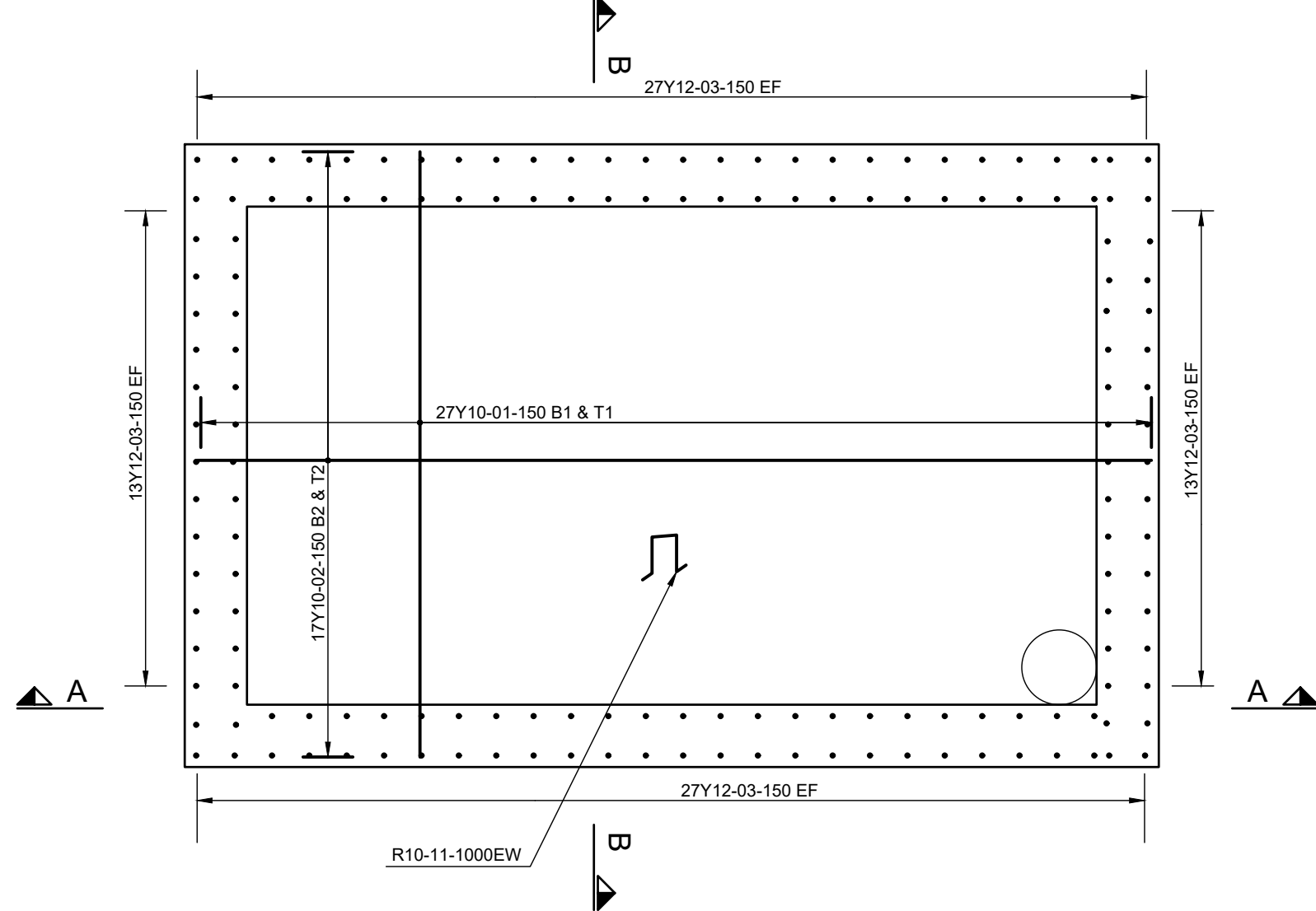
ROOF PLAN
SCALE 1:25



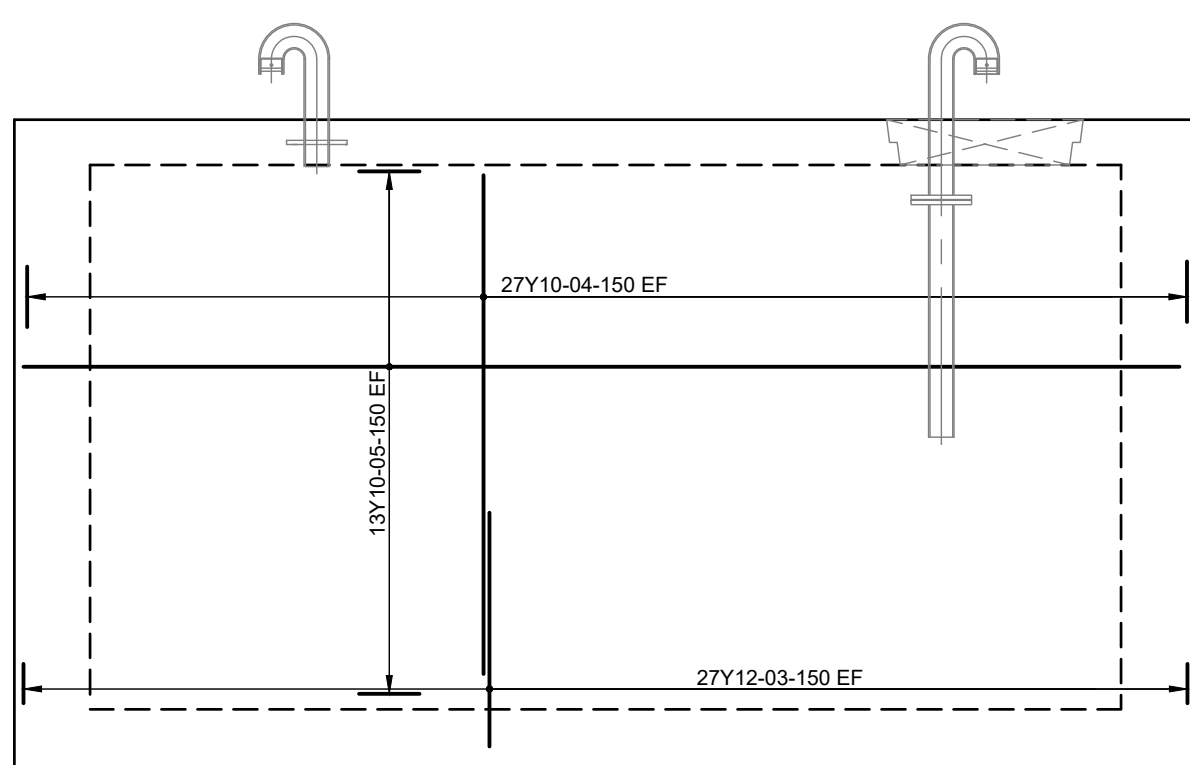
BASE PLAN
SCALE 1:25



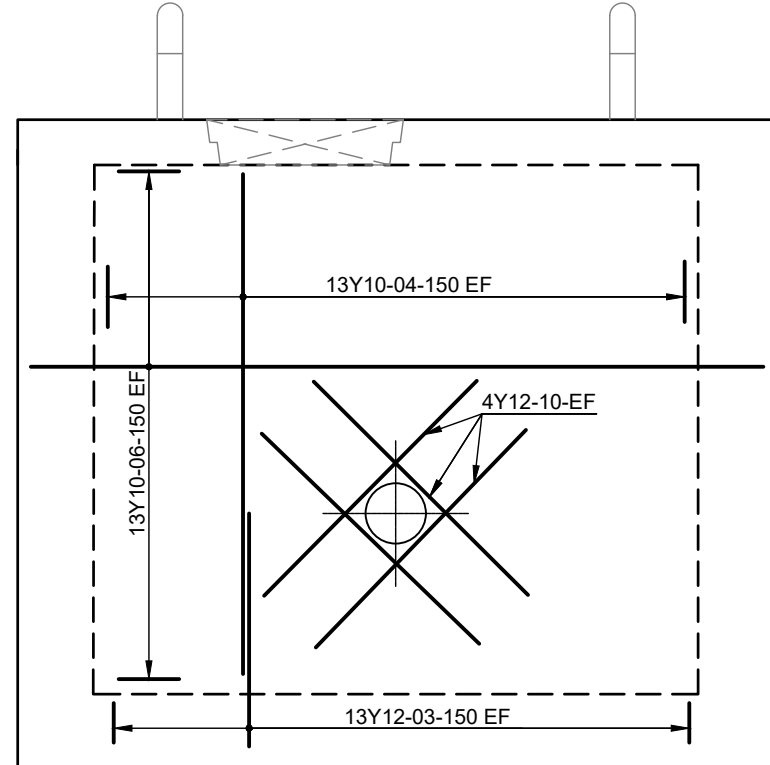
ROOF PLAN REINFORCING
SCALE 1:25



BASE PLAN REINFORCING
SCALE 1:25

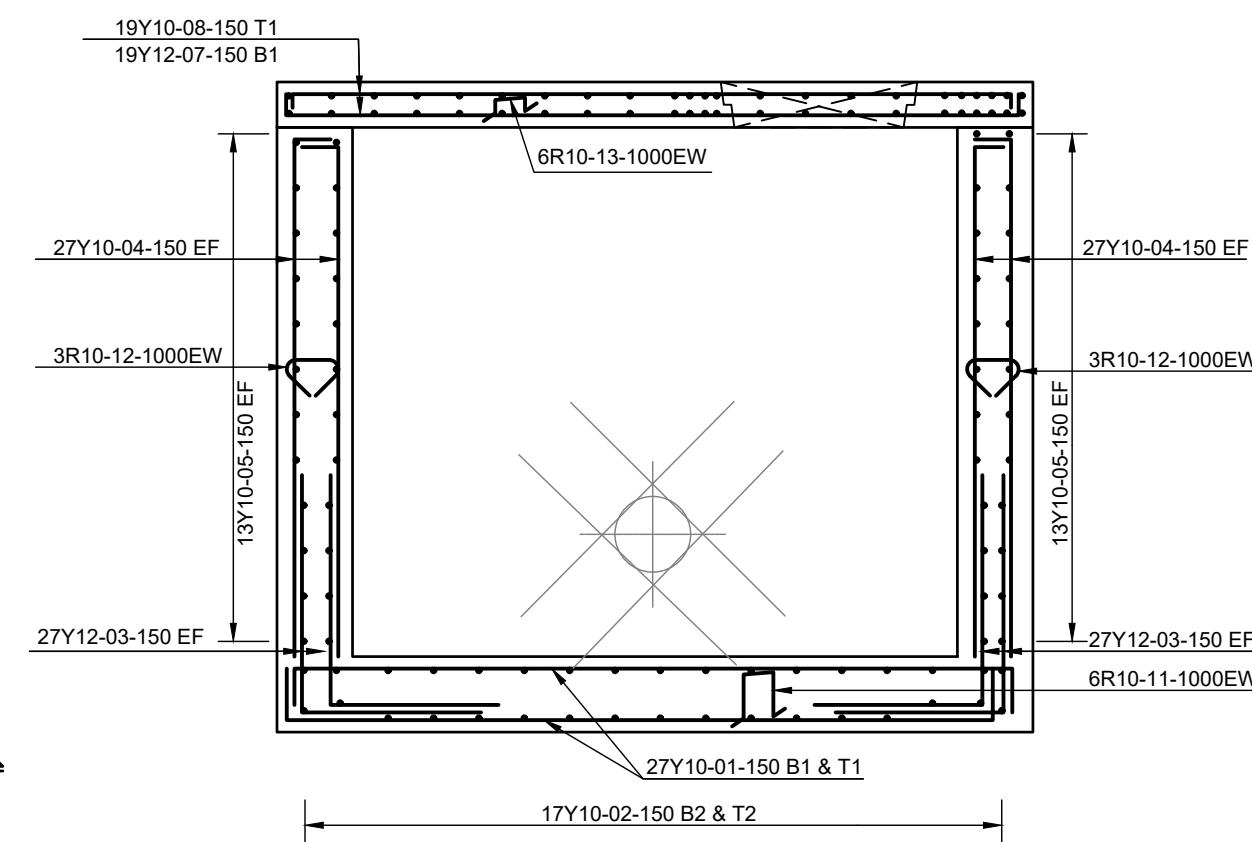


**ELEVATION
WALL 1 AND WALL 3**
SCALE 1:25

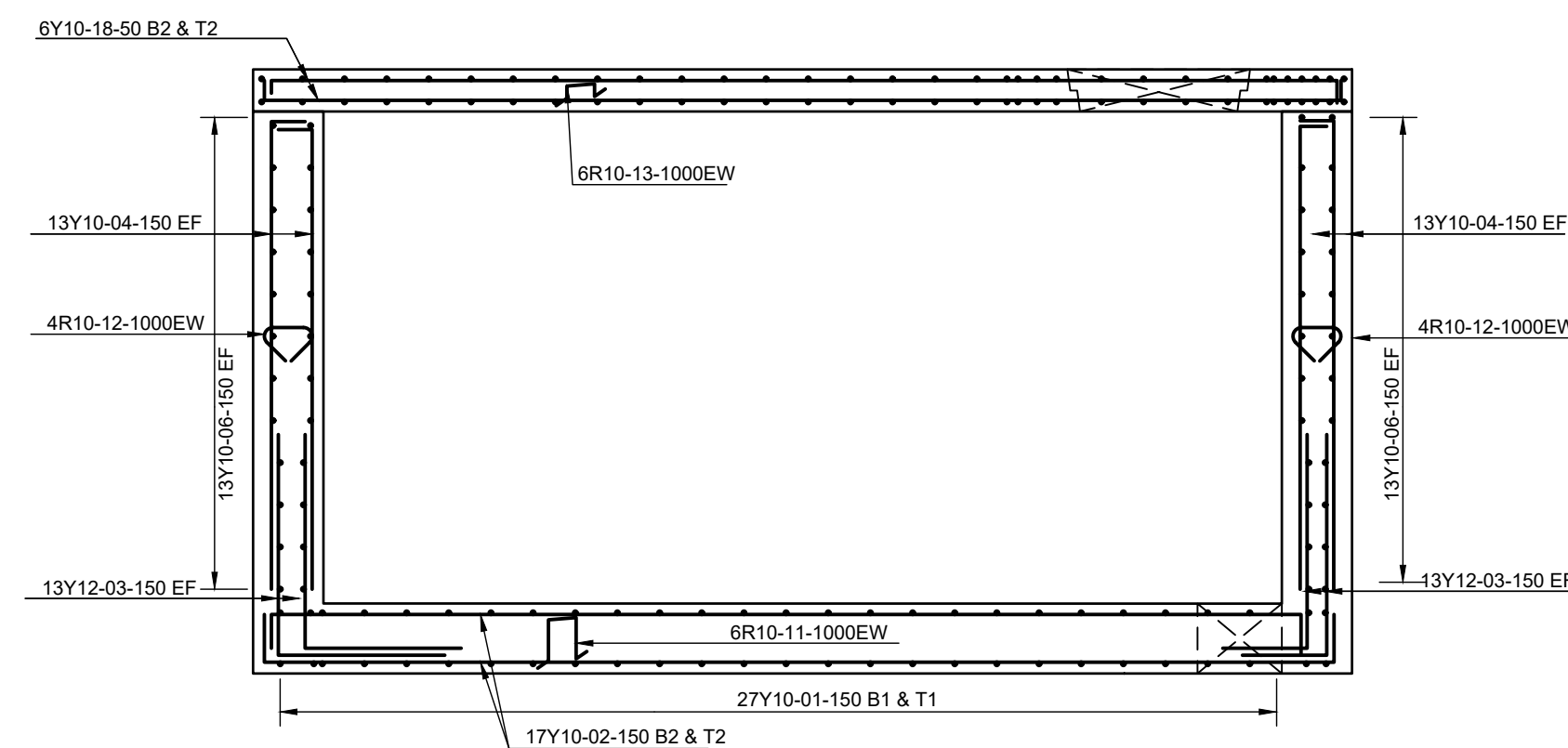


**ELEVATION
WALL 2 AND WALL 4**
SCALE 1:25

MEMBER	MARK	TYPE & Ø	UNITS	NOUNT	TOTAL	LENGTH	CODE	A	B	C	D	m	r
INLET CHAMBER	01	Y10	1	54	54	2750	38	170	2440	170			
	02	Y10	1	34	34	4150	38	170	3850	170			
	03	Y12	1	160	160	1400	37	540	850				
	04	Y10	1	160	160	1900	37	1700					
	05	Y10	1	52	52	4700	38	450	3850	450			
	06	Y10	1	52	52	3300	38	450	2440	450			
	07	Y12	1	19	19	2700	38	160	2440	160			
	08	Y10	1	19	19	2700	38	150	2440	150			
	09	Y10	1	18	18	4100	38	150	3850	150			
	10	Y12	1	24	24	1000	20						
	11	R10	1	6	6	1150	83	300	110	300	300		
	12	R10	1	14	14	450	38	150	190	150			
	13	R10	1	6	6	1000	83	300	90	300	300		
	14	Y10	1	9	9	2700	38	150	2440	150			
	15	Y12	1	9	9	2700	38	160	2440	160			
	16	Y10	1	6	6	1750	38	150	1470	150			
	17	Y12	1	6	6	1750	38	160	1470	160			
	18	Y10	1	18	18	4100	38	150	3850	150			
	19	Y10	1	12	12	3100	38	150	2835	150			
MASS / MEMBER			kg		MILD STEEL / SAGTE STAAL		11 kg						
MASSA / DEEL					HIGH TENSILE STEEL / HOEVLOEISPANNINGSTAAL		1086 kg						



**SECTION B-B
WALL 2 AND WALL 4**
SCALE 1:25



**SECTION A-A
WALL 1 AND WALL 3**
SCALE 1:25

NOTES

- MINIMUM LAP LENGTH = 45 x DIA. OF BAR
- CONCRETE COVER TO REINFORCING = 30mm UNLESS OTHERWISE NOTED
- ABBREVIATIONS USED:
T - TOP
B - BOTTOM
EF - EACH FACE
NF - NEAR GFACE
ALT - ALTERNATE
- ALL PLACEMENT OF REINFORCEMENT TO BE INSPECTED AND APPROVED BY ENGINEER PRIOR TO CASTING OF CONCRETE
- ADEQUATE AND SUITABLE COVER BLOCKS TO BE USED TO ENSURE THAT THE PRESCRIBED CONCRETE COVER IS MAINTAINED DURING THE PLACING OF THE CONCRETE
- NOTATION FOR CALLING UP BARS:
5- Y12- 100- 200 EF
NO. OF BARS | BAR MARK | POSITION
BAR TYPE OR DIA. | SPACING
- ALL EXPOSED CORNERS TO BE CHAMFERED 20 x 20mm
- CONCRETE CLASS:
BASE: 25/19 MPa
WALLS: 25/19 MPa
ROOF: 25/19 MPa
BLINDING: 15/19 MPa
SUMP BASE: 15/19 MPa

A	FOR TENDER	APR 23
No.	DESCRIPTION	NAME DATE

REVISION



P.O. BOX 449
MKUZE
3965

TEL: (035) 573 8600
FAX: (035) 573 1094

STAND 13433, KINGFISHER ROAD
MKUZE, 3965

APPROVED:
CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : AS SHOWN DATE: APRIL 2023
DESIGNED: Q SHINGA CHECKED: T.VAN VUUREN
DRAWN : M SHEZI CHECKED: Q SHINGA

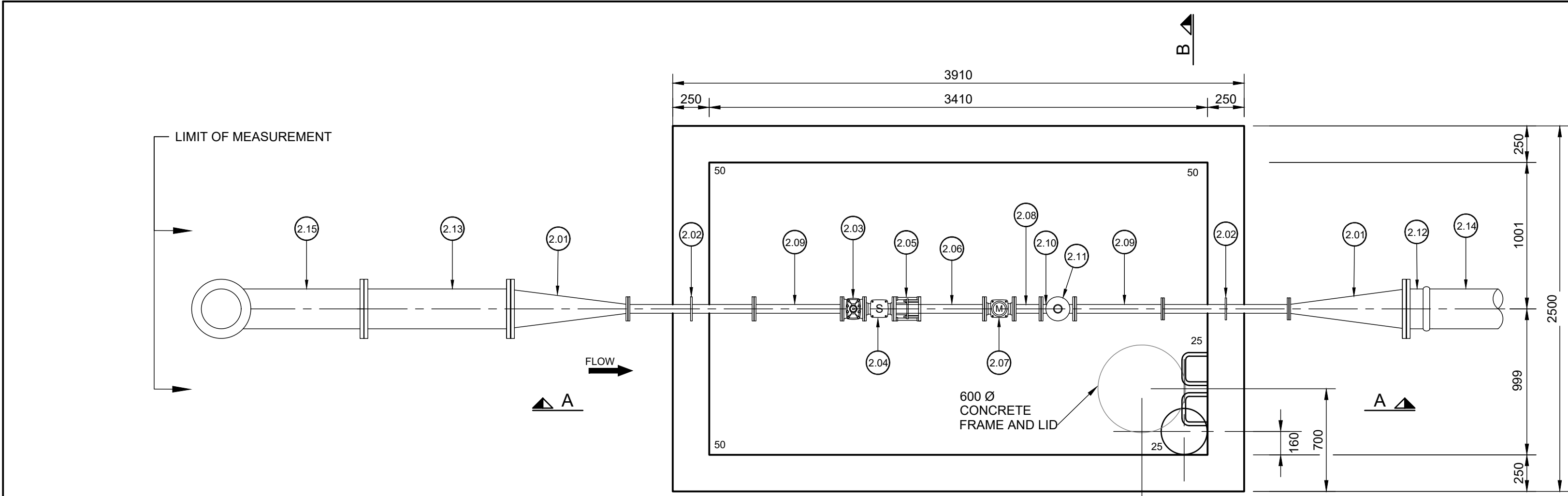
CONTRACT No. SCMU 021 2022/2023
DESIGN CHECKED BY: T.VAN VUUREN
CAPACITY: SENIOR TECHNOLOGIST
PR. TECH. ENG: 2020300712
APPROVED ON BEHALF OF JG AFRIKA:
CAPACITY: TECHNICAL DIRECTOR
DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

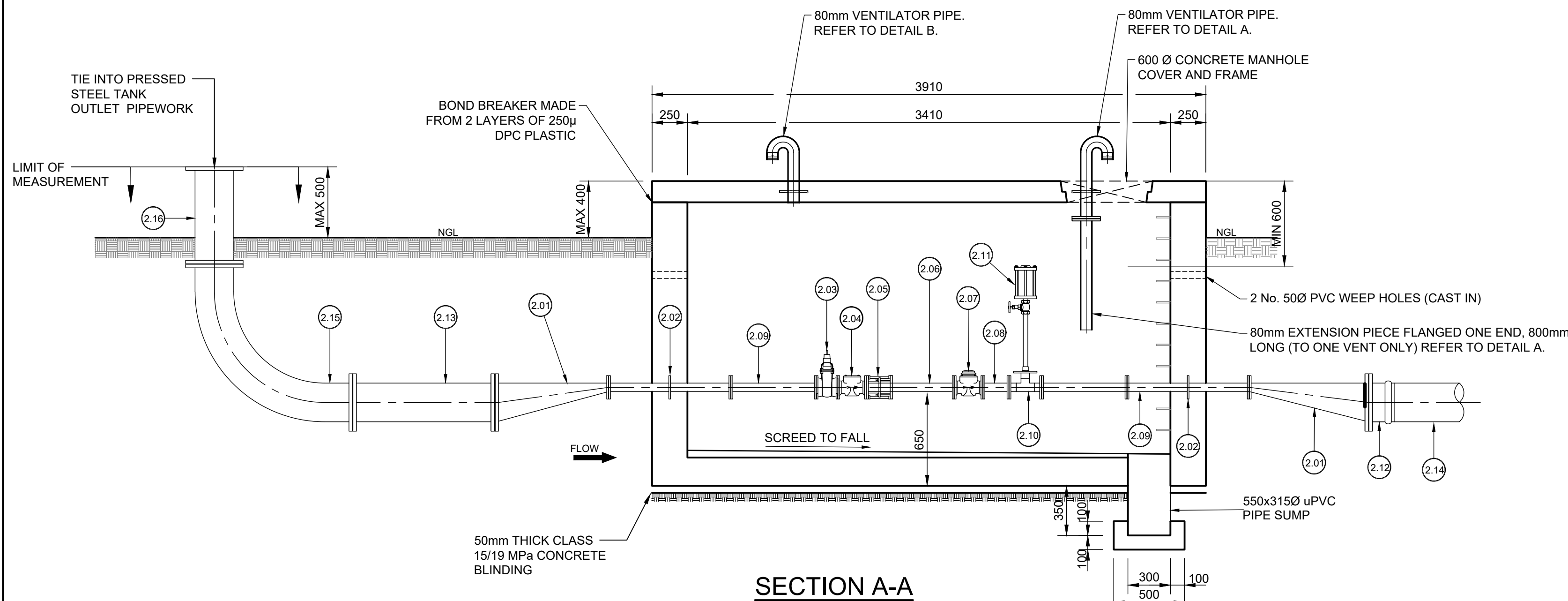
PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: CHAMBER REINFORCING DETAILS

DESCRIPTION: SHEET 1 OF 1

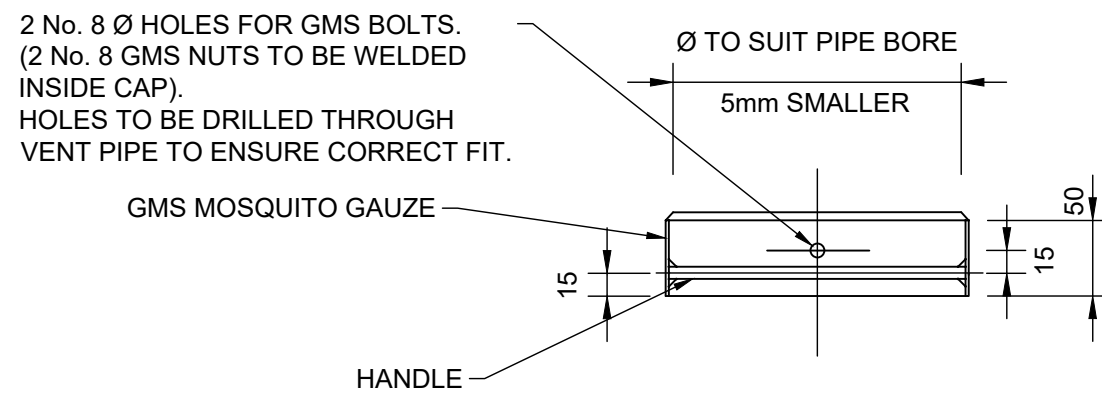
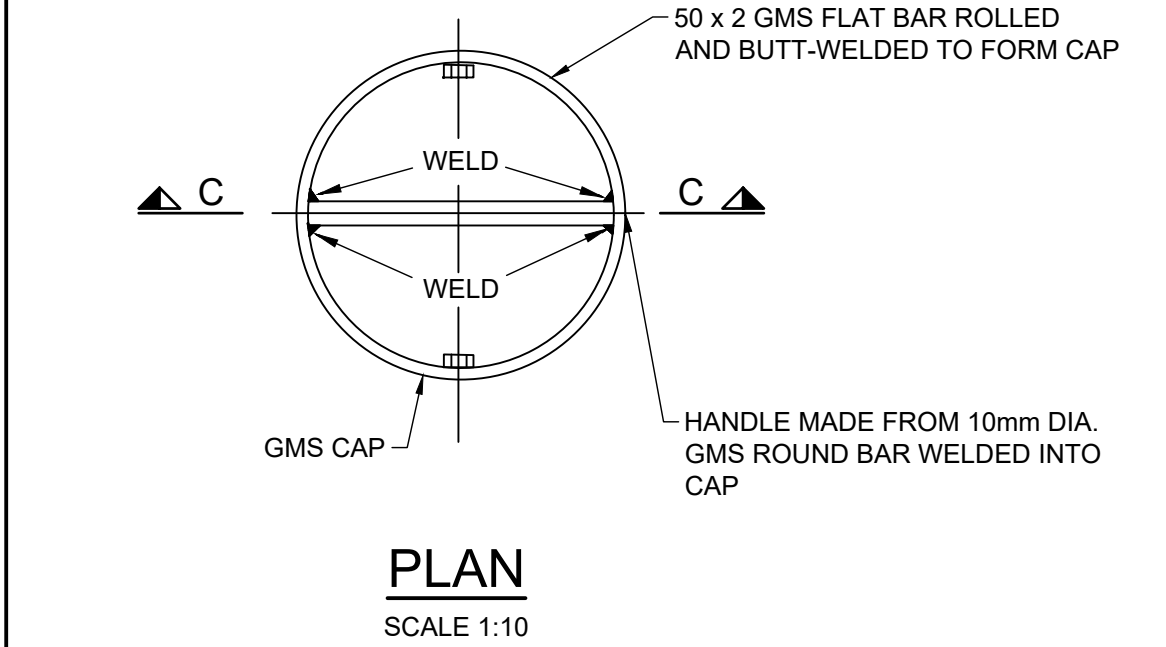
FOR TENDER DRAWING No. 3233-7B-302



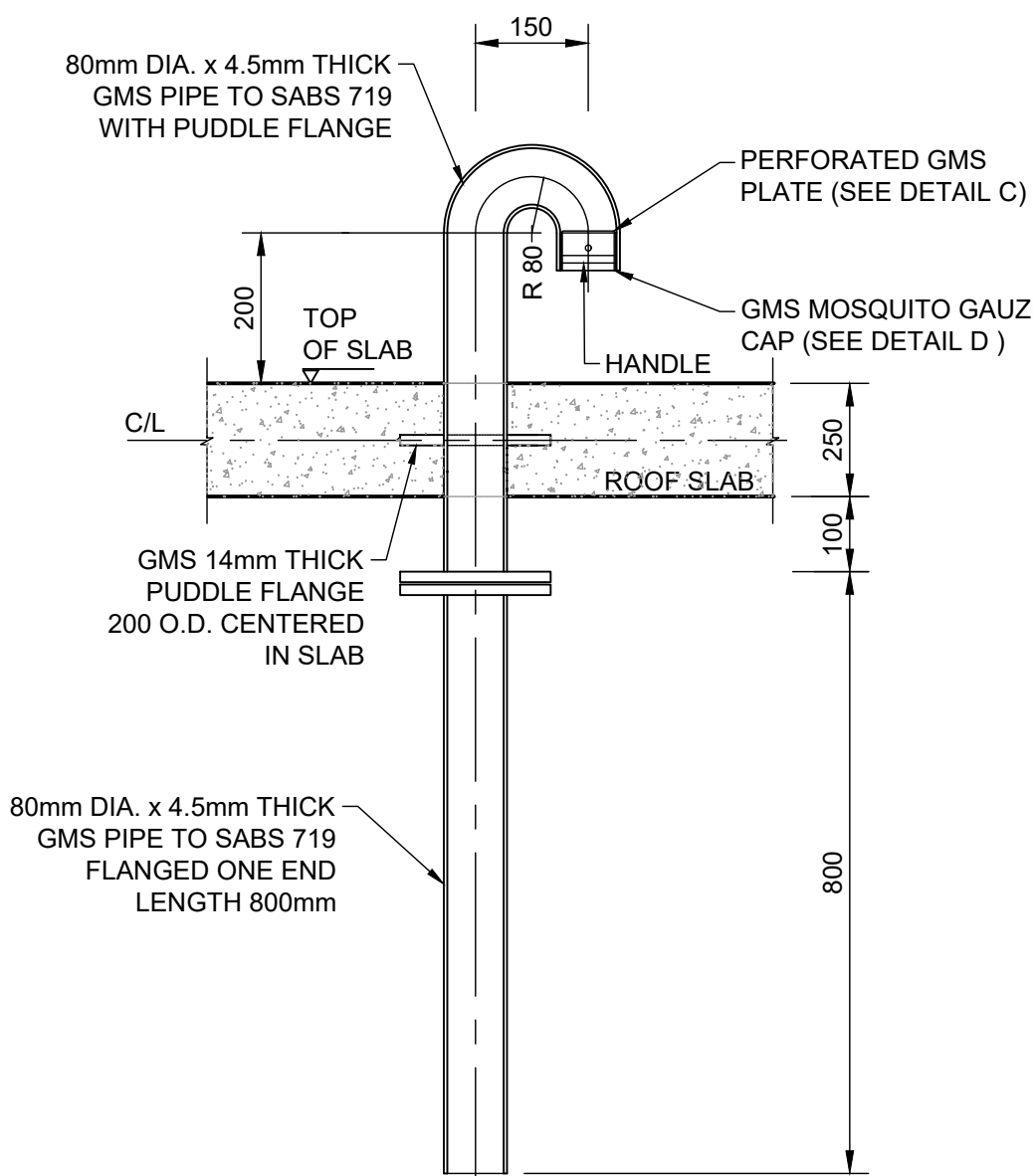
OUTLET CHAMBER PLAN
SCALE 1:25



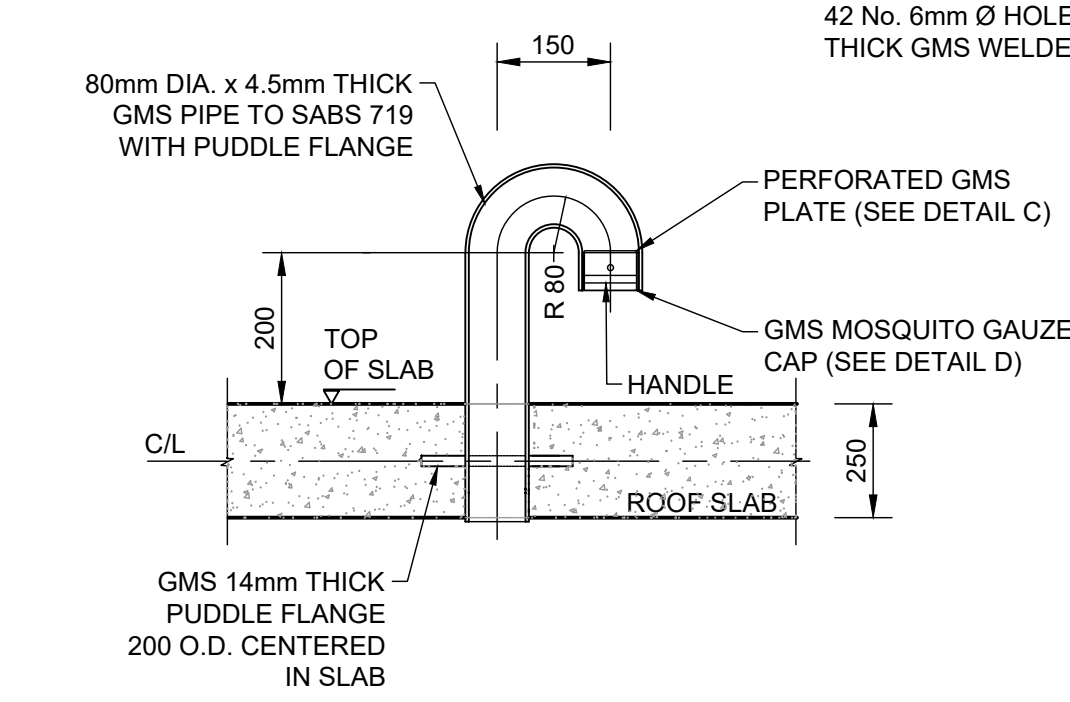
SECTION A-A
SCALE 1:25



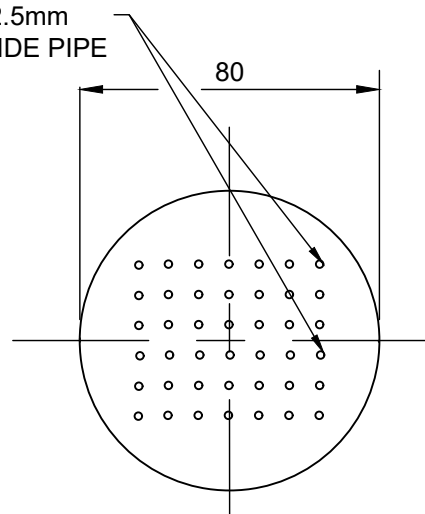
DETAIL D
PLAN DETAIL OF MOSQUITO
GAUZE CAP



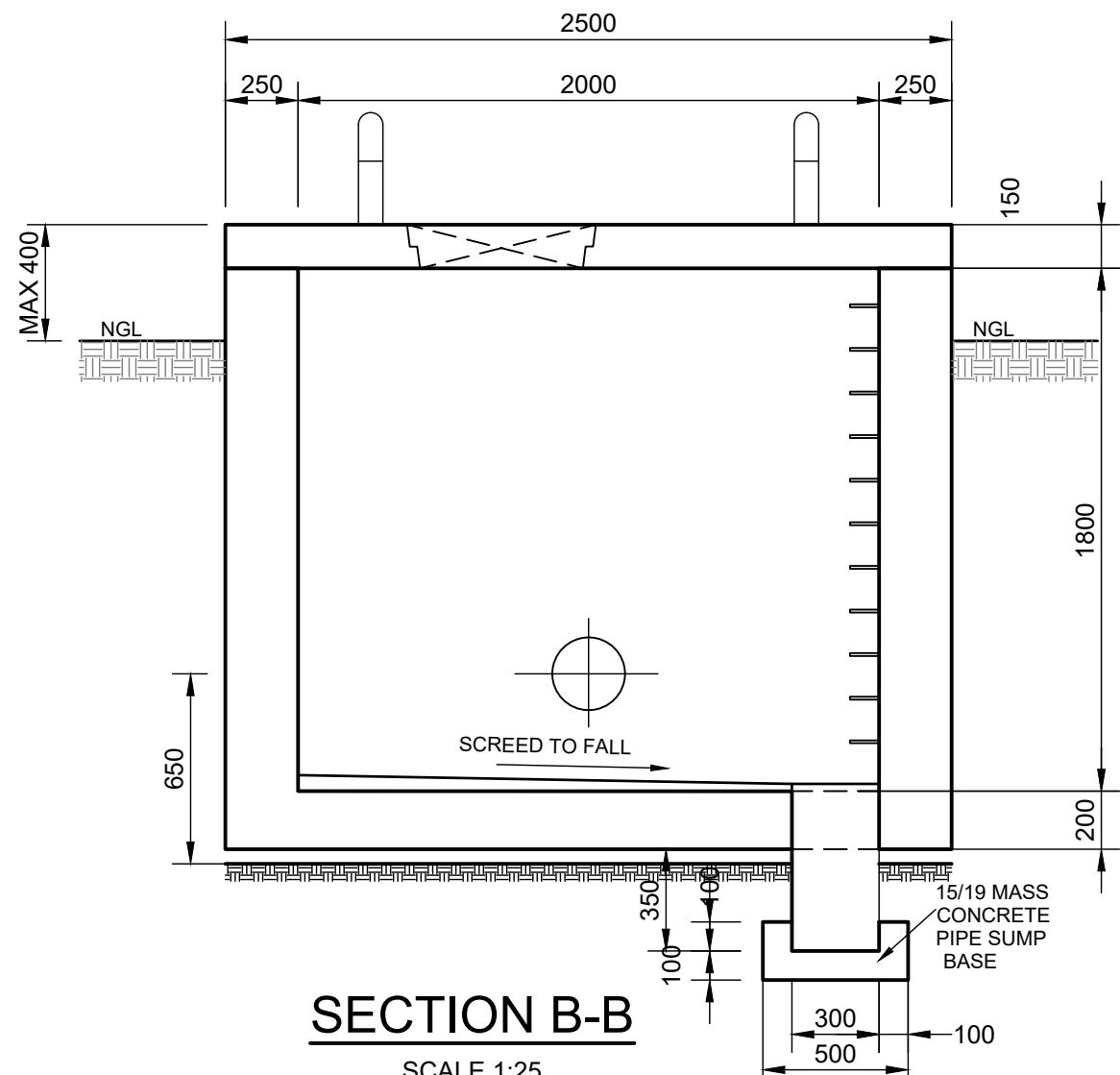
DETAIL A
(1 No. REQUIRED FOR CHAMBER)



DETAIL B
(1 No. REQUIRED FOR CHAMBER)



DETAIL C
80mm Ø VENTILATOR DETAILS



SECTION B-B
SCALE 1:25

PIPE LIST

DWG NO. 3233-7B-203

LIST NO. 1

POSITION : MANGUZI WATER TREATMENT WORKS - OUTLET CHAMBER

AMENDED :

ITEM	NUMBER	CLASS	PROTEC- TION	DESCRIPTION	DIMENSIONS
2.01	2	10		250x50mmØ G.M.S. FLANGED ECCENTRIC REDUCER	800
2.02	2	10		50mmØ FLANGED G.M.S. PUDDLE PIPE AS SHOWN	860 430/430
2.03	1	16		50mmØ FLANGED RESILIENT SEAL GATE VALVE, AINESWORTH OR SIMILAR APPROVED	155
2.04	1	16		50mmØ BERMAD STRAINER MODEL 70F-EN OR SIMILAR APPROVED	200
2.05	1	10		50mmØ DISMANTLING JOINT.	
2.06	1	10		50mmØ G.M.S. STEEL PIPE. FLANGED ONE END.	605
2.07	1	16		50mmØ MEI-STREAM-RF PLUS METER OR SIMILAR APPROVED.	200
2.08	1	10		50mmØ G.M.S. PIPE, FLANGED BOTH ENDS	185
2.09	2	10		50mmØ G.M.S. PIPE, FLANGED BOTH ENDS	600
2.10	1	10		50Ø G.M.S. FLANGED EQUAL TEE	115/115
2.11	1	16		50mmØ BLANK FLANGE WITH 50mmØ HOLE DRILLED CENTRALLY WITH THREADED BOSS WELDED TO FLANGE, 50mmØ G.M.S. PIPE, MALE THREADED BOTH ENDS, 200mm LONG, 50mmØ COBRA BRASS FULL WAY GATE VALVE AND 50mmØ VENT-O-MAT RBX DOUBLE ACTING SCREW TYPE AIR VALVE OR SIMILAR APPROVED.	200
2.12	1	10		250mmØ uPVC FLANGE ADAPTOR	STANDARD
2.13	1	10		250mmØ STEEL STRAIGHT PIPE. LENGTH TO SUIT	1000
2.14	1	9		250Ø uPVC STRAIGHT PIPE. LENGTH TO SUIT	LENGTH TO SUIT
2.15	1	10		250Ø G.M.S. 90° BEND. FLANGED BOTH ENDS	950
2.16	1	9		250mmØ G.M.S. PIPE, FLANGED BOTH ENDS	685

NOTES

- ALL MATERIALS TO BE SANS APPROVED.
- ALL FLANGES TO BE RATED AND DRILLED TO SANS 1123/ 1000 / 3
- ALL BOLTS TO BE HOT DIP GALVANISED TO SANS 763.
- ALL JOINTS FOR THE MAKE UP SPECIALS TO BE FILLET WELDED IN ACCORDANCE WITH SANS 0162 PART 1.
- ALL PIPE FITTINGS TO BE CHECKED ON SITE FOR DIMENSIONS. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER PRIOR TO MANUFACTURE.
- MILD STEEL PIPEWORK: ALL MILD STEEL PIPE TO BE MANUFACTURED FROM SANS 719 GRADE B STEEL. PIPE WALL THICKNESS TO BE 4.5MM.
- STAINLESS STEEL PIPEWORK: ALL STAINLESS STEEL PIPE TO BE GRADE 304. PIPE WALL THICKNESS TO BE 4.5MM.
- ALL BOLTED JOINTS UNDERGROUND TO BE DENSO WRAPPED.
- ALL STAINLESS STEEL TO GMS FLANGE CONNECTIONS TO BE FITTED WITH BOLTS AND PLASTIC BOLT ISOLATOR SLEEVES.
- REFER TO DRAWING 3233-7B-302 FOR THE CHAMBER CONCRETE AND REINFORCEMENT DETAILS

A	FOR TENDER	APR 23
No.	DESCRIPTION	NAME DATE

REVISION



P.O. BOX 449
MKUZE
3965
TEL: (035) 573 8600
FAX: (035) 573 1094
STAND 13433, KINGFISHER ROAD
MKUZE, 3965

UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

APPROVED:
CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245
TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com
6 PIN OAK AVENUE, HILTON, 3245
SCALE ON A1 : AS SHOWN
DATE: APRIL 2023
DESIGNED: Q SHINGA
CHECKED: T.VAN VUUREN
DRAWN : M SHEZI
CHECKED: Q SHINGA
CONTRACT No. SCMU 021 2022/2023
DESIGN CHECKED BY: T.VAN VUUREN
CAPACITY: SENIOR TECHNOLOGIST
PR. TECH. ENG: 2020300712
APPROVED ON BEHALF OF JG AFRIKA:
CAPACITY: TECHNICAL DIRECTOR
DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: OUTLET CHAMBER DETAILS

DESCRIPTION: SHEET 1 OF 1

DRAWING No. 3233-7B-303

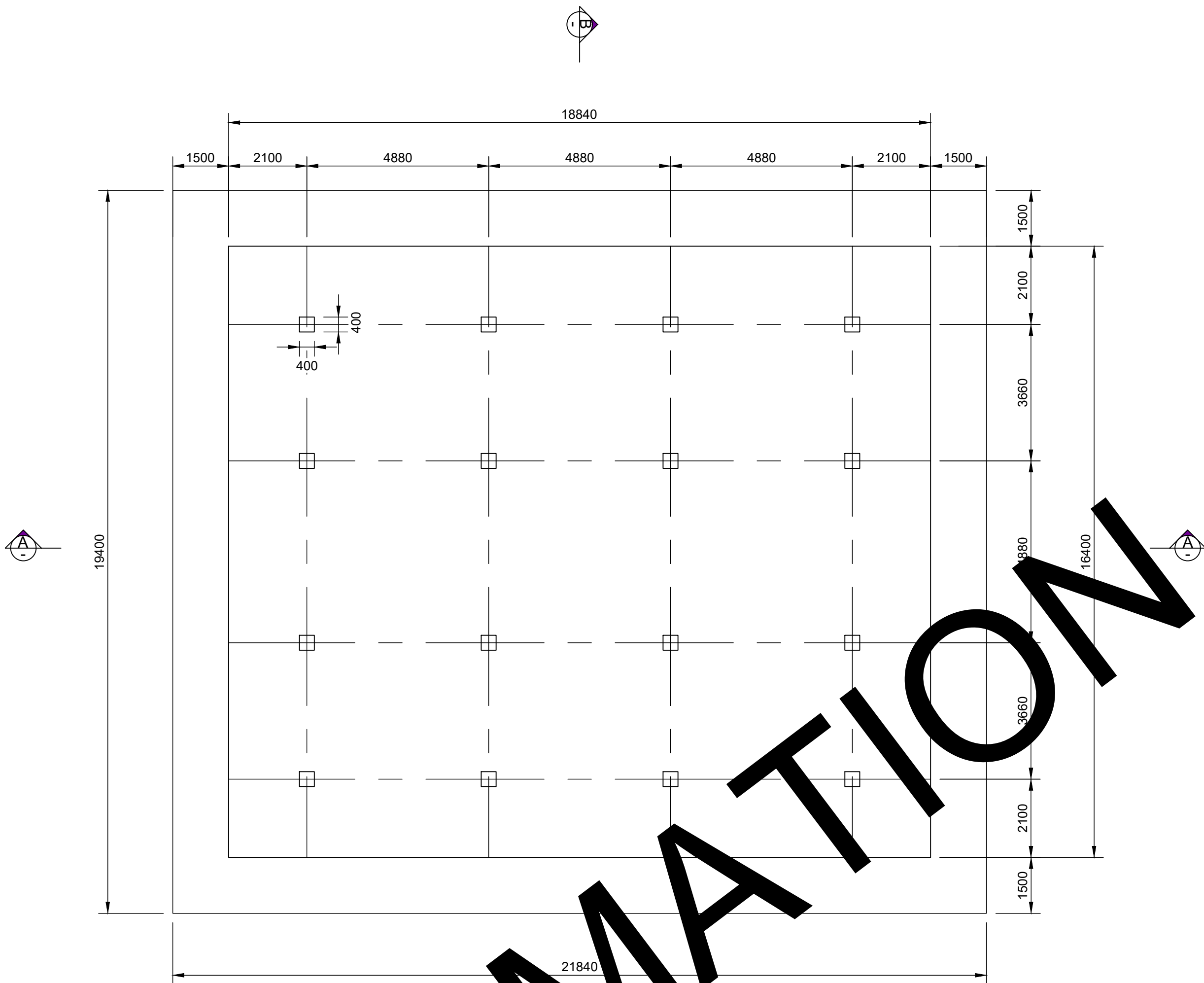
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NOTES

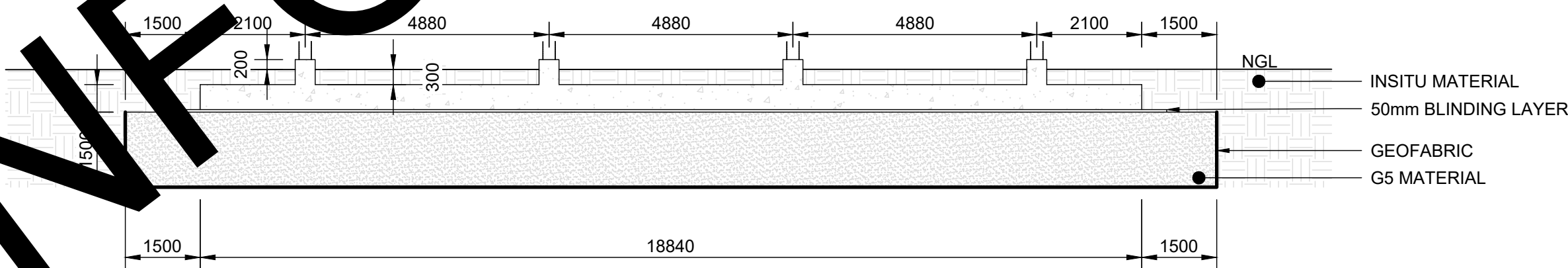
- ALL EXPOSED CONC. EDGES TO BE CHAMFERED 20x20 UNLESS OTHERWISE NOTED.
- CONCRETE GRADE:
BLINDING -15/19 MPa
BASE AND STUB COLUMNS -40/19 MPa
ALL CONCRETE TO BE STRENGTH AS PER SABS1200C UNLESS OTHERWISE NOTED. A DESIGN MIX NEED TO BE SUBMITTED TO THE ENGINEERS REPRESENTATIVE FOR ALL STRENGTH CONCRETE BEFORE MIXING OF CONCRETE ON SITE. FLY ASH OR SLAG TO MIN. 15% OF THE CONTENTIOUS MATERIAL.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CIVIL AND STRUCTURAL DRAWINGS.
- SURFACE CLASSIFICATION:
4.1 EXPOSED SURFACES:
FORMED SURFACE : SMOOTH
4.2 UNEXPOSED SURFACES:
FORMED SURFACE : ROUGH
UNFORMED SURFACES : SMOOTH, WOOD FLOATED, DEGREE OF ACCURACY II
- CONCRETE SURFACE AREA TO RECEIVE PLINTHS TO BE THOROUGHLY SCRABBLED AND WETTED 24 HOURS PRIOR TO CASTING PLINTHS BUT FREE FROM STANDING WATER PRIOR TO CONCRETING.
- CONCRETE COVER TO REINFORCEMENT
BASE BOTTOM =50mm
BASE SIDES & TOP =50mm
STUB COLUMNS =40mm
- DESIGN SOIL BEARING PRESSURE 120 KPa. ACTUAL ALLOWABLE BEARING PRESSURE TO BE DETERMINED ON SITE BY THE ENGINEER OR HIS REPRESENTATIVE. IF PROVED TO BE UNSATISFACTORY THE ENGINEER MAY INSTRUCT THE REMOVAL OF IN-SITU MATERIAL AROUND AND BELOW THE BASE TO BE REPLACED BY COMPETENT BEARING MATERIAL. (AND OR SOIL IMPROVEMENT)

STEEL TANK AND STEEL TANK STAND BY STRUCTA TECHNOLOGY (PTY) LTD OR SIMILAR APPROVED SUPPLIER. THE CONTRACTOR MUST SUPPLY THE ENGINEER WITH THE LOADING AND TANK STAND FOOTPRINT AS SUPPLIED BY THE APPROVED STEEL TANK SUPPLIER TO DETERMINE THE FINAL CONCRETE BASE DIMENSIONS, PRIOR TO CONSTRUCTION OF BASE.

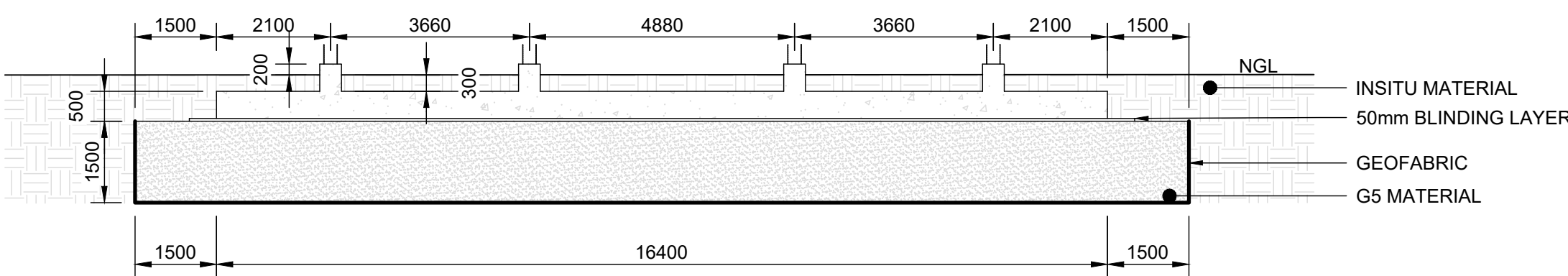
FINAL DRAWING WITH CORRECT CONCRETE BASE DIMENSIONS WILL BE SUBMITTED AFTER THE GEOTECHNICAL INVESTIGATION HAS BEEN DONE AND THE TANK HAS BEEN PURCHASED AND THE CONTRACTOR HAVE SUPPLIED THE ENGINEER WITH THE LOADING AND TANK STAND FOOTPRINT.



PLAN OF BASE
SCALE 1: 100



SECTION A - A
SCALE 1: 100



SECTION B - B
SCALE 1: 100

FOR INFORMATION

FOR TENDER

DRAWING No. 3233-7A-304

A

UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

APPROVED:
CAPACITY:
DATE:

JG AFRIKA
P.O. BOX 794
HILTON
3245
TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com
6 PIN OAK AVENUE, HILTON, 3245

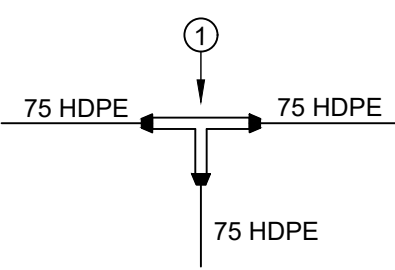
SCALE ON A1 : AS SHOWN
DESIGNED: Q SHINGA
DRAWN : S KHOZA
CONTRACT No. SCMU 021 2022/2023
DESIGN CHECKED BY: T.VAN VUUREN
CAPACITY: SENIOR TECHNOLOGIST
PR.TECH ENG: 2020300712
APPROVED ON BEHALF OF JG AFRIKA:
CAPACITY: TECHNICAL DIRECTOR
DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7A
TITLE: MANGUZI WATER TREATMENT
WORKS
DESCRIPTION: ELEVATED TANK CONCRETE
DETAILS (800KL)

POINT SKETCH 1

No. OFF: 8



POINT

T7B-1

T7B-2

T7B-3

T7B-14

T7B-15

T7B-20

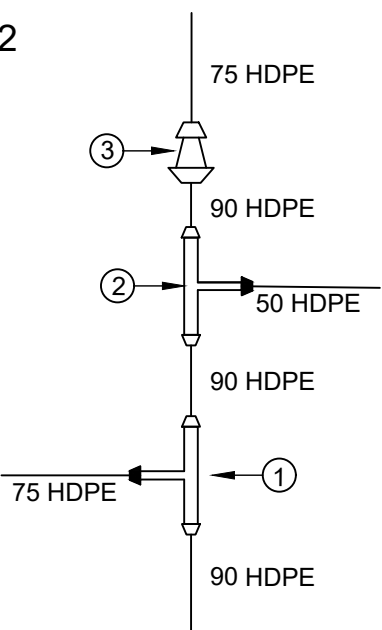
T7B-24

T7B-29

NO	DESCRIPTION	QTY
1	75mm ND HDPE COMPRESSION EQUAL TEE	1

POINT SKETCH 2

No. OFF: 1



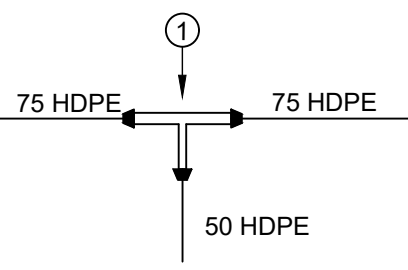
POINT

T7B-4

NO	DESCRIPTION	QTY
1	90 x 75mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1
2	90 x 50mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1
3	90 x 75mm ND HDPE COMPRESSION REDUCER	1

POINT SKETCH 3

No. OFF: 12



POINT

T7B-16

T7B-17

T7B-19

T7B-21

T7B-23

T7B-25

T7B-26

T7B-27

T7B-28

T7B-30

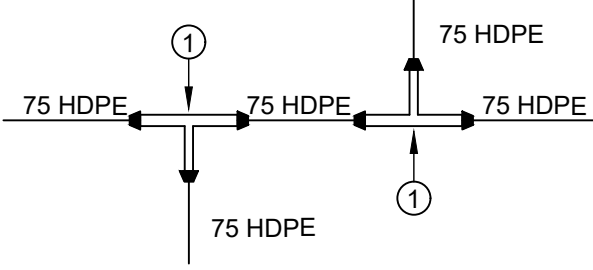
T7B-31

T7B-32

NO	DESCRIPTION	QTY
1	75 x 50mm ND HDPE COMPRESSION UNEQUAL TEE	1

POINT SKETCH 4

No. OFF: 1



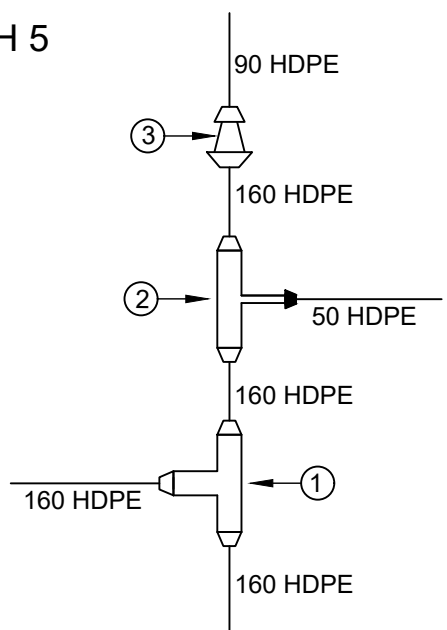
POINT

T7B-18

NO	DESCRIPTION	QTY
1	75mm ND HDPE COMPRESSION EQUAL TEE	2

POINT SKETCH 5

No. OFF: 1



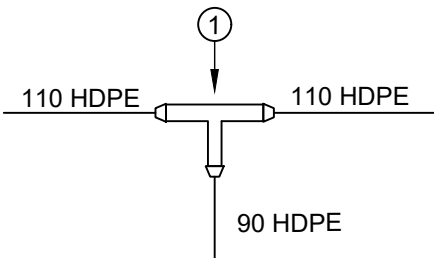
POINT

T7B-8

NO	DESCRIPTION	QTY
1	160mm ND HDPE EQUAL TEE (BUTT WELDED)	1
2	160 x 50mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1
3	160 x 90mm ND HDPE REDUCER (BUTT WELDED)	1

POINT SKETCH 6

No. OFF: 1



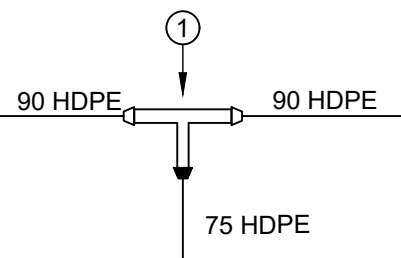
POINT

T7B-10

NO	DESCRIPTION	QTY
1	110 x 90mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1

POINT SKETCH 7

No. OFF: 5



POINT

T7B-5

T7B-6

T7B-7

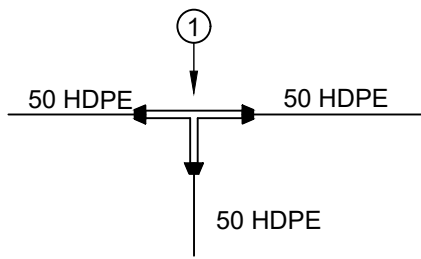
T7B-12

T7B-13

NO	DESCRIPTION	QTY
1	90 x 75mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1

POINT SKETCH 8

No. OFF: 2



POINT

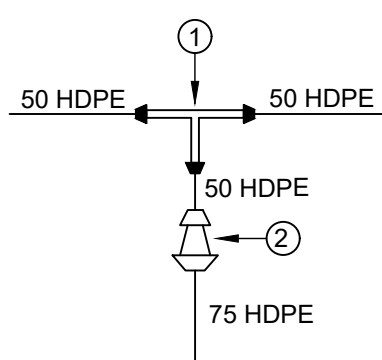
T7B-33

T7B-34

NO	DESCRIPTION	QTY
1	50 x 50mm ND HDPE COMPRESSION EQUAL TEE	1

POINT SKETCH 9

No. OFF: 1



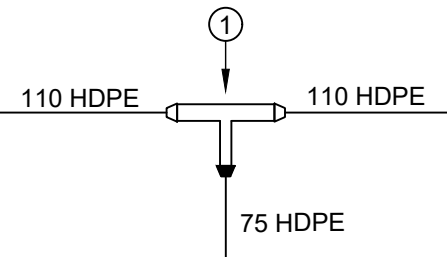
POINT

T7B-22

NO	DESCRIPTION	QTY
1	75mm ND HDPE COMPRESSION EQUAL TEE	1
2	75 x 50mm ND HDPE COMPRESSION REDUCER	1

POINT SKETCH 10

No. OFF: 2



POINT

T7B-9

T7B-11

NO	DESCRIPTION	QTY
1	110 x 75mm ND HDPE UNEQUAL TEE (BUTT WELDED)	1

NOTES

1. ALL FITTINGS TO BE PN10

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION

mig

Municipal Infrastructure Grant



P.O. BOX 449
MKUZE
3965

TEL: (035) 573 8600
FAX: (035) 573 1094

STAND HDPE 13433, KINGFISHER ROAD
MKUZE, 3965

UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

APPROVED:
CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : 1:50 000

DATE: APRIL 2023

DESIGNED: Q SHINGA

CHECKED: T.VAN VUUREN

DRAWN : G PILLAY

CHECKED: S PEER

CONTRACT No. SCMU 021 2022/2023

DESIGN CHECKED BY: T.VAN VUUREN

CAPACITY: SENIOR TECHNOLOGIST

PR.TECH ENG: 2020300712

APPROVED ON BEHALF OF JG AFRIKA:

CAPACITY: TECHNICAL DIRECTOR

DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: POINT SKETCHES

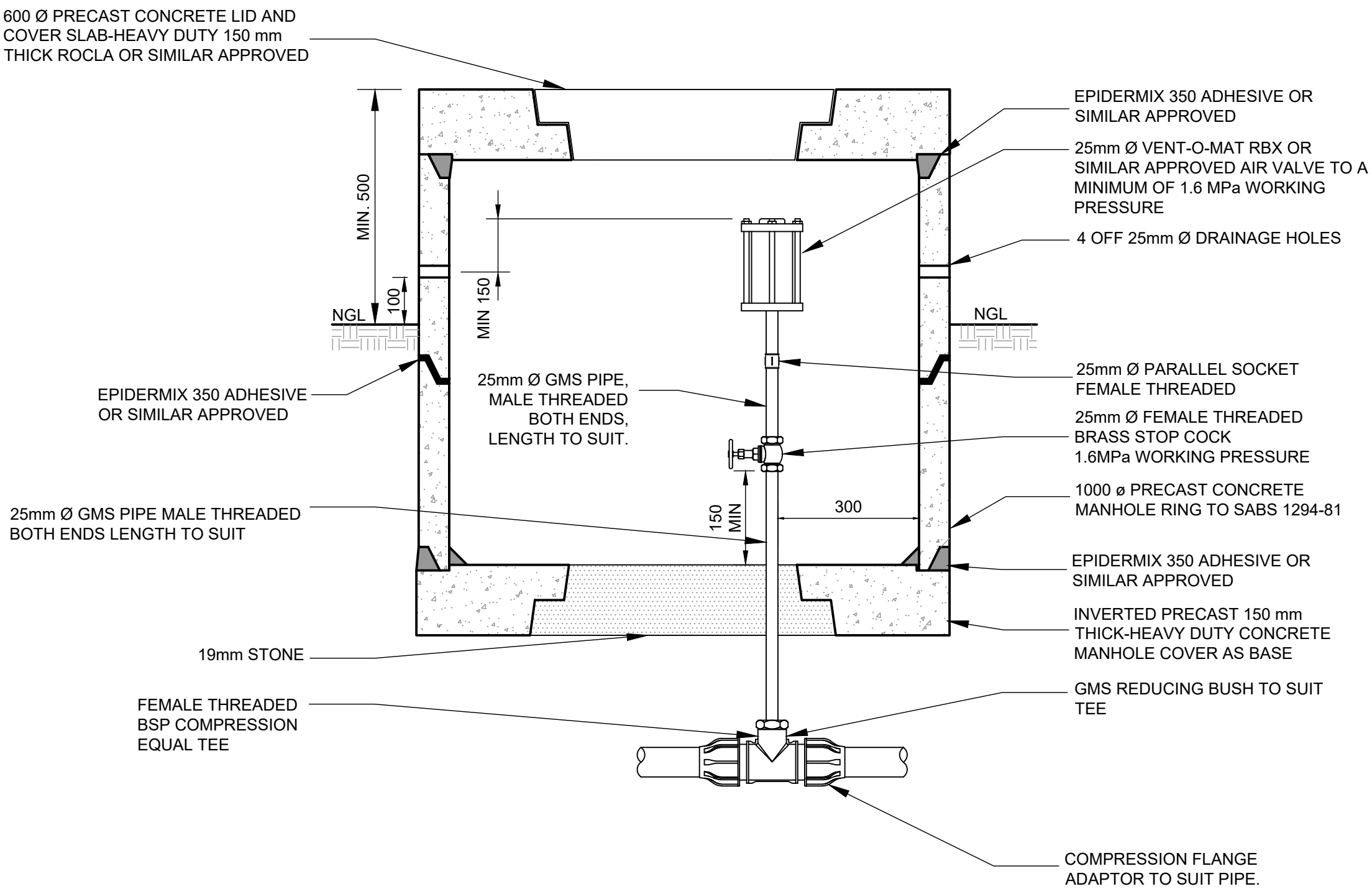
DESCRIPTION: SHEET 1 OF 1

FOR TENDER

DRAWING No. 3233-7B-500

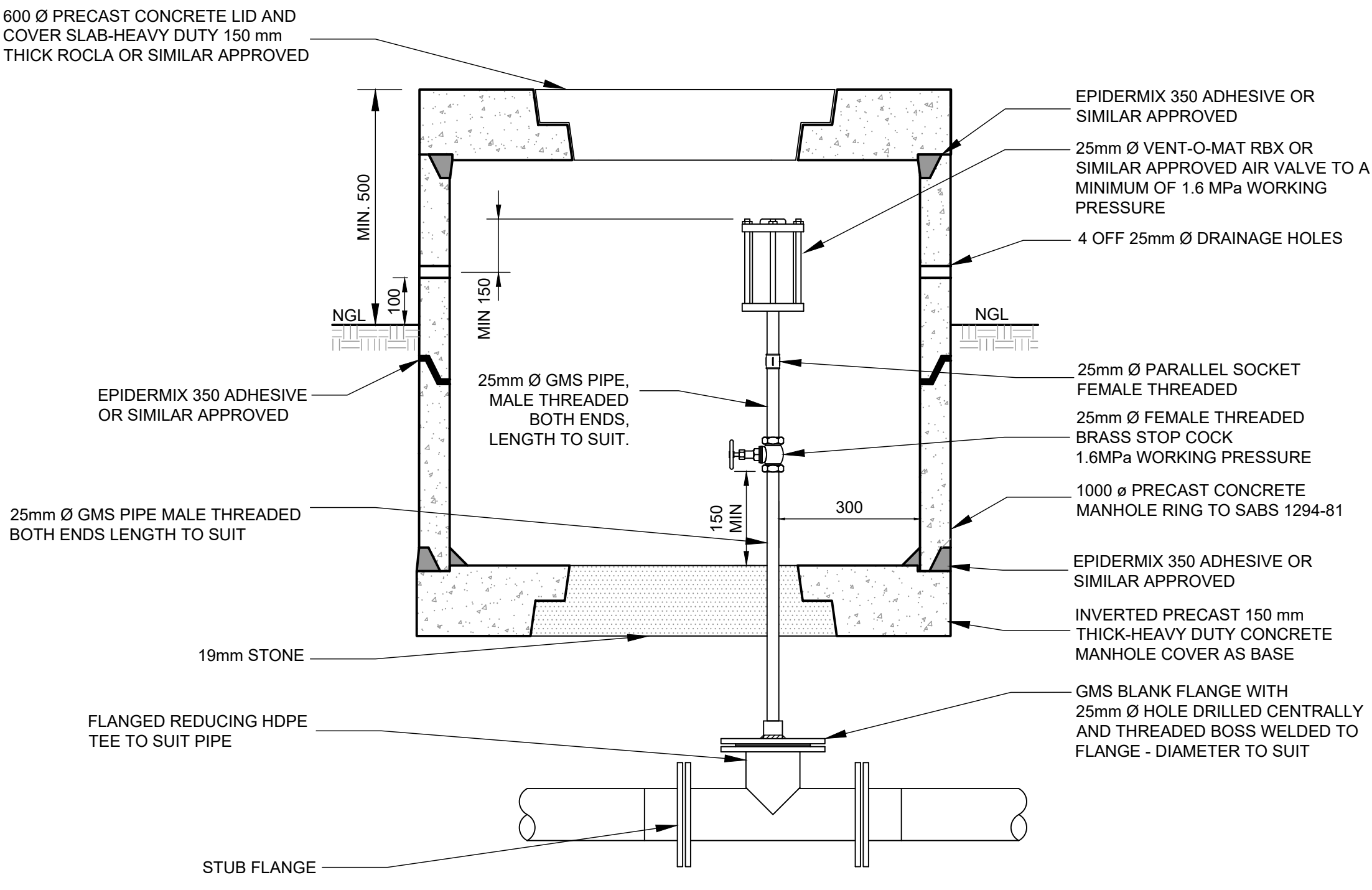
A

V:\Water\3233 - Manguzi Town (NB-SM)\03 Drawings\3. Phase 2\For Tender\Zone 7B\5. Point Sketches\3233-7B-500 Rev 1.dwg



AIR VALVE CHAMBER
DETAIL FOR HDPE PIPES
FOR 50mm TO 90mm ND

SCALE 1:10



AIR VALVE CHAMBER
DETAIL FOR HDPE PIPES
FOR 110mm TO 250mm ND

SCALE 1:10

NOTES

1. ALL DIMENSIONS IN MILLIMETRES.
2. AIR VALVE TO BE POSITIONED ABOVE NGL
3. ALL FLANGES TO MINIMUM 1 600 kPa OR TO SUIT PIPE CLASS
4. ALL THREADS TO BSP STANDARDS.
5. ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN DENSO TAPE.
6. ENGINEER TO BE CONSULTED IN RESPECT OF APPROPRIATENESS OF DESIGN FOR PIPE PRESSURE OVER CLASS 16.
7. ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000 - OVER 1500 TO BE EPOXY COATED (3 COATS TO 250 MICRONS)
8. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS WITH A MINIMUM OF 5mm THICKNESS.
9. ALL FLANGES DRILLED TO SANS 1123, TABLE 1600/3

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION



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MKUZE
3965

TEL: (035) 573 8600
FAX: (035) 573 1094

STAND 13433, KINGFISHER ROAD
MKUZE, 3965

UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

APPROVED:
CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : AS SHOWN
DATE: APRIL 2023

DESIGNED: Q SHINGA
CHECKED: T.VAN VUUREN

DRAWN : M SHEZI
CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023

DESIGN CHECKED BY: T.VAN VUUREN

CAPACITY: SENIOR TECHNOLOGIST

PR.TECH ENG: 2020300712

APPROVED ON BEHALF OF JG AFRIKA:

CAPACITY: TECHNICAL DIRECTOR

DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

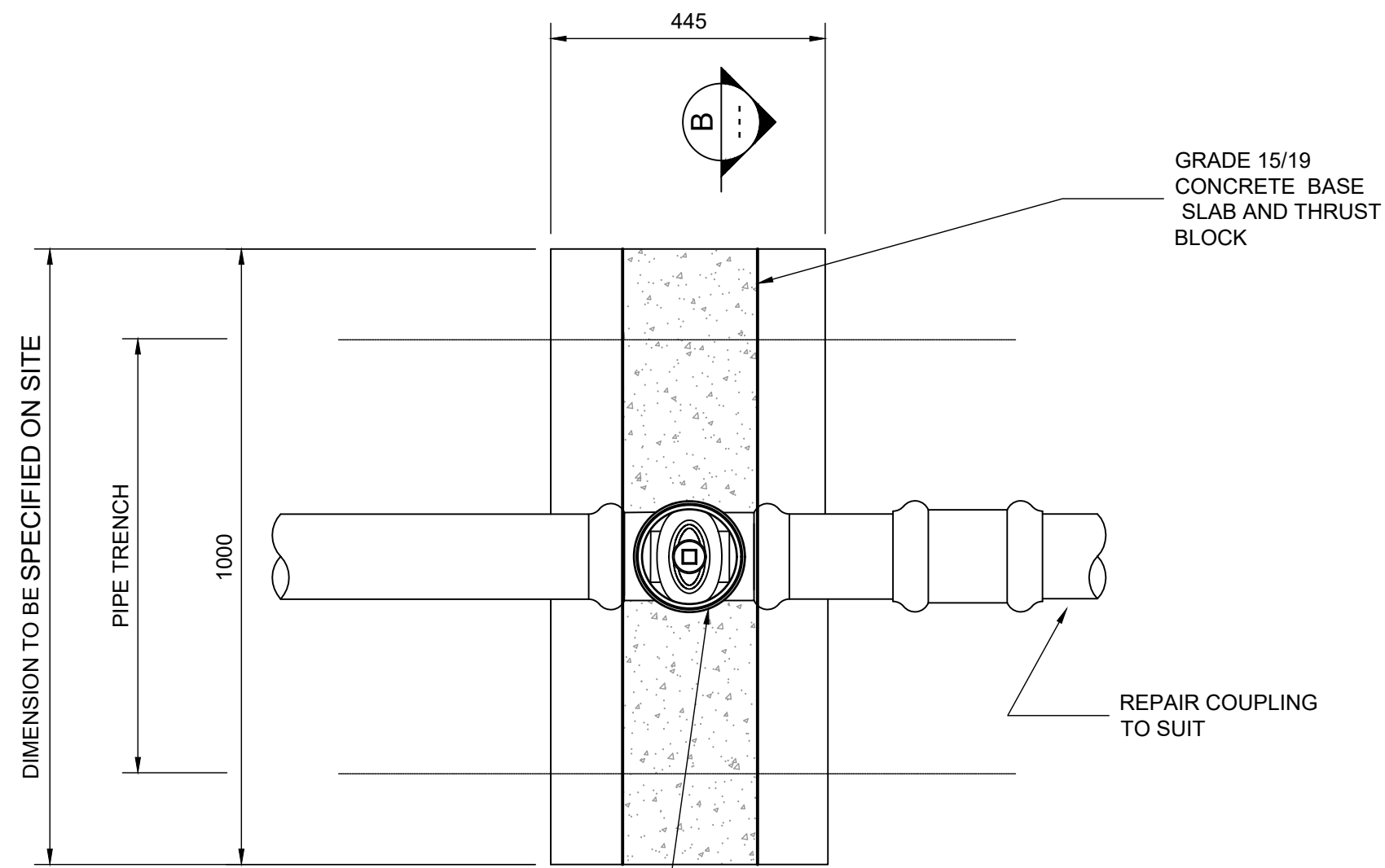
TITLE: AIR VALVE DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

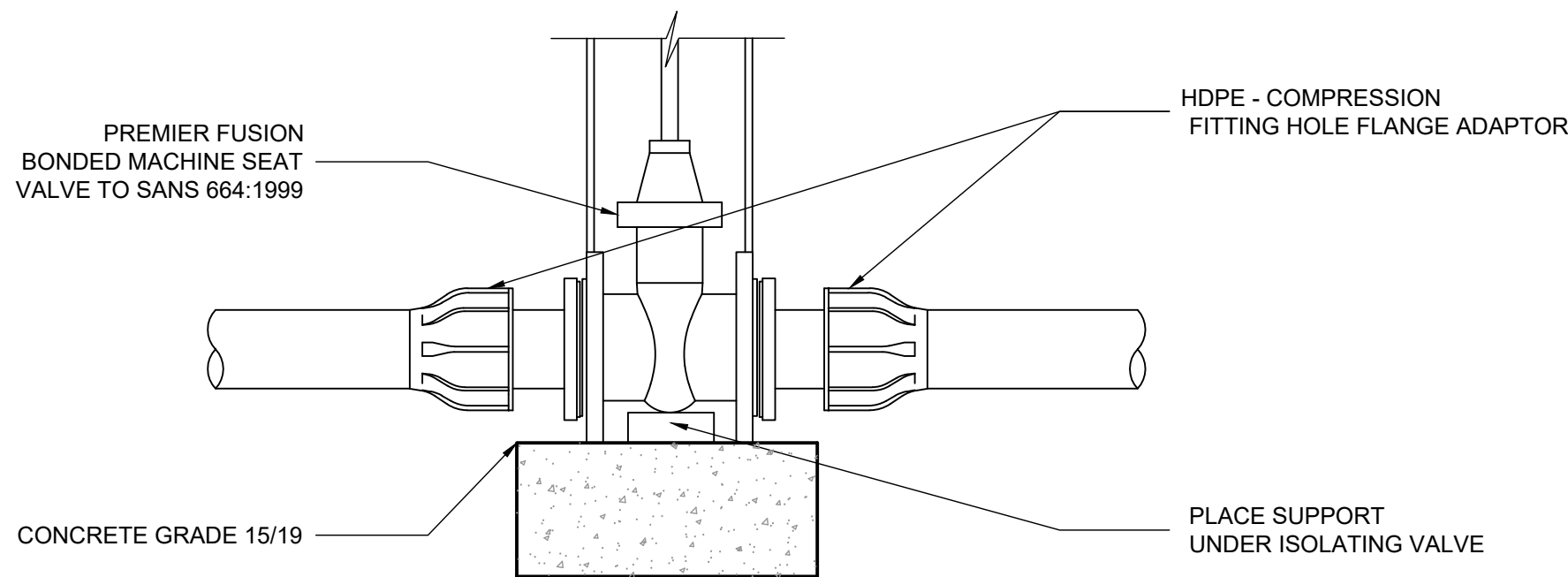
DRAWING No. 3233-7B-900

A



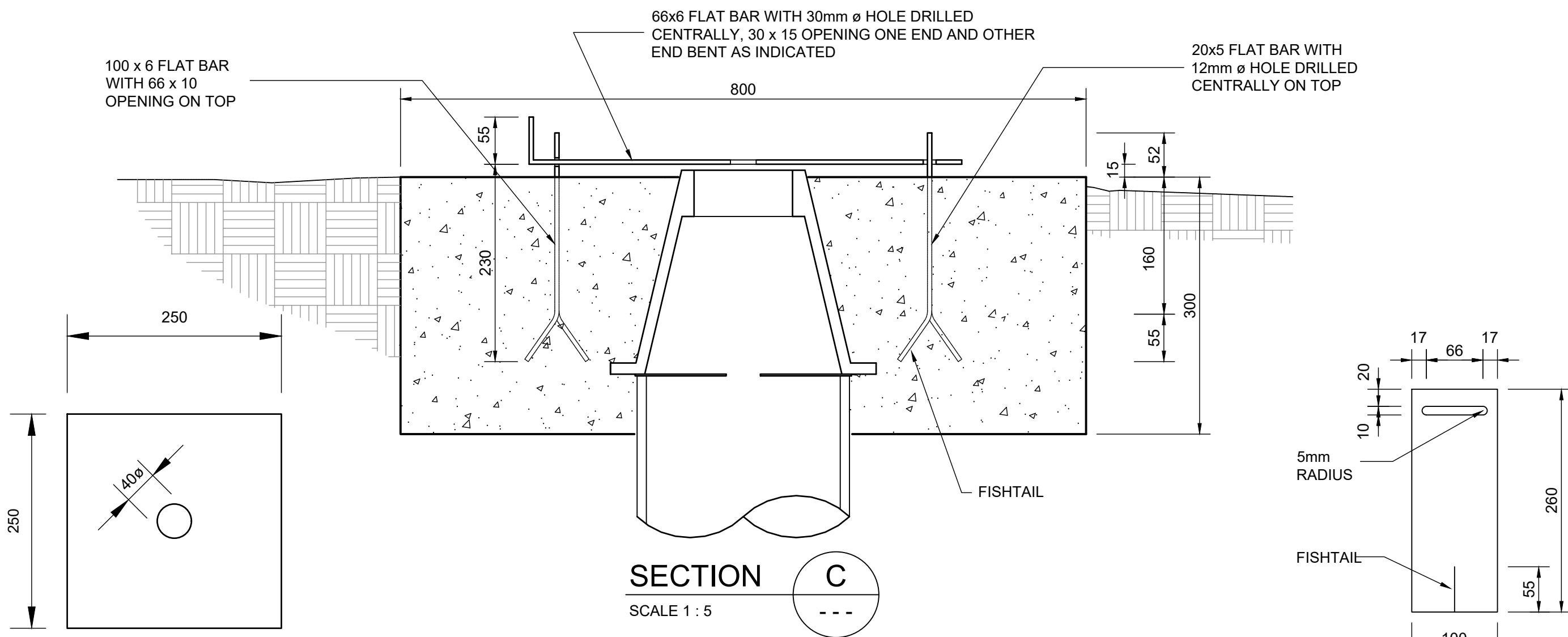
PREMIER FUSION BONDED SOCKETED MACHINE SEAT VALVE TO SANS 664:1999 CLOCKWISE CLOSING WITH NON-RISING SPINDLE

SECTION A
SCALE 1 : 10



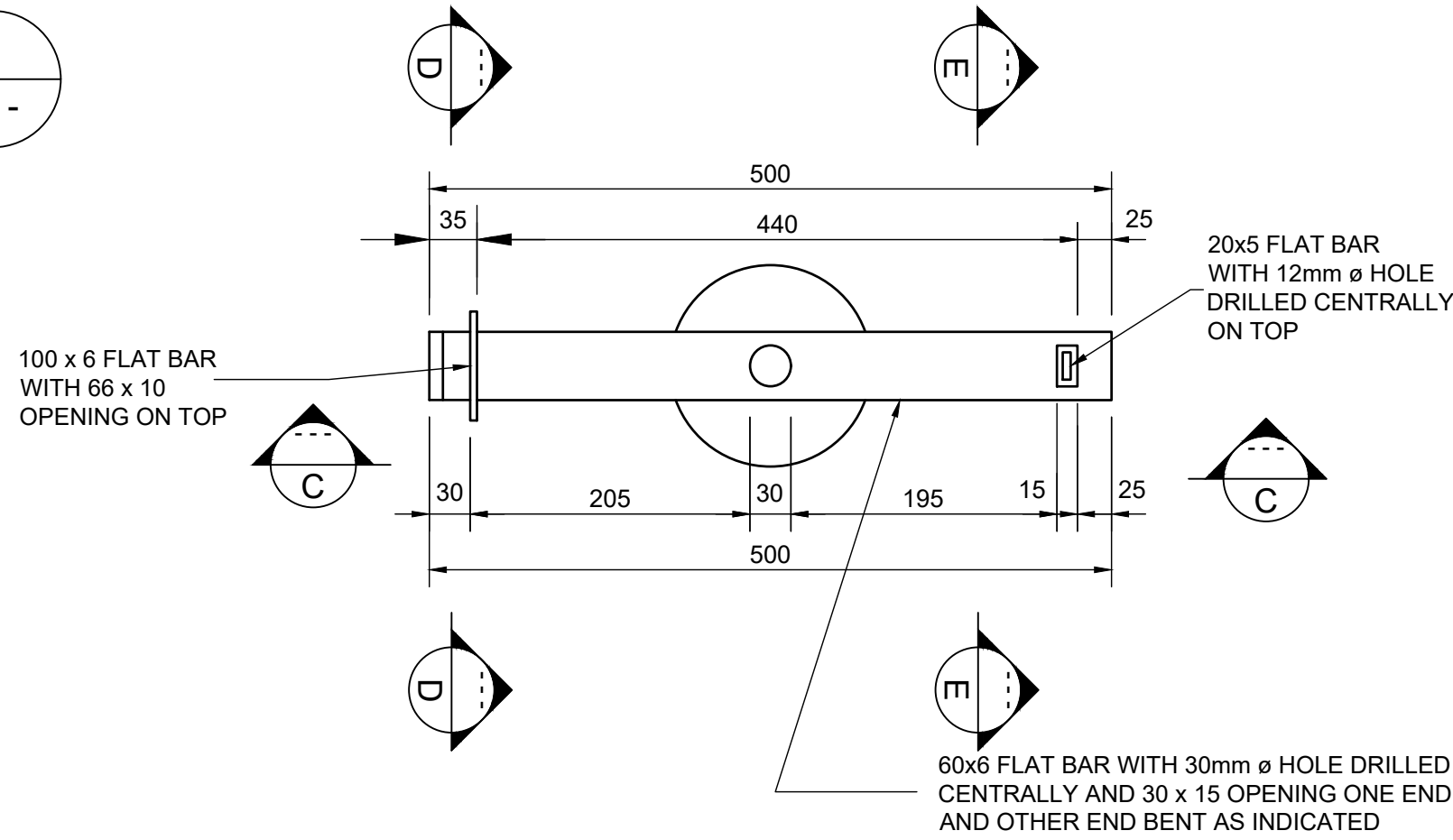
ISOLATING VALVE DETAIL
FOR HDPE PIPING

SCALE 1 : 10

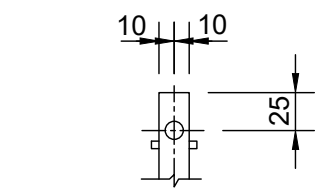


SECTION C
SCALE 1 : 5

DETAIL 1
SCALE 1 : 5



SECTION D
SCALE 1 : 5

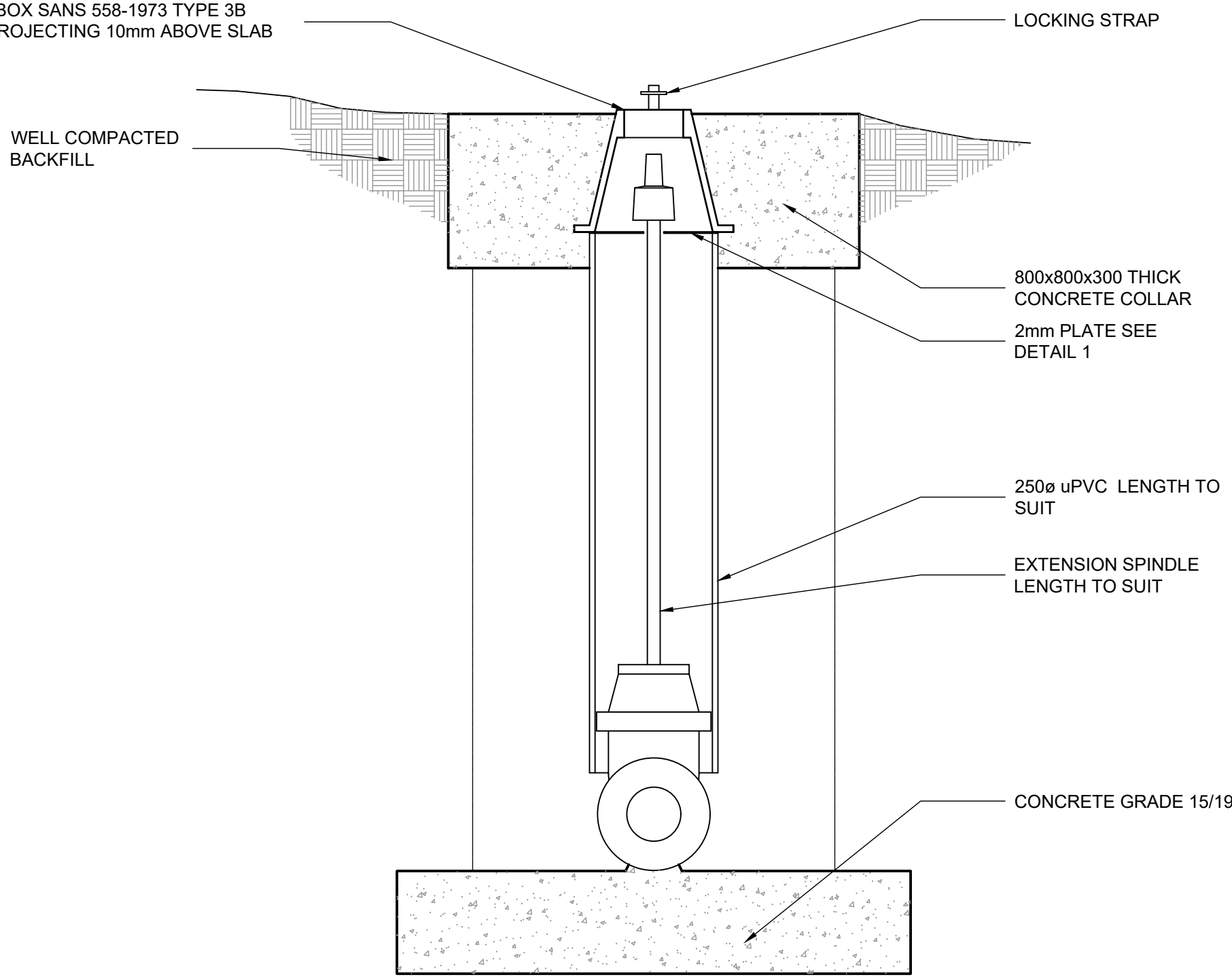


SECTION E
SCALE 1 : 5

VALVE BOX LOCKING STRAP DETAIL

SCALE 1 : 5

CI VALVE BOX SANS 558-1973 TYPE 3B
CAST IN, PROJECTING 10mm ABOVE SLAB



SECTION B
SCALE 1 : 10

NOTES

- ALL DIMENSIONS IN MILLIMETRES.
- CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED.
- MARKER POST TO BE ERECTED AT VALVE BOX AS INDICATED BY ENGINEER ON SITE. REFER TO DRAWING 3233-7B-903 FOR VALVE MARKER POST DETAIL.
- ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461-2000.
- ENGINEER TO BE CONSULTED IN RESPECT OF APPROPRIATENESS OF DESIGN FOR PIPE PRESSURE OVER CLASS 16.
- VALVE AND FITTINGS TO SUIT PIPE PRESSURE CLASS

A	FOR TENDER	QS	APR 23
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No.	DESCRIPTION	NAME	DATE
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REVISION



P.O. BOX 449
MKUZE
3965

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FAX: (035) 573 1094

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SCALE ON A1 : AS SHOWN
DESIGNED: Q SHINGA
DRAWN : M SHEZI

DATE: APRIL 2023
CHECKED: T.VAN VUUREN
CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023
DESIGN CHECKED BY: T.VAN VUUREN
CAPACITY: SENIOR TECHNOLOGIST
PR.TECH ENG: 2020300712
APPROVED ON BEHALF OF JG AFRIKA:
CAPACITY: TECHNICAL DIRECTOR
DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



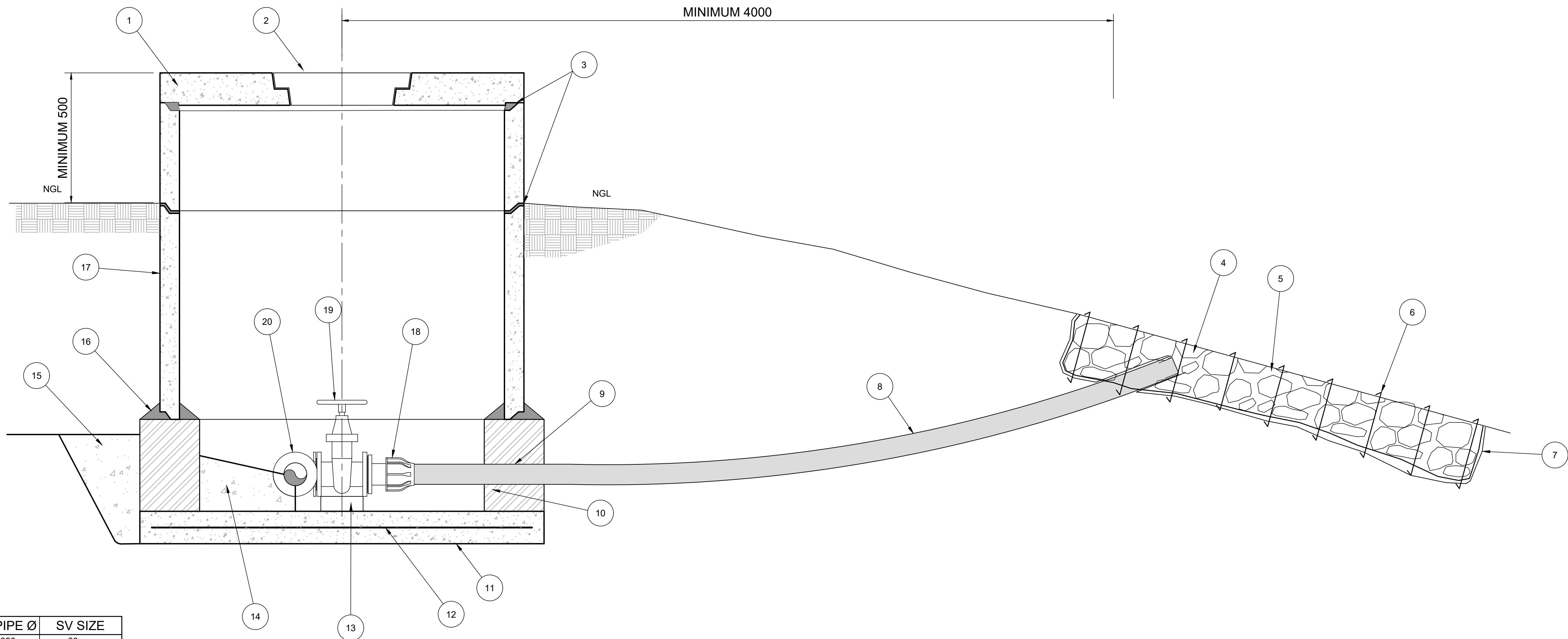
PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: ISOLATING VALVE DETAILS

DESCRIPTION: 50mm TO 90mm ND

FOR TENDER

DRAWING No. 3233-7B-901

A



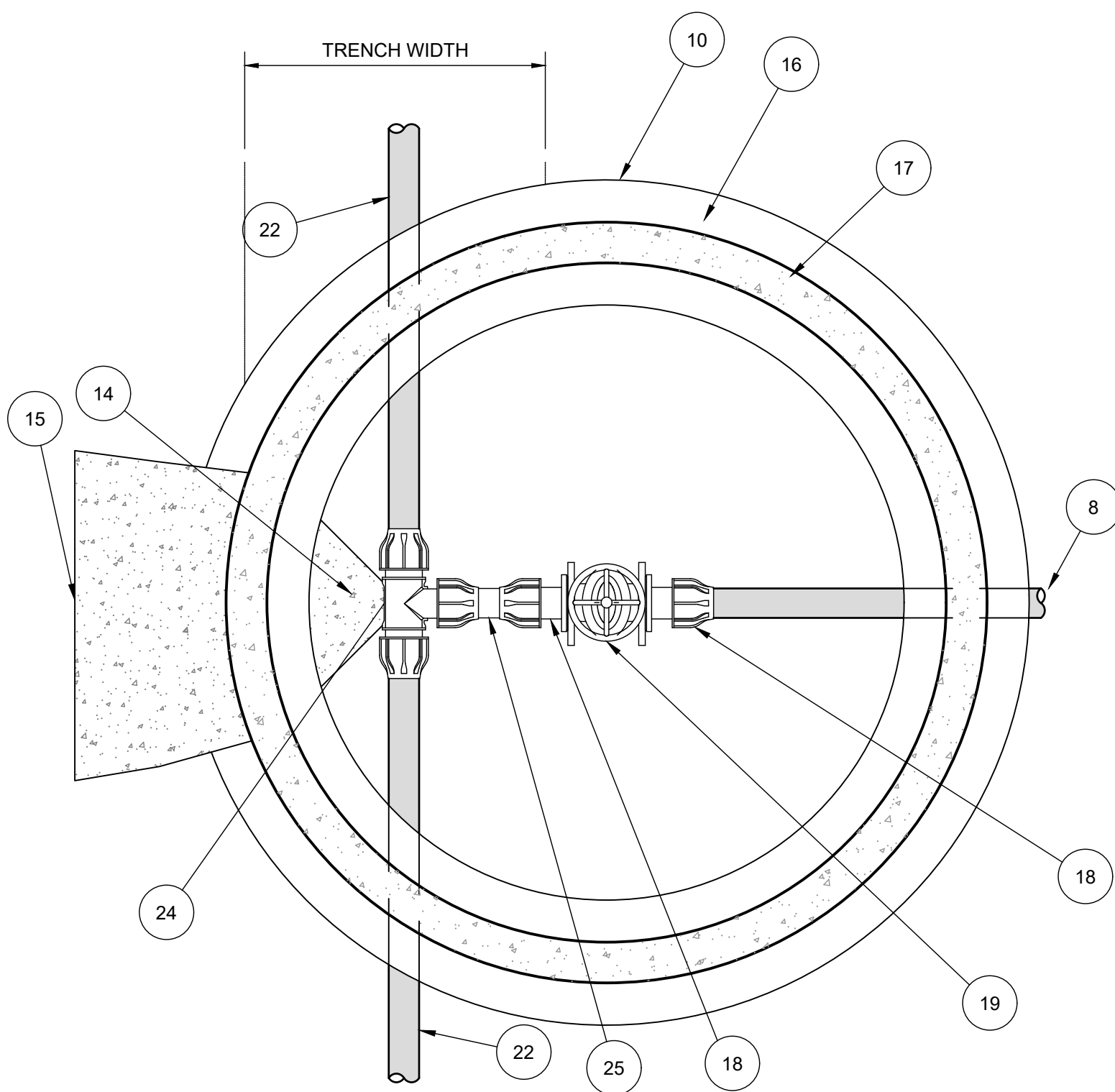
PIPE Ø	SV SIZE
250mm	80mm
200mm	80mm
160mm	80mm
110mm	80mm
90mm	80mm
75mm	80mm
63mm	50mm
50mm	50mm

SCOUR VALVE CHAMBER HDPE
N.T.S.

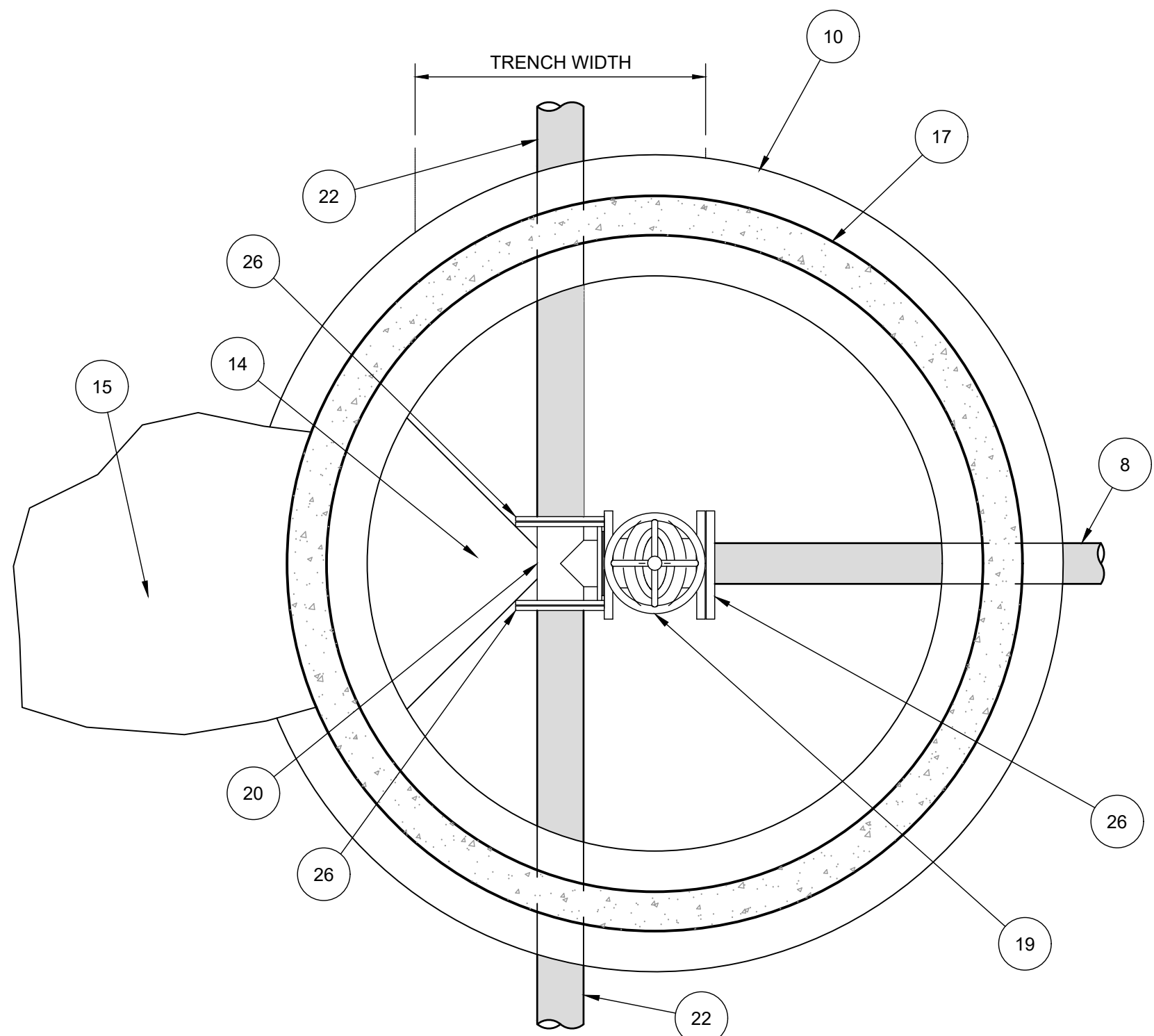
ITEM	DESCRIPTION : CHAMBER
1	GRADE 25/19 MANHOLE COVER 150mm THICK
2	CONCRETE LID
3	EPIDERMIX 350 ADHESIVE OR SIMILAR APPROVED
4	150 ø HARD STONE IN A 300mm LAYER
5	RENO MATTRESS - 2000x1000x300 WITH GALVANIZED BASKET
6	4mmØ GALVANISED WIRE TIES @ 250 C/C BOTH DIRECTIONS
7	RENO MATTRESS TO BE WRAPPED IN GRADE A2 BIDIM GEOTEXTILE OR SIMILAR APPROVE
8	HDPE CLASS 12 PIPE TO SUIT SCOUR TEE
9	ALL PIPE THROUGH BRICKWORK TO BE WRAPPED IN 2000 MICRON PVC SHEET
10	4 COURSES ENGINEERING BRICKWORK - REMOVE BRICKS TO INSERT PIPE AND GROUT OPENING CLOSED
11	150mm THICK CONCRETE GRADE 25/19 SLAB
12	REF. 395 MESH LOCATED CENTRALLY IN SLAB
13	SINGLE MASONRY BRICK PLACED UNDER VALVE
14	CONCRETE GRADE 15/19 (ANCHOR BLOCK)
15	CONCRETE GRADE 15/19 CAST BETWEEN CHAMBER AND UNDISTURBED SOIL AS DIRECTED ON SITE
16	MORTAR 1/3 CEMENT/SAND
17	1250 ø PRECAST CONCRETE RINGS TO SANS 1294-91

ITEM	DESCRIPTION : uPVC PIPE
18	HDPE COMPRESSION FLANGE ADAPTOR
19	CI. FLANGED WATER WORKS GATE VALVE TO SANS 664 WITH MACHINED SEAT TO SUIT SCOUR TEE
20	FLANGED STEEL SCOUR TEE SHALL BE EQUAL TEES FOR PIPES UP TO AND INCLUDING 750. FOR LARGER PIPES SCOUR TEE BRANCH SHALL REDUCE TO 800Ø
22	MAIN PIPE LINE
23	CI. FLANGE ADAPTOR

ITEM	DESCRIPTION : HDPE PIPE
19	CI. FLANGED WATER WORKS GATE VALVE TO SANS 664 WITH MACHINED SEAT TO SUIT SCOUR TEE
20	FLANGED GMS SCOUR TEE SHALL BE EQUAL TEES FOR PIPES UP TO AND INCLUDING 75mmØ. FOR LARGE PIPES SCOUR TEE BRANCH SHALL REDUCE TO 80mmØ
22	MAIN PIPE LINE
26	STUB FLANGE



CHAMBER PLAN
HDPE PIPE LINE
FOR 50mm TO 90mm ND
N.T.S.



CHAMBER PLAN
HDPE PIPE LINE
FOR 110mm TO 250mm ND
N.T.S.

NOTES

- ALL DIMENSIONS IN MILLIMETERS.
- CONCRETE TO BE CLASS 25/19 UNLESS OTHERWISE SPECIFIED.
- ALL THREADS TO BSP STANDARDS.
- ALL STEEL COMPONENTS INCLUDING BOLTS GALVANIZED TO ISO 1461:2000.
- ENGINEER TO BE CONSULTED IN RESPECT OF APPROPRIATENESS OF DESIGN FOR PIPE PRESSURE OVER CLASS 16 AND OVER CLASS 25

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION



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MKUZE
3965

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FAX: (035) 573 1094

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HILTON
3245

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6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : AS SHOWN
DESIGNED: Q SHINGA
DRAWN : M SHEZI

DATE: APRIL 2023
CHECKED: T.VAN VUUREN
CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023
DESIGN CHECKED BY: T.VAN VUUREN
CAPACITY: SENIOR TECHNOLOGIST
PR.TECH ENG: 2020300712
APPROVED ON BEHALF OF JG AFRIKA:
CAPACITY: TECHNICAL DIRECTOR
DATE: APRIL 2023

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: SCOUR VALVE DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-902

A

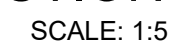
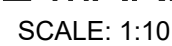


DIMENSIONS - TEE CONNECTION

DIMENSIONS - 90° THRUST BLOCK

DIMENSIONS - 45° THRUST BLOCK

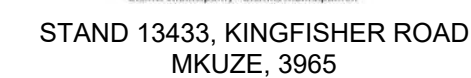
DIMENSIONS - I.V. AND REDUCER THRUST BLOCK



1. REAR END OF ANCHOR BLOCK TO BE CAST AGAINST UNDISTURBED GROUND.
2. MARKER POSTS TO BE ERECTED AT ALL CHANGES IN HORIZONTAL ALIGNMENT AND AT REGULAR INTERVALS ON STRAIGHTS SUCH THAT MARKER POSTS ARE VISIBLE EITHER SIDE OF ANY GIVEN POST, BUT NOT GREATER THAN 150 METRES APART.
3. CONCRETE GRADE 15/19 FOR ALL THRUST BLOCKS.
4. CONCRETE GRADE 25/19 FOR MARKER POSTS.
5. DIMENSIONS FOR THRUST BLOCKS TO BE USED ON PIPES <= PN16.
FOR PIPES . PN16, THRUST BLOCK DIMENSIONS TO BE CONFIRMED BY ENGINEER.

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION



UMKHANYAKUDE DISTRICT MUNICIPALITY
DC 27

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CAPACITY:
DATE:



P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
FAX: (033) 343-6701
E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 324

SCALE ON A1 : AS SHOWN	DATE: APRIL 2023
DESIGNED: Q SHINGA	CHECKED: T.VAN VUUREN
DRAWN : M SHEZI	CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023	
DESIGN CHECKED BY: T.VAN VUUREN	
CAPACITY: SENIOR TECHNOLOGIST	
PR.TECH ENG: 2020300712	
APPROVED ON BEHALF OF JG AFRIKA:	
CAPACITY: TECHNICAL DIRECTOR	
DATE: APRIL 2023	

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED

PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

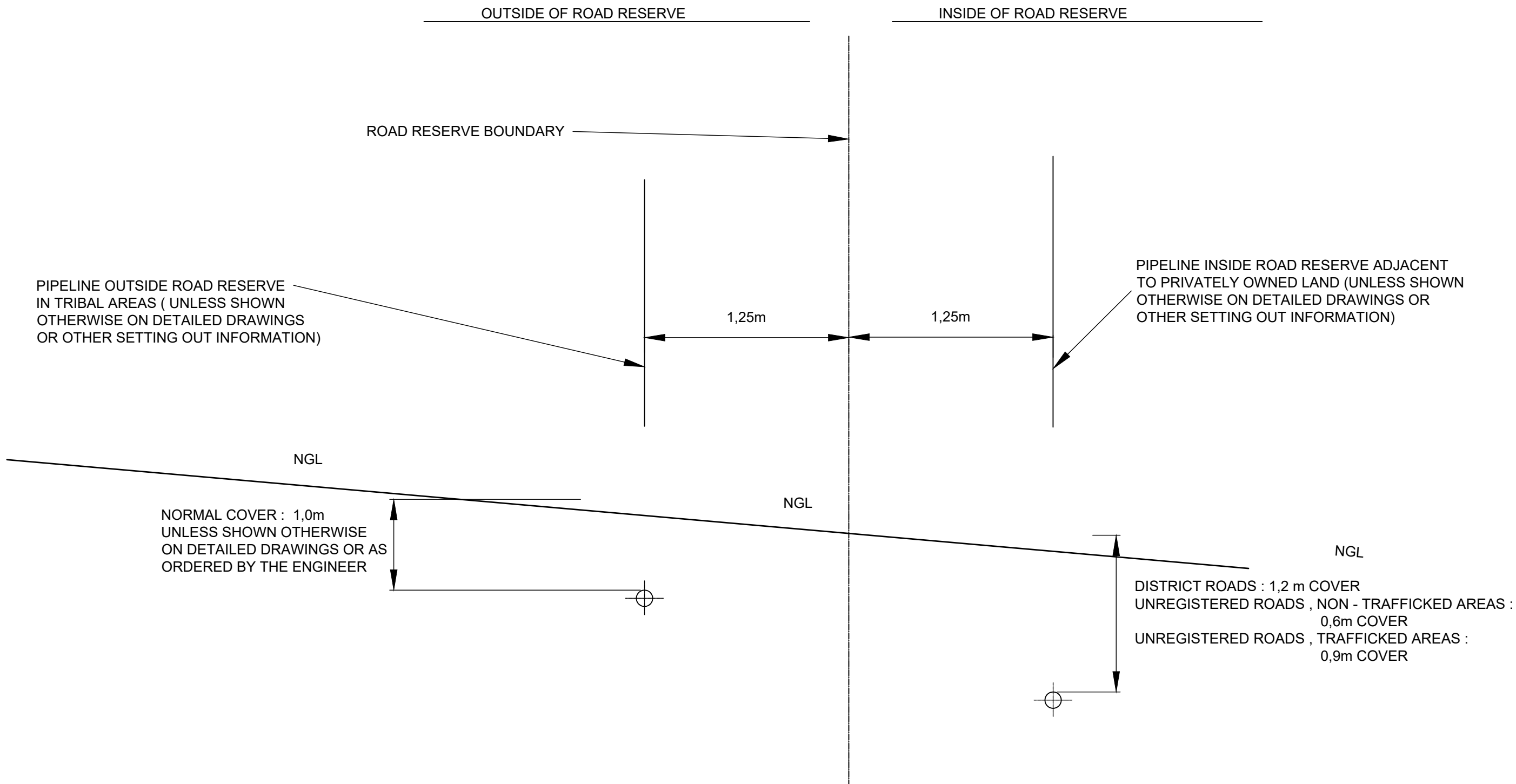
TITLE: PIPE MARKER AND THRUST
BLOCK DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

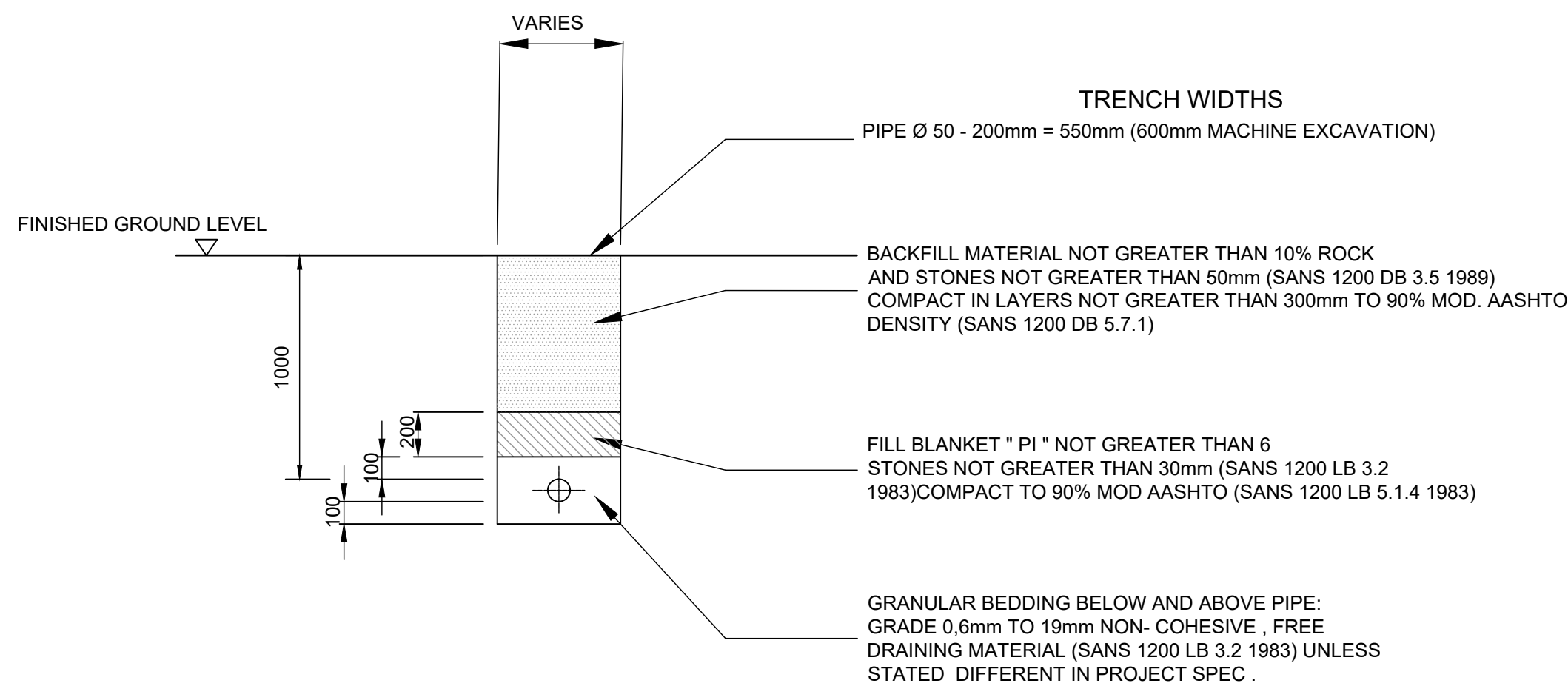
DRAWING No. 3233-7B-903





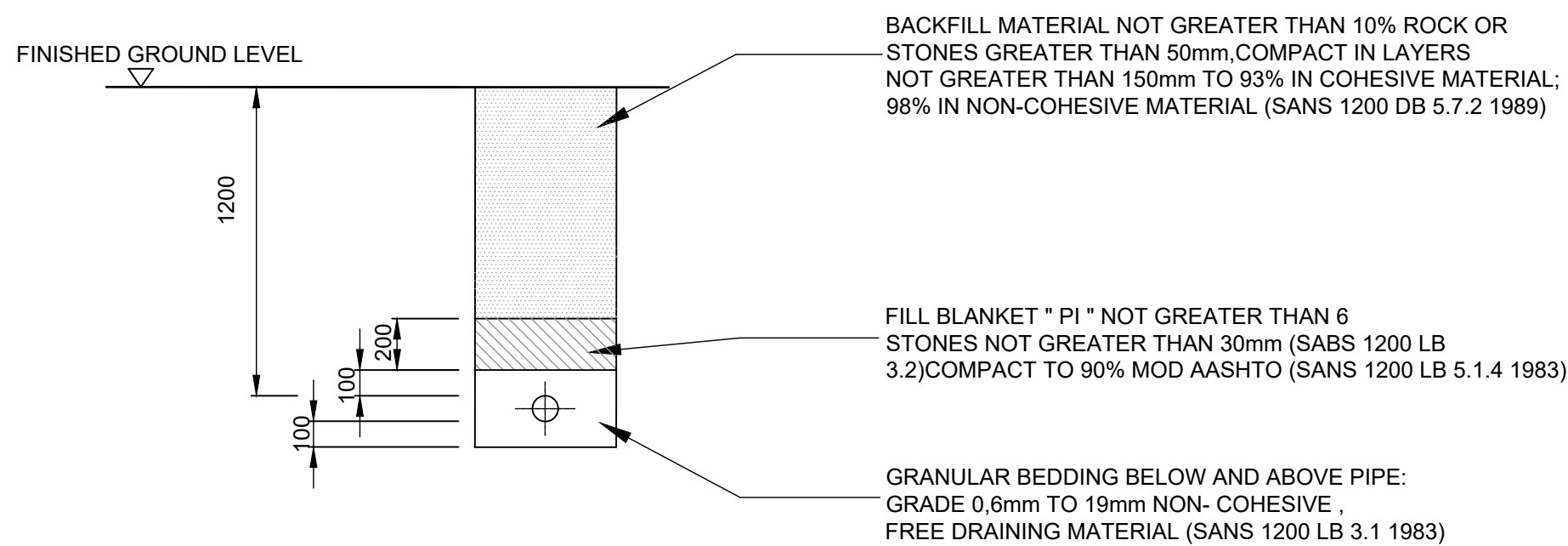
SETTING OUT OF TRENCH FROM :

- 1) ROAD RESERVE BOUNDARY
- 2) FENCE AT EDGE OF MINOR ROADS AND TRACKS



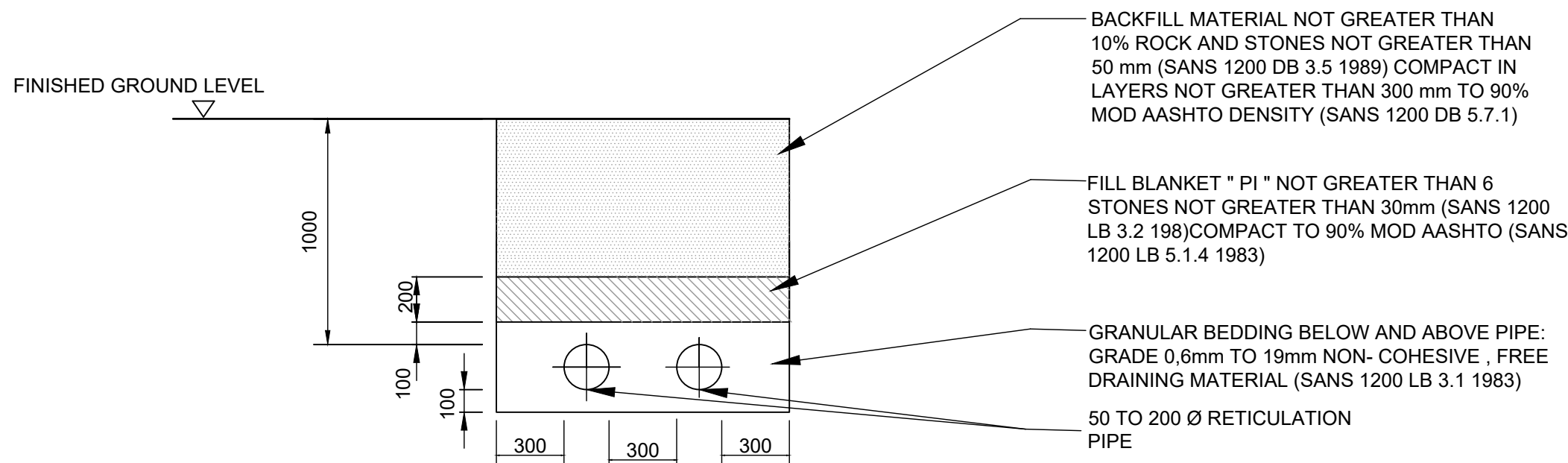
SINGLE PIPE TRENCH IN NON-TRAFFICKED AREAS

SCALE:1:25



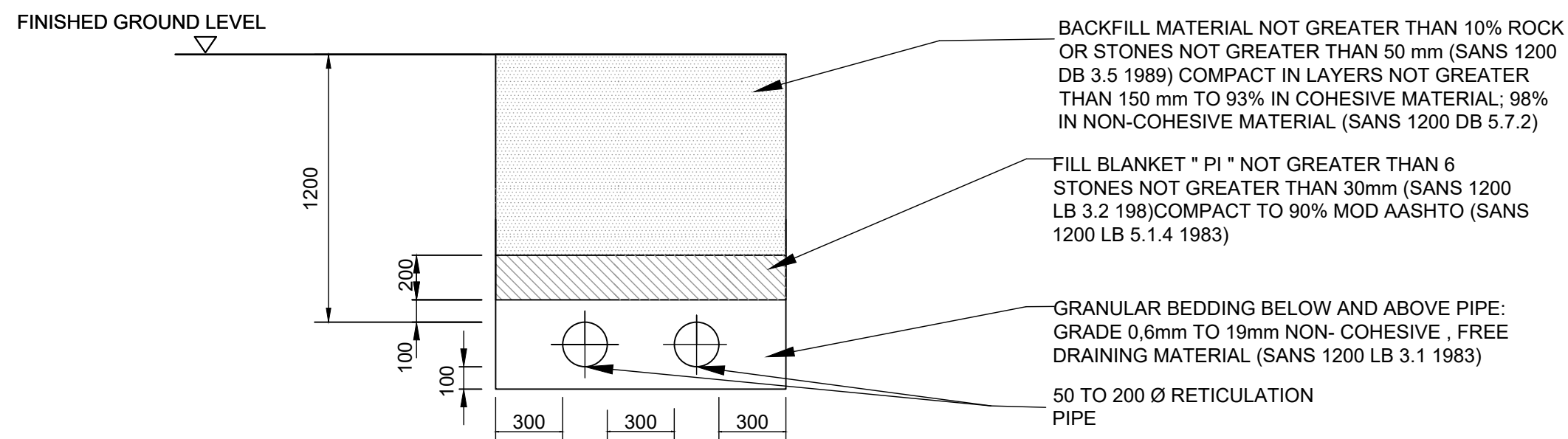
SINGLE PIPE TRENCH IN TRAFFICKED AREAS

SCALE: 1:25



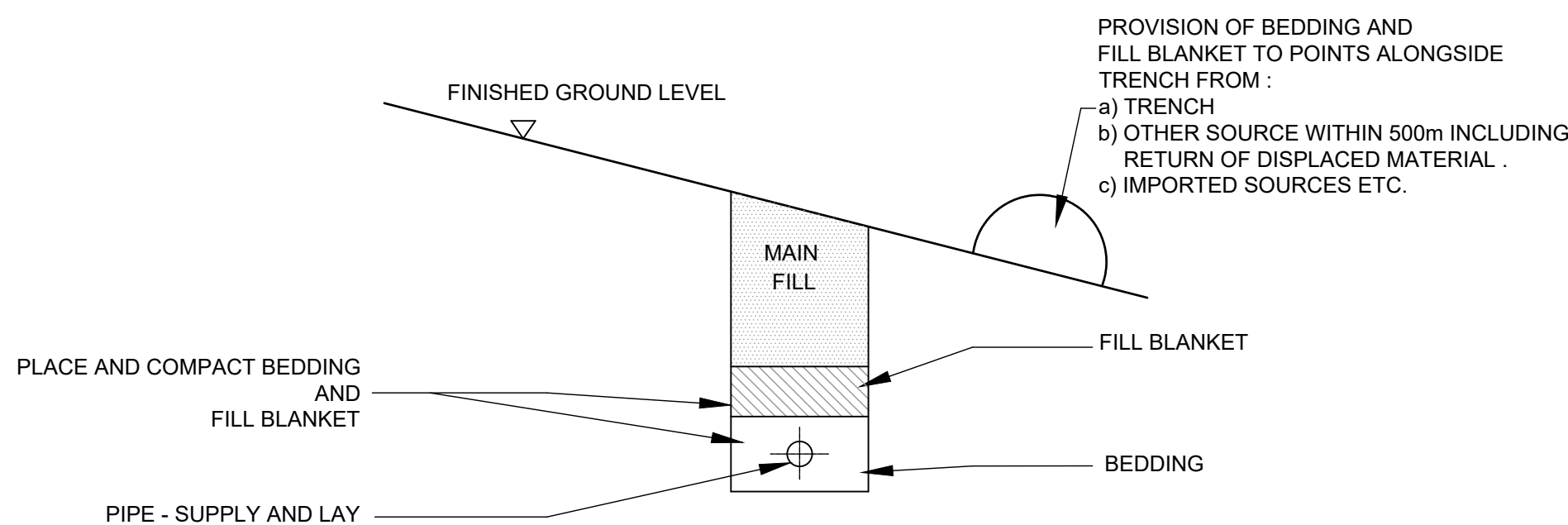
DOUBLE PIPE TRENCH IN NON TRAFFICKED AREAS

SCALE:1:25



DOUBLE PIPE TRENCH IN TRAFFICKED AREAS

SCALE:1:25



TYPICAL TRENCH SECTION

SCALE: 1:25

NOTES

1. SANS 1200 LB AND IN PARTICULAR THE REQUIREMENTS OF SANS 1200 DB (BEDDING) SANS 1200 DB (TRENCH EXCAVATION) AND SANS 1200L (MEDIUM PRESSURE PIPELINES) AS WELL AS THE PROJECT SPECIFICATION SHALL OVERRIDE ANY CONFLICTING SPECIFICATIONS SHOWN ON THIS DRAWING UNLESS OTHERWISE ORDERED BY THE ENGINEER.
2. FREEHAUL DISTANCE FOR BEDDING FROM TRENCH EXCAVATION IS 0,5 km.
3. FREEHAUL DISTANCE FOR DISPOSAL OF SURPLUS EXCAVATION IS 0,5 km FOR MACHINES AND 100m FOR WHEELBARROWS.
4. STEEL PIPES - GRANULAR BEDDING SHALL BE 100mm DEEP, BELOW PIPE AND THEREAFTER BLANKET FILL TO 200mm ABOVE PIPE (SANS 1200 LB drg LB - 1[C]).
5. PIPES IN DISTRICT ROAD RESERVES AND ROADS OF HIGHER STANDARD SHALL HAVE 1,0m COVER AND BE CONSIDERED AS "TRAFFICKED". ALL OTHER PIPES SHALL HAVE 600mm COVER EXCEPT WHERE DEEMED BY THE ENGINEER TO BE TRAFFICKED.

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

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P.O. BOX 449
MKUZE
3965

TEL: (035) 573 8600
FAX: (035) 573 1094

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P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
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E-MAIL: pietermaritzburg@jgafrika.com

6 PIN OAK AVENUE, HILTON, 3245

SCALE ON A1 : AS SHOWN DATE: APRIL 2023

DESIGNED: Q SHINGA CHECKED: T.VAN VUUREN

DRAWN : M SHEZI CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023

DESIGN CHECKED BY: T.VAN VUUREN

CAPACITY: SENIOR TECHNOLOGIST

PR.TECH ENG: 2020300712

APPROVED ON BEHALF OF JG AFRIKA:

CAPACITY: TECHNICAL DIRECTOR

DATE: APRIL 2023

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QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

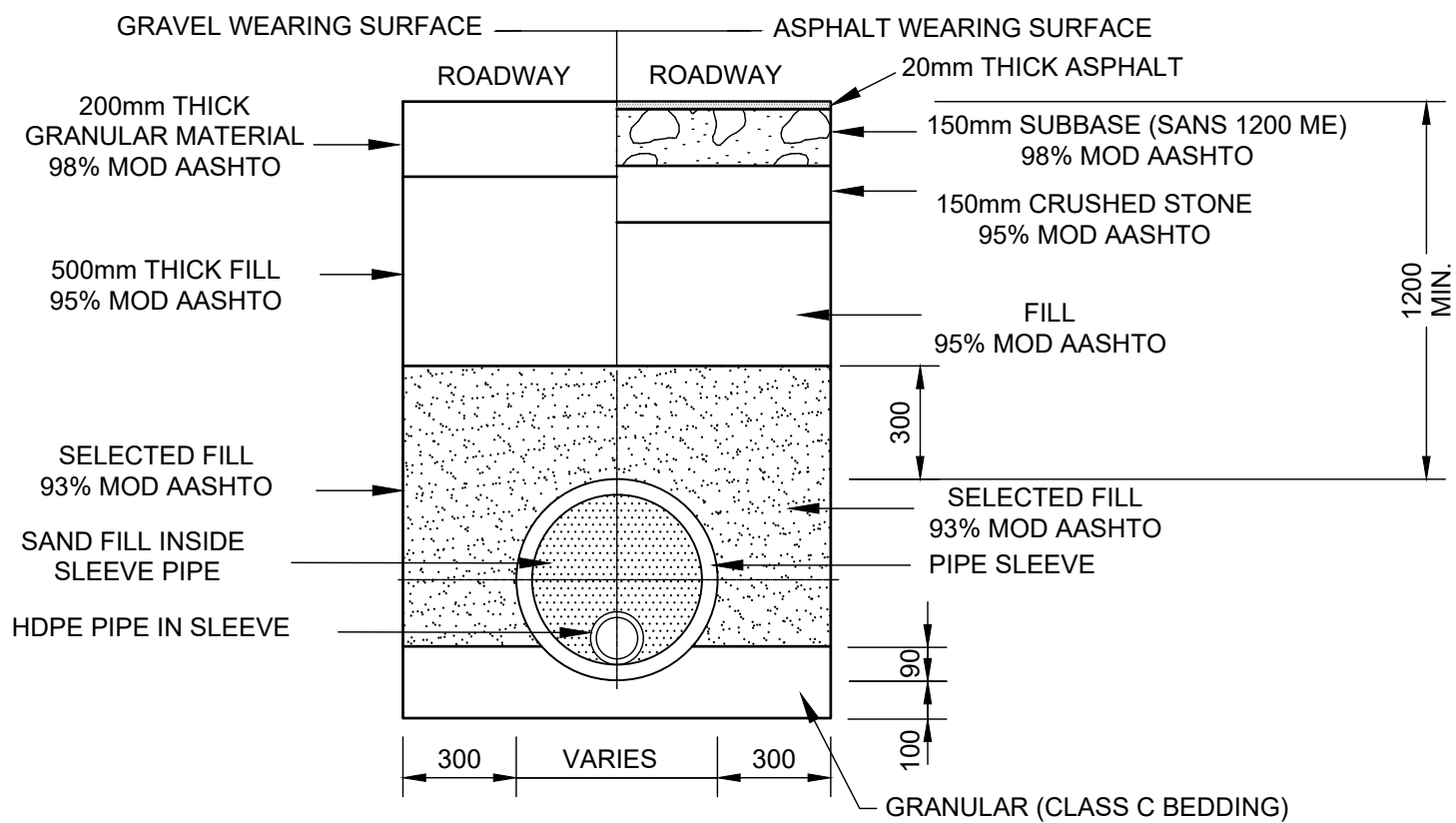
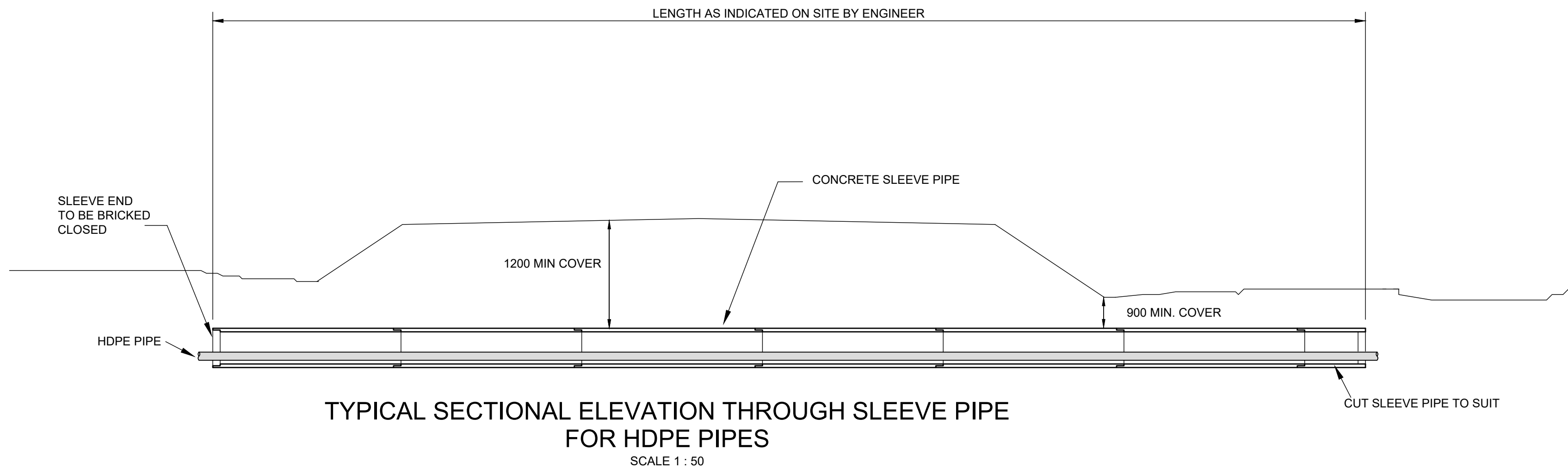
TITLE: SETTING OUT DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-904





TYPICAL SECTION SHOWING
SAND FILL INSIDE SLEEVE PIPE
NOT TO SCALE

SLEEVE TYPES				
ROAD CLASSIFICATION	ROAD RESERVE	WATER PIPE Ø	CONCRETE SLEEVE PIPE	COVER TO SLEEVE
M (MAIN)	30m	25 TO 200	450 ND 100 D	1 200
		200 TO 400	600 ND 100 D	1 200
D (DISTRICT)	20m	25 TO 63	160 uPVC CL12	1 200
		75 TO 200	450 ND 100 D	1 200
UNCLASSIFIED	N/A	350 TO 400	600	1 200

PIPE HORIZONTAL DIRECTIONAL DRILLING	
WATER PIPE Ø	HDPE SLEEVE PIPE
35	75
75 to 90	160
110	200
160	250
200 to 250	350
315 to 450	630

NOTES

- SLEEVES TO EXTEND MINIMUM OF 2.0m BEYOND ROAD EDGE.
- ALL CROSSINGS TO BE POSITIONED PERPENDICULAR TO THE ROAD EDGE WHERE PRACTICALLY POSSIBLE.
- ALL CROSSINGS TO HAVE A PIPE MARKER AT EACH SIDE OF THE ROAD PLACED AT THE EDGE OF THE ROAD RESERVE.
- HDPE PIPE TO BE JOINTED A MINIMUM OF 2m AWAY FROM THE END OF THE SLEEVE. NO JOINTS PERMITTED INSIDE THE SLEEVE.
- SLEEVE ENDS TO BE BRICKED CLOSED AFTER PIPE INSTALLATION WITH Z30 BRICKWORK AND THE PIPE MORTARED IN PLACE.
- CONCRETE SLEEVE PIPES TO BE SPIGOT AND SOCKET TYPE WITH RUBBER SEALS FOR MAIN ROADS AND OGEE TYPE WITH RUBBER SEALS FOR ALL OTHER ROADS.
- uPVC PIPES TO BE CHANGED TO CLOSEST HDPE PIPE TO GO THROUGH CONCRETE SLEEVE.
- ALL WATER CONDUITS TO BE PRESSURE RATED THE SAME AS ADJOINING PIPE.
- ENGINEER ON SITE TO DETERMINE WHERE PIPE DRILLING WILL BE UNDERTAKEN.

A	FOR TENDER	QS	APR 23
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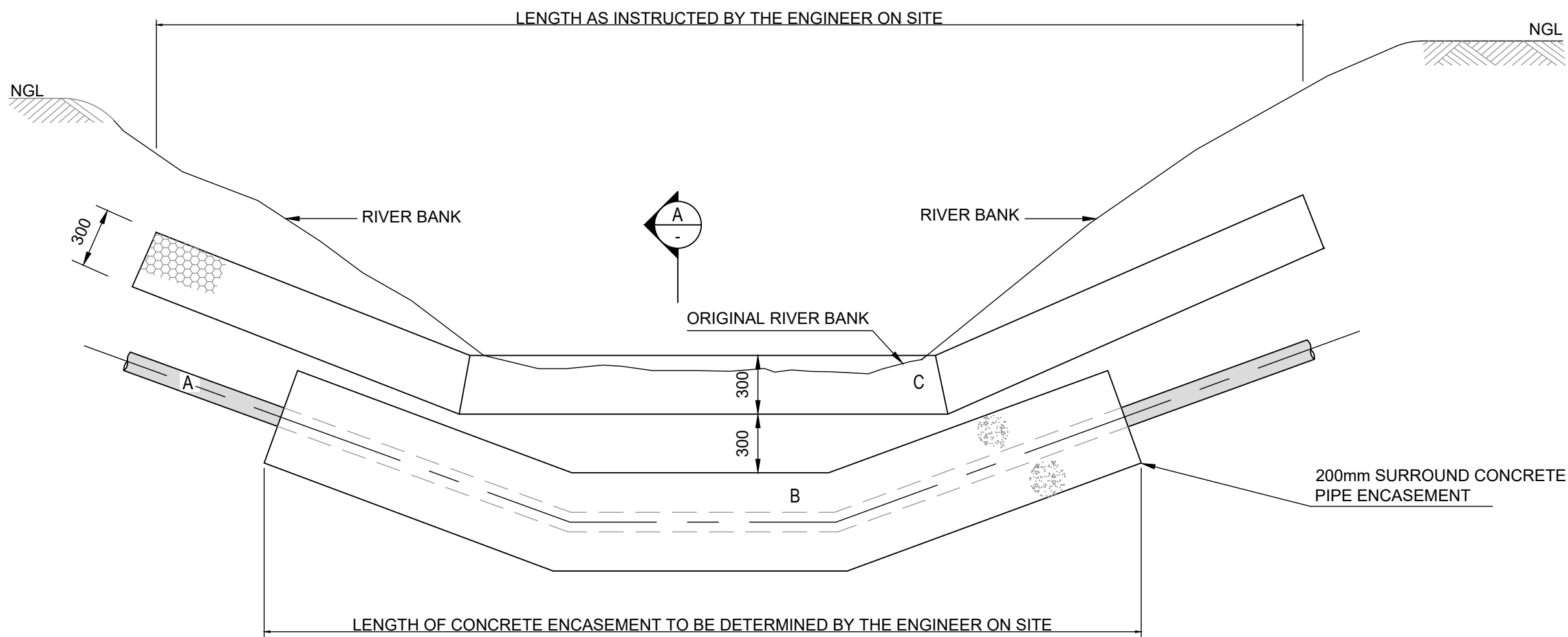


PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: ROAD CROSSING DETAILS
DESCRIPTION: TYPICAL DETAILS

FOR TENDER

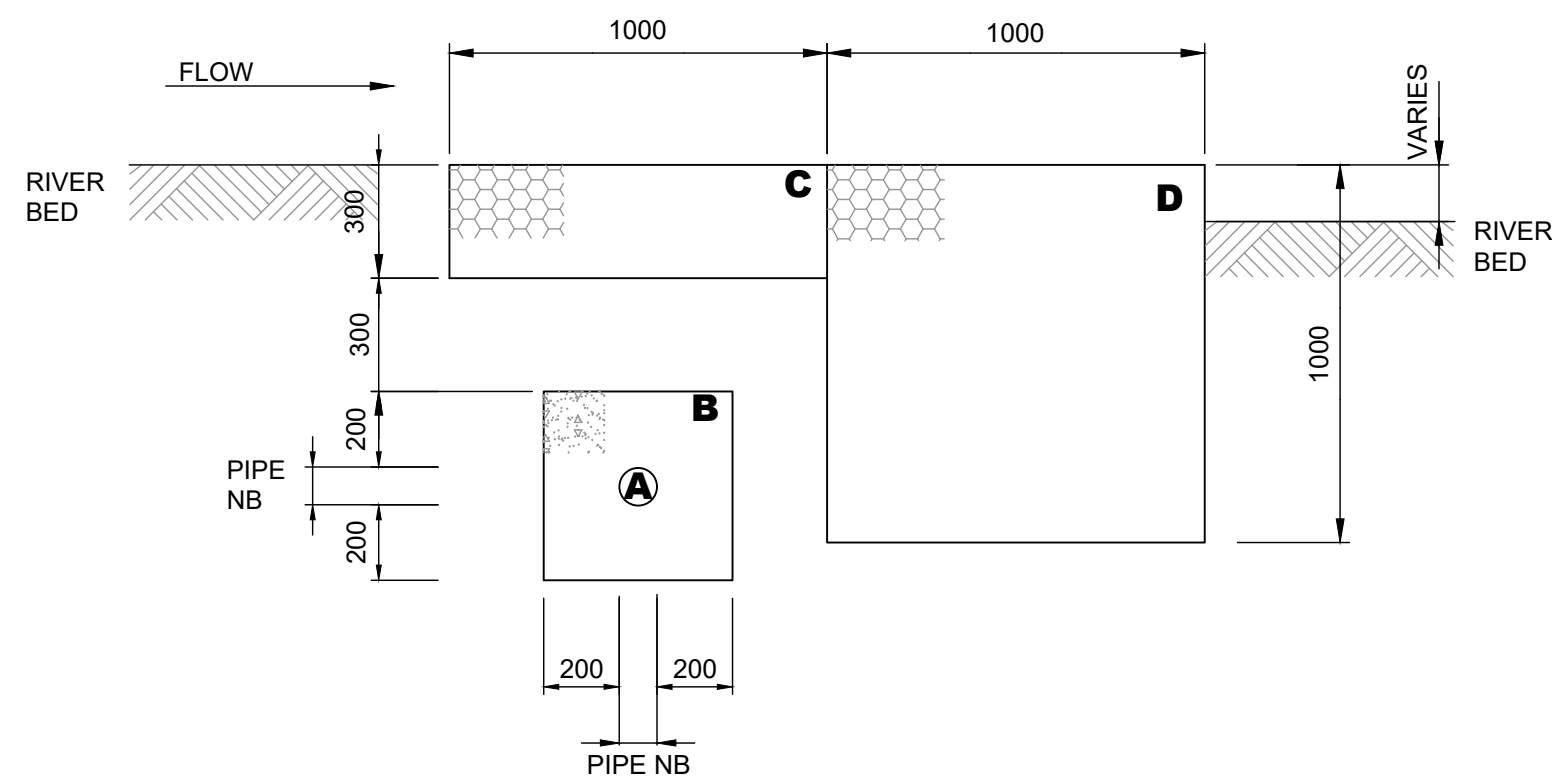
DRAWING No. 3233-7B-905

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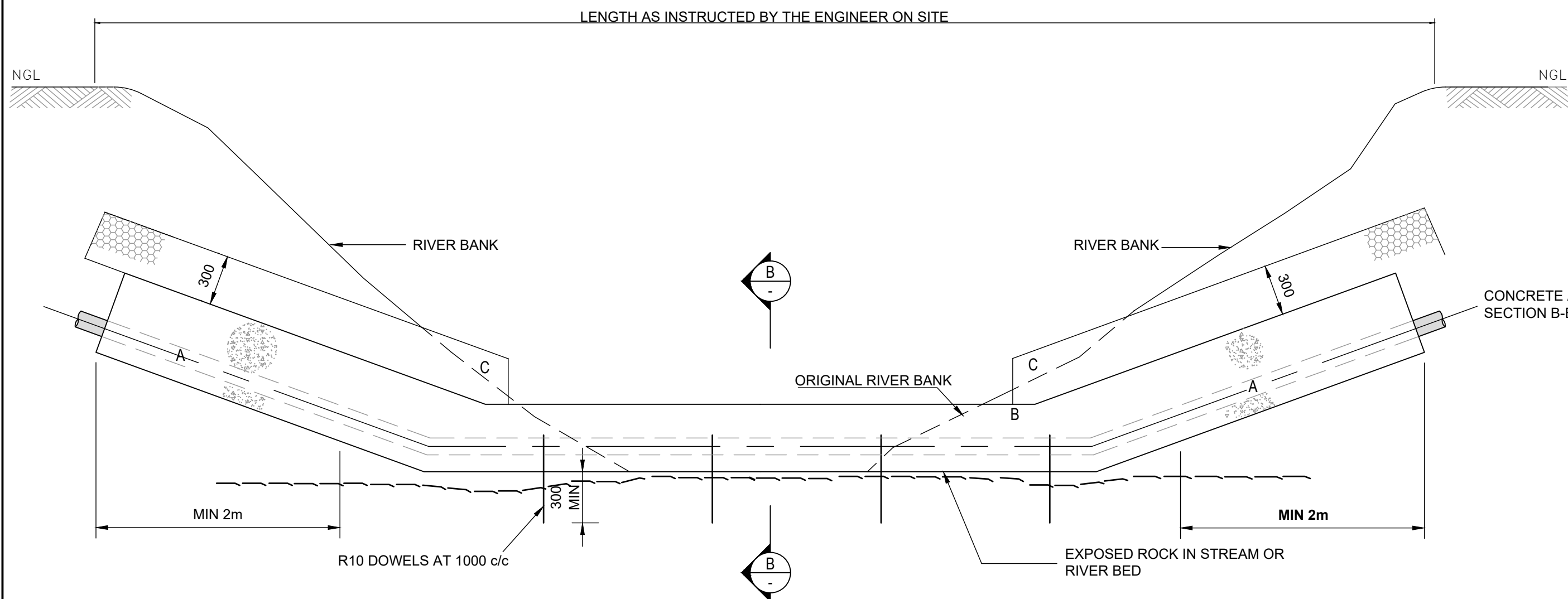


EXCAVATED RIVER CROSSING [1]
ELEVATION
SCALE 1:25

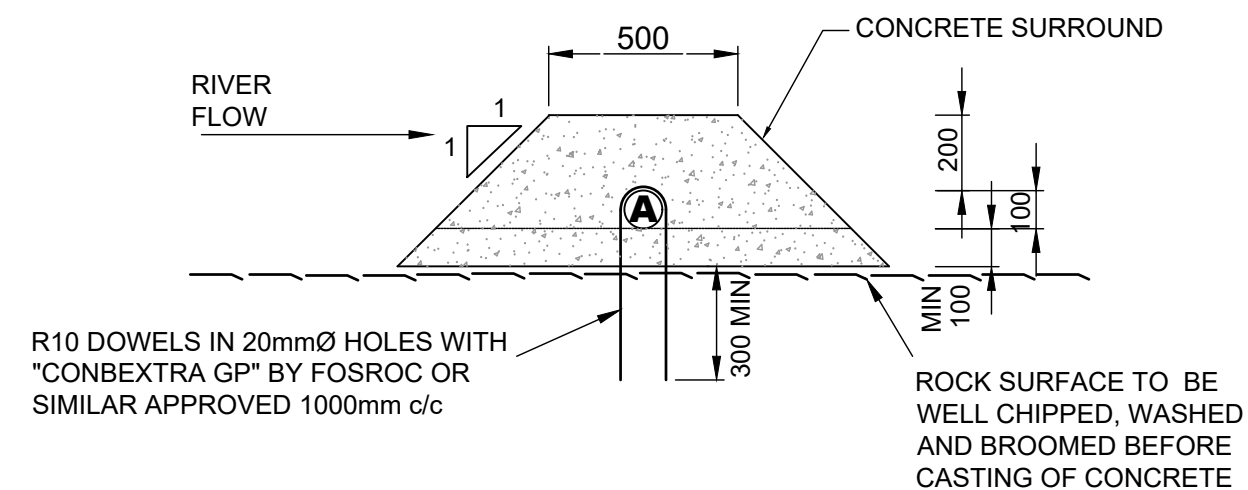
COMPONENT LIST	
COMPONENT	DESCRIPTION
A	PIPE
B	200mm SURROUND CONCRETE ENCASEMENT
C	300mm THICK RENO MATTRESS
D	1m x 1m GABION BASKET(LENGTH AS REQUIRED)



EXCAVATED RIVER CROSSING [1]
SECTION A-A
SCALE 1:20



EXPOSED ROCK CROSSING [2]
ELEVATION
SCALE 1:25



EXPOSED ROCK CROSSING [2]
SECTION B-B
SCALE 1:20

EXCAVATED RIVER CROSSING [1]			
	CONDITIONS ENCOUNTERED WHERE RIVER BED EXCAVATED TO AT LEAST 2m (NO HARD ROCK)	SUGGESTED COMPONENTS TO BE USED	PIPE TYPE (A)
1)	GENTLY FALLING RIVER BED AND SLOW / LOW VELOCITY WITH: (GENERALLY TOWARDS END OF RIVER AND CLOSER TO RIVER MOUTH).	a) MINIMAL EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SOME EVIDENCE OF EROSION IN RIVER BED AND BANKS.	HDPE
2)	MODERATELY FALLING RIVER BED AND MEDIUM RIVER VELOCITY WITH: (GENERALLY IN MIDDLE AREA OF RIVER).	a) MINIMAL EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SOME EVIDENCE OF EROSION IN RIVER BED AND BANKS. c) SEVERE EROSION EVIDENT.	HDPE HDPE STEEL
3)	STEEP RIVER BED AND HIGH RIVER VELOCITIES WITH: (GENERALLY NEAR RIVER SOURCE).	a) SOME EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SEVERE EROSION EVIDENT.	STEEL STEEL

EXPOSED ROCK CROSSING [2]			
	CONDITIONS ENCOUNTERED WHERE A ROCK SHELF IS PRESENT AT THE RIVER BED OR JUST BELOW	SUGGESTED COMPONENTS TO BE USED	PIPE TYPE
1)	GENTLY FALLING RIVER BED AND SLOW / LOW VELOCITY WITH: (GENERALLY TOWARDS END OF RIVER AND CLOSER TO RIVER MOUTH).	a) MINIMAL EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SOME EVIDENCE OF EROSION IN RIVER BED AND BANKS.	HDPE
2)	MODERATELY FALLING RIVER BED AND MEDIUM RIVER VELOCITY WITH: (GENERALLY IN MIDDLE AREA OF RIVER).	a) MINIMAL EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SOME EVIDENCE OF EROSION IN RIVER BED AND BANKS. c) SEVERE EROSION EVIDENT.	HDPE HDPE STEEL
3)	STEEP RIVER BED AND HIGH RIVER VELOCITIES WITH: (GENERALLY NEAR RIVER SOURCE).	a) MINIMAL EVIDENCE OF ONGOING EROSION IN RIVER BED AND BANKS. b) SEVERE EROSION EVIDENT.	STEEL STEEL

NOTES

- CONCRETE TO BE CLASS 20/19.
- SITE ENGINEER TO INSPECT & APPROVE ALL FINDINGS BEFORE CASTING OF CONCRETE.
- THIS DRAWING IS INTENDED FOR USE AS A GUIDELINE TO THE SITE ENGINEER. EACH CROSSING ENCOUNTERED IS DIFFERENT AND PROFESSIONAL JUDGEMENT MUST BE USED TO ESTABLISH WHICH ASPECT OF THE DRAWING TO USE SOME GENERAL CRITERIA ARE PRESENT TO ASSIST IN THIS SELECTION
- WHERE HDPE PIPE IS USED, THE RIVER CROSSING MUST CONSIST OF A CONTINUOUS LENGTH OF PIPE (NO JOINTS) EXTENDING AT LEAST 20m FROM THE RIVER BANK ON EACH SIDE. (NO JOINTS IN OR NEAR THE RIVER).
- R10 DOWEL BENT TO SUIT PIPE DIAMETER ON SITE.
- DISTURBED GROUND TO BE RECOMPACTED TO AT LEAST THE SAME DENSITY AS UNDISTURBED INSITU MATERIAL. EVERY EFFORT MUST BE MADE TO MINIMISE DISTURBANCE TO THE NATURAL RIVER.
- WHERE uPVC PIPES ARE REQUIRED TO CROSS RIVERS OR EROSION GULLIES, THE PIPE MUST BE REPLACED WITH SUITABLE GRADE AND DIAMETER HDPE OR STEEL PIPE IN ACCORDANCE WITH THE ENGINEERS' INSTRUCTION.

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

REVISION



P.O. BOX 449 MKUZE 3965	 STAND 13433, KINGFISHER ROAD MKUZE, 3965	TEL: (035) 573 8600 FAX: (035) 573 1094
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UMKHANYAKUDE DISTRICT MUNICIPALITY DC 27

APPROVED:	
CAPACITY:	
DATE:	



P.O. BOX 794 HILTON 3245	TELEPHONE: (033) 343-6700 FAX: (033) 343-6701 E-MAIL: pietermaritzburg@jgafrika.com
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6 PIN OAK AVENUE, HILTON, 3245	SCALE ON A1 : AS SHOWN	DATE: APRIL 2023
	DESIGNED: Q SHINGA	CHECKED: T.VAN VUUREN
	DRAWN : M SHEZI	CHECKED: Q SHINGA

CONTRACT No. SCMU 021 2022/2023	
DESIGN CHECKED BY: T.VAN VUUREN	
CAPACITY: SENIOR TECHNOLOGIST	
PR.TECH ENG: 2020300712	
APPROVED ON BEHALF OF JG AFRIKA:	
CAPACITY: TECHNICAL DIRECTOR	
DATE: APRIL 2023	

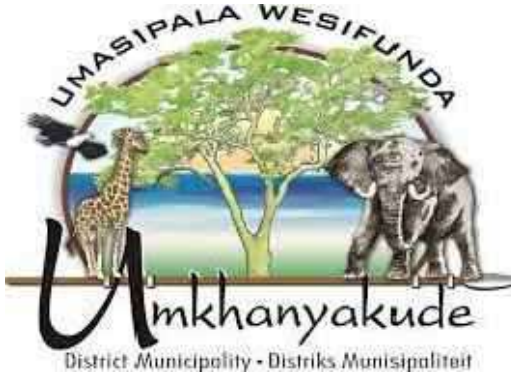
ISO 9001 QUALITY MANAGEMENT SYSTEM DEKRA CERTIFIED	
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PROJECT: MANGUZI STAR OF THE SEA ZONE 7B
TITLE: RIVER AND EROSION GULLY CROSSINGS
DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-906

A

		2400	
1000			1400
		IMPLEMENTING AGENT: UMKHANYAKUDE DISTRICT MUNICIPALITY PROJECT DESCRIPTION MANGUZI STAR OF THE SEA ZONE 7B	600
		CONSULTANT: JG AFRIKA (PTY) LTD TEL : 033-343 6700	350
		ISD CONSULTANT: XXXX XXX XXXXXXXXXXXX TEL : XXXX	300
		CONTRACTOR: XXXXXX TEL : XXXX	350
		PROJECT FINANCED BY: MUNICIPAL INFRASTRUCTURE GRANT	350
PROJECT NAME: MANGUZI STAR OF THE SEA ZONE 7B TENDER NO: SCMU 021 2022/2023			350
  EXPANDED PUBLIC WORKS PROGRAMME Creating opportunities towards human fulfilment			400
			2700

NOTES

1. ALL EMBLEMS MUST BE IN THEIR OFFICIAL COLOURS.
2. THE BACKGROUND SHALL BE MATT WHITE.
3. ALL LETTERS EXCEPT THOSE ON EMBLEMS SHALL BE MATT BLACK IN CAPITALS.
4. THE MATERIALS MAY CONSIST OF:
 - 3 TREATED WOODEN POLES PER BOARD (100mm TOP DIAMETER)
 - THE FRAME MAY BE OF 50mm x 50mm STEEL HOLLOW SECTIONS AT 1000mm C/C IN BOTH DIRECTIONS OR A WOODEN FRAME MAY BE USED
 - SIGNBOARD TO BE 5mm CHROMADEK SHEETING
 - THE REVERSE SIDE OF THE BOARD MUST BE LIGHT GREY
5. THE 20mm BORDER MUST BE OXFORD BLUE (105 OF BS931 (C) OF 1946)
6. THE POSITION AND HEIGHT OF THE BOARDS SHALL BE DETERMINED BY THE ENGINEER ON SITE
7. THE SIGN BOARD TO BE APPROVED BY THE ENGINEER PRIOR TO MANUFACTURING

[illegible]

A	FOR TENDER	QS	APR 23
No.	DESCRIPTION	NAME	DATE

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MKUZE
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TEL: (035) 573 8600
FAX: (035) 573 1094

STAND 13433, KINGFISHER ROAD
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DC 27

APPROVED:

CAPACITY:

DATE: _____



P.O. BOX 794
HILTON
3245

TELEPHONE: (033) 343-6700
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6 PIN OAK AVENUE, HILTON, 3245

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APPROVED ON BEHALF OF JG AFRIKA:	
CAPACITY: TECHNICAL DIRECTOR	
DATE: APRIL 2023	

ISO 9001
QUALITY MANAGEMENT SYSTEM
DEKRA CERTIFIED



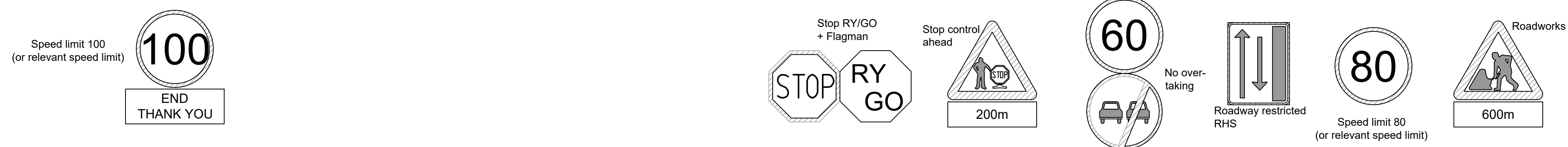
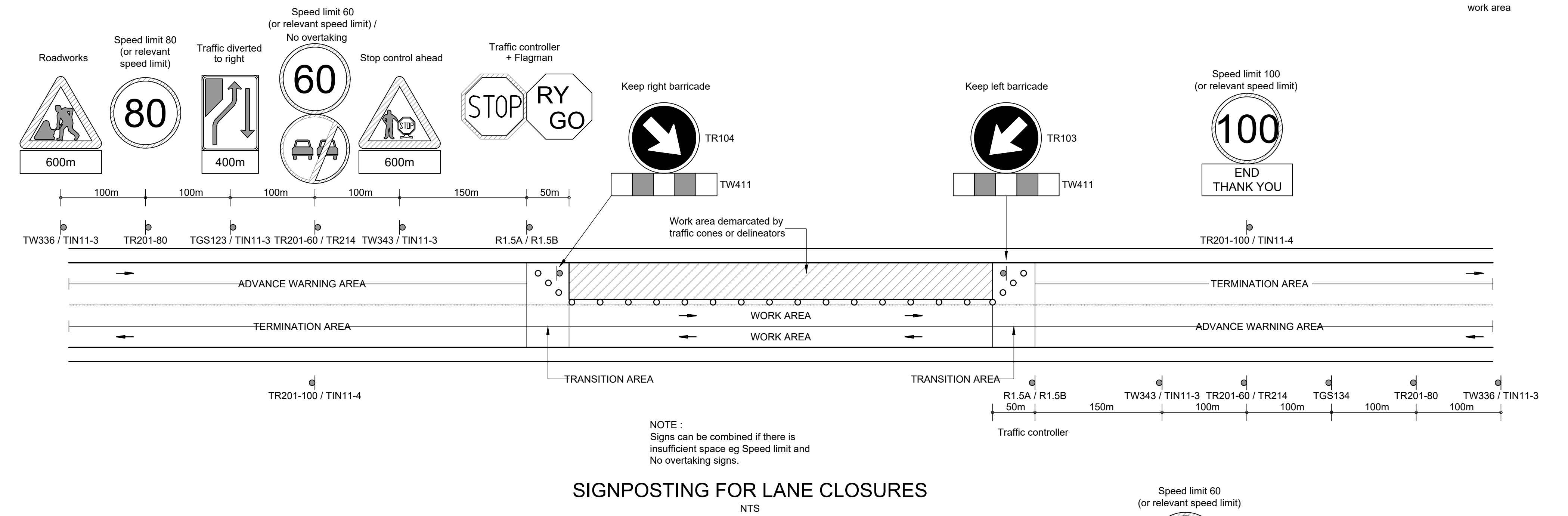
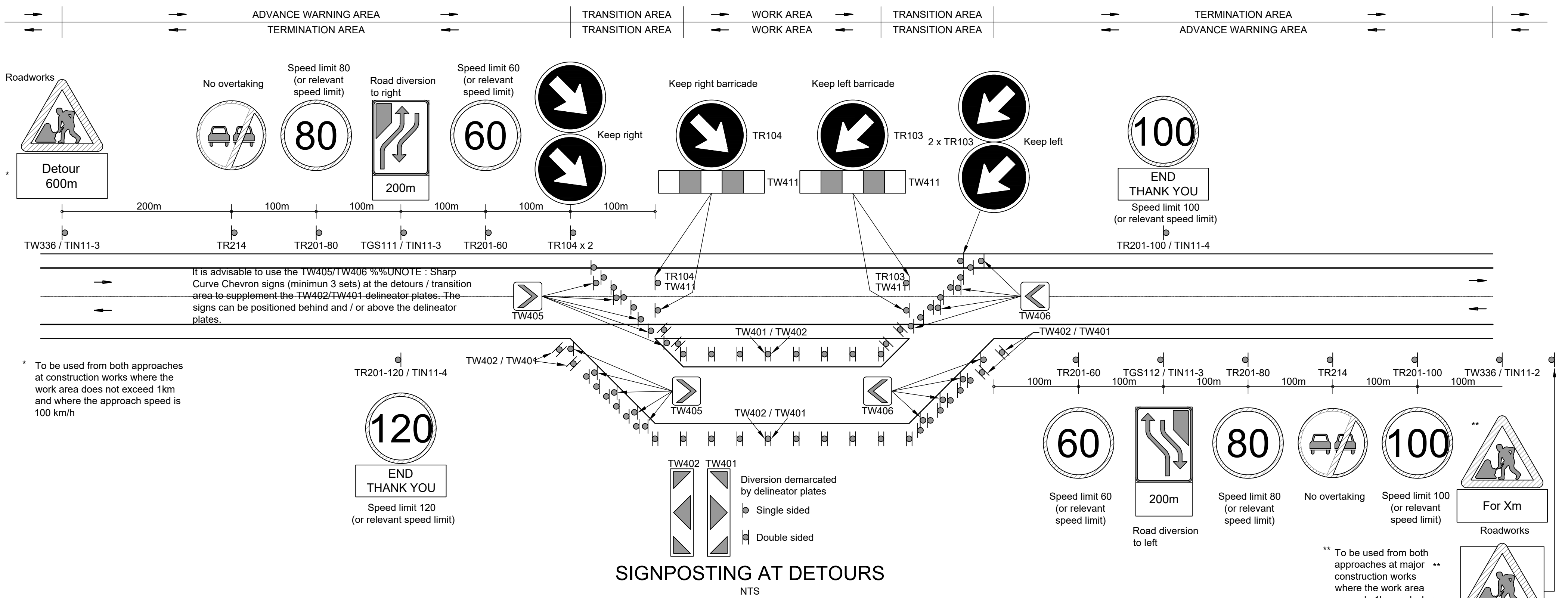
PROJECT: MANGUZI STAR OF THE SEA ZONE 7B
TITLE: SIGN BOARD DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-907





NOTES

- ALL SIGNS TO BE IN ACCORDANCE WITH THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL ROAD WORKS SIGNING CHAPTER B.

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DRAWN : M SHEZI

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CHECKED: Q SHINGA

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CAPACITY: SENIOR TECHNOLOGIST
PR.TECH ENG: 2020300712
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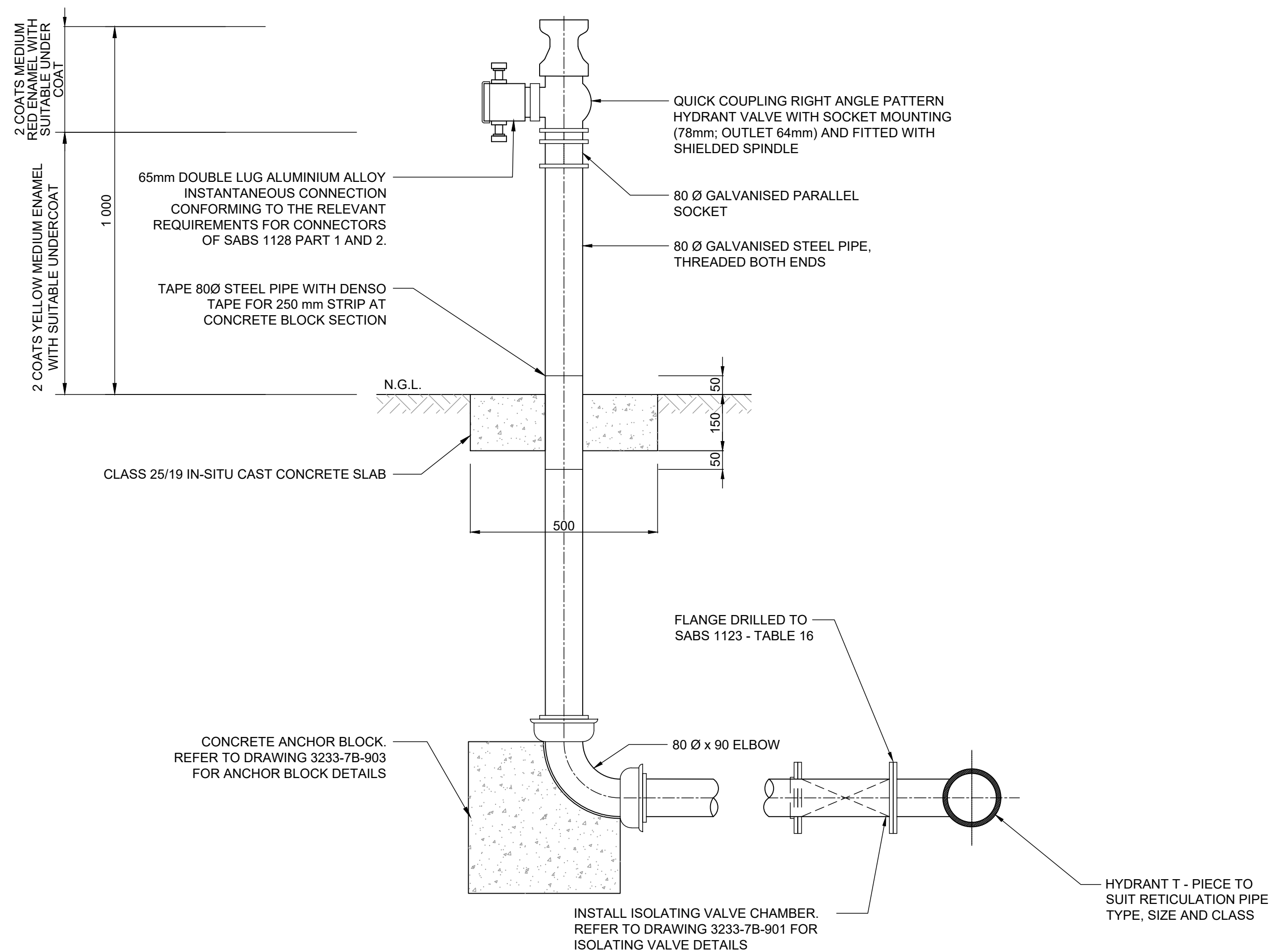
PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B
TITLE: TRAFFIC ACCOMMODATION
SIGNAGE
DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-908

A

W:\Water\3233 - Manguzi Town (NB-SM)\03 Drawings\3. Phase 2\Fo Tender\Zone 7B6. Standard Details\3233-7B-900 To 911 Rev A.dwg



HYDRANT DETAILS
SCALE 1:10

NOTES

- HYDRANTS MUST BE LOCATED IN COLLABORATION WITH THE CITY ELECTRICAL ENGINEERS DEPARTMENT SO THAT THEIR POSITIONS DO NOT COINCIDE WITH THOSE SELECTED FOR ELECTRICAL HOUSE CONNECTION BOXES.
- ALL THREADED CONNECTIONS BELOW GROUND MUST BE TAPED WITH DENSOTAPE OR SIMILAR APPROVED.
- ALL HYDRANT HEADS ARE TO BE OF THE WOODLANDS TYPE OR SIMILAR APPROVED.
- ALL FLANGE DRILLING TO BE SANS 1123: TABLE 1600/3.
- THE FIRE HYDRANT IS TO BE POSITIONED A MAXIMUM OF 1.0 m FROM THE ROAD RESERVE BOUNDARY FENCE OR WALL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

A	FOR TENDER	QS	APR 23
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PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: HYDRANT DETAILS

DESCRIPTION: TYPICAL DETAILS

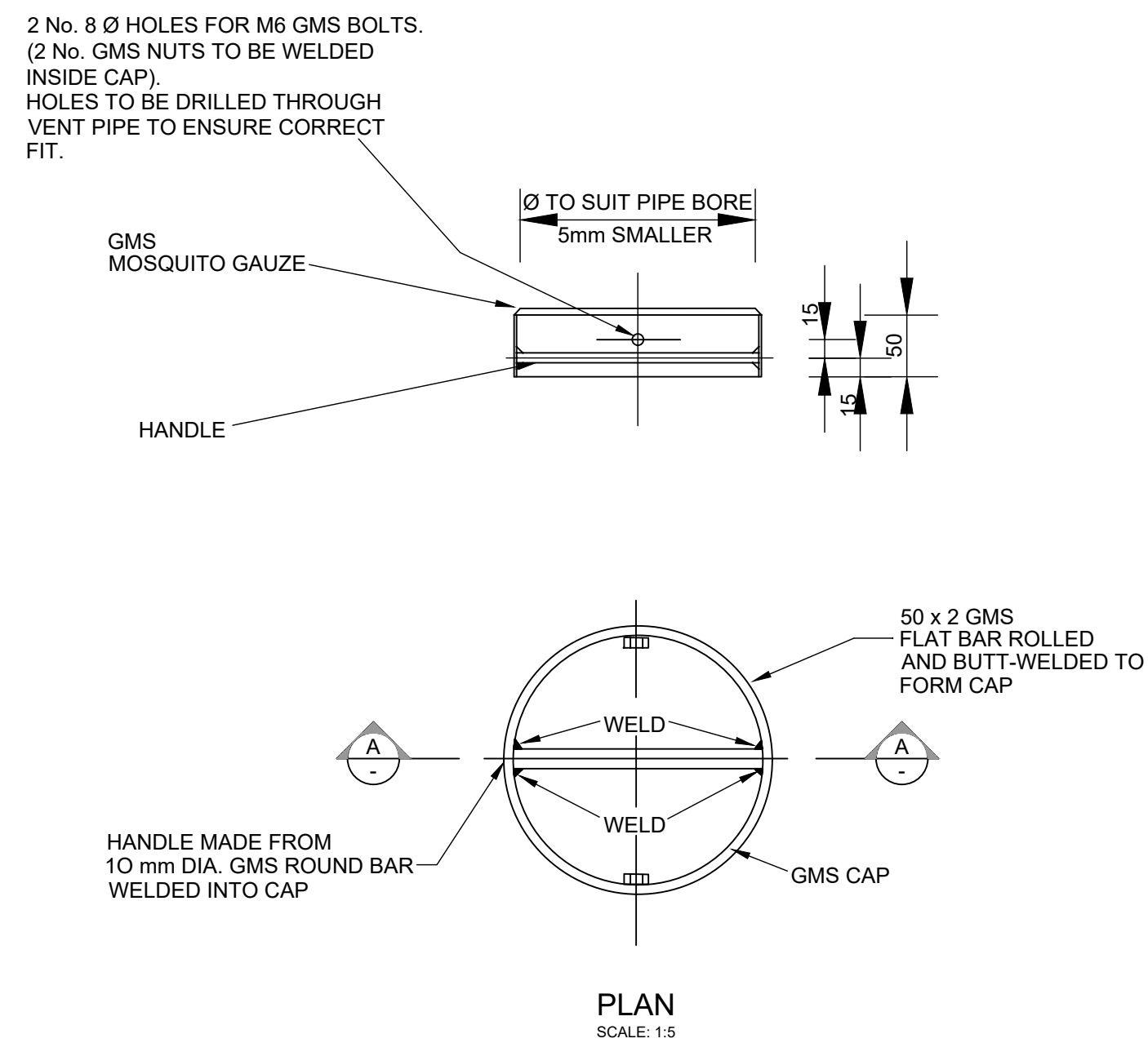
FOR TENDER

DRAWING No. 3233-7B-909

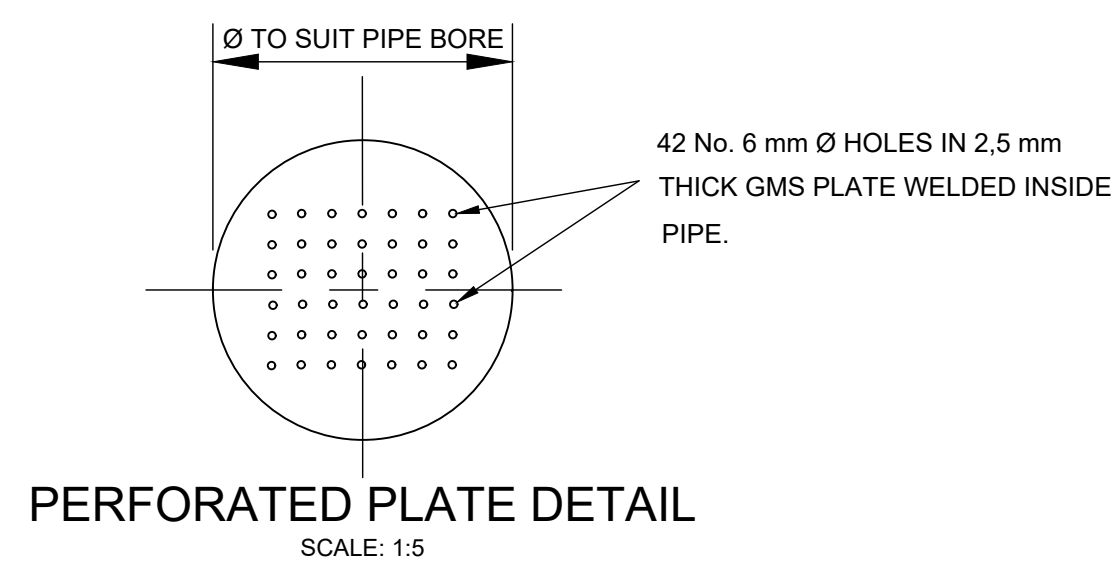


NOTES

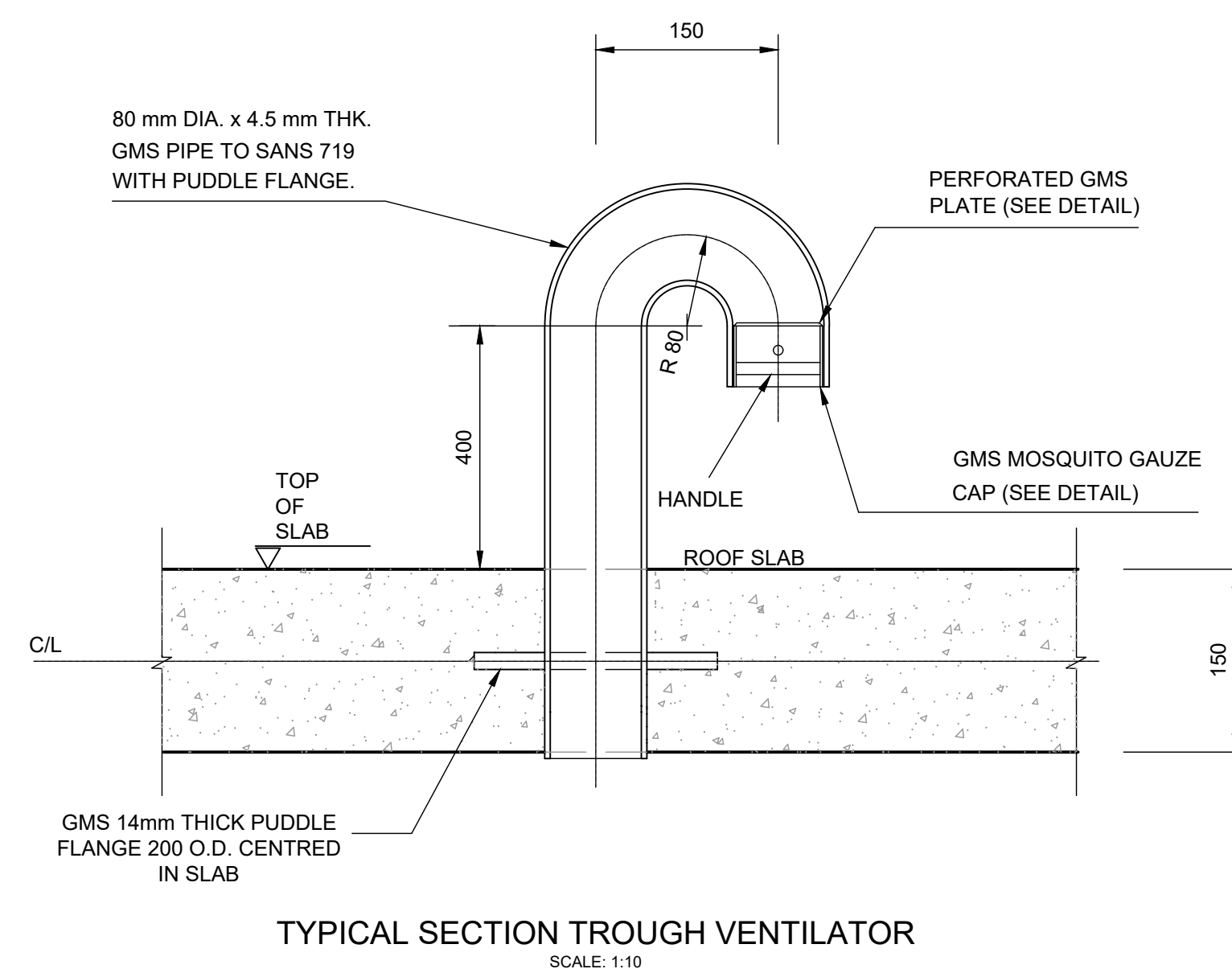
1. ALL STEEL COMPONENTS INCLUDING BOLTS TO BE GALVANISED TO ISO 1461 : 2000. OVER 150Ø TO BE EPOXY COATED (3 COATED TO 250 MICRONS)
2. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm THICKNESS.



DETAILS OF MOSQUITO GAUZE CAP



PERFORATED PLATE DETAIL



TYPICAL SECTION TROUGH VENTILATOR

80mm Ø VENTILATOR DETAILS

A	FOR TENDER	QS	APR 23
lo.	DESCRIPTION	NAME	DATE

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3965

 **Umkhanyakude**

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FAX: (035) 573 1094

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AX: (035) 573 1094

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ISO 9001
QUALITY MANAGEMENT SYSTEM
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PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

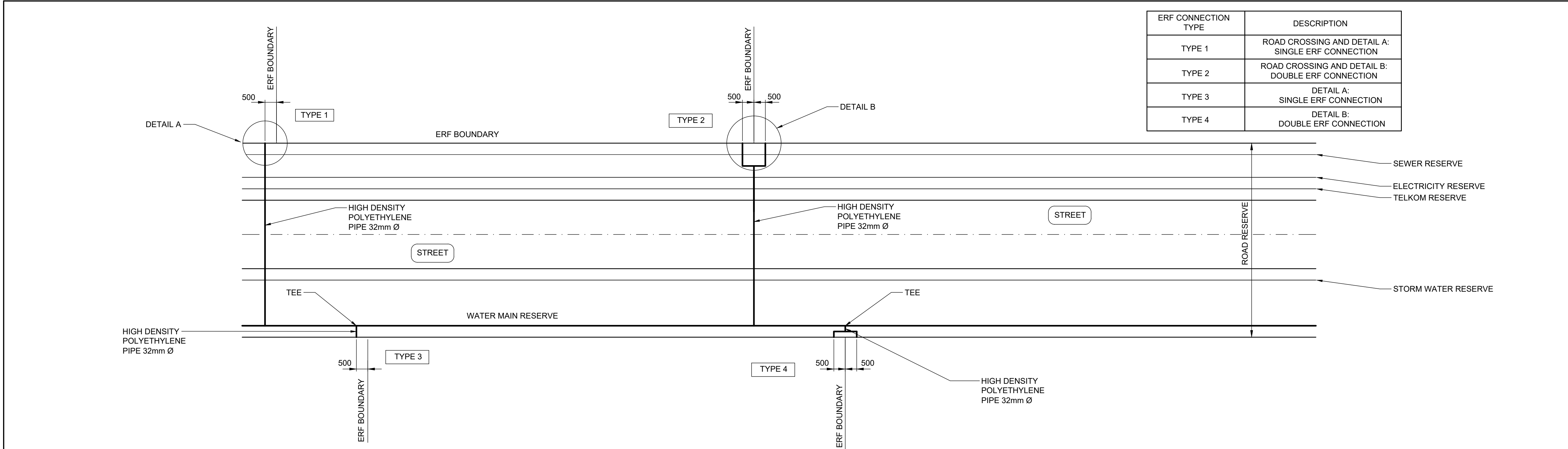
TITLE: VENTILATOR DETAILS

DESCRIPTION: TYPICAL DETAILS

FOR TENDER

DRAWING No. 3233-7B-910

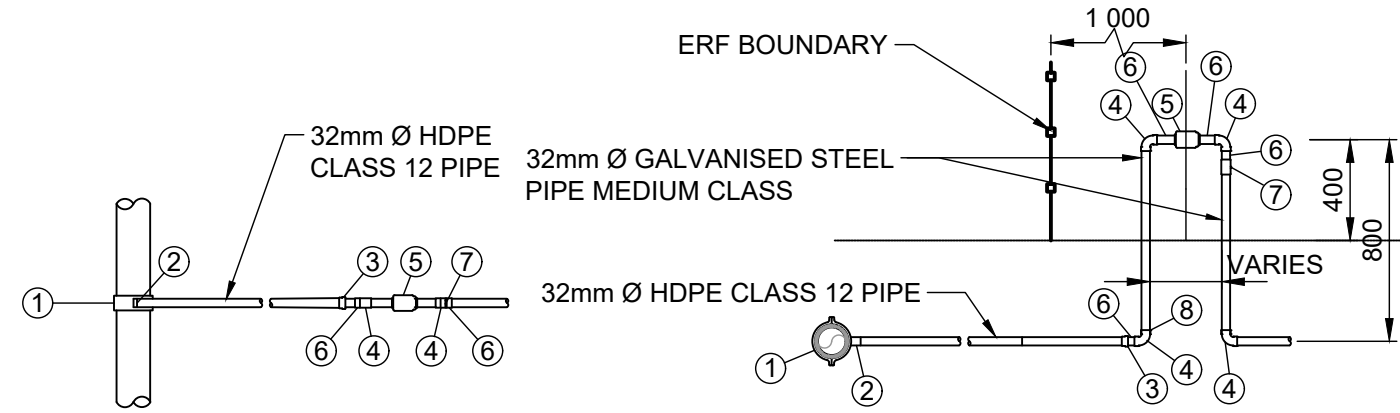




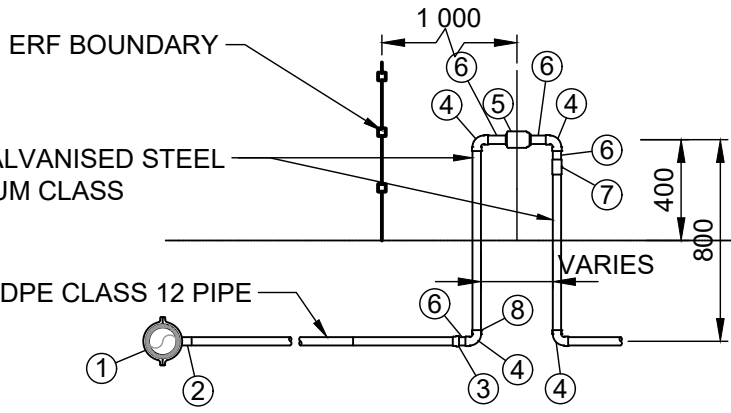
ERF CONNECTION TYPE	DESCRIPTION
TYPE 1	ROAD CROSSING AND DETAIL A: SINGLE ERF CONNECTION
TYPE 2	ROAD CROSSING AND DETAIL B: DOUBLE ERF CONNECTION
TYPE 3	DETAIL A: SINGLE ERF CONNECTION
TYPE 4	DETAIL B: DOUBLE ERF CONNECTION

TYPICAL LAYOUT FOR ERF CONNECTIONS

SCALE 1:100



PLAN
N.T.S.



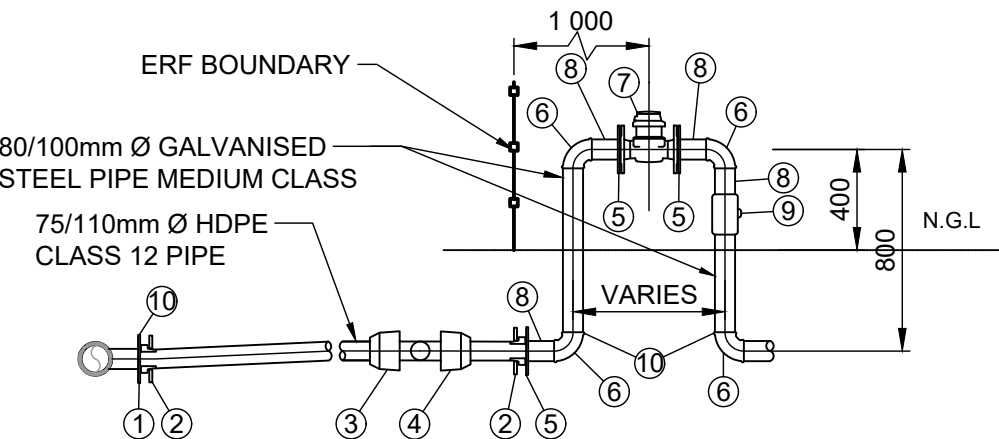
SECTION
N.T.S.

DETAIL A: SINGLE ERF CONNECTION 32mm

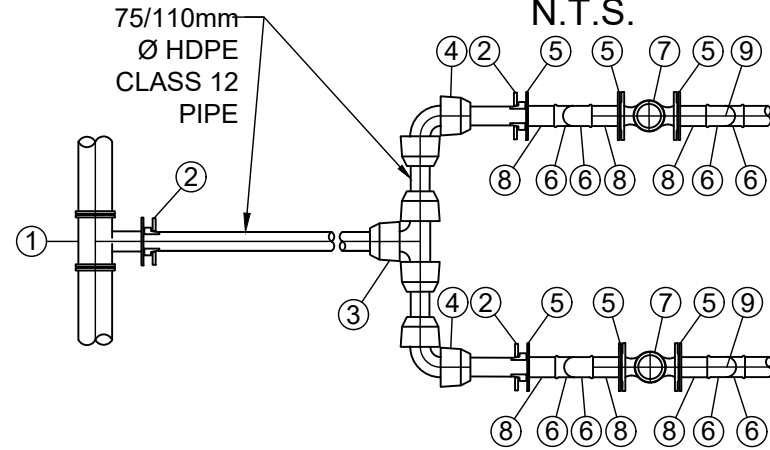
ITEM	DESCRIPTION
1	HDPE TEE TO FIT SIZE, TYPE & CLASS OF PIPE
2	32mm Ø PLASSON MALE ADAPTOR
3	32mm Ø MALE ADAPTOR
4	32mm Ø GALVANISED STEEL 90° ELBOW BOTH ENDS FEMALE
5	32mm Ø 620C/620MC SENSUS WATER METER WITH CAP, NUT & LINING ON BOTH SIDES
6	32mm Ø GALVANISED NIPPLE
7	32mm HEXAGON STAINLESS STEEL BALL VALVE - SABS 1056
8	DENSOTAPE

ITEM	DESCRIPTION
1	HDPE TEE TO FIT SIZE, TYPE & CLASS OF PIPE
2	32mm Ø PLASSON MALE ADAPTOR
3	25mm Ø MALE ADAPTOR
4	32 x 32 x 32mm Ø 90° HDPE COMPRESSION T-PIECE
5	32mm Ø 620C/620MC SENSUS WATER METER WITH CAP, NUT & LINING ON BOTH SIDES
6	32mm GALVANISED ELBOW
7	32mm Ø GALVANISED NIPPLE
8	32mm HEXAGON STAINLESS STEEL BALL VALVE - SABS 1056
9	32mm Ø 90° HDPE COMPRESSION ELBOW
10	DENSOTAPE

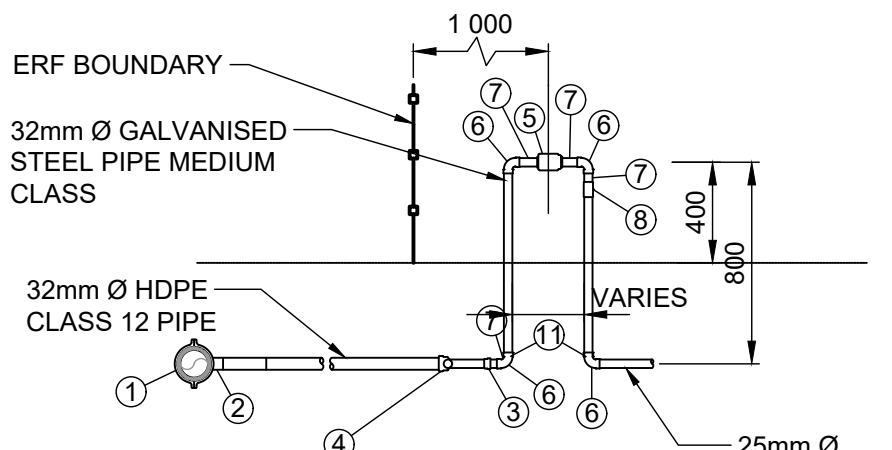
DETAIL B: DOUBLE ERF CONNECTION 32mm



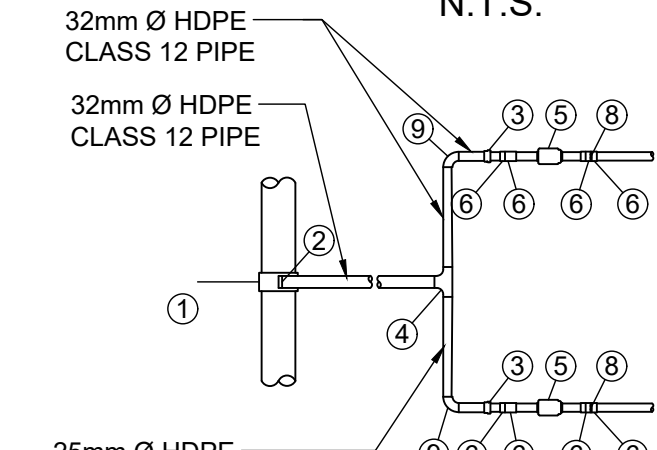
SECTION
N.T.S.



PLAN
N.T.S.



SECTION
N.T.S.



PLAN
N.T.S.

ITEM	DESCRIPTION
1	MAIN LINE Ø x 75mm Ø FLANGED T-PIECE
2	75mm Ø HDPE STUB WITH BACKING RING
3	75 x 75mm Ø 90° HDPE COMPRESSION T-PIECE
4	75mm Ø 90° HDPE COMPRESSION ELBOW
5	75mm Ø THREADED FLANGED FOR 80mm Ø GALVANISED PIPE
6	80mm Ø GALVANISED STEEL 90° ELBOW BOTH ENDS FEMALE
7	80mm Ø WP-DYNAMIC 50°C / PN16 DN 80 SENSUS WATER METER WITH CAP, NUT & LINING ON BOTH SIDES
8	80mm Ø GALVANISED NIPPLE
9	80mm HEXAGON STAINLESS STEEL BALL VALVE - SABS 1056
10	DENSOTAPE

ITEM	DESCRIPTION
1	MAIN LINE Ø x 110mm Ø FLANGED T-PIECE
2	110mm Ø HDPE STUB WITH BACKING RING
3	110 x 110 x 110mm Ø 90° HDPE COMPRESSION T-PIECE
4	110mm Ø 90° HDPE COMPRESSION ELBOW
5	110mm Ø THREADED FLANGED FOR 100mm Ø GALVANISED PIPE
6	100mm Ø GALVANISED STEEL 90° ELBOW BOTH ENDS FEMALE
7	100mm Ø WP-DYNAMIC 50°C / PN16 DN 100 SENSUS WATER METER WITH CAP, NUT & LINING ON BOTH SIDES
8	100mm Ø GALVANISED NIPPLE
9	100mm HEXAGON STAINLESS STEEL BALL VALVE - SABS 1056
10	DENSOTAPE

DETAIL B: DOUBLE ERF CONNECTION 80/100mm

FOR TENDER

NOTES

1. POSITION OF ERF CONNECTION AND TYPE TO BE DETERMINED BY THE ENGINEER ON SITE.

NO.	DESCRIPTION	NAME	DATE
A	FOR TENDER	QS	APR 23

REVISION



P.O. BOX 449
MKUZE
3965

STAND 13433, KINGFISHER ROAD
MKUZE, 3965

TEL: (035) 573 8600
FAX: (035) 573 1094

UMKHANYAKUDE DISTRICT MUNICIPALITY
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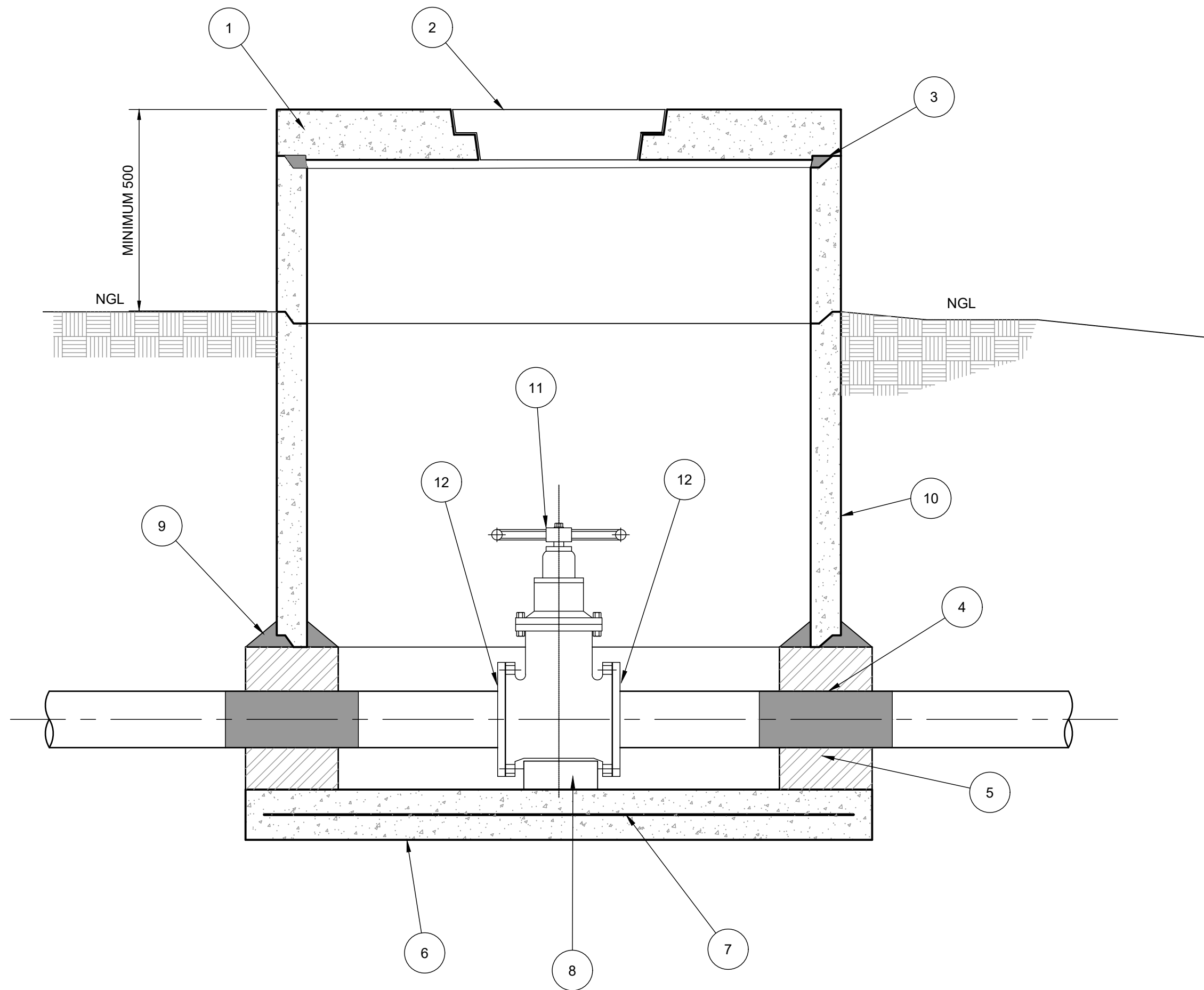
PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: TYPICAL DETAILS

DESCRIPTION: TYPICAL ERF CONNECTION

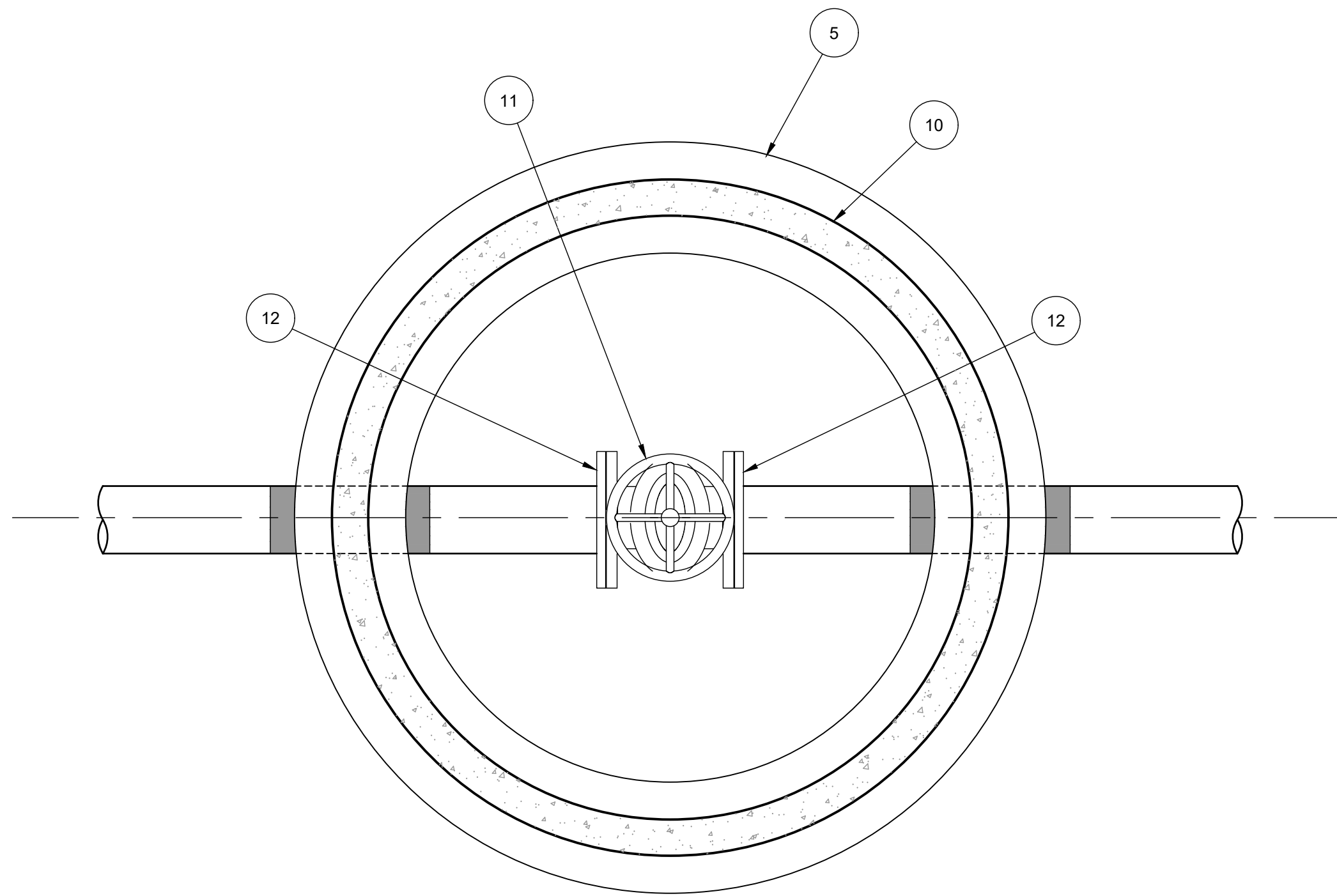
DRAWING No. 3233-7B-911





ISOLATING VALVE CHAMBER
HDPE BULK MAIN

SCALE 1 : 10



CHAMBER PLAN
HDPE BULK MAIN

SCALE 1 : 10

ISOLATING VALVE - HDPE BULK MAIN

ITEM	DESCRIPTION
1	PRECAST CONCRETE SLAB - HEAVY DUTY - 150mm THICK ROCLA OR SIMILAR APPROVED
2	PRECAST CONCRETE LID - HEAVY DUTY - 150 mm THICK
3	EPIDERMIX 350 ADHESIVE OR SIMILAR APPROVED
4	ALL PIPE THROUGH BRICKWORK TO BE WRAPPED IN 2000 MICRON PVC SHEET
5	4 COURSES ENGINEERING BRICKWORK - REMOVE BRICKS TO INSERT PIPE AND GROUT OPENING CLOSED
6	150mm THICK CONCRETE GRADE 25/19 SLAB
7	REF. 395 MESH LOCATED CENTRALLY IN SLAB
8	SINGLE MASONRY BRICK PLACED UNDER VALVE.
9	CEMENT MORTAR (1:3 CEMENT:SAND)
10	1250 ø PRECAST CONCRETE RINGS TO SANS 1294:2006
11	CI FLANGED WEDGE GATE VALVE TO SANS 664:1999
12	STUB FLANGE

NOTES

1. POSITION OF ERF CONNECTION AND TYPE TO BE DETERMINED BY THE ENGINEER ON SITE.

A	FOR TENDER	QS	APR 23
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PR.TECH ENG: 2020300712

APPROVED ON BEHALF OF JG AFRIKA:

CAPACITY: TECHNICAL DIRECTOR

DATE: APRIL 2023

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PROJECT: MANGUZI STAR OF THE SEA
ZONE 7B

TITLE: ISOLATING VALVE DETAILS
HDPE PIPE

DESCRIPTION: 110mm TO 250mm

FOR TENDER

DRAWING No. 3233-7B-913

